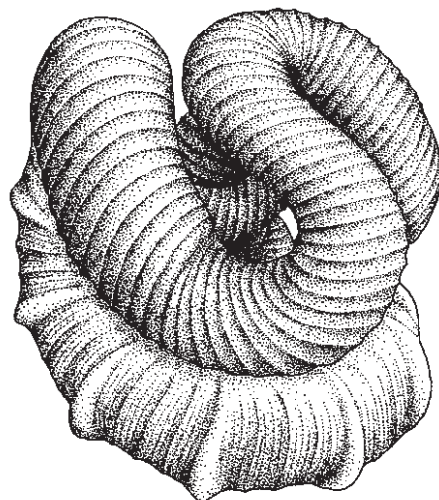


Special Papers - Number 40

**The database of Japanese fossil
type specimens
described during the 20th Century
(Part 2)**

**Edited by
Noriyuki Ikeya
Hiromichi Hirano
and
Kenshiro Ogasawara**



Palaeontological Society of Japan

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The database of Japanese fossil type specimens described during the 20th Century (Part 2)

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Abstract. This second volume (Part 2) of “The database of Japanese fossil type specimens described during the 20th Century” includes some 5,700 type specimens of fossils belonging to ten plant and animal groups described mainly by Japanese workers before the turn of the 21st Century. Since the pioneering work on the systematic description of Japanese fossils, first published in 1890, many new taxa have been proposed during the 20th Century, particularly in earnest before 1945 and during a time period of 1958-1963. Our current estimate indicates the total number of Japanese type specimens described in the 20th Century to exceed more than 14,000. The first volume catalogued about one-third of those which are in the literature and this second volume includes more than 5,700 taxa.

Each taxonomic entry is annotated with such data items as: 1) name of taxon together with its author name and date of publication, 2) name of publication in which a new taxon name is proposed, 3) designated category of type specimens such as Holotype, Paratype, Syntype and so on, together with their registered repository number (an asterisk is attached to those specimens whose actual presence in a given repository was ascertained), 4) type localities, appended whenever possible with their latitudes and longitudes, 5) stratigraphic units in which a given taxon occurred, 6) geologic age or series, and 7) remarks given in parentheses to denote such information as the most commonly used name for a given taxon, invalid or synonymous status of a given taxon as judged by the contemporary taxonomists, and so on.

The present volume deals with the following fossil groups: Plant (Megafossils, Pollen, Spores and other Palynomorphs), Paleozoic smaller benthic Foraminifera, Mesozoic and Cenozoic larger Foraminifera, Mesozoic and Paleozoic Corals, Triassic Ammonoidea, Cretaceous Ammonoidea, Mesozoic and Cenozoic Nautiloidea, Cenozoic Gastropoda, Cenozoic Scaphopoda, and some other supplementary data such as Cenozoic Bivalvia, Cenozoic Bryozoa and Non-marine Mollusca.

The third volume which is in preparation is expected to cover Brachiopoda, Ostracoda and some others.

Key words: type specimen, database, 20th Century, holotype, paratype, Japan

Introduction

The first volume of the publication entitled “The database of Japanese fossil type specimens described during the 20th Century” appeared in May, 2001 and catalogued about 5,000 type specimens of fossils belonging to 20 plant and animal groups which were described mainly by Japanese workers before the turn of the 21st Century and which were also reported to be deposited at certain institutions in Japan. The total number of the type specimens archived in Japan during that time period had been estimated

to exceed more than 14,000.

Both international codes of the Botanical and Zoological Nomenclature explicitly recommend that “A holotype or lectotype should be deposited in a museum or other institution where it will be safely preserved and will be accessible for purposed of research”. However, the preservation and curatorial state of fossil type specimens described by Japanese taxonomists during the 20th Century has largely been left unchecked until members of the 17th term of Ja-

pan National Committee for Paleontology of Science Council of Japan (CPS) decided to embark on a project to compile a database of information on these fossils in consonant with the philosophy spelled out in the international codes. Readers are referred to the Introduction appeared in the first volume with regard to the history and details of the CPS Committee work which led to the production and publication of the present database volume.

This second volume (Part 2) present database of some 5,700 taxa belonging to the following group: Plant, Paleozoic smaller benthic Foraminifera, Mesozoic and Cenozoic larger Foraminifera, Mesozoic and Paleozoic Corals, Triassic Ammonoidea, Cretaceous Ammonoidea, Mesozoic and Cenozoic Nautiloidea, Cenozoic Gastropoda, Cenozoic Scaphopoda, Cenozoic Bivalvia (supplementary data) and some other supplementary data.

In a manner similar to the first volume, each taxonomic entry is appended with the following data items as:

- 1) Scientific name of a taxon with its author name and date of publication.
- 2) Bibliographic reference in which a taxon was first proposed, including such data as volume page, plate and figure numbers.
- 3) Category of type specimens such as Holotype, Paratype, Syntype and so on, with registered repository (depository) numbers. An asterisk is appended to those specimens whose physical presence was ascertained at a given repository.
- 4) Type localities: Name of cities, towns and villages

both in the way they appeared in the original publication and in the way they are presently known. As much as possible, latitudes and longitudes are indicated for such localities.

- 5) Stratigraphic unit, such as formation, member and group, from which fossil taxa were recovered.
- 6) Age of fossil taxa as expressed either in geologic age terms (Epoch and Age) or chronostratigraphic terms (Series and Stage).
- 7) Whenever deemed necessary from a systematic viewpoint, comments are added to denote a scientific name currently applied to a particular taxon by contemporary workers and also some appropriate remarks. In addition, remarks and correction items made by the authors of the present database are printed in brackets.

The taxa compiled in the present volume include: Plant (Megafossils, Pollen, Spores and other Palynomorphs), Paleozoic smaller benthic Foraminifera, Mesozoic and Cenozoic larger Foraminifera, Mesozoic and Paleozoic Corals, Triassic Ammonoidea, Cretaceous Ammonoidea, Mesozoic and Cenozoic Nautiloidea, Cenozoic Gastropoda, Cenozoic Scaphopoda, Cenozoic Bivalvia (Supplementary data) and some other supplementary data.

The third volume which is in preparation is expected to include such remaining taxa as Diatom, Paleozoic Cephalopoda, Jurassic Ammonoidea, Paleozoic-Mesozoic Bivalvia, Cenozoic Ostracoda, Trilobite, Vertebrate and some others.

Acknowledgments

The editors wish to express their sincere thanks to the Science Council of Japan for their assistance in the production of this publication and also to the Council members of the Palaeontological Society of Japan for their invaluable assistance toward editing the manuscript as well as bringing it into the present published form. Sincere thanks are also extended to Dr. Tunemasa SAITO, member of the Science Council of Japan for his valuable suggestion in

the editorial works and rephrasing the early draft. Deep gratitude also goes to Dr. Kenichi OHKUSHI and Yukito KURIHARA of the University of Tsukuba who gave assistance in the editorial works of the manuscript. This publication was partly supported by the 2002 Grant-in-Aid for Publication of Scientific Research Results of the Grant-in-Aid for Scientific Research from the Japan Society for the Promotion of Science (JSPS).

Abbreviation for repository of type specimens

AD...Omama Town Museum, Yamada-gun, Omama-machi, Gumma Prefecture
 AKMG...Institute of Applied Geology (formerly Institute of Mining Geology), Mining College, Akita University, Akita
 AM...Department of Malacology, Australian Museum, Sydney
 ASM...Akiyoshidai Museum of Natural History, Shuho-cho, Yamaguchi
 ATJRMN (=GK, JC, JCD, KCD, **KUGM**, KURS)...Department of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 BM...The Natural History Museum, London, United Kingdom
 Botanical Institute, University of Tokyo, Tokyo
 BOITO...Laboratory of Biology, Faculty of Engineering, Osaka Institute of Technology, Osaka
 C...Naturhistorisches Museum, Basel, Switzerland
 CBM...Natural History Museum and Institute, Chiba
 CESN...Laboratory of Coastal Environmental Sciences, Faculty of Fisheries, Nagasaki University, Nagasaki
 CF...Zhejiang University, China
 CF-C...Division of Paleontology, U. S. National Museum, Washington, D.C.
 CGU (=CJC)...Chukyo Gakuin University, Nakatsugawa, Gifu Prefecture
 CH...Hirata Collection, Makino Botanical Garden, Kochi
 CJC (=CGU)...Chukyo Junior College, Mizunami
 CM (=GITU, TK, **UMUT**, UTCM, UTCM-Kf, NS, NSR)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo
 DENT (=DGMT)...Department of Earth Science, Faculty of Education, Mie University, Tsu
 DESC...Department of Earth Sciences, Faculty of Science, Chiba University, Chiba
 DESN...Department of Earth Science, Faculty of Science, Nagoya University, Nagoya
 DESS (=DGSU)...Department of Earth Science, Shimane University, Shimane
 DGLAKZ...Department of Geology, College of Liberal Arts, Kanazawa University, Kanazawa
 Department of Geoscience, Osaka City University, Osaka
 DGS...Department of Geology, Faculty of Education, Tohoku University, Sendai (type specimens of DGS are now preserved in the Institute of Geology and Paleontology, Faculty of Science, Tohoku University, Sendai (IGPS))
DGSU (=DESS)...Department of Geology, Faculty of Science, Shimane University, Shimane
 D2 (=HMH)...Division of Earth Sciences, Museum of Nature and Human Activities, Hyogo
 EEG...Institute of Geology, Faculty of Education, Ehime University, Matsuyama
 ERI...Earthquake Research Institute, University of Tokyo, Tokyo (Some specimens described by Otuka (1934, 1936, 1937 and so on) moved to University Museum, University of Tokyo)
 ESK...Institute of Earth Science, Faculty of Science, Kagoshima University, Kagoshima
 ESN...Department of Earth Science, Faculty of Science, Nagoya University, Nagoya (Furukawa Museum, Nagoya University)
 ESO...Institute of Earth Science, Okayama University, Okayama
 FG (probably=TGTU, TGWU)...Department of Geology, Fukuoka University of Education, Fukuoka
 Faculty of Science and Agriculture, Taihoku Imperial University, Taihoku (Taiwan)
 FMNHGF...Fukui City Museum of Natural History, Fukui
 FSM...Fukui Science Museum, Fukui (transferred to Fukui City Museum of Natural History, Fukui)
 G...Institute of Oceanography, University of Tokyo, Tokyo
 GASI...Geological Institute, Faculty of Arts and Sciences, Ibaraki University, Mito
 GDGAKZ...Department of Geology, Faculty of Liberal Arts, Kanazawa University, Kanazawa
 Geological Survey of China
 Geological Survey of Chosen
 Geological Survey of Hokkaido collection, Sapporo
 GDMT (=DEMT)...Geology Department, Faculty of Liberal Arts, Mie University, Tsu
 GEN...Department of Geology, Faculty of Education, Nagasaki University, Nagasaki
 GF...Department of Geology, Fukuoka University of Education, Fukuoka
 GF.D...Department of Earth System Science, Faculty of Science, Fukuoka University, Fukuoka

GH (=GMH, HU, UH, UHR)...Department of Geology and Mineralogy, Faculty of Science, Hokkaido University, Sapporo
 Gifu Prefecture, Education Center

GISUL...Geological Institute, Shinshu University, Nagano

GITU (=CM, TK, **UMUT**, UTCM, UTCM-Kf, NS, NSR)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo

GITU...used by Tan (1940): Geological Institute, Taihoku Imperial University, Taihoku (Taiwan)

GIUM...Geological Institute, Faculty of Arts and Sciences, Ibaraki University, Mito

GIYU...Institute of Geology, Faculty of Education, Yokohama National University, Yokohama

GK (=ATJRMN, JC, JCD, KCD, **KUGM**)...Geological Institute, College of Science, Kyoto University, Kyoto

GK...Department of Geology, Faculty of Science, Kyushu University, Fukuoka

GK...Department of Geology, Faculty of Education, Kumamoto University, Kumamoto

GKD (=GK. D, GKL, GKM)...Department of Geology, Kyushu University, Fukuoka

GKH...Department of Earth and Planetary Sciences, Faculty of Sciences, Kyushu University, Fukuoka

GKL (=GK. D, GKL, GKM)...Department of Geology, Faculty of Science, Kyushu University, Fukuoka

GKM (=GK. D, GKD, GKL)...Ditto.

GK-V (=GN)...used by Takahashi, 1964; Department of Geology, Faculty of Liberal Arts, Nagasaki University, Nagasaki: Faculty of Science, Kyushu University

GKZ...Department of Geology, Faculty of Science, Kanazawa University, Kanazawa

GLKU...Geological Laboratory, Kagawa University, Takamatsu

GLR...Geological Laboratory, St. Paul's (Rikkyo) University, Tokyo

GMH (=GH, HU, UH, UHR)...Institute of Geology and Mineralogy, Faculty of Science, Hokkaido University, Sapporo

GN (=GK-V)...Takahashi, 1979 Department of Geology, Faculty of Liberal Arts, Nagasaki University, Nagasaki Geological Research and Development Center, Bundung, Indonesia

GS (=IGPS)...Institute of Geology and Paleontology, Faculty of Science, Tohoku University, Sendai

GS (=GSG)...Department of Geology, Saga University, Saga

GSG (=GS)...Geological collection, Faculty of Culture and Education, Saga University, Saga

GSJ (=GST)...Geological Survey of Japan, Tsukuba (formerly Kawasaki)

GSJF (=GSJ)...Geological Museum, Geological Survey of Japan, Tsukuba

GSM...British Museum, London

GSP...Geological Survey of Pakistan

GST (=GSJ)...Geological Survey of Japan, Kawasaki

GT (=GITU, CM, GITU, TK, **UMUT**, UTCM, UTCM-Kf, NS, NSR)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo

GY...used by Matsumoto and Kanie (check Tanabe and Shigeta)

GYNU...Geological Institute, Yokohama National University

HCS...Geological section, Hokkaido Colliery and Steamship Co. Ltd., Yubari (Hokusei Consulting Co. Ltd., Sapporo)

Hirata collection in Makino Botanical Garden, Kochi

HMM...Hikaru Memorial Museum, Takayama

HMNH (D2)...Hyogo Museum of Nature and Human Activities, Mita

HU...Department of Geology, Faculty of Education, Hirosaki University, Hirosaki

HU (=HUMP, UHR)...Department of Geology and Mineralogy, Hokkaido University, Sapporo

HUMP...Department of Geology and Mineralogy, Hokkaido University, Sapporo

HUTE...Geoscience Institute, Hyogo University of Teacher Education, Yshiro-cho, Hyogo

IAGI...Department of Mining and Civil Engineering, Faculty of Technology, Iwate University, Morioka

IAGG...Institute of Astronomy, Geophysics and Geology, Osaka University of Liberal Arts and Education, Kashihara

IES...Tokyo Gakugei University, Koganei

IESS...Institute of Earth Science, Sen. High School, Tokyo University of Education, Tokyo

IGF...Geological Institute, Faculty of Education, Fukushima University, Fukushima

IGH (=IGMH, IGMSH, IGSH, TNM)...Institute of Geology and Mineralogy, Hiroshima University, Hiroshima

IGMH (=IGH, IGMSH, IGSH, TNM)...Institute of Geology and Mineralogy, Hiroshima University, Higashihiroshima

IGMSH...Ditto.

IGOG...Institute of Geology, Osaka University, Liberal Arts and Education, Osaka

IGPS...Institute of Geology and Paleontology, Faculty of Science, Tohoku University, Sendai

Institute of Geology and Paleontology, Academia Sinica, Nanjing, P.R. China

IGSH (=IGMH, IGMSH, TNM)...Institute of Geology and Mineralogy, Hiroshima University, Higashihiroshima
 IGUS...Institute of Geology, University of Shizuoka, Shizuoka
 IGUT...Institute of Geoscience, University of Tsukuba, Tsukuba
 INH...Institute of Natural History, Tokyo
 IPMM...Iwate Prefectural Museum, Morioka
 IPPM...used by Ehiro, 1993 (Iwate Prefectural Museum ? check Ishibashi)
 IW...Department of Earth Sciences, Saitama University, Urawa
 JC (=ATJRMN, GK, JCD, KCD, **KUGM**)...Department of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 JCD (=ATJRMN, GK, JC, KCD, **KUGM**)...Department of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 JM...J. Miyamoto's private collection
 JM...used by Nakazawa, 1959; Nakazawa and Shimizu (? Kyoto University) check Ishibashi
 JPC...Institute of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 JPF (=GK, JC, JCD, JPC, **KUGM**, KURS)...Institute of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 JUE...Jyoetsu University of Education, Jyoetsu
 K...Kagawa Natural Science Museum, Takamastu
 KC...School of Informatics and Sciences (formerly College of General Education), Nagoya University, Nagoya
 KDPP...used by Sakagami and Hatta, 1982; Kagoshima University
 Keio Yochisya collection (Baba collection)
 KHFM...Kashima Historical and Folklore Museum, Kashima
 KIM...Kimura, Saeki and Arai, 1985
 KM...Komatsu City Museum, Komatsu, Ishikawa Prefecture
 KMNH...Kitakyusyu Museum of Natural History, Yahata, Kitakyusyu
 KMSP...Department of Geology, Faculty of Science, Kumamoto University, Kumamoto
 KPM...Kanagawa Prefectural Museum, Odawara
 KRM...School of Science and Technology, Waseda University, Tokyo
 KU(=GK, GK. D, GKL, GKM)...Kyushu University, Fukuoka
 KU...by Kimura and Tsuji
 KUE...Department of Earth Science, Kyoto University of Education, Kyoto
KUGM (=ATJRMN, GK, JC, JCD, KCD, KURS)...Department of Geology and Mineralogy, Graduate School of Science, Kyoto University, Kyoto
 KURS (=ATJRMN, GK, JC, JCD, JPF, **KUGM**)...Department of Geology and Mineralogy, Faculty of Science, Kyoto University, Kyoto
 KYC...K. Yokoi's private collection
 KZ...Institute of Earth Science, Sen. High School, Tokyo University of Education, Tokyo
 LMMN...Laboratory of Microfossil's study of Matsumoto, Nagano
 LPBC...Laboratory of Phylogenic Botany, Faculty of Science, Chiba University, Chiba
 MC (=MCH)...K. Muramoto's private collection
 MCH...used by Matsumoto and Muramoto as K. Muramoto's private collection
 MCM...Mikasa City Museum, Mikasa, Hokkaido
 MBGK...Makino Botanical Garden, Kochi
 MEMIT...Mining Engineering Department, Muroran Institute of Technology, Muroran
 MFM...Mizunami Fossil Museum, Mizunami
 MI...Department of Astronomy and Earth Science, Tokyo Gakuhei University, Tokyo
 Mikasa High School collection, Mikasa
 MK...Department of Geology and Mineralogy, Hokkaido University, Sapporo
 MMHF...Mine City Museum of Natural and Folk-Custom, Mine, Yamaguchi Prefecture
 MNH...T. Miyauchi's private collection
 MNHAH...Museum of Nature and Human Activities, Hyogo, Senda
 MSSU...Matsumoto Branch, Faculty of Education, Shunshu University, Matsumoto
 MT...M. Tani's private collection (noe keeping in Osaka Museum of Natural History, Osaka)
 National Natuurhistorisch Museum: National Museum of Natural History, Leiden, The Netherlands

NE (=NEE, NEG)...Department of Astronomy and Earth Science, Tokyo Gakugei University, Tokyo
 NEE (=NE, NEG)...Department of Astronomy and Earth Science, Tokyo Gakugei University
 NEG (=NE, NEE)...Department of Astronomy and Earth Science, Tokyo Gakugei University
 NFH...Nomura Foraminiferal Laboratory, Shimane University, Matsue
 NHM...The National History Museum, London
 NIGP...Nanjing Institute of Geology and Paleontology, Nanning, P.R. China
 NNW...Kimura and Tsuji, Tokyo Gakugei University, Tokyo
 Nr...Bayer Staatssammlung für Paläontologie und historische Geologie, München
 NS (=CM, GITU, TK, UMUT, UTCM, UTCM-Kf, NS, NSR)...University Museum, University of Tokyo, Tokyo
 NSM (=NSMT-P)...National Science Museum, Tokyo
 NSMT-P (=NSM)...Ditto.
 NSR (=CM, TK, UMUT, UTCM, UTCM-Kf, NS)...University Museum, University of Tokyo, Tokyo
 NU...Department of Geology, Faculty of Science, Niigata University, Niigata
 NUETEM...Department of Earth Sciences, Nara University of Education, Nara
 NUH...Naruto University paleontological collections from the Hatsuse Formation, Naruto
 OCU...Osaka City University, Osaka
 OKES...Osaka University of Liberal Arts and Education, Kashihara
 OM...Department of Geology and Astronomy, Tokyo Gakugei University, Tokyo
 OMN...Osaka Municipal Museum of Natural History, Osaka
 OMNH...Osaka Museum of Natural History, Osaka
 ON...(probably: Lamont-Doherty Geological Observatory of Columbia University, Palisades, New York, USA)
 OSA...Department of Biology, Osaka City University, Osaka
 PC...Osaka City University, Osaka
 PCa...used by Hamada, 1958 (Tokyo University?)
 PF...Division of Geoscience, Osaka City University, Osaka
 PM...Kimura and Ohana, 1985
 RINT...Research Institute of Natural Resources, Tokyo (disbanded and ceased publication of institutional journal in 1971;
 specimens were partly relocated and registered in NSM)
 RSG...Research Institute of Science and Education, Gunma Prefecture
 Saitama University, Paleontological Collection, Urawa
 Shanghai Science Institute, Shanghai, P.R. China
 SHI...by Kimura and Tsuji, 1982
 SHM...Saito Ho-on Kai Museum of Natural History (formerly Saito Ho-on Kai Museum), Sendai
 SKK...Shigenkagaku Kenkyusho (Underresource Research Institute, Tokyo)
 SM...Sado Museum, Sawata-machi, Niigata
 SM (=SHM)...Saito Ho-on Kai Museum (Saito Ho-on Kai Museum of Natural History, Sendai)
 SSEW...School of Science and Engineering, Waseda University, Tokyo
 SU...Department of Geology, Faculty of Education, Shinshu University, Nagano
 Swedish Museum of Natural History, Paleobotany Section
 Taihoku University, Taihoku (Taiwan)
 TF...Geological Institute, University of Tokyo, Tokyo
 TGTU (probably=FG, TGWU)...Department of Geology, Fukuoka University of Education, Fukuoka
 TGU (=TGUFU)...Department of Astronomy and Earth Sciences, Tokyo Gakugei University, Koganei (Tokyo Gakugei Dai-
 gaku)
 TGWU (probably=FG, TGTU)...Department of Geology, Fukuoka University of Education, Fukuoka
 TGUFU (=TGU)...Ditto.
 TI...Herbarium, Botanic Gardens, Faculty of Science, University of Tokyo, Tokyo
 TK (=CM, UMUT, UTCM, UTCM-Kf)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo
 TKD (=TKU, TUEG, TUE-G-Km)...Department of Geology, Faculty of Science, Tokyo Kyoiku Daigaku (Tokyo University
 of Education), Tokyo (re-organized the Institute of Geoscience, University of Tsukuba, Tsukuba as IGUT)
 TKT...Institute of Geological Science, College of General Education, Osaka University, Toyonaka
 TKU (=TKD, TUEG, TUE, IGUT)...Institute of Geoscience, University of Tsukuba, Tsukuba
 TM...TM of the New Zealand Geological Survey, Lower Hutt (Institute of Geological and Nuclear Sciences Limited,
 Lower Hutt)

TMNH (=TY)...Toyohashi Museum of Natural History, Toyohashi
 TNM (=IGMH, IGMSH)...Department of Geology and Mineralogy, Faculty of Science, Hiroshima University, Hiroshima (now Higashihiroshima; East Hiroshima City)
 TOCCN...Technical Research Center, Teikoku Oil Co., Ltd., Tokyo
 Tottori Prefectural Museum
 TPM...Tottori Prefectural Museum, Tottori
 TTC...Takemi Takahashi's private collection
 TU...Botanical Institute, Faculty of Science, University of Tokyo, Tokyo
 TUE...Museum of Comparative Zoology, Harvard University (check Ishibashi)
 TUEG (=TKD, TUE-G-Km)...Department of Geology, Faculty of Science, Tokyo Kyoiku Daigaku (Tokyo University of Education), Tokyo (re-organized as the Institute of Geoscience, University of Tsukuba, Tsukuba with acronym of **IGUT**)
 TUE-G-Km (=TKD, TUEG)...Ditto.
 TUG (=TKD, **IGUT**)...Tokyo Kyoiku University
 TUSH...Department of Biology, College of Liberal Arts, Kanazawa University, Kanazawa
 TUSG...Institute of Biology, Faculty of Science, Tohoku University, Sendai
 TY (=TMNH)...Toyohashi Museum of Natural History, Toyohashi
 UCB...University of Claude-Bernard Lyon 1, collection Department of Science, Terre
 UH (=GH, HU, UH, UHR)...Department of Geology and Mineralogy, Faculty of Science, Hokkaido University, Sapporo
 UHR (=GH, HU, UH)...Department of Geology and Mineralogy, Hokkaido University, Sapporo
 UK...Kyoto University
UMUT...University Museum, University of Tokyo, Tokyo
 URCUT...Imperial University of Tokyo (used by Otuka, 1936)
 USBF...United States Bureau of Fisheries
 USGS...United States Geological Survey
 USNM (=U.S.N.M.)...United States National Museum, Washington, D.C.
 USR...Shigehiro Uchida's private collection
 UT (=UTCM, CM, TK, UTCM, NS, NSR, **UMUT**)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo
 UTCM (=CM, TK, UTCM, NS, NSR, **UMUT**)...Geological Institute, Faculty of Science, University of Tokyo, Tokyo
 Yamagata Prefectural Museum, Yamagata
 YCM (=YCMGP, YCM-GP)...Yokosuka City Museum, Yokosuka
 YCMGP...Yokosuka City Museum, Yokosuka
 Yb...K. Muramoto's private collection
 Yg...Attached School, Oizumi Campus, Tokyo Gakugei University
 YGUES...Department of Earth Sciences, Faculty of Science, Yamagata University, Yamagata
 YKC...Yoshitaro Kawashita's private collection
 YOAK...Institute of Geology and Mineralogy, Hiroshima University, Hiroshima
 YUN (=YNUC)...Geological Institute, Yokohama National University, Yokohama
 YNUC...Department of Science Education, Faculty of Education and Human Sciences, Yokohama National University, Yokohama
 YYH...Tokyo Gakugei University
 WEA...Institute of Earth Science, Waseda University, Tokyo

(Abbreviations printed in bold letters, for instance **UMUT**, denote the current name of a given institute among various names used in the past)

Plant Megafossils

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²Faculty of Science and Engineering, Chuo University, Tokyo, 112-8551 Japan

³Botanical Gardens, Graduate School of Science, Tohoku University, Sendai, 980-0862 Japan

⁴Faculty of Horticulture, Chiba University, Matsudo, 271-8510 Japan

* indicates that the species has a nomenclatural problem, mostly in the typification (Art. 37) of ICBN

Abies aburaensis Tanai, 1961

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 247, pl. 1, fig. 8

Holotype: UHR-15064 [NSM-PP]

Abura, Setana-cho, Setana-gun, Hokkaido

“Kunnui” Formation

Middle Miocene [late Early Miocene]

Abies firmoides Watari, 1956

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 427, photo. 4; text-fig. 4

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 31602 [TI]

Kuji district, Iwate Prefecture

[Noda Group]

Early Oligocene

Abies hokiensis Ozaki, 1979

Sci. Rep. Yokohama Natn. Univ. Sec. 2, no. 26, p. 35, pl. 1, fig. 8

Holotype: NSM-PP 16219

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

Abies honshuensis Tanai, 1961

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 247, pl. 1, fig. 2

Holotype: GSJ-4210

Aburato coal mine, Kamo-machi, Tsuruoka City, Yamagata Prefecture

Aburato (coal-bearing) Formation

Early Miocene

For many helps and comments in the present work, we thank following persons: T. Asakawa, M. Masuda, T. Ohana, K. Saiki, Y. Shicchi, K. Terada, M. Tsukagoshi, and A. Yabe

Abies n-suzukii Tanai, 1961

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 249, pl. 1, fig. 13

Holotype: UHR-15067 [NSM-PP]

Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

Abies protofirma Tanai, 1961

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 248, pl. 1, fig. 10

Holotype: GSJ-4059

Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture

Onbara Formation

Mio-Pliocene

Abies sanzugawaensis Huzioka et Uemura, 1974

Bull. Natn. Sci. Mus., vol. 17, p. 343, pl. 1, figs. 1, 1a, b

Holotype: AKMG-7470

Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture

Sanzugawa Formation

Late Miocene

Abies ugoensis Huzioka et Uemura, 1973

Bull. Natn. Sci. Mus., vol. 16, p. 697, pl. 1, figs. 1, 1a

Holotype: AKMG-7277

Kamitozawa, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

Abiocalis yezoensis Suzuki, 1910

Bot. Mag. Tokyo, vol. 24, no. 284, p. 181, pl. 7, photos 1-2

Holotype: Bot. Inst., Univ. Tokyo [TI]

Ikushunbetsu, Hokkaido

Late Cretaceous

Acer akagawaensis K. Suzuki, 1959

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 41, pl. 5, fig. 2

Holotype: IGF-1162 [FM]

Loc. Ak1, Tennoji, Iizaka-machi, Shinobu-gun, Fukushima Prefecture

Tennoji Formation

Late Miocene

Acer chiharae Huzioka et Nishida in Huzioka, 1964

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 88, pl. 14, fig. 5

Holotype: AKMG-3312

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(The species was described by Huzioka and Nishida (1960, Publ. Sado, Mus., no. 3, p. 18, pl. 5, figs. 6-8) without typification, and validly published in Huzioka (1964))

***Acer cuneatum* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 62, pl. 8, fig. 1
 Holotype: IGPS-92366
 Yongpukdong, Hamg'yeong-bukdo, Korea
Engelhardtia bed
 Middle Miocene [Oligocene]

***Acer debilum* Huzioka et K. Suzuki, 1954**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 14, p.140, pl. 16,
 figs. 11-12
 Syntypes: Inst. Earth Sci., Dept. Arts Sci., Fukushima Univ.
 [FM]
 1 km west of Mt. Tate-yama, Kitakata City, Fukushima
 Prefecture
 Shiotsubo Formation
 Late Miocene

***Acer endoanum* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 63, pl. 14, fig.
 5H
 Holotype: Dept. Geol. Mineral., Hokkaido Univ. (Huzioka,
 1943, pl. 22, fig. 6; *Acer* sp.)
 Hamjindong, Hamg'yeong-bukdo, Korea
 Hamjindong Formation, Myeoncheon Group
 Middle Miocene

***Acer ezoanum* Oishi et Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp Univ., Ser. 4, vol. 7, no. 1, p.
 89, pl. 11, figs. 1-4
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos.
 9359a-b, 9360
 Shiretori coal-mine, Shiretori-machi, Shiretori-gun,
 Saghalien [Makarov, Sakhalin, Russia]
 Naihoro (coal-bearing) Formation
 Middle Miocene [late Early Miocene]
 (Lectotype: no. 9360, by Tanai, 1983 in Jour. Fac. Sci.,
 Hokkaido Univ., Ser. 4, vol. 20, p. 320)

***Acer fatsiaefolia* Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp Univ., Ser. 4, vol. 7, no. 1,
 p.131, pl. 23, fig. 7
 Holotype: Dept. Geol. Mineral., Hokkaido Univ.
 Kinkodo, Usen-men, Geizitsu-gun, N. Keisyodo, Korea
 Ennichi Series
 Miocene

***Acer fujitogensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 83, pl. 18, fig. 5
 Holotype: IGF-5191 [FM]
 Az-28c, Fuji-toge, Yanaizu-machi, Kawanuma-gun,
 Fukushima Prefecture (37°33'44"N, 139°43'22"E)
 Lower part of Fujitoge Formation
 Late Miocene

***Acer huziokae* Tanai, 1983**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 20, no. 4, p. 326,
 pl. 11, fig. 2
 Holotype: TPM-400 (Tottori Pref. Mus.)
 Tatsumitoge, Saji-son, Yazu-gun, Tottori Prefecture
 Tatsumitoge Formation
 Late Miocene

***Acer imaii* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 90, pl.
 14, fig. 11
 Holotype: AKMG-3317
 Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
 Suginoura Formation
 Early Miocene
 (The species was described by Huzioka and Nishida (1960,
 Publ. Sado, Mus., no. 3, p. 18, pl. 6, figs. 1, 2) without
 typification, and validly published in Huzioka (1964))

***Acer ishikariense* Tanai, 1983**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 20, no. 4, p. 322,
 pl. 5, fig. 8
 Holotype: HUMP-26209 [NSM-PP]
 Reisui-zan, Yubari City, Hokkaido
 Ikushunbetsu Formation
 Early Oligocene [late Middle Eocene]

***Acer iwaii* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 81, pl. 18, figs. 1-4
 Syntypes: IGPS-78144, 78141, 78143, 78142
 IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern
 valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima
 Prefecture (37°8'10"N, 140°54'15"E)
 Shichiku Formation
 Early Miocene

Acer iwatense* (Watari) Watari, 1952 see *Acerinium iwatense* Watari, 1941**Acer kokangenense* Endo, 1950**

Short Pap. IGPS, no. 1, p. 14, pl. 3, fig. 10
 Holotype: IGPS-60993
 Ryuhoku-do, Kokangen, Keigen-gun, Kankyo-hokudo, North
 Korea
Engelhardtia bed
 Miocene [Oligocene]

***Acer konnoi* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 108, pl. 13, fig. 4
 Holotype: IAGI-61096
 Yoake-zawa Ma-5, east of Oshuku hot-spring,
 Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°37'56"N,
 140°56'25"E)
 Masuzawa Formation

Late Miocene

***Acer koreanicum* Endo, 1950**

Short Pap. IGPS, no. 1, p. 15, pl. 3, fig. 13

Holotype: IGPS-60996

Ryuhoku-do, Kokangen, Keigen-gun, Kankyo-hokudo, North Korea

Engelhardtia bed

Miocene [Oligocene]

***Acer kushiroanum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ. Ser. 4, vol. 14, p. 489, pl. 20, fig. 1

Holotype: HUMP-25990 [NSM-PP]

Nakanosawa, near Yubetsu coal mine, Yubetsu, Akan-machi, Akan-gun, Hokkaido

Yubetsu Formation

Early Oligocene [Late Eocene]

***Acer macrosamarum* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 90, pl. 14, fig. 12

Holotype: AKMG-3933

Arase coal-mine, Tsuyukuma, Ani-machi, Kita-Akita-gun, Akita Prefecture

Aniai (coal-bearing) Formation

Early Miocene

***Acer matsuii* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 282, pl. 6, fig. 1

Holotype: GSJ-4042

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture

Basal part of Yunagaya Group [Shichiku Formation]

Early Miocene

***Acer megasamarum* Tanai et N. Suzuki, 1960**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, p. 560, pl. 5, fig. 3

Holotype: UHR-15027 [NSM-PP]

Abura, Setana-cho, Setana-gun, Hokkaido

“Kunnui” Formation

Middle Miocene [late Early Miocene]

***Acer meisenense* Endo, 1950**

Short Pap. IGPS, no. 1, p. 12, pl. 3, fig. 4

Holotype: IGPS-60990

Kanchindo, Meisen-gun, Kankyo-hokudo, North Korea

Kanchindo Formation

Miocene [Middle Miocene]

***Acer miojaponicum* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 19, pl. 5, fig. 5.

Holotype: [AKMG]

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(See also Huzioka (1964, Jour. Min. Coll. Akita Univ., ser. A, vol. 3, no. 4, p. 92) under *A. protojaponicum* Tanai et Onoe)

***Acer miyagiense* Endo, 1950**

Short Pap. IGPS, no. 1, p. 16, pl. 3, fig. 14

Holotype: IGPS-60997

Hirose-mura, Miyagi-gun, Miyagi Prefecture

Shirasawa Formation

Late Miocene

***Acer momijiyamaense* A. Takahashi et M. Suzuki, 1988**

Bot. Mag. Tokyo, vol. 101, p. 474, figs. 1-7

Holotype: Dept. Biol., Coll. Lib. Arts, Kanazawa Univ., no. 22002 [TUSG], Isotype: TI and NSM-PP

Momijiyama, Yubari City, Hokkaido

Poronai Formation

Oligocene [Late Eocene]

***Acer nomurai* Okutsu, 1940**

Saito Ho-on Kai Mus., Res. Bull., no. 19, p. 162, pl. 7, fig. 5

Holotype: IGPS-10987

Fukuoka, Nenoshiroishi-mura, Miyagi-gun, Miyagi Prefecture

Fukuoka Formation [Shirasawa Formation]

Late Miocene

***Acer oishii* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 490, pl. 14, fig. 1

Holotype: HUMP-25986 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Acer palaeodiabolicum* Endo, 1950**

Short Pap. IGPS, no. 1, p. 12, pl. 3, fig. 3

Holotype: IGPS-60989

Kanchindo, Meisen-gun, Kankyo-hokudo, North Korea

Kanchindo Formation

Miocene [Middle Miocene]

***Acer palaeonippoicum* Murai, 1969**

Tech. Rep. Iwate Univ., vol. 4, p. 65, pl. 1, fig. 2; pl. 2, figs. 4, 6; pl. 5, fig. 4.

Syntypes: IAGI-67009, 67010, 67011, 67012*

Loc. 2, Yokokawame, Waga-cho, Waga-gun, Iwate Prefecture

Hishinai Formation

Late Middle Miocene

***Acer palaeoplatanoides* Endo, 1950**

Short Pap. IGPS, no. 1, p. 11, pl. 3, figs. 1, 9

Holotype: IGPS-60987

Kanchindo, Meisen-gun, Kankyo-hokudo, Korea
Kanchindo Formation
Miocene [Middle Miocene]

***Acer palaeorufinerve* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 49, pl. 16, figs. 2, 3
Syntypes: GSJ-4182, 4183*
Mitoku, Misasa-cho, Tohaku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene

***Acer palmatoxylum* M. Suzuki, 1982**

Bot. Mag. Tokyo, vol. 95, p. 281, figs. 1-4
Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ.,
no. 71323 [TUSG]
Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun,
Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Acer palmatum* Thunb. subsp. *megamoenum* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 99, pl. 11, fig. 6a
Holotype: IAGI-61024
Hareyama-zawa SaU-3, Gomyojin, Shizukuishi-cho,
Iwate-gun, Iwate Prefecture (39°43'41"3N, 140°55'3"9E)
Upper part of Sakamotogawa Formation
Late Miocene

***Acer protodiabolicum* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 82, pl. 17, fig. 9
Holotype: IGF-5190 [FM]
Az-17, river cliff of upper course of Hara River,
Kamisannomiya-machi, Kitakata City, Fukushima Prefecture
(37°40'22"6N, 139°49'34"3E)
Lower part of Fujitoge Formation
Late Miocene

***Acer protodistylum* Endo, 1950**

Short Pap. IGPS, no. 1, p. 12, pl. 3, fig. 2
Holotype: IGPS-60938
Fu-shun coal-field, South Manchuria, China
Fushun coal-bearing formation
Eocene

***Acer protojaponicum* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 281, pl. 6, fig. 5
Holotype: GSJ-4038
Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
Basal part of Yunagaya Group [Shichiku Formation]
Early Miocene

***Acer protomatumurae* Tanai, 1983**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 20, no. 4, p. 315,
pl. 3, fig. 5

Holotype: GSJ-4777
Tatsumitoge, Saji-son, Yazu-gun, Tottori Prefecture
Tatsumitoge Formation
Late Miocene

***Acer protomiyabei* Endo, 1950**

Short Pap. IGPS, no. 1, p. 15, pl. 3, fig. 11
Holotype: IGPS-60994
Tsusen coal-mine, Bunjirei, Tsusen-gun, Kogendo, North
Korea
[Tsusen (coal-bearing) Formation]
Miocene

***Acer protonegundo* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 362, pl. 27,
fig. 2
Holotype: UHR-15004 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Acer protopalmatum* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 83, pl. 18, fig. 8
Holotype: IGF-5193 [FM]
Az-22a, river cliff of Ichinoki River, Shiroko lignite mine, ca.
600 m SW of Shiroko, Yamato-machi, Yama-gun, Fukushima
Prefecture (37°40'13"N, 139°47'02"9E)
Lower part of Fujitoge Formation
Late Miocene
***(Liquidambar protopalmata* (K. Suzuki) Uemura, 1983** in
Mem. Natn. Sci. Mus., Tokyo, no. 16, p. 30)

***Acer protorufinerve* Endo, 1963**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 50, p. 67, pl. 10,
fig. 3
Holotype: IGPS ?
Nishizawa, Akyu-mura, Natori-gun, Miyagi Prefecture
Shirasawa Formation
Late Miocene

***Acer protosieboldianum* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 50, pl. 15, fig. 5
Holotype: GSJ-4184
Ningyo-toge, Misasa-cho, Tohaku-gun, Tottori Prefecture
Ningyo-toge Formation
Pliocene

***Acer prototataricum* Tanai et N. Suzuki, 1960**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, p. 566, pl. 9,
fig. 7
Holotype: UHR-15040 [NSM-PP]
Abura, Setana-cho, Setana-gun, Hokkaido
"Kunnui" Formation
Middle Miocene [late Early Miocene]

***Acer prototrifidum* Tanai, 1952**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 8, p. 234, pl. 22, fig. 13

Holotype: Geol. Inst., Univ. Tokyo

Gejitsu, Keisho-hokudo, Korea

Ennichi Formation

Middle Miocene

***Acer pseudocarpinifolium* Endo, 1950**

Short Pap. IGPS, no. 1, p. 14, pl. 3, fig. 6

Holotype: IGPS-44246

Hirose-mura, Miyagi-gun, Miyagi Prefecture

Shirasawa Formation

Late Miocene

***Acer rotundatum* Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p. 129, pl. 24, figs. 1-3; pl. 25, fig. 2

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 9334, 9338-9339

Kinko-do, Usen-men, Geijitsu-gun, N. Keisyo-do; Yutendo, Meisen-gun, N. Kankyo-do, Korea

Ennichi Formation; Ryudo [Yongdong] Formation

Middle Miocene

***Acer rubrum* L. var. *ligniatum* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 283, fig. 17A

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Injo, Seto City, Aichi Prefecture; Osusawa, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Acer ryozenensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 80, pl. 19, fig. 7

Holotype: IGF-1536 [FM]

Ry-4, river cliff in southern valley of Kawadaira, Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N, 140°44'20"E)

Lower part of Ryozen Formation

Early Miocene

***Acer subcarpinifolium* Tanai, 1983**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 20, no. 4, p. 347, pl. 14, fig. 4

Holotype: HUMP-26336 [NSM-PP]

South of Tamagawa, Bifuka-cho, Hokkaido

Ote Formation

Late Miocene

***Acer submayrii* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 50, pl. 17, fig. 5

Holotype: GSJ-4185

Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture

Mitoku Formation

Late Miocene

***Acer subukurunduense* N. Suzuki, 1963**

Jour. Fac. Sci., Hokkaido Univ. Ser. 4, vol. 11, p. 690, pl. 1, fig. 1

Holotype: HUMP-25918 [NSM-PP]

Yongosen, Rubeshibe-cho, Tokoro-gun, Hokkaido

Komatsuzawa Formation

Early Pliocene

***Acer ? sugawarai* Endo, 1951**

Short Pap. IGPS, no. 3, p. 56, pl. 8, fig. 7

Holotype: IGPS-60983

IGPS loc. no. Mi-88, Yamazaki, Kawasaki-mura, Shibata-gun, Miyagi Prefecture

Shirasawa Formation ?

Late Miocene

***Acer tokiensis* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ. Sec. 2, no. 21, p. 16, pl. 3, figs. 8, 9

Holotype: GYNU-CMP-1036 [KPM]

Inkyoyama, Toki City, Gifu Prefecture

“Yamanouchi facies”, Akeyo Formation

Middle Miocene [late Early Miocene]

***Acer yabei* Endo, 1950**

Short Pap. IGPS, no. 1, p. 13, pl. 3, fig. 7

Holotype: IGPS-60992

IGPS loc. no. Mi-30, Shirasaka-toge, Akyu-mura, Natori-gun, Miyagi Prefecture

Shirasawa Formation

Late Miocene

***Acer yoshiokaense* Tanai et N. Suzuki, 1960**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, p. 568, pl. 2, fig. 5

Holotype: UHR-15056 [NSM-PP]

Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

***Acer watarianum* A. Takahashi et M. Suzuki, 1988**

Bot. Mag. Tokyo, vol. 101, p. 474, figs. 8-13

Holotype: Univ. Mus., Univ. Tokyo, no. 53002 [TI], Isotype:

Dept. Biol., Coll. Lib. Arts, Kanazawa Univ. [TUSG]

Precise locality is unknown; as a piece of memorial stone circle at Sohjiji, Monzen-machi, Fugeshi-gun, Ishikawa Prefecture

Derived from Yanagida Formation

Early Miocene

***Acerinium iwatense* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 431, photo. 3; text-fig. 5
 Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 31106, 31121 [TI]
 Nesori, Namiuchi-mura [Ichinohe-machi], Ninohe-gun, Iwate Prefecture
 [Yotsuyaku Formation]
 Late Early Miocene
 (*Acer iwatense* (Watari) Watari, 1952 in Jour. Fac. Sci. Univ. Tokyo, Sec. 3, vol. 6, p. 125; *Prunus iwatense* (Watari) A. Takahashi et M. Suzuki, 1988 in Bot. Mag. Tokyo, vol. 101, p. 480)

***Acrostichopteris hatae* Ohana et Kimura, 1993**

Bull. Natn. Sci. Mus., Ser. C, vol. 19, p. 100, fig. 2
 Holotype: NSM-PP 9015
 Near Tanano, Katsura-cho, Katsura-gun, Tokushima Prefecture (ca. 33°56'N, 134°28'E)
 Tatsukawa Formation
 Early Cretaceous (Neocomian)

***Acrostichopteris naitoi* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, no. 2, p. 63, pl. 3, fig. 7; text-fig. 13
 Holotype: NSM-PP 8008
 Loc. no. 063, east of Ono, Anai, Shimonoseki City, Yamaguchi Prefecture
 Utano Formation
 Middle Jurassic

***Acrostichum ubense* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 45, pl. 1, fig. 1.
 Holotype: AKMG-3377
 Shin-Suzumeda submarine colliery, off Onoda, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Actinidia harutoriensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 493, pl. 16, fig. 1
 Holotype: HUMP-25995 [NSM-PP]
 Harutori pit, Harutori mine, Kushiro City, Hokkaido
 Harutori Formation
 Early Oligocene [late Middle Eocene]

***Actinodaphne nipponica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 333, pl. 22, fig. 6
 Holotype: UHR-15232 [NSM-PP]
 Tachimata-zawa, Ani-machi, Kita-Akita-gun, Akita Prefecture
 Utto Formation

Middle Miocene [late Early Miocene]

***Actinodaphne oishii* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 201, pl. 33, figs. 3, 4
 Holotype: AKMG-3099 (specimen in 2 pieces)
 Tsuchikumazawa, Shimo-Hinokinai, Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture
 Utto Formation
 Middle Miocene [late Early Miocene]

***Actinovenia ishikariensis* Tanai, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 134, pl. 7, fig. 1
 Holotype: NSM-PP10305
 Road cliff of Shimizuno-sawa, Heiwa, Yubari City, Hokkaido
 Ikushunbetsu Formation
 Late Eocene [late Middle Eocene]

***Adiantites oaraiensis* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 62, pl. 2, fig. 2
 Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-3)
 Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
 Oarai Formation
 Late Cretaceous

***Adiantites toyoraensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 235, pl. 7, figs. 2, 2a, 3
 Syntypes: Dept. Geol. Miner., Hokkaido Univ., no. 8618
 Takaji, Kiyosue-mura, Toyora-gun, Yamaguchi Prefecture
 Kiyosue Group
 Late Jurassic

***Adiantopteris ishidae* Kon'no et Naito, 1978**

Bull. Natn. Sci. Mus., Ser. C, vol. 4, p. 7, pl. 1, figs. 1, 1a
 Holotype: NSM-PP 7200
 Omine colliery, Omine, Mine City, Yamaguchi Prefecture (34°11'35"N, 131°10'01"E)
 Momonoki Formation
 Triassic (Middle Carnian)

***Adiantopteris oshimaensis* Kimura et Ohana in Kimura, Ohana and Aiba, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 145, fig. 10a
 Holotype: NSM-PP 8666
 Loc. no. 4, 300 m southwest of Oshima-Sotohama, Oshima Island, Miyagi Prefecture
 Middle part of Kogoshio Formation
 Late Jurassic

***Adiantopteris sawamurae* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, p. 17
 Holotype: Dept. Geol. Miner., Hokkaido Univ., no. 8589 (= Oishi, 1940, pl. 7, figs. 4, 4a; *Adiantites toyoraensis* Oishi)

Kobodani, Nankoku City, Kochi Prefecture
Ryoseki Formation
Early Cretaceous

***Aesculus mioxyla* M. Suzuki et K. Terada, 1996**

Int. Ass. Wood Anat., Jour., pl. 17, p. 384, figs. 31-33

Holotype: TUSG, Wood Coll. no. 80074

Uchiura, Yukinobe, Uchiura-machi, Suzu-gun, Ishikawa Prefecture

Yanagida Formation

Early Miocene

***Ailanthus yezoense* Oishi et Huzioka, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 584, p. 156, text-figs. 2-4

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Abura, Setana-cho, Setana-gun, Hokkaido

“Kunnui” Formation

Middle Miocene [late Early Miocene]

***Alangium basiobliquum* (Oishi et Huzioka) Tanai, 1961**

see *Marlea basiobliqua* Oishi et Huzioka, 1950

***Alangium basitruncatum* (Oishi et Huzioka) Tanai, 1970**

see *Marlea basitruncata* Oishi et Huzioka, 1950

***Alangium columbioides* (Endo) Tanai, 1989** see *Ficus columbioides* Endo, 1968

***Alangium macrocarpum* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 276, pl.-fig. Ed; text-fig. 1C

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Osusawa in Tokitsu, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Alangium yamatoensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 87, pl. 19, fig. 9

Holotype: IGF-5202 [FM]

Az-22a, river cliff of Ichinoki River, Shiroko lignite mine, ca. 600 m SW of Shiroko, Yamato-machi, Yama-gun, Fukushima Prefecture (37°40'13"N, 139°47'02"E)

Lower part of Fujitoge Formation

Late Miocene

***Alchornea harutoriensis* (Oishi et Huzioka) Tanai, 1990**

see *Tilia harutoriensis* Oishi et Huzioka, 1943

***Alethopteris fukienensis* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 229, text-fig. 7

Holotype: IGPS-62777C

Wu-kuei-kang, Fukien Prov., China

Permian

***Alethopteris thailandica* Kon'no, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 149, pl. 8, fig. 4

Holotype: Geol. Inst., Univ. Tokyo, no. TF329-7A

Khlong Wang Ang, ca. 50 km SSW of Phetchabun, Thailand (15°58'55"N, 100°58'36"E)

Unnamed plant-bearing bed

Permian

***Aleurites miocenica* Watari, 1956**

Bot. Mag. Tokyo, vol. 69, nos. 820-821, p. 470, figs. 1-2

Holotype: Bot. Inst., Univ. Tokyo, no. 53202 [TI]

Seryo, Oosugidani-mura, Nomi-gun, Ishikawa Prefecture

Miocene

***Allospodias makiyamai* Miki in Miki and Sakamoto, 1961**

Jubl. Publ. Commem. Prof. J. Makiyama, p. 263, pl. 2, figs. H-I

H-I

Syntypes: Dept. Biol., Osaka City Univ. [OSA]*

Right bank of River Jintsu, Kasuga, Osawano-machi,

Kami-Niikawa-gun, Toyama Prefecture

Yatsuo Formation, Hokuriku Group

Middle Miocene

***Allospodias sakamotoi* Miki in Miki and Sakamoto, 1961**

Jubl. Publ. Commem. Prof. J. Makiyama, p. 263, pl. 2, fig. J

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Right bank of River Jintsu, Kasuga, Osawano-machi,

Kami-Niikawa-gun, Toyama Prefecture

Yatsuo Formation, Hokuriku Group

Middle Miocene

***Alnus arasensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 68, pl. 4, figs. 4, 5

Holotype: AKMG-3863a, b*

Arase coal-mine, Tsuyukuma, Ani-machi, Kita-Akita-gun, Akita Prefecture

Aniai (coal-bearing) Formation

Early Miocene

***Alnus asamae* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 35, pl. 5, fig. 4

Holotype: IGPS-78097

IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima Prefecture (37°8'10"N, 140°54'15"E)

Shichiku Formation

Early Miocene

***Alnus ezoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ. Ser. 4, vol. 14, p. 466, pl. 7, fig. 1

Holotype: HUMP-24914 [NSM-PP]

Nakanosawa, near Yubetsu coal mine, Yubetsu, Akan-machi,

Akan-gun, Hokkaido
Yubetsu Formation
Early Oligocene [Late Eocene]

***Alnus hokkaidoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 467, pl. 8, fig. 7

Holotype: HUMP-25918 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Alnus ishikariana* Tanai, 1994**

Bull. Natn. Sci. Mus., Ser. C, vol. 20, p. 93, pl. 4, fig. 4; text-fig. 2Ea, b

Holotype: NSM-PP 10565

Reisui-zan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Middle Eocene

***Alnus kitamiensis* Uemura et Tanai, 1993**

Mem. Natn. Sci. Mus., Tokyo, no. 26, p. 21, figs. 1, 10, 11, 16

Holotype: NSM-PP 10500

Wakamatsuzawa, Kitami City, Hokkaido

Wakamatsuzawa Formation

Early Oligocene

***Alnus kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 468, pl. 8, fig. 1

Holotype: HUMP-25921 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Alnus palaeojaponica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 424, pl. 8, fig. 1

Holotype: NSM-10469 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Alnus protohirsuta* Endo ex Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 123, pl. 2, fig. 13

Holotype: NSM-PP 7336

Hinokinaimatazawa, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

(*A. protohirsuta* Endo, 1955 (nom. nud.) was validly published by Uemura, 1988)

***Alnus protojaponica* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 34, pl. 5, fig. 8

Holotype: IGPS-78102

IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima Prefecture (37°8'10"N, 140°54'15"E)

Shichiku Formation

Early Miocene

***Alnus protomaximowiczii* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 283, pl. 7, fig. 4

Holotype: UHR-15135 [NSM-PP]

Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

***Alnus rikuchuensis* Murai, 1962**

Tech. Rep. Iwate Univ., vol. 15, no. 2, p. 19, pl. 6, fig. 1

Holotype: IAGI-61145

Yoake-zawa Ma-5, Gosho, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°37'56"8N, 140°56'25"4E)

Masuzawa Formation

Late Miocene

***Alnus sakaii* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 69, pl. 4, fig. 7

Holotype: AKMG-5176

Tani, Kani-gun, Gifu Prefecture

Nakamura Formation

Early Miocene

***Alnus subzeoensis* Tanai, 1994**

Bull. Natn. Sci. Mus., Ser. C, vol. 20, p. 95, pl. 2, fig. 2

Holotype: NSM-PP 10547

Reisui-zan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Middle Eocene

***Alnus subfirma* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 15, pl. 10, fig. 5.

Holotype: HUMP-25642 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho,

Monbetsu-gun, Hokkaido

Shanabuchi Formation

Late Miocene

***Alnus thaiensis* Endo, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 177, pl. 10, figs. 1, 4, 9

Holotype: Depository not designated*

Amphoe Li, Chagwat Lamphun, northern Thailand (17°50'N, 99°05'E)

Lignite and oil shale-bearing Tertiary formation

Paleogene

***Alnus tsudae* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 70, pl. 4, fig. 9

Holotype: AKMG-3240

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(The species was described by Huzioka and Nishida (1960, Publ. Sado, Mus., no. 3, p. 11, pl. 1, figs. 7, 8) without typification, and validly published in Huzioka (1964))

***Alnus ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 52, pl. 5, fig. 2

Holotype: AKMG-3739A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Alnus usyuensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, p.70, pl. 5, fig. 3

Holotype: AKMG-3864

Arase coal-mine, Tsuyukuma, Ani-machi, Kita-Akita-gun, Akita Prefecture

Aniai (coal-bearing) Formation

Early Miocene

***Alnus yubarica* Tanai, 1994**

Bull. Natn. Sci. Mus., Ser. C, vol. 20, p. 96, pl. 3, fig. 3; text-fig. 2Ga, b

Holotype: NSM-PP 10568

Dam-site, Shimizusawa, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Middle Eocene

***Amphiphedra rhamnoides* Miki, 1964**

Bull. Mukogawa Women's Univ., vol. 12, p. 19, pl. 1, fig. F

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Jehol, South Manchuria, China

Lycopera beds

Late Jurassic

***Anomozamites fukutomii* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, no. 3, p. 118, pl. 5, fig. 3; text-fig. 26

Holotype: NSM-PP 8037

Loc. no. 063, east of Ono, Anai, Shimonoseki City, Yamaguchi Prefecture

Utano Formation

Middle Jurassic

***Antholithes cruciatus* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 503, pl. 16, fig. 6

Holotype: HUMP-26024 [NSM-PP]

Shitakara River, Yubetsu mine, Akan-cho, Akan-gun, Hokkaido

Shakubetsu Formation

Early Oligocene [Late Eocene]

***Aphlebia nervosa* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 418, pl. 45, figs. 3-5

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 8483, 8486

Kowashimizu, Shimousaka-mura, Ashiba-gun, Fukui Prefecture

Tetori Group

Jurassic

***Aporosa nanacarpa* Oyama, 1957**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 7, p.78, pl. 2, fig. 5

Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-51)

Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture

Oarai Formation

Late Cretaceous

***Aralia celtisfolia* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 284, pl. 7, fig. 1

Holotype: GSJ-4052

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture

Basal part of Yunagaya Group [Shichiku Formation]

Early Miocene

***Aralia dissectifolia* Oyama, 1957**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 7, p. 78, pl. 2, figs. 2, 2a, 3

Syntypes: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-52a, b)

Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture

Oarai Formation

Late Cretaceous

***Aralia ezoana* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 497, pl. 15, fig. 2

Holotype: HUMP-26006 [NSM-PP]

Shitakara River, Yubetsu mine, Akan-cho, Akan-gun, Hokkaido

Shakubetsu Formation

Early Oligocene [Late Eocene]

***Aralia hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 33, pl. 2,

fig. 2; text-fig. 5E

Holotype: TPM-156 (Tottori Pref. Mus.)
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Aralia longifolia* Matsuo, 1970**

Ann. Sci. Kanazawa Univ., vol. 7, p. 34, pl. 3, fig. 12
Holotype: DGLAKZ-13556
Sakito-I pit, Mitsubishi Sakito colliery, Sakito-cho,
Nishi-Sonogi-gun, Nagasaki Prefecture
Sakito Formation
Oligocene [Late Eocene]

***Aralia subelata* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 42, pl. 2, fig. 9.
Holotype: HUMP-25725 [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho,
Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Aralia yabei* Morita, 1933**

Acta Phytotaxon. Geobot., vol. 2, no. 2, p. 93, text-fig. 1
Holotype: IGPS ?
Shirakawa-toge, Kobe City, Hyogo Prefecture
Kobe Group
Miocene [Oligocene]
(*Liquidambar yabei* (Morita) Huzioka, 1974 in Jour. Min.
Coll. Akita Univ., Ser. A, vol. 5, p. 98)

***Araucaria nihongii* Stockey, M. Nishida et H. Nishida, 1992**

Rev. Palaeobot. Palynol., vol. 72, p. 28, pl. 1, fig. 1, pl. 3,
figs. 1-7
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
860951
Hakkinzawa, tributary of Yubarigawa, Oyubari, Yubari City,
Hokkaido
Upper Yezo Group
Late Cretaceous (Santonian-Turonian)

***Araucaria nipponensis* Stockey, H. Nishida et M. Nishida, 1994**

Int. Jour. Plant Sci., vol. 155, p. 806, figs. 2-32
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
921303
Higashiura, Wakkanai City, Hokkaido
Upper Yezo Group
Late Cretaceous

***Araucariopitys japonica* Yamazaki, Tsunada et Koike, 1980**

Mem. School. Sci. Engin., Waseda Univ., no. 44, p. 105, pl. 1,

figs. 2-3; pls. 8-10; text-fig. 5

Holotype: Dept. Miner. Industry, School Sci. Engin., Waseda
Univ., no. 78110210
Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Hinabata Formation, Nariwa Group
Late Triassic

***Araucarioxylon biseriatum* M. Nishida, H. Nishida et M. Suzuki, 1993**

Jour. Japan. Bot., vol. 68, p. 292, fig. 2
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
900136
Toriake-ura seashore, Inubo-saki, Choshi City, Chiba
Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous

***Araucarioxylon choshiense* M. Nishida, 1965**

Bot. Mag. Tokyo, vol. 78, p. 144, pl. 5, fig. 6
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6313
Toriakehama, near Inubo-saki, Choshi City, Chiba Prefecture
(35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous (Aptian)

***Araucarioxylon hujinamiense* Ogura, 1960**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 7, pt. 10, p. 504, figs.
6-12
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Fujinami, Arita-gun, Wakayama Prefecture
Late Cretaceous

***Araucarioxylon inuboense* M. Nishida, 1965**

Bot. Mag. Tokyo, vol. 78, p. 144, pl. 4, fig. 5
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6322
Toriakehama, near Inubo-saki, Choshi City, Chiba Prefecture
(35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous (Aptian)

***Araucarioxylon jeholense* Ogura, 1944**

Japan. Jour. Bot., vol. 13, no. 3, p. 347, pl. 3, figs. D-F, K-L
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Pafuli, Peipiao coal-field, Jehol, Manchuria, China
Taichi Series
Triassic-Jurassic (Rhaeto-Lias)

***Araucarioxylon kiiense* Ogura, 1944**

Japan. Jour. Bot., vol. 13, no. 3, p. 345, pl. 3, figs. A-C, I-J
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Fuzinami-mura, Arita-gun, Wakayama Prefecture
Late Cretaceous

***Araucarioxylon mineense* Ogura, 1960**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 7, pt. 10, p. 501, figs. 1-5

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Mine-coal field, Yamaguchi Prefecture

Mine Group

Triassic

(*Protocedoroxylon mineense* (Ogura) M. Nishida et Oishi, 1982 in Jour. Japan. Bot., vol. 57, p. 99)

***Araucarioxylon nihongii* M. Nishida et H. Nishida, 1984**

Jour. Japan. Bot., vol. 59, p. 50, pl. 1

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 822477

Omaki-zawa, branch rivulet of Yubari River, Oyubari, Yubari City, Hokkaido (43°04'48"N, 142°06'29"E)

Upper Yezo Group

Late Cretaceous (Turonian)

***Araucarioxylon pseudo-hujinamiense* M. Nishida et Oishi, 1982**

Jour. Japan. Bot., vol. 57, p. 343, pl. 17

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 81110

Noguri, Ueno-mura, Tano-gun, Gunma Prefecture

Sebayashi Formation

Early Cretaceous (Barremian-Aptian)

***Araucarioxylon pseudochoshiense* H. Nishida et M. Nishida, 1986**

Bot. Mag. Tokyo, vol. 99, p. 205, figs. 1, 2

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 11003

Miho River, tributary of Nayba (Naibuchi) River, Sakhalin, Russia (47°20'N, 142°27'E)

Miho Group

Late Cretaceous (Turonian-Santonian)

***Araucarites kujiensis* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 99, pl. 7, fig. 2

Holotype: HUMP-26058 [NSM-PP]

Edanarizawa, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Archaeozostera angustifolia* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 184, pl. 4, figs. 2, 3

Syntypes: Dept. Bot., Fac. Sci., Kyoto Univ. [OSA]

Tanagawa-mura, Sennan-gun, Osaka Prefecture; Miyagochi, Itano-gun, Tokushima Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no.

2, p. 109)

***Archaeozostera brevifolia* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 184, pl. 5, fig. 11

Holotype: Dept. Geol. Mineral., Fac. Sci., Kyoto Univ. [OSA]

Miyagochi, Itano-gun, Tokushima Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no. 2, p. 110)

***Archaeozostera lineata* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 186, pl. 5, fig. 9

Holotype: Dept. Bot., Fac. Sci., Kyoto Univ. [OSA]

Izumi Group, Matsushima-mura, Itano-gun, Tokushima Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no. 2, p. 109)

***Archaeozostera longifolia* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 186, pl. 5, fig. 8

Holotype: Dept. Bot., Fac. Sci., Kyoto Univ. [OSA]

Tanagawa-mura, Sennan-gun, Osaka Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no. 2, p. 109)

***Archaeozostera minor* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 187, pl. 5, figs. 12, 13

Holotype: Koya-san Shucchosho, Takamatsu

Soryudani, Ebara-cho, Mima-gun, Tokushima Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no. 2, p. 109)

***Archaeozostera pinnata* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 186, pl. 5, fig. 10

Holotype: Dept. Bot., Fac. Sci., Kyoto Univ. [OSA]

Soryudani, Ebara-cho, Mima-gun, Tokushima Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in Palaeobotanist, vol. 7, no. 2, p. 110)

***Archaeozostera simplex* Koriba et Miki, 1931**

Chikyū, vol. 15, p. 184, pl. 4, fig. 1

Holotype: Dept. Bot., Fac. Sci., Kyoto Univ. [OSA]

Tanagawa-mura, Sennan-gun, Osaka Prefecture

Izumi Group

Late Cretaceous

(Also see Koriba and Miki, 1958 in *Palaeobotanist*, vol. 7, no. 2, p. 109)

***Archephoma cycadeoidellae* Watanabe, H. Nishida et Kobayashi, 1999**

Int. Jour. Plant Sci., vol. 160, p. 436, figs. 2, 3

Holotype: Lab. Phylog. Bot., Chiba Univ., no. 90704, slide 115

Kami-kinenbetsu River, Obira-cho, Rumoi-gun, Hokkaido (44°37'N, 141°53'44"E)

Middle Yezo Group

Late Cretaceous (Middle Turonian)

***Archicupressus nihongii* Osawa, H. Nishida et M. Nishida, 1992**

Bot. Mag. Tokyo, vol. 105, p. 126, figs. 1-4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73010

Kumaoui-zawa River, north side of Katsura-zawa Lake, Ikushunbetsu, Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)

Upper Yezo Group

Cretaceous (Coniacian-Santonian)

***Asterotheca naktongensis* Oishi, 1939**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, p. 308, pl. 35, figs. 1, 1a, 1b, 2; text-fig. 1

Syntypes: ? Dept. Geol. Mineral., Hokkaido Univ.

Pul-tan-kokai near Naktong, N. Keisho-do, Korea

Naktong Formation

Late Jurassic

***Asterotheca okafujii* Kimura et Ohana, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 73, pl. 1, fig. 1

Holotype: MMHF200002 (Mine City Mus. Hist. Folklore)

Momoniki, Omine-machi, Mine City, Yamaguchi Prefecture

Momonoki Formation, Mine Group

Middle Triassic (Middle Carnian)

***Athyrium delicatulum* Oishi et Huzioka, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, no. 2, p. 181, pl. 39, fig. 9, pl. 40, fig. 6.

Syntypes: Dept. Geol. Mineral., Hokkaido Univ.

Bannosawa near Bibai coal-mine, Sorachi-gun, Hokkaido

Woodwardia Sandstone [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Baiera asadai* Yabe et Oishi, 1928**

Japan. Jour. Geol. Geogr., vol. 6, nos. 1-2, p. 9, pl. 3, fig. 2

Holotype: IGPS-35467

Liu-chia-kou, Fangtzu coal-field, Shangtung, China

Jurassic

***Baiera elegans* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 352, pl. 49, figs. 6-11

Syntypes: Dept. Geo. Min., Hokkaido Univ., nos. 4010, 4033, 4066

Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Baiera filiformis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 349, pl. 40, fig. 4

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3901, 4000

Eda and Koyagaichi, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Baiera kidoi* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 218, pl. 33, fig. 3

Holotype, IGPS-38398

Houshin-ling, Prov. Chihlin, Manchuria, China

Mesozoic

***Baiera manchurica* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 218, pl. 32, figs. 12, 13A

Syntypes: IGPS-38414

Sha-ho-tzu, Prov. Liaoning, Manchuria, China

Mesozoic

***Baiera minima* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 219, pl. 32, fig. 11

Holotype: IGPS-38414

Sha-ho-tsu, Prov. Liaoning, Manchuria, China

Mesozoic

***Baiera orientalis* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 220, pl. 33, fig. 4

Holotype: IGPS-38399

Huo-shin-ling, Chihlin, Manchuria, China

Mesozoic

***Bennetticarpus yezoides* Ohana, Kimura et Chitaley, 1988**

Paleont. Res., vol. 2, p. 108, figs. 1-6

Holotype: INH-005 (Inst. Nat. Hist., Tokyo)

Kaneobetsu valley, branch of Hakkinzawa valley, Kashima, Yubari City, Hokkaido

Upper Yezo Group

Late Cretaceous (Coniacian-Santonian)

***Berberis huziokai* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 124, pl. 10, fig. 11

Holotype: AKMG-3839

Yoshioka, ca. 6 km southwest of Oshima-Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

***Berberis longispinus* Miki, 1936**

Chikyū, vol. 26, p. 173, pl. 4, fig. M; text-fig. 4I-K

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Taniyagi-Higashiei, Akashi City, Hyogo Prefecture

Pliocene [Early Pleistocene]

(See also Miki, 1937: Japan. Jour. Bot., vol. 8, p. 315)

***Berberis saseboensis* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 351, pl. 21, fig. 6

Holotype: UHR-15226 [NSM-PP]

Shin-minato coal mine, Sasebo City, Nagasaki Prefecture

Ainoura Formation

Early Miocene [Oligocene]

***Betula adstigmata* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 267, text-fig. 10Aa-c

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Betula ezoensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 423, pl. 5, fig. 6

Holotype: NSM-10459 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Betula fukushimaensis* K. Suzuki, 1959**

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 33, pl. 2, fig. 2

Holotype: IGF-1031 [FM]

Loc. Ak1, Tennoji, Iizaka-machi, Shinobu-gun, Fukushima Prefecture

Tennoji Formation

Late Miocene

Betula hanenisiensis* (Watari) Watari, 1952 see *Betulium hanenisiense* Watari, 1948**Betula hommae* (Huzioka et Nishida) Huzioka, 1964 see *Corylus* (?) *hommae* Huzioka et Nishida, 1960*****Betula hommashinichii* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 71, pl. 6, fig. 1

Holotype: AKMG-3266

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(The species was described by Huzioka and Nishida (1960, Publ. Sado, Mus., no. 3, p. 12, pl. 2, figs. 8-10) without typification, and validly published in Huzioka (1964))

***Betula kitamiana* Uemura et Tanai, 1993**

Mem. Natn. Sci. Mus., Tokyo, no. 26, p. 22, figs. 14, 15, 17, 20

Holotype: NSM-PP 10510

Wakamatsuzawa, Kitami City, Hokkaido

Wakamatsuzawa Formation

Early Oligocene

***Betula koraiica* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 45, pl. 4, fig. 5

Holotype: IGPS-92387

Kungshim colliery, Hamg'yeong-bukdo, Korea

Hoengyeong Formation

Middle Miocene [Oligocene]

***Betula mesomaximovicziana* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 67, pl. 5, fig. 4

Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-42)

Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture

Oarai Formation

Late Cretaceous

***Betula miomaximowicziana* Endo ex Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 127, pl. 2, fig. 14

Holotype: NSM-PP 15259

Shimoshinden, Yuzawa City, Akita Prefecture

Sanzugawa Formation

Late Miocene

(*Betula miomaximowicziana* Endo, 1955 (nom. nud.) was validly published by Uemura, 1988)

***Betula mitai* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 276, pl. 2, fig. 1

Holotype: GSJ-4008

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture

Basal part of Yunagaya Group [Shichiku Formation]

Early Miocene

***Betula myonchonensis* Huzioka, 1954**

Trans. Proc. Palaeont. Soc. Japan, N.S., no.13, p.118, pl. 13, figs. 1-2

Syntypes: Dept. Geol. Mineral., Hokkaido. Univ.
Yutendo, Meisen-gun, N. Kankyo-do, Korea
Ryudo [Yongdong] Formation
Early Miocene

***Betula nathorsti* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 36, pl. 6, fig. 1
Holotype: IGPS-78110
IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern
valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima
Prefecture (37°8'10"N, 140°54'15"E)
Shichiku Formation
Early Miocene

***Betula nipponica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 288, pl. 9,
fig. 3
Holotype: UHR-15145 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]
(*Carpinus chaneyi* Tanai et N. Suzuki, 1963 in Tert Fl.
Japan, 1, Mioc. Fl., p. 115)

***Betula oishii* Huzioka et Uemura, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 26, fig. 5a-c
Holotype: AKMG-5882c
Sarutsu, north of Nayoshi [Lesogorsk], Nayoshi-gun, south
Sakhalin, Russia
Esutoru Formation
Early to Middle Miocene

***Betula onbaraensis* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 25, pl. 4, figs. 1, 2
Syntypes: GSJ-4091, 4092*
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Betula oobae* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 38, pl. 7, fig. 6
Holotype: IGF-1506
Ry-4, river cliff in southern valley of Kawadaira,
Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N,
140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Betula ootanii* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 37, pl. 7, fig. 4
Holotype: IGPS-78106
IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern
valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima
Prefecture (37°8'10"N, 140°54'15"E)

Shichiku Formation
Early Miocene

***Betula palaeomaximowicziana* Endo, 1968**

Bull. Natn. Sci. Mus. vol. 11, p. 423, pl. 7, fig. 4
Holotype: NSM-10467 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City,
Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene
(*Corylus palaeomaximowicziana* (Endo) Tanai, 1994 in
Bull. Natn. Sci. Mus., Ser. C, vol. 20, p. 99)

***Betula protoglobispica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 24, pl. 3, fig. 1
Holotype: GSJ-4089
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Betula protojaponica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 290, pl. 9,
fig. 6
Holotype: UHR-15147 [NSM-PP]
Nukabira, Kami-shihoro-machi, Kato-gun, Hokkaido
Taushibetsu Formation
Late Miocene

***Betula sadoensis* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 72, pl. 6,
fig. 5
Holotype: AKMG-3262
Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation
Early Miocene
(The species was described by Huzioka and Nishida (1960,
Publ. Sado, Mus., no. 3, p. 13, pl. 2, figs. 5-7) without
typification, and validly published in Huzioka (1964))

***Betula sekiensis* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 73, pl. 6,
fig. 6
Holotype, AKMG-3247
Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation
Early Miocene
(The species was described by Huzioka and Nishida (1960,
Publ. Sado, Mus., no. 3, p. 13, pl. 1, figs. 10-13; pl. 2, figs. 1,
2) without typification, and validly published in Huzioka
(1964))

***Betula shiragica* Huzioka, 1954**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 13, 118, pl. 13,
figs. 3-4

Syntypes: Dept. Geol. Mineral., Hokkaido Univ.
Kinkodo, Usenmen, Geizitsu-gun, N. Keisyo-do, Korea
Ennichi Series
Miocene

***Betula sublutea* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 114, pl. 8, fig. 12
Holotype: HUMP-25329 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Betula uzenensis* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 291, pl. 8,
fig. 7
Holotype: UHR-15140 [NSM-PP]
Aburato coal mine, Kamo-machi, Tsuruoka City, Yamagata
Prefecture
Aburato (coal-bearing) Formation
Early Miocene

***Betula yongpukensis* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 46, pl. 13, fig.
2
Holotype: IGPS-92349
Yongpukdong, Hamg'yeong-bukdo, Korea
Engelhardtia bed
Middle Miocene [Oligocene]

***Betulinium hanenisiense* Watari, 1948**

Japan. Jour. Bot., vol. 13, p. 503, figs. 1, 2; photo. 1A
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 64408 [TI]
Hanenishi, Kute-machi, Ohda City, Shimane Prefecture
Miocene

(*Betula hanenisiensis* (Watari) Watari, 1952 in Jour. Fac.
Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 107)

***Bischoffia ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 65, pl.
13, fig. 6
Holotype: AKMG-3435
Hirabara colliery at Hirabara, Onoda City, Yamaguchi
Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Brachyoxylon nipponicum* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 487, pl. 1; text-fig. 1
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6328
Toriakehama, near Inubo-saki, Choshi City, Chiba Prefecture
(35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous (Aptian)

***Brachyoxylon nonakai* Yamazaki et Tsunada, 1981**

Bull. Sci. Engin. Res. Lab., Waseda Univ., no. 95, p. 2, pls.
1-5; text-fig. 2
Holotype: Dept. Miner. Industry, School Sci. Engin., Waseda
Univ., no. 80101201
Nishi-Karaiwa, Yatsuji, Tosa City, Kochi Prefecture
Yatsuji Formation, Torinosu Group
Late Jurassic

***Broussonetia imaii* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 427, pl. 11, fig. 1
Holotype: NSM-10483 [NSM-PP]
Loc. 2, Kakuda colliery, Kuriyama-cho, Yubari-gun,
Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Broussonetia praestans* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 65, pl.
5, fig. 1
Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-29b)
Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
Oarai Formation
Late Cretaceous

***Bucklandia kerae* Saiki et Yoshida, 1999**

American Jour. Bot., vol. 86, p. 326, figs. 2-21
Holotype: MCM-A620 (Mikasa City Museum)
Penkemoyuparogawa River, Yubari City, Hokkaido (42°
59'36"N, 142°8'56"E)
Yezo Group
Late Cretaceous (Cenomanian to Santonian)

***Bucklandia tsuruokae* H. Nishida et M. Nishida, 1983**

Bot. Mag. Tokyo, vol. 96, p. 93, figs. 1, 2
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
81001
Toriake-ura seashore, Inubo-saki, Choshi City, Chiba
Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous (Aptian)

***Bucklandia tylosissima* M. Nishida, H. Nishida et Suzuki,
1993**

Jour. Japan. Bot., vol. 68, p. 292, fig. 3
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
900146
Toriake-ura seashore, Inubo-saki, Choshi City, Chiba
Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous (Aptian)

***Buxus miojaponica* Horiuchi, 1996**

Sci. Rep. Inst. Geosci., Univ. Tukuba, Sec. B, vol. 17, p. 175,

fig. 30-1

Holotype: Attached School, Tokyo Gakugei Univ., Oizumi Campus, no. Yg05200

Kawamoto, Kawamoto-machi, Osato-gun, Saitama Prefecture

Yagii Formation

Late Miocene

***Buxus protojaponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 46, pl. 14, fig. 5

Holotype: GSJ-4170

Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation

Mio-Pliocene

***Bytneria izimae* Tanai, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 129, pl. 2, fig. 1; text-fig. 3G

Holotype: NSM-PP10290

Reisuizan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Eocene [late Middle Eocene]

***Caesalpinia hokiana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 48, pl. 7, figs. 2, 2a; text-fig. 9C

Holotype: GSJ-4810

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Caesalpinia microphylla* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 61, pl. 11, fig. 4

Holotype: AKMG-3483C

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Caesalpinia ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 62, pl. 11, fig. 6

Holotype: AKMG-3558

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Callicarpa ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 76, pl. 21, fig. 5

Holotype: AKMG-3563A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Calocedrus notoensis* (Matsuo) Huzioka, 1972** see ***Fokienia notoensis* Matsuo, 1963**

***Calophyllum nameirii* Murai, 1977**

Prof. Kazuo Huzioka Mem. Vol., Akita, p. 322, pl. 2, fig. 3

Holotype: IAGI

Komatsu-3 pit, Iwate clay mine in Kogawa, Iwaizumi-machi, Shimo-Hei-gun, Iwate Prefecture

Nameiri Formation

Oligocene

***Camellia angulata* Miki, 1966**

Kyoto-Engei, no. 53, p. 7, fig. A

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Injo, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Camellia japonoxyla* M. Suzuki et K. Terada, 1996**

Int. Assoc. Wood Anat. Jour., vol. 17, p. 375, figs. 13-17

Holotype: TUSG, Wood Coll. no. 80030

Uchiura, Yukinobe, Uchiura-machi, Suzu-gun, Ishikawa Prefecture

Yanagida Formation

Early Miocene

***Camptotheca japonica* (Tanai et N. Suzuki) Tanai, 1977** see ***Nyssa japonica* Tanai et N. Suzuki, 1963**

***Camptotheca kyushuensis* M. Suzuki, 1975**

Jour. Japan. Bot., vol. 50, p. 228, pl. 3; text-fig. 1

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71225

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture

Tsuyazaki Formation

Oligocene

***Canarium ezoanum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 484, pl. 13, fig. 3

Holotype: HUMP-25974 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Canavalia satoi* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 92, pl. 16, fig. 3

Holotype: IAGI-61001

Horiki-zawa at Obonai, Tazawako-machi, Senboku-gun, Akita Prefecture

Kunimitoge Formation

Middle Miocene

***Carpinus chaneyi* Tanai et Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 115, pl. 8, fig. 3
 Holotype: UHR-15145 [NSM-PP]
 Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
 Yoshioka Formation
 Middle Miocene [late Early Miocene]

(New name for *Betula nipponica* Tanai (1961, Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol.11, p. 288, pl. 9, fig. 3)

***Carpinus endoi* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 46, pl. 3, figs. 6, 6a
 Holotype: IGPS-60974
 Kungshim colliery, Hamg'yeong-bukdo, Korea
 Hoengyeong Formation
 Middle Miocene [Oligocene]

***Carpinus erosa* Blume subsp. *ellipticibracteata* Huzioka, 1943**

Jour. Geol. Soc. Japan, vol. 50, p. 290, pl. 14, figs. 6-9
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ.
 Abura, Setana-cho, Setana-gun, Hokkaido
 "Kunnui" Formation
 Middle Miocene [late Early Miocene]

***Carpinus heigunensis* Huzioka, 1938**

Jour. Fac. Sci. Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p.149, text-fig. 1
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7821
 Heigun Island, Yanai City, Yamaguchi Prefecture
 Pliocene [Middle Miocene]

***Carpinus hokiensis* Ozaki, 1979**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 26, p. 49, pl. 5, fig. 9; text-fig. 2C
 Holotype: NSM-PP 16150
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

***Carpinus hokoensis* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 10
 Holotype: IGPS-60977
 Hoko [Pohang], Keishio-hokudo, Korea
 Miocene

***Carpinus honshuensis* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 6.
 Holotype: IGPS-60979
 IGPS loc. no. Fs-10, Maki, Kawanishi-mura, Yama-gun, Fukushima Prefecture
 Early Pliocene

***Carpinus ishikiensis* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no.4, p. 279, pl. 5, fig. 3
 Holotype: GSJ-4021
 Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
 Basal part of Yunagaya Group [Shichiku Formation]
 Early Miocene

***Carpinus jobanensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 44, fig. 4
 Holotype: IGPS-78117
 IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima Prefecture (37°8'10"N, 140°54'15"E)
 Shichiku Formation
 Early Miocene

***Carpinus kitamiensis* Uemura et Tanai, 1993**

Mem. Natn. Sci. Mus., Tokyo, no. 26, p. 26, fig. 21a, b
 Holotype: NSM-PP 10516
 Minamigaoka, Kitami City, Hokkaido
 Wakamatsuzawa Formation
 Early Oligocene

***Carpinus kodairae-bracteata* Huzioka, 1943**

Jour. Geol. Soc. Japan, vol. 50, p. 290, pl. 14, figs. 14,15,15a
 Holotype: Dept. Geol. Mineral., Hokkaido Univ.
 Kokangen, Kankyo-hokudo, Korea
Engelhardtia bed
 Miocene [Oligocene]

***Carpinus kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 469, pl. 9, fig. 2
 Holotype: HUMP-25924 [NSM-PP]
 Nakanosawa, near Yubetsu coal mine, Yubetsu, Akan-cho, Akan-gun, Hokkaido
 Yubetsu Formation
 Early Oligocene [Late Eocene]

***Carpinus kyushinensis* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 7.
 Holotype: IGPS-60976
 Kyushin coal-mine, Kainei-gun, Kankyo-hokudo, Korea
 Miocene [Oligocene]

***Carpinus laxa* Watari, 1952**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 107, photo. 2B-E; text-fig. 3
 Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 53501, 53540 [TI]
 Sodani, Hayashi-mura, Ishikawa-gun, Ishikawa Prefecture
 Early to Middle Miocene

***Carpinus miofargesiana* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p.278, pl. 5, fig. 6
 Holotype: GSJ-4016
 Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
 Basal part of Yunagaya Group [Shichiku Formation]
 Early Miocene

***Carpinus nakosoensis* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, figs. 3, 5
 Holotype: IGPS-60973
 Otsuki, Nakoso-machi, Iwaki-gun, Fukushima Prefecture
 Goyasu Formation
 Miocene

***Carpinus nipponica* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 8
 Holotype: IGPS-60975
 Nishizawa, Akiu-mura, Natori-gun, Miyagi Prefecture
 Shirasawa Formation
 Late Miocene

***Carpinus protocordatus* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 43, pl. 9, fig. 2
 Holotype: IGPS -78112
 IGPS loc. no. Fs-62 (loc. Jo-11), Shichiku, Yotsukura-machi,
 Futaba-gun, Fukushima Prefecture (37 °8'10"N, 140 °
 54'15"E)
 Shichiku Formation
 Early Miocene

***Carpinus protoerosa* Tanai, 1952**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 8, p. 232, pl. 22,
 fig. 2
 Holotype: Geol. Inst., Univ. Tokyo
 Geijitsu, Keisho-hokudo, Korea
 Ennichi Formation
 Middle Miocene

***Carpinus protojaponica* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 2
 Holotype: IGPS-60972
 Kyushin coal-mine, Kainei-gun, Kankyo-hokudo, Korea
Engelhardtia bed
 Miocene [Oligocene]

***Carpinus protolaxiflora* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 40, pl. 8, fig. 6
 Holotype: IGF-1512 [FM]
 Ry-4, river cliff in southern valley of Kawadaira,
 Marumori-machi, Igu-gun, Miyagi Prefecture (37 °47'05"N,
 140 °44'20"E)
 Lower part of Ryozen Formation
 Early Miocene

***Carpinus s-satoi* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 287, pl. 5, fig. 1
 Holotype: GSJ-4017
 Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
 Basal part of Yunagaya Group [Shichiku Formation]
 Early Miocene

***Carpinus sendaiensis* Endo, 1950**

Short Pap. IGPS, no. 2, p. 52, pl. 6, fig. 9
 Holotype: IGPS-60978
 Nishizawa, Akiu-mura, Natori-gun, Miyagi Prefecture
 Shirasawa Formation
 Late Miocene

***Carpinus shimokawarai* Endo, 1962**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 47, p. 299, pl. 46,
 fig. 8
 Holotype: ? [NSM-10476, see Endo, 1968: Bull. Natn. Sci.
 Mus., vol. 11, p. 425]
 Upper course of Enhorokabetsu River, Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene

***Carpinus simplicibracteata* Huzioka, 1943**

Jour. Geol. Soc. Japan, vol. 50, no. 602, p. 290, pl. 14, figs.
 13, 13a
 Holotype: Dept. Geol. Mineral., Hokkaido Univ.
 Kinkodo, Usen-men, Geijitsu-gun, Keisho-hokodo, Korea
 Ennichi Series [Changgi Group]
 Early Miocene

***Carpinus subcarpinoides* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 28, pl. 4, fig. 9
 Holotype: GSJ-4100
 Ningyo-toge, Misasa-cho, Tohaku-gun, Tottori Prefecture
 Ningyo-toge Formation
 Pliocene

***Carpinus takaai* Endo, 1962**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 47, p. 299, pl. 46,
 fig. 6
 Holotype: ? [NSM-10472, see Endo, 1969: Bull. Natn. Sci.
 Mus., vol. 11, p. 425]
 River bank of Yubari River, Shimizusawa, Yubari City,
 Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene

***Carpites hoeryeongensis* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 75, pl. 12, figs.
 5, 5a
 Holotype: IGPS-92413
 Kungshim colliery, Hamg'yeong-bukdo, Korea
 Hoengyeong Formation

Middle Miocene [Oligocene]

***Carpites koreana* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 75, pl. 11, figs. 10, 10a

Holotype: IGPS-92412

Kungshim colliery, Hamg'yeong-bukdo, Korea

Hoengyeong Formation

Middle Miocene [Oligocene]

***Carpites kungshimensis* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 76, pl. 12, figs. 7, 7a

Holotype: IGPS-92416

Kungshim colliery, Hamg'yeong-bukdo, Korea

Hoengyeong Formation

Middle Miocene [Oligocene]

***Carpolithes japonica* (Morita) Ishida, 1970 see *Terminalia japonica* Morita, 1936**

***Carpolithes kujiensis* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 120, pl. 12, fig. 9

Holotype: HUMP-26126 [NSM-PP]

Hikage, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Carya akashiensis* Miki, 1936**

Chikyu, vol. 26, p. 170, pl. 3, fig. M; text-fig. 2D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Yagi-Higashiei, Akashi City, Hyogo Prefecture

Pliocene [Early Pleistocene]

(See also Miki, 1937: Japan. Jour. Bot., vol. 8, p. 308)

***Carya ezoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 464, pl. 6, fig. 1

Holotype: HUMP-25905 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

(*Pterocarya ezoensis* (Tanai) Tanai, 1992 in Bull. Natn. Sci. Mus., Ser. C, vol. 18, p. 24)

***Carya leiocarpa* Miki, 1955**

Jour. Polytech. Osaka City Univ., Ser. D, vol. 6, p. 132, pl. 1, fig. D; text-fig. 1E

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Hanasaki, Kamitaki-cho, Toyama Prefecture

Marine bed in Hanasaki

***Carya nanacarpa* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 265, pl. 6, fig. Dc; text-fig. 9E

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Ichinokuraguchi, Tajimi City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Carya ovatocarpa* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 265, pl. 6, fig. Da; text-fig. 9C

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Hatagoya in Mizukami, Sue-cho [Mizunami City], Gifu Prefecture; Injo, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Carya protojaponica* Watari, 1952**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, no. 3, p. 102, photo. 1

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 35103, 35066, 35070, 35074, 53526, 53532, 53538, 64409 [TI]

Tobishima Island, Akumi-gun, and Isagodani, Tagawa-mura, Nishitagawa-gun, Yamagata Prefecture; Sodani,

Hayashi-mura, Ishikawa-gun, Ishikawa Prefecture; Hanenishi, Kute-machi, Ohda City, Shimane Prefecture

Miocene

***Carya striata* Miki, 1955**

Jour. Polytech. Osaka City Univ., Ser. D, vol. 6, p. 133, pl. 1, figs. B, C; text-fig. 1B, C

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Obora in Toki City, Okusa in Mizunami City and Hara in Tsurusato (Ena-gun), Gifu Prefecture; Obata in Toyota City and Injo in Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Carya yubarica* Tanai, 1992**

Bull. Natn. Sci. Mus., Ser. C, vol. 18, p. 18, pl. 1, fig. 1; text-fig. 2C

Holotype: NSM-PP 10403

Reisui-zan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Eocene [late Middle Eocene]

***Carya yubetsuensis* Tanai, 1992**

Bull. Natn. Sci. Mus., Ser. C, vol. 18, p. 20, pl. 2, fig. 1; text-fig. 2B

Holotype: HUMP-26911 [NSM-PP]

Nakanosawa, Yubetsu coal mine, Akan-cho, Hokkaido

Yubetsu Formation

Late Eocene

***Cassia notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p.

88, pl. 14, fig. 4

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-385
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Castanea antiqua* Watari et Kuroda, 1949**

Jour. Japan. Bot., vol. 24, p. 19, figs. 1-3
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 32003, 74001 [TI]
River Hirose, Sendai City, Miyagi Prefecture; Konoura, Nishisonogi Peninsula, Nagasaki Prefecture
Pliocene (R. Hirose) and Tertiary (Konoura)

***Castanea fujiyamae* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 73, pl. 4, fig. 4; text-fig. 1Aa, b.
Holotype: NSM-PP 10600
Wakamatsuzawa, Kitami City, Hokkaido
Wakamatsuzawa Formation
Early Oligocene

***Castanea lanceolata* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 57, pl. 13, figs. 1, 2
Holotype: IGF-5030 [FM]
Az-4, river cliff, upper course of Ooshio River, ca. 2.5 km northwest of Hibara, Kitashiobara-mura, Yama-gun, Fukushima Prefecture (37°42'12"6N, 140°01'04"5E)
Hirasawa Formation
Middle Miocene

***Castanea miocrenata* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 30, pl. 5, figs. 1, 4
Syntypes: GSJ-4105, 4106*
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Castanea protoantiqua* M. Suzuki, 1976**

Bot. Mag. Tokyo, vol. 89, p. 60, fig. 1
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71188 [TUSG]
Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Castanea tanaii* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, 49, pl. 5, fig. 6
Holotype: IGPS-93449-a
Kungshim colliery, Hamg'yeong-bukdo, Korea
Hoengyeong Formation
Middle Miocene [Oligocene]

***Castanopsis makinoi* Ogura, 1949**

Japan. Jour. Bot., vol. 24, p. 15, text-figs. 1-2
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Amori-mura, near Nagano City, Nagano Prefecture
Tertiary

***Castanopsis miocuspidata* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 236, pl. 47, fig. 9a
Holotype: GKZ-10383
Tsuchikawa, Kashima-gun, Ishikawa Prefecture
Yamatoda Mudstone Member
Middle Miocene [late Early Miocene]

***Castanopsis oligospina* Miki, 1963**

Jour. Soc. Earthsci. Amateur., Spec. Vol. (1963), p. 92, fig. C
Holotype: Dept. Biol., Osaka City Univ. [OSA]
Tokitsu, Toki City, Gifu Prefecture
Pinus trifolia bed
Early Pliocene

***Castanopsis pohangensis* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 49, pl. 4, fig. 6
Holotype: IGPS-92350
Pohang, Kyongsang-bukdo, Korea
Yeonil Shale, Yeonil Group
Middle Miocene

***Castanopsis tanaii* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 52, pl. 5, fig. 13
Holotype: AKMG-3798D
Kami-Umeda, Ube City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Castanopsis uchiuraensis* M. Suzuki et K. Terada, 1996**

Int. Ass. Wood Anat. Jour., vol. 17, p. 371, figs. 6-9
Holotype: TUSG, Wood Coll. no. 80043
Uchiura, Yukinobe, Uchiura-machi, Suzu-gun, Ishikawa Prefecture
Yanagida Formation
Early Miocene

***Casuaroxylon japonicum* Shimakura, 1937**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 1, p. 60, pl. 15, figs. 1-5
Holotype: IGPS-58413
Kikumenzawa, branch valley of Ikushunbetsu, Mikasayama-mura, Sorachi-gun, Hokkaido
Upper Ammonite bed [Upper Yezo Group]
Late Cretaceous (Senonian)

***Cayratia megasperma* (Miki) Miki, 1956 see *Cissis megasperma* Miki, 1951**

***Cayratia orbitalis* Miki, 1956**

Jour. Polytech. Osaka City Univ., Ser. D, vol. 7, p. 253, pl.-fig. E; text-fig. 3F-H

Holotype: Dept. Biol., Osaka City Univ [OSA].

Ichinohora, Tokitsu, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Cedrela kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 484, pl. 14, fig. 6

Holotype: HUMP-25976 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Cedrela lanceolata* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 65, pl. 13, fig. 1

Holotype: AKMG-3768

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Cedrela nipponica* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 136, pl. 16, fig. 7

Holotype: HUMP-25400 [NSM-PP]

Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

Cedroxylon inaii* (Shimakura) M. Nishida, 1973 see *Planoxylon inaii* Shimakura, 1937**Cedroxylon parenchymatosum* M. Nishida, H. Nishida et Sugiyama, 1993**

Res. Inst. Evol. Biol. Sci. Rep., vol. 7, p. 78, figs. 3D-F, 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 827020

Ohama, Shukunobe and Yagi seashores, Taneichi-machi, Kunohe-gun, Iwate Prefecture (40°21'N, 141°45'E)

Taneichi Formation

Late Cretaceous

***Cedroxylon shimakurae* M. Nishida et H. Nishida, 1986**

Bot. Mag. Tokyo, vol. 99, p. 200, figs. 7-9

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 11039b

Juhachirinpan-zawa, affluent of Nayba, Saghalien, Russia (47°18'N, 142°25'E)

Miho Group

Late Cretaceous (Turonian-Santonian)

***Cedroxylon simplex* Ogura, 1944**

Japan. Jour. Bot., vol. 13 p. 358, pl. 5, figs. A-C, G-I

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Matsuo mine, Iwate Prefecture

Pleistocene

***Cedroxylon yoshidae* M. Nishida, 1967**

Jour. Japan. Bot., vol. 42, p. 261, pl. 6, figs. A-E

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6652

Hideshima, Miyako City, Iwate Prefecture

Miyako Group

Early Cretaceous

***Celastrus imamurae* Huzioka, 1974**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 102, pl. 4, fig. 7

Holotype: AKMG-5927 [IGSH]

Daibo, Yuya-cho, Otsu-gun, Yamaguchi Prefecture

Hitomaru Formation

Early to Middle Miocene [Oligocene]

***Celtis aizuensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 63, pl. 14, fig. 8

Holotype: IGF-5159 [FM]

Az-28c, Fuji-toge, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture (37°33'44"N, 139°43'22"E)

Lower part of Fujitoge Formation

Late Miocene

***Celtis hokiensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 34, pl. 1, fig. 1, fig. 3

Holotype: TPM-498 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Celtis hokkaidoensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 427, pl. 22, fig. 8

Holotype: NSM-10541 [NSM-PP]

Loc. 4, valley, east of Yubari railway, Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Celtis kitamiensis* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 139, pl. 15, fig. 7

Holotype: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Shanabuchi, Engaru-cho, Monbetsu-gun, Hokkaido

Ikutawara Formation

Pliocene

(*Forsythia kitamiensis* (Oishi et Huzioka) Tanai et N. Suzuki, 1965 in Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 45)

***Celtis nathorstii* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 36, pl. 10, fig. 1

Holotype: GSJ-4138

Ningyo-toge Misasa-cho, Tohaku-gun, Tottori Prefecture

Ningyo-toge Formation

Pliocene

***Cephalotaxus akitaensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 186, pl. 40, fig. 1

Holotype: AKMG-3208

Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Cephalotaxus biumbonata* Miki, 1958**

Jour. Polytech., Osaka City Univ., Ser. D, vol. 9, p. 139, pl. 3, fig. C

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa in Tokitsu, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Cephalotaxus obovata* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 130, pl. 2, fig. F; text-fig. 4D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Toge, Hashimoto City, Wakayama Prefecture

Metasequoia bed

Pliocene

***Cephalotaxus yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 419, pl. 4, fig. 1

Holotype: NSM-10461 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Ceratophyllum demersum* L. var. *protopentaum* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 111, pl. 20b-c; text-fig. 6B-D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]*

Maki in Nishibetsuin, Kyoto Prefecture; Shoshibun,

Tsuchizawa, Kanagawa Prefecture; Jingamine, Kamo,

Niigata Prefecture

Pleistocene

***Cercidiphyllum eoajaponicum* Endo, 1942**

Bull. Centr. Natn. Mus. Manchoukuo, no. 3, p. 41, pl. 16, fig. 5

Holotype: IGPS

Fushun coal-mine, Fengtien Prov., Manchuria, China

Fushun coal-bearing formation

Paleogene [Eocene]

***Cercidiphyllum japonicum* var. *orientale* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 434, pl. 8, fig. 7

Holotype: NSM-10475 [NSM-PP]

Loc. 3, Hiyoshi valley, Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Cercidiphyllum palaeojaponicum* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 433, pl. 15, fig. 3

Holotype: NSM-10506 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Cercidiphyllum takashimensis* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 47, pl. 4, fig. 7

Holotype: DGLAKZ-14128a

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun,

Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Cercis endoi* K. Suzuki, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 170, pl. 25, figs. a, b

Syntypes: Inst. Earth Sci., Dept. Arts Sci., Fukushima Univ. [FM]

Upper course of Hara River, Yamato-machi, Yama-gun, Fukushima Prefecture

Middle part of Fujitoge Formation

Mio-Pliocene

***Cercis japonica* Kryshstofovich, 1926**

Ann. Rep. Russian Palaeont., vol. 6, p. 13, pl. 3, fig. 2

Holotype: Depository not designated (Collection by J. Sato)

Kannonzawa, Agekawa-mura [Mikawa-mura], Higashi-kanbara-gun, Niigata Prefecture

Tsugawa Formation

Early to Middle Miocene

Cercis nipponica* (Tanai) Tanai, 1981 see *Disanthus nipponicus* Tanai, 1968**Cercis oishii* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 60, pl. 7, fig. 3

Holotype: AKMG-6653

Hamjindong, Hamg'yeong-bukdo, Korea

Hamjindong Formation, Myeoncheon Group

Middle Miocene

***Chamaecyparis miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 702, pl. 3, figs. 4, 4a, 4b

Holotype: AKMG-6279

Hinokinaimatazawa, Nishiki-mura, Senboku-gun, Akita Prefecture
Miyata Formation
Late Miocene

***Chamaecyparis shikamana* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, p. 8, pl. 1, fig. 12

Holotype: GYNU-CMP1067 [KPM]
Inkyoyama, Toki City, Gifu Prefecture
“Yamanouchi facies”, Akeyo Formation
Middle Miocene [late Early Miocene]

***Chamaedaphne sekiensis* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 23, pl. 6, fig. 15

Holotype: AKMG-3341a
Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation
Early Miocene
(See also Huzioka, 1964: Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 97)

***Chionanthus mesozoica* M. Suzuki et M. Nishida, 1974**

Jour. Japan. Bot., vol. 49, p. 48
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6672
Toriake-ura, near Inubo-saki, Choshi City, Chiba Prefecture
Choshi Group
Early Cretaceous

***Chionanthus nipponicus* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 499, pl. 16, fig. 4
Holotype: HUMP-26011 [NSM-PP]
Okotsu pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Chiropteris kawasaki* Kon'no, 1938**

Japan. Jour. Geol. Geogr., vol. 16, p. 106, pl. 5, fig. 1
Holotype: Geol. Inst., Univ. Tokyo
Santoyoku district, Kogen-do, S. Korea
Uppermost horizon of Kobosan Series

***Cibotioaulis tateiwai* Ogura, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 3, p. 346, pl. 7; text-figs. 10-11
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Syoeng-jyu-gun, North Kyoeng-sang-do, Korea
Lower Kyoeng-sang Formation
Late Jurassic [Early Cretaceous]

***Cibotium iwataense* Ogura, 1933**

Bot. Mag. Tokyo, vol. 147, no. 563, p. 753, pl. 2; text-figs. 1-2

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Utsume, Kunohe-gun, Iwate Prefecture
Tamagawa Group
Late Cretaceous

***Cinnamomum akitaense* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 712, pl. 10, figs. 5, 5a, 5b
Holotype: AKMG-7384
Hinokinaimatazawa, Nishiki-mura, Senboku-gun, Akita Prefecture
Miyata Formation
Late Miocene

***Cinnamomum ishidae* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 136
Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-340
(Ishida. 1970, p. 83, pl. 13, fig. 2; *Cinnamomum oguniense* auct. non Morita, 1932)
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Cinnamomum macropodum* Miki, 1970**

Bull. Mukogawa Women's Univ., vol. 18, p. 234, fig. 1A, B
Syntypes: [OSA]*
Iwabuchigawa, Nara City, Nara Prefecture; Injo, Seto City, Aichi Prefecture; Osusawa, Toki City, Gifu Prefecture; Kakushi in Gotsu, Shimane Prefecture
Metasequoia bed and *Pinus trifolia* bed
Pliocene

***Cinnamomum miocenium* Morita, 1931**

Japan. Jour. Geol. Geogr., vol. 9, nos. 1-2, p. 6, pl. 1, fig. 6
Holotype: IGPS
Oguni-machi, Nishiokitana-gun, Yamagata Prefecture
Oguni plant bed
Miocene

***Cinnamomum nagatoense* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 56, pl. 8, fig. 5b
Holotype: AKMG-3416A
Shin-Kami-Ube colliery at Numa, Ube City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Cinnamomum naitoanum* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 57, pl. 8, fig. 3
Holotype: AKMG-3414A
Motoyama submarine colliery, off Motoyama, Onoda City, Yamaguchi Prefecture
Okinoyama Formation

Late Eocene [Middle Eocene]

***Cinnamomum oguniense* Morita, 1931**

Japan. Jour. Geol. Geogr., vol. 9, p. 6, pl. 1, figs. 7-9

Syntypes: IGPS

Oguni-machi, Nishiokitama-gun, Yamagata Prefecture

Oguni Formation

Miocene

(*Ficus oguniensis* (Morita) Huzioka et Takahasi, 1974 in Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 97)

***Cissus megasperma* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 286, pl. 7, fig. C; text-fig. 17K

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Hatagoya, Mizukami, Sue-cho [Mizunami City], Gifu Prefecture; Osusawa, Toki City; Ichirizuka, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

(*Cayratia megasperma* (Miki) Miki, 1956 in Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 253)

***Cladophlebidium ? okayamaensis* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, nos. 1-2, p. 83, pl. 10, fig. 1; text-fig. 6

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7903

Loc. 91 (Suimyo), Nariwa-cho, Kawakami-gun Okayama Prefecture

Nariwa Formation

Late Triassic

***Cladophlebis acutipennis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol.5, p.249, pl. 9, fig. 6

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 143

Tennohama, Yuasa-mura, Arita-gun, Wakayama Prefecture

Cretaceous

***Cladophlebis bitchuensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 284, pl. 25, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4118

Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Cladophlebis clavatum* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p.12, pl. 2, fig. 11; pl. 5, fig. 2; pl. 6, figs. 1-2, 6, 9; text-figs. 6-7

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. A-4092, 4023, 4070, 4063, 4068, 4099, 1043*

South of Iwamuro along Katashina-gawa, Shirasawa-mura, Tone-gun, Gunma Prefecture

Iwamuro Formation

Jurassic (Liassic)

***Cladophlebis delicatula* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, p. 205, pl. 30, fig. 7

Holotype: IGPS-38453

Sha-ho-tsu, Prov. Liaoning, Manchuria, China

Mesozoic

***Cladophlebis deltifolia* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 255, pl. 10, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 10846

Rokumambo, Hote-mura, Toyoura-gun, Yamaguchi Prefecture

Kiyosue Group

Jurassic

***Cladophlebis elegantissima* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 260, pl. 11, figs. 1, 1a,1b

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8888

Hiro-mura, Arita-gun, Wakayama Prefecture

Cretaceous

***Cladophlebis falcata* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 264, pl. 15, figs. 1, 1a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8599

Haginotani, Kamikura-mura, Nagaoka-gun, Kochi Prefecture

Ryoseki Formation

Cretaceous

***Cladophlebis fastuosa* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p. 15, pl. 3, figs. 1-3; pl. 4, figs. 2,10; pl. 5, fig. 5; pl. 12, fig. 11; text-fig. 9

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. A-1013 - 1026, 2044, 2045, 2051, 2043, 1089,

1029, 1061, 1060, 1059, 1042, 1093, 1094, 2020, 2008, 2010

South of Iwamuro along Katashina-gawa, Shirasawa-mura, Tone-gun, Gunma Prefecture

Iwamuro Formation

Jurassic (Lias)

(*Todites fastuosus* (Kimura) Kimura et Tsujii, 1980 in Trans. Proc. Palaeont. Soc. Japan, N. S., no. 120, p. 455)

***Cladophlebis (Klukia ?) fertilis* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p. 107, pl. 1, figs. 1, 3

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. M-8063 - 8069

Hakogase, Kami Anama-mura, Ono-gun, Fukui Prefecture

Kuzuryu Subgroup, Tetori Group

Jurassic

***Cladophlebis gigantea* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, p. 283, pl. 25, fig. 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4130 Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture Nariwa Formation
Late Triassic

***Cladophlebis ? hakusanensis* Kimura et Sekido, 1967**

Prof. Hidekata Shibata Memorial Vol., p. 417, pl. 3, fig. 8

Holotype: KM-65011 (Komatsu City Museum)
Mekkodani, tributary of Tetori River, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture
Kuwashima Formation, Itoshiro Subgroup
Early Cretaceous

***Cladophlebis hukuiensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 267, pl. 16, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8491 Mochiana, Kami-ana-mura, Ono-gun, Fukui Prefecture
Tetori Group
Jurassic

***Cladophlebis isikawaensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 269, pl. 17, figs. 2, 2a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8582 Kuwashima, Shiramine-mura, Nomi-gun, Ishikawa Prefecture
Tetori Group
Jurassic

***Cladophlebis (Teihardia ?) kanmerai* Kimura, 1976**

Bull. Natn. Sci. Mus., Ser. C, vol. 2, p. 193, pl. 1, fig. 1

Holotype: NSM-PP 7091
Touyou-machi, Yatsushiro-gun, Kumamoto Prefecture
Yatsushiro Formation
Early Cretaceous (Albian)

***Cladophlebis kurumensis* Kimura et Tsujii, 1981**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 124, p. 201, pl. 32, fig. 2

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ, no. Kr-052
Tsuchizawa near Kuruma, Kita-Otari-mura, Kita-Azumi-gun, Nagano Prefecture
Alternation of sandstone and shale (Kr2), Kuruma Group
Early Jurassic

***Cladophlebis kuwasimaensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 272, pl.

17, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8574 Kuwashima, Shiromine-mura, Nomi-gun, Ishikawa Prefecture
Tetori Group
Jurassic

***Cladophlebis kuzuryuensis* Kimura, 1958**

Bull. Senior. High School, Tokyo Univ. Educ., no. 2, p. 24, pl. 1, fig. 1; pl. 2, fig. 2; pl. 3, fig. 2

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. M-1056, 1079, 1093, 1034, 1061, 1009
Mochiana, Kami-Anama-mura, Ono-gun, Fukui Prefecture
Kuzuryu Subgroup, Tetori Group
Jurassic

***Cladophlebis maizurensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 2, p. 7, pl. 2, figs. 4-5

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 3878 Shitaka (Maizuru coal-field), Kyoto Prefecture
Shitaka Formation
Jurassic

***Cladophlebis matonioides* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 274, pl. 19, fig. 4

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8466 Aritahama, Ogihama-mura, Oshika-gun, Miyagi Prefecture
Oginohama Formation
Jurassic

***Cladophlebis matsumotoi* Kimura, 1976**

Bull. Natn. Sci. Mus., Ser. C, vol. 2, p. 194, pl. 2, fig. 2; text-fig. 7

Holotype: NSM-PP 7093
Touyou-machi, Yatsushiro-gun, Kumamoto Prefecture
Yatsushiro Formation
Early Cretaceous (Albian)

***Cladophlebis naitoi* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, no. 2, p. 59, pl. 3, fig. 1

Holotype: NSM-PP7978
Loc. no. 063, east of Ono, Anai, Shimonoseki City, Yamaguchi Prefecture
Utano Formation
Middle Jurassic

***Cladophlebis nariwaensis* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, p. 73, pl. 8, figs. 1,1a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7892 Loc. 92 (Koyagichi), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation
Late Triassic

***Cladophlebis nihei-takagii* M. Nishida, 1960**

Jour. Coll. Arts Sci., Chiba Univ., vol. 3, no. 2, p. 189, pl. 2, fig. 10

Holotype: Coll. Arts Sci., Chiba Univ., no. 208 of Takagi & Sakuma [NSM-PP]

Hatoyama seashore, Choshi City, Chiba Prefecture

Choshi Group

Early Cretaceous

***Cladophlebis osimaensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 278, pl. 20, fig. 2

Holotype: IGPS

Yoroizaki in Oshima, Kesenuma City, Miyagi Prefecture

Oshima Formation

Late Jurassic

***Cladophlebis ozakii* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, p. 225, pl. 32, fig. 5A

Holotype: IGPS-62775d, 62777D

Wu-hiei-kang, Fukien, China

Permian

***Cladophlebis parvula* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 280, pl. 19, figs. 2, 2a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8484

Nishinotani, Shingai-mura, Nagaoka-gun, Kochi Prefecture

Ryoseki Formation

Early Cretaceous

***Cladophlebis pseudodelicatula* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, p. 288, pl. 29, fig. 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4133

Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Cladophlebis (Osmundopsis ?) subplectrophora* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 76, pl. 8, fig. 2; text-fig. 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7894

Loc. 44 (Hinabata), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Cladophlebis (Gleichenites ?) takayamae* Oishi et Takahasi, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, p. 60, pl. 5, figs. 6, 6a

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Li-shun-chen, Moulin coal-field, Manchuria, N.E. China

Moulin Formation

Middle Late Triassic

***Cladophlebis takezakii* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 288, pl. 21, figs. 4, 4a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8597

Nishinotani, Shingai-mura, Nagaoka-gun, Kochi Prefecture

Ryoseki Formation

Early Cretaceous

***Cladophlebis tenuissima* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 2, p. 8, pl. 3, figs. 1-2

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 3857

Shitaka (Maizuru coal-field), Kyoto Prefecture

Shitaka Group

Jurassic

***Cladophlebis triangularis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 292, pl. 22, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8508

Kuwashima, Shiromine-mura, Nomi-gun, Ishikawa Prefecture

Tetori Group

Jurassic

***Cladophlebis undulata* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, no. 294, pl. 21, figs. 1-3; pl. 22, fig. 4

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8576

Nishinotani, Shingai-mura, Nagaoka-gun, Kochi Prefecture

Ryoseki Formation

Early Cretaceous

***Cladrastis aniensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 205, pl. 35, fig. 5

Holotype: AKMG-3175

Yamakayakusa, Ani-machi, Kita-Akita-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Cladrastis chaneyi* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 33, pl. 21, fig. 1.

Holotype: HUMP-25708 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido

Shanabuchi Formation
Late Miocene

***Cladrastis inouei* (Huzioka) Ozaki, 1980** see *Rhus inouei*
Huzioka, 1963

***Clathropteris meniscoides* (Brongn.) var. *elegans* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser.4, vol. 1, nos. 3-4, p. 289, pl. 29, fig. 8; pl. 30, figs 3-4; pl. 31, figs. 1-2; pl. 33, fig. 1

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3965, 3975, 3948, 4109, 3964, 3962

Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Clathropteris obovata* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 291, pl. 30, fig. 2; pl. 32, fig. 1

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3914, 4142

Hinabata, Nishikata and Suimyō; Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Clethra hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 35, pl. 7, fig. 9

Holotype: NSM-PP 16090

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Cocculus ezoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 479, pl. 11, fig. 1

Holotype: HUMP-25906b [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Comptonia kidoi* Endo, 1954**

Kumamoto Jour. Sci., Ser. B, no. 4, p. 4, pl. 1, figs. 4, 5, 7; pl. 2, figs. 3, 8

Syntypes: depository not designated [? IGPS]

Ashizawa, Fukuwara-mura, Kitamurayama-gun, Yamagata Prefecture
[Oriwatari Formation]
Pliocene

(*Myrica* (*Comptonia*) *kidoi* (Endo) Tanai, 1961 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 271)

***Comptonia kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 463, pl. 5, fig. 5

Holotype: HUMP-25904 [NSM-PP]

Nakanosawa, near Yubetsu coal mine, Yubetsu, Akan-cho, Akan-gun, Hokkaido
Yubetsu Formation
Early Oligocene [Late Eocene]

***Comptonia nipponica* Endo, 1954**

Kumamoto Jour. Sci., Ser. B, no. 4, p. 5, pl. 2, fig. 2.

Holotype: ? IGPS

Kuroda Basin, Tabito-mura, Iwaki-gun, Fukushima Prefecture
Early Miocene

***Comptonia yanagisawae* (Huzioka et K. Suzuki) Huzioka, 1961** see *Myrica* (*Comptonia*) *yanagisawae* Huzioka et Suzuki, 1957

***Coniopteris neiridaniensis* Kimura et Tsujii, 1981**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 124, p. 188, pl. 30, fig. 2; text-fig. 2a

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NNW-292

Neiridani, branch of Daira-gawa, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation, Kuruma Group
Early Jurassic

***Coniopteris nipponica* Kimura et Ohana in Kimura, Ohana and Aiba, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 144, fig. 8a

Holotype: NSM-PP 8701

Loc. no. 9, road-cutting along Kukunari beach, Oshima Island, Miyagi Prefecture
Lower part of Kogoshio Formation
Late Jurassic

***Conites shihjenkouensis* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 233, pl. 35, fig. 8

Holotype: IGPS-38476

Shih-jen-kou, Liaoning Prov., Manchuria, China
Mesozoic

***Conites spinulosus* Kon'no, 1968**

Geol. Palaeont. Southeast Asia, vol. 4, p. 149, pl. 27, fig. 2

Holotype: no. 798656-11 [NSM-PP]

Sungei Pertang, Kelantan, Malaya
Gagau Formation
Late Jurassic to Early Cretaceous

***Cordia japonica* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 500, pl. 19, fig. 2

Holotype: HUMP-26015 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Cordia nagatoensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 75, pl. 20, fig. 1

Holotype: AKMG-3426A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Coreanophyllum variisegmentum* Kimura et Kim, 1982**

Proc. Japan Acad., Ser. B, vol. 58, p. 152, figs. 1, 2, 5

Syntypes: nos. 81-064, 108, 128, 253 [Depository?]

Hanaeri, Maseong-myeon, Mungyeong-gun, Gyeongsangbuk-do, Korea

Bongmyeongri Formation, Bansong Group

Late Triassic

***Cornoxydon simanense* Watari, 1948**

Japan. Jour. Bot., vol. 13, p. 511, photo. 2A, B; text-figs. 4, 5

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 64406 [TI]

Hanenishi, Kute-machi, Ohda City, Shimane Prefecture

Miocene

(*Cornus simanensis* (Watari) Watari, 1952 in Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 133)

***Cornus minifolia* Murai, 1968**

Tech. Rep. Iwate Univ., vol. 3, no. 3, p. 21, pl. 4, figs. 13, 14

Syntypes: IAGI-66013, 66014*

River cliff, 150 m east of Hosonai, Yuda-machi, Waga-gun, Iwate Prefecture

Hanayama Formation

Early Pliocene

***Cornus minoensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 97, pl. 17, fig. 2

Holotype: AKMG-5172

Kamitoge, Ena-gun, Gifu Prefecture

Nakamura Formation

Early Miocene

***Cornus saseboensis* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 378, pl. 32, fig. 10

Holotype: UHR-15279 [NSM-PP]

Kida coal mine, Emukae-machi, Kita-matsuura-gun, Nagasaki Prefecture

Ainoura Formation

Early Miocene [Oligocene]

Cornus simanensis* (Watari) Watari, 1952 see *Cornoxydon simanense* Watari, 1948**Cornus subkousa* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 53, pl. 17, figs. 6, 7

Syntypes: GSJ-4194, 4195*

Ningyo-toge and Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture

Ningyo-toge Formation; Mitoku Formation

Pliocene; Late Miocene

***Cornus tsuyazakiensis* M. Suzuki, 1982**

Bot. Mag. Tokyo, vol. 95, p. 283, figs. 5-11

Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71338 [TUSG]

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture

Tsuyazaki Formation

Oligocene

***Corylopsis epigyna* Miki, 1938**

Japan. Jour. Bot., vol. 9, no. 2, p. 223, pl. 4, fig. J; text-fig. 5C-D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Katada, Shiga Prefecture

Kobiwako Group

Pleistocene

***Corylopsis ishikariensis* Tanai, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 66, p. 58, pl. 6, fig. 1

Holotype: HUMP-25861 [NSM-PP]

Kamui coal mine, Utashinai City, Hokkaido

Noborikawa Formation

Eocene [Middle Eocene]

***Corylus* (?) *hommae* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 14, pl. 2, fig. 6

Holotype: AKMG-3291

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(*Betula hommae* (Huzioka et Nishida) Huzioka, 1964, in Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 71)

***Corylus ezoana* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 469, pl. 8, fig. 5

Holotype: HUMP-25929 [NSM-PP]

Shitakara River, Yubetsu mine, Akan-cho, Akan-gun, Hokkaido

Shakubetsu Formation
Early Oligocene [Late Eocene]

***Corylus japonica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 424, pl. 8, fig. 3
Holotype: NSM-10471 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Corylus ligniatus* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 268, text-fig. 10Ha-e
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Injo, Seto City, Aichi Prefecture
Pinus trifolia bed
Pliocene

***Corylus miochinensis* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 280, pl. 4, fig. 1
Holotype: GSJ-4030
Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
Basal part of Yunagaya Group [Shichiku Formation]
Early Miocene
(*Juglans miochinensis* (Tanai et Onoe) K. Suzuki, 1961 in
Sci. Rep. Fukushima Univ., no. 10, p. 32)

***Corylus palaeomaximowicziana* (Endo) Tanai, 1994 see
Betula palaeomaximowicziana Endo, 1968**

***Corylus subsieboldiana* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 45, pl. 10, figs. 3, 4
Syntypes: IGF-1513, 1514 [FM]
Ry-4, river cliff in southern valley of Kawadaira,
Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N,
140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Corylus takaminensis* Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 130, pl. 7, fig. 11a
Holotype: NSM-PP 15740
Loc. Tk-3, Takamine, Iide-machi, Nishi-Okitama-gun,
Yamagata Prefecture
Takamine Formation
Late Miocene

***Crataegus hokiensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 41, pl. 4, fig. 2
Holotype: NSM-PP 16173
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Crataegus sugiyamae* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 16, pl. 5, fig. 1
Holotype: AKMG-3307
Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation
Early Miocene
(See also Huzioka, 1964: Jour. Min. Coll. Akita Univ., Ser. A,
vol. 3, no. 4, p. 85)

***Crataegus tatsumitogensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 42, pl. 5, fig. 9;
text-fig. 4C
Holotype: TPM-251 (Tottori Pref. Mus.)
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Credoneria kashimaensis* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 64, pl.
3, fig. 3A, B
Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-21a,
b, c)
Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
Oarai Formation
Late Cretaceous

***Cretovarium yezonakajimae* M. Nishida, Yoshida et H.
Nishida, 1996**

Jour. Japan. Bot., vol. 71, p. 224, figs. 1-8
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
890712
Upstream of Tengubashi bridge, Kawakami, Obira-cho,
Rumoi-gun, Hokkaido
Middle or Upper Yezo Group
Late Cretaceous

***Cryptocarya ennichiensis* Tanai, 1952**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 8, p. 232, pl. 22,
figs. 3-4
Syntypes: Geol. Inst., Univ. Tokyo
Geijitsu, Keisho-hokudo, Korea
Ennichi Formation
Middle Miocene

***Cryptomeria miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 701, pl. 2, figs. 7, 7a
Holotype: AKMG-6277b
Hinokinaimatazawa, Nishiki-mura, Senboku-gun, Akita
Prefecture
Miyata Formation
Late Miocene

***Cryptomeriopsis mesozoica* Suzuki, 1910**

Bot. Mag. Tokyo, vol. 24, p. 185, pl. 7, figs. 3-5; text-fig. 1

Syntypes: Bot. Inst., Univ. Tokyo, no. 6dY3 [TI]
Yubari and Ikushunbetsu, Hokkaido
Late Cretaceous

***Ctenis japonica* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 343, pl. 42, figs. 5-7; pl. 47; pl. 49, fig. 1
Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3896, 3897, 3906, 4001
Nabae and Hayama, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Ctenis nipponica* Kimura et Sekido, 1972**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 86, p. 363, pl. 44, fig. 2; pl. 45, fig. 2; text-fig. 1
Holotype: KM-57101 (Komatsu City Mus.)
Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture
Kuwashima Formation, Itoshiro Subgroup (Tetori Group)
Early Cretaceous

***Ctenis takamiana* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 92, pl. 11, fig. 4
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7914
Loc. 50 (Nishihata), Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Ctenis yabei* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, p. 345, pl. 49, figs. 2-3
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4019
Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Ctenozamites fukutomii* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, no. 3, p. 115, pl. 5, fig. 2; text-fig. 24
Holotype: NSM-PP 8033
Loc. no. 063, east of Ono, Anai, Shimonoseki City, Yamaguchi Prefecture
Utano Formation
Middle Jurassic

***Cunninghamia eocenica* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 43, pl. 2, fig. 6
Holotype: DGLAKZ-13209
Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation
Late Eocene [Middle Eocene]

***Cunninghamia nodensis* Kimura et Horiuchi, 1978**

Proc. Japan Acad., Ser. B, vol. 54, p. 590, fig. 1
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. MI-08032
Noda, Noda-mura, Ninohe-gun, Iwate Prefecture
Minato Formation
Paleogene

***Cunninghamia protokonishii* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 18, pl. 1, fig. 1
Holotype: GSJ-4067
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Cupania japonica* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 492, pl. 12, fig. 7
Holotype: HUMP-25992 [NSM-PP]
Harutori pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Cuplicarpus kujiensis* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 122, pl. 13, fig. 5
Holotype: HUMP-26128 [NSM-PP]
Kadonosawa, Kuji City, Iwate Prefecture
Sawayama Formation
Late Cretaceous

***Cupressinocladus acuminifolia* Kon'no, 1968**

Geol. Palaeont. Southeast Asia, vol. 4, p. 144, pl. 25, figs. 1B, 4
Holotype: F785966-5 [NSM-PP]
Sungei Pertang, Kelantan, Malaya
Gagau Formation
Late Jurassic to Early Cretaceous

***Cupressinocladus mimotoi* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, p. 20, pl. 2, fig. 4; text-fig. 7
Holotype: NSM-PP 7875
Okufukui (Kc-4), Kochi City, Kochi Prefecture (ca. 33° 36'N, 133° 35'E)
Upper Monobegawa (or Wada) Formation
Early Cretaceous

***Cupressinocladus obatae* Okubo et Kimura, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 106, figs. 2Aa, 3a
Holotype: NSM-PP 9010

Isejigaura coast (Loc. no. 7404 of Obata et al., 1975), Choshi City, Chiba Prefecture
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Cupressinoxylon sachalinense* Shimakura, 1937**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 1, p. 50, pl. 12, figs. 1-4
Holotype: IGPS-58403
Kawakami coal-mine, Kawakami-mura, Toyahara-gun, Sakhalin, Russia
Late Cretaceous (Senonian)

***Cupressinoxylon thujopsoides* Takamatsu, 1929**

Sci. Rep., Tohoku Imp. Univ., 4th Ser., vol. 4, p. 539, pl. 24, figs. 1-5
Holotype : Biol. Inst., Tohoku Univ.
Saiki colliery, Sendai City, Miyagi Prefecture [Sendai Group]
Pliocene

***Cupressoxylon kozojiense* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 4, p. 415, pl. 18, figs. 53-55
Holotype : Bot. Inst., Fac. Sci., Univ. Tokyo* [TI]
Kozoji colliery, Aichi Prefecture
Late Tertiary
(The species was described as 'provisional name' for the *Cupressoxylon*-type wood)

***Cupressoxylon nagakudeense* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 4, p. 414, pl. 16, figs. 48-52
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo* [TI]
Nagakude colliery, Aichi Prefecture
Late Tertiary
(The species was described as 'provisional name' for the *Cupressoxylon*-type wood)

***Cyathocaulis naktongensis* Ogura, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 3, p. 352, pl. 2; text-figs. 1-9
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 2A-D [TI]
Syoeng-jyu-gun, North Kyong-sang-do, Korea
Naktong Series
Late Jurassic

***Cyathocaulis nihei-takagii* H. Nishida et M. Nishida, 1983**

Bot. Mag. Tokyo, vol. 96, p. 98, figs. 3, 4
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 1005 Toriake-ura seashore, Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous

***Cyathocaulis ogurae* Hashimoto, 1971**

Sci. Rep. Tokyo Kyoiku Daigaku, Sec. C, vol. 11, no. 103, p. 5, pls. 1-3; text-figs. 1-5
Holotype: Geol. Mineral. Inst., Tokyo Univ. Educ., no.30450 (lower half of stem and microscopic slides). Upper half of stem is kept in Nakagawa-cho Municipal Mus.
Stream bed of middle course of Komono-sawa River, tributary of Niogawa River, Toyosato, Nakagawa-cho, Nakagawa-gun, Hokkaido (44°46'41"N, 142°00'46"E)
Saku Formation, Middle Yezo Group
Late Cretaceous (Late Turonian-Santonian)
(*Paracyathocaulis ogurae* (Hashimoto) H. Nishida, 1989, in Bot. Mag. Tokyo, vol. 102, p. 261)

***Cyathocaulis yabei* Ogura, 1941**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 2, p. 911, pl. 47; text-figs. 1-2
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Sumagui, Bangabon, Mindoro, Philippines
Perhaps Tertiary

***Cyathocaulis yezopteroides* H. Nishida, 1989**

Bot. Mag. Tokyo, vol. 102, p. 267, figs. 5-7, 8I, 8K
Holotype: NSM-PP 7558
Horodatezawa, Kotanbetsu River, Tomamae-cho, Tomamae-gun, Hokkaido (44°10'41"N, 141°58'30"E)
Upper Yezo Group
Late Cretaceous (Santonian)

***Cyathorachis fujiana* Ogura, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 3, p. 368, pl. 8, text-figs. 12-13
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Yubari (specimens A, C) and Ikushunbetsu (specimen B), Ishikari Prov., Hokkaido
Cretaceous
(See also H. Nishida, 1981 in Bot. Mag. Tokyo, vol. 94, p. 254, under *Cyathorachis yudzuru-ogurae*)

***Cyathorachis yubariensis* H. Nishida, 1981**

Bot. Mag. Tokyo, vol. 94, p. 254, figs. 2E, 2F, 3D, 4D, 6
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ, no. 73715
Oh-yubari, Yubari City, Hokkaido (ca. 43°01' N, 142°06'E)
Upper Yezo Group
Late Cretaceous (Turonian-Santonian)

***Cyathorachis yudzuru-ogurae* H. Nishida, 1981**

Bot. Mag. Tokyo, vol. 94, p. 254, figs. 2P, 3B, 3C, 4C, 5
Holotype: TI, specimen B of *Cyathorachis fujiana* Ogura (Univ. Mus., Univ. Tokyo)
Ikushunbetsu, Mikasa City, Hokkaido (ca. 43°15'N, 141°57'E)
Upper Yezo Group

Late Cretaceous (Senonian)

***Cycadangium compactum* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 455, pl. 22, figs. 1-4; text-figs. 1-3

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Cycadeoidea ezoana* Kryshstofovich, 1920**

Jour. Geol. Soc. Tokyo, vol. 27, no. 325, p. 5, pl. 19

Holotype: missing ?

Yubeot River, near Takikawa, Sorachi-gun, Hokkaido

Cretaceous

(Kryshstofovich noted (p. 7) that the specimen is in possession of Mr. Tozuta in Sapporo)

***Cycadeoidea endoana* Hashimoto, 1961**

Sci. Rep. Tokyo Kyoiku Daigaku, Sec. C, vol. 8, no. 69, p. 2, pls. 1-3

Holotype: Geol. Mineral. Inst., Tokyo Univ. Educ., no. 30009 River bed of Shumarinai River near junction with Uryu River, Horokanai, Uryu-gun, Hokkaido (44 °16'26"N, 142 °03'54"E)

? derived from the Cretaceous

Cretaceous (Senonian or older)

***Cycadeoidea nipponica* Endo, 1925**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 7, no. 3, p. 63, pl. 11

Holotype: IGPS

4.8km south of Noborikawa, upper course of Sanushibegawa, Hobetsu-cho, Yufutsu-gun, Hokkaido

Hakobuchi Sandstone [Hakobuchi Group]

Late Cretaceous

***Cycadeoidea petiolata* Ogura, 1930**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 5, p. 388, pl. 19, figs. 8-10; text-figs. 8-9

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Cycadeoidea sakhalinensis* Endo, 1953**

Kumamoto Jour. Sci., Ser. B (Biol. Geol.), no. 2, p. 1, pl. 1

Holotype: IGPS

Fourth tributary of Naibuchi River, Sakhalin, Russia (ca. 47 °28'N, 142 °27'E)

Late Cretaceous (Late Senonian)

***Cycadeoidella japonica* Ogura, 1930**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 5, pt. 2, p. 392, pl. 19, figs. 11-14; pl. 20, figs 15-19; text-figs. 10-22

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Cycadites manchurensis* Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, p. 85, pl. 6, figs. 4, 4a, 4b, 5, 6; text-fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6305

Tungning, Pinchiang Prov., Manchuria, China

Jurassic

***Cycadites spathulata* Kon'no, 1938**

Japan. Jour. Geol. Geogr., vol. 16, p. 112, pl. 7, fig. 3

Holotype: Geol. Inst., Univ. Tokyo

Kaisen district, S. Korea

Uppermost horizon of Jido Series

Early Permian

***Cycadocarpidium asaense* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 202, pl. 24, fig. 4

Holotype: IGPS-78594

Akaiwa (loc. no. 7), Sanyo-cho, Asa-gun, Yamaguchi Prefecture (34 °0'24"N, 131 °6'36"E)

Uppermost horizon of Hiramatsu Formation

Middle Triassic (Ladino-Carnian)

***Cycadocarpidium nagatoense* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 203, pl. 23, fig. 7

Holotype: IGPS-78581

Fujiyakochi (loc. no. 1), Mine City Yamaguchi Prefecture (34 °12'16"N, 131 °10'02"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Cycadocarpidium naitoi* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 203, pl. 22, fig. 7

Holotype: IGPS-78584

Hirabara pass (loc. no. 2), Mine City, Yamaguchi Prefecture (34 °10'37"N, 131 °10'0"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Cycadocarpidium osawae* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 204, pl. 22, fig. 14a-c

Holotype: IGPS-78554

Tsubuta (loc. no. 5), Sanyo-cho, Asa-gun, Yamaguchi Prefecture (34 °1'24"N, 131 °6'E)

Halobia aotii-bearing beds, lower part of Nakatsuka Formation

Middle Triassic (Middle Carnian)

***Cycadocarpidium osawae* var. *minense* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 205, pl. 23, fig. 10

Holotype: IGPS-78581

Fujiyakochi (loc. no. 1), Mine City, Yamaguchi Prefecture (34°12'6"N, 131°10'2"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Cycadocarpidium ovatum* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 206, pl. 23, fig. 1; text-fig. 2

Holotype: IGPS-78583

Hirabara pass (loc. no. 2), Mine City, Yamaguchi Prefecture (34°10'37"N, 131°10'E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Cycadolepis kiiensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 367, pl. 37, fig. 5

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8503

Tennohama, Yuasa-cho, Arida-gun, Wakayama Prefecture

Cretaceous

***Cycadolepis oblongiformis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 366, pl. 38, fig. 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8627

Togodani, Kamikura-mura, Nagaoka-gun, Kochi Prefecture

Ryoseki Formation

Cretaceous

***Cycadolepis toyamae* Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, p. 87, pl. 6, figs. 3, 3a, 3b; text-fig. 4

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 6038-6039

Tungning, Penchiang Prov., Manchuria, China

Jurassic

***Cycas fujiiaca* Yokoyama, 1911**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 27, art. 20, p. 4, pl. 1, fig. 7

Holotype: Geol. Inst., Univ. Tokyo [no. CP20001]

Manda, Miike coal-field (from depth of 538 feet)

Paleogene (Paleocene or Eocene)

***Cyclobalanopsis huziokai* Tanai, 1953**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 9, p. 4, pl. 1, fig. 10

Holotype: Geol. Inst., Univ. Tokyo

Geijitsu, Keisho-hokudo, Korea

Ennichi Formation

Middle Miocene

***Cyclobalanopsis naitoi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 54, pl. 5, fig. 9

Holotype: AKMG-3412A

Motoyama submarine colliery, off Motoyama, Onoda City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

Cyclobalanopsis nathorstii* (Kryshtofovich) Huzioka et Takahasi, 1973 see *Quercus nathorstii* Kryshtofovich, 1926**Cyclobalanopsis protoacuta* (K. Suzuki) Huzioka et Uemura, 1973 see *Quercus protoacuta* K. Suzuki, 1959*****Cyclobalanopsis yabei* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 50, pl. 4, fig. 9

Holotype: IGPS-30238

Pohang, Kyongsang-bukdo, Korea

Yeoil Shale of Yeonil Group

Middle Miocene

Cyclocarya ezoana* (Tanai et N. Suzuki) Wolfe et Tanai, 1980 see *Pterocarya ezoana* Tanai et N. Suzuki, 1963**Cyclocarya kushiroensis* Tanai, 1992**

Bull. Natn. Sci. Mus. Ser. C, vol. 18, p. 21, pl. 8, fig. 1; text-fig. 2D

Holotype: HUMP-26906 [NSM-PP]

Harutori coal mine, Kushiro City, Hokkaido

Harutori Formation

Early Late Eocene [late Middle Eocene]

***Cyclosorus aizuensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 13, pl. 1, fig. 4

Holotype: IGF-5117 [FM]

Az-28c, Fuji-toge, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture (37°33'44"N, 139°43'22"E)

Lower part of Fujitoge Formation

Late Miocene

***Czekanowskia nipponica* Kimura et Ohana, 1978**

Proc. Japan Acad., Ser. B, vol. 54, p. 595, fig. 1

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. OM-008

Tanitoge, border area between Ishikawa and Fukui Prefectures

Omichidani Formation

Late Cretaceous

Dadoxylon (Araucarioxylon) japonicum Shimakura, 1936
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 18, no. 3, p. 268,
 pl. 12, figs. 1-6
 Holotype: IGPS-53325
 Yatsuji, Jihara-mura, Takaoka-gun, Kochi Prefecture
 Torinosu Group
 Late Jurassic

Dadoxylon (Araucarioxylon) sidugawaense Shimakura, 1936
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 18, no. 3, p. 273,
 pl. 12, figs. 7-8; pl. 13, figs. 1-7
 Holotype: IGPS-44234
 Coast of Hosoura, Shizugawa-cho, Motoyoshi-gun, Miyagi
 Prefecture
 Shizugawa Group
 Jurassic (Lias)

Daphniphyllum protomacropodum Murai, 1969
 Tech. Rep. Iwate Univ., vol. 4, p. 62, pl. 3, fig. 1; pl. 5, figs. 2,
 5
 Syntypes: IAGI-67004, 67005, 67006*
 Loc. 2, Yokokawame, Waga-cho, Waga-gun, Iwate Prefecture
 Hishinai Formation
 Late Middle Miocene

Davidia kabutoiwana Ozaki, 1984
 Mem. Inst. Field Educ. Yokohama Natn. Univ., no. 2, p. 4, pl.
 2, fig. 1; text-fig. 2A, B
 Holotype: YNU-1082 [KPM]
 Hirokawara, Saku City, Nagano Prefecture
 Upper part of Motojuku (Kabutoiwa) Formation
 Late Miocene to Early Pliocene

***Decodon mosanruensis Matsumoto, Momohara, Ohsawa
 et Shoya, 1997***
 Japan. Jour. Hist. Bot., vol. 5, no. 2, p. 57, fig. 6A, C, D
 Holotype: Dept. Earth Sci., Chiba Univ, no. 94081405S-1
 Ponmosanru River, Shimokawa-cho, Kamikawa-gun, central
 Hokkaido (44°19'17"N, 142°43'06"E)
 Mosanru Formation, Shimokawa Group
 Late Middle Miocene

Dendropanax ubensis Huzioka et Takahasi, 1970
 Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 70, pl.
 16, fig. 9
 Holotype: AKMG-3530
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

Dennstaedtia nipponica Oishi et Huzioka, 1941
 Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, p. 182, pl.
 39, figs. 10-14; pl. 40, figs. 1-5, 5a, 7-8

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no.
 8838-8846
 Naie, Bannosawa and Bibai in Sorachi-gun, Hokkaido;
 Yubari coal-mine, Shihorokabetsu and Kakuta in Yubari-gun,
 Hokkaido
 Woodwardia Sandstone [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]

Desmodium hokianum Ozaki, 1980
 Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 50, pl. 7, figs. 19, 19a;
 text-fig. 9E.
 Holotype: NSM-PP 16126
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

Desmodium tatsumitogeanum Ozaki, 1980
 Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 50, pl. 2, fig. 8;
 text-fig. 8B, E
 Holotype: NSM-PP 16244
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

Desmopteris (?) orientalis Yabe et Oishi, 1930
 Japan. Jour. Geol. Geogr., vol. 8, nos. 1-2, p. 11, pl. 5, fig. 1
 Holotype: IGPS-22203
 Yoho near Kobasan colliery of Heijo coal-field, Heian-nando,
 Korea

Deutzia mogiensis Tanai, 1976
 Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 320, pl. 4,
 fig. 2
 Holotype: GSJ-4712
 Mogi, Nagasaki City, Nagasaki Prefecture
 Mogi (plant-bearing) Formation
 Pliocene

Dicotyllophyllum iwateanum Tanai, 1979
 Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 124, pl. 14,
 fig. 7a
 Holotype: HUMP-26131a [NSM-PP]
 Oashi, Kuji City, Iwate Prefecture
 Sawayama Formation
 Late Cretaceous

Dictyophyllum kotakiense Kimura et Tsujii, 1981
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 124, p. 192,
 text-fig. 4f
 Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no.
 KU-9002
 Kotaki coal-field, Kotaki-mura, Nishi-Kubiki-gun, Niigata
 Prefecture
 Hodonosawa Formation, Kuruma Group

Early Jurassic

***Dictyozamites auriculatus* Kimura et Sekido, 1976**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 101, p. 297, pl. 30, figs. 1, 2; text-fig. 31

Holotype: KM-61418 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture

Kuwashima sandstone & shale alternation member, Oguchi Formation

Early Cretaceous

***Dictyozamites imamurae* Oishi, 1936**

Japan. Jour. Geol. Geogr., vol. 13, p. 27, pl. 9, figs. 2, 2a; text-fig. 1

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 6480

Kuwashima, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture

Tetori Group

Jurassic

***Dictyozamites ishikawaensis* Kimura et Sekido, 1976**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 101, p. 299, pl. 32, figs. 1, 3; text-fig. 20

Holotype: KM-63010 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture

Kuwashima sandstone & shale alternation member, Oguchi Formation

Early Cretaceous

***Dictyozamites naitoi* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, no. 3, p. 122, text-fig. 28

Holotype: NSM-PP 8041

Loc. no. 063, east of Ono, Anai, Shimonoseki City, Yamaguchi Prefecture

Utano Formation

Middle Jurassic

***Dictyozamites reniformis* Oishi, 1936**

Japan. Jour. Geol. Geogr., vol. 13, p. 29, pl. 9, figs. 1, 1a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6479

Yambara, Ono-gun, Fukui Prefecture

Izuki Formation

Late Jurassic

(*Tetoriophyllum reniformis* (Oishi) Kimura, 1991 in Current Sci., vol. 61, p. 657. "Holotype" (KM-87001) proposed by Kumura (1991) is erroneous)

***Dictyozamites tateiwae* Oishi, 1936**

Japan Jour. Geol. Geogr., vol. 13, p. 28, pl. 9, fig. 3; text-fig. 3

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 6481,

6569

Tomudo, Wakwan-men, Shikkoku-gun, N. Keisho-do, Korea
Upper division of Naktong Formation

Late Jurassic

***Dictyozamites tetoriensis* Kimura et Sekido, 1976**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 101, p. 302, pl. 31, fig. 2; text-fig. 16

Holotype: KM-61468 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture

Kuwashima sandstone & shale alternation member, Oguchi Formation

Early Cretaceous

***Dictyozamites yamazakii* Kimura et Sekido, 1976**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 101, p. 303, pl. 31, fig. 3; text-fig. 7

Holotype: KM-65010 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture

Kuwashima sandstone & shale alternation member, Oguchi Formation

Early Cretaceous

***Dillenites lanceolatus* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 112, pl. 13, fig. 2

Holotype: HUMP-26105 [NSM-PP]

Oashi, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Diploclisia notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 81, pl. 12, fig. 1

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-314

Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Dioonopsis nipponica* Horiuchi et Kimura, 1987**

Rev. Palaeobot. Palynol., vol. 51, p. 217, pl. 1

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. KM-0101

Coastal cliff near Hanzaki, Kuji City, Iwate Prefecture

Minato Formation

Early Paleogene

***Diospyros lanceolata* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 72, pl. 18, fig. 3

Holotype: AKMG-3612A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation
Late Eocene [Middle Eocene]

***Diospyros minor* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 213, pl. 38, fig. 10; pl. 40, figs. 8, 9

Syntypes: AKMG-3152, 3196, 3226*

Tsuchikumazawa, Shimo-Hinokinai, Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Diospyros protokaki* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 440, pl. 25, fig. 2

Holotype: NSM-10555 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Diospyros protomorrisiana* Matsuo, 1971**

Bull. Natn. Sci. Mus., vol. 14, p. 702, pl. 8, figs. 2, 3

Holotype: DGLAKZ-14112a

Shinsaka, Kechi-zaka, Mitsushima-cho, Shimo-Agata-gun, Nagasaki Prefecture (34°16'51"N, 129°19'55"E)

Taishu Group

Oligocene

***Diospyros sublotus* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 45, pl. 18, fig. 5

Holotype: HUMP-25831 [NSM-PP]

Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho, Tokoro-gun, Hokkaido

Komatsuzawa Formation

Pliocene

***Diospyros ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 73, pl. 15, figs. 6, 6a

Holotype: AKMG-3746B

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Disanthus eocercidifolia* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 51, pl. 7, fig. 5

Holotype: DGLAKZ-13345

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Disanthus kujianus* Tanai, 1981**

Jour. Fac. Sci., Hokkaido Univ. Ser. 4, vol. 19, p. 468, pl. 6,

fig. 6, text-fig. 4g, h

Holotype: HUMP-26166 [NSM-PP]

Coastal cliff near Minato, Kuji City, Iwate Prefecture

Minato Formation

Early Oligocene [Eocene]

***Disanthus nipponicus* Tanai, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 66, p. 58, pl. 6, fig. 7

Holotype: HUMP-25865 [NSM-PP]

Higurezawa, Ikushunbetsu, Mikasa City, Hokkaido

Ikushunbetsu Formation

Oligocene [late Middle Eocene]

(*Cercis nipponica* (Tanai) Tanai, 1981 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 474)

***Disporum ezoanum* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 5, pl. 20, fig. 1.

Holotype: HUMP-25613 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido

Shanabuchi Formation

Late Miocene

***Distichopteris heteropinna* Yabe et Shimakura, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 179, pl. 16, figs. 1-7

Syntypes: IGPS

Lungtan coal-mine, Chutung-hsien, Kiangsu, China

Lungtan coal Series

Middle Permian

***Distylium chiharu-hirayae* M. Suzuki et K. Terada, 1996**

Int. Ass. Wood Anat. Jour., vol. 17, p. 379, figs. 23-26

Holotype: TUSG, Wood Coll. no. 83987

Mawaki, Noto-machi, Fugeshi-gun, Ishikawa Prefecture

Yanagida Formation

Early Miocene

***Distylium ubeanum* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 60, pl. 10, fig. 6

Holotype: AKMG-3679

Negayama, Jinde, Onoda City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Distylopsis parrotioides* Miki, 1963**

Jour. Soc. Earthsci. Amateur., Spec. Vol. (1963), p. 92, fig. H

Holotype: Dept. Biol., Osaka City Univ. [OSA]*

Izumi-Sano, Osaka Prefecture

Osaka Group ?

Pliocene

***Dodonaea tanaii* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 66, pl. 14, figs. 3, 3a

Holotype: AKMG-3742

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Dryophyllum noborikawense* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 75, pl. 5, fig. 5

Holotype: NSM-PP 10590

Hon-cho, Yubari City, Hokkaido

Noborikawa Formation

Middle Eocene

***Dryophyllum yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 426, pl. 14, fig. 3

Holotype: NSM-10502 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Dryopteris uttoensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 185, pl. 28, fig. 1

Holotype: AKMG-3001

Uttonaizawa, Utto, Ani-machi, Kita-Akita-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Dryoxylon chitaense* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 4, p. 439, pl. 19, figs. 78-79

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo* [TI]

Futto, Aichi Prefecture

Late Tertiary

(The species was described as 'provisional name')

***Eboracia microlobifolia* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, p. 16, fig. 2a-c.

Holotype: NSM-PP 7885

Cliff along sea-shore, east of Ayukawa Junior High School, Ayukawa, Oshika-cho, Oshika-gun, Miyagi Prefecture

Kiyosaki Sandstone Member, Ayukawa Formation

Jurassic-Cretaceous? (Late Tithonian-Berriasian ?)

***Ehretia akitana* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 215, pl. 39, fig. 5

Holotype: AKMG-3161

Yamakayakusa, Ani-machi, Kita-Akita-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Ehretia oblonga* Miki, 1966**

Bull. Mukogawa Women's Univ., vol. 14, p. 14, fig. 7B

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Shoshibun in Tuchizawa, Kanagawa Prefecture

Pleistocene

***Elaeagnus akashiensis* Miki, 1936**

Chikyu, vol. 26, p. 179, pl. 4, figs. J-L; text-fig. 9F-I

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Taniyagi-Higashiei, Akashi City, Hyogo Prefecture

Stegodon bed

Pliocene [Early Pleistocene]

(See also Miki, 1937: Japan. Jour. Bot., vol. 8, no. 4, p. 325)

***Elaeagnus mikii* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 99, pl. 17, fig. 8

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-549

East of Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Elaeagnus semiannuliporosa* Watari, 1952**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, no. 3, p. 131, photo. 10; text-fig. 8

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 35105, 35071, 35020 [TI]

Tobishima Island, Akumi-gun; and Isagodani and Yutagawa, Tagawa-mura, Nishitagawa-gun, Yamagata Prefecture

Early to Middle Miocene

***Elaeocarpus notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 98, pl. 16, fig. 1

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-532

East of Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Elatides manchurensis* Oishi et Takahasi, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 62, pl. 5, figs. 8, 8a, 9, 9a

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 7890

Li-shun-chen, Moulin coal-field, Manchuria, N. E. China

Moulin Formation

Middle-Late Triassic

***Elatocladus obtusifolia* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, nos. 2-4, p. 395, pl. 41, fig. 1

Holotype: IGPS

Kamimano-mura, Fukushima Prefecture

Early Cretaceous (Wealden)

***Elatocladus submanchurica* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 228, pl. 34, fig. 8

Holotype: IGPS-38381

Huo-shin-ling, Chih-ling Prov., Manchuria, China
Mesozoic

***Elsemaria kokubunii* H. Nishida, 1994**

Pl. Syst. Evol. [Suppl.], vol. 8, p. 125, figs. 3-9

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 921101

River bed of Obirashibe River, Obira-cho, Rumoi-gun, Hokkaido

Upper Yezo Group

Late Cretaceous (Coniacian to Santonian)

***Endoa ceratopteroides* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ. no. 3, p. 106, pl. 1, fig. 2; text-fig. 1

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. M8052-M8061

Mochiana, Kamianama-mura, Ono-gun, Fukui Prefecture
Kuzuryu Subgroup, Tetori Group
Jurassic

***Engelhardtia koreanica* Oishi, 1936**

Jour. Geol. Soc. Japan, vol. 43, no. 508, p. 58, text-figs. 1-3

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 6478

Kokangen, North Kankyo-do, Korea

Paleogene coal-bearing formation (*Engelhardtia* bed)

Oligocene

(Lectotype: HUMP-6478c, by Tanai and Uemura, 1983 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 20, p. 251;

***Palaeocarya koreanica* (Oishi) Manchester, 1987** in Monogr. Syst. Bot., vol. 21, p. 55)

***Engelhardtia poronai* Endo, 1968**

Bull. Natn. Mus., vol. 11, p. 421, pl. 6, fig. 2

Holotype: NSM-10461 [NSM-PP]

[Tributary of Issen-no-sawa, Futamata] Yubari City, Hokkaido

Poronai Formation

Eocene

***Enkianthus koreanus* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 72, pl. 10, fig. 8

Holotype: IGPS-92373

Kungshim colliery, Hamg'yeong-bukdo, Korea

Hoengyeong Formation

Middle Miocene [Oligocene]

***Eoeuryale brasenioides* Miki, 1960**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 11, p. 67,

pl. 2, figs. A-F

Syntypes: Dept. Biol., Osaka City Univ.* [OSA]
Akazu, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Eoglyptostrobus sabioides* Miki, 1964**

Bull. Mukogawa Women's Univ., vol. 12, p. 14, pl. 1, fig. E

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Jehol, South Manchuria, China

Lycoptera beds

Late Jurassic

***Eotaiwania fushunensis* Endo, 1942**

Bull. Centr. Natn. Mus. Manchoukuo, no. 3, p. 37, pl. 16, fig. 9

Holotype: IGPS

Fushun coal-mine, Fengtien Prov., Manchuria, China

Fushun coal-bearing formation

Paleogene [Eocene]

Eotrapa tetrasespala* (Miki) Miki, 1961 see *Lythrum tetrasespalum* Miki, 1959**Equisetites asaensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 29, pl. 12, figs. 1, 2, 6

Syntypes: IGPS-79208, 79210, 79211

Hiramatsu coast, Onoda City, Yamaguchi Prefecture (34° 10'37"N, 131°10'0"E)

Momonoki Formation

Middle Triassic (Middle Carnian)

***Equisetites endoi* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 31, fig. 3A-C

Syntypes: IGPS-79303, 79304

Ochi, Shimizu-mura, Shimonoseki City, Yamaguchi Prefecture

Middle horizon of Utano Formation

Middle Jurassic (Bajocian to Bathonian)

***Equisetites iwamuroensis* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p. 6, pl. 1, fig. 1; pl. 12, figs. 1, 10

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. A-2072, 2058, 3051, 3054, 3057, 3060, 9025, 9026*

South of Iwamuro, Katashina-gawa, Shirasawa-mura, Tone-gun, Gunma Prefecture

Iwamuro Formation

Jurassic (Lias)

***Equisetites kitamurae* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 33, pl.

14, figs. 1, 4, 6

Syntypes: IGPS-79289, 79290, 79293, 79294

Road-side cutting, ca. 300 m northwest of Kotsuki, Izuhara-machi, Shimo-Agata-gun, Nagasaki Prefecture (34° 11'21.6"N, 129°10'45.3"E)

Komota Formation, Taishu Group

Oligocene

***Equisetites koreanicus* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 36, pl. 15, figs. 1, 7

Systypes: Dept. Geol., Kyushu Univ.

Nongtyong-ni village, ca. 21.5 km west of Phyongyang, North Korea (38°59'03"N, 125°29'0"E)

Lower Daido Formation

Triassic-Jurassic (Rhaeto-Liassic)

***Equisetites minensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 37, pl. 12, figs. 9, 11

Syntypes: IGPS-79267, 79268

Hagimine coal-mine, Yokomichi, Mine City, Yamaguchi Prefecture

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Equisetites mori-gumpei* Kimura et Tsujii, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 119, p. 349, text-figs. 2a-c.

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. KS-001

Upper course of Shinadani, Omi-machi, Nishi-kubiki-gun, Niigata Prefecture

Lower member of Shinadani Formation, Kuruma Group

Early Jurassic

***Equisetites multidentatus* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 226, pl. 20, figs. 1-2

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3886, 3980

Eda and Kamishina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Late Triassic

***Equisetites nagatoensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 37, pl. 16, figs. 1, 5, 9

Syntypes: IGPS-79227, 79265, 79279

Nanoka-machi, Yamanoi, Sanyo City; Fujiyakochi, Mine City, Yamaguchi Prefecture

Yamanoi Formation; Momonoki Formation

Middle Triassic (Middle and Late Carnian)

***Equisetites naitoi* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 38, pl. 17, figs. 1, 3, 4

Syntypes: IGPS-79205, 79213, 79213'

Road-side cutting, ca. 500 m northeast of Idenouwe, Tsubuta, Sanyo City, Yamaguchi Prefecture

Lower horizon of Nakatsuka Formation

Middle Triassic (Middle Carnian)

***Equisetites naitoi* subsp. *minor* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 39, pl. 17, figs. 6-8

Syntypes: IGPS-79204, 79207, 79208

Hiramatsu coast, Onoda City, Yamaguchi Prefecture (33° 59'55"N, 131°07'30"E)

Hiramatsu Formation

Middle Triassic (Ladino-Carnian)

***Equisetites nariwensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 40, fig. 4A

Holotype: depository not designated

Kamihina (Oishi, 1932, loc. no. 49), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Group

Late Triassic (Norian)

***Equisetites nipponicus* Kimura et Tsujii, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 119, p. 350, pl. 40, fig. 3

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NNW-800

Middle course of Neiridani, Asahi-machi, Toyama Prefecture

Negoya Formation, Kuruma Group

Early Jurassic

***Equisetites paotensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 41, fig. 4B-D

Syntypes: IGPS-79312, 79316

Tou-tae-kou, ca. 27 km northeast of Paotoucheng in Suiyuan, China (ca. 41°N, 108°E)

Shihkuaitu (coal-bearing) Formation

Early Jurassic

***Equisetites takahashii* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 42, pl. 18, figs. 1, 8

Syntypes: 79275, 79282

Hagimine coal-mine, Yokomichi, Mine City, Yamaguchi Prefecture

Momonoki Formation

Middle Triassic (Middle Carnian)

***Equisetites takaianus* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 44, pl. 17, figs. 11-13

Syntypes: IGPS-79216, 79219, 79220

Ishibashi village, ca. 500 m east of Akaiwa (Kon'no, 1961, loc. no. 7), Onoda City, Yamaguchi Prefecture

Upper horizon of Hiramatsu Formation

Middle Triassic (Early Carnian)

***Equisetostachys (Neocalamites ?) pedunculatus* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 24, pl. 10, figs. 1, 4; text-fig. 2A-D

Fujiyakochi (Kon'no, 1961, loc. no. 1), Mine City, Yamaguchi Prefecture (34°12'16"N, 131°10'02"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Equisetostachys (Neocalamites ?) pedunculatus* subsp. *takahashii* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 23, pl. 9, fig. 4

Holotype: IGPS-79278

Hagimine coal-mine, Yokomichi, Mine City, Yamaguchi Prefecture

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Equisetum ezoensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 418, pl. 2, fig. 1

Holotype: NSM-10442 [MSM-PP]

Loc. 1, Shin Yubari colliery, Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Eretmophyllum tetoriense* Kimura et Sekido, 1965**

Mem. Mejiro Gakuen Woman's Junior Coll., vol. 2, p. 2, pl. 2, fig. 1; text-fig. 1

Holotype: KM-63001 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture

Oguchi Formation, Itoshiro Group

Early Cretaceous

***Erythrina takashimense* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 54, pl. 10, fig. 2

Holotype: DGLAKZ-13281

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Erythrophleum (?) hokianum* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 51, pl. 2, fig. 7;

text-fig. 8A, C, D

Holotype: NSM-PP 16133A

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Eucommia japonica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 329, pl. 21, fig. 3.

Holotype: UHR-15225 [NSM-PP]

Kusaidani, Kamigo-machi, Tsuruoka City, Yamagata Prefecture

Kamigo Formation

Middle Miocene [late Early Miocene]

***Eucommia nipponica* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, p. 13, pl. 2, fig. 8

Holotype: GYNU-CMP 1027 [KPM]

Inkyoyama, Toki City, Gifu Prefecture

Akeyo Formation

Middle Miocene [late Early Miocene]

***Eugenia protojambas* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 2, p. 48, pl. 19, fig. 2

Holotype: IAGI-61002

Ry-1, Shizukuishi-cho, Iwate-gun, Iwate Prefecture

Upper part of Ryukawa Formation

Middle Miocene

***Euonymus okamotoi* Huzioka, 1974**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 102, pl. 4, figs. 6, 6a; text-fig. 7

Holotype: AKMG-8125 [IGSH]

Yamane, Yuya-cho, Otsu-gun, Yamaguchi Prefecture

Hitomaru Formation

Early to Middle Miocene [Oligocene]

***Euonymus palaeosieboldianus* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 47, pl. 14, fig. 6

Holotype: GSJ-4172

Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture

Onbara Formation

Mio-Pliocene

***Euryale akashiensis* Miki, 1936**

Chikyu, vol. 26, p. 173, pl. 3, fig. J; text-fig. 4G-H

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Nakayagi near Akashi, Hyogo Prefecture

Pliocene

(See also Miki, 1937: Japan. Jour. Bot., vol. 8, p. 313)

***Ezocarya ishikariensis* Tanai, 1992**

Bull. Natn. Sci. Mus. Ser. C, vol. 18, p. 23, pl. 3, fig. 4;

text-fig. 3C

Holotype: NSM-PP 10411
Reisui-zan, Yubari City, Hokkaido
Ikushunbetsu Formation
Late Eocene [late Middle Eocene]

***Fagopsis nipponica* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 76, pl. 6, fig. 1
Holotype: NSM-PP 10579
Upper course of Subetsu River, Tsukigata-cho, Kabato-gun, Hokkaido
Kabato Formation
Late Middle Eocene

***Fagus antipofi* Heer var. *palaeolongipetiolata* Murai, 1962**

Tech. Rep. Iwate Univ., vol. 15, no. 2, p. 29, pl. 7, fig. 6
Holotype: IAGI-61005
Koshitomae-zawa SaL-1, Koakazawa, Gomyojin, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39 °40'47"N, 140 °33'7"E)
Sakamotogawa Formation
Late Miocene

***Fagus florini* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 133, pl. 2, figs. 1, 1a
Holotype: AKMG-5900a
Loc. A, Shimonoseki South High School at Ushiroda, Shimonoseki City, Yamaguchi Prefecture
Hatabu Formation
Middle Miocene

***Fagus hondoensis* (Watari) Watari, 1952 see *Fegonium hondoense* Watari, 1941**

***Fagus jobanensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 49, pl. 10, fig. 10
Holotype: IGPS-78131
IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima Prefecture (37 °8'10"N, 140 °54'15"E)
Shichiku Formation
Early Miocene

“*Fagus*” *kitamiensis* Tanai, 1995

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 80, pl. 2, fig. 3; text-fig. 2Ca-c
Holotype: NSM-PP 10615
Wakamatsuzawa, Kitami City, Hokkaido
Wakamatsuzawa Formation
Early Oligocene

***Fagus koraica* Huzioka, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 3, p. 68, pl. 5, figs. 1-3

Syntypes: Dept. Geol. Mineral., Hokkaido Univ. Ryuhokudo, Kokan-gen coal-mine, N. Kankyo-do, Korea
Engelhardtia bed
Miocene [Oligocene]

***Fagus microcarpa* Miki, 1933**

Bot. Mag. Tokyo, vol. 47, p. 621, pl.-figs. F, G; text-fig. 11-M
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Obakusan in Uji City and Taniguchi in Kyoto City, Kyoto Prefecture
Pleistocene

***Fagus nathorsti* Kon'no et Otuka, 1933**

Jour. Geol. Soc. Japan, vol. 40, p. 410, text-fig.
Holotype: Geol. Inst., Univ. Tokyo
Saginota, Matsuno-mura, Shizuoka Prefecture
Saginota Formation
Pleistocene

***Fagus oblongus* K. Suzuki, 1959**

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 34, pl. 2, figs. 9, 11; pl. 3, figs. 1-3
Syntypes: IGF-1044-1046, 1057, 1060* [FM]
Tennoji in Iizaka-machi, Shinobu-gun, and Tsuchiyu in Fukushima City, Fukushima Prefecture
Tennoji Formation
Late Miocene

***Fagus palaeocrenata* Okutsu, 1955**

Sci. Rep., Tohoku Univ., 2nd Ser., vol. 26, p. 92, pl. 6, figs. 4-9
Syntypes: IGPS-60535, 60540, SHMS-10966
Fukuoka, Nenoshiroishi-mura, Miyagi-gun; Shirasaka-toge, Akyu-mura, Natori-gun; Nishizawa, Akyu-mura, Natori-gun, Miyagi Prefecture
Shirasawa Formation
Late Miocene

***Fagus palaeojaponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 35, pl. 7, figs. 4, 5
Syntypes: GSJ-4135, 4136*
Ningyo-toge, Misasa-cho, Tohoku-gun, Tottori Prefecture; Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Ningyo-toge Formation; Onbara Formation
Pliocene; Mio-Pliocene

***Fagus protojaponica* K. Suzuki, 1959**

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 33, pl. 2, fig. 10
Holotype: IGF-1042 [FM]
Loc. Ts, Tsuchiyu-machi, Fukushima City, Fukushima Prefecture
Tennoji Formation
Late Miocene

***Fagus protolongipetiolata* Huzioka, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 3, p. 68, pl. 6, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ.
Ryuhokudo, Kokangen coal-mine, N. Kankyo-do
Engelhardtia bed
Miocene [Oligocene]

***Fagus uemurae* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 78, pl. 1, fig. 3
Holotype: NSM-PP 10607
Wakamatsuzawa, Kitami City, Hokkaido
Wakamatsuzawa Formation
Early Oligocene

***Fagus uotanii* Huzioka, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 3, p.69, pl. 6, figs. 1-2
Syntypes: Dept. Geol. Mineral., Hokkaido Univ.
Ryuhokudo, Kokangen coal-mine, N. Kankyo-do, Korea
Engelhardtia bed
Miocene [Oligocene]

***Fegonium hondoense* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 418, photo. 2; text-fig. 3, 4
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 31101 [TI]
Nesori, Namiuchi-mura [Ichinohe-machi], Ninohe-gun, Iwate Prefecture
[Yotsuyaku Formation]
Late Early Miocene
(*Fagus hondoensis* (Watari) Watari, 1952 in Jour. Fac. Sci. Univ. Tokyo, Sec. 3, vol. 6, p. 109)

***Ficoxylon angustiparenchymatosum* Shimakura, 1939**

Jour. Geol. Soc. Japan, vol. 44, p. 697, pl. 21
Holotype: IGPS
Dredged from sea-bottom off Tobishima Island, Sakata City, Yamagata Prefecture
Tertiary [Early-Middle Miocene]

***Ficus antiquorum* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 66, pl. 7, figs. 1, 2
Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-30a, b)
Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
Oarai Formation
Late Cretaceous

***Ficus choshuensis* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 135, pl. 1, figs. 7, 7a
Holotype: AKMG-6960a
Loc. A, Shimonoseki South High School at Ushiroda, Shimonoseki City, Yamaguchi Prefecture

Hatabu Formation
Middle Miocene

***Ficus columbioides* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 428, pl. 11, figs. 3
Holotype: NSM-10484 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizu-sawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]
(*Alangium columbioides* (Endo) Tanai, 1989 in Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 127)

***Ficus eowightiana* Endo, 1964**

Proc. Japan Acad., vol. 40, p. 419, figs. 1-3
Holotype: NSM-10458 [NSM-PP]
Kakuda colliery, Kuriyama-cho, Yubari-gun, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]
(See also Endo, 1968: Bull. Natn. Sci. Mus. vol. 11, p. 428, pl. 12, fig. 1; *Populus eowightiana* (Endo) Tanai et Uemura, 1991 in Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 70)

***Ficus ezoensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 429, pl. 9, fig. 3
Holotype: NSM-10477 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizu-sawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Ficus mioretusa* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 238, pl. 52, fig. 2
Holotype: GKZ-10124
Tsuchikawa, Kashima-gun, Ishikawa Prefecture
Yamatoda Mudstone Member
Middle Miocene [late Early Miocene]

***Ficus naitoi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4 no. 5, p. 56, pl. 8, fig. 2
Holotype: AKMG-3412C
Motoyama submarine colliery, off Motoyama, Onoda City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Ficus oguniensis* (Morita) Huzioka et Takahasi, 1974 see *Cinnamomum oguniense* Morita, 1931**

***Ficus platanifolioides* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 430, pl. 13, fig. 1
Holotype: NSM-10489 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]

***Ficus tsushimaensis* Matsuo, 1971**

Bull. Natn. Sci. Mus., vol. 14, no. 4, p. 698, pl. 7, figs. 1, 2
 Holotype: DGLAKZ-15639a
 Shinsaka, Kechi-zaka, Mitsushima-cho, Shimo-Agata-gun, Nagasaki Prefecture (34°16'51"N, 129°19'55"E)
 Taishu Group
 Oligocene

***Ficus yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 432, pl. 14, fig. 1
 Holotype: NSM-10500 [NSM-PP]
 Loc. 2, Kakuda colliery, Kuriyama-cho, Yubari-gun, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]

***Fokienia notoensis* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 233, pl. 44, fig. 2
 Holotype: GKZ-11016
 Tsuchikawa, Kashima-gun, Ishikawa Prefecture
 Yamatoda Mudstone Member
 Middle Miocene [late Early Miocene]
 (*Libocedrus notoensis* (Matsuo) Ishida, 1970 in Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 66;
Calocedrus notoensis (Matsuo) Huzioka, 1972 in Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 40)

***Forsythia kitamiensis* (Oishi et Huzioka) Tanai et N. Suzuki, 1965 see *Celtis kitamiensis* Oishi et Huzioka, 1954**

***Fortunearia kabutoiwana* Ozaki, 1984**

Mem. Inst. Field Educ. Yokohama Natn. Univ., no. 2, p. 3, pl. 1, fig. 1; text-fig. 1A, B
 Holotype: YNU-1081 [KPM]
 Hirokawara, Saku City, Nagano Prefecture
 Upper part of Motojuku (Kabutoiwa) Formation
 Late Miocene to Early Pliocene

***Fothergilla ryozenensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 74, pl. 17, fig. 3
 Holotype: IGF-1533 [FM]
 Ry-5, river cliff at Matsugappo, Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'40"N, 140°46'00"E)
 Lower part of Ryozen Formation
 Early Miocene

***Fraxinus k-yamadai* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 47, pl. 13, fig. 6

Holotype: HUMP-25738 [NSM-PP]
 Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
 Shanabuchi Formation
 Late Miocene

***Fraxinus miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 726, pl. 16, fig. 6
 Holotype: AKMG-7269
 Tozawa, Nishiki-mura, Senboku-gun, Akita Prefecture
 Miyata Formation
 Late Miocene

***Fraxinus oishii* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 73, pl. 9, figs. 10, 10a
 Holotype: AKMG-6652
 Kilju, Hamg'yeong-bukdo, Korea
 Hamjindong Formation, Myeoncheon Group
 Middle Miocene

***Fraxinus oligocenica* M. Suzuki, 1982**

Bot. Mag. Tokyo, vol. 95, p. 287, figs. 12-17
 Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71258 [TUSG]
 Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
 Tsuyazaki Formation
 Oligocene

***Fraxinus sanzugawaensis* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 357, pl. 10, fig. 4; text-fig. 6
 Holotype: AKMG-7600a
 Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture
 Sanzugawa Formation
 Late Miocene

***Fraxinus takaminensis* Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 158, pl. 10, fig. 7
 Holotype: NSM-PP 15716b
 Loc. Tk-2, Nishi-Takamine, Iide-machi, Nishi-Okitama-gun, Yamagata Prefecture
 Takamine Formation
 Late Miocene

***Fraxinus tateiwae* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 74, pl. 12, fig. 1
 Holotype: AKMG-6552
 Keumkwandong, Kyongsang-bukdo, Korea
 Keumkwandong Shale, Changgi Group
 Early Miocene

***Fraxinus wakamatsuensis* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 147, pl. 25, fig. 2

Holotype: HUMP-25491 [NSM-PP]

Wakamatsu coal mine, Kita-hiyama-machi, Setana-gun, Hokkaido

Kunnui Formation

Middle Miocene [late Early Miocene]

***Frenelopsis choshiensis* Kimura, Saiki et Arai, 1985**

Proc. Japan Acad., Ser. B, vol. 61, p. 426, figs. 1, 2

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. KIM-015

Kimigahama coast, Choshi City, Chiba Prefecture

Kimigahama Formation, Choshi Group

Early Cretaceous (late Early Barremian)

***Frenelopsis malaiana* Kon'no, 1967**

Geol. Palaeont. Southeast Asia, vol. 3, p. 156, pl. 26, fig. 1.

Holotype: no. 798656-2 [NSM-PP]

Gunong Gagau in southeast Kelantan, Malaya (4 °48'N, 102 ° 39'E)

Gagau Formation

Late Jurassic to Early Cretaceous

***Frenelopsis malaiana* Kon'no subsp. *parvifolia* Kon'no, 1967**

Geol. Palaeont. Southeast Asia, vol. 3, p. 159, pl. 26, figs. 6-8

Holotype: VP 937761 Sp. no. F2 [NSM-PP]

Gunong Gagau in southeast Kelantan, Malaya (4 °48'N, 102 ° 39'E)

Gagau Formation

Late Jurassic to Early Cretaceous

***Frenelopsis malaiana* subsp. *tenuis* Kon'no, 1968**

Geol. Palaeont. Southeast Asia, vol. 4, p. 149, pl. 25, fig. 1A

Holotype: F785966-5 [NSM-PP]

Sungei Pertang, Kelantan, Malaya

Gagau Formation

Late Jurassic to Early Cretaceous

***Frenelopsis pombetsuensis* Saiki, 1997**

Paleont. Res., vol. 1, p. 127, text-figs. 2A-E, 3A-I

Holotype: MCM-A573 (Mikasa City Mus.)

Pombetsu valley, Mikasa City, Hokkaido (43 °16'19"N, 141 °59'48"E)

Uppermost strata of main part of Middle Yezo Group

Early Cretaceous (Albian)

***Garrya tsushimense* Matsuo, 1971**

Bull. Natn. Sci. Mus., vol. 14, p. 704, pl. 9, figs. 4, 5

Holotype: NSM-PP 5415

Kushi, Mine-mura, Kami-Agata-gun, Nagasaki Prefecture (34 °25'56"N, 129 °22'13"E)

Taishu Group

Oligocene

***Gaultheria miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 723, pl. 15, figs. 1, 1a

Holotype: AKMG-7119

Miyata, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

***Geonomites yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 420, pl. 5, fig. 2

Holotype: NSM-10455 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Gigantopteris cordata* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 232, pl. 32, fig. 1B

Holotype: IGPS-62777A

Wu-kuei-kang, Fukien Prov., China

Permian

***Gigantopteris fukiensis* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 231, pl. 32, fig. 12C

Holotype: IGPS-62775E

Wu-kuei-kang, Fukien Prov., China

Permian

***Ginkgo diminuta* Ohana et Kimura, 1986**

Proc. Japan Acad., Ser. B, vol. 62, p. 345, fig. 6

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. OM-041

Tanitoge, upper course of Omichidani valley, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture (ca. 36 ° 08'N, 132 °42'E)

Omichidani Formation

Late Cretaceous

***Ginkgoites ? crassinervis* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 213, pl. 32, fig. 8A

Holotype: IGPS-38396

Tao-chia-tun, Chihlin Prov., Manchuria, China

Mesozoic

***Gleditschia tanaii* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 239, pl. 55, fig. 4

Holotype: GKZ-12749

Tsuchikawa, Kashima-gun, Ishikawa Prefecture

Yamatoda Mudstone Member

Middle Miocene [late Early Miocene]

***Gleditsia onodaensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 64, pl. 12, fig. 4

Holotype: AKMG-3717A

Dan, Onoda City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Gleichenites (Gleichenoides) gagauensis* Kon'no, 1967**

Geol. Palaeont. Southeast Asia, vol. 3, p. 146, pl. 25, fig. 1

Holotype: 798655-7 [NSM-PP]

Gunong Gagau in southeast Kelantan, Malaya (4° 48'N, 102° 39'E)

Gagau Formation

Late Jurassic to Early Cretaceous

***Gleichenites nipponensis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 5, p. 202, pl. 3, figs. 2, 3, 3a

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 8509, 8506, 9246, 9248

Kuwashima, Shiramine-mura, Nomi-gun, Ishikawa Prefecture

Tetori Group

Jurassic

***Gleichenites (Gleichenoides) pantiensis* Kon'no, 1967**

Geol. Palaeont. Southeast Asia, vol. 3, p. 147, pl. 25, fig. 5

Holotype: VP. 937761 Sp. no. F2 [NSM-PP]

Gunong Panti in southeast Johore, Malaya (1° 50'N, 103° 55'E)

Panti Formation

Late Jurassic to Early Cretaceous

***Gleichenites (Gleichenoides) stenopinnula* Kon'no, 1967**

Geol. Palaeont. Southeast Asia, vol. 3, p. 148, pl. 25, fig. 7

Holotype: 2KW-Gagau [NSM-PP]

Gunong Gagau in southeast Kelantan, Malaya (4° 48'N, 102° 39'E)

Gagau Formation

Late Jurassic to Early Cretaceous

***Gleichenites yuasensis* Kimura et Kansha, 1978**

Bull. Natn. Sci. Mus., Ser. C, vol. 4, p. 106, pl. 1, fig. 1; text-fig. 1a

Holotype: NSM-PP 7224

Yuasa ?, Yuasa-cho, Arida-gun, Wakayama Prefecture

Arida Formation

Early Cretaceous

***Gleichenoides serratus* Kon'no, 1968**

Geol. Palaeont. Southeast Asia, vol. 4, p. 141, pl. 24, fig. 5

Holotype: F785966-1 [NSM-PP]

Sungei Pertang, Kelantan, Malaya

Gagau Formation

Late Jurassic to Early Cretaceous

***Glochidion japonicum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 485, pl. 13, fig. 5

Holotype: HUMP-25977 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Glossozamites (?) imaii* Endo, 1925**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 7, p. 62, pl. 17, figs. 16, 18, 19

Syntypes: IGPS

Hakobuchi gorge, Yubari City, Hokkaido

Hakobuchi Sandstone [Hakobuchi Group]

Late Cretaceous

***Glyptostroboxylon cunninghamioides* Watari, 1947**

Bot. Mag. Tokyo, vol. 61, p. 11, text-fig.

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 64501, 64504 [TI]

Tajiri, Nima-machi, Nima-gun, Shimane Prefecture

Miocene

(*Taxodioxyloides cunninghamioides* (Watari) Watari, 1966 in Bot. Mag. Tokyo, vol. 79, p. 170)

***Glyptostrobus orientalis* Endo, 1953**

Kumamoto Jour. Sci., Ser. B (Biol. Geol.), no. 2, p. 13, pl. 4, figs. 4, 6

Syntypes: IGPS

Kyushin coal mines, near Kainei, Kankyo-hokudo, Korea

Engelhardtia bed

Early Miocene [Oligocene]

***Glyptostrobus rubenosawaensis* Matsumoto, Ohsawa, M. Nishida et H. Nishida, 1997**

Paleont. Res., vol. 1, p. 87, fig. 8F, G

Holotype: Dept. Earth Sci., Fac. Sci., Chiba Univ., no. 94081402

Itoge-no-taki, Shimokawa-cho, Kamikawa-gun, Hokkaido

Mosanru Formation

Middle Miocene

***Goepertella memoria-watanabei* Oishi et Huzioka, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, p. 164, pl. 35, figs. 1, 1a

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Hongay coal-mine, Tonking, (French Indo-China), Viet-nam

Coal-bearing formation of Tonking

Late Triassic

***Goeppertella varida* Oishi et Huzioka, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 212, pl. 23, figs. 1-3, 3a
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 8889
 Nariwa, Kawakami-gun, Okayama Prefecture
 Nariwa Formation
 Late Triassic

***Gordonia japonica* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 494, pl. 16, fig. 3
 Holotype: HUMP-25998 [NSM-PP]
 Harutori pit, Harutori mine, Kushiro City, Hokkaido
 Harutori Formation
 Early Oligocene [late Middle Eocene]

***Goweria bibaiensis* Tanai, 1990**

Bull. Natn. Sci. Mus. Ser. C, vol. 16, p. 108, pl. 4, fig. 3; text-fig. 4-J, K
 Holotype: NSM-PP 10354
 Rokuno-sawa, Bibai City, Hokkaido
 Noborikawa Formation
 Middle Eocene

***Grewiopsis yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 439, pl. 10, fig. 2
 Holotype: NSM-10480 [NSM-PP]
 Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
 Woodwardia Formation [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]

***Haborosequoia nakajimae* Ohsawa, M. Nishida et H. Nishida, 1992**

Jour. Japan. Bot., vol. 67, p. 73, figs. 1-17
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 890715
 Machiyoizawa, tributary of Haboro River, Haboro-cho, Tomamae-gun, Hokkaido
 Upper Yezo Group
 Cretaceous (Santonian)

***Hamamelis kushiroensis* Tanai, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 66, p. 59, pl. 6, fig. 6
 Holotype: HUMP-25863 [NSM-PP]
 Taiheiyo coal mine, Kushiro City, Hokkaido
 Harutori Formation
 Oligocene [late Middle Eocene]

***Hamamelis parrotioidea* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 275, fig. 14Ea-c
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Ichirizuka in Seto City and Obata in Homi-mura [Toyota City], Aichi Prefecture
Pinus trifolia bed
 Pliocene

***Hamamelis protojaponica* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 27, pl. 5, fig. 3b.
 Holotype: HUMP-25644b [NSM-PP]
 Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
 Shanabuchi Formation
 Late Miocene

***Hausmannia dentata* Oishi, 1933**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 306, pl. 39, figs. 1-4, 5a; pl. 53, figs. 2-3
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3830, 3959, 3971, 3884, 3961
 Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture
 Nariwa Formation
 Late Triassic

***Hausmannia nariwaense* Oishi, 1930**

Japan. Jour. Geol. Geogr., vol. 7, no. 2, p. 52, pl. 7, figs. 2, 2a.
 Holotype: Geol. Inst., Hiroshima Higher Normal School
 Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture
 Nariwa Formation
 Late Triassic

***Hemiptelea mikii* Minaki in Minaki et al., 1988**

Bot. Mag. Tokyo, vol. 101, p. 340, figs. 3, 4a
 Holotype: Dept. Biol., Fac. Sci., Osaka City Univ., no. MM4-21-1
 Loc. 6, Gojyoyama, Nara City, Nara Prefecture
 Osaka Group, Ma2 or another marine bed
 Early to Middle Pleistocene

Hemitrapa hokkaidoensis* (Okutsu) Miki, 1948 see *Trapa hokkaidoensis* Okutsu, 1939**Hemitrapa sachalinensis* (Okutsu) Miki, 1948 see *Trapa sachalinensis* Okutsu, 1939*****Hemitrapa trapelloidea* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 289, pl. 7, fig. D; text-fig. 19D
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Hatagoya in Sue-cho, Mizunami City, Gifu Prefecture;
 Akazu, Seto City, Aichi Prefecture
Pinus trifolia bed
 Pliocene

***Hepaticites oishii* Huzioka et Takahasi, 1973**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 89, p. 25, pl. 7,

figs. 1, 1a, 1b

Holotype: AKMG-7019

Hagimine colliery, Omine coal-field, Mine City, Yamaguchi Prefecture

Momonoki Formation, Mine Group
Triassic (Middle Carnian)

***Heptacodium hokianum* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 40, pl. 9, fig. 1; text-fig. 8A, B

Holotype: TPM-454 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Hidakanthus shiinae* M. Nishida, Ohsawa, H. Nishida, Yoshida et Kanie, 1996**

Res. Inst. Evol. Biol. Sci. Rep., vol. 8, p. 22, figs. 2-13

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 940101

Upper stream of Hidaka-Monbetsu River, Hirotoni, Monbetsu-cho, Saru-gun, Hokkaido
Late Cretaceous

***Hovenia masuzawaensis* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 2, p. 46, pl. 18, fig. 4

Holotype: IAGI-61089

Minamihata-gawa Ma-4, Masuzawa, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°37'25"1N, 140°45'20"E)
Masuzawa Formation
Late Miocene

(*Tetracentron masuzawaense* (Murai) Ozaki, 1987 in Trans. Proc. Palaeont. Soc. Japan, N.S., no. 146, p. 78)

***Hovenia palaeodulcis* M. Suzuki, 1982**

Bot. Mag. Tokyo, vol. 95, p. 290, figs. 18-23

Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71257 [TUSG]

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Huziokaea eoutilis* (Endo) Tanai, 1990 see *Rhamnus eoutilis* Endo, 1968**

***Hydrangea sadoensis* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 16, pl. 4, fig. 7

Holotype: AKMG-3296

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation

Early Miocene

(See also Huzioka, 1964: Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 84)

***Hydrangea sendaiensis* Okutsu, 1940**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 2, p. 630, pl. 33, fig. 1

Holotype: IGPS-60587

Nishizawa, Akyu-mura, Natori-gun, Miyagi Prefecture
Shirasawa Formation
Late Miocene

***Hydrangea shimonosekiensis* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 137, pl. 2, figs. 6, 7

Syntypes: AKMG-6951B, 6971B*

Loc. A, Shimonoseki South High School at Ushiroda, Shimonoseki City, Yamaguchi Prefecture
Hatabu Formation
Middle Miocene

***Hydrodictyon teriarum* Koriba et Miki, 1939**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, p. 62, pl. 5, fig. 6

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Horagatani of Kokusogi, Kurisugawa, Wakayama Prefecture
Late Cretaceous

***Idesia kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 495, pl. 15, fig. 6

Holotype: HUMP-25999 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Ilex daijimaensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 207, pl. 34, fig. 10

Holotype: AKMG-3131

Tachinomatazawa, Utto, Ani-machi, Kita-Akita-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Ilex minusai* Onoe, 1974**

Geol. Surv. Japan, Rep., no. 253, p. 50, pl. 11, fig. 6

Holotype: GSJ-4575a

Loc. A, Oguni-machi, Nishi-Okitama-gun, Yamagata Prefecture

Imaichi Formation

Middle Miocene [late Early Miocene]

***Ilex nagatoensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 66, pl. 14, fig. 1

Holotype: AKMG-3482

Kami-Umeda, Ube City, Yamaguchi Prefecture
Okinoyama Formation

Late Eocene [Middle Eocene]

***Ilex obovata* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 488, pl. 13, fig. 6

Holotype: HUMP-25982 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Ilex ohashii* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 208, pl. 35, fig. 10; pl. 36, fig. 7

Syntypes: AKMG-3132, 3225*

Yamakayakusa, Ani-machi, Kita-Akita-gun and

Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura,

Senboku-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Ilex onoei* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 333, pl. 7, fig. 6; text-fig. 6c, d

Holotype: GSJ-4734

Mogi, Nagasaki City, Nagasaki Prefecture

Mogi (plant-bearing) Formation

Pliocene

***Ilex subcornuta* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 716

Holotype: IGPS-60592 (Okutsu, 1940, Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 2, p. 628, pl. 33, figs. 6, 7;

Ilex cornuta Lindley et Paxton)

Okubushi, Sendai City, Miyagi Prefecture

Shirasawa Formation

Late Miocene

***Indigofera hokiana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 52, pl. 7, figs. 10, 10a; text-fig. 9F

Holotype: NSM-PP 16125

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Jidopteris satohekotoi* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 177, pl. 14, fig. 6

Holotype: IGPS-90123

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Juglans hanamakiensis* Nirei, 1975**

Jour. Geosci., Osaka City Univ., vol. 19, art. 2, p. 33, pl. 1,

figs. 1-5; text-fig. 2

Holotype: Dept. Geosci., Osaka City Univ., no. 2-NIR-1 Mitsusawa-gawa River, between Shibabayashi and

Mitsusawa mining, Hanamaki City, Iwate Prefecture

Lower part of Mitsusawagawa Formation

Pliocene

***Juglans japonica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 275, pl. 6, fig. 10

Holotype: UHR-15127 [NSM-PP]

Kami-Shanabuchi, Engaru-cho, Monbetsu-gun, Hokkaido

Shanabuchi Formation

Late Miocene

(*Pterocarya japonica* (Tanai) Uemura, 1988 in Late Mioc. Fl. NE Honshu, Japan, p. 132)

***Juglans manchurica* Maximowicz var. *tokunagai* Endo, 1936**

Rep. 1st Sci. Exped. Manchoukuo, Sec. 2, pt. 3, p. 3, pl. 1, figs. 1, 8

Syntypes: IGPS

Kokyoton, Kirin Prov., Manchuria, China

Pleistocene

***Juglans manchurica* var. *naorai* Endo, 1936**

Rep. 1st Sci. Exped. Manchoukuo, Sec. 2, pt. 3, p. 4, pl. 1, figs. 10, 11

Syntypes: IGPS

Kokyoton, Kirin Prov., Manchuria, China

Pleistocene

***Juglans mikii* Nirei, 1975**

Jour. Geosci., Osaka City Univ., vol. 19, art. 2, p. 37, pl. 2, figs. 5-9; text-fig. 5 (1-3, 5, 6).

Holotype: Dept. Geosci., Osaka City Univ., no. 2-NIR-4m

Tagawa River (left bank), Tokamachi City, Niigata Prefecture

Ca. 50 m below of Tsukanoyama Tuff, Uonuma Group

Plio-Pleistocene

Juglans miochinensis* (Tanai et Onoe) K. Suzuki, 1961 see *Corylus miochinensis* Tanai et Onoe, 1959)**Juglans sieboldiana* Maximowicz subsp. *hosenjiana*****Kryshstofovich, 1918**

Jour. Geol. Soc. Tokyo, vol. 25, p. 248, pl. 14, figs. 1-6

Syntypes: Depository not designated

Hosenji, Shimosueyoshi, Tsurumi, Yokohama City, Kanagawa Prefecture

Pleistocene

***Juniperoxylon breviparenchymatosum* Watari et M. Nishida, 1973**

Jour. Japan. Bot., vol. 48, p. 154, pl. 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 368401
Shin-Futamata, Tsunoda-mura, Sorachi-gun, Hokkaido
Eocene

***Juniperus honshuensis* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 20, pl. 1, fig. 3
Holotype: GSJ-4072
Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene

***Kadsura protojaponica* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 306, pl. 10, fig. 2
Holotype: HUMP-25971 [NSM-PP]
Mogi, Nagasaki City, Nagasaki Prefecture
Mogi (plant-bearing) Formation
Pliocene

***Kalopanax daiboense* Huzioka, 1974**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 105, pl. 6, fig. 1; text-fig. 8
Holotype: AKMG-5918 [IGSH]
Daibo, Yuya-cho, Otsu-gun, Yamaguchi Prefecture
Hitomaru Formation
Early to Middle Miocene [Oligocene]

***Keraocarpon masatoshii* Ohana, Kimura et Chitaley, 1999**

Paleont. Res., vol. 3, p. 301, figs. 1B, 5, 6
Holotype: INH-021 (Inst. Nat. Hist., Tokyo)
Upper course of Ikushunbetsu River (4 km south of Kumaoizawa), Mikasa City, Hokkaido
Upper Yezo Group
Late Cretaceous (Coniacian-Santonian)

***Keraocarpon yasujii* Ohana, Kimura et Chitaley, 1999**

Paleont. Res., vol. 3, p. 295, figs. 1A, 2-4
Holotype: INH-020 (Inst. Nat. Hist., Tokyo)
Kumaoizawa, Mikasa City, Hokkaido (42°42'N, 142°27'E)
Upper Yezo Group
Late Cretaceous (Coniacian-Santonian)

***Keteleeria ezoana* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 251, pl. 1, fig. 16
Holotype: UHR-15069 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Keteleeria mabetiensis* (Watari) Watari, 1956 see *Pinoxylon mabetiense* Watari, 1941**

***Keteleeria robusta* Miki, 1957**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 8, p. 232, pl. 2, figs. D, E; text-fig. 4B
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Obora and Osusawa in Tokitsu, Toki City, Gifu Prefecture
Pinus trifolia bed
Pliocene

***Kleinhovia basitruncata* (Oishi et Huzioka) Tanai, 1989 see *Marlea basitruncata* Oishi et Huzioka, 1950**

***Koelreuteria eocenica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 437, pl. 14, fig. 5, pl. 25, fig. 6
Holotype: NSM-10559 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizu-sawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Koelreuteria eointegrifolia* Endo, 1942**

Bull. Centr. Natn. Mus. Manch., no. 3, p. 42, pl. 17, fig. 13
Holotype: IGPS
Fushun coal-mine, Manchuria, China
Fushun coal-bearing formation
Paleogene [Eocene]

***Koraia koraiensis* Oishi, 1931**

Japan. Jour. Geol. Geogr., vol. 8, no. 4, p. 355, text-figs. 1, 1a, 2, 3
Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 2366
Jido coal-mine near Heijo, Heian-nando, Northern Korea
Jido Formation
Early Permian

***Koraia obtusa* Oishi, 1931**

Japan. Jour. Geol. Geogr., vol. 8, no. 4, p. 355, text-figs. 4, 4a
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 2367
Jido coal-mine near Heijo, Heian-nando, Northern Korea
Jido Formation
Early Permian

***Kummerowia pseudostrata* Onoe, 1974**

Geol. Surv. Japan, Rep., no. 253, p. 47, pl. 10, fig. 12
Holotype: GSJ-4581
Loc. A, Oguni-machi, Nishi-Okitama-gun, Yamagata Prefecture
Imaichi Formation
Middle Miocene [late Early Miocene]

***Lagerstroemia imamurae* Tanai et Uemura, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 77, pl. 4, fig. 2
Holotype: NSM-PP 10398
Noda, Heki-cho, Otsu-gun, Yamaguchi Prefecture

Kiwado Formation
Late Oligocene

***Larix onbaraensis* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 17, pl. 1, fig. 6
Holotype: GSJ-4060
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Lastrea japonica* Kryshtofovich, 1918**

Jour. Geol. Soc. Tokyo, vol. 25, p. 26, pl. 15, figs. 1, 1a
Holotype: Geol. Inst., Univ. Tokyo
Takashima coal-mines, Nishi-Sonogi-gun, Nagasaki
Prefecture
Tertiary [Eocene]

***Lastrea kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 458, pl. 4,
fig. 3
Holotype: HUMP-25883 [NSM-PP]
Upper course of Tokomuro River, Urahoro-cho, Tokachi-gun,
Hokkaido
Tenneru Formation
Early Oligocene [late Middle Eocene]

***Laurinium iwamiense* Watari, 1952**

Jour. Fac. Sci. Univ. Tokyo, Sec. 3, vol. 6, p. 116, photo. 5;
text-figs. 6A, 7A
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 64404 [TI]
Hanenishi, Kute-machi, Ohda City, Shimane Prefecture
Miocene

***Laurinium kuteense* Watari, 1952**

Jour. Fac. Sci. Univ. Tokyo, Sec. 3, vol. 6, p. 119, photo. 6;
text-figs. 6B, 7B
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 64411 [TI]
Hanenishi, Kute-machi, Ohda City, Shimane Prefecture
Miocene

***Laurinium machiliforme* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 409, photo. 3D; text-fig. 7
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 31144 [TI]
River Mabechi, Samuraimura, Anatai, [Ichinohe-machi],
Ninohe-gun, Iwate Prefecture
[Yotsuyaku Formation]
Late Early Miocene

***Laurophyllum kujianum* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 105, pl. 11,
fig. 1
Holotype: HUMP-26085 [NSM-PP]
Hikage, Kuji City, Iwate Prefecture
Sawayama Formation

Late Cretaceous

***Leea eojaponica* Watari, 1951**

Bot. Mag. Tokyo, vol. 64, p. 1, figs. 1, 2
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 64526,
64527, 64529, 64531, 64533 [TI]
Sakanada, Nima-machi, Nima-gun, Shimane Prefecture
Early Miocene

***Leguminosites oligocenicus* Matsuo, 1970**

Ann. Sci. Kanazawa Univ., vol. 7, p. 29, pl. 8, fig. 1
Holotype: DGLAKZ-13390
Sakito-II pit, Mitsubishi Sakito colliery, Sakito-cho,
Nishi-Sonogi-gun, Nagasaki Prefecture
Sakito Formation
Oligocene [Late Eocene]

***Lepidodendron orientale* Koiwai, 1937**

Jour. Geol. Soc. Japan, vol. 44, p. 343, pl. 7, fig. 1
Syntypes: IGPS
Kaipin coal-mine, North China, etc.

***Lepidodendron yabei* Koiwai, 1937**

Jour. Geol. Soc. Japan, vol. 44, p. 345, pl. 9, figs. 1-4
Syntypes: IGPS
Yajido, Gaito-men, Heian-nando, Korea

***Lepidophloios yajidoensis* Koiwai, 1937**

Jour. Geol. Soc. Japan, vol. 44, p. 348, pl. 11, figs. 1-5
Syntypes: IGPS
Yajido, Gaito-men, Heian-nando, Korea

***Lepidostrobus longiformis* Koiwai, 1937**

Jour. Geol. Soc. Japan, vol. 44, p. 350, pl. 13, figs. 1-3
Syntypes: IGPS
Yajido, Gaito-men, Heian-nando, Korea

***Lepidostrobus yabei* Koiwai, 1937**

Jour. Geol. Soc. Japan, vol. 44, p. 349, pl. 12, figs. 1-2
Syntypes: IGPS
Yajido, Gaito-men, Heian-nando, Korea

***Lespedeza hokiana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 54, pl. 7, figs. 17, 17a;
text-fig. 9A
Holotype: NSM-PP 16123
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Lespedeza tatsumitogeana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 54, pl. 7, figs. 16, 16a;
text-fig. 9B
Holotype: NSM-PP16124

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Libocedrus notoensis* (Matsuo) Ishida, 1970** see *Fokienia notoensis* Matsuo, 1962

***Ligustrum nagatoense* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 143, pl. 3, fig. 8
Holotype: AKMG-6965b
Loc. A, Shimonoseki South High School at Ushiroda,
Shimonoseki City, Yamaguchi Prefecture
Hatabu Formation
Middle Miocene

***Ligustrum oblongatum* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 73, pl. 18, fig. 6
Holotype: AKMG-3766
Kami-Umeda, Ube City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Ligustrum tokunagai* Onoe, 1974**

Geol. Surv. Japan, Rep., no. 253, p. 57, pl. 14, fig. 4
Holotype: GSJ-4607
Loc. A, west of Odo, Oguni-machi, Nishi-Okitama-gun,
Yamagata Prefecture
Imaichi Formation
Middle Miocene [late Early Miocene]

***Lindera hokiana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 37, pl. 3, fig. 7;
text-fig. 1B
Holotype: GSJ-4804
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Lindera miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 712, pl. 10, fig. 2
Holotype: AKMG-7090
Miyata, Nishiki-mura, Senboku-gun, Akita Prefecture
Miyata Formation
Late Miocene

***Liquidambar cordata* (K. Suzuki) Uemura, 1983** see
Liquidambar formosana Hance var. *cordata* K. Suzuki,
1961

***Liquidambar endoi* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 69, pl. 15, fig. 6
Holotype: IGF-1527 [FM]
Ry-4, river cliff in southern valley of Kawadaira,

Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N,
140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Liquidambar formosana* Hance var. *cordata* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 72, pl. 16, fig. 3
Holotype: IGF-5179 [FM]
Az-35, river cliff, upper course of Hara River, ca. 1.3 km SW
of Mt. Tate, Kamisannomiya-machi, Kitakata City,
Fukushima Prefecture (37°40'09"N, 139°49'29"E)
Middle part of Fujitoge Formation
Late Miocene
(*Liquidambar cordata* Uemura, 1983 in Mem. Natn. Sci.
Mus., Tokyo, no. 16, p. 28)

***Liquidambar japonica* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 68, pl. 15, fig. 2
Holotype: IGF-1532 [FM]
Ry-4, river cliff in southern valley of Kawadaira,
Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N,
140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Liquidambar kabutoiwaensis* Horiuchi, 1996**

Sci. Rep. Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 17, p. 167,
fig. 29-1
Holotype: Attached School, Tokyo Gakugei Univ., Oizumi
Campus, no. SKAB325
Southwestern slope of Mt. Kabutoiwa, on the border of
Gunma and Nagano Prefectures
Motojuku Formation
Early Pliocene

***Liquidambar mioformasana* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 327, pl. 20,
fig. 9
Holotype: GSJ-4276
Yamaguchi, Kamigo-machi, Tsuruoka City, Yamagata
Prefecture
Kamigo Formation
Middle Miocene [late Early Miocene]

***Liquidambar protoformasana* Endo var. *eocenica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 435, pl. 24, fig. 4
Holotype: NSM-10544B [NSM-PP]*
Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City,
Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]
(*L. protoformasana* was not validly published)

- Liquidambar yabei* (Morita) Huzioka, 1974** see ***Aralia yabei* Morita, 1933**
- Liriodendron fukushimaensis* K. Suzuki, 1959**
 Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 38, pl. 5, fig. 1
 Holotype: IGF-1148 [FM]
 Loc. Ak2, Tennoji, Iizaka-machi, Shinobu-gun, Fukushima Prefecture
 Tennoji Formation
 Late Miocene
- Liriodendron honsyuensis* Endo, 1934**
 Proc. Imp. Acad., vol. 10, no. 9, p. 591, fig. 1
 Holotype: IGPS-51769
 Nishizawa, Akyu-mura, Natori-gun, Miyagi Prefecture
 Nishizawa plant beds [Shirasawa Formation]
 Late Miocene
- Liriodendron ijimae* Tanai, 1979**
 Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 103, pl. 10, fig. 5
 Holotype: HUMP-26074 [NSM-PP]
 Hikage, Kuji City, Iwate Prefecture
 Sawayama Formation
 Late Cretaceous
- Liriodendron meisenense* Endo, 1939**
 Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 1, p. 345, pl. 23, fig. 12
 Holotype: IGPS-51797
 Kanchin-do, Meisen-gun, Kankyo-hokudo, Korea
 Kanchindo Formation
 Middle Miocene
- Lissopepon meiothroidea* Miki, 1963**
 Jour. Soc. Earthsci. Amateur, Spec. Vol. (1963), p. 92, fig. I
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
 Tokitsu, Toki City, Gifu Prefecture
Pinus trifolia bed
 Pliocene
- Lithocarpoxydon hobashiraishi* (Ogura) M. Suzuki et H. Ohba, 1991** see ***Quercinium hobashiraishi* Ogura, 1932**
- Lithocarpoxydon radiporosum* M. Suzuki et H. Ohba, 1991**
 Jour. Japan. Bot., vol. 66, p. 259, figs. 1, 8-13
 Holotype: Inst. Biol., Coll. Lib. Arts, Kanazawa Univ., no. 71506 [TUSG]
 Isozaki-hana, Shingu-machi, Kasuya-gun, Fukuoka Prefecture
 Lower part of Umi Formation
 Eocene
- Lithocarpus miohypophaea* Tanai, 1953**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 9, p. 2, pl. 1, figs. 2-3
 Syntypes: Geol. Inst., Univ. Tokyo
 Geijitsu, Keisho-hokudo, Korea
 Ennichi Formation
 Middle Miocene
(*Pasania miohypophaea* (Tanai) Huzioka, 1972 in Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 51)
- Lithocarpus protokonishii* Tanai, 1953**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 9, p. 3, pl. 1, fig. 4
 Holotype: Geol. Inst., Univ. Tokyo
 Geijitsu, Keisho-hokudo, Korea
 Ennichi Formation
 Middle Miocene
(*Pasania protokonishii* (Tanai) Huzioka, 1972 in Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 51)
- Litsea onodaensis* Huzioka et Takahasi, 1970**
 Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 57, pl. 9, fig. 1
 Holotype: AKMG-3788
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]
- Lobatannularia ensifolia* Halle var. *nariwaensis* Kobatake, 1954**
 Sci. Rep. Osaka Univ., no. 3, p. 71, figs. 1, 2
 Syntypes: Depository not designated. ? Inst. Geol. Sci., Osaka Univ.
 Kosumi, Oga-mura, Kawakami-gun, Okayama Prefecture
 [Nariwa Group]
 Late Triassic
- Lobatannularia fujiyamae* Kon'no et Asama** in Kon'no, Asama & Rajah, 1970
 Bull. Natn. Sci. Mus., vol. 13, p. 510, pl. 3, fig. 4
 Holotype: NSM-P2-2822 [NSM-PP]
 Gunong Blumut area in central Johore, West Malaysia
 Linggiu Formation
 Late Permian
- Lobatannularia johorensis* Kon'no et Asama** in Kon'no, Asama & Rajah, 1970
 Bull. Natn. Sci. Mus., vol. 13, p. 511, pl. 3, fig. 10
 Holotype: NSM-P2-2813 [NSM-PP]
 Gunong Blumut area in central Johore, West Malaysia
 Linggiu Formation
 Late Permian

***Lobatannularia johorensis* subsp. *minor* Kon'no et Asama**

in Kon'no, Asama & Rajah, 1970
 Bull. Natn. Sci. Mus., vol. 13, p. 512, pl. 5, fig. 2
 Holotype: NSM-P2-2825 [NSM-PP]
 Gunong Blumut area in central Johore, West Malaysia
 Linggiu Formation
 Late Permian

***Lobatannularia multifolia* Kon'no et Asama, 1950**

Short Papers IGPS, no. 1, p. 27, pl. 4, figs. 9-12
 Syntypes: IGPS-72993, 72988, 72992
 Pao-chi-tze and Hsiao-hsi-kou, Penchihu coal-field,
 Manchuria, China
 Tsaichia Formation
 Permian

***Lobatannularia sinensis* var. *curvifolia* Kon'no et Asama, 1950**

Short Papers IGPS, no. 1, p. 26, pl. 4, figs. 5-6
 Syntypes: IGPS-72986
 Yamatomachi, Penchihu coal-field, Manchuria, China
 Liutang Formation
 Permian

***Lobatannularia suntharalingamii* Kon'no et Asama** in Kon'no, Asama & Rajah, 1970

Bull. Natn. Sci. Mus., vol. 13, p. 513, pl. 5, figs. 4-8; text-fig. 9
 Holotype: NSM-P2-2825 [MSM-PP]
 Gunong Blumut area in central Johore, West Malaysia
 Linggiu Formation
 Early Late Permian

***Lonicera protojaponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 57, pl. 18, fig. 5
 Holotype: GSJ-4205
 Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
 Onbara Formation
 Mio-Pliocene

***Lophosoriorhachis japonica* H. Nishida, 1982**

Palaeontographica, vol. 181B, p. 118, pl. 1, figs. 1, 2; pl. 2, figs. 1, 2; pl. 3, fig. 1; pl. 4, figs. 1, 3, 5
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 74027
 Toriake-ura near Inubo-saki, Choshi City, Chiba Prefecture
 (35°41'56"N, 140°51'59"E)
 Choshi Group
 Late Cretaceous (Aptian)

Loxsopteris loxsomoides* (Ogura) M. Nishida et H. Nishida, 1932** see *Solenostelopteris loxsomoides* Ogura,Lygodium mioscandens* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 229, pl. 42, figs. 1, 2
 Holotype: GKZ-10104
 Tsuchikawa, Kashima-gun, Ishikawa Prefecture
 Yamatoda Mudstone Member
 Middle Miocene [late Early Miocene]

***Lythrum tetrasepalum* Miki, 1959**

Proc. Japan Acad., vol. 35, p. 293, figs. 2B, 3Aa
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
 Akazu in Seto City and Obata in Homi-mura [Toyota City],
 Aichi Prefecture
Pinus trifolia bed
 Pliocene
 (*Eotrappa tetrasepala* (Miki) Miki, 1961 in Jour. Biol., Osaka City Univ., vol. 12, p. 112)

***Maackia onoei* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 240, pl. 52, figs. 7, 8
 Syntypes: GKZ-10254, 10413
 Kanmachi, Kashima-gun, Ishikawa Prefecture
 Yamatoda Mudstone Member
 Middle Miocene [late Early Miocene]

***Maackia tanaii* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 62, pl. 11, fig. 11
 Holotype: AKMG-3545
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Maackia ugoensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 87, pl. 14, fig. 1, 1a
 Holotype: AKMG-3911d
 Kayakusa, formerly Kinryuzan coal-mine, Ani-machi,
 Kita-Akita-gun, Akita Prefecture
 Aniai (coal-bearing) Formation
 Early Miocene

***Machilus nathorsti* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 203, pl. 34, fig. 2
 Holotype: AKMG-3103
 Tsuchikumazawa, Shimo-Hinokinai, Hinokinai, Nishiki-mura,
 Senboku-gun, Akita Prefecture
 Utto Formation
 Middle Miocene [late Early Miocene]

***Machilus pasanifolia* Miki, 1970**

Bull. Mukogawa Women's Univ., vol. 18, p. 236, fig. 2A-C
 Syntypes: [OSA]*
 Nakanogawa, Nara City, Nara Prefecture; Hanataka,
 Takasaki City, Gunma Prefecture

Metasequoia beds
Pliocene

***Machilus protojaponica* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 66, pl. 14, figs. 17, 18
Syntypes: IGF-5163, 5164 [FM]
Az-29, ca. 500 m west of Fujitoge, Yanaizu-machi,
Kawanuma-gun, Fukushima Prefecture (37°33'56"N, 139°
43'16"E)
Lower part of Fujitoge Formation
Late Miocene

***Machilus ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 58, pl. 9,
fig. 6
Holotype: AKMG-3514
Kami-Umeda, Ube City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Machilus ugoana* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 203, pl. 34, fig. 4; pl. 40,
fig. 7
Syntypes: AKMG-3094, 3137
Tachinomatazawa, Utto in Ani-machi, Kita-Akita-gun, and
Tsuchikumazawa in Nishiki-mura, Senboku-gun, Akita
Prefecture
Utto Formation
Middle Miocene [late Early Miocene]

***Maesa nipponica* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 498, pl. 18,
fig. 1
Holotype: HUMP-26009 [NSM-PP]
Harutori pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Magnolia elliptica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 40, pl. 12, fig. 1
Holotype: GSJ-4151
Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene

***Magnolia nipponica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 332, pl. 21,
fig. 1
Holotype: UHR-15223 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Magnolia suzukii* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 81, pl. 12, fig. 1
Holotype: IAGI-61115
Yono-sawa Ma-6, Gosho, Shizukuishi-cho, Iwate-gun, Iwate
Prefecture (39°39'4"N, 140°56'40"E)
Masuzawa Formation
Late Miocene

***Magnolia uttoensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 200, pl. 33, fig. 1
Holotype: AKMG-3111
Uttonaizawa, Utto, Ani-machi, Kita-Akita-gun, Akita
Prefecture
Utto Formation
Middle Miocene [late Early Miocene]

***Mahonia lanceifolia* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 125, pl. 20, fig. 5
Holotype: HUMP-25365 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Mallotus hokkaidoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 486, pl. 13,
fig. 8
Holotype: HUMP-25979 [NSM-PP]
Harutori pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

***Mallotus orbiculatus* Tanai, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 104, pl. 1, fig. 2;
text-fig. 3J, K
Holotype: NSM-PP 10349
Reisui-zan, Yubari City, Hokkaido
Ikushunbetsu Formation
Late Eocene [late Middle Eocene]

***Mallotus protojaponicus* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 279, pl. 6, fig. H; text-fig. 16A-C
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Injo, Seto City, Aichi Prefecture
Pinus trifolia bed
Pliocene

***Mallotus protojaponicus* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, 15, pl. 3, fig.
4
Holotype: GYNU-CMP 1037 [KPM]
Inkyoyama, Toki City, Gifu Prefecture
"Yamanouchi facies", Akeyo Formation
Middle Miocene [late Early Miocene]
(Later homonym of *Mallotus protojaponicus* Miki, 1941)

***Mallotus strigosus* Miki, 1966**

Bull. Mukogawa Women's Univ., vol. 14, p. 13, fig. 7A

Syntypes: [OSA]*

Fukuroi, Shizuoka Prefecture; Higashiwakami, Aichi Prefecture; Waza in Wakayama Prefecture

Pleistocene

***Mallotus yubariensis*. Tanai, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 106, pl. 3, fig. 1

Holotype: NSM-PP 10352

Reisui-zan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Eocene [late Middle Eocene]

***Manchurostachys manchuriensis* Kon'no, 1960**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol. no. 4, p. 164, pl. 20, figs. 1, 3

Syntypes: IGPS-78083, 78084*

Ca. 600 m southwest of Paochiaoutze in Penchihu coal-field, northeastern China (41°19'7"N, 123°43'E)

Middle part of Tsaichia Formation

Early Late Permian

***Mangifera takashimense* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 56, pl. 9, fig. 1

Holotype: DGLAKZ-13203

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Marlea basiobliqua* Oishi et Huzioka, 1950**

Illust. Cat. East Asiatic Foss. Pl., p. 171, pl. 49, fig. 8

Holotype: Dept. Geol. Mineral., Hokkaido Univ

Yubari coal-mine, Yubari City, Hokkaido

Woodwardia Sandstone [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

(Alangium basiobliquum (Oishi et Huzioka) Tanai, 1961 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 372;

Plafkeria basiobliqua (Oishi et Huzioka) Tanai, 1989 in Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 135)

***Marlea basitruncata* Oishi et Huzioka, 1950**

Illust. Cat. East Asiatic Foss. Pl., p. 170, pl. 49, fig. 7

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Bibai, Sorachi-gun, Hokkaido

Woodwardia Sandstone [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

(Alangium basitruncatum (Oishi et Huzioka) Tanai, 1970 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 497;

Kleinhovia basitruncata (Oishi et Huzioka) Tanai, 1989 in Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 131)

***Matonistipes mesozoica* M. Nishida, 1973**

Bot. Mag. Tokyo, vol. 86, p. 189, fig. 7A, C

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71028a, b

Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Melia angulatas* Miki in Miki and Sakamoto, 1961**

Jubl. Publ. Commem. Prof. J. Makiyama, p. 262, pl. 2, fig. G

Holotype: [OSA]

Right bank of River Jintsu, Kasuga, Osawano-machi, Kami-Niikawa-gun, Toyama Prefecture

Yatsuo Formation, Hokuriku Group

Middle Miocene

Meliiodendron multistriatum* (Miki) Miki, 1968** see ***Tripterygium multipterium* Miki, 1941**Meliiodendron nipponicum* Miki, 1941** [*'Meliiodendron'*]

Japan. Jour. Bot., vol. 11, p. 294, pl. 7, fig. L; text-fig. 20F

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Injo, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Melodinus japonicus* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 499, pl. 16, fig. 1

Holotype: HUMP-26014 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Meniscoideisporites cretaceae* Watanabe, H. Nishida et Kobayashi, 1999**

Int. Jour. Plant Sci., vol. 160, no. 2, p. 440, fig. 4

Holotype: Lab. Phylog. Bot., Chiba Univ., no. 90704, slide AL25

Kami-kinenbetsu River, Obira-cho, Rumoi-gun, Hokkaido (44°37'N, 141°53'44"E)

Middle Yezo Group

Late Cretaceous (Middle Turonian)

***Menispermites ishikariensis* Tanai, 1981**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 460, pl. 4, fig. 6, text-fig. 4e, f

Holotype: HUMP-26868 [NSM-PP]

Higure-zawa, Ikushunbetsu, Mikasa City, Hokkaido

Ikushunbetsu Formation

Early Oligocene [late Middle Eocene]

***Menispermites kujiensis* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 107, pl. 12, fig. 1

Holotype: HUMP-26092 [NSM-PP]

Oashi, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Menyanthes trifoliata* L. var. *minusculus* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 90, pl. 19, fig. 15a

Holotype: IGF-5404-1 [FM]

Az-70d, upper course of tributary from Koyanaizu River, Oonoshinden, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture (37°39'59"N, 139°57'57"E)

Upper part of Izumi Formation

Pliocene

***Merrilliodendron ezoanum* Tanai, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 114, pl. 3, fig. 2; text-fig. 4L, M

Holotype: NSM-10657 (= NSM-PP 1974)

Dam-site, Shimizusawa, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Eocene [late Middle Eocene]

***Mesembrioxylon chichibuense* M. Nishida et H. Nishida, 1983**

Bot. Mag. Tokyo, vol. 96, p. 87, figs. 2-4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 81101

Valley near Sebayashi, Nakazato-mura, Tano-gun, Gunma Prefecture (36°04'05"N, 138°50'09"E)

Sebayashi Formation

Early Cretaceous (Barremian-Early Aptian)

***Mesembrioxylon nihei-takagii* M. Nishida, 1966**

Bot. Mag. Tokyo, vol. 79, p. 229, figs. 3, 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6307
Near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Mesembrioxylon pseudo-bedfordense* M. Nishida, 1966**

Bot. Mag. Tokyo, vol. 79, p. 232, figs. 7, 8

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 1107
Near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Mesembrioxylon taneichiense* M. Nishida, H. Nishida et Sugiyama, 1993**

Res. Inst. Evol. Biol. Sci. Rep., vol. 7, p. 74, fig. 3A-C

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 827035

Taneichi town, Kunohe-gun, Iwate Prefecture (ca. 40°21'N, 141°45'E)

Taneichi Formation

Late Cretaceous (Santonian-Campanian)

***Metacupressinoxylon breviradiatum* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 384, pl. 1, fig. 1

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6403
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Metacupressinoxylon dacridioides* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 386, pl. 3, fig. 3

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6611
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Metacupressinoxylon nihei-takagii* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 385, pl. 2, fig. 2.

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6502
(= *Metacedroxylon* sp. in Nishida, 1965: Bull. Marine Lab., Chiba Univ., no. 7, p. 70)

Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Metacupressinoxylon pseudotylosissimum* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 387, pl. 4, fig. 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6613
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Metacupressinoxylon tylosissimum* M. Nishida, 1965**

Bot. Mag. Tokyo, vol. 78, p. 140, pl. 2, fig. 3

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6305
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Metasequoia japonica* (Endo) Miki, 1941 see *Sequoia japonica* Endo, 1936**

***Metasequoia kimurae* Oishi et Huzioka, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 587, p. 321, pl. 13, figs. 8-11

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9318
Harutori coal-mine, Kushiro City, Hokkaido
Harutori Formation
Oligocene [late Middle Eocene]

***Metasequoia miocenica* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 275, pl. 1, fig. 3
Holotype: GSJ-4001*

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture
Basal part of Yunagaya Group [Shichiku Formation]
Early Miocene
(The specimen GSJ-4002 (not figured) from Nishitagawa in Yamagata Prefecture was invalidly cited as the type)

***Michelia notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 82, pl. 12, fig. 5

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-324
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Michelia oleifera* M. Suzuki, 1976**

Bot. Mag. Tokyo, vol. 89, p. 62, figs. 2, 3

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71175

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Microtropis protojaponica* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 99, pl. 15, fig. 7

Holotype: IAGI-61025
Sakamoto-gawa SaU-1, Gomyojin, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°42'17"N, 140°52'19"E)
Upper part of Sakamotogawa Formation
Late Miocene

***Mikasastrobis hokkaidoensis* Saiki et Kimura, 1993**

Rev. Palaeobot. Palynol., vol. 76, p. 94, pl. 1, figs. 2, 4, 7, 8; pl. 2, figs. 3, 4, 6; pl. 3, figs. 1, 2; text-fig. 3

Holotype: INH-0007 (Inst. Nat. Hist., Tokyo)
Kumaoizawa valley, Mikasa City, Hokkaido (43°14'40"N, 142°3'15"E)
Upper Yezo Group
Late Cretaceous (Coniacian-Santonian)

***Milletia notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 90, pl. 15, fig. 4

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-418
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Minetaxites ushioi* Naito ex Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 7

Holotype: IGPS-79065b
Hirabara pass, Mine City, Yamaguchi Prefecture (34°10'37"N, 131°10'00"E)
Lower horizon of Momonoki Formation
Middle Triassic (Middle Carnian)
(Kon'no originally designated as *Minetaxites ushioi* (Naito) Kon'no, comb. nov. However, its basionym *Podocarpus ushioi* by Naito (1956) was provisionally and invalidly proposed)

***Mucuna chaneyi* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 91, pl. 22, fig. 3

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-638
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Mucuna e-takahashii* Matsuo, 1976**

Ann. Sci., Coll. Lib. Arts, Kanazawa Univ., vol. 13, p. 106, pl. 3, fig. 3; text-fig. 1

Holotype: DGLAKZ-12953
Kokutetsu-shime colliery, Shime-machi, Kasuya-gun, Fukuoka Prefecture
Paleogene

***Musophyllum nipponicum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 463, pl. 5, fig. 1

Holotype: HUMP-25902 [NSM-PP]
Harutori pit, Harutori mine, Kushiro City, Hokkaido
Harutori Formation
Early Oligocene [late Middle Eocene]

Myrica (Comptonia) kidoi* (Endo) Tanai, 1961 see *Comptonia kidoi* Endo, 1954**Myrica (Comptonia) yanagisawae* Huzioka et K. Suzuki, 1957**

Rep. Taira Chigaku-Dokokai, no. 4, p. 1, text-figs. 1, 1a
Holotype: Iwaki High School, Taira City, Fukushima Pref.
Yumoto coal-mine, Iwaki City, Fukushima Prefecture
Iwaki (coal-bearing) Formation
Oligocene
(*Comptonia yanagisawae* (Huzioka et K. Suzuki) Huzioka, 1961 in Jour. Min. Coll., Akita Univ., Ser. A, vol. 1, no. 1, p. 61)

***Myrica ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 50, pl. 4, fig. 1

Holotype: AKMG-3467A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Myrsine chaneyi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 71, pl. 17, fig. 1

Holotype: AKMG-3533A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Nagatocladus wielandielloides* Ohana, Kimura, Takahashi et Naito, 1996**

Prof. H. Igo Commem. Vol., p. 122, text-fig. 2

Holotype: MCHF (Mine City Mus. Hist. Folklore)

Between Momonoki and Okuhata, Omine-cho, Mine City, Yamaguchi Prefecture

Momonoki Formation, Mine Group

Middle Triassic (Carnian)

***Nagatostrobis linearis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 12, pl. 4, figs. 1, 2

Holotype: IGPS-79072

Okubata, Mine City, Yamaguchi Prefecture (34 °10'25"N, 131 °9'16"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Nagatostrobis minor* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 13, pl. 8, figs. 1, 2

Syntypes: IGPS-78581i, 78581j

Fujiyakochi, Mine City, Yamaguchi Prefecture (34 °12'16"N, 131 °10'2"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Nagatostrobis naitoi* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 14, pl. 5, fig. 1a, b

Holotype: IGPS-79071a

Hirabara pass, Mine City, Yamaguchi Prefecture (34 °10'37"N, 131 °10'00"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Nagatostrobis stenomischoides* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 15, pl.

7, figs. 1, 2, 6

Syntypes: IGPS-78581a, e

Fujiyakochi, Mine City, Yamaguchi Prefecture (34 °12'16"N, 131 °10'2"E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Nageiopsis rhaetica* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 366, pl. 52, figs. 1-2

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3928, 3880

Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Naktongia yabei* Oishi, 1939**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, p. 310, pl. 35, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9252

Pul-tan-kokai near Naktong, N. Keisho-do, Korea

Naktong Formation

Late Jurassic

***Nathorstia oishii* Huzioka, 1939**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 4, p. 473, pl. 55, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7841

Nishinotani near Ryoseki, Nankoku City, Kochi Prefecture

Ryoseki Formation

Early Cretaceous

Nelumbium orientalis* (Matsuo) Matsuo, 1962 see *Nelumbo orientalis* Matsuo, 1954**Nelumbo nipponica* Endo, 1934**

Japan. Jour. Geol. Geogr., vol. 11, nos. 3-4, p. 255, pls. 36-38

Syntypes: IGPS-30981, 44289, 44290

Fukunoura coal-mine, Sakito, Nishisonogi-gun, Saga Prefecture; Saga coal-mine, Karatsu, Higashi-Matsuura-gun, Saga Prefecture; Taihei coal-mine, near Esutoru [Uglegorsk], Saghalien, Russia

Late Paleogene [Late Eocene (Fukunoura and Saga coal-mines; Miocene (Taihei coal-mine)]

***Nelumbo orientalis* Matsuo, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 9, p. 157, pl. 20

Holotype: GKZ-10018

600m west of Sarao, Kami-Ikeda-mura, Imadate-gun, Fukui Prefecture

Sarao Formation

Late Cretaceous

(*Nelumbium orientalis* (Matsuo) Matsuo, 1962 in Sci. Rep. Kanazawa Univ., vol. 8, p. 228)

***Neocalamites koraiensis* Kon'no, 1962**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 5, p. 26, pl. 11, fig. 5; pl. 15, figs. 10, 13

Syntypes: Dept. Geol., Kyushu Univ.

Nongtyong-ni village, ca. 21.5 km west of Phonyang, North Korea (38°59'03"N, 125°29'0"E)

Lower Daido Formation

Triassic-Jurassic (Rhaeto-Liassic)

***Neocalamites minensis* Kon'no et Naito, 1960**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 40, p. 340, pl. 41, figs. 4, 5

Syntypes: IGPS-76237, 76234

Mine City Yamaguchi Prefecture (34°11'N, 131°10'E)

Momonoki Formation

Middle Triassic (Carnian)

***Neocalamites muratae* Kon'no, 1973**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 43, p. 107, pl. 10, figs. 1a, b; pl. 11, figs. 1a-c; text-fig. 4A-C

Syntypes: IGPS-92676, 92682

Osawa, Motoyoshi City, Miyagi Prefecture

Early Triassic (Late Scythian)

***Neolitsea japonica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 337, pl. 22, fig. 8

Holotype: GSJ-4285

Ouchi, Marumori-machi, Igu-gun, Miyagi Prefecture

Uenoyama Formation

Middle Miocene [late Early Miocene]

***Neolitsea protoaciculata* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 66, pl. 14, fig. 19

Holotype: IGF-5171 [FM]

Az-23, river cliff in Sudani valley, ca. 500 m northwest of Futobayashi, Yamato-machi, Yama-gun, Fukushima Prefecture (37°40'00"N, 139°46'54"E)

Lower part of Fujitoge Formation

Late Miocene

***Neolitsea ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 59, pl. 8, fig. 7

Holotype: AKMG-3798E

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Neozamites elongata* Kimura et Sekido, 1971**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 84, p. 192, pl. 24, figs. 1, 2

Holotype: KM-N 1 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun,

Ishikawa Prefecture

Kuwashima sandstone & shale alternation member, Itoshiro Subgroup

Early Cretaceous

***Neozamites intermedius* Nakazawa, Ohana et Kimura in Sun et al., 1993**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 172, p. 272, fig. 4d

Holotype: NSM-PP 9028

Upper course of Okurodani, branch of Okamigo River, Shokawa-mura, Ono-gun, Gifu Prefecture (ca. 36°02'12"N, 136°53'09"E)

Equivalent of Akaiwa Formation

Early Cretaceous

***Neurophyllum koreanicum* Kon'no, 1941**

Mem. Fac. Sci., Kyushu Imp. Univ., Ser. D, vol. 1, p. 24, pl. 1, fig. 1

Holotype: Mus. Geol. Inst. Kyushu Univ.

Anzyo-ri, Daido district, South Heian-do, Korea

Zido Series

Early Permian

***Neuropteridium coreanicum* Koiwai, 1927**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 11, p. 24, pls. 1-2

Syntypes: IGPS

Chikando near Kobosan colliery, Heijo coal-field, Heian-Nando, Korea

Chikando bed, Kobosan Series

Early Triassic [? Permian]

***Neuropteridium kaishanense* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 184, pl. 18, figs. 3, 4; p. 187, pl. 19, figs. 1-3

Syntypes: IGPS-90137, 90138, 90126

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Neuropteridium yokoyamae* Kon'no et Asama in Kon'no, Asama & Rajah, 1970**

Bull. Natn. Sci. Mus., vol. 13, p. 515, pl. 6, figs. 1, 5

Syntypes: NSM-P2-2908, 2910 [NSM-PP]

Gunong Blumut area in central Johore, West Malaysia

Linggiu Formation

Late Permian

***Nilssoniasuwensis* Matsuo, 1962**

Sci. Rep. Kanazawa Univ., vol. 8, p. 213, pl. 6, figs. 1a, 2, 3

Holotype: GKZ-12226

Shizuhara, Kamiikeda-mura, Imadate-gun, Fukui Prefecture

Sarao bed, Asuwa Formation
Late Cretaceous

***Nilssonia dictyophylla* Kimura et Okubo, 1985**

Proc. Japan Acad., Ser. B, vol. 61, p. 430, fig. 1
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. 7309-A15

Isejigaura (Loc. no. 7309 of Obata et al., 1975), Choshi City, Chiba Prefecture
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Nilssonia glossoformis* Matsuo, 1962**

Sci. Rep. Kanazawa Univ., vol. 8, p. 213, pl. 8, figs. 1, 2
Holotype: GKZ-12051

Sarao, Kamiikeda-mura, Imadate-gun, Fukui Prefecture
Sarao bed, Asuwa Formation
Late Cretaceous

***Nilssonia japonica* Kimura et Tsujii, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 129, p. 39
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. A-69028-2*

Iwamuro, Shirasawa-mura, Tone-gun, Gunma Prefecture
Iwamuro Formation
Early Jurassic
(No illustration or figure of the type was shown)

***Nilssonia laciniata* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 193, pl. 22, figs. 6, 7; text-fig. 5

Holotype: IGPS-90157, 90158
Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)
Kaishantun (plant-bearing) Formation
Early Late Permian

***Nilssonia longipinnata* Kimura et Ohana, 1988**

Bull. Natn. Sci. Mus., Ser. C, vol. 14, no. 4, p. 162, pl. 12, fig. 2; text-fig. 24

Holotype: NSM-PP 8311
Bunasaka, Kashima-machi, Soma-gun, Fukushima Prefecture
Tochikubo Formation
Late Jurassic

***Nilssonia oblique-truncata* Kimura et Ohana, 1988**

Bull. Natn. Sci. Mus., Ser. C, vol. 14, no. 4, p. 164, pl. 12, fig. 2; text-fig. 25a

Holotype: NSM-PP 8319
Aratozawa, Haranomachi City, Fukushima Prefecture
Tochikubo Formation
Late Jurassic

***Nilssonia orbiculata* Matsuo, 1962**

Sci. Rep. Kanazawa Univ., vol. 8, p. 212, pl. 7, fig. 1b
Holotype: GKZ-12217

Shizuhara, Kamiikeda-mura, Imadate-gun, Fukui Prefecture
Sarao bed, Asuwa Formation
Late Cretaceous

***Nilssonia pecten* Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, no. 1, p. 83, pl. 7; pl. 8, fig. 2; text-fig. 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6314
Tung-ning, Pinchiang Prov., Manchuria, China
Late Jurassic

***Nilssonia simplex* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 324, pl. 44, figs. 7-9, pl. 55, figs. 1-4

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3949, 3954-3955

Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Nilssonia sinensis* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 224, pl. 35, fig. 2

Syntypes: IGPS-38454, 38417, 38456, 38471
Wei-chia-pu-tsu, Liaoning Prov., Manchuria, China
Mesozoic

***Nilssonia tanakai* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ. no. 3, p. 110, pl. 1, figs. 5-7

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. Kz 0001- Kz 5017

Kizaki, Kami-Anama-mura, Ono-gun, Fukui Prefecture
Kuzuryu Subgroup, Tetori Group
Jurassic

***Nilssonia thailandica* Kon'no et Asama, 1973**

Geol. Palaeont. Southeast Asia, vol. 12, p. 167, pl. 27, fig. 2
Holotype: NSM-PP 5631

Huai Hin Lat (Km 108, Khon Kaen-Loei Highway), Amphae Chun Phae, Changwat Khon Kaen, Thailand
Huai Hin Lat Formation
Late Triassic

***Nilssonia yezoensis* Okubo et Kimura, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 98, pl. 1, fig. 1

Holotype: NSM-PP 6596a
Small gorge of Hatsune-sawa, Yubari City, Hokkaido (43° 05'23"N, 142°05'20"E)
Upper part of Lower Hakobuchi Group
Late Cretaceous

***Nilssoniocladus japonicus* Takimoto, Ohana et Kimura, 1997**

Paleont. Res., vol. 1, p. 183, fig. 3B
 Holotype: KHFM-210003 (Kashima Hist. Folklore Mus.)
 Near Koyamada, Kashima-machi, Soma-gun, Fukushima Prefecture (ca. 37°41'46"N, 140°54'16"E)
 Tochikubo Formation
 Late Jurassic (Oxfordian)

***Nilssoniocladus tairae* Takimoto, Ohana et Kimura, 1997**

Paleont. Res., vol. 1, p. 182, fig. 1A
 Holotype: KHFM-210007 (Kashima Hist. Folklore Mus.)
 Near Koyamada, Kashima-machi, Soma-gun, Fukushima Prefecture (ca. 37°41'46"N, 140°54'16"E)
 Tochikubo Formation
 Late Jurassic (Oxfordian)

***Nipponoptilophyllum bipinnatum* Kimura et Tsujii, 1984**

Proc. Japan Acad., Ser. B, vol. 60, p. 385, figs. 1-3
 Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. ARA-875 [NSM-PP 8947]
 Aratozawa, Haranomachi City, Fukushima Prefecture
 Tochikubo Formation
 Jurassic (Oxfordian)

***Nipponoptilophyllum ryosekiense* Ohana et Kimura, 1989**

Asian Jour. Pl. Sci., vol. 1, no. 2, p. 54, figs. 3, 4, 13, 15
 Holotype: Makino Bot. Gard., Kochi, no. 18042
 Ca. 700 m southwest of Ryoseki, Nankoku City, Kochi Prefecture (33°36'49"N, 133°38'20"E)
 Lower part of Monobe Formation
 Early Cretaceous (Early Barremian)

***Nitella notoensis* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 228, pl. 41, fig. 1
 Holotype: GKZ-12701a
 Kanmachi, Kashima-gun, Ishikawa Prefecture
 Yamatoda Mudstone Member
 Middle Miocene [late Early Miocene]

Nymphar ebae* (Huzioka) Ozaki, 1978 see *Nuphar ebae* Huzioka, 1964**Nuphar akashiensis* Miki, 1937**

Japan. Jour. Bot., vol. 8, p. 315, pl. 8, fig. D; text-fig. 4E-F
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Nakayagi-Yagi, Akashi City, Hyogo Prefecture
 Pliocene [Early Pleistocene]

***Nuphar ebae* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A., vol. 3, no. 4, p. 82, pl. 12, figs. 1, 1a
 Holotype: AKMG-5163
 Miyasaka, Kani-gun [Kani City], Gifu Prefecture

Nakamura Formation

Early Miocene

(*Nymphar ebae* (Huzioka) Ozaki, 1978 in Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 25, p. 17)

***Nymphaeites trapelloides* Matsuo, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 40, p. 331, pl. 38, figs. 2, 2a
 Holotype: GKZ-10096
 Road side near tunnel of Tanitoge, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture
 Omichidani Formation
 Late Cretaceous

***Nymphoides oblonga* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 116, pl. 3, fig. D; text-fig. 10Ab
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
 Shinmachi of Tsu City, Mie Prefecture; Tokonabe, Aichi Prefecture
Liquidambar bed; *Glyptostrobus* bed
 Pliocene ?

***Nyssa japonica* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 146, pl. 24, fig. 2
 Holotype: HUMP-25414 [NSM-PP]
 Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
 Yoshioka Formation
 Middle Miocene [late Early Miocene]
 (*Camptotheca japonica* (Tanai et N. Suzuki) Tanai, 1977 in Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 510)

***Nyssa pachycarpa* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 292, pl. 7, fig. Ka; text-fig. 19E
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Ichinokuraguchi, Tajimi City, Gifu Prefecture
Pinus trifolia bed
 Pliocene

***Nyssa rugosa* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 287, pl.-fig. D; text-fig. 5A-F
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Hosono in Turusato, Okusa in Mizunami and Yamanotagawa in Naeki, Gifu Prefecture
 Early Pliocene

***Nyssonoxylon ishikariense* M. Suzuki, 1975**

Jour. Japan. Bot., vol. 50, p. 230, pl. 4; text-figs. 2, 3
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 362001
 Rokuji, Utashinai, Hokkaido
 Yubari Formation, Ishikari Group
 Eocene [Middle Eocene]

***Obirastrobus kokubunii* Ohsawa, M. Nishida et H. Nishida, 1992**

Bot. Mag. Tokyo, vol. 105, p. 462, figs. 1-6
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 879918
 Riverbed of River Obirashibe, upstream of Tengu bridge, Kawakami, Obira-cho, Rumoi-gun, Hokkaido (44 °03'10"N, 141 °53'45"E)
 Upper Yezo Group
 Cretaceous (Senonian)

***Obirastrobus nihongii* Ohsawa, M. Nishida et H. Nishida, 1992**

Bot. Mag. Tokyo, vol. 105, p. 470, figs. 7-11
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 860932
 Kami-Ashibetsu, Ashibetsu City, Hokkaido (43 °29'30"N, 142 °13'04"E)
 Middle or Upper Yezo Group
 Late Cretaceous

***Oguraxylon pseudoyubariense* M. Nishida et H. Nishida, 1984**

Jour. Japan. Bot., vol. 59, p. 51, pl. 2
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 823513
 Small stream near south end of Sanyu tunnel, Oyubari, Yubari City, Hokkaido (43 °09'26"N, 142 °05'10"E)
 Upper Yezo Group
 Late Cretaceous (Turonian)

***Oguraxylon yubariense* M. Nishida, 1974**

Bot. Mag. Tokyo, vol. 87, p. 113, figs. 1, 2
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 68012
 Hakobuchi, Yubari City, Hokkaido (43 °00'02"N, 142 °01'27"E)
 Middle or Upper Yezo Group
 Late Cretaceous

Onychiopsis yokoyamai* (Yabe) Kimura et Aiba, 1986 see *Sphenopteris yokoyamai* Yabe, 1927**Orites chinensis* Endo, 1942**

Bull. Centr. Natn. Mus. Manch., no. 3, p. 43, pl. 16, fig. 7
 Holotype: IGPS
 Fushun coal-field, Fengtien Prov., China
 Fushun coal-bearing formation
 Paleogene [Eocene]

***Osmanthus chaneyi* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 242, pl. 54, figs. 2, 3
 Holotype: GKZ-10419
 Kanmachi, Kashima-gun, Ishikawa Prefecture

Yamatoda Mudstone Member
 Middle Miocene [late Early Miocene]

***Osmunda asuwensis* Matsuo, 1962**

Sci. Rep. Kanazawa Univ., vol. 8, p. 197, pl. 4, figs. 1, 2
 Holotype: GKZ-12225
 Sarao, Kamiikeda-mura, Imadate-gun, Fukui Prefecture.
 Sarao bed, Asuwa Formation
 Late Cretaceous

***Osmunda bromeliaefolioides* Matsuo, 1953**

Sci. Rep. Kanazawa Univ., vol. 2, p. 141, fig. 1
 Holotype: GKZ-10001a
 Kanmachi, Kumaki-mura, Kashima-gun, Ishikawa Prefecture (37 °7'5"N, 136 °50'24"E)
 Nanao Formation [Yamatoda Mudstone Member]
 Middle Miocene [late Early Miocene]

***Osmunda japonica* Thunberg subsp. *fossilis* Oishi et Huzioka, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, p. 179, pl. 39, figs. 1-4, 4a, 5-8
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 8850-8852, 8856, 8858
 Takikawa, Naie-gawa and Sannosawa near Miruto, Sorachi-gun; Shakonosawa, Yubari-gun, Hokkaido
Woodwardia Sandstone [Ikushunbetsu Formation]
 Paleogene [late Middle Eocene]

***Osmunda kuragatakensis* Matsuo, 1953**

Sci. Rep. Kanazawa Univ., vol. 2, p. 143, fig. 6
 Holotype: GKZ-10004
 Kuragatake, Kanazawa City, Ishikawa Prefecture (36 °28'19"N, 136 °38'47"E)
 Basal part of "Green tuff beds"
 Early Miocene

***Osmunda tsunenomoriensis* Matsuo, 1953**

Sci. Rep. Kanazawa Univ., vol. 2, p. 142, fig. 3
 Holotype: GKZ-10003
 Tsunenomori, Kunimi-mura, Nyu-gun, Fukui Prefecture
 Tobu Formation
 Middle Miocene [late Early Miocene]

***Osmundites nihongii* Yoshida, M. Nishida et H. Nishida, 1996**

Res. Inst. Evol. Biol. Sci. Rep., vol. 8, p. 49, figs. 1-8
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 911750
 Kumaoui-zawa, Ikushunbetsu, Mikasa City, Hokkaido (43 °14'25"N, 142 °03'05"E)
 Upper Yezo Group
 Late Cretaceous (Coniacian-Santonian)

***Osmundopsis nipponica* Kimura et Tsujii, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 120, p. 462, fig. 5

Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NE-021

Neiridani, branch of Daira-gawa, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture

Negoya Formation, Kuruma Group

Early Jurassic

***Ostrya aizuana* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 47, pl. 10, figs. 6, 7

Syntypes: IGF-5006, 5007 [FM]

Az-1, cliffs of Yukawa River, ca. 50 m south of Higashiyama Primary School, Innai, Higashiyama-machi, Aizuwakamatsu City, Fukushima Prefecture (37°28'42"N, 139°57'28"E)

Lower part of Tamaji Formation

Middle Miocene

***Ostrya huziokai* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 302, pl. 8, fig. 2

Holotype: GSJ-4237

Hiyoshi, Mizunami City, Gifu Prefecture

"Nakamura" (coal-bearing) Formation

Early Miocene

***Ostrya japonica* Sargent subsp. *oblongibracteata* Huzioka, 1943**

Jour. Geol. Soc. Japan, vol. 50, p. 289, pl. 14, figs. 1, 1a, 2

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Abura, Setana-cho, Setana-gun, Hokkaido

"Kunnui" Formation

Middle Miocene [late Early Miocene]

***Ostrya shiragiana* Huzioka, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 13, p. 121, pl. 13, figs. 7-8

Syntypes: Dept. Geol. Mineral., Hokkaido Univ.

Kinkodo, Usen-men, Geijitsu-gun, N. Keisho-do, Korea

Ennichi Series

Middle Miocene

***Ostrya stenocarpa* Miki, 1963**

Jour. Soc. Earthsci. Amateur, Spec. Vol. (1963), p. 92, fig. B

Syntypes: Dept. Biol., Osaka City Univ. [OSA]*

Injo, Seto City, Aichi Prefecture; Hatagoya, Mizunami City Gifu Prefecture

Pinus trifolia bed

Early Pliocene

***Ostrya subjaponica* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 48, pl. 10, fig. 5

Holotype: IGF-5125 [FM]

Az-22a, river cliff of Ichinoki River, Shiroko lignite mine, ca. 600 m SW of Shiroko, Yamato-machi, Yama-gun, Fukushima Prefecture (37°40'13"N, 139°47'02"E)

Lower part of Fujitoge Formation

Late Miocene

***Ostrya subvirginiana* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, p. 279, pl. 3, fig. 4

Holotype: GSJ-4027

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture

Basal part of Yunagaya Group [Shichiku Formation]

Early Miocene

***Ostrya uttoensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 195, pl. 40, fig. 6

Holotype: AKMG-3203

Onimatazawa, Kami-Hinokinai, Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Otozamites fujimotoi* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ. no. 3, p. 23, text-figs. 12-13, pl. 12, figs. 2-4, 6

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. A-2064, 4094, 2066, 2065, 2037, 2054, 2055, 2068, 2081, 4090, 2053, 2088, 2091

South of Iwamuro along Katashina-gawa, Shirasawa-mura, Tone-gun, Gunma Prefecture

Iwamuro Formation

Jurassic (Lias)

***Otozamites gagauensis* Kon'no, 1968**

Geol. Palaeont. Southeast Asia, vol. 4, p. 142, pl. 25, fig. 5

Holotype: 798656-8 [NSM-PP]

Sungei Pertang, Kelantan, Malaya

Gagau Formation

Late Jurassic to Early Cretaceous

***Otozamites huzisawae* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 89, pl. 11, figs. 1, 1a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7911

Loc. 47 (Kamihina), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Otozamites kerae* Ohana et Kimura, 1991**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 164, p. 945, figs. 2A-D, 3-7

Holotype: INH-1A (Inst. Nat. Hist., Tokyo)

Talus at middle course of Kamimakizawa (eastern branch of Shuparo River), Kashima, Yubari City, Hokkaido (ca. 43°

07°43'N, 142°08'05"E)
Upper Yezo Group
Late Cretaceous (mostly Coniacian-Santonian)

***Otozamites kondoi* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, nos. 2-4, p. 329, pl. 30, fig. 1
Holotype: IGPS
Oshima, Kesenuma City, Miyagi Prefecture
Oshima Formation
Late Jurassic

***Otozamites lancifolius* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 318, pl. 42, figs. 6, 6a
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4063
Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Otozamites micropinnatus* Kimura, Naito et Ohana, 1986**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 244, p. 530, pl. 99, fig. 2; text-fig. 2a
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. N1983
Ishimachi, Toyora-cho, Toyora-gun, Yamaguchi Prefecture
Nishinakayama Formation
Early Jurassic

***Otozamites neiridaniensis* Kimura et Tsujii, 1982**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 125, p. 261, pl. 42, fig. 1; text-fig. 3a
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NEE-095
Higashi-Neiridani, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation, Kuruma Group
Early Jurassic

***Otozamites pseudoanglica* Kimura et Sekido, 1976**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 101, p. 294, pl. 30, fig. 4; text-fig. 3
Holotype: KM-71003 (Komatsu City Mus.)
Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun, Ishikawa Prefecture
Kuwashima sandstone & shale alternation member, Oguchi Formation
Early Cretaceous

***Otozamites takahashii* Ohana et Kimura, 1991**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 164, p. 961, figs. 8-13
Holotype: INH-4A (Inst. Nat. Hist., Tokyo)
Nakakinenbetsu valley, tributary of Obirashibe River,

Obira-cho, Rumoi-gun, Hokkaido (ca. 44°03'30"N, 141°55'51"E)
Upper Yezo Group
Late Cretaceous (mostly Coniacian-Santonian)

***Palaeocarya koreanica* (Oishi) Manchester, 1987 see *Engelhardia koreanica* Oishi, 1936**

***Palaeodiplodites yezoensis* Watanabe, H. Nishida et Kobayashi, 1999**

Int. Jour. Plant Sci., vol. 160, no. 2, p. 440, fig. 5
Holotype: Lab. Phylog. Bot., Chiba Univ., no. 90704, slide AL8
Kami-Kinenbetsu River, Obira-cho, Rumoi-gun, Hokkaido (44°37'N, 141°53'44"E)
Middle Yezo Group
Late Cretaceous (Middle Turonian)

***Palaeoipomoea fukuensis* Matsuo, 1956**

Sci. Rep. Kanazawa Univ., vol. 4, p. 282, fig. 1; text-fig. 1
Holotype: GKZ-10049
Gunzaki, Koshino-mura, Nyu-gun, Fukui Prefecture
Kunimi Formation
Middle Miocene [late Early Miocene]

***Palaeovittaria ? koreanica* Oishi, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., vol. 14, no. 2, A, p. 117, pl. 36, fig. 26
Holotype: IGPS-38083
Yoho, Ringen-men, Daido-gun, Heian-Nando, Korea

***Palaeovittaria parvifolia* Kon'no, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 153, pl. 8, fig. 11
Holotype: Geol. Inst., Univ. Tokyo, no. TF329-7B
Khlung Wang Ang, ca. 50 km SSW of Phetchabun, Thailand (15°58'55"N, 100°58'36"E)
Unnamed plant-bearing bed
Permian

***Paleodavidia multipterium* (Miki) Miki, 1956 see *Tripterygium multipterium* Miki, 1941**

***Paleodictyon robustum* Koriba et Miki, 1939**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 1, p. 62, pl. 5, fig. 7
Holotype: Dept. Biol., Osaka City Univ. [OSA]
Horagatani of Kokusogi, Kurisugawa, Wakayama Prefecture
Late Cretaceous

***Paleodictyon tenue* Koriba et Miki, 1939**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 1, p. 61, pl. 5, fig. 4
Holotype: Dept. Biol., Osaka City Univ. [OSA]
Horagatani of Kokusogi, Kurisugawa, Wakayama Prefecture

Late Cretaceous

***Paliurus akitanus* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 211, pl. 37, figs. 7, 7a; pl. 38, fig. 3

Syntypes: AKMG-3143, 3114

Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura, Senboku-gun; Uttonaizawa, Utto, Ani-machi, Kita-Akita-gun, Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Paliurus koreanus* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 68, pl. 9, fig. 4

Holotype: IGPS-92430-a

Pohang, Kyongsang-bukdo, Korea

Yeonil Shale, Yeonil Group

Middle Miocene

***Paliurus nipponicus* Miki, 1933**

Bot. Mag. Tokyo, vol. 47, p. 624, pl.-figs. Q-U; text-fig. 2F-J

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Obakuzan, Uji City, Kyoto Prefecture

Pleistocene

***Paliurus protonipponicus* K. Suzuki, 1960**

Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol., no. 4, p. 319, pl. 33, figs. 5-7

Syntypes: IGF-5215, 5216, 5217* [FM]

Loc. Az-29, road-cutting ca. 300 m northwest of Fujitoge, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture

Lower part of Fujitoge Formation

Late Miocene

***Paliurus ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 67, pl. 14, fig. 4

Holotype: AKMG-3419

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Palmoxylon kagaense* Ogura, 1955**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 19, p. 87, figs. 1-2

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

River Asano, Kanazawa, Ishikawa Prefecture

Prob. Miocene

***Palmoxylon maedae* Ogura, 1952**

Trans. Proc. Palaeont. Soc. Japan, N. S. no. 8, p. 229, pl. 21, figs. 1-6; text-figs. 1-3

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Kenroku Park at Kanazawa, Ishikawa Prefecture

Prob. Miocene

***Parabenzoin cuneata* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 59, pl. 10, fig. 1

Holotype: AKMG-3759

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Parabenzoin eotrilobum* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 50, pl. 6, fig. 4

Holotype: DGLAKZ-13481

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun,

Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Paracalamites manchuriensis* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 166, pl. 12, fig. 1

Holotype: IGPS-90103

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Paracupressinoxylon cryptomeriopsoides* Shimakura, 1937**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, p. 38, pl. 10, figs. 1-5

Syntypes: IGPS-58498

Kawakami coal-mine, Kawakami-mura, Toyohara-gun [Sinegorsk], Saghalien, Russia

"Urakawa Formation"

Late Cretaceous (Senonian)

***Paracupressinoxylon shimakurae* M. Nishida, 1965**

Bot. Mag. Tokyo, vol. 78, p. 41, pl. 3, fig. 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6323

Toriakemama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Paracyathocaulis ogurae* (Hashimoto) H. Nishida, 1989**
see *Cyathocaulis ogurae* Hashimoto, 1971

***Paralygodium yezoense* Yoshida, H. Nishida et M. Nishida, 1997**

Res. Inst. Evol. Biol. Sci. Rep., vol. 9, p. 1, figs. 1-7; text-fig. 1

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 901420

River bed of Obirashibe River, Obira-cho, Rumoi-gun, Hokkaido (44°05'43"N, 141°58'13"E)

Middle or Upper Yezo Group

Late Cretaceous

***Paraphyllanthoxylon kobense* M. Suzuki, 1984**

Jour. Japan. Bot., vol. 59, p. 275, pls. 6, 7
 Holotype: Inst. Biol., Coll. Lib. Arts, Kanazawa Univ., no. 67001 [TUSG]
 Suzurandai, Kobe City, Hyogo Prefecture
 Shirakawa Formation, Kobe Group
 Miocene [Oligocene]

***Parasphenophyllum okafujii* Asama et Oishi, 1980**

Bull. Natn. Sci. Mus., vol. 6, p. 117, fig. 2
 Holotype: MMHF2-00004 (Mine City Mus. Hist. Folklore)
 Omine colliery, Omine-cho, Mine City, Yamaguchi Prefecture
 Fujiyakawachi coal bed of Momonoki Formation
 Late Triassic (Carnian)

***Parataiwania nihongii* M. Nishida, Ohsawa et H. Nishida, 1992**

Jour. Japan. Bot., vol. 67, p. 2, figs. 1-4
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 860202
 Kumaoui-zawa River, Ikushunbetsu, Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)
 Upper Yezo Group
 Cretaceous (Coniacian-Santonian)

***Paratrizygia maiyaensis* Asama, 1970**

Bull. Natn. Sci. Mus., vol. 13, p. 309, pl. 5, fig. 1
 Holotype: NSM-P1-18019 [MSM-PP]
 Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture
 Nishikori Formation
 Early Permian

***Paratrizygia uedae* Asama, 1970**

Bull. Natn. Sci. Mus., vol. 13, p. 311, pl. 7, fig. 9
 Holotype: NSM-P1-18044 [NSM-PP]
 Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture
 Nishikori Formation
 Early Permian

***Pasania chaneyi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 53, pl. 7, fig. 1
 Holotype: AKMG-3504
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Pasania imamurae* Huzioka, 1974**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 95, pl. 1, fig. 5; text-fig. 2
 Holotype: AKMG-8113 [IGSH]

Daibo, Yuya-cho, Otsu-gun, Yamaguchi Prefecture
 Hitomaru Formation
 Early to Middle Miocene [Oligocene]

***Pasania matsumotoi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 53, pl. 6, fig. 1
 Holotype: AKMG-3527
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Pasania miohypophaea* (Tanai) Huzioka, 1972 see *Lithocarpus miohypophaea* Tanai, 1953**

***Pasania protokonishii* (Tanai) Huzioka, 1972 see *Lithocarpus protokonishii* Tanai, 1953**

***Pasania ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 54, pl. 6, fig. 6
 Holotype: AKMG-3573
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Patrinia hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 42, pl. 9, fig. 3; text-fig. 9
 Holotype: TPM-489 (Tottori Pref. Mus.)
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

***Paulownia hondoensis* (Watari) Watari, 1952 see *Paulownioxylon hondoense* Watari, 1948**

***Paulownia pacificana* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 68, pl. 8, fig. 1
 Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-55a)
 Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
 Oarai Formation
 Late Cretaceous

***Paulownioxylon hondoense* Watari, 1948**

Japan. Jour. Bot., vol. 13, p. 511, photo. 2C, D; text-figs. 6, 7
 Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 64410 [TI]
 Hanenishi, Kute-machi, Ohda City, Shimane Prefecture
 Miocene
 (*Paulownia hondoensis* (Watari) Watari, 1952 in Jour. Fac. Sci. Univ. Tokyo, Sec. 3, vol. 6, p. 133)

***Pecopteris kaishanensis* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 179, pl. 13, fig. 7

Holotype: IGPS-90126

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Pecopteris rigida* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 226, pl. 32, fig. 5B

Holotype: IGPS-62775b

Wu-kuei-kang, Fukien Prov., China

Permian

***Pecopteris samaropsis* Ogura, 1948**

Proc. Japan Acad., vol. 24, no. 10, p. 1, figs. 1-4

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Sanchiatzu, Penhsihu coal-field, Manchuria, China

Sanchiahui Series

Late Permian

***Pecopteris (Ptychocarpus) subcontigua* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 181, pl. 14, figs. 4, 5

Syntypes: IGPS-90122, 90130

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Pecopteris toyomaensis* Asama, 1989**

Bull. Natn. Sci. Mus., vol. 15, p. 39, pl. 1, fig. 2

Holotype: NSM-PP 5707

Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture

Nishikori Formation

Early Permian

***Pecopteris yinii* Kon'no et Asama in Kon'no, Asama & Rajah, 1970**

Bull. Natn. Sci. Mus., vol. 13, p. 519, pl. 7, figs. 1, 2

Syntypes: NSM-P2-2934, 2987 [NSM-PP]

Gunong Blumut area in central Johore, West Malaysia

Linggiu Formation

Late Permian

***Perrottetia notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 95, pl. 20, fig. 5

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-606

Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Phellodendron mioamurense* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 134, pl. 22, fig. 10

Holotype: HUMP-25560 [NSM-PP]

Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido

Fukuyama Formation

Early Miocene

***Philadelphus hokiensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 40, pl. 2, fig. 4; text-fig. 3B, C

Holotype: NSM-PP 16228

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Phlebopteris pentaphylla* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, nos. 2-4, p. 204, pl. 3, fig. 5

Holotype: IGPS

Komo, Naka-gun, Tokushima Prefecture

Ryoseki Formation

Early Cretaceous (Wealden)

***Phlebopteris takahasii* Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 144, text-figs. A-C

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7839

Ishi-machi, Toyora-gun, Yamaguchi Prefecture

Nishi-Nakayama Formation

Jurassic (Late Lias)

***Phoebe mioformasana* Tanai, 1952**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 8, p. 233, pl. 22, fig. 5

Holotype: Geol. Inst., Univ. Tokyo

Geijitsu, Keisho-hokudo, Korea

Ennichi Formation

Middle Miocene

Phoroxylon japonicum* (M. Nishida) M. Suzuki, Johshi et Noshiro, 1991 see *Tetracentron japonica* M. Nishida, 1962**Phyllanthinium pseudo-hobashiraishi* Ogura, 1932**

Japan. Jour. Bot., vol. 6, no. 2, p. 183, pl. 4; text-figs. 1-4

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Najima, Fukuoka City, Fukuoka Prefecture

Paleogene

***Phyllocladoxylon heizyoense* Shimakura, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 18, no. 3, p. 281, pl. 16, figs. 4-6; pl. 17, figs. 1-5

Syntypes: IGPS- 6871-6879

Campus of Heijo Middle School, Heijo, Korea

Middle Daido Formation

Middle ? Jurassic

***Phyllocladus manchoukuoensis* Endo, 1942**

Bull. Centr. Natn. Mus. Manch., no. 3, p. 38, pl. 16, fig. 10

Holotype: IGPS

Fushun coal-field, Fengtien Prov., China

Fushun coal-bearing formation

Paleogene [Eocene]

***Phytocrene ozakii* Tanai, 1990**

Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 115, pl. 5, fig. 2;

text-fig. 4A, B

Holotype: NSM-PP 10359

Reisui-zan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Eocene [late Middle Eocene]

***Picea garoensis* Tanai et N. Suzuki, 1972**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 15, p. 321, pl. 1, fig. 23

Holotype: HUMP-26070 [NSM-PP]

Garozawa, Kitahiyama-machi, Setana-gun, Hokkaido

Futoro Formation

Early Miocene

***Picea hiyamensis* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 99, pl. 2, fig. 18

Holotype: HUMP-25501 [NSM-PP]

Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido

Fukuyama Formation

Early Miocene

***Picea kaneharai* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 17, pl. 1, fig. 9

Holotype: GSJ-4062

Ningyo-toge, Misasa-cho, Tohaku-gun, Tottori Prefecture

Ningyo-toge Formation

Pliocene

***Picea kanoi* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 61, pl. 1, fig. 13

Holotype: AKMG-3994

Shirakami, upper course of Tsubai River, Iwasaki-mura,

Nishi-Tsugaru-gun, Aomori Prefecture

Iwadate (coal-bearing) Formation

Early Miocene

(The species was validly published in Huzioka (1964), though the epithet *kanoi* appeared in Huzioka and Nishida (1960, Publ. Sado Mus., no. 3, p. 10) and Tanai (1961, Jour. Fac. Sci., Hokkaido Univ., Ser. A, vol. 11, p. 252))

***Picea koribai* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 131, pl. 2, figs. A-E

Syntypes: Inst. Biol., Osaka City Univ. [OSA]

Toge, Hashimoto City, Wakayama Prefecture; Tsukiyoshi,

Akeyo-mura [Mizunami City], Gifu Prefecture

Metasequoia bed; [Mizunami Group]

Pliocene; Miocene

***Picea latibracteata* Miki, 1957**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 8, p. 241, pl. 5, figs. D, E; text-fig. 5G

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa, Tokitsu, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Picea miocenica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 253, pl. 1, fig. 15

Holotype: GSJ-4211

Hiyoshi, Mizunami City, Gifu Prefecture

Nakamura (coal-bearing) Formation

Early Miocene

***Picea nakauchii* Matsumoto, Ohsawa et H. Nishida, 1994**

Jour. Japan. Bot., vol. 69, p. 388, figs. 2, 3.

Holotype: Dept. Earth Sci., Fac. Sci., Chiba Univ., no. 870109

Rubeno-sawa, branch of Sanru River, Shimokawa-cho, Kamikawa-gun, Hokkaido (44°19'23"N, 142°43'08"E)

Mosanru Formation

Late Middle Miocene

***Picea palaeomaximowiczii* Watari, 1956**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 419, photo. 1; text-fig. 1

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 35019 [TI]

Yutagawa, Nishitagawa-gun, Yamagata Prefecture

Early to Middle Miocene

***Picea sohmae* K. Suzuki, 1991**

Saito-Ho-on Kai Mus. Res. Bull., no. 59, p. 9, pl. 1, figs. 1-3, 6, 7

Syntypes: FM (Fukushima Pref. Mus.)*

Kitayachi and Miyanomae, Fukushima City, Fukushima Prefecture

Shimizumachi Formation

Pliocene

***Picea sugaii* Tanai et Onoe, 1959**

Bull. Geol. Surv. Japan, vol. 10, no. 4, p. 276, pl. 1, fig. 7

Holotype: GSJ-4055

Shichiku, Ono-mura, Iwaki-gun, Fukushima Prefecture

Basal part of Yunagawa Group [Shichiku Formation]

Early Miocene

***Picea ugoana* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 62, pl. 1, figs. 17, 17a

Holotype: AKMG-3846

Formerly Ooani coal-mine, Nekko, Ani-machi, Kita-Akita-gun, Akita Prefecture

Aniai (coal-bearing) Formation

Early Miocene

(The species was validly published in Huzioka (1964), though the epithet *ugoana* appeared in Huzioka and Nishida (1960, Publ. Sado Mus., no. 3, p. 10) and Tanai (1961, Jour. Fac. Sci., Hokkaido Univ., Ser. A, vol. 11, p. 254))

Picea wakimizui* (Watari) Watari, 1956 see *Piceoxylon wakimizui* Watari, 1941**Picea tomizawaensis* K. Suzuki, 1991**

Saito-Ho-on Kai Mus. Res. Bull., no. 59, p. 13, pl. 2, figs. 4, 5; pl. 6, figs. 5-9; pl. 7, figs. 1-13; pl. 8, figs. 10, 12-18; pl. 9, figs. 10, 11; pl. 10, figs. 11, 14, 15

Syntypes: FM (Fukushima Pref. Mus.), and Sendai City Board of Educ.*

Tomizawa paleolithic site, Sendai City, Miyagi Prefecture
Pleistocene

***Piceophyllum simplex* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, no. 2, pt. 7, p. 463, text-figs. 8-9, pl. 22, fig. 5

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. Y1a, 4-5 [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Piceoxylon iwatense* M. Nishida, H. Nishida et Sugiyama, 1993**

Res. Inst. Evol. Biol. Sci. Rep., vol. 7, p. 79, fig. 5

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 827029

Taneichi town, Kunohe-gun, Iwate Prefecture (ca. 40°21'N, 141°45'E)

Taneichi Formation

Late Cretaceous (Santonian-Campanian)

***Piceoxylon macroporosum* M. Nishida et H. Nishida, 1995**

Jour. Plant Res., vol. 108, p. 162, fig. 2

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 823487

Omakizawa, tributary of Yubari River, Ohyubari, Yubari City, Hokkaido

Upper Yezo Group

Late Cretaceous (Turonian)

***Piceoxylon pseudoscleromedullosum* M. Nishida, H. Nishida, Yoshida et Kaiho, 1995**

Res. Inst. Evol. Biol. Sci. Rep., vol. 8, p. 12, figs. 2, 3

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 888052

Mokawarupupu River, ca. 4 km upstream of Kawarupupu, Tokachi-gun, Hokkaido

Upper part of Katsuhira Formation

Late Cretaceous (Late Maastrichtian)

***Piceoxylon transiens* Shimakura, 1937**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 1, p. 24, pl. 6, figs. 1-9

Holotype: IGPS-58450

Left valley of Utashinai River, Sunakawa-mura, Sorachi-gun, Hokkaido

Upper Ammonite beds [Upper Yezo Group]

Late Cretaceous (Turonian-Senonian)

***Piceoxylon wakimizui* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 418, photo. 1; text-figs. 1, 2

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 31102, 31118 [TI]

Nesori, Namiuchi-mura [Ichinohe-machi], Ninohe-gun, Iwate Prefecture

[Yotsuyaku Formation]

Late Early Miocene

***Pinites fujii* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 4, p. 431, pls. 20-21; text-fig. 12

Holotype: Bot. Inst., Univ. Tokyo [TI]

Seto, Aichi Prefecture

Late Tertiary

(*Pinus fujii* (Yasui) Miki, 1939 in Bot. Mag. Tokyo, vol. 53, p. 244)

***Pinoxylon mabetiense* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 386, photos. 1, 2A-C; text-figs. 1, 2

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 31127, 31128, 31131, 31132, 31134, 31135, 31139, 31143 [TI]

River Mabechi, Samuraimura, Anatai, Ichinohe-machi, Ninohe-gun, Iwate Prefecture

[Yotsuyaku Formation]

Miocene [late Early Miocene]

(*Keteleeria mabetiensis* (Watari) Watari, 1956 in Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 427)

***Pinoxylon yabei* Shimakura, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 18, no. 3, p. 289, pl. 19, figs. 1-8

Holotype: IGPS-30556

Huo-shin-ling, Chih-lin, Manchuria, China

Middle Jurassic

***Pinus bifoliata* Ueda et M. Nishida, 1982**

Jour. Japan. Bot., vol. 57, p. 134, pl. 5, fig. A
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73527
 Dam site of Oh-Yubari, Yubari City, Hokkaido (43°01'17"N, 142°06'14"E)
 Upper Yezo Group
 Late Cretaceous

***Pinus flabellifolia* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 466, pl. 24, figs. 18-19; text-figs. 10-11
 Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 6bY, 2-6 [TI]
 Yubari, Ishikari Prov., Hokkaido
 Late Cretaceous

Pinus fujii* (Yasui) Miki, 1939 see *Pinites fujii* Yasui, 1928**Pinus haboroensis* Stockey et M. Nishida, 1986**

Canadian Jour. Bot., vol. 64, no. 9, p. 1861, figs. 1-9
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 832225 Ctop, Dbot
 Sankebetsu-gawa, Haboro-cho, Tomamae-gun, Hokkaido (44°22'11"N, 141°51'26"E)
 Upper Yezo Group
 Late Cretaceous (Santonian)

***Pinus hokkaidoensis* Endo et Okutsu, 1939**

Plant and Animal, vol. 7, no. 3, p. 579, fig. 1
 Holotype: IGPS
 Sunakawa coal-mine, Sunakawa, Sorachi-gun, Hokkaido
 Marine shell bed
 Eocene

***Pinus hokkaidoensis* Stockey et Ueda, 1986**

American Jour. Bot., vol. 73, no. 8, p. 1157, figs. 1-7
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 832225
 Minorizawa of Sankebetsu-gawa, Haboro-cho, Tomamae-gun, Hokkaido (44°21'11"N, 141°51'26"E)
 Upper Yezo Group
 Late Cretaceous
 (Later homonym of *Pinus hokkaidoensis* Endo et Okutsu, 1939)

***Pinus mesothunbergii* Matsuo, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 80, p. 382, pl. 42, fig. 13
 Holotype: DGLAKZ-14856
 Tani-toge, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture
 Omichidani Formation

Late Cretaceous

***Pinus miocenica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 256, pl. 2, fig. 2
 Holotype: UHR-15085 [NSM-PP]
 Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
 Yoshioka Formation
 Middle Miocene [late Early Miocene]

***Pinus mutoi* Saiki, 1996**

American Jour. Bot., vol. 83, p. 1630, figs. 2-25
 Holotype: MCM-A451 (Mikasa City Mus.)
 Samatazawa valley, Mikasa City, Hokkaido (43°12'30"N, 142°4'00"E)
 Upper Yezo Group
 Late Cretaceous (Coniacian)

***Pinus oishii* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 62, pl. 2, fig. 1
 Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-64
 Takaya, Suzu City, Ishikawa Prefecture
 Yanagida Formation
 Middle Miocene [late Early Miocene]

***Pinus oligolepis* Miki, 1957**

Jour. Inst. Polytech., Osaka City Univ., ser. D, vol. 8, p. 251, pl. 7, figs. L, Mb; text-fig. 7E
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Kantengoya in Nishinomiya City, Hyogo Prefecture
 Pleistocene

***Pinus pachydermata* Ueda et M. Nishida, 1982**

Jour. Japan. Bot., vol. 57, p. 140, pl. 5, figs. F, G; pl. 6, figs. A, B
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73545
 Kumaoui-zawa, Ikushunbetsu, Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)
 Upper Yezo Group
 Late Cretaceous

***Pinus palaeopentaphylla* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 18, pl. 1, fig. 12
 Holotype: GSJ-4064
 Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
 Onbara Formation
 Mio-Pliocene

***Pinus protodiphylla* Miki, 1957**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 8, p. 247, pl. 5, figs. F-I; text-fig. 7G
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]

School side cliff of Kamate, Shimane Prefecture; Shirakawa, Kobe City, Hyogo Prefecture
Miocene [and Oligocene]

***Pinus pseudoflabellifolia* Ueda et M. Nishida, 1982**

Jour. Japan. Bot., vol. 57, p. 138, pl. 5, fig. E
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73531

Dam site of Oh-Yubari, Yubari City, Hokkaido (43°01'17"N, 142°06'14"E)

Upper Yezo Group

Late Cretaceous

***Pinus pseudostrobifolia* Ogura, 1932**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 469, pl. 23, fig. 13; text-fig. 12

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 6bY, 6 [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Pinus pseudotetraphylla* Ueda et M. Nishida, 1982**

Jour. Japan. Bot., vol. 57, p. 141, pl. 6, fig. D; pl. 7, figs. A-F

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73544

Kumaoui-zawa, Ikushunbetsu, Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)

Upper Yezo Group

Late Cretaceous (Senonian)

***Pinus trifolia* Miki, 1939**

Bot. Mag. Tokyo, vol. 53, p. 240, pl. 4, figs. A-H; text-fig. 3A-I

Systypes: Dept. Biol., Osaka City Univ. [OSA]

Ichirizuka, Seto City, Aichii Prefecture; Hatagoya in Mizukami, Sue-mura [Mizunami City], Gifu Prefecture

Pinus trifolia bed

Pliocene

***Pinuxylon microporum* Ogura, 1944**

Japan. Jour. Bot., vol. 13, no. 3, p. 360, pl. 5, figs. D-F; text-fig. 2A-D

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]

Oyubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Pittosporum tanaii* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 60, pl. 10, fig. 3

Holotype: AKMG-3711

Motoyama submarine colliery, off Motoyama, Onoda City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Pittosporum ubense* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 60, pl. 10, fig. 5

Holotype: AKMG-3597

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Pityocladus shangtungensis* Yabe et Oishi, 1928**

Japan. Jour. Geol. Geogr., vol. 6, nos. 1-2, pl. 12, pl. 4, fig. 4

Holotype: IGPS

Fang-tsu coal-field, Shangtung Prov., N. China

Jurassic

***Pityolepis ovatus* Toyama et Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, no. 1, p. 73, pl. 4, figs. 9-10

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6301

Chalai-nor, North Hsingan Prov., Manchuria, China

Jurassic

***Pityophyllum krasseri* Yabe et Oishi, 1933**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 12, no. 2, B, p. 230, pl. 33, fig. 21

Holotype: IGPS-38382

Sha-ho-tzu, Lianoning, Manchuria, China

Mesozoic

***Pityostrobus endo-riujii* Toyama et Oishi, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, no. 1, p. 72, pl. 4, figs. 6-7

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6300

Chalai-nor, North Hsingan Prov., Manchuria, China

Jurassic

***Pityostrobus matsubarae* Ohsawa, H. Nishida et M. Nishida, 1991**

Jour. Japan. Bot., vol. 66, p. 357, figs. 1-6

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 860809

Haboro-cho, Tomamae-gun, Hokkaido; precise locality is unknown

Upper Yezo Group?

Late Cretaceous

***Plafkeria basiobliqua* (Oishi et Huzioka) Tanai, 1989 see *Marlea basiobliqua* Oishi et Huzioka, 1950**

***Plagiozamites lanceolatus* Kobatake, 1966**

Prof. Susumu Matsushita Mem. Vol., p. 225, pl. 6, fig. 5; text-fig. 1

Syntypes: GIOU-2164, 2166* (Inst. Geol. Sci., Coll. Gen. Educ., Osaka Univ.)

Kobangsan district, Phyongyang (Pyongyang), Korea

Kobosan Series
Permian

***Plagiozamites linearis* Yabe et Oishi, 1938**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 234, text-fig. 12

Holotype: IGPS-62767

Wu-kuei-kang, Fukien Prov., China

Permian

***Plagiozamites matsushitai* Kobatake, 1966**

Prof. Susumu Matsushita Mem. Vol., p. 224, pl. 5, figs. 4, 5; pl. 6, figs. 2-4

Syntypes: GIOU-2160, 2162, 2163, 2178, 2179* (Inst. Geol. Sci., Coll. Gen. Educ., Osaka Univ.)

Mungyong coalfield, North Kyogsan-do (GIOU-2160) and Kobangsan district, Phyongyang (Pyongyang) (GIOU, all others), Korea

Kobosan Series

Permian

***Plagiozamites nakamurai* Kobatake, 1957**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 23 (Spec. Vol.), p. 58, pl. 24, figs. 1, 2.

Syntypes: Depository not designated. ? Inst. Geol. Sci., Osaka Univ.

Kobosan district, Phyongyang (Pyongyang) coal field, Korea

Kobosan Series

Permian

***Planera ezoana* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 141, pl. 14, figs. 7-9

Syntypes: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Shoro coal-mine, Shiranuka-cho, Shiranuka-gun; Hokuyo coal-mine, upper course of Charo River, Akan-gun,

Hokkaido

Shakubetsu Formation

Paleogene [Late Eocene]

***Planoxylon choshiense* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 489, pl. 2; text-fig. 2

Syntypes: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., nos. 6606, 6608*

Toriakhehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Planoxylon inaii* Shimakura, 1937**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 1, p. 11, pl. 3, figs. 1-6

Holotype: IGPS-58445

Right valley of 10th bridge, Ikusagawa, Toyohara-machi, Toyohara-gun, Saghalien, Russia

“Urakawa formation”

Late Cretaceous (Senonian)

(*Cedroxylon inaii* (Shimakura) M. Nishida, 1993 in Bot. Mag. Tokyo, vol. 86, p. 195)

***Planoxylon pseudo-hectori* M. Nishida, 1962**

Japan. Jour. Bot., vol. 18, p. 91, pl. 5, figs. A, B; pl. 6; text-figs. 6-8

Syntypes: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 1007, 1012*

Toriakhehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Planoxylon tylosissimum* M. Nishida, 1973**

Bot. Mag. Tokyo, vol. 86, p. 194, figs. 5, 10

Syntypes: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., nos. 71039a-c, 71050*

Toriakhehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***Platanus aceroides* Goepfert subsp. *yubariensis* Endo, 1963**

Trans Proc. Palaeont. Soc. Japan, N. S., no. 52, p. 133, pl. 20, fig. 3

Holotype: NSM-10511 [NSM-PP]

Shimizu-sawa, Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

(See also Endo, 1968: Bull. Natn. Sci. Mus., vol. 11, p. 434, pl. 16, fig. 4)

***Platanus chaneyi* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 53, pl. 9, fig. 1

Holotype: DGLAKZ-14125a

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Platanus huziokae* K. Suzuki, 1958**

Sci. Rep. Fac. Art. Sci. Fukushima Univ., no. 7, p. 40, pl. 2, figs. 1, 2; pl. 3, figs. 1-3; text-fig. 1

Syntypes: IGF [FM]

Road-cut between Bange and Nozawa, Fujitoge, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture

Lower part of Fujitoge Formation

Late Miocene

***Platanus mabutii* Oishi et Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p.

113, pl. 18, fig. 1; pls. 19, 20

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 6365-6367

Penaanrupeshipe near Shoro, Shiranuka-mura, Shiranuka-gun, Hokkaido; Sakae coal-mine, Shitakara-mura, Akan-gun, Hokkaido; Kawakami coal-mine, Toyohata-gun, Sakhalin, Russia

Shakubetsu Formation; Naibuti (coal-bearing) Formation
Paleogene [Eocene]

***Platanus tsuyazakiensis* M. Suzuki, 1976**

Bot. Mag. Tokyo, vol. 89, p. 68, fig. 5

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71256

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture

Tsuyazaki Formation

Oligocene

***Platycarya hokkaidoana* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 465, pl. 6, fig. 5

Holotype: HUMP-25910 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

(*Vinea hokkaidoana* (Tanai) Tanai, 1992 in Bull. Natn. Sci. Mus., Ser. C, vol. 18, p. 26)

***Pleuromeia hataii* Kon'no, 1973**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 43, p. 101, pl. 8, fig. 8; pl. 9, fig. 6a, b; text-figs. 1A, 3A

Syntypes: IGPS-92692, 92700

Osawa and Akauchi, Motoyoshi City, Miyagi Prefecture

Osawa Formation

Early Triassic (Late Scythian)

***Poacordaites phetchabunensis* Kon'no, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 156, pl. 8, figs. 14-16

Syntypes: Geol. Inst., Univ. Tokyo, nos. TF329-7H, 329-7I
Khlung Wang Ang, ca. 50 km SSW of Phetchabun, Thailand

(15°58'55"N, 100°58'36"E)

Unnamed plant-bearing bed

Permian

***Podocarpus (Nageia) ryosekiensis* Kimura, Ohana et Mimoto, 1988**

Proc. Japan Acad., Ser. B, vol. 64, p. 213, figs. 2, 3

Holotype: Makino Bot. Gard., Kochi, no. 18109

Ca. 700m southwest of Ryoseki, Nankoku City, Kochi Prefecture (ca. 33°36'49"N, 133°38'20"E)

Lower part of Monobe Formation

Early Cretaceous (Early Barremian)

***Podozamites agardhianus* (Brongn.) Nath. var. *acuminatus* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 209, pl. 22, fig. 21a

Holotype: IGPS-78587

Hirabara pass, ca. 1.1 km west of Omine, Mine City, Yamaguchi Prefecture (34°10'37"N, 131°10'E)

Lower horizon of Momonoki Formation

Middle Triassic (Middle Carnian)

***Podozamites concinnus* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 95, pl. 12, fig. 7

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7917

Yamamoto (loc. 63), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Podozamites distans* (Presl.) var. *osawae* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 207, pl. 22, fig. 1

Holotype: IGPS-78582

Tsubuta, ca. 200 m north of Idenouwe, Yamaguchi Prefecture (34°1'24"N, 131°6'E)

Lower part of Nakatsuka Formation

Middle Triassic (Early Carnian)

***Podozamites distans* var. *nagatoensis* Kon'no, 1961**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 32, p. 208, pl. 23, fig. 9

Holotype: IGPS-78578B

Fujiyakochi, 2.8 km north of Omine station, Mine City, Yamaguchi Prefecture (34°12'16"N, 131°10'2"E)

Momonoki Formation

Middle Triassic (Middle Carnian)

***Podozamites pahangensis* Asama, 1978**

Geol. Palaeont. Southeast Asia, vol. 19, p. 50, pl. 6, fig. 1

Holotype: NSM-PP 6710b

Ulu Endau, Pahang, West Malaysia

Ulu Endau plant bed

Younger Mesozoic

***Polygonum megalophyllum* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 24, pl. 9, fig. 6.

Holotype: HUMP-25676 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho,

Monbetsu-gun, Hokkaido

Shanabuchi Formation

Late Miocene

***Polypodites uotanii* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 36, pl. 1, fig. 4

Holotype: AKMG-6726
Keumkwandong, Kyongsang-bukdo, Korea
Keumkwandong Shale, Changgi Group
Early Miocene

***Populus aizuana* Huzioka et K. Suzuki, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 14, p. 137, pl. 16, figs. 1-4
Syntypes: IGF [FM]
1 km west of Mt. Tate-yama, Kitakata City, Fukushima Prefecture
Shiotubo Formation
Late Miocene
(Lectotype: pl. 16, fig. 2, by Uemura, 1988)

***Populus arayaensis* Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 134, pl. 3, figs. 2, 6
Holotype: AKMG-7949
Araya, Arayashinmachi, Ashiro-cho, Ninohe-gun, Iwate Prefecture
Tayama Formation
Late Miocene

***Populus eowightiana* (Endo) Tanai et Uemura, 1991** see *Ficus eowightiana* Endo, 1964

***Populus grandifolia* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 422, pl. 20, fig. 1
Holotype: NSM-10520 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Populus hokiensis* Ozaki, 1979**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 26, p. 41, pl. 3, fig. 4; text-fig. 2E
Holotype: NSM-PP 16075
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Populus inouei* Takahashi, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, p. 54, pl. 1, fig. 12a, b
Syntypes: Dept. Geol., Fac. Sci., Kyushu Univ.
Kazusa-cho, Minamitakaki-gun, Nagasaki Prefecture
Oya Formation
Late Pliocene

***Populus kitamiana* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 7, pl. 2, fig. 3
Holotype: HUMP-25743 [NSM-PP]
Northeast of Ootomi, along River Muka-gawa,

Rubeshibe-cho, Tokoro-gun, Hokkaido
Komatsuzawa Formation
Pliocene

***Populus kobayashii* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 27, pl. 2, fig. 6
Holotype: IGF-1501 [FM]
Ry-4, river cliff in southern valley of Kawadaira, Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N, 140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Populus miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 704, pl. 4, fig. 1
Holotype: AKMG-7217
Tozawa, Nishiki-mura, Senboku-gun, Akita Prefecture
Miyata Formation
Late Miocene

***Populus nipponica* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 106, pl. 4, fig. 3
Holotype: HUMP-25510a [NSM-PP]
Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido
Fukuyama Formation
Early Miocene

***Populus reniformis* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 107, pl. 4, fig. 6
Holotype: HUMP-25436 [NSM-PP]
Abura, Setana-cho, Setana-gun, Hokkaido
"Kunnui" Formation
Middle Miocene [late Early Miocene]

***Populus sambonsyii* Huzioka et K. Suzuki, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 14, p. 137, pl. 16, figs. 5-7
Syntypes: IGF [FM]
1 km west of Mt. Tate-yama, Kitakata City, Fukushima Prefecture
Shiotubo Formation
Late Miocene
(Lectotype: pl. 16, fig. 5, by Uemura, 1988)

***Populus sanzugawaensis* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 345, pl. 2, fig. 2
Holotype: AKMG-7499
Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture
Sanzugawa Formation
Late Miocene

***Populus tuberculata* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 68, pl. 21, fig. 1

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-627
Takaya, Suzu City, Ishikawa Prefecture
Yanagida Formation
Middle Miocene [late Early Miocene]

***Populus yubariensis* Tanai, 1981**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 470, pl. 3, fig. 5; pl. 10, figs. 1, 2; text-fig. 3a, b
Holotype: HUMP-26170 [NSM-PP]
Shimizu-sawa, Yubari City, Hokkaido
Ikushunbetsu Formation
Early Oligocene [late Middle Miocene]

***Porana kokangenensis* Endo, 1939**

Jubl. Publ. Commem. Prof. H. Yabe's 60th Birthday, vol. 1, p. 346, pl. 23, fig. 6
Holotype: IGPS-51794
Ryuhokudo, Kokangen, Keigen-gun, Kankyo-hokudo, Korea
Engelhardtia bed
Paleogene [Oligocene]

***Potamogeton hokiensis* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 43, pl. 2, fig. 9
Holotype: GSJ-4831
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Potamogeton jeholensis* Yabe et Endo, 1935**

Proc. Imp. Acad. Tokyo, vol. 11, p. 274, text-figs. 1, 2.
Syntypes: IGPS-51773, 51774
Vicinity of Ling-Yuan, Jehol, China
Lycoptera beds
Early Cretaceous ?

***(Ranunculus jeholensis)* (Yabe et Endo) Miki, 1964** in Bull. Mukogawa Women's Univ., vol. 12, p. 19)

***Potamogeton spirilloides* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 102, pl. 1, fig. L
Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
Tsugaru-shinjo, Aomori Prefecture
Picea glehni bed
Pleistocene

***Protoblechnum hallei* Yabe et Oishi, 1928**

Japan. Jour. Geol. Geogr., vol. 6, nos. 1-2, p. 15, pl. 5
Holotype: IGPS
Hei-shan coal mine, Hei-shan coal-field, Shangtung, China
Permian

***Protoblechnum imaizumii* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 189, pl. 21, fig. 1
Holotype: IGPS-90160

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)
Kaishantun (plant-bearing) Formation
Early Late Permian

***Protocallitrixylon liassicum* Yamazaki et Tsunada, 1982**

Mem. School Sci. Engin., Waseda Univ., no. 46, p. 75, pls. 1-6; text-fig. 3
Holotype: Dept. Miner. Industry, School Sci. Engin., Waseda Univ., no. KRM-14-02
Negoya valley, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation, Kuruma Group
Early Jurassic

***Protocedroxylon japonicum* M. Nishida, 1967**

Bot. Mag. Tokyo, vol. 80, p. 490, pl. 3; text-fig. 3
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 6614
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous

***Protocedoroxylon mineense* (Ogura) M. Nishida et Oishi, 1982** see *Araucarioxylon mineense* Ogura, 1960

***Protocedroxylon okafujii* M. Nishida et Oishi, 1982**

Jour. Japan. Bot., vol. 57, p. 101, pl. 2
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 77001
Road cut of Hirabara Pass, Mine City, Yamaguchi Prefecture
Momonoki Formation
Triassic

***Protocedroxylon pseudoaraucarioides* M. Nishida, 1973**

Bot. Mag. Tokyo, vol. 86, p. 196, figs. 6, 11
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ. no. 71056
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)
Choshi Group
Early Cretaceous

***Protocedroxylon triassicum* Yamazaki, Tsunada et Koike, 1980**

Mem. School. Sci. Engin., Waseda Univ., no. 44, p. 100, pls. 5-7; text-fig. 4
Holotype: Dept. Miner. Industry, School. Sci. Engin., Waseda Univ., no. 78110108-b
Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Hinabata Formation, Nariwa Group
Late Triassic

***Protocedroxylon yezoense* M. Nishida et H. Nishida, 1984**

Jour. Japan. Bot., vol. 59, p. 53, pl. 3, figs. 3, 4

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 823119
Hifumi-zawa, branch of Kamikinenbetsu River, Obira-cho, Rumoi-gun, Hokkaido (44°03'48"N, 141°59'10"E)
Upper Yezo Group
Cretaceous (Turonian)

***Protocyathea tokunagai* Ogura, 1931**

Japan. Jour. Geol. Geogr., vol. 9, nos. 1-2, p. 59, pl. 4; text-fig. 1
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Tamayama quarry, Iwaki-gun, Fukushima Prefecture
Futaba Group
Late Cretaceous

***Protomonimia kasai-nakajhongii* H. Nishida et M. Nishida, 1988**

Bot. Mag. Tokyo, vol. 101, p. 403, figs. 3-9, 11-16
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 851701
Haboro dam, Sankebetsu River, Haboro-cho, Tomamae-gun, Hokkaido (44°20'44"N, 141°56'43"E)
Middle Yezo Group
Late Cretaceous (Turonian) [Santonian]

***Protosequoia primaria* (Miki) Miki, 1969 see *Sequoiadendron primarium* Miki, 1965**

***Prototaxoxylon japonicum* M. Nishida et Oishi, 1982**

Jour. Japan. Bot., vol. 57, p. 344, pl. 18, figs. A-D; text-fig. 1
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 81105
Noguri, Ueno-mura, Tano-gun, Gunma Prefecture
Sebayashi Formation
Early Cretaceous

***Prunus ascendentiporulosa* M. Suzuki, 1984**

Bot. Mag. Tokyo, vol. 97, p. 459, figs. 6-10
Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71165 [TUSG]
Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Prunus endoana* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 59, pl. 6, fig. 5
Holotype: IGPS-92420
Hamjindong, Hamg'yeong-bukdo, Korea
Hamjindong Formation, Myeoncheon Group
Middle Miocene

***Prunus florini* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 324, pl. 4,

fig. 1

Holotype: GSJ-4713
Mogi, Nagasaki City, Nagasaki Prefecture
Mogi (plant-bearing) Formation
Pliocene

***Prunus ishidai* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 29, pl. 3, fig. 5.
Holotype: HUMP-25691 [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Prunus matsumaensis* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 130, pl. 20, fig. 4
Holotype: HUMP-25045a [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Prunus okutsui* Uemura, 1988**

Late Mioc. Fl. NE Honshu, Japan, p. 143
Holotype: AKMG-8002 (Huzioka and Uemura, 1974, pl. 10, fig. 1, = *Prunus protossiori* auct. non Tanai)
Shimoshinden, Yuzawa City, Akita Prefecture
Sanzugawa Formation
Late Miocene

***Prunus palaeozippeliana* M. Suzuki, 1984**

Bot. Mag. Tokyo, vol. 97, p. 457, figs. 1, 2, 4, 5
Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71184 [TUSG]
Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Prunus polyporulosa* M. Suzuki, 1984**

Bot. Mag. Tokyo, vol. 97, p. 463, figs. 14-18
Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ., no. 71166 [TUSG]
Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture
Tsuyazaki Formation
Oligocene

***Prunus protossiori* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 44, pl. 13, fig. 6
Holotype: GSJ-4163
Ningyo-toge, Misasa-cho, Tohaku-gun, Tottori Prefecture
Ningyo-toge Formation
Pliocene

***Prunus rubeshibensis* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 30, pl. 5, fig. 1
 Holotype: HUMP-25812 [NSM-PP]
 Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho,
 Tokoro-gun, Hokkaido
 Komatsuzawa Formation
 Pliocene

***Prunus subserotina* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 30, pl. 7, fig. 6
 Holotype: HUMP-25814 [NSM-PP]
 Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho,
 Tokoro-gun, Hokkaido
 Komatsuzawa Formation
 Pliocene

***Prunus tanaii* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 44, pl. 5, fig. 1;
 text-fig. 5A, B
 Holotype: TPM-323 (Tottori Pref. Mus.)
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

***Prunus uviporulosa* M. Suzuki, 1984**

Bot. Mag. Tokyo, vol. 97, p. 461, figs. 11-13
 Holotype: Foss. Pl. Coll., Coll. Lib. Arts, Kanazawa Univ.,
 no. 71156 [TUSG]
 Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun,
 Fukuoka Prefecture
 Tsuyazaki Formation
 Oligocene

***Pseudoctenis brevipennis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 322, pl.
 28, fig. 5
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8594
 Zusahara, Kamimano-mura, Sohma-gun, Fukushima
 Prefecture
 Sohma Group
 Cretaceous [- Jurassic]

***Pseudoctenis nipponica* Kimura et Tsujii, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 129, p. 36, pl. 12,
 fig. 2; text-fig. 2a
 Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no.
 NEG-011
 Negoya, branch of Daira-gawa, Asahi-machi, Shimo-Niikawa-
 gun, Toyama Prefecture
 Negoya Formation
 Early Jurassic

***Pseudocycas ? acutifolia* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 337, pl.

33, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 89
 Kawashimizu, Shimousaka-mura, Ashiba-gun, Fukui
 Prefecture
 Tetori Formation
 Jurassic

***Pseudofrenelopsis glabra* Saiki, 1999**

Paleont. Res., vol. 3, p. 31, figs. 2, 3
 Holotype: MCM-P030 (Mikasa City Mus.)
 80 m south of Ik 2031 (Matsumoto, 1965), Pombetsu valley,
 Mikasa City, Hokkaido (43°16'31"N, 141°59'20"E)
 Middle Yezo Group
 Early Cretaceous (Albian)

***Pseudolarix japonica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 17, pl. 1, fig. 5
 Holotype: GSJ-4063
 Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
 Onbara Formation
 Mio-Pliocene

***Pseudolarix nipponica* Kimura et Horiuchi, 1978**

Proc. Japan Acad., Ser. B, vol. 54, p. 439, figs. 1, 4, 5
 Syntypes: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no.
 MI-711, MI-714, MI-717a
 Noda-mura, Ninohe-gun, Iwate Prefecture
 Minato Formation
 Paleogene

***Pseudolobatannularia ? bunkeiensis* Kobatake, 1954**

Sci. Rep. Osaka Univ., no. 3, p. 73, figs. 5, 6
 Syntypes: Depository not designated. ? Inst. Geol. Sci.,
 Osaka Univ.
 Kotenri, Majo-men, Bunkei-gun, North Keisho-do, Korea
 Early Jurassic (Lias)

***Pseudotsuga ezoana* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 258, pl. 1,
 fig. 21
 Holotype: HUMP-15076 [NSM-PP]
 Wakamatsu coal mine, Kita-hiyama-machi, Setana-gun,
 Hokkaido
 Kudo coal-bearing member, Kunnui Formation
 Middle Miocene [late Early Miocene]

***Pseudotsuga gondylocarpa* Miki, 1957**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 8, p. 256,
 pl. 9, figs. F, G; text-fig. 9D
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Kantengoya and Uegahara, Nishinomiya City, Hyogo
 Prefecture
Metasequoia and *Ruppia* beds
 Pliocene and Pleistocene

***Pseudotsuga huziokana* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, p. 7, pl. 1, fig. 5

Holotype: YNU-CMP 1064 [KPM]

Inkyoyama, Toki City, Gifu Prefecture

“Yamanouchi facies”, Akeyo Formation

Middle Miocene [late Early Miocene]

***Pseudotsuga mesowilsoniana* Matsuo, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 80, p. 382, pl. 42, fig. 17

Holotype: DGLAKZ-14858a

Tani-toge, Shiramine-mura, Ishikawa-gun, Ishikawa Prefecture

Omichidani Formation

Late Cretaceous

***Pseudotsuga subrotunda* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 132, pl. 2, fig. 1a; text-fig. 4

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Koyoen, Nishinomiya City, Hyogo Prefecture; Yamada, Isobe-mura, Shima-gun, Mie Prefecture; Shimizudani in Fukakusa, Tsuna-gun, Hyogo Prefecture

Metasequoia bed

Plio-Pleistocene

***Pseudotsuga tanaii* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 60, pl. 1, figs. 5, 5a

Holotype: AKMG-5118

Shichiku, ca. 8 km west of Yotsukura, Iwaki City, Fukushima Prefecture

Shichiku Formation

Early Miocene

***Psymphyllum maiyaense* Asama, 1967**

Bull. Natn. Sci. Mus., vol. 10, p. 150, pl. 4, fig. 2

Holotype: NSM-PP 6399

Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture

Nishikori Formation

Early Permian

***Pteridium shiragicum* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 35, pl. 1, fig. 2

Holotype: AKMG-6727

Keumkwandong, Kyongsang-bukdo, Korea

Keumkwandong Shale, Changgi Group

Early Miocene

***Pteris mioinequalis* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 230, pl. 41, fig. 3; text-fig. 2

Holotype: GKZ-12598a

Kanmachi, Kashima-gun, Ishikawa Prefecture

Yamatoda Mudstone Member

Middle Miocene [late Early Miocene]

***Pterocarya ezoana* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 110, pl. 6, fig. 3

Holotype: HUMP-25324 [NSM-PP]

Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

(*Cyclocarya ezoana* (Tanai et N. Suzuki) Wolfe et Tanai, 1980 in U. S. G. S. Prof. Pap., vol. 1105, p. 34)

***Pterocarya ezoensis* (Tanai) Tanai, 1992** see *Carya ezoensis* Tanai, 1970

***Pterocarya japonica* (Tanai) Uemura, 1988** see *Juglans japonica* Tanai, 1961

***Pterocarya multistriata* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 132, pl. 5, fig. G

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Toge, Hashimoto City, Wakayama Prefecture

Metasequoia bed

Pliocene

***Pterocarya nipponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 21, pl. 2, fig. 2

Holotype: GSJ-4078

Ningyo-toge, Misasa-cho, Tohoku-gun, Tottori Prefecture

Ningyo-toge Formation

Pliocene

***Pterocarya protostenoptera* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 278, pl. 4, fig. 10

Holotype: GSJ-4227

Takamine coal mine, Tenoko-mura, Nishi-Okutama-gun, Yamagata Prefecture

Takamine (coal-bearing) Formation

Late Miocene

***Pterophyllum ctenoides* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 314, pl. 41, figs. 1-3, pl. 42, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4057

Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Pterophyllum heterosegmentum* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C., vol. 13, no. 3, p. 125, pl. 6, fig. 6

Holotype: NSM-PP 8056

Loc. no. 063, east of Ono, Anai, Shimonoseki City,

Yamaguchi Prefecture
Utano Formation
Middle Jurassic

***Pterophyllum serratum* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 86, pl. 10, figs. 8-9
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7907
Loc. 63 (Yamamoto), Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Pterophyllum yamanoiensis* Oishi et Takahasi, 1936**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, no. 2, p. 125, pl. 10, fig. 6; text-fig. 4
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6524
Yamanoi (Loc. no. 1), Sanyo-cho, Asa-gun, Yamaguchi Prefecture
Yamanoi Formation
Triassic

***Pterygota ezoana* Tanai, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 132, pl. 6, fig. 4; text-fig. 2K, L
Holotype: NSM-PP 10301
Reisuizan, Yubari City, Hokkaido
Ikushunbetsu Formation
Late Eocene [late Early Miocene]

***Ptilophyllum acinacifolium* Kimura et Okubo, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 130, pl. 1, fig. 5; pl. 3, figs. 1-6; text-fig. 1
Holotype: NSM-PP 8982
Isejigaura coast (loc. no. 7405 of Obata et al., 1975), Choshi City, Chiba Prefecture (ca.140°52'48"E, 35°43'28"N)
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Ptilophyllum choshiense* Kimura, Okubo et Miyahashi, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 132, pl. 1, fig. 1; pl. 2, fig. 9; text-fig. 2a
Holotype: NSM-PP 8983
Isejigaura coast (loc. no. 7210 of Obata et al., 1975), Choshi City, Chiba Prefecture
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Ptilophyllum elongatum* Kimura et Ohana, 1984**

Proc. Japan Acad., Ser. B, vol. 60, p. 381, figs. 2, 4, 5, 7, 8
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. CH-A1
Kimigahama coast, Choshi City, Chiba Prefecture

Kimigahama Formation
Early Cretaceous (Early Barremian)

***Ptilophyllum jurassicum* Kimura et Ohana, 1988**

Bull. Natn. Sci. Mus., Ser. C, vol. 14, no. 4, p. 151, pl. 8, fig. 1; text-fig. 15d
Holotype: NSM-PP 8257
Shidasawa, Haranomachi City, Fukushima Prefecture
Tochikubo Formation
Late Jurassic

***Ptilophyllum linearifolium* Kimura et Ohana, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, no. 2, p. 53, pl. 9, fig. 2
Holotype: Makino Bot. Gard., Kochi, Hirata's coll. no. 12489
Higashi-kuma, Kochi City, Kochi Prefecture
Upper part of Monobegawa Formation
Early Cretaceous (Aptian-Albian)

***Ptilophyllum nipponicum* Kimura et Tsujii, 1982**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 125, p. 270, pl. 43, fig. 9; text-fig. 6a
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NEG-270
Negoya, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation, Kuruma Group
Early Jurassic

***Ptilophyllum oshikaense* Kimura et Ohana, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, no. 2, p. 55, fig. 17a
Holotype: NSM-PP 8523
Samenoura coast, Oshika-cho, Oshika-gun, Miyagi Prefecture
Oginohama Formation
Late Jurassic

***Ptilophyllum pachyrachis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 346, pl. 33, fig. 1, pl. 34, figs. 1-3
Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 8485
Mochiana, Kamiana-mura, Ono-gun, Fukui Prefecture
Tetori Group
Jurassic

***Ptilophyllum shikokuense* Ohana et Kimura, 1989**

Asian Jour. Pl. Sci., vol. 1, no. 2, p. 56, figs. 5, 6, 17, 19
Holotype: Makino Bot. Gard., Kochi, no. 18046
Ca. 700 m southwest of Ryoseki, Nankoku City, Kochi Prefecture (33°36'49"N, 133°38'20"E)
Lower part of Monobe Formation
Early Cretaceous (Early Barremian)

***Ptilophyllum shinadaniense* Kimura et Tsujii, 1982**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 125, p. 270, pl. 41, fig. 5; text-fig. 7a
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no.

SHI-007

Shinadani, branch of Daira-gawa, Omi-machi, Nishi-Kubiki-gun, Niigata Prefecture
Shinadani Formation, Kuruma Group
Early Jurassic

***Ptilophyllum subulatum* Kimura et Okubo, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 137, pl. 1, fig. 6; text-fig. 3a, b
Holotype: NSM-PP 9013
Isejigaura coast (loc. no. 6482 of Obata et al., 1975), Choshi City, Chiba Prefecture
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Ptilozamites tenuis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 321, pl. 42, figs. 1-3
Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 4018
Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture
Nariwa Formation
Late Triassic

***Pueraria tanaii* Ozaki, 1974**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, 15, pl. 2, fig. 11
Holotype: GYNU-CMP 1029 [KPM]
Inkyoyama, Toki City, Gifu Prefecture
"Yamanouchi facies", Akeyo Formation
Middle Miocene [late Early Miocene]

***Pyrus hokiensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 45, pl. 4, fig. 5
Holotype: GSJ-4820
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Pyrus yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 436, pl. 25, fig. 3
Holotype: NSM-10556 [NSM-PP]
Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
Eocene [late Middle Eocene]

***Quercinium anataiense* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 399, photo. 2D-G; text-figs. 4, 5
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 31129, 31130, 31133, 31142 [TI]
River Mabechi, Samuraimura, Anatai, Ichinohe-machi, Ninohe-gun, Iwate Prefecture
[Yotsuyaku Formation]
Late Early Miocene

***Quercus anataiensis* (Watari) Watari, 1952** in Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 113)

***Quercinium hobashiraishi* Ogura, 1932**

Japan. Jour. Bot., vol. 6, no. 2, p. 173, pl. 3; text-figs. 1-4
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Najima, Fukuoka City, Fukuoka Prefecture
Paleogene
***Lithocarpoxylon hobashiraishi* (Ogura) M. Suzuki et H. Ohba, 1991** in Jour. Japan. Bot., vol. 66, p. 259)

***Quercus anataiensis* (Watari) Watari, 1952** see ***Quercinium anataiense* Watari, 1941**

***Quercus cretaceoxylon* M. Suzuki et H. Ohba, 1991**

Jour. Japan. Bot., vol. 66, p. 261, figs. 5, 25-30
Holotype: Inst. Biol., Coll. Lib. Arts, Kanazawa Univ., no. 22002 [TUSG]
Inarizawa, small branch stream of Katsurazawa, Mikasa City, Hokkaido
Upper Yezo Group
Late Cretaceous

***Quercus elliptica* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 121, pl. 12, fig. 1
Holotype: HUMP-25341 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Quercus endoana* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 53, pl. 5, fig. 3
Holotype: IGPS-92335
Yongpukdong, Hamg'yeong-bukdo, Korea
Engelhardtia bed
Middle Miocene [Oligocene]

***Quercus endoi* Murai, 1962**

Tech. Rep. Iwate Univ., vol. 15, no. 2, p. 32, pl. 9, figs. 5a, 5b
Holotype: IAGI-61054
Sakamoto-gawa SaU-1, Gomyojin, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°42'17"N, 140°52'19"E)
Upper part of Sakamotogawa Formation
Late Miocene

***Quercus ezoana* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 81, pl. 4, fig. 2; text-fig. 2Ea, b
Holotype: NSM-PP10634
Wakamatsuzawa, Kitami City, Hokkaido
Wakamatsuzawa Formation
Early Oligocene

***Quercus gomyojinensis* Murai, 1962**

Tech. Rep. Iwate Univ., vol. 15, no. 2, p. 30, pl. 9, fig. 1; text-fig. 2

Holotype: IAGI-61004

Ryu-kawa SaL-3, Gomyojin, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°41'17"8N, 140°52'37"8E)

Lower part of Sakamotogawa Formation

Late Miocene

***Quercus hangaii* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 54, pl. 12, figs. 9, 10

Syntypes: IGF-1516, 1517 [FM]

Ry-4, river cliff, southern valley of Kawadaira, Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N, 140°44'20"E)

Lower part of Ryozen Formation

Early Miocene

***Quercus ishikariensis* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 82, pl. 3, fig. 1; pl. 6, fig. 4; text-fig. 2Da, b

Holotype: NSM-PP 10585

Reisuizan, Yubari City, Hokkaido

Ikushunbetsu Formation

Late Middle Eocene

***Quercus kazanskyi* Kryshstofovich, 1926**

Ann. Rep. Russian Palaeont., vol. 6, p. 9, pl. 2, figs. 5, 6

Holotype: Depository not designated (Collection by J. Sato)

Kannonzawa, Agekawa-mura [Mikawa-mura], Higashikanbara-gun, Niigata Prefecture

Tsugawa Formation

Early to Middle Miocene

***Quercus kitamiana* Tanai, 1995**

Bull. Natn. Sci. Mus., Ser. C, vol. 21, p. 83, pl. 2, fig. 1

Holotype: NSM-PP10635

Wakamatsuzawa, Kitami City, Hokkaido

Wakamatsuzawa Formation

Early Oligocene

***Quercus kodairae* Huzioka, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 15, p. 196, pl. 25, figs. 7-10

Syntypes: Dept. Geol. Mineral., Hokkaido Univ.

Ryuhokudo, Kokangen coal-mine, N. Kankyo-do, Korea

Engelhardtia bed

Miocene [Oligocene]

***Quercus koraica* Tanai, 1953**

Trans. Proc. Palaeont. Soc. Japan, no. 9, p. 5, pl. 1, figs. 11-12

Syntypes: Geol. Inst., Univ. Tokyo

Geijitsu, Keisho-hokudo, Korea

Ennichi Formation

Middle Miocene

***Quercus kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 471, pl. 10, fig. 9

Holotype: HUMP-25934 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Quercus miocrispula* Huzioka, 1954**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 15, p. 196, pl. 25, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Kinkodo, Usen-men, Geijitsu-gun, N. Keisho-do, Korea

Changi Group

Early Miocene

***Quercus miyagiensis* M. Suzuki et H. Ohba, 1991**

Jour. Japan. Bot., vol. 66, p. 265, figs. 6, 20-24

Holotype: NSM-PP 16725

Sanbongi, Shida-gun, Miyagi Prefecture

Tsukinoki Formation

Miocene

***Quercus nagatoensis* Tanai et Uemura, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 65, pl. 1, fig. 10

Holotype: NSM-PP 10376

Noda, Heki-cho, Otsu-gun, Yamaguchi Prefecture

Kiwado Formation

Late Oligocene

***Quercus nathorstii* Kryshstofovich, 1926**

Ann. Rep. Russian Palaeont., vol. 6, p. 10, pl. 2, figs. 3, 4

Syntypes: Depository not designated (Collection by J. Sato)

Kannonzawa, Agekawa-mura [Mikawa-mura], Higashikanbara-gun, Niigata Prefecture

Tsugawa Formation

Early to Middle Miocene

(*Cyclobalanopsis nathorstii* (Kryshstofovich) Huzioka et Takahasi, 1973 in Bull. Natn. Sci. Mus., vol. 16, p. 133)

***Quercus praegilva* Kryshstofovich, 1926**

Ann. Rep. Russian Palaeont., vol. 6, p. 11, pl. 2, fig. 2

Holotype: Depository not designated (Collection by J. Sato)

Kannonzawa, Agekawa-mura [Mikawa-mura], Higashikanbara-gun, Niigata Prefecture

Tsugawa Formation

Early to Middle Miocene

***Quercus protoacuta* K. Suzuki, 1959**

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 37, pl. 3, figs. 12; pl. 4, figs. 1-3

Syntypes: IGF-1115, 1116, 1117, 1118* [FM]

Tennoji, Iizaka-machi, Shinobu-gun; Iwaya, Shinobuyama,
Fukushima City, Fukushima Prefecture
Tennoji Formation
Late Miocene
**(*Cyclobalanopsis protoacuta* (K. Suzuki) Huzioka et
Uemura, 1973 in Bull. Natn. Sci. Mus., vol. 16, p. 708)**

***Quercus protoaliena* Ozaki, 1979**
Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 26, p. 54, pl. 7,
fig. 1
Holotype: NSM-PP 16159
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Quercus protodentata* Tanai et Onoe, 1961**
Geol. Surv. Japan, Rep., no. 187, p. 31, pl. 7, fig. 1
Holotype: GSJ-4112
Mitoku, Misasa-cho, Tohaku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene

***Quercus protoglaucia* Endo, 1967**
Geol. Palaeont. Southeast Asia, vol. 3, p. 169, pl. 29, fig. 2
Holotype: ? [depository not designated]
Amphoe Li, Chagwat Lamphun in Northern Thailand (17 °
50'N, 99 °05'E)
Lignite and oil shale-bearing Tertiary formation
Paleogene

***Quercus protosalicina* K. Suzuki, 1959**
Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 36, pl. 2, fig.
13; pl. 3, figs. 6-9
Syntypes: IGF-1094, 16951096, 1097, 1098* [FM]
Tennoji, Iizaka-machi, Shinobu-gun, Fukushima Prefecture
Tennoji Formation
Late Miocene

***Quercus protoserrata* Tanai et Onoe, 1961**
Geol. Surv. Japan, Rep., no. 187, p. 32, pl. 6, fig. 7
Holotype: GSJ-4115
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Quercus rubroidea* Miki, 1948**
Kobutsu-to-Chishitsu, no. 9, p. 132, pl. 3, fig. G
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Toge, Hashimoto City, Wakayama Prefecture
Metasequoia bed
Pliocene

***Quercus ryozenensis* K. Suzuki, 1961**
Sci. Rep. Fukushima Univ., no. 10, p. 54, pl. 12, fig. 7

Holotype: IGF-1518 [FM]
Ry-4, river cliff in southern valley of Kawadaira,
Marumori-machi, Igu-gun, Miyagi Prefecture (37 °47'05"N,
140 °44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Quercus shimakurae* M. Suzuki et H. Ohba, 1991**
Jour. Japan. Bot., vol. 66, p. 263, figs. 4, 14-18
Holotype: NSM-PP 5087
Ohyachi, Horinouchi, Funagata-machi, Mogami-gun,
Yamagata Prefecture
Kanayama Group
Middle Miocene [late Early Miocene]

***Quercus yahatensis* Kon'no, 1931**
Jour. Geogr., vol. 43, p. 657, fig. 1
Holotype: Geol. Inst., Shizuoka Senior High School
[? missing]
Yahatayama, Shizuoka City, Shizuoka Prefecture
"Oigawa Formation"
Early Miocene

***Quercus yoshiokaensis* Tanai et N. Suzuki, 1963**
Tert. Fl. Japan, 1, Miocene Fl., p. 122, pl. 14, fig. 3
Holotype: HUMP-25344 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Ranunculus mioaquatilis* Matsuo, 1963**
Tert. Fl. Japan, 1, Miocene Fl., p. 238, pl. 54, fig. 6
Holotype: GKZ-10232a
Tsuchikawa, Kashima-gun, Ishikawa Prefecture
Yamatoda Mudstone Member
Middle Miocene [late Early Miocene]

***Ranunculus jeholensis* (Yabe et Endo) Miki, 1964 see
Potamogeton jeholensis Yabe et Endo, 1935**

***Reevesia japonoxyla* K. Terada et M. Suzuki, 1998**
Rev. Palaeobot. Palynol., vol. 103, p. 241, pl. 2, figs. 1-6
Holotype: TUS, Wood Coll. no. 59019 [TUSG]
Right riverside of Hida River at Kawabe dam, Kawabe-machi,
Kamo-gun, Gifu Prefecture (35 ° 28'N, 137 ° 04'E)
Hachiya Formation
Early Miocene

***Reevesia miocenica* Watari, 1952**
Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 126, photo. 8C,
D; photo. 9
Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 35252,
35008, 35213 [TI]
Iragawa, Atsumi-machi, Nishitagawa-gun; Isagodani,

Tagawa-mura, Nishitagawa-gun; Tamugimata, Azuma-mura, Higashitagawa-gun, Yamagata Prefecture
Early to Middle Miocene
(*Wataria miocenica* (Watari) K. Terada et M. Suzuki, 1998
in Rev. Palaeobot. Palynol., vol. 103, p.238)

***Reevesia oligocenica* M. Suzuki, 1976**

Bot. Mag. Tokyo, vol. 89, p. 65, fig. 4
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 71189

Northern part of Koinoura, Tsuyazaki-machi, Munakata-gun, Fukuoka Prefecture

Tsuyazaki Formation

Oligocene

(*Wataria oligocenica* (M. Suzuki) T. Terada et M. Suzuki, 1998 in Rev. Palaeobot. Palynol., vol. 103, p. 238)

***Rehderodendron elliptica* Miki, 1963**

Jour. Soc. Earthsci. Amateur., Spec. Vol. (1963), p. 92, fig. E

Holotype: [OSA]

Tokitsu, Toki City, Gifu Prefecture

Pinus trifolia bed

Early Pliocene

***Rhamnus eoutilis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 438, pl. 18, fig. 1

Holotype: NSM-10515 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

(*Huziokaea eoutilis* (Endo) Tanai, 1990 in Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 112, '*eoutilis*')

***Rhamnus sanzugawaensis* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 355, pl. 7, fig. 8; text-fig. 4

Holotype: AKMG-7570

Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture

Sanzugawa Formation

Late Miocene

***Rhipidopsis imaizumii* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 196, pl. 24, fig. 2

Holotype: IGPS-90165

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Rhododendron hekiense* Tanai et Uemura, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 73, pl. 3, fig. 10; text-fig. 3

Holotype: NSM-PP 10391

Noda, Heki-cho, Otsu-gun, Yamaguchi Prefecture

Kiwado Formation

Late Oligocene

***Rhododendron hokiense* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 37, pl. 5, fig. 6

Holotype: TPM-200 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Rhododendron minasense* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 356, pl. 10, figs. 6, 6a; text-fig. 5

Holotype: AKMG-7657

Kurosawagawa, Minase-mura, Ogachi-gun, Akita Prefecture

Sanzugawa Formation

Late Miocene

***Rhododendron miyataense* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 723, pl. 15, fig. 11

Holotype: AKMG-6277

Hinokinaimatazawa, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

***Rhododendron oishii* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 72, pl. 10, fig. 3

Holotype: AKMG-6734

Kilju, Hamg'yeong-bukdo, Korea

Hamjindong Formation, Myeoncheon Group

Middle Miocene

***Rhododendron ovatocarpa* Miki, 1963**

Jour. Soc. Earthsci. Amateur., Spec. Vol. (1963), p. 92, fig. Ja-c

Holotype: Dept. Biol., Osaka City Univ. [OSA]*

Homi, [Toyota City], Aichi Prefecture

Pinus trifolia bed

Early Pliocene

***Rhododendron protodilatatum* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 55, pl. 18, fig. 2

Holotype: GSJ-4198

Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture

Mitoku Formation

Late Miocene

***Rhododendron sanzugawaense* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 357, pl. 9, fig. 4

Holotype: AKMG-15235

Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture

Sanzugawa Formation
Late Miocene

***Rhododendron tatewakii* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 45, pl. 5, fig. 7.
Holotype: HUMP-25731 [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Rumex ezoensis* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 25, pl. 9, fig. 2.
Holotype: HUMP-25677 [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Rhus aniaiensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 88, pl. 14, fig. 3
Holotype: AKMG-3913
Kayakusa, formerly Kinryuzan coal-mine, Ani-machi, Kita-Akita-gun, Akita Prefecture
Aniai (coal-bearing) Formation
Early Miocene

***Rhus ezoense* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 349, pl. 24, fig. 23
Holotype: UHR-15249 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Rhus hinokinaiensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 206, pl. 36, fig. 2
Holotype: AKMG-3129
Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture
Utto Formation
Middle Miocene [late Early Miocene]

***Rhus inouei* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 206, pl. 36, fig. 3
Holotype: AKMG-3130
Onimatazawa, Kami-Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture
Utto Formation
Middle Miocene [late Early Miocene]
(*Cladrastis inouei* (Huzioka) Ozaki, 1980 in Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 49)

***Rhus nathorsti* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 329, pl. 5, fig. 4
Holotype: GSJ-4724
Mogi, Nagasaki City, Nagasaki Prefecture
Mogi (plant-bearing) Formation
Pliocene

***Rhus palaeojavanica* Matsuo, 1970**

Ann. Sci. Kanazawa Univ., vol. 7, p. 31, pl. 1, fig. 8
Holotype: DGLAKZ-13665 (1)
Oshima-ko, Matsushima-tanko colliery, Oshima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture
Sakito Formation
Oligocene [Late Eocene]

***Rhus protoambigua* K. Suzuki, 1959**

Monogr. Assoc. Geol. Collab. Japan, no. 9, p. 39, pl. 5, fig. 8
Holotype: IGF-1157 [FM]
Loc. Ak1, Tennoji, Iizaka-machi, Shinobu-gun, Fukushima Prefecture
Tennoji Formation
Late Miocene

***Rikuzenoxylon callixyloides* M. Nishida et H. Nishida, 1986**

Jour. Japan. Bot., vol. 61, p. 2, pls. 1, 2; text-figs. 1-3
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 849001
Onimaru, Hikoroichi, Ohfunato City, Iwate Prefecture
Hikoroichi Formation
Carboniferous

***Robinia nipponica* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 346, pl. 24, fig. 16
Holotype: UHR-15241 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Rosa akashiensis* Miki, 1936**

Chikyu, vol. 26, p. 173, pl. 4, figs. F-G; text-fig. 5A-E
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Nakayagi-Higashiei and Nishiyagi, Akashi City, Hyogo Prefecture
Pliocene [Early Pleistocene]
(See also Miki, 1937: Japan. Jour. Bot., vol. 8, p. 316)

***Rosa iwatensis* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 90, pl. 12, fig. 5
Holotype: IAGI-61105
Minamihata-gawa Ma-4, Goshu, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°37'25"N, 140°45'20"E)

Masuzawa Formation
Late Miocene

***Rosa okamotoi* Tanai et Uemura, 1991**

Bull. Natn. Sci. Mus., Ser. C, vol. 17, p. 74, pl. 3, fig. 7;
text-fig. 4

Holotype: NSM-PP 10394

Noda, Heki-cho, Yamaguchi Prefecture

Kiwado Formation

Late Oligocene

***Rosa shizukuishiensis* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 91, pl. 12, fig. 6

Holotype: IAGI-61106

Minamihata-gawa Ma-4, Gosho, Shizukuishi-cho, Iwate-gun,

Iwate Prefecture (39°37'25"N, 140°45'20"E)

Masuzawa Formation

Late Miocene

***Rotala hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 30, pl. 5,
fig. 1; text-fig. 5D

Holotype: TPM-492 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Sabal chinensis* (Endo) Huzioka et Takahasi, 1970 see
Sabalites chinensis Endo, 1934**

***Sabal nipponica* Kryshstofovich, 1928**

Jour. Geol. Soc. Tokyo, vol. 25, p. 60, pl. 41, figs. 1-3

Syntypes: Geol. Inst., Univ. Tokyo

Bibai coal-mine, Ishikari Prov., Hokkaido

[prob. Bibai Formation]

Tertiary

**(*Sabalites nipponicus* (Kryshstofovich) Endo, 1934 in Johns
Hopkins Univ. Stud. Geol., no. 11, p. 268, '*nipponica*')**

***Sabalites chinensis* Endo, 1934**

Proc. Imp. Acad. Tokyo, vol. 10, no. 8, p. 487

Holotype: IGPS-51768

Fushun coal-mine, South Manchuria, China

Fushun Group

Late Eocene

**(*Sabal chinensis* (Endo) Huzioka et Takahasi, 1970 in Jour.
Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 49)**

***Sabalites nipponicus* (Kryshstofovich) Endo, 1934 see *Sabal
nipponica* Kryshstofovich, 1928**

***Sabalites oaraiensis* Oyama et Matsuo, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 55, p. 243, fig. 4

Holotype: Dept. Geol., Coll. Liberal Arts, Kanazawa Univ.,

no. 14012

Right bank of Naka-gawa, Oarai, Higashi-Ibaraki-gun,
Ibaraki Prefecture (36°19'28"N, 140°35'27"E)

Oarai Formation

Late Cretaceous

***Sabalites taishuensis* Takahashi, 1958**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 30, p. 187, pl.
27a, fig. 1

Holotype: Kyodo-kan (Museum) at Izuhara

Wakata, Izuhara-machi, Shimoagata-gun, Nagasaki Prefecture

Wakata Formation

Oligocene

***Sabalites yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 420, pl. 4, fig. 2

Holotype: NSM-10453 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizu-sawa), Yubari City,
Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Sagenopteris bilobata* Yabe var. *cuneata* Yabe, 1905**

Jour. Coll. Sci., Imp. Univ. Tokyo, Japan, vol. 20, art. 8, p. 41,
pl. 3, fig. 16b, c

Holotype: Depository not designated. ? Geol. Inst., Univ.
Tokyo

Pul-tang-kokai, 4 km northwest of Naktong, Kyoen-syang-Do,
Korea

Naktong Series

Jurassic

***Sagenopteris bilobata* Yabe var. *major* Yabe, 1905**

Jour. Coll. Sci., Imp. Univ. Tokyo, Japan, vol. 20, art. 8, p. 41,
pl. 3, fig. 16a

Syntypes: Depository not designated. ? Geol. Inst., Univ.
Tokyo

Pul-tang-kokai, 4 km northwest of Naktong, Kyoen-syang-Do,
Korea

Naktong Series

Jurassic

**(*Marchantites yabei* Kryshstofovich, 1930 in Ann. Rep.
Russian Palaeont., vol. 8, p. 145)**

***Sagenopteris ? inequilateralis* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 363, pl.
47, fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8886

Tanzaki, Yuasa-mura, Arita-gun, Wakayama Prefecture

Cretaceous

***Sagenopteris nariwaensis* Huzioka, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 77, p. 232, pl. 24,
fig. 1

Holotype: AKMG
Higashi-Eda, Nariwa-cho, Kawakami-gun, Okayama
Prefecture
Nariwa Formation
Late Triassic

***Sagenopteris petiolata* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 360, pl. 37, figs. 1, 2
Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8511
Rokumambo, Hoto-mura, Toyora-gun, Yamaguchi Prefecture
Kiyosue Formation
Late Jurassic

***Sageretia hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 27, pl. 4, fig. 4; text-fig. 4B, D
Holotype: NSM-PP 16038
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Sagittaria centrostyla* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 96, pl. 1, fig. D
Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
Cliff at Narazaka, Nara City, Nara Prefecture
Pleistocene ?

***Salix akitaensis* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 346, pl. 3, fig. 1
Holotype: AKMG-7508
Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture
Sanzugawa Formation
Late Miocene

***Salix crenatoserrulata* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 8, pl. 15, fig. 2
Holotype: HUMP-25755 [NSM-PP]
Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho,
Tokoro-gun, Hokkaido
Komatsuzawa Formation
Pliocene

***Salix hokiensis* Ozaki, 1979**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 26, p. 43, pl. 3, fig. 6: text-fig. 3A, B
Holotype: GSJ-4825
Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
Tochiwara Formation
Late Miocene

***Salix hokkaidoensis* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 9, pl. 15, fig. 6.
Holotype: HUMP-25618 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-
gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Salix inouei* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 66, pl. 3, fig. 7
Holotype: AKMG-3952
Tsuyukuma, formerly Arase coal-mine, Ani-machi,
Kita-Akita-gun, Akita Prefecture
Aniai (coal-bearing) Formation
Early Miocene

***Salix kitamiensis* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 10, pl. 4, fig. 5
Holotype: HUMP-25753 [NSM-PP]
Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho,
Tokoro-gun, Hokkaido
Komatsuzawa Formation
Pliocene

***Salix k-suzukii* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 269, pl. 4, fig. 12
Holotype: UHR-15107 [NSM-PP]
Funaishi, Ashio-machi, Tochigi Prefecture
Funaishi Formation
Late Miocene

***Salix masamunei* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 234, pl. 46, fig. 6
Holotype: GKZ-10148
Kanmachi, Kashima-gun, Ishikawa Prefecture
Yamatoda Mudstone Member
Middle Miocene [late Early Miocene]

***Salix misaotatawakii* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 10, pl. 4, fig. 2
Holotype: HUMP-25756 [NSM-PP]
Northeast of Ootomi, along River Muka-gawa, Rubeshibe-cho,
Tokoro-gun, Hokkaido
Komatsuzawa Formation
Pliocene

***Salix muraii* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 347, pl. 3, fig. 7; text-fig. 3
Holotype: AKMG-15301
Kurosawagawa, Minase-mura, Ogachi-gun, Akita Prefecture
Sanzugawa Formation
Late Miocene

***Salix parasachalinensis* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 11, pl. 4, fig. 4a.

Holotype: HUMP-25621a [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene

***Salix sanzugawaensis* Huzioka et Uemura, 1974**
Bull. Natn. Sci. Mus., vol. 17, p. 348, pl. 3, figs. 6, 6a
Holotype: AKMG-7524
Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture
Sanzugawa Formation
Late Miocene

***Salix takaminensis* Uemura, 1988**
Late Mioc. Fl. NE Honshu, Japan, p. 138, pl. 8, fig. 9
Holotype: NSM-PP 15980
Loc. Tk-0, Nishi-Takamine, Iide-machi, Nishi-Okitama-gun, Yamagata Prefecture
Takamine Formation
Late Miocene

***Salix tongcheonensis* Huzioka, 1972**
Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 42, pl. 2, fig. 8
Holotype: IGPS-92423
Tongcheon colliery, Kangweon-do, Korea
Tongcheon (coal-bearing) Formation
Middle Miocene [late Early Miocene]

***Salvinia floriniana* Huzioka et Takahasi, 1973**
Bull. Natn. Sci. Mus., vol. 16, no. 1, p. 130, pl. 1, figs. 1, 1a
Holotype: AKMG-5904
Ushiroda, Shimonoseki City, Yamaguchi Prefecture
Hatabu Formation
Middle Miocene

***Salvinia mitsusense* Matsuo, 1967**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 66, p. 52, pl. 5, fig. 2
Holotype: DGLAKZ-14231-2
Mitsuse prospecting-pit, Hashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture
Mitsuse Formaiton
Late Cretaceous

***Salvinia natans* Allioni *fossilis* Oishi et Huzioka, 1941**
Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, no. 2, p. 195, pl. 44, figs. 1, 1a, 2, 2a, 3, 3a, 4
Syntypes: Dept. Geol. Mineral., Hokkaido Univ. and IGPS
Kanta-zawa, Esutoru-machi, Nayoshi-gun and Odasu coal-mine, Mihama-mura, Kushunnai-gun, South Saghalien, Russia
Noda volcanic group
Miocene

***Salvinia pseudiformosa* Oishi et Huzioka, 1943**
Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 8, no. 1, p. 67
Syntypes: Dept. Geol. Mineral., Hokkaido Univ. (pl. 44, figs. 5-9 of Oishi and Huzioka, 1941 in Jour. Fac. Sci., Hokkaido Imp. Univ., vol. 4; *Salvinia formosana* Heer)
Sasakizawa, tributary of River Horonitachibetsu-gawa, Numata-mura, Uryu-gun; Kamihoronobe, Horonobe-mura, Teshio-gun; Yamabe coal-mine, Sorachi-gun, Hokkaido
Miocene

***Sanchucycas gigantea* H. Nishida, M. Nishida et K. Tanaka, 1991**
Bot. Mag. Tokyo, vol. 104, p. 194, figs. 2-15
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 830201
Noguri, Ueno-mura, Tano-gun, Gunma Prefecture (36 ° 04'25"N, 138 °48'46"E)
Lower member of Sebayashi Formation
Cretaceous (Late Barremian to Early Aptian)

***Sapindus kaneharai* Tanai, 1952**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 8, p. 235, pl. 22, figs. 14-15
Syntypes: Geol. Inst., Univ. Tokyo
Geijitsu, Keisho-hokudo, Korea
Ennichi Formation
Middle Miocene

***Sapindus miocenicus* Huzioka, 1963**
Tert. Fl. Japan, 1, Miocene Fl., p. 210, pl. 37, fig. 6
Holotype: AKMG-3171
Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura, Senboku-gun, Akita Prefecture
Utto Formation
Middle Miocene [late Early Miocene]

***Sapindus protomukurossi* Murai, 1963**
Tech. Rep. Iwate Univ., vol. 16, no. 2, p. 45, pl. 18, fig. 1
Holotype: IAGI-61017
Sakamoto-gawa SaU-1, Gomyojin, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39 °42'1"N, 140 °52'19"E)
Upper part of Sakamotogawa Formation
Late Miocene

***Sapindus tanaii* Onoe, 1974**
Geol. Surv. Japan, Rep., no. 253, p. 52, pl. 12, fig. 5
Holotype: GSJ-4594
Loc. A, west of Odo, Oguni-machi, Nishi-Okitama-gun, Yamagata Prefecture
Imaichi Formation
Middle Miocene [late Early Miocene]

***Sapium hokianum* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 22, pl. 2, fig. 11; text-fig. 3

Holotype: TPM-242 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Sapium mogiense* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 327, pl. 6, fig. 4

Holotype: GSJ-4721a

Mogi, Nagasaki City, Nagasaki Prefecture

Mogi (plant-bearing) Formation

Pliocene

***Sapium protojaponicum* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 75, pl. 17, fig. 5

Holotype: IGF-5184 [FM]

Az-28c, Fuji-toge, Yanaizu-machi, Kawanuma-gun,

Fukushima Prefecture (37°33'44"N, 139°43'22"E)

Lower part of Fujitoge Formation

Late Miocene

***Sapium sebiferum* Roxb. var. *pleistoceaca* Miki, 1933**

Bot. Mag. Tokyo, vol. 47, p. 624, pl.-fig. K; text-fig. 4T-V

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Ohbakusan, Uji City, Kyoto Prefecture

Pleistocene

***Sassafras endoi* Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 151, text-fig. 3

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7823

Heigun Island, Yanai City, Yamaguchi Prefecture

Pliocene [Middle Miocene]

***Sassafras fujiokai* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 86, pl. 14, fig. 6

Holotype: IAGI-61036

Sakamoto-gawa SaU-1, Gomyojin, Shizukuishi-cho,

Iwate-gun, Iwate Prefecture (39°42'1"6N, 140°52'19"4E)

Upper part of Sakamotogawa Formation

Late Miocene

***Sassafras yamanei* Imamura, 1957**

Jour. Sci., Hiroshima Univ., Ser. C, vol. 2, no. 1, p. 59, pl. 7, figs. 1-5, pl. 8, figs. 1-2

Syntypes: Dept. Geol., Hiroshima Univ.

Fukui, Nagahama-cho, Hamada City, Shimane Prefecture

Kokubu volcanics

Miocene [Oligocene ?]

***Sassafras yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 433, pl. 24, fig. 5

Holotype: NSM-10552 [NSM-PP]

Loc. 6, middle course of Enhorokabetsu River, Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Sassafras yabei* Endo et Okutsu, 1936**

Proc. Imp. Acad. Tokyo, vol. 12, p. 47, fig. 2

Holotype: IGPS-51776

Osawa-mura, Miyagi-gun, Miyagi Prefecture

Lower Umoregi beds [Shirasawa Formation]

Pliocene [Late Miocene]

***Schefflera fasciata* Miki, 1936**

Chikyu, vol. 26, p. 179, pl. 3, fig. D; text-fig. 9A

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Taniyagi-Higashiei, Akashi City, Hyogo Prefecture

Stegodon bed

Pliocene [Early Pleistocene]

(Excrement remains of caterpillar by Miki, 1937)

***Schima plioceca* Miki, 1963**

Jour. Soc. Earthsci. Amateur., Spec. Vol. (1963), p. 92, fig. G

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Kakushi, Gotsu City, Shimane Prefecture

Plio-Pleistocene

***Schizandra megasperma* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 274, pl. 6, fig. G; text-fig. 13C

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Ichinohora in Tokitsu, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Schizolepis jeholensis* Yabe et Endo, 1934**

Proc. Imp. Acad. Tokyo, vol. 10, no. 10, p. 658, fig. 1

Holotype: IGPS-51771

Ta-shen-fang-tze, 8km north of Ling-yuan, Jehol, South Manchuria, China

Jehol Formation

Early Cretaceous

***Schizoneura heianensis* Kodaira, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 163, pl. 23, figs. 1-6

Syntypes: IGPS

Kaisen coal-field in N. and S. Heian-do, Korea

Upper part of Heian System ?

Older Mesozoic

***Schizoneura ? koraiensis* Kobatake, 1954**

Sci. Rep. Osaka Univ., no. 3, p. 75, fig. 7

Syntypes: Depository not designated. ? Inst. Geol. Sci., Osaka Univ.
Kotenri, Majo-men, Bunkei-gun, North Keisho-do, Korea
Early Jurassic (Lias)

***Schizoneura manchuriensis* Kon'no, 1942**

Jour. Geol. Soc. Japan, vol. 49, p. 238, figs. 1, 2
Syntypes: IGPS [IGPS-78068]
Paochiaoutze, Penchihu coal-field, Northeastern China
Tsaichia Formation
Permian
(See also Kon'no, 1960; Sci. Rep. Tohoku Univ., 2nd Ser., Spec. Vol. no. 4, p. 164)

***Schizoneuroopsis tokudai* Yabe et Shimakura, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 177, pl. 15, figs. 1-4
Holotype: IGPS
Huainan coal-mines, southwestern part of Huaiyuan-hsien, Anhui Prov., China
Permian

***Schizophragma mitokuensis* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 42, pl. 11, fig. 4
Holotype: GSJ-4158
Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene

***Schizophragma protohydrangeoides* K. Suzuki Ibe et Ogawa, 1970**

Monogr. Assoc. Geol. Collab. Japan, no 16, p. 23, pl. 3, fig. 12
Holotype: RSG-1180 (Res. Inst. Sci. Educ. Gunma Pref.)
Cliff ca. 2.5 km NNW of Oogami, Hoshio, Nanmoku-mura, Kanra-gun, Gunma Prefecture
Upper Mitojuku Formation
Late Miocene

***Sciadopityostrobus kerae* Saiki, 1992**

American Jour. Bot., vol. 79, p. 992, figs. 2-13, 15-22
Holotype: INH-0006 (Inst. Nat. Hist., Tokyo)
Kamimakizawa valley in Oyubari, Yubari City, Hokkaido (142°09'E, 43°08'N)
Middle to Upper Yezo Group
Late Cretaceous (Cenomanian-Coniacian)

***Sciadopitys cretacea* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 472, pl. 22, figs. 6-7; text-figs. 13, 14
Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
Yubari, Ishikari Prov., Hokkaido
Late Cretaceous

***Sciadopitys shiragica* Huzioka, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 40, pl. 1, fig. 14
Holotype: IGPS-92314
Pohang, Kyongsang-bukdo, Korea
Yeonil Shale, Yeonil Group
Middle Miocene

***Sciadopitys yezo-koshizakae* Ohsawa, M. Nishida et H. Nishida, 1991**

Acta Phytogeogr. Phytotax., vol. 39, p. 97, figs. 1-22
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73012
River Ikushunbetsu, dam site of Lake Katsura-zawa, Mikasa City, Hokkaido (43°14'22"N, 142°00'23"E)
Middle Yezo or Upper Yezo Group
Late Cretaceous

***Sequoia chinensis* Endo, 1928**

Japan. Jour. Geol. Geogr., vol. 6, nos. 1-2, p. 27, pl. 7, figs. 1-3
Syntypes: IGPS-7831, 30179, 30180
Fu-shun coal-mine, Manchuria, China; Kawakami coal-mine, Toyohara-gun, Sakhalin, Russia; Ponbetsu coal-mine, Mikasa City, Hokkaido
Eocene

***Sequoia hondoensis* Yasui, 1917**

Ann. Bot., vol. 31, no. 121, p. 101, pl. 4
Holotype: Bot. Inst., Univ. Tokyo [TI]
Aichi-Gifu coal-field, Aichi Prefecture
Lignitic coal beds
Neogene Tertiary

***Sequoia japonica* Endo, 1936**

Proc. Imp. Acad. Tokyo, vol. 12, p. 172, figs. 12-13
Syntypes: IGPS-51735
Nishiyagi, Okubo-mura, Akashi-gun [Akashi City], Hyogo Prefecture; Nagai, Kawanishi-mura, Kawanuma-gun, Fukushima Prefecture; Magaribuchi, Soya-gun, Hokkaido; Shiogama, Miyagi Prefecture; Fugando, Meisen-gun, Kankyo-Hokudo, Korea
Pliocene; Miocene
(*Metasequoia japonica* (Endo) Miki, 1941 in Japan. Jour. Bot., vol. 11, p. 262)

***Sequoia jeholensis* Endo, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 1, p. 17, pl. 12, figs. 1, 2
Holotype: IGPS-60980
Lingyuan, Jehol, South Manchuria, China
Lycoptera bed
Late or Middle Jurassic

***Sequoia onukii* Endo, 1936**

Proc. Imp. Acad. Tokyo, vol. 12, p. 173, fig. 6
 Holotype: IGPS-51785
 Fu-shun coal-mine, South Manchuria, China
 Eocene

***Sequoia rumoensis* Endo, 1936**

Proc. Imp. Acad. Tokyo, vol. 12, p. 173, fig. 4
 Holotype: IGPS-51731
 Owada coal-mine, Rumoi-gun, Teshio Prov., Hokkaido
 Eocene

***Sequoiadendron primarium* Miki, 1965**

Bull. Mukogawa Women's Univ., vol. 13, p. 1, pl. 1, figs. A-E; text-fig. 1A.
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
 Tokitsu, Toki City, Gifu Prefecture
Pinus trifolia bed
 Pliocene
 (*Protosequoia primaria* (Miki) Miki, 1969 in Proc. Japan Acad., vol. 45, p. 731)

***Sequoiaxylon miyagiense* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 1, pt. 4, p. 424, pl. 18, figs. 68-73
 Holotype: Bot. Inst., Univ. Tokyo [TI]
 Mukoyama, Sendai City, Miyagi Prefecture
 Lignite beds
 Pliocene

***Shirakiopteris concinna* Kon'no, 1950**

Jour. Geol. Soc. Japan, vol. 56, no. 654, p. 95, text-fig. 1
 Holotype: IGPS
 Pen-hsi-hu coal-field, Manchuria, China
 Huangchi Formation
 Early Permian

***Shirakiopteris penhsihuensis* Kon'no, 1950**

Jour. Geol. Soc. Japan, vol. 56, no. 654, p. 95, text-fig. 4
 Holotype: IGPS
 Pen-hsi-hu coal-field, Manchuria, China
 Tsaichia Formation
 Middle Permian

***Smilax hokkaidoensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 462, pl. 6, fig. 2
 Holotype: HUMP-25900 [NSM-PP]
 Harutori pit, Harutori mine, Kushiro City, Hokkaido
 Harutori Formation
 Early Oligocene [late Middle Eocene]

***Smilax minor* Morita, 1931**

Japan. Jour. Geol. Geogr., vol. 9, nos. 1-2, p. 8, pl. 1, figs.

13-19

Syntypes: IGPS
 Oguni-machi, Nishi-Okitama-gun, Yamagata Prefecture
 Miocene

***Smilax trinervis* Morita, 1931**

Japan. Jour. Geol. Geogr., vol. 9, nos. 1-2, p. 7, pl. 1, figs. 10-12
 Syntypes: IGPS
 Oguni-machi, Nishi-Okitama-gun, Yamagata Prefecture
 Miocene

***Solenostelopteris loxsomoides* Ogura, 1930**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 5, p. 385, text-figs. 5-7
 Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
 Yubari, Ishikari Prov., Hokkaido
 Late Cretaceous
 (*Loxsopteris loxsomoides* (Ogura) M. Nishida et H. Nishida, 1932 in Acta Phytotax. Geobot., vol. 33, p. 306)

***Sophora hokiana* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 55, pl. 7, figs. 18 18a; text-fig. 9D
 Holotype: NSM-PP16129
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

***Sophora spatulata* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 63, pl. 12, fig. 2
 Holotype: AKMG-3592
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Sorbus hokiensis* Ozaki, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 46, pl. 6, fig. 5
 Holotype: TPM-409 (Tottori Pref. Mus.)
 Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture
 Tochiwara Formation
 Late Miocene

***Sorbus lanceolata* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 32, pl. 13, fig. 2.
 Holotype: HUMP-25702 [NSM-PP]
 Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
 Shanabuchi Formation
 Late Miocene

***Sorbus nipponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 44, pl. 14, fig. 8

- Holotype: GSJ-4162
Mitoku, Misasa-cho, Tohaku-gun, Tottori Prefecture
Mitoku Formation
Late Miocene
- Sorbus palaeojaponica* Murai, 1969**
Tech. Rep. Iwate Univ., vol. 4, p. 61, pl. 3, fig. 6
Holotype: IAGI-67003
Loc. 2; Yokokawame, Waga-cho, Waga-gun, Iwate Prefecture
Hishinai Formation
Late Middle Miocene
- Sorbus protoalnifolia* Tanai et N. Suzuki, 1965**
Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 32, pl. 21, fig. 3.
Holotype: HUMP-25703 [NSM-PP]
Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido
Shanabuchi Formation
Late Miocene
- Sorbus protorufo-ferruginea* Murai, 1963**
Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 92, pl. 14, fig. 13
Holotype: IAGI-61108
Yono-sawa Ma-6, Goshō, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°39'4"N, 140°56'40"E)
Masuzawa Formation
Late Miocene
- Sorbus uzenensis* Huzioka, 1964**
Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 86, pl. 13, figs. 8, 8a
Holotype: AKMG-5047
Sanze, Tsuruoka City, Yamagata Prefecture
Atsumi Formation
Early Miocene
- Sparganium protojaponicum* Miki, 1948**
Kobutsu-to-Chishitsu, no. 9, p. 133
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Shidatani, Shimagahara-mura, Ayama-gun, Mie Prefecture
Metasequoia bed
Pliocene
(Miki, 1938 in Japan. Jour. Limnol. Soc. Tokyo, vol. 8, p. 411, fig. 1B; *Sparganium* sp.)
- Sphenobaiera coreanica* Kim et Kimura, 1987**
Proc. Japan Acad., Ser. B, vol. 63, p. 183, fig. 1
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. YYH-016
Yeonhari, Sangdong-up, Yeongweol-gun, Guangweon-do, Korea (ca. 37°11'15"N, 128°32'43"E)
Hyeoncheonri Formation, Bansong Group
Late Triassic

- Sphenobaiera nipponica* Kimura et Tsujii, 1984**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 133, p. 268, pl. 56, fig. 3; text-fig. 3f
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NNW-627
Nishi-Neiridani, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation, Kuruma Group
Early Jurassic
- Sphenophyllum densinerve* Yabe et Oishi, 1938**
Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 224, pl. 32, fig. 7
Holotype: IGPS-62775c
Wu-kuei-kang, Fukien Prov., China
Permian
- Sphenophyllum endoseidoi* Nagai, 1935**
Manshu Kyoiku Kenkyujo Yoho, vol. 4, p. 74, pl. 2, figs. 9-10
Syntypes: IGPS
Penchihu, Manchuria, China
- Sphenophyllum grandifolium* Kobatake, 1957**
Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 23 (Spec. Vol.), p. 58, pl. 23, figs. 5.
Holotype: Depository not designated. ? Inst. Geol. Sci., Osaka Univ.
Kobosan district, Phyongyang (Pyongyang) coal field, Korea
Kobosan Series
Permian
- Sphenophyllum koboense* Kobatake, 1957**
Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 23 (Spec. Vol.), p. 57, pl. 23, figs. 6-8; pl. 24, figs. 4, 5.
Syntypes: Depository not designated. ? Inst. Geol. Sci., Osaka Univ.
Kobosan and Taisei districts, Phyongyang (Pyongyang) coal field, Korea
Kobosan Series
Permian
- Sphenophyllum shansiense* Asama, 1966**
Bull. Natn. Sci. Mus., vol. 9, p. 604, pl. 1, fig. 2
Holotype: IGPS-62389
Shansi, China
Taiyuan Series or Shansi Series ?
Permian
- Sphenophyllum sino-coreanum* Yabe, 1922**
Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 7, no. 1, p. 3, text-fig. 1, pl. 6, fig. 1
Syntypes: IGPS
Kobosan district in Heijō coal-field, Korea

***Sphenophyllum* cf. *speciosum* Kawasaki subsp. *minor* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 170, pl. 11, figs. 8, 9

Syntypes: IGPS-90113, 90114*

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Sphenophyllum spinulosum* Yabe et Oishi, 1928**

Japan. Jour. Geol. Geogr., vol. 6, nos. 1-2, p. 52, pl. 8, figs. 1-6

Syntypes: IGPS-30382

Shih-pu-tzui, 20 Chinese li NNW. of Ping-ting-chow, Prov. Shansi, China

Yuehmenkou Formation

***Sphenophyllum trapaefolium* Stockm. et Math. subsp. *minor* Kon'no, 1968**

Sci. Rep. Tohoku Univ., 2nd Ser., vol. 39, p. 169, pl. 11, figs. 12-13

Syntypes: IGPS-90117, 90118

Kaishantun, eastern border of Northeast China (42°42'N, 129°41'E)

Kaishantun (plant-bearing) Formation

Early Late Permian

***Sphenopteris fukiensis* Yabe et Oishi, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., vol. 19, no. 2, p. 225, pl. 32, fig. 16

Holotype: IGPS-62775a

Wu-kuei-kang, Fukien Prov., China

Permian

***Sphenopteris gracilis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 309, pl. 40, fig. 1

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4136

Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Sphenopteris yokoyamai* Yabe, 1927**

Japan. Jour. Geol. Geogr., vol. 5, p. 223, pl. 23, figs. 1, 2

Holotype: IGPS

Furuke near Masaki, Katsuura-gun, Tokushima Prefecture

Monobegawa Group

Early Cretaceous

***(Onychipopsis yokoyamai (Yabe) Kimura et Aiba, 1986* in**

Bull. Natn. Sci. Mus., Ser. C, vol. 12, p. 44)

***Spiraea kushiroensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 482, pl. 7,

fig. 3

Holotype: HUMP-25969 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Spiraea protothunbergii* Tanai et N. Suzuki, 1965**

Palaeont. Soc. Japan, Spec. Pap., no. 10, p. 33, pl. 2, fig. 7.

Holotype: HUMP-25704 [NSM-PP]

Kamishanabuchi, along Minami-zawa, Engaru-cho, Monbetsu-gun, Hokkaido

Shanabuchi Formation

Late Miocene

***Spondias axillaris* Roxb. var. *polymeris* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 282, pl. 6, fig. 1a; text-fig. 16Ja-b

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Hatagoya, Mizukami, Sue-cho [Mizunami City]; Osusawa, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Stachycarpites projectus* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 458, pl. 23, figs. 8-12; text-figs. 4-7

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 8Y1a, 9-11 [TI]

Yubari, Ishikari Prov., Hokkaido

Late Cretaceous

***Stenopteris cyclostoma* Saiki, Kimura et Horiuchi, 1991**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 164, p. 971, figs. 2, 3, 6 (1, 2, 8, 9), 7 (1, 2, 5, 6, 8)

Holotype: NSM-PP 9009

Ashikajima, Choshi City, Chiba Prefecture

Ashikajima Formation, Choshi Group

Early Cretaceous (Barremian)

***Stenorachis bitchuensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 357, pl. 50, fig. 9

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4147

Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Stenorachis elegans* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 357, pl. 50, fig. 10

Holotype: IGPS-3910

Yamamoto, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Stenorachis (Ixostrobus?) konianus* Oishi et Huzioka, 1938**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 4, nos. 1-2, p. 97, pl. 11, fig. 7

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 7919

Loc. 50 (Nishihata), Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Stephania matsushitai* Hojo, 1973**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 22, p. 27, pl. 8, fig. 21

Holotype: Dept. Geol., Kyushu Univ. ?

Cutting along road from Tsunodani to Okitani, Takakubo lignite field, Shimane Prefecture

Takakubo (coal-bearing) Formation

Middle Miocene [late Early Miocene]

***Stewartia hokiana* Ozaki, 1980**

Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 27, p. 20, pl. 1, fig. 7

Holotype: TPM-307 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Stewartia notoensis* M. Suzuki et K. Terada, 1996**

Int. Assoc. Wood Anat. Jour., vol. 17, p. 377, figs. 18-22

Holotype: TUSG, Wood Coll. no. 53970

Mawaki, Noto-machi, Fugeshi-gun, Ishikawa Prefecture

Yanagida Formation

Early Miocene

***Stewartia okutsui* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 374, pl. 25, fig. 10

Holotype: UHR-15255 [NSM-PP]

Chausu-yama, Shinonoi City, Nagano Prefecture

“Ogawa” Formation

Late Miocene

***Stewartia submonadelpha* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 53, pl. 18, fig. 6

Holotype: GSJ-4192

Mitoku, Misasa-cho, Tohaku-gun, Tottori Prefecture

Mitoku Formation

Late Miocene

***Styrax laevigata* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 295, pl. 7, fig. G; text-fig. 20C

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Ichinokuraguchi, Tajimi City and Osusawa, Toki City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Styrax miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 725, pl. 16, fig. 3

Holotype: AKMG-6373

Tozawa, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

***Styrax pentastrata* Miki, 1966**

Bull. Mukogawa Women's Univ., vol. 14, p. 14, fig. 7C.

Holotype: [OSA]

Kasuisai, near Fukuroi, Shizuoka Prefecture

Pleistocene

***Styrax protojaponica* Tanai, 1976**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, p. 340, pl. 2, fig. 4

Holotype: GSJ-4760

Mogi, Nagasaki City, Nagasaki Prefecture

Mogi (plant-bearing) Formation

Pliocene

***Styrax protoobassia* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 440, pl. 18, figs. 2, 4

Holotype: NSM-10517 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

(Later homonym of *Styrax protoobassia* Tanai et Onoe, 1961)

***Styrax protoobassia* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 56, pl. 18, fig. 1

Holotype: GSJ-4202

Ningyo-toge, Misasa-cho, Tohaku-gun, Tottori Prefecture

Ningyo-toge Formation

Pliocene

***Styrax rugosa* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 295, pl. 7, fig. Ha; text-fig. 20D, E

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa and Ichinohora, Toki City; Ichinokuraguchi, Tajimi City, Gifu Prefecture

Pinus trifolia bed

Pliocene

***Styrax saseboense* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 385, pl. 31, fig. 7

Holotype: GSJ-4307

Kida coal mine, Emukae-machi, Kita-matsuura-gun,

Nagasaki Prefecture
Ainoura Formation
Early Miocene [Oligocene]

***Sycopsis chaneyi* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 85, pl. 19, fig. 4

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-583

Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Symplocos higashiyamaensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 89, pl. 19, fig. 12

Holotype: IGF-5019 [FM]

Az-1, cliffs of Yukawa River, Innai, Higashiyama-machi, Aizuwakamatsu City, Fukushima Prefecture (37°28'42"N, 139°57'28"E)

Lower part of Tamaji Formation

Middle Miocene

***Symplocos tricarpa* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 293, pl. 7, fig. J; text-fig. 20H

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Hatagoya, Mizukami, Sue-cho [Mizunami City], Gifu Prefecture; Fuke, Sennan-gun, Osaka Prefecture

Pinus trifolia bed; Osaka Group

Pliocene

***Syringa notoensis* Ishida, 1970**

Mem. Fac. Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 102, pl. 17, fig. 10

Holotype: Dept. Geol. Mineral., Kyoto Univ., no. JC88-565

Takaya, Suzu City, Ishikawa Prefecture

Yanagida Formation

Middle Miocene [late Early Miocene]

***Syzygium chaneyi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 70, pl. 16, fig. 5

Holotype: AKMG-3497

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Taeniopteris arakawae* Asama, 1981**

Bull. Natn. Sci. Mus., vol. 7, p. 7, pl. 6, fig. 5

Holotype: NSM-PP 5538

Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture

Nishikori Formation

Early Permian

***Taeniopteris emarginata* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 423, pl.

46, figs. 1-3

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 8512

Kuwashima, Shiramine-mura, Nomi-gun, Ishikawa Prefecture

Tetori Group

Jurassic

***Taeniopteris gracilis* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p. 28, text-fig. 15, pl. 10, figs. 8-12, pl. 12, fig. 7

Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. A-1085, 2098, 2087, 3001, 3029, 3049, 2095, 2094, 2093, 2082, 9022, 9023*

South of Iwamuro along Katashina-gawa, Shirasawa-mura,

Tone-gun, Gunma Prefecture

Iwamuro Formation

Jurassic (Lias)

***Taeniopteris lanceolata* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, p. 325, pl. 43, figs. 5-9

Isotype: Dept. Geol. Mineral., Hokkaido Univ., no. 4008

Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Taeniopteris linearifolia* Asama, 1981**

Bull. Natn. Sci. Mus., vol. 7, p. 8, pl. 11, fig. 8

Holotype: NSM-PP 5573

Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture

Nishikori Formation

Early Permian

***Taeniopteris maiyaensis* Asama, 1981**

Bull. Natn. Sci. Mus., vol. 7, p. 6, pl. 7, fig. 5

Holotype: NSM-PP 5517

Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture

Nishikori Formation

Early Permian

***Taeniopteris minensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 2, no. 1, p. 60, pl. 10, figs. 1-5

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 4161, 4162, 4224, 6165

Kusai-gawa and Momonoki, Yamaguchi Prefecture

Mine Formation

Triassic

***Taeniopteris motoiwaensis* Asama et Murata, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 254, pl. 2, fig. 4

Holotype: NSM-PP 5638

Setamai, Sumita-cho, Kesen-gun, Iwate Prefecture

Upper Sakamotozawa Formation

Permian (Late Artinskian)

***Taeniopteris nabaensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4, p. 328, text-fig. 3, pl. 43, figs. 11-13
 Syntypes: Dept. Geol. Mineral., Hokkaido Univ., no. 3894
 Nabae, Nariwa-cho, Kawakami-gun, Okayama Prefecture
 Nariwa Formation
 Late Triassic

***Taeniopteris oishii* Asama, 1981**

Bull. Natn. Sci. Mus., vol. 7, p. 9, pl. 13, fig. 4
 Holotype: NSM-PP 5685
 Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture
 Nishikori Formation
 Early Permian

***Taeniopteris paradensissima* Asama, 1981**

Bull. Natn. Sci. Mus., Ser. C, vol. 7, p. 3, pl. 2, fig. 1
 Holotype: NSM-PP 5493
 Furudate, Maiya, Towa-cho, Tome-gun, Miyagi Prefecture
 Nishikori Formation
 Early Permian

***Taeniopteris setamaiensis* Asama et Murata, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 254, pl. 1, fig. 2
 Holotype: NSM-PP 5669
 Setamai, Sumita-cho, Kesen-gun, Iwate Prefecture
 Upper Sakamotozawa Formation
 Permian (Late Artinskian)

***Taeniopteris shitakensis* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ. Ser. 4, vol. 5, p. 10, pl. 3, fig. 8
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 3860
 Shitaka (Maizuru coal-field), Kyoto Prefecture
 Shitaka Formation
 Jurassic

***Taeniopteris undulata* Kimura, 1959**

Bull. Senior High School, Tokyo Univ. Educ., no. 3, p. 113, pl. 2, fig. 6
 Syntypes: Inst. Earth Sci., Senior High School, Tokyo Univ. Educ., nos. M-9010, 8083, 8084
 Mochiana, Kami-Anama-mura, Ono-gun, Fukui Prefecture
 Kuzuryu Subgroup, Tetori Group
 Jurassic

***Taeniopteris uwatokoi* Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, no. 1, vol. 3, p. 90, pl. 8, figs. 5-7
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6315
 Tungning, Pinchiang Prov., Manchuria, China
 Late Jurassic

***Taeniopteris yabei* Nagai, 1935**

Manshu Kyoiku Kenkyujo Yoho, vol. 4, p. 81, pl. 5, figs. 2-3
 Syntypes: IGPS
 Penchihi, Manchuria, China

***Taiwania eocenica* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 45, pl. 2, fig. 5
 Holotype: DGLAKZ-13349
 Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture
 Hashima Formation
 Late Eocene [Middle Eocene]

***Taiwania japonica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., p. 187, p. 19, pl. 1, fig. 4
 Holotype: GSJ-4068
 Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture
 Mitoku Formation
 Late Miocene

***Taiwania mesocryptomerioides* Matsuo, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 80, p. 384, pl. 43, fig. 3
 Holotype: DGLAKZ-12511a
 Goshogawara, Tani-machi, Katsuyama City, Fukui Prefecture
 Omichidani Formation
 Late Cretaceous

***Taxaceoxylon japonomesozoicum* M. Nishida, 1973**

Bot. Mag. Tokyo, vol. 86, p. 193, figs. 4, 9B-E
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 70004
 Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture
 (35°41'56"N, 140°51'59"E)
 Choshi Group
 Early Cretaceous

***Taxaceoxylon (Torreyoxylon) saghalienense* H. Nishida et M. Nishida, 1986**

Bot. Mag. Tokyo, vol. 99, p. 210, figs. 4, 5.
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 11029
 Jyuhachirinpan-zawa, affluent of Nayba (Naibuchi) River, Sakhalin, Russia
 Miho Group
 Late Cretaceous (Late Turonian-Santonian)

***Taxodioxylon compressum* Ogura, 1944**

Japan. Jour. Bot., vol. 13, no. 3, p. 357, pl. 4, figs. G-I; text-fig. 1E, F
 Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
 River Oyubari, Oyubari, Hokkaido
 Cretaceous

***Taxodioxyton cunninghamioides* (Watari) Watari, 1966** see
***Glyptostroboxylon cunninghamioides* Watari, 1947**

***Taxodioxyton ishikuraense* Takamatsu, 1929**

Sci. Rep., Tohoku Imp. Univ., 4th Ser., vol. 4, no. 3, p. 537,
text-fig. 4, pl. 23, figs. 1-6

Holotype: Biol. Inst., Tohoku Univ.

Ishikura-colliery, Sendai City, Miyagi Prefecture
[Sendai Group]

Pliocene

***Taxodioxyton matsuiwa* Watari, 1966**

Bot. Mag. Tokyo, vol. 79, p. 165, figs. 1, 3-5

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 72102 [TI]

Tagawa-pit, Tagawa coal mine, Fukuoka Prefecture
Paleogene

***Taxodioxyton nihongii* M. Nishida et H. Nishida, 1985**

Jour. Japan. Bot., vol. 60, p. 314, pl. 15; pl. 17, figs. A, B;
text-fig. 2

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
73242

Kumaoui-zawa, tributary of Ikushunbetsu River, Ikushunbetsu,
Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)

Middle part of Upper Yezo Group

Late Cretaceous (Coniacian)

***Taxodioxyton paranihongii* M. Nishida et H. Nishida, 1985**

Jour. Japan. Bot., vol. 60, p. 316, pl. 16; pl. 17, figs. C, D

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
73522

Kumaoui-zawa, tributary of Ikushunbetsu River, Ikushunbetsu,
Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)

Middle part of Upper Yezo Group

Late Cretaceous (Coniacian)

***Taxodioxyton pseudoalbertense* M. Nishida et H. Nishida,
1985**

Jour. Japan. Bot., vol. 60, p. 313, pl. 14; text-fig. 1

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no.
73504

Kumaoui-zawa, tributary of Ikushunbetsu River, Ikushunbetsu,
Mikasa City, Hokkaido (43°14'25"N, 142°03'05"E)

Middle part of Upper Yezo Group

Late Cretaceous (Coniacian)

***Taxodium manshuense* Endo, 1942**

Bull. Cent. Natn. Mus. Manch., no. 3, p. 40, pl. 16, fig. 8

Holotype: IGPS

Fushun coal-field, Fengtien Prov., China

Fushun coal-bearing formation

Paleogene [Eocene]

***Taxodium thaiensis* Endo, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 178, pl. 10, fig. 5, 6

Holotype: ?*

Amphoe Li, Chagwat Lamphun, northern Thailand (17°50'N,
99°05'E)

Lignite and oil shale-bearing Tertiary formation

Paleogene

***Taxoxylon torreyanum* Shimakura, 1936**

Jour. Geol. Soc. Japan, vol. 43, no. 512, p. 297, pl. 17

Syntypes: IGPS-58421-58423

Hodogaya-Motomachi, Kamikurata and Naganuma, Yokohama
City, Kanagawa Prefecture

Kamikurata lignite bed

Pleistocene

***Tempskya iwatensis* H. Nishida, 1986**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 143, p. 435, pls.
87-89; text-fig. 2

Holotype: IPMM-31003 (Iwate Pref. Mus.); both ends of the
specimen and their micropreparations are deposited in Lab.
Phylog. Bot., Fac. Sci., Chiba Univ.

Oh-hama, Yagi, Taneichi-machi, Sannohe-gun, Iwate
Prefecture (40°21'12"N, 141°45'30"E)

Taneichi Formation

Late Cretaceous (Santonian)

***Terminalia japonica* Morita, 1936**

Jour. Geol. Soc. Japan, vol. 40, p. 355, fig. 1

Holotype: ? IGPS

Oguni-machi, Nishi-Okutama-gun, Yamagata Prefecture

“Oguni plant bed” [Oguni Formation]

Early to Middle Miocene

(*Carpolithes japonica* (Morita) Ishida, 1970 in Mem. Fac.
Sci., Kyoto Univ., Ser. Geol. Mineral., vol. 37, p. 103)

***Ternstroemia maekawai* Matsuo, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 241, pl. 50, fig. 1

Holotype: GKZ-12776

Kanmachi, Kashima-gun, Ishikawa Prefecture

Yamatoda Mudstone Member

Middle Miocene [late Early Miocene]

***Ternstroemia setoi* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 68, pl.
14, fig. 10

Holotype: AKMG-3437B

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Ternstroemiacinium hisauchii* Watari, 1943**

Japan. Jour. Bot., vol. 13, p. 261, pl. 2; text-figs. 1-3

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 31106 [TI,

missing ?]
Minamiota, Yokohama City, Kanagawa Prefecture
Pliocene

***Tetoria endoi* Kimura et Sekido, 1974**

Birbal Sahni Inst. Palaeobot., Spec. Publ., no. 2, p. 23, pl. 1;
text-figs. 2-4

Holotype: KM-61452 (Komatsu City Mus.)

Mekkodani, Mekkodani River, Oguchi-mura, Ishikawa-gun,
Ishikawa Prefecture

Kuwashima Formation, Itoshiro Subgroup (Tetori Group)

Early Cretaceous

***Tetoriophyllum reniformis* (Oishi) Kimura, 1991** see
***Dictyozamites reniformis* Oishi, 1936**

***Tetracentron ibei* K. Suzuki, 1967**

Proc. Japan Acad., vol. 43, p. 528, fig. 1

Holotype: IGF-6001 [FM]

Cliff ca. 1.5 km north of Hirokawara, Nanmoku-mura,
Amara-gun, Gunma Prefecture

Kabutoiwa Formation

Late Miocene or Early Pliocene

***Tetracentron japonoxylum* M. Suzuki, Joshi et Noshiro,
1991**

Bot. Mag. Tokyo, vol. 104, p. 37, figs. 1-3, 5, 7-14.

Holotype: Inst. Biol., Coll. Lib. Arts, Kanazawa Univ., no.
80084 [TUSG]

Cliff at Yukinobe, Uchiura-machi, Suzu-gun, Ishikawa
Prefecture (37°20'N, 137°13'E)

Yanagida Formation

Middle Miocene [late Early Miocene]

***Tetracentron masuzawaensis* (Murai) Ozaki, 1987** see
***Hovenia masuzawaensis* Murai, 1963**

***Tetracentronites japonica* M. Nishida, 1962**

Japan. Jour. Bot., vol. 18, p. 92, pls. 7, 8; text-figs. 9-11.

Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 1004
Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture
(35°41'56"N, 140°51'59"E)

Choshi Group

Early Cretaceous

***(Phoroxylon japonicum* (M. Nishida) M. Suzuki, Johshi et
Noshiro, 1991** in Bot. Mag. Tokyo, vol. 104, p. 47)

***Tetrastigma japonica* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 256,
pl.-figs. I-K; text-figs. A-D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Shishimuta, Nogami-cho, Oita Prefecture; Shika, Takajo-cho,
Miyazaki Prefecture; Shimoshitani, Ikeda, Osaka
Prefecture

Lignite beds

Pleistocene

***Tetrastigma tazimiensis* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 258,
pl.-fig. L; text-fig. 6E

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Shimoiguta, Tajimi City, Gifu Prefecture

Pinus trifolia bed

Early Pliocene

***Thaumatopteris elongata* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4,
p. 295, pl. 34, fig. 2; pl. 35, figs. 1-2

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3948,
4021

Kamihina, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Thaumatopteris nipponica* Oishi, 1932**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 1, nos. 3-4,
p. 293, pl. 30, figs. 5-6; pl. 33, figs. 2-3; pl. 34, fig. 1; pl. 39,
fig. 5b

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 3969,
3944, 3957, 3961

Eda, Nariwa-cho, Kawakami-gun, Okayama Prefecture

Nariwa Formation

Late Triassic

***Thea ubensis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, 68, pl. 15,
fig. 2

Holotype: AKMG-3423A

Kami-Umeda, Ube City, Yamaguchi Prefecture

Okinoyama Formation

Late Eocene [Middle Eocene]

***Thuja iwasae* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 64, pl. 3,
figs. 1, 1a, 2

Syntypes: AKMG-3856, 3858

Haginari locality, Ko-Ani-mura, Kita-Akita-gun and Ochiai,
Gojonome-machi, Minami-Akita-gun, Akita Prefecture

Aniai (coal-bearing) Formation

Early Miocene

***Thuja nipponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 19, pl. 1, fig. 11a

Holotype: GSJ-4069

Ningyo-toge, Misasa-cho, Tohoku-gun, Tottori Prefecture

Ningyo-toge Formation

Pliocene

***Thuja protojaponica* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 380, fig. 2C
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Manjidani, Nishinomiya City, Hyogo Prefecture
Larix bed
 Pleistocene

***Thujopsis miadolabrata* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 105, pl. 3, fig. 9
 Holotype: HUMP-25506 [NSM-PP]
 Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido
 Fukuyama Formation
 Miocene

***Thyrsopterorachis mesozoica* H. Nishida et M. Nishida, 1979**

Bot. Mag. Tokyo, vol. 92, p. 188, figs. 1, 2A, 3A, 4A, 5A, B
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 73221
 Oh-Yubari, Yubari City, Hokkaido (43°01'12"N, 142°05'56"E)
 Upper Yezo Group
 Late Cretaceous

***Tilia eo japonica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 438, pl. 18, fig. 3
 Holotype: NSM-10516 [NSM-PP]
 Loc. 1, Shin Yubari colliery, Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]

***Tilia harutoriensis* Oishi et Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p. 76, pl. 8, fig. 1
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9261
 Harutori coal-mine, Kushiro City, Hokkaido
 Harutori Formation
 Oligocene [late Middle Eocene]
 (*Alchornea harutoriensis* (Oishi et Huzioka) Tanai, 1990 in Bull. Natn. Sci. Mus., Ser. C, vol. 16, p. 100)

***Tilia hommashinichii* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 95, pl. 16, figs. 3, 4
 Syntypes: AKMG-3333, 3339*
 Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
 Suginoura Formation
 Early Miocene

***Tilia kabutoiwaensis* K. Suzuki, Ibe et Ogawa, 1970**

Monogr. Assoc. Geol. Collab., no. 16, p. 24, pl. 4, fig. 3; pl. 5, fig. 1
 Syntypes: RSG-1551, 1552 (Res. Inst. Sci. Educ. Gunma Pref.)*

Ca. 2.5km NNW of Oogami, Hoshio, Nanmoku-mura, Kanra-gun, Gunma Pref.; ca. 0.3 km south of Mt. Kabutoiwa, Nakagome, Saku City, Nagano Prefecture
 Upper Mitojuku Formation
 Late Miocene

***Tilia kon'noi* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 85, pl. 19, fig. 3
 Holotype: IGF-5198 [FM]
 Az-22a, river cliff of Ichinoki River, Shiroko lignite mine, ca. 600 m SW of Shiroko, Yamato-machi, Yama-gun, Fukushima Prefecture (37°40'13"N, 139°47'02"E)
 Lower part of Fujitoge Formation
 Late Miocene

***Tilia maximoviczianoides* Oyama, 1956**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 6, p. 65, pl. 4, fig. 1, pl. 9, fig. 2
 Syntypes: Fac. Lib. Arts, Ibaraki Univ. (GIMU no. 200-26a,b)
 Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture
 Oarai Formation
 Late Cretaceous
 (Lectotype: no. 200-26a, by Oyama, 1961)

***Tilia meisenensis* Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p. 125, pl. 12, fig. 5
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9270
 Yutendo, Meisen-gun, N. Kankyo-do, Korea
 Ryudo [Yongdong] Formation
 Early Miocene

***Tilia protojaponica* Endo, 1966**

Trans Proc. Palaeont. Soc. Japan, N. S., no. 61, p. 189, pl. 23, fig. 3
 Holotype: IGPS ?
 Minase-mura, Ogachi-gun, Akita Prefecture
 [Sanzugawa Formation]
 Late Miocene

***Tilia remotiserrata* Oishi et Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p. 77, pl. 8, figs. 2, 2a
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9262
 Nayoshi, Nayoshi-machi, Nayoshi-gun, Sakhalin, Russia
 Esutoru Formation
 Middle Miocene [late Early Miocene]

***Tilia rozenensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 84, pl. 19, fig. 1
 Holotype: IGF-1537 [FM]
 Ry-4, river cliff in southern valley of Kawadaira, Marumori-machi, Igu-gun, Miyagi Prefecture (37°47'05"N,

140°44'20"E)
Lower part of Ryozen Formation
Early Miocene

***Tilia sekiensis* Huzioka et Nishida in Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 96, pl. 14, figs. 7, 8
Syntypes: AKMG-3328a, 3332*
Seki, Aikawa-machi, Sado-gun, Niigata Prefecture
Suginoura Formation
Early Miocene

***Tilia subnobilis* Huzioka, 1943**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 7, no. 1, p. 125, pl. 22, figs. 2-3
Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 9271, 9273
Yuten-do, Meisen-gun, N. Kankyo-do, Korea
Ryudo [Yongdong] Formation
Early Miocene

***Tingia elegans* Kon'no, 1929**

Japan. Jour. Geol. Geogr., vol. 6, p. 142, pl. 25, figs. 1-8
Syntypes: ?
Riujiin-di, Daido-gun, S. Heiando, Korea
Kobosan Series
Permo-Triassic

***Tingia minor* Kon'no et Asama, 1951**

Short Papers IGPS, no. 3, p. 68, pl. 10, figs. 7, 8
Syntypes: IGPS-73829, 73828
Yin-shan, eastern hills of Taiyuan, Central Shansi;
Erh-tao-wang, Penchihu coal-field, South Manchuria, China
Lower Shihhotse Formation; Uppermost part of Liutang
Formation
Permian

***Tingia subcarbonica* Kon'no et Asama in Kon'no, Asama & Rajah, 1970**

Bull. Natn. Sci. Mus., vol. 13, p. 498, pl. 1, fig. 3
Holotype: NSM-P2-2901 [NSM-PP]
Gunong Blumut area in central Johore, West Malaysia
Linggiu Formation
Late Permian

***Todites fastuosus* (Kimura) Kimura et Tsujii, 1980 see *Cladophlebis fastuosa* Kimura, 1959**

***Todites fukutomii* Kimura et Ohana, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, p. 77, pl. 6, fig. 1; text-fig. 3a
Holotype: NSM-PP 7530
Momonoki, Omine-machi, Mine City, Yamaguchi Prefecture
Momonoki Formation, Mine Group

Middle Triassic (Middle Carnian)

***Todites neiridaniensis* Kimura et Tsujii, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 120, p. 459, pl. 55, fig. 6; text-fig. 4a
Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no. NEE-110
Higashi-Neiridani, branch of Daira-gawa, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
Negoya Formation of Kuruma Group
Early Jurassic

***Torreya mioxyla* M. Suzuki et K. Terada, 1996**

Int. Assoc. Wood Anat. Jour., vol. 17, p. 369, figs. 2-5
Holotype: TUSG, Wood Coll. no. 80083
Uchiura, Yukinobe, Uchiura-machi, Suzu-gun, Ishikawa Prefecture
Yanagida Formation
Early Miocene

***Torreya yoshiokaensis* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 105, pl. 1, fig. 5
Holotype: HUMP-25316 [NSM-PP]
Yoshioka, Fukushima-cho, Matsumae-gun, Hokkaido
Yoshioka Formation
Middle Miocene [late Early Miocene]

***Trachelospermum tanaii* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 75, pl. 21, fig. 1
Holotype: AKMG-3403A
Kami-Umeda, Ube City, Yamaguchi Prefecture
Okinoyama Formation
Late Eocene [Middle Eocene]

***Trapa aizuenensis* K. Suzuki, 1980**

Saito Ho-on Kai Mus. Res. Bull., no. 48, p. 4, pl. 1, figs. 8, 10, 12
Syntypes: IGF-5453-5455 [FM]
Loc. no. Az-22b, river cliff along Ichinoki River, ca. 600 m SW of Shiroko, Yamato-machi, Yama-gun, Fukushima Prefecture (37°40'13"N, 139°47'02"E)
Lower part of Fujitoge Formation
Mio-Pliocene

***Trapa angusticerata* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 20, pl. 2, fig. E; text-figs. 11B-G
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Nishi-hirano in Mikage-cho, Hyogo Prefecture; Koshihata, Kyoto City, Kyoto Prefecture; Matsuo in Sekigahara-cho, Gifu Prefecture; Sogo-mura, Kagawa Prefecture
Pliocene-Pleistocene

***Trapa anteformata* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 132, pl. 5, fig. C; text-fig. 4E
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Sanji, Moriyama-mura, Oe-gun, Tokushima Prefecture
 Teradani Formation
 Pliocene

***Trapa bicerata* Miki, 1938**

Japan. Jour. Bot., vo. 9, no. 2, p. 225, pl. 4, fig. I; text-fig. 7B
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Shimokurata, near Totsuka station, Yokohama City,
 Kanagawa Prefecture
 Pleistocene

***Trapa deformata* Miki, 1948**

Kobutsu-to-Chishitsu, no. 9, p. 133, fig. 4F
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Doi in Hitoori-mura and Nariaidani in Yagi-mura,
 Awaji-shima, Hyogo Prefecture
 Pliocene

***Trapa discoidpoda* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 11,
 pl. 1, fig. F; text-fig. 4B
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Nagao, Hirakata City, Osaka Prefecture
 Plio-Pleistocene

***Trapa dolichocarpa* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 23,
 pl. 2, fig. B; text-fig. 11H-I
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Yutanagare, Kowa in Chita Peninsula and Obata, Toyota City,
 Aichi Prefecture
 Pliocene

***Trapa ezoana* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 145, pl. 10, fig. 14
 Holotype: HUMP-25580 [NSM-PP]
 Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido
 Fukuyama Formation
 Miocene

***Trapa fujitogensis* K. Suzuki, 1980**

Saito Ho-on Kai Mus. Res. Bull., no. 48, p. 4, pl. 1, figs. 8,
 10, 12
 Holotype: IGF-5461 [FM]
 Loc. no. Az-22b, ca. 600m SW of Shiroko, Yamato-machi,
 Yama-gun, Fukushima Prefecture (37 ° 40'13"N, 139 °
 47'02"E)
 Lower part of Fujitoge Formation
 Mio-Pliocene

***Trapa hokkaidoensis* Okutsu, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 549, p. 228, text-fig. 2
 Holotype: IGPS
 Sakipenbetsu, Ashibetsu City, Hokkaido
 Sakipenbetsu Formation
 Miocene

(*Hemitrapa hokkaidoensis* (Okutsu) Miki, 1948 in Bot.
 Mag. Tokyo, vol. 61, p. 70)

***Trapa macrohilum* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 22,
 pl. 2, fig. D, text-fig. 11A
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Segawa in Minomo-cho, Osaka Prefecture; Shimokurata in
 Totsuka, Yokohama City, Kanagawa Prefecture
 Pliocene-Pleistocene

***Trapa macropoda* Miki, 1933**

Bot. Mag. Tokyo, vol. 47, p. 625, fig. 2A-B
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Ohbakusan, Uji City, Kyoto Prefecture
 Pleistocene

***Trapa mammillifera* Miki, 1938**

Rikusuigakuzasshi, vol. 8, p. 413, fig. 1M-N
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Narasaka, Nara City, Nara Prefecture; Shidatani,
 Shimagahara-mura, Ayama-gun, Mie Prefecture
 Pliocene-Pleistocene

***Trapa mammillioides* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 16,
 fig. 7D-G
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Kamitarumizu in Kitaoguni, Kumamoto Prefecture;
 Yamaashiya, Ashiya City, Hyogo Prefecture; Akutagawa in
 Daizoshi, Mishima-gun, Osaka Prefecture; Nikogi in
 Tanakura-machi, Fukushima Prefecture
 Pliocene-Pleistocene

***Trapa mikii* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 88, pl. 19, fig. 8
 Holotype: IGPS-78146
 IGPS loc. no. Fs-62 (loc. Jo-11), Shichiku, Yotsukura-machi,
 Futaba-gun, Fukushima Prefecture (37 ° 8'10"N, 140 ° 54'
 15"E)
 Shichiku Formation
 Early Miocene

***Trapa octotuberculata* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 13,
 pl. 1, fig. E; text-fig. 6
 Syntypes: Dept. Biol., Osaka City Univ. [OSA]
 Sanji in Moriyama, Oe-gun, Tokushima Prefecture; Shide in

Taga, Inukami-gun, Shiga Prefecture; Agarikusa, Kimitani-mura, Shimane Prefecture
Pliocene-Pleistocene

***Trapa platycerata* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 23, pl. 2, figs. G, I; text-fig. 12F-H
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Koshihata in Sakyo-ku, Kyoto City, Kyoto Prefecture; Kogigawa, Kaizuka City, Osaka Prefecture; Tadogawa, Tado-mura, Mie Prefecture
Pleistocene

***Trapa pulvinipoda* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 14, pl. 1, fig. D; text-fig. 7A-C
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Ichirizuka in Seto City and Yutanagare, Kowa-cho, Aichi Prefecture; Hatagoya, Mizunami City, Gifu Prefecture
Pliocene

***Trapa sachalinensis* Okutsu, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 549, p. 228, text-fig. 1
Holotype: IGPS
Kitakozawa, Toro-machi, Nayoshi-gun, Saghalien, Russia
Esutoru (coal-bearing) Formation
Miocene

(*Hemitrapa sachalinensis* (Okutsu) Miki, 1948 in Bot. Mag. Tokyo, vol. 61, p. 76)

***Trapa stipulicerata* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 13, pl. 1, fig. B; text-fig. 5G
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Kiyota in Minamihizusa-mura, Gamo-gun, Shiga Prefecture
Pliocene

***Trapa tetragona* Miki, 1952**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 3, p. 10, pl. 1, fig. G; text-fig. 4A
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Clay bed of Segawa, Minomo-cho, Toyono-gun, Osaka Prefecture
Pliocene

***Trapella hispida* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 117, pl. 3, fig. H; text-fig. 10Cd
Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
Kowa, Chita-gun, Aichi Prefecture
Euryale lissa bed
Pliocene ?

***Trapella lissa* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 117, pl. 3, fig. I; text-fig. 10Cb
Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
Ichirizuka, Seto City, Aichi Prefecture
Pinus trifolia bed
Pliocene

***Trapella primaria* Miki, 1961**

Jour. Biol., Osaka City Univ., vol. 12, p. 118, pl. 3, fig. F; text-fig. 10Ca
Syntypes: Dept. Biol., Osaka City Univ. [OSA]*
Akazu, Seto City, Aichi Prefecture
Pinus trifolia bed
Pliocene

***Tricyclopteris japonocretacea* H. Nishida, Yoshida et M. Nishida, 1998**

Jour. Japan. Bot., vol. 73, p. 27, figs. 1-6
Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 82301
Riverbed of Yubari River, along downstream from Hakobuchi dam, Ohyubari, Yubari City, Hokkaido (42 ° 59'55"N, 142 ° 01'23"E)
Middle or Upper Yezo Group
Late Cretaceous

***Tripetaleia pseudopaniculata* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 55, pl. 18, fig. 3
Holotype: GSJ-4200
Onbara, Kamisaibara-son, Tomata-gun, Okayama Prefecture
Onbara Formation
Mio-Pliocene

***Tripterygium kabutoiwanum* Ozaki, 1991**

Bull. Kanagawa Pref. Mus. Nat. Sci., Special Issue, p. 156, pl. 16, fig. 6; text-fig. 32-2, 3
Holotype: KPM oz-1188 (Kanagawa Pref. Mus.)
Mt. Kabutoiwa, Nanmoku-mura, Kanra-gun, Gunma Prefecture
Kabutoiwa Formation
Pliocene

***Tripterygium multipterium* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 282, pl. 7, fig. A; text-fig. 16G
Syntypes: Dept. Biol., Osaka City Univ. [OSA]
Ichinokuraguchi, Tajimi City, Gifu Prefecture
Pinus trifolia bed
Pliocene

(*Paleo davidia multipterium* (Miki) Miki, 1956 in Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 281; *Meliiodendron multistriatum* (Miki) Miki, 1968 in Bull. Mukogawa Women's Univ., vol. 16, p. 289 [erroneous citation of *T. multipterium*])

***Trizygia ominensis* Asama et Naito, 1978**

Bull. Natn. Sci. Mus., Ser. C, vol. 4, p. 95, pl. 1, fig. 1

Holotype: NSM-PP 6899

Enokiyama coal mine, Fujiyakawachi, Omine-cho, Mine City,
Yamaguchi Prefecture

Momonoki Formation

Late Triassic (Carnian)

***Trochodendron kujiense* Tanai, 1979**Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 107, pl. 10,
fig. 6; text-figs. 1, 2

Holotype: HUMP-26095 [NSM-PP]

Minato, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Trochodendron protoaralioides* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 1, p. 80, pl. 11, fig. 3

Holotype: IAGI-61118

Minamihata-gawa Ma-4, Gosho, Shizukuishi-cho, Iwate-gun,

Iwate Prefecture (39°37'25"N, 140°45'20"E)

Masuzawa Formation

Late Miocene

***Tsuga aburaensis* Tanai, 1961**Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 258, pl. 1,
fig. 49

Holotype: UHR-15083 [NSM-PP]

Abura, Setana-cho, Setana-gun, Hokkaido

"Kunnui" Formation

Middle Miocene [late Early Miocene]

***Tsuga hokiensis* Ozaki, 1979**Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 26, p. 37, pl. 1,
fig. 21

Holotype: TPM-459 (Tottori Pref. Mus.)

Tatsumi-toge, Saji-son, Yazu-gun, Tottori Prefecture

Tochiwara Formation

Late Miocene

***Tsuga miocenica* Tanai, 1961**Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 259, pl. 1,
fig. 32

Holotype: UHR-15077 [NSM-PP]

Yoshino, Fukushima-cho, Matsumae-gun, Hokkaido

Yoshioka Formation

Middle Miocene [late Early Miocene]

***Tsuga miosieboldiana* Ozaki, 1974**Sci. Rep. Yokohama Natn. Univ., Sec. 2, no. 21, p. 8, pl. 1,
fig. 9

Holotype: GYNU-CMP-1056 [KPM]

Inkyoyama, Toki City, Gifu Prefecture

"Yamanouchi facies", Akeyo Formation

Middle Miocene [late Early Miocene]

***Tsuga miyataensis* Huzioka et Uemura, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 700, pl. 2, figs. 26, 26a

Holotype: AKMG-7052

Miyata, Nishiki-mura, Senboku-gun, Akita Prefecture

Miyata Formation

Late Miocene

***Tsuga oblonga* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 257, pl. 4, fig. L; text-fig. 6F-H

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa and Ichinohora, Toki City, Gifu Prefecture;

Ichinokuraguchi, Tajimi City, Gifu Prefecture; Ashiyagawa,

Hyogo Prefecture; Kongosawa, Sendai City, Miyagi

Prefecture

Pliocene

***Tsuga rotundata* Miki, 1957**Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 8, p. 263,
pl. 10, figs. G-H; text-fig. 11E

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Kantengoya, Nishinomiya City, Hyogo Prefecture

Metasequoia bed

Pliocene

***Tsuga shimokawaensis* Matsumoto, Ohsawa et M. Nishida, 1995**

Jour. Plant Res., vol. 108, p. 418, figs. 1, 2

Holotype: Dept. Earth Sci., Fac. Sci., Chiba Univ., no.
870109

Rubeno-sawa, Shimokawa-cho, Kamikawa-gun, Hokkaido

Mosanru Formation

Late Middle Miocene

***Ulmium wakimizui* Watari, 1948**

Japan. Jour. Bot., vol. 13, p. 506, photo. 1B-D; text-fig. 3

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 64401,
64402 [missing], 64407 [TI]

Hanenishi, Kute-machi, Ohda City, Shimane Prefecture

Miocene

*(Zelkova wakimizui (Watari) Watari, 1952 in Jour. Fac. Sci.,
Univ., Tokyo, Sec. 3, vol. 6, p. 115)****Ulmium zelkowitziforme* Watari, 1941**

Japan. Jour. Bot., vol. 11, p. 405, photo. 3A-C; text-fig. 6

Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo, no. 31140 [TI]

River Mabechi, Samuraimura, Anatai, Ichinohe-machi,

Ninohe-gun, Iwate Prefecture

[Yotsuyaku Formation]

Late Early Miocene

*(Zelkova zelkoviformis (Watari) Watari, 1952 in Jour. Fac.
Sci. Univ., Tokyo, Sec. 3, vol. 6, p. 115)*

***Ulmus aizuana* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 60, pl. 14, fig. 5

Holotype: IGF-5335 [FM]

Az-46d, river cliff, ca. 100-300 m west of Koyanaizu, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture (37° 31' 12"N, 139° 44' 41"E)

Upper part of Fujitoge Formation

Pliocene

***Ulmus crystallophora* Watari, 1952**

Jour. Fac. Sci., Univ. Tokyo, Sec. 3, vol. 6, p. 113, photo. 4

Syntypes: Bot. Inst., Fac. Sci., Univ. Tokyo, nos. 33003, 34501, 53510 [TI]

Shinzan, Kitaura-machi, Oga City, Akita Prefecture; Ishimoriyama, Kabeya-mura, Ishiki-gun, Fukushima Prefecture; Sodani, Hayashi-mura, Ishikawa-gun, Ishikawa Prefecture

Miocene

***Ulmus harutoriensis* Oishi et Huzioka in Oishi, 1950**

Illust. Cat. E. Asiatic Foss. Pl., p. 146, pl. 43, fig. 7

Holotype: Dept. Geol. Mineral., Hokkaido Univ.

Harutori coal-mine, Kushiro City, Hokkaido

Harutori Formation

Oligocene [late Middle Eocene]

(Also see Oishi & Huzioka, 1954, in Japan. Jour. Geol. Geogr., vol. 24, p.129)

***Ulmus huziokae* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 58, pl. 13, fig. 3

Holotype: IGF-1521 [FM]

Ry-4, Kawadaira, Marumori-machi, Igu-gun, Miyagi Prefecture (37° 47' 05"N, 140° 44' 20"E)

Lower part of Ryozen Formation

Early Miocene

***Ulmus kuromoriensis* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 60, pl. 13, fig. 9

Holotype: IGF-5095 [FM]

Az-11, west cliff of Takagawa River, ca. 800 m south of Kuromori, Ooto-machi, Aizuwakamatsu City, Fukushima Prefecture (37° 23' 19"N, 139° 58' 22"E)

Kuromori Formation

Late Miocene

***Ulmus minoensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 79, pl. 9, figs. 2a

Holotype: AKMG-5143

Wagata, Kani-gun, Gifu Prefecture

Nakamura Formation

Early Miocene

***Ulmus nipponica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 426, pl. 25, fig. 5

Holotype: NSM-10558 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Ulmus nipponicus* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 62, pl. 14, fig. 2

Holotype: IGF-5333 [FM]

Az-46d, river cliff, ca. 100-300 m west of Koyanaizu, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture (37° 31' 12"N, 139° 44' 41"E)

Upper part of Fujitoge Formation

Pliocene

***Ulmus ovobatifolia* Oyama, 1958**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 8, p. 77, pl. 1, fig. 6

Holotype: Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-45)

Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture

Oarai Formation

Late Cretaceous

***Ulmus protojaponica* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 38, pl. 10, fig. 2

Holotype: GSJ-4142

Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture

Mitoku Formation

Late Miocene

***Ulmus protolaciniata* Tanai et Onoe, 1961**

Geol. Surv. Japan, Rep., no. 187, p. 37, pl. 10, fig. 8

Holotype: GSJ-4140

Mitoku, Misasa-cho, Tohoku-gun, Tottori Prefecture

Mitoku Formation

Late Miocene

***Ulmus pseudolongifolia* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 131, pl. 14, figs. 1-3; pl. 15, fig. 4

Syntypes: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Shiretoru coal-mine in Shiretoru [Makarov] and Toyohata

coal-mine in Nayoshi [Lesogorsk], Sakhalin, Russia;

Sakipembetsu, Kami-Ashibetsu, Ashibetsu City, Hokkaido

Naihoru (coal-bearing) and Esutoru (coal-bearing)

Formations; Sakipembetsu plant bed

Early-Middle Miocene

***Ulmus sekiensis* Huzioka et Nishida, 1960**

Publ. Sado Mus., no. 3, p. 15, pl. 4, fig. 4

Holotype: AKMG-3298

Seki, Aikawa-machi, Sado-gun, Niigata Prefecture

Suginoura Formation

Early Miocene

(See also Huzioka, 1964: Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 80)

***Ulmus shimogawarae* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 132, pl. 15, fig. 1

Holotype: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Utashinai coal-mine, Utashinai City, Hokkaido

Utashinai (coal-bearing) Formation

Paleogene [Eocene]

***Ulmus shiragica* Huzioka, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 3, p. 70, pl. 5, fig. 8; pl. 6, fig. 6

Syntypes: Dept. Geol. Mineral., Hokkaido Univ.

Kinkodo, Usen-men, Geijitsu-gun, N. Keisho-do, Korea

Ennichi Series

Miocene

***Ulmus takayasui* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 81, pl. 10, fig. 1

Holotype: AKMG-5005

Omagoshi, Iwasaki-mura, Nishi-Tsugaru-gun, Aomori Prefecture

Iwadate (coal-bearing) Formation

Early Miocene

***Ulmus yubariensis* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 427, pl. 22, fig. 6

Holotype: NSM-10539 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Umbellularia japonica* Miki, 1970**

Bull. Mukogawa Women's Univ., vol. 18, p. 242, fig. 5A

Syntypes: [OSA]*

Injo, Seto City, Aichi Prefecture; Ogami, Izumisano City, Osaka Prefecture

Pinus trifolia bed and *Taiwania* bed

Pliocene

***Vaccinium ezoense* Tanai, 1971**

Mem. Natn. Sci. Mus., no. 4, p. 164, pl. 11, fig. 3

Holotype: NSM-PP 5358

Upper course of Sakipenpetsu River, Ashibetsu City, Hokkaido

Sakipenpetsu Formation

Middle Miocene

***Viburnum awabukiodeus* Matsuo, 1967**

Ann. Sci. Kanazawa Univ., vol. 4, p. 57, pl. 11, fig. 3

Holotype: DGLAKZ-13204a

Takashima colliery, Takashima-cho, Nishi-Sonogi-gun, Nagasaki Prefecture

Hashima Formation

Late Eocene [Middle Eocene]

***Viburnum basiobliquum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 502, pl. 17, fig. 4

Holotype: HUMP-26020 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Viburnum ezoanum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 501, pl. 18, fig. 7

Holotype: HUMP-26018 [NSM-PP]

Okotsu pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Viburnum goshoense* Murai, 1963**

Tech. Rep. Iwate Univ., vol. 16, no. 2, p. 55, pl. 19, fig. 7

Holotype: IAGI-61084

Minamihata-gawa Ma-4, Masuzawa, Shizukuishi-cho, Iwate-gun, Iwate Prefecture (39°37'25"N, 140°45'20"E)

Masuzawa Formation

Late Miocene

***Viburnum miocenicum* Tanai et N. Suzuki, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 149, pl. 24, fig. 6

Holotype: HUMP-25581 [NSM-PP]

Kinoko, Kaminokuni-cho, Hiyama-gun, Hokkaido

Fukuyama Formation

Miocene

***Viburnum palaeowightii* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 441, pl. 17, fig. 3

Holotype: NSM-10514 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Viburnum protoerosum* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 441, pl. 6, fig. 5

Holotype: NSM-10464 [NSM-PP]

Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido

Woodwardia Formation [Ikushunbetsu Formation]

Eocene [late Middle Eocene]

***Viburnum protofurcatum* Tanai, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, p. 387, pl. 32, fig. 9

Holotype: UHR-15278 [NSM-PP]

Nukabira, Kami-shihoro-cho, Kato-gun, Hokkaido

Taushibetsu Formation

Late Miocene

***Viburnum uttoensis* Huzioka, 1963**

Tert. Fl. Japan, 1, Miocene Fl., p. 215, pl. 39, fig. 12

Holotype: AKMG-3153

Tsuchikumazawa, Shimo-Hinokinai, Nishiki-mura, Senboku-gun,

Akita Prefecture

Utto Formation

Middle Miocene [late Early Miocene]

***Viburnum uzenensis* Huzioka, 1964**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 3, no. 4, p. 100, pl. 18, fig. 2

Holotype: AKMG-5057

Aburado, formerly Aburado coal-mine, Tsuruoka City,

Yamagata Prefecture

Atsumi Formation

Early Miocene

Vinea hokkaidoana* (Tanai) Tanai, 1992 see *Platycarya hokkaidoana* Tanai, 1970**Vitis brachypoda* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 261, pl.-fig. C; text-fig. 12H-I

Holotype: Dept. Biol., Osaka City Univ. [OSA]

Tamodaira, Fujioka-mura and Haido-cho, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Vitis kogeonweonensis* Huzioka, 1972**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 5, p. 69, pl. 9, fig. 6

Holotype: IGPS-92346

Yongpukdong, Hamg'yeong-bukdo, Korea

Engelhardtia Bed

Middle Miocene [Oligocene]

***Vitis labruscoidea* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 262, pl.-fig. A; text-fig. 12A-D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Osusawa in Tokitsu, Toki City, Gifu Prefecture; Haido-cho, Seto City, Aichi Prefecture; Nikogi near Tanakura,

Fukushima Prefecture

Pliocene

***Vitis rotundata* Miki, 1956**

Jour. Inst. Polytech., Osaka City Univ., Ser. D, vol. 7, p. 263, pl.-fig. B; text-fig. 13A-J

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Nakayagi, Akashi City, Hyogo Prefecture; many other

localities in Gunma, Gifu, Aichi, Mie Wakayama, Osaka and

Hyogo Prefectures

Metasequoia bed

Pliocene-Pleistocene

***Wataria parvipora* K. Terada et M. Suzuki, 1998**

Rev. Palaeobot. Palynol., vol. 103, p. 239, pl. 1, figs. 1-6

Holotype: TUS, Wood Coll. no. 59044 [TUSG]

Minamihora, Kawabe-machi, Kamo-gun, Gifu Prefecture

(35°29'N, 137°03'E)

Hachiya Formation

Early Miocene

***Wataria miocenica* (Watari) K. Terada et M. Suzuki, 1998**

see *Reevesia miocenica* Watari, 1952

***Wataria oligocenica* (M. Suzuki) K. Terada et M. Suzuki, 1998**

see *Reevesia oligocenica* M. Suzuki, 1976

***Weigela sanzugawaensis* Huzioka et Uemura, 1974**

Bull. Natn. Sci. Mus., vol. 17, p. 358, pl. 10, fig. 8; text-fig. 7

Holotype: AKMG-7565

Shimoshinden, Takamatsu, Yuzawa City, Akita Prefecture

Sanzugawa Formation

Late Miocene

***Wistaria ligniata* Miki, 1941**

Japan. Jour. Bot., vol. 11, p. 279, fig. 15C-D

Syntypes: Dept. Biol., Osaka City Univ. [OSA]

Injo, Seto City, Aichi Prefecture

Pinus trifolia bed

Pliocene

***Woodwardia decurrens* Oishi et Huzioka, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, p. 189, pl. 42, figs. 4, 4a; pl. 43, figs. 1-3, 3a, 4, 5

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 8871, 8878, 8864, 8872, 8873, 8966

Bibai coal-mine, Sorachi-gun; Kakuta near Yubari coal-mine, Yubari-gun, Hokkaido

Woodwardia Sandstone [Ikushunbetsu Formation]

Paleogene [late Middle Eocene]

***Woodwardia endoana* Oishi et Huzioka, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, p. 187, pl. 41, figs. 5-6

Syntypes: Dept. Geol. Mineral., Hokkaido Univ., nos. 8965, 8967, 8866, 8869, 8870, 8874, 8880

Ochinunbetsu River near Nokanan, Sorachi-gun; Takino-sawa and Banno-sawa, near Bibai, Sorachi-gun; neighbourhood of Kamisunagawa coal-mine, Naegawa, Sorachi-gun; Naiegawa, Sorachi-gun: Bibai town, Sorachi-gun, Hokkaido
Woodwardia Sandstone [Ikushunbetsu Formation]
 Paleogene [late Middle Eocene]

***Woodwardia japonica* Sw. var. *eocenica* Endo, 1968**

Bull. Natn. Sci. Mus., vol. 11, p. 417, pl. 1, fig. 3
 Holotype: NSM-10440 [NSM-PP]
 Loc. 5, dam site of Yubari River (Shimizusawa), Yubari City, Hokkaido
Woodwardia Formation [Ikushunbetsu Formation]
 Eocene [late Middle Eocene]
 (Endo (1962; Trans. Proc. Palaeont. Soc. Japan, N. S., no. 45, p. 206, pl. 31, figs. 1-3, 5) described this new variety, without typification)

***Woodwardia sasae* Oishi et Huzioka, 1942**

Jour. Geol. Soc. Japan., vol. 49, no. 587, p. 320, pl. 13, figs. 1-7
 Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 9317
 Harutori coal-mine, Kushiro City, Hokkaido
 Harutori Formation
 Oligocene [late Middle Eocene]

***Xenoxylon nariwaense* Yamazaki, Tsunada et Koike, 1980**

Mem. School Sci. Engin., Waseda Univ., no. 44, p. 93, pl. 1, fig. 1; pls. 2, 3; text-fig. 2
 Holotype: Dept. Miner. Industry, School Sci. Engin., Waseda Univ., no. 79040303-a
 Hinabata, Nariwa-cho, Kawakami-gun, Okayama Prefecture
 Hinabata Formation, Nariwa Group
 Late Triassic

***Xenoxylon pseudoellipticum* Yamazaki et Tsunada, 1981**

Mem. School Sci. Engin., Waseda Univ., no. 45, p. 83, pls. 1-4; text-fig. 2
 Holotype: Dept. Miner. Industry, School Sci. Engin., Waseda Univ., no. 80080301
 Negoya valley, Asahi-machi, Shimo-Niikawa-gun, Toyama Prefecture
 Negoya Formation, Kuruma Group
 Early Jurassic

***Xenoxylon turuokae* M. Nishida, H. Nishida et M. Suzuki, 1993**

Jour. Japan. Bot., vol. 68, p. 289, fig. 1
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 900108
 Toriakehama near Inubo-saki, Choshi City, Chiba Prefecture (35°41'56"N, 140°51'59"E)
 Choshi Group
 Early Cretaceous

***Xenoxylon watarianum* M. Nishida et H. Nishida, 1986**

Bot. Mag. Tokyo, vol. 99, p. 198, figs. 5, 6
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 11090
 Juhachirinpan-zawa, affluent of Nayba, Sakhalin, Russia
 Miho Group
 Late Cretaceous

***Xylosma eoapactis* Huzioka et Takahasi, 1970**

Jour. Min. Coll. Akita Univ., Ser. A, vol. 4, no. 5, p. 69, pl. 16, fig. 1
 Holotype: AKMG-3454A
 Kami-Umeda, Ube City, Yamaguchi Prefecture
 Okinoyama Formation
 Late Eocene [Middle Eocene]

***Yezopteris polycycloides* Ogura, 1930**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 5, p. 381, pl. 18, figs. 1-4; text-figs. 1-4
 Holotype: Bot. Inst., Fac. Sci., Univ. Tokyo [TI]
 Yubari, Ishikari Prov., Hokkaido
 Late Cretaceous

***Yezosequoia shimanukii* M. Nishida, H. Nishida et Ohsawa, 1991**

Jour. Japan. Bot., vol. 66, p. 282, figs. 1-5
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 860829
 Riverbed of Obirashibe-gawa River, Kawakami, Obira-cho, Rumoi-gun, Hokkaido
 Uppermost part of Middle Yezo Group
 Late Cretaceous

***Yubaria invaginata* Ogura, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, vol. 2, pt. 7, p. 476, pl. 24, figs. 14-17; text-figs. 15-16
 Holotype: Bot. Inst., Univ. Tokyo, nos. A-B [UI]
 Yubari, Ishikari Prov., Hokkaido
 Late Cretaceous

***Yubaristrobus nakajimae* Ohsawa, H. Nishida et M. Nishida, 1993**

Jour. Plant Res., vol. 106, p. 1, figs. 1-22
 Holotype: Lab. Phylog. Bot., Fac. Sci., Chiba Univ., no. 823551
 Rivulet near south entrance of Sanyu tunnel, tributary of Yubari River, Yubari City, Hokkaido (43°09'35"N, 142°05'09"E)
 Upper Yezo Group
 Late Cretaceous (Coniacian-Santonian)

***Zamites choshiensis* Kimura et Ohana, 1985**

Proc. Japan Acad., Ser. B, vol. 61, p. 352, figs. 1-6
 Holotype: Dept. Astron. Earth Sci., Tokyo Gakugei Univ., no.

PM-6845B

Kimigahama coast (Loc. no. 7309 of Obata et al., 1975),
Choshi City, Chiba Prefecture
Kimigahama Formation
Early Cretaceous (late Early Barremian)

***Zamites densipinnatus* Kimura et Ohana, 1989**

Bull. Natn. Sci. Mus., Ser. C, vol. 15, p. 12, pl. 7, fig. 2

Holotype: NSM-PP 8480A

Samenoura coast, Oshika-cho, Oshika-gun, Miyagi
Prefecture
Oginohama Formation
Late Jurassic

***Zamites nipponicus* Kimura et Ohana, 1988**

Bull. Natn. Sci. Mus., Ser. C, vol. 14, p. 121, pl. 6, fig. 3;
text-fig. 13a

Holotype: NSM-PP 8245

Bunasaka, Kashima-machi, Soma-gun, Fukushima Prefecture
Tochikubo Formation
Late Jurassic

***Zamites tosanus* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 357, pl.
35, figs. 4, 4a

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 8596

Kobodani, Shingai-mura, Takaoka-gun, Kochi Prefecture
Ryoseki Formation
Early Cretaceous

***Zamites toyoraensis* Oishi, 1935**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 3, no. 1, p.
98, text-fig.

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6303

Tarai, Toyora-gun, Yamaguchi Prefecture
Nishi-Nakayama Formation
Jurassic (Lias)

***Zamites varius* Kimura et Ohana, 1987**

Bull. Natn. Sci. Mus., Ser. C, vol. 13, p. 126, pl. 7, fig. 2;
text-fig. 30c

Holotype: NSM-PP 8068

Loc. no. 063, east of Ono, Anai, Shimonoseki City,
Yamaguchi Prefecture
Utano Formation
Middle Jurassic

***Zamites yabei* Oishi, 1940**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 5, p. 358, pl.
37, fig. 6

Holotype: Dept. Geol. Mineral., Hokkaido Univ., no. 6825

Maruyama near Nishi-Nakayama, Toyora-gun, Yamaguchi
Prefecture
Nishi-Nakayama Formation

Early Jurassic

***Zanthoxylum naitoanum* Huzioka et Takahasi, 1973**

Bull. Natn. Sci. Mus., vol. 16, p. 140, pl. 3, figs. 5, 5a

Holotype: AKMG-6974

Loc. A, Shimonoseki South High School at Ushiroda,
Shimonoseki City, Yamaguchi Prefecture
Hatabu Formation
Middle Miocene

***Zanthoxylum oblongatum* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 483, pl. 12,
fig. 5

Holotype: HUMP-25971 [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Zelkova elongata* K. Suzuki, 1961**

Sci. Rep. Fukushima Univ., no. 10, p. 57, pl. 13, fig. 5

Holotype: IGPS-78136

IGPS loc. no. Fs-62 (loc. Jo-11), north cliff of northwestern
valley of Shichiku, Yotsukura-machi, Futaba-gun, Fukushima
Prefecture (37°8'10"N, 140°54'15"E)

Shichiku Formation

Early Miocene

***Zelkova kushiroensis* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 136, pl. 16, figs. 7-11

Syntypes: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Hokuyo coal-mine, upper course of Charo River, Akan-gun;

Harutori coal-mine, Kushiro City; Shoro coal-mine,

Shiranuka-cho, Shiranuka-gun, Hokkaido

Harutori and Shakubetsu Formations

Paleogene [late Middle Miocene and Late Eocene]

***Zelkova takahashii* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 136, pl. 15, fig. 8

Syntypes: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Bannosawa, Ashibetsu City; Kakuta coal-mine,

Kuriyama-cho, Yubari-gun, Hokkaido

Paleogene [late Middle Eocene]

***Zelkova tibae* Oishi et Huzioka, 1954**

Japan. Jour. Geol. Geogr., vol. 24, p. 137, pl. 16, figs. 3-6

Syntypes: Dept. Geol. Mineral., Fac. Sci., Hokkaido Univ.

Daikokuzawa, Showa coal-mine, Numata-mura, Uryu-gun,

Hokkaido

“Obira Series”

Miocene

***Zelkova wakimizui* (Watari) Watari, 1952 see *Ulmium*
wakimizui Watari, 1948**

***Zelkova zelkoviformis* (Watari) Watari, 1952** see *Ulminium zelkoviforme* Watari, 1941

***Zizyphus aizuensis* K. Suzuki, 1960**

Sci. Rep. Tohoku University, 2nd Ser., Spec. Vol., no. 4, p. 320, pl. 33, figs. 1, 2a, b

Syntypes: IGF-5213, 5214* [FM]

Loc. no. Az-29; road-cutting ca.300 m northwest of Fujitoge, Yanaizu-machi, Kawanuma-gun, Fukushima Prefecture

Lower part of Fujitoge Formation

Late Miocene

***Zizyphus harutoriensis* Tanai, 1970**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 14, p. 492, pl. 13, fig. 9

Holotype: HUMP-25994a [NSM-PP]

Harutori pit, Harutori mine, Kushiro City, Hokkaido

Harutori Formation

Early Oligocene [late Middle Eocene]

***Zizyphus kujiensis* Tanai, 1979**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, p. 116, pl. 14, fig. 5

Holotype: HUMP-26120 [NSM-PP]

Hikage, Kuji City, Iwate Prefecture

Sawayama Formation

Late Cretaceous

***Zizyphus pentaxus* Oyama, 1959**

Bull. Fac. Lib. Arts, Ibaraki Univ., Nat. Sci., no. 9, p. 74, pl. 2, figs. 1, 1a, 2, 3, 3a

Syntypes: Inst. Geol., Fac. Lib. Arts, Ibaraki Univ. (GIUM no. 200-36a, b)

Iwai, Oarai-machi, Higashi-Ibaraki-gun, Ibaraki Prefecture

Oarai Formation

Late Cretaceous

(Lectotype: no. 200-36a, by Oyama, 1961)

Pollen, Spores and Other Palynomorphs

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* indicates that the species has a nomenclatural problem in the typification (Art. 37) of ICBN

Abiespollenites giganticus Takahashi, 1979

Palaeontographica, Abt. B, vol. 170, p. 29, pl. 6, fig. 3

Holotype: GN, slide no. 3521

Sample Y-3, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Group

Middle Miocene

Abiespollenites minus Takahashi et Sugiyama, 1990

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 235, pl. 66, fig. 1

Holotype: GN, slide C-34a

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Abiespollenites yonilensis Takahashi, 1979

Palaeontographica, Abt. B, vol. 170, p. 30, pl. 6, fig. 8

Holotype: GN, slide no. 3752

Sample CH, Yonil district and western district of Pohang, South Korea

Cheonbug (Seoam) Conglomerate, Yonil Series

Middle Miocene

Acanthotriletes triangulatus Kumar et Takahashi, 1991

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 581, pl. 13, fig. 8

Holotype: Slide MD-226 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Upper Bhuban Formation

Miocene

Alisporites enormis Takahashi et Sugiyama, 1990

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 238, pl. 60, fig. 4

Holotype: GN, slide C-34a

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Alisporites hokkaidoensis Takahashi, 1991

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 262, pl. 25, fig. 4

Holotype: GN, slide no. 5545

AKK-10, Chikushigoi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous-Paleocene (Danian)

Apiculatisporis inouei Takahashi, 1964

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 207, pl. 27, fig. 6

Holotype: GK, slide GK-V 3152

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

Apiculatisporis micracanthus Takahashi, 1964

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 208, pl. 28, fig. 4a, b

Holotype: GK, slide GK-V 3155

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Formation

Late Cretaceous (Campanian)

Appendicisporites gigantiformis Takahashi et Sugiyama, 1990

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 163, pl. 37, fig. 1a, b

Holotype: GN, slide C-33a

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Appendicisporites kanukaensis Takahashi et Sugiyama, 1990

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 163, pl. 41, fig. 1a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Appendicisporites rarius Takahashi et Sugiyama, 1990

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 166, pl. 38, fig. 1a, b

Holotype: GN, slide C-31d

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

We thank Dr. K. Takahashi for reviewing the manuscript

***Appendicisporites subtricornitatus* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 86,
pl. 2, figs. 22-26

Syntypes: HUMP*

Upper course of Rubeshibe River, tributary of Enbetsu River,
Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

***Appendicisporites taneichiensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.
166, pl. 40, figs. 2a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate
Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Aquilapollenites aemulus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 51, pl. 13, fig. 2a-c

Holotype: GN, slide no. 2705

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun,
Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites borealis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 251,
pl. 33, fig. 3a-d

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Aquilapollenites brevialetus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 52, pl. 14, fig. 4a-c

Holotype: GN, slide no. 2706

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites delectus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 56, pl. 17, fig. 5a, b

Holotype: GN, slide no. 2702

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites doliiformis* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 49, pl. 12, fig. 8a, b; pl. 13, fig. 1

Holotype: GN, slide no. 2808

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites hakobuchiensis* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 91,
pl. 1, figs. 13, 14

Syntypes: HUMP*

Upper course of Rubeshibe River, tributary of Enbetsu River,
Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

***Aquilapollenites kasaharae* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 49, pl. 12, fig. 1

Holotype: GN, slide no. 2808

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites latialatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 55, pl. 16, fig. 3a, b

Holotype: GN, slide no. 2709

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites longissimus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 52, pl. 13, fig. 7

Holotype: Gifu Pref. Education Center, slide no. 61003-3

Loc. no. A, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites matsumotoi* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 252,
pl. 38, fig. 1a-d

Holotype: GK, slide GK-V 3181

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Aquilapollenites melior* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 57, pl. 17, fig. 8

Holotype: GN, slide no. 2806

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites melioratus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 57, pl. 18, fig. 2a, b

Holotype: GN, slide no. 2817

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites mirus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 58, pl. 18, fig. 4

Holotype: GN, slide no. 2807

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites nemuroensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 302, pl. 31, fig. 4a-c

Holotype: GN, slide no. 5637

OCH-05, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Upper Tokotan Formation

Paleocene

***Aquilapollenites proprius* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 50, pl. 13, fig. 9a, b

Holotype: GN, slide no. 2809

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites pseudoaucellatus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 54, pl. 15, fig. 5a, b

Holotype: GN, slide no. 2708

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Aquilapollenites quadrinus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 253, pl. 41, fig. 31a-c

Holotype: GK, slide GK-V 3216

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Aquilapollenites triauritus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 250, pl. 37, fig. 2a-c

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

?*Araucariacites gloriosus* Takahashi et Yao, 1969

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 73, p. 44, pl. 4, fig. 3

Holotype: Dept. Geosci., Osaka City Univ., slide no. 66041104-13

500m north of Harayama, Watsuka-cho, Soraku-gun, Kyoto Prefecture

Mudstone member of B formation

Middle Permian

***Arecipites fusiformis* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 40, pl. 4, fig. 18

Holotype: GN, slide no. 3861

Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Arecipites pflugii* (Takahashi) Krutzsch, 1970 see**

***Monocolpopollenites pflugii* Takahashi**

***Assamialesetes minutus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 539, pl. 8, fig. 9

Holotype: Slide MD-205 (i) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Lower Bhuban Formation

Miocene

***Baculatisporites giganticus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 168, pl. 22, fig. 4

Holotype: GN, slide no. C31-b

South of Kanuka, Taneichi-machi, Kunohe-gun Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Baculatisporites papillosus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 209, pl. 27, fig. 12

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Baculatisporites validus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 210, pl. 28, fig. 9

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Balmeisporites nipponicus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 169, pl. 33, fig. 1a, b

Holotype: GN, slide C-15e

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Baltisphaeridium aquaticum* Takahashi et Shimono, 1980**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 20, p. 10, pl. 1, fig. 5a-c

Holotype: Gifu Pref. Educational Center, slide no. 74050504
Minoshirotori lake deposits, Aibashiri, Takasu-mura, Gujo-gun, Gifu Prefecture

Atagi Formation

Pleistocene ?

***Baltisphaeridium kimurae* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 64, pl. 25, fig. 35a, b

Holotype: GN, slide no. 3582

Sample Y-7, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Baltisphaeridium nakajoense* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 117, pl. 14, fig. 11a, b

Holotype: GN, slide NNA-2-3

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early-Middle Miocene

***Baltisphaeridium (?) polyceratium* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 54, p. 206, pl. 31,

fig. 12a-c

Holotype: GK, slide GK-V 3087

Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new no. 1 bore at -204.30m of Furukawa-Yoshima colliery

Asagai Formation

Oligocene

***Baltisphaeridium sphaeroides* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 117, pl. 14, fig. 9

Holotype: GN, slide NNA-2-3

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early-Middle Miocene

***Betulaepollenites minutulus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 232, pl. 42, fig. 1a, b

Holotype: GK, slide GK-V 3215

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Betulaepollenites miyadaniensis* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 84, pl. 9, fig. 27

Holotype: GN, slide no. 2810

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Betulaepollenites normalis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 231, pl. 36, fig. 22a, b

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Betulaepollenites obscurus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 53, pl. 18, fig. 21

Holotype: GN, slide no. 3335

Sample Y10-7, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Betulaepollenites rarus* Takahashi, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 2, p. 153, pl. 22, fig. 2

Holotype: GK, slide GK-V 3017

Waku (B), Houhoku-machi, Toyoura-gun, Yamaguchi Prefecture
Sakaigawa Formation, Hioki Group
Late Oligocene

***Biretisporites incrassatus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 23, pl. 2, fig. 5
Holotype: GN, slide no. 3883
Loc. no. H, near Kanbara pass, Yoshiki-gun, Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Biretisporites minor* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 49, pl. 1, fig. 1
Holotype: GN, slide no. 5773
KON-02, Konbumori, Nemuro City, Hokkaido
Tokotan Formation
Late Cretaceous (Maastrichtian)

***Biretisporites ? minus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 212, pl. 26, fig. 9
Holotype: GK, slide GK-V 3181
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group
Late Cretaceous (Campanian)

***Biretisporites triangulatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 198, pl. 5, fig. 11
Holotype: GN, slide no. 5544
AKK-10, Chikushigoi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido
Middle Akkeshi Formation
Cretaceous-Paleocene (Danian)

***Biretisporites yoshimotoi* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 199, pl. 6, fig. 3
Holotype: GN, slide no. 5535
AKK-09, Chikushigoi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido
Middle Akkeshi Formation
Cretaceous-Paleocene (Danian)

***Bombacidites africanus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 239, pl. 19, fig. 2a, b
Holotype: GN-5326
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Bratzevaea striatella* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 75, pl. 19, fig. 8a, b
Holotype: GN, slide no. 3885
Loc. no. H, near Kanbara pass, Yoshiki-gun, Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Brevitricolpites circularis* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 312, pl. 50, fig. 28
Holotype: GN, slide no. 4653
Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia
Nanggulan Formation
Eocene

***Bryotrichum aichiense* Yasui, 1928**

Bot. Mag. Tokyo, vol. 40, p. 18, pl. 1
Holotype: Bot. Inst., Univ. Tokyo
Aichi coal-field, Aichi Prefecture
Upper Tertiary

***Callialasporites ugensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 242, pl. 56, fig. 10
Holotype: GN, slide C-33b
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Carpinipites microcarpinoides* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 70, pl. 8, fig. 15
Holotype: GN, slide no. 3861
Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany
Paleogene

***Carpinipollis grandis* (Takahashi) Takahashi, 1979 see *Polyporopollenites grandis* Takahashi, 1961**

***Camazonosporites* (*Camazonosporites*) *similis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 171, pl. 30, fig. 1
Holotype: GN, slide C-31b
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Cedripites anatolicus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 34, pl. 6, fig. 11

Holotype: GN-5401

Soma Basin, West Anatolia, Turkey

Lower Coal Bed (lower KM1, 2), Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Cedripites pseudodeodaraeformis* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 35, pl. 10, fig. 3

Holotype: GN-5401

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Cedripites sacculatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 31, pl. 13, fig. 38

Holotype: GN, slide no. 3752

Sample CH, Yonil district and western district of Pohang, South Korea

Cheonbug (Seoam) Conglomerate, Yonil Series

Middle Miocene

***Cedripites sanrikuensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 245, pl. 62, figs. 4a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Chenopodipollis dispersus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 268, pl. 21, fig. 5a, b

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Chenopodipollis minimus* Takahashi, 1987**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 20, pl. 6, fig. 10a, b

Holotype: GN, slide no. 4434

Boring well (Tsu-Ko-1), 362.5m in depth, western slope of Tsushima Trough in Korea Strait

Late Miocene-Pliocene

***Cicatricosisporites minuticanaliculatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 180, pl. 47, fig. 4

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Cicatricosisporites senonicus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 181, pl. 47, fig. 2

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Cicatricosisporites ? ellipsoideus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 220, pl. 31, fig. 7

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

(*Ephedripites* (*Spiralipites*) *ellipsoideus* (Takahashi) Takahashi, 1988 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 124)

***Cingulatisporites iwatensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 183, pl. 23, fig. 2

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Cingulatisporites minutulus* Takahashi, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 134, pl. 7, fig. 5

Holotype: GK, slide GK-V 3056

East of Hakkomaru, Wakamatsu City, Fukuoka Prefecture

Middle part of Sakamizu Formation, Ashiya Group

Late Oligocene

***Classopollis ezoensis* Takahashi, 1967**

Jubl. Publ. Commem. Prof. I. Hayasaka's 77th Birthday, p. 187, pl. 9(1), fig. 2a-c

Holotype: Slide no. 3110 [Depository not indicated, Nagasaki Univ.]

Loc. no. IK 1181, along Ikushunbetsu River, Ishikari, Hokkaido

Lower part of Upper Yezo Group

Late Cretaceous (Late Turonian)

***Classopollis grandissimus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 246, pl. 79, fig. 5

Holotype: GN, slide C-31d
 South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Classopollis taneichiensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 247, pl. 78, fig. 4
 Holotype: GN, slide C-31c
 South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Clavatipollenites variabilis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 297, pl. 80, fig. 3a, b
 Holotype: GN, slide C-31b
 South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Comasphaeridium macrum* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 65, pl. 27, fig. 8
 Holotype: GN, slide no. 3311
 Sample Y10-3, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
 Coal bearing formation, Changgi Series
 Early Miocene

***Concavisporites karatsuensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 280, pl. 15, fig. 6
 Holotype: GK, slide GK-V 1255
 Second Middle seam in V pit, Sumitomo-Kishima coal mine, Kouhoku-machi, Kishima-gun, Saga Prefecture
 Yoshinotani Formation
 Oligocene [Late Eocene]

***Concavisporites macellus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 192, pl. 23, fig. 18
 Holotype: GK, slide GK-V 3131
 Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
 Lower Hakobuchi Group
 Late Cretaceous (Campanian)

***Corrugatisporites haradae* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 283, pl. 14, fig. 1
 Holotype: GK, slide GK-V 1631
 Matsuurasanjaku-seam, Sasebo Group, Nittetsu-Kouda pit,

Nagasaki Prefecture
 Yunoki Formation
 Early Miocene [Oligocene]

***Corrusporis indicus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 586, pl. 18, fig. 10
 Holotype: Slide MD-233 (i) [GN]
 Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India
 Bokabil Formation
 Miocene

***Cricotriporites anulatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 260, pl. 16, fig. 6a, b
 Holotype: GN-5332
 Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamaed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Cricotriporites nigerianus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 260, pl. 16, fig. 11
 Holotype: GN-5334
 Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Cupanieidites pubescens* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 290, figs. 49-51
 Holotype: SEM stub. no. M-10, film nos. 13301, 13300 (Dept. Bot., Fac. Educ., Kagawa Univ.)
 Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia
 Krasnoyarka Formation
 Late Cretaceous (Late Campanian)

***Cupressacites africanus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 391, pl. 8, fig. 8
 Holotype: GN-5318
 Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
 Qasr El Sagha Formation
 Late Eocene to Early Oligocene

***Cupressacites ochiisiwanensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 265, pl. 21, fig. 6
 Holotype: GN, slide no. 5646
 OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido
 Upper Akkeshi Formation

Paleocene (Danian)

***Cupressacites scrupeus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 34, pl. 8, fig. 5
Holotype: GN, slide no. 3360
Sample Y10-8, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
Coal bearing formation, Changgi Series
Early Miocene

***Cupuliferoideaepollenites dites* (Takahashi) Takahashi, 1979** see *Tricolpopollenites dites* Takahashi, 1957

***Cupuliferoideaepollenites facetus* (Takahashi) Takahashi, 1979** see *Tricolpopollenites facetus* Takahashi, 1961

***Cupuliferoideaepollenites jobanensis* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 129, pl. 19, fig. 21
Holotype: GN, slide no. 2073
Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 36)
Tamayama Formation, Futaba Group
Late Cretaceous (Coniacian)

***Cupuliferoideaepollenites josensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 218, pl. 22, fig. 14
Holotype: GN-5326
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Cupuliferoideaepollenites lanceolatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 307, pl. 87, fig. 27
Holotype: GN, slide C-31b
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Cupuliferoideaepollenites longus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 62, pl. 13, fig. 14
Holotype: GN-5466
Soma Basin, West Anatolia, Turkey
Lower Coal Bed, Turgut Member, Soma Formation,
Early Miocene (Late Burdigarian)

***Cupuliferoideaepollenites minutissimus* (Takahashi) Takahashi, 1988,** see *Tricolpopollenites minutissimus* Takahashi, 1964

***Cupuliferoideaepollenites polituratus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 38, pl. 9, fig. 16
Holotype: GN, slide no. 3751
Sample CH, Yonil district and western district of Pohang, South Korea
Cheonbug (Seoam) Conglomerate, Yonil Series
Middle Miocene

***Cupuliferoideaepollenites vulgaris* (Takahashi) Takahashi, 1979** see *Tricolpopollenites vulgaris* Takahashi, 1957

***Cupuliferoideaepollenites weylandi* (Takahashi) Takahashi, 1979** see *Tricolpopollenites weylandi* Takahashi, 1961

***Cupuliferoipollenites castaneoides* (Takahashi) Takahashi, 1979** see *Tricolporopollenites castaneoides* Takahashi, 1961

***Cupuliferoipollenites ovuliformis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 44, pl. 12, fig. 11
Holotype: GN, slide no. 3703
Sample Y-17, Yonil district and western district of Pohang, South Korea
Eedong Formation, Yonil Series
Middle Miocene

***Cupuliferoipollenites prolongatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 44, pl. 11, fig. 30
Holotype: GN, slide no. 3752
Sample CH, Yonil district and western district of Pohang, South Korea
Cheonbug (Seoam) Conglomerate, Yonil Series
Middle Miocene

***Cupuliferoipollenites protensus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 44, pl. 12, fig. 2
Holotype: GN, slide no. 3732
Sample Y-20, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

(*Tricolporopollenites protensus* (Takahashi) Takahashi et Jux, 1989 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 229)

***Cupuliferoipollenites pseudopusillus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 45, pl. 13, fig. 7
Holotype: GN, slide no. 3521
Sample Y-3, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Cunninghamicites hokkaidoensis* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 52, pl. 2, fig. 1a-b

Holotype: GN, slide no. 5846
KON-07, Konbumori, Nemuro City, Hokkaido
Tokotan Formation
Late Cretaceous (Maastrichtian)

***Cupressacites microregularus* Takahashi, 1991**
Japan. Jour. Palynol., vol. 37, no. 1, p. 52, pl. 2, fig. 8a-b
Holotype: GN, slide no. 5847
KON-07, Konbumori, Nemuro City, Hokkaido
Tokotan Formation
Late Cretaceous (Maastrichtian)

***Cycadaceaelagenella minor* Kumar et Takahashi, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 575, pl. 4, fig. 7
Holotype: Slide MD-224 (ii) [GN]
Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India
Jenam Formation
Oligocene

***Cycadaceaelagenella psilata* Kumar et Takahashi, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 575, pl. 4, fig. 12
Holotype: Slide MD-231 (i) [GN]
Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India
Jenam Formation
Oligocene

***Cycadopites hidaensis* Takahashi, 1982**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 37, pl. 8, fig. 3
Holotype: GN, slide no. 2730
Loc. no. 3, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Cycadopites laevis* Takahashi, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 266, pl. 23, fig. 9
Holotype: GN, slide no. 5639
OCH-05, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido
Upper Tokotan Formation
Paleocene

***Cycadopites mirus* Takahashi et Sugiyama, 1990**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 249, pl. 86, fig. 9
Holotype: GN, slide C-15d
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Cymatiosphaera blandula* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 66, pl. 26, fig. 5a, b
Holotype: GN, slide no. 3582
Sample Y-7, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Cymatiosphaera decora* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 66, pl. 26, fig. 4
Holotype: GN, slide no. 3603
Sample Y-11, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Cymatiosphaera globulosa* Takahashi, 1964**
Trans Proc. Palaeont. Soc. Japan, N. S., no. 54, p. 210, pl. 30, fig. 6a-b
Holotype: GK, slide GK-V 3088
Ca. 4 km north of Taira, Fukushima Prefecture (bore at +204.30 m of Furukawa Yoshima colliery)
Asagai Formation
Oligocene

***Cymatiosphaera igoi* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 66, pl. 26, fig. 7
Holotype: GN, slide no. 3602
Sample Y-11, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Cymatiosphaera pulchella* Takahashi et Matsuoka, 1981**
Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 117, pl. 14, fig. 14a, b
Holotype: GN, slide NNA-2-5
2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture
Nanatani Formation
Early-Middle Miocene

***Cymatiosphaera reticulosa* Takahashi, 1964**
Trans Proc. Palaeont. Soc. Japan, N. S., no. 54, p. 210, pl. 30, fig. 9a-c
Holotype: GK, slide GK-V 3088
Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new no. 1 bore at -204.30 m of Furukawa Yoshima colliery)
Asagai Formation
Oligocene

***Cyrillaceaepollenites minor* (Takahashi) Takahashi, 1979**
see *Tricolporopollenites minor* Takahashi, 1961

***Dacrydium ? transiens* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 89,
pl. 1, figs. 23-24

Syntypes: HUMP*

Upper course of Rubeshibe River, tributary of Enbetsu River,
Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

***Dacrydiumites punctosaccatus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 36, pl. 7, fig. 2

Holotype: GN, slide no. 2806

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Deflandrea quiriquinaensis* Takahashi, 1979**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 19, p.
33, pl. 1, fig. 1a-c

Holotype: GN, slide no. 2418

Quiriquina Island, central Chile

Quiriquina Formation

Late Cretaceous

***Deltoidospora concava* Takahashi, 1974**

Pollen et Spores, vol. 16, p. 540, pl. 1, fig. 4

Holotype: GN, slide no. 2022

Shimanokoshi, Tanohata-mura, Shimoheii-gun, Iwate
Prefecture

Upper part of Tanohata Formation, Miyako Group

Early Cretaceous (Late Aptian)

***Deltoidospora enbetsuensis* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 86,
pl. 2, figs. 1-5

Syntypes: HUMP*

Upper course of Rubeshibe River, tributary of Enbetsu River,
Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

***Deltoidospora konbumoriensis* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 49, pl. 1, fig. 3

Holotype: GN, slide no. 5762

KON-01, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Deltoidospora nodanense* Miki, 1972**

Jour. Fac. Sai., Hokkaido Univ., Ser. 4, vol. 15, p. 549, pl. 6,
fig. 4a, b

Holotype: UHR, slide no. 66081511-3

Tamagawa, Noda-mura, Kunohe-gun, Iwate Prefecture

Tamagawa Formation, Kuji Group

Late Cretaceous (Early Senonian)

***Deltoidospora quiriquinaensis* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p.
33, pl. 1, fig. 1

Holotype: GN, slide no. 2412

Quiriquina Island, central Chile

Quiriquina Formation

Late Cretaceous

***Deltoidospora tanohataensis* Takahashi, 1974**

Pollen et Spores, vol. 16, p. 540, pl. 1, fig. 7

Holotype: GN, slide no. 2028

Shimanokoshi, Tanohata-mura, Shimoheii-gun, Iwate
Prefecture

Upper part of Tanohata Formation, Miyako Group

Early Cretaceous (Late Aptian)

***Diatriopollis consimilis* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 100, pl. 43, fig. 9

Holotype: GK, slide A-1

Herman colliery, Heerlen, Holland

Early Miocene (?)

***Diatriopollis minor* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.
59, pl. 7, fig. 7

Holotype: GN, slide no. 3861

Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen,
Germany

Paleogene

***Dicolpopollis psilatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
544, pl. 17, fig. 9

Holotype: Slide MD-226 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills,
southern Assam, India

Bokabil Formation

Miocene

***Dictyophyllidites divergens* (Sato) Takahashi, 1964** see
Fasciatisporites divergens Sato, 1961

***Echinatisporis sphaericus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 27, pl. 3, fig. 9

Holotype: Gifu Pref. Education Center, slide no. 61003-1

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun,
Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Engelhardtoidites hizenensis* (Takahashi) Takahashi, 1979**
see *Triporopollenites hizenensis* Takahashi, 1961

***Engelhardtoidites pseudocoryphaeus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 60, pl. 7, fig. 18
Holotype: GN, slide no. 3861
Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany
Paleogene

***Ephedripites (Ephedripites) anatolicus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 52, pl. 15, fig. 14
Holotype: GN-5466
Soma Basin, West Anatolia, Turkey
Lower Coal Bed, Turgut Member, Soma Formation
Early Miocene (Late Burdigarian)

***Ephedripites (Ephedripites) angustus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 270, pl. 23, fig. 23
Holotype: GN, slide no. 5502
AKK-05, Okimanbetsu, western coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido
Lower Akkeshi Formation
Cretaceous - Paleocene (Danian)

***Ephedripites (Ephedripites) minor* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 52, pl. 15, fig. 17
Holotype: GN, slide no. 5476
Soma Basin, West Anatolia, Turkey
Upper Coal Bed, Yatagau Member
Late Miocene (Tortonian)

***Ephedripites (Ephedripites) robustus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 266, pl. 23, fig. 16
Holotype: GN, slide no. 5726
OCH-01, Southern bluff along Ochiishi harbor, Nemuro City, Hokkaido
Lower Akkeshi Formation
Cretaceous - Paleocene (Danian)

***Ephedripites (Spiralipites) ellipsoideus* (Takahashi) Takahashi, 1988** see *Cicatricosporites ? ellipsoideus* Takahashi, 1964

***Ephedripites (Spiralipites) elongatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 257, pl. 84, fig. 8a, b
Holotype: GN, slide C-31c
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Euphorbiacites africanus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 230, pl. 26, fig. 4
Holotype: GN-5335
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Extrapunctatosporis fayumensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 385, pl. 6, fig. 15
Holotype: GN-5318
Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
Qasr El Sagha Formation
Late Eocene to Early Oligocene

***Extrapunctatosporis micropunctatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 246, pl. 18, fig. 24
Holotype: GN, slide no. 5646
OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido
Upper Akkeshi Formation
Paleocene (Danian)

***Extrapunctatosporis pseudomiocaenicus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 385, pl. 6, fig. 9
Holotype: GN-5318
Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
Qasr El Sagha Formation
Late Eocene to Early Oligocene

***Fagraeapollis reticulatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 209, pl. 9, fig. 1a-d
Holotype: GN-5321

Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Faguspollenites globosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 231, pl. 26, figs. 8a, b
 Holotype: GN-5328
 Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Faguspollenites koraiensis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 46, pl. 14, fig. 11
 Holotype: GN, slide no. 3501
 Sample Y-2, Yonil district and western district of Pohang, South Korea
 Pohang Formation, Yonil Series
 Middle Miocene

***Faguspollenites sphaericus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 46, pl. 15, fig. 1
 Holotype: GN, slide no. 3521
 Sample Y-3, Yonil district and western district of Pohang, South Korea
 Pohang Formation, Yonil Series
 Middle Miocene

***Fasciatisporites divergens* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 85, pl. 2, figs. 6-10
 Syntypes: HUMP*
 Upper course of Rubeshibe River, tributary of Enbetsu River, Enbetsu-cho, Teshio-gun, Hokkaido
 Hakobuchi Group
 Late Cretaceous

(*Dictyophyllidites divergens* (Sato) Takahashi, 1964, in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 202)

***Fibulapollis hamulatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 81, pl. 23, fig. 13a, b
 Holotype: GN, slide no. 2707
 Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
 Miyadani-gawa Formation
 Late Cretaceous (Maastrichtian)

***Fibulapollis pusillus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 81, pl. 23, fig. 14a, b
 Holotype: GN, slide no. 2764
 Loc. no. 4, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation
 Late Cretaceous (Maastrichtian)

***Florschuetzia claricolpata* Yamanoi, 1984**

Rev. Palaeobot. Palynol., vol. 40, p. 349, pl. 1, figs. 1-5
 Holotype: MYU G5-172 (Mus. Yamagata Univ.)
 Upper course of Tochizu River, Tateyama-machi, Naka-Niikawa-gun, Toyama Prefecture (36°35'05"N, 137°21'30"E)
 Kurosedani Formation
 Middle Miocene

***Florschuetzia reticulata* Sohma, 1973**

Sci. Rep. Tohoku Univ., Ser. 4, vol. 36, p. 262, text-fig. 8
 Holotype: Slide no. Sulawe.-Y-84-8,
 Lignite outcrop, ca. 30km southeast of Pasangkaju, northwest Central Sulawesi, Indonesia
 Early Pleistocene ?

***Foveosporites perfossus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 193, pl. 28, fig. 3
 Holotype: GN, slide C-31d
 South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Foveosporites sawayamaensis* Miki, 1972**

Jour. Fac. Sai., Hokkaido Univ., Ser. 4, vol. 15, p. 550, pl. 6, fig. 11
 Holotype: UHR, slide no. 67102512-2
 Natsui, Kuji City, Iwate Prefecture
 Sawayama Formation, Kuji Group
 Late Cretaceous (Early Senonian)

***Foveotricolporites elegantulus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 53, pl. 6, figs. 10a, b
 Holotype: GN, slide no. 3863
 Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany
 Paleogene

***Foveotricolporites fastidiosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 311, pl. 94, fig. 1a, b
 Holotype: GN, slide C-39a
 Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Foveotricolporites foveolatus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 81, pl. 12,

fig. 32a, b

Holotype: GN, slide no. 2527

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Foveotricolpites globosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 311, pl. 92, fig. 1a, b

Holotype: GN, slide C-33a

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Foveotricolporites gloriosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 313, pl. 95, fig. 2a-c

Holotype: GN, slide C-33a

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Foveotricolporites grandiformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 314, pl. 95, fig. 3

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Foveotricolporites tenuixinus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 247, pl. 30, fig. 9a, b

Holotype: GN-5335

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Gleicheniidites marginatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 191, pl. 23, fig. 7

Holotype: GK, slide GK-V 3142

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Gleicheniidites speciosus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 76, pl. 9, fig. 8

Holotype: GN, slide no. 2535

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Gleicheniidites triangularis* Takahashi, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 2, p. 152, pl. 20, fig. 2

Holotype: GK, slide GK-V 3005

Waku, Houhoku-machi, Toyoura-gun, Yamaguchi Prefecture

Sakaigawa Formation, Hioki Group

Late Oligocene

***Gleicheniidites verrucatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 198, pl. 23, fig. 1a, b

Holotype: GN, slide C-33a

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Graminidites microapertus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 237, pl. 33, fig. 25

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Campanian)

***Graminidites minor* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 255, pl. 15, fig. 3

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Graminidites punctulosus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 319, pl. 52, fig. 19

Holotype: GN, slide no. 4656

Kalisono, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Hemicorpus alienum* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 65, pl. 19, fig. 5

Holotype: GN, slide no. 2811

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Hemicorpus miyajiense* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 63, pl. 19, fig. 3

Holotype: GN, slide no. 2703

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Hemicorpus tripterum* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 64, pl. 19, fig. 4a, b

Holotype: GN, slide no. 2703

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Hidaspora ishiharae* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 32, pl. 4, fig. 6a, b; pl. 5, fig. 2

Holotype: Gifu Pref. Education Center, slide no. 61003-5

Loc. no. A, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

Ilexpollenites clavatus* (Takahashi) Takahashi, 1964 see *Tricolporopollenites clavatus* Takahashi, 1961**Ilexpollenites claviger* (Takahashi) Takahashi et Sugiyama, 1990 see *Tricolporopollenites claviger* Takahashi, 1961*****Ilexpollenites confusus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 49, pl. 16, fig. 19

Holotype: GN, slide no. 3481

Sample Y-1, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

Ilexpollenites excellens* (Takahashi) Takahashi, 1964 see *Tricolporopollenites excellens* Takahashi, 1961**Ilexpollenites miniclavatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 318, pl. 93, fig. 8a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Ilexpollenites minus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 319, pl. 93, fig. 10

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Ilexpollenites tertiaris* (Takahashi) Takahashi, 1963 see *Tricolporopollenites tertiaris* Takahashi, 1961**Inaperturopollenites crassatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 295, pl. 17, fig. 11

Holotype: GK, slide GK-V 533

Yonshaku-seam, Sawara pit, Fukuoka coalfield, Fukuoka Prefecture

Atago Formation

Oligocene

***Inaperturopollenites globulosus* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 53, pl. 1, fig. 17

Holotype: GN, slide no. 5762

KON-01, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Inaperturopollenites* (?) *falsus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 223, pl. 41, fig. 3

Holotype: GK, slide GK-V 3249

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Inaperturopollenites immutatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 296, pl. 17, fig. 15

Holotype: GK, slide GK-V 1021

Idagoshaku-seam, Mitsui-Tagawa-coalmine, Chikuho coalfield, Fukuoka Prefecture

Uwaishi Formation

Oligocene

***Inaperturopollenites laevigatus* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 216, pl. 39, fig. 16

Holotype: GK-V 542

Sawara coalmine, Fukuoka Prefecture

Yonshaku-seam in Atago Formation

Eocene

***Inaperturopollenites ligularis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 296,
pl. 17, fig. 10

Holotype: GK, slide GK-V 1338

Shintakae-seam, Shinootsuji pit, Chikuho coalfield, Katsuki,
Fukuoka Prefecture

Onga Formation

Oligocene

***Inaperturopollenites minimus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
204, pl. 7, fig. 22

Holotype: GN-5321

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Inaperturopollenites parviundulatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 223,
pl. 41, fig. 11a, b

Holotype: GK, slide GK-V 3247

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Inaperturopollenites parvus* Takahashi, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 134, pl. 7, fig. 10

Holotype: GK, slide GK-V 3058

East of Hakkomaru, Wakamatsu City, Fukuoka Prefecture

Middle part of Sakamizu Formation, Ashiya Group

Late Oligocene

***Inaperturopollenites pseudodubius* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 216, pl.
38, fig. 17

Holotype: GK-V 255

Momota coalmine, Fukuoka Prefecture

Funaishi-seam in Takada Formation

Eocene

***Inaperturopollenites rugatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.
264, pl. 55, fig. 12

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate
Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Inaperturopollenites rugosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
203, pl. 7, fig. 6

Holotype: GN-5322

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Inaperturopollenites shikokuensis* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 14, pl.
3, fig. 13

Holotype: GK, slide GK-V 2126

Naose, Kuma-cho, Kamiukena-gun, Ehime Prefecture

Myojin Formation

Late Eocene

***Intertriletes futabaensis* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p.
90, pl. 3, fig. 2a, b

Holotype: GN, slide no. 2103

Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 20)

Tamayama Formation, Futaba Group

Late Cretaceous (Coniacian)

***Intertriletes reticulatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
592, pl. 3, fig. 3

Holotype: Slide MD-223 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills,
southern Assam, India

Jenam Formation

Oligocene

***Intrabaculitricolporites affinis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
232, pl. 28, fig. 6a, b

Holotype: GN-5321

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

Intrabaculitricolporites consularis* (Takahashi) Takahashi et Jux *consularis*, 1989 see *Tricolporopollenites consularis* Takahashi 1979**Intrabaculitricolporites consularis* subsp. *globularis* (Takahashi) Takahashi et Jux, 1989 see *Tricolporopollenites consularis* subsp. *globularis* Takahashi, 1979*****Intrabaculitricolporites ellipsoideus* (Takahashi et Jux) Takahashi et Jux, 1991 see *Tricolporopollenites ellipsoideus* Takahashi et Jux, 1986)*****Intrabaculitricolporites rotundiporosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
231, pl. 27, fig. 6a, b

Holotype: GN-5321

Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Intrabaculitricolporites rugoporosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 234, pl. 29, fig. 16
 Holotype: GN-5324
 Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Intrapunctosporis cacharensis* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 592, pl. 4, fig. 3
 Holotype: Slide MD-224 (i) [GN]
 Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India
 Jenam Formation
 Oligocene

***Intratriporopollenites ambiguus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 307, pl. 21, fig. 16
 Holotype: GK, slide GK-V 701
 Seam no. 10, Hooshuyama-Koishihara pit, Asakura coalfield, Fukuoka Prefecture
 Hooshuyama Formation
 Eocene

***Intratriporopollenites tiliaceus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 307, pl. 21, fig. 14
 Holotype: GK, slide GK-V 1553
 Upper Shindenyonshaku-seam, Tetsugen-Sankyo pit, Sasebo coalfield, Nagasaki Prefecture
 Ainoura Formation
 Early Miocene [Oligocene]

***Jimboisporites kujiensis* Sohma, 1969**

Sci. Rep. Tohoku Univ., Ser. 4, vol. 35, text-figs. 1-3
 Holotype: Biol. Inst., Tohoku Univ., no. Su-1-63871-1
 Outcrop along Natsui River, 5.5 km northwest of Kuji City, Iwate Prefecture
 Kadonosawa Formation, Kuji Group
 Late Cretaceous (Upper Senonian)

***Jimboisporites senonicus* Miki, 1972**

Jour. Fac. Sai., Hokkaido Univ., Ser. 4, vol. 15, p. 552, pl. 7, fig. 1a-e
 Holotype: UHR, slide no. 66082709-1
 Okawame, Kuji City, Iwate Prefecture
 Tamagawa Formation, Kuji Group

Late Cretaceous (Senonian)

***Juglanspollenites polyporosus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 60, pl. 22, fig. 13
 Holotype: GN, slide no. 3268
 Sample Y10-1, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
 Coal bearing formation, Changgi Series
 Early Miocene

***Klukisporites multifeolatus* Takahashi, 1974**

Pollen et Spores, vol. 16, p. 544, pl. 2, fig. 4a, b
 Holotype: GN, slide no. 2014
 Shimanokoshi, Tanohata-mura, Shimoheii-gun, Iwate Prefecture
 Upper part of Tanohata Formation, Miyako Group
 Early Cretaceous (Late Aptian)

***Laevigatisporites hokkaidoensis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 200, pl. 25, fig. 2
 Holotype: GK, slide GK-V 3143
 Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
 Lower Hakobuchi Group
 Late Cretaceous (Campanian)

***Laevigatisporites ? iyoensis* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 10, pl. 1, fig. 1
 Holotype: GK, slide GK-V 2137
 Sakura, Kutani-mura, Onsen-gun, Ehime Prefecture
 Myojin Formation
 Late Eocene

***Laevigatisporites magunus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 199, pl. 25, fig. 5a, b
 Holotype: GK, slide GK-V 3133
 Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
 Lower Hakobuchi Group
 Late Cretaceous (Campanian)

***Laevigatisporites aegyptiacus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 380, pl. 4, fig. 6
 Holotype: GN-5318
 Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
 Qasr El Sagha Formation
 Late Eocene to Early Oligocene

***Laevigatisporites bellulus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 249, pl. 18, fig. 2

Holotype: GN, slide no. 5565
AKK-11, cliff along dump yard of snow, east of
Ariake-machi, Akkeshi-cho, Akkeshi-gun, Hokkaido
Middle Akkeshi Formation
Cretaceous - Paleocene (Danian)

***Laevigatosporites convexus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
250, pl. 15, fig. 4

Holotype: GN, slide no. 5646
OCH-06, western bluff of Ochiishi harbor, Nemuro City,
Hokkaido
Upper Akkeshi Formation
Paleocene (Danian)

***Laevigatosporites dehiscens* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 290,
pl. 16, fig. 6

Holotype: GK, slide GK-V 1542
Middle of Shindenyoshaku-seam, Yoshinoura pit, Sasebo
coalfield, Nagasaki Prefecture
Ainoura Formation
Early Miocene [Oligocene]

***Laevigatosporites eogigantiformis* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 11, pl.
1, fig. 19

Holotype: GK, slide GK-V 2137
Sakura, Kutani-mura, Onsen-gun, Ehime Prefecture
Myojin Formation
Late Eocene

***Laevigatosporites gigantiformis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 289,
pl. 16, fig. 3

Holotype: GK, slide GK-V 1624
Matsuurasanjaku-seam, Nittetsu-Mihashi-pit, Sasebo
coalfield, Nagasaki Prefecture
Yunoki Formation, Sasebo Group
Early Miocene [Oligocene]

***Laevigatosporites javanicus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 307, pl.
49, fig. 5

Holotype: GN, slide no. 4654
Kalisongo, west of Nanggulan, Yogyakarta region, central
Java, Indonesia
Nanggulan Formation
Eocene

***Laevigatosporites josensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
193, pl. 2, fig. 3

Holotype: GN-5321

Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Laevigatosporites longus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.
201, pl. 50, fig. 9

Holotype: GN, slide C-33a
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate
Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Laevigatosporites mikawaensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 289,
pl. 15, fig. 16

Holotype: GK, slide GK-V 670
Middle thin seam, Miike-Mikawa-pit, Fukuoka Prefecture
Nanaura Formation
Eocene

***Laevigatosporites nitidulus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.
202, pl. 50, fig. 4

Holotype: GN, slide C-15d
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate
Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Laevigatosporites oviformis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
198, pl. 3, fig. 5

Holotype: GN-5333
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Laevigatosporites ovoideus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 288,
pl. 16, fig. 11

Holotype: GK, slide GK-V 1582
Lower Matsuurasanjaku-seam, Sumitomo-Senryu pit, Sasebo
coalfield, Nagasaki Prefecture
Yunoki Formation, Sasebo Group
Early Miocene [Oligocene]

***Laevigatosporites ovulatus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 77, pl. 10,
fig. 7

Holotype: GN, slide no. 2536
Southwest of Arauco, Concepcion area, central Chile
Concepcion Formation
Eocene

***Laevigatosporites probatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 214, pl. 29, fig. 8

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Laevigatosporites prominens* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 213, pl. 29, fig. 5

Holotype: GK, slide GK-V 3141

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Laevigatosporites robustus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 594, pl. 14, fig. 1

Holotype: Slide MD-223 (i) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Upper Bhuban Formation

Miocene

***Laevigatosporites semicircularis* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 50, pl. 1, fig. 7

Holotype: GN, slide no. 5837

KON-06, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Laevigatosporites senonicus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 215, pl. 29, fig. 14

Holotype: GK, slide GK-V 3141

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Laevigatosporites tener* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 51, pl. 1, fig. 11

Holotype: GN, slide no. 5776

KON-02, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Laevigatosporites tenuis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 256, pl. 18, fig. 6

Holotype: GN, slide no. 5584

OCH-02, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Lower Tokotan Formation

Paleocene

***Laevigatosporites turcicus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 31, pl. 3, fig. 5

Holotype: GN-5412

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Laevigatosporites undulatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 380, pl. 5, fig. 10

Holotype: GN-5317

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Laevigatosporites uedae* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 256, pl. 18, fig. 20

Holotype: GN, slide no. 5638

OCH-05, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Upper Tokotan Formation

Paleocene

***Latosporites rotundus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 382, pl. 5, fig. 1

Holotype: GN, slide no. 5319

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Latosporites subrotundus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 258, pl. 20, fig. 13

Holotype: GN, slide no. 5679

OCH-09, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Leiosphaeridia grandiformis* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 116, pl. 13, fig. 9

Holotype: GN, slide NNA-2-2

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early - Middle Miocene

***Leiosphaeridia inconstans* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 76, pl. 11, fig. 1

Holotype: GN, slide no. 4679

Grube Westphal W3 (loc. E), near Bergisch Gladbach, Nordrhein- Westfalen, Germany

Paleogene

***Leiosphaeridia globulifera* Takahashi, 1971**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 81, p. 22, pl. 5, fig. 1

Holotype: GN, slide no. 388

Core C-4, depth 11.00-11.50 m, bottom of Ariake Sea

Lower formation

Pleistocene

***Leiosphaeridia laevigata* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 54, p. 211, pl. 30, fig. 13

Holotype, GK, slide GK-V 3087

Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new no. 1 bore of Furukawa-Yoshima colliery

Asagai Formation

Oligocene

***Leiosphaeridia minuscula* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 116, pl. 13, fig. 12

Holotype: GN, slide NNA-2-2

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatan Formation

Early - Middle Miocene

***Leiosphaeridia regulata* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 54, p. 211, pl. 32, fig. 15

Holotype: GK, slide GK-V 3087

Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new no. 1 bore of Furukawa-Yoshima colliery

Asagai Formation

Oligocene

***Leiotriletes giganticus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 207, pl. 1, fig. 1

Holotype: GN, slide no. C31-b

South of Kanuka, Taneichi-machi, Kunohe-gun Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Leiotriletes koreanus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 21, pl. 1, fig. 1a, b

Holotype: GN, slide no. 3470

Sample Y-9, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Kumwandong Shale, Changgi Series

Early Miocene

***Leiotriletes minus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 74, pl. 9, fig. 20

Holotype: GN, slide no. 2527

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Leptolepidites minutiverrucatus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 90, pl. 5, fig. 18a, b

Holotype: GN, slide no. 2206

Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 24)

Kasamatsu Formation, Futaba Group

Late Cretaceous (Coniacian)

***Liliacidites minutes* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 287, figs. 22, 23

Holotype: SEM stub. no. M-05, film nos. 41205, 41204

(Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Lycopodiacidites circularis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 210, pl. 26, fig. 6a, b

Holotype: GN, slide C-31d

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Lycopodiumsporites yubariensis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 206, pl. 40, fig. 7a, b

Holotype: GK, slide GK-V 3212

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Lygodiidites minimus* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 50, pl. 1, fig. 6a-b

Holotype: GN, slide no. 5768

KON-01, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Lygodiidites tohokuensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 211, pl. 32, fig. 1

Holotype: GN, slide C-34c

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Macrozamia ? hakobuchiensis* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 90, pl. 1, fig. 22

Holotype: HUMP

Upper course of Rubeshibe River, tributary of Enbetsu River,

Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

***Magnoliaepollenites ellipticus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 309, pl. 49, fig. 15a, b

Holotype: GN, slide no. 4656

Kalisongo, west of Nanggulan, Yogyakarta region, central

Java, Indonesia

Nanggulan Formation

Eocene

***Magnolipollis lanceolatus* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 30, pl. 1, fig. 6

Holotype: GN, slide no. 5945

YUR-05, Yururi Island, Nemuro City, Hokkaido

Kiritappu Formation

Paleocene

***Malpighiaceoidites periporifer* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 266, pl. 20, fig. 11a, b

Holotype: GN-5329

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Meyeripollis triradiatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 552, pl. 6, fig. 7

Holotype: Slide MD-219 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Renji Formation

Oligocene

***Micrhystridium ariakense* Takahashi, 1971**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 81, p. 22, pl. 5, fig. 1

Holotype: GN, slide no. 388

Core A-4, depth 16.00-16.20 m, bottom of Ariake Sea

Nagasu Formation

Pleistocene

***Micrhystridium asagaiense* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 54, p. 204, pl. 30, fig. 1a, b

Holotype: GK, slide GK-V 3089

Hirakubo, ca. 4km north of Taira, Fukushima Prefecture; new no. 1 bore at -204.30m of the Furukawa-Yoshima colliery

Asagai Formation

Oligocene

***Micrhystridium baculiferum* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 64, pl. 25, fig. 9

Holotype: GN, slide no. 3521

Sample Y-3, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Micrhystridium densum* Takahashi, 1971**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 81, p. 20, pl. 4, fig. 11a-b

Holotype: GN, slide no. 346

Core C-4, depth 10.00-10.50 m, bottom of Ariake Sea

Pleistocene

***Micrhystridium koraiense* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 64, pl. 25, fig. 10

Holotype: GN, slide no. 3716

Sample Y-19, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Micrhystridium minus* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 54, p. 203, pl. 30, fig. 2a-c

Holotype: GK, slide GK-V 3089

Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new no. 1 bore at -204.30 m of the Furukawa-Yoshima colliery

Asagai Formation

Oligocene

***Micrhystridium minutum* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, p. 162, pl. 2, fig. 19

Holotype: GN-5943

YUR-05, Yururi Island, Nemuro City, Hokkaido

Kiritappu Formation

Early Paleocene (Danian)

***Micrhystridium miserum* Takahashi, 1964**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 54, p. 204, pl. 30,

- fig. 11
Holotype: GK, slide GK-V 3088
Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture;
new no. 1 bore at -204.30 m of the Furukawa-Yoshima
colliery
Asagai Formation
Oligocene
- Micrhystridium nemuroense* Takahashi, 1991**
Japan. Jour. Palynol., vol. 37, p. 162, pl. 2, fig. 16a, b
Holotype: GN-5949
YUR-05, Yururi Island, Nemuro City, Hokkaido
Kiritappu Formation
Early Paleocene (Danian)
- Micrhystridium (?) spinuliform* Takahashi, 1964**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 54, p. 204, pl. 32,
fig. 5
Holotype: GK, slide GK-V 3086
Hirakubo, ca. 4 km north of Taira, Fukushima Prefecture; new
no. 1 bore at 204.30 m of Furukawa-Yoshima colliery
Asagai Formation
Oligocene
- Micrhystridium yonilense* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 64, pl. 25, fig. 18
Holotype: GN, slide no. 3501
Sample Y-2, Yonil district and western district of Pohang,
South Korea
Pohang Formation, Yonil Series
Middle Miocene
- Microreticulatisporites minimus* Takahashi, 1988**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p.
91, pl. 4, fig. 6
Holotype: GN, slide no. 2072
Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 31)
Kasamatsu Formation, Futaba Group
Late Cretaceous (Coniacian)
- Microreticulatisporites rotundulus* Takahashi, 1988**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p.
91, pl. 4, fig. 1a, b
Holotype: GN, slide no. 2059
Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 36)
Tamayama Formation, Futaba Group
Late Cretaceous (Coniacian)
- Momipites constatus* (Takahashi) Takahashi, 1964** see
***Tripoporollenites constatus* Takahashi, 1961**
- Momipites somaensis* Takahashi et Jux, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p.
88, pl. 20, fig. 20
Holotype: GN-5452
Soma Basin, West Anatolia, Turkey
Middle Coal Bed, Sekkoey Member, Soma Formation
Middle Miocene (Serravallian-Langhian)
- Monocolpopollenites asymmetricus* Takahashi, 1964**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 249,
pl. 33, fig. 10
Holotype: GK, slide GK-V 3171
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group
Late Cretaceous (Campanian)
- Monocolpopollenites intrabaculatus* Takahashi, 1961**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 293,
pl. 16, fig. 26
Holotype: GK, slide GK-V 638
Joosou-seam, Miike-Mikawa pit, Miike coalfield, Oomuta,
Fukuoka Prefecture
Nanaura Formation
Eocene
- Monocolpopollenites kyushuensis* Takahashi, 1961**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 292,
pl. 16, fig. 17
Holotype: GK, slide GK-V 1337
Shintakae-seam, Shinootsuji pit, Katsuki, Chikuho coalfield,
Fukuoka Prefecture
Onga Formation
Oligocene
- Monocolpopollenites pflugii* Takahashi, 1961**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 294,
pl. 16, fig. 31
Holotype: GK, slide GK-V 717
No. 9 seam, Asakura coalfield, Fukuoka Prefecture
Hooshuyama Formation
Eocene
(*Arecipitse pflugii* (Takahashi) Krutzsch, 1970 in Atlas, vol.
7, p. 29)
- Monocolpopollenites rugulosus* M. Takahashi et Saiki, 1995**
Jour. Plant Res., vol. 108, p. 47, figs. 5, 6
Holotype: SEM stub. no. M-01 (Dept. Bot., Fac. Educ.,
Kagawa Univ.)
Naiba River (NB1064), ca. 9 km northeast from Bykov,
south Sakhalin, Russia
Krasnoyarka Formation
Late Cretaceous (Maastrichtian)
- Monocolpopollenites shiyuparoensis* Takahashi, 1964**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 247,

pl. 33, fig. 2

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Monocolpopollenites universalis* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 215, pl. 38, fig. 9

Holotype: GK-V 165-2

Fukuhaku coalmine, Fukuoka Prefecture

Urata-seam, Upper Umi Formation

Eocene

***Monocolpopollenites verrucatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 293, pl. 16, fig. 28

Holotype: GK, slide GK-V 199

Kowabo-seam, Momota pit, Kasuya coalfield, Fukuoka

Prefecture

Takada Formation

Eocene

***Monoleiotriletes grandissimus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 213, pl. 5, fig. 2

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Monoporopollenites miocenicus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 62, pl. 24, fig. 6a, b

Holotype: GN, slide no. 3225

Sample Y10-5, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Monosulcites aegyptiacus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 402, pl. 10, fig. 12

Holotype: GN-5318

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Monosulcites minutissimus* Takahashi, 1974**

Pollen et Spores, vol. 16, p. 556, pl. 6, fig. 11

Holotype: GN, slide no. 2011

Shimanokoshi, Tanohata-mura, Shimoheii-gun, Iwate

Prefecture

Upper part of Tanohata Formation

Early Cretaceous (Late Aptian)

***Nymphaepollenites zonosulcatus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 2, p. 42, pl. 5, fig. 10a, b

Holotype: GN, slide no. 5201

Boring well ID-02, 266.8m in depth, west of Chojabaru-saki, Iki Island, Nagasaki Prefecture

Middle Miocene

***Nyssapollenites scabroides* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 290, figs. 46-48

Holotype: SEM stub. no. M-9, film nos. 139006, 139005 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Orbiculapollis moderatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 84, pl. 10, fig. 27a, b

Holotype: GN, slide no. 2818

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Osmundacidites minor* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 25, pl. 2, fig. 18

Holotype: GN, slide no. 2702

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Ovoidites ellipsoideus* Takahashi, 1971**

Trans Proc. Palaeont. Soc. Japan, N. S., no. 81, p. 22, pl. 5, fig. 5

Holotype: GN, slide no. 423

Core Ku1-1d, depth 100 cm, Kuriya River on the boundary between Kunimi and Ariake

Kuriyagawa silt or clay bed

Pleistocene

***Ovoidites lanceolatus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 93, pl. 23, fig. 1

Holotype: GN-5437

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Middle Miocene (Serravallian-Langhian)

***Pachydermipollenites miyajimensis* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 45, pl. 8, fig. 8a, b

Holotype: GN, slide no. 2806

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Palambages polycellularis* Takahashi et Shimono, 1980**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 20, p. 11, pl. 2, fig. 8a-c

Holotype: Gifu Pref. Educational Center, slide no. 74050504

Aibashiri, Takasu-mura, Gujo-gun, Gifu Prefecture

Atagi Formation

Pleistocene ?

***Patellasporites polyverrucifer* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 214, pl. 21, fig. 1a, b

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Patellasporites verrucatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 215, pl. 18, fig. 4

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Patellasporites verruculosus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 99, pl. 5, fig. 12a, b

Holotype: GN, slide no. 2206

Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 24)

Kasamatsu Formation, Futaba Group

Late Cretaceous (Coniacian)

***Pentapollenites manifestus* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, p. 79, pl. 23, fig. 2a-b

Holotype: GN, slide no. 2703

North of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Pentapollenites minus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 340, pl. 36, fig. 5a, b

Holotype: GN, slide no. 5639

OCH-05, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Upper Tokotan Formation

Paleocene

***Pentapollenites miser* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 78, pl. 22, fig. 13a, b

Holotype: GN, slide no. 2706

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Pentapollenites normalis* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 77, pl. 22, fig. 2a, b

Holotype: GN, slide no. 2703

Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Pentapollenites yezoensis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 256, pl. 36, fig. 29

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Perfotricolpites lanceolatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 211, pl. 6, fig. 3

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Perfotricolpites nigerianus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 212, pl. 6, figs. 1a-c

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Periporopollenites asiaticus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 332, pl. 27, figs. 2, 8

Holotype: GK, slide GK-V 1503
Coal-seam below Shindengoshaku-seam, Hiu pit, Sasebo coalfield, Nagasaki Prefecture
Ainoura Formation
Early Miocene [Oligocene]

***Periporopollenites giganticus* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 61, pl. 23, fig. 4
Holotype: GN, slide no. 3502
Sample Y-2, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Periporopollenites irregulariporus* M. Takahashi, 1997**
Jour. Plant Res., vol. 110, p. 293, figs. 68, 69
Holotype: SEM stub. no. M-11, film nos. 011720, 011721 (Dept. Bot., Fac. Educ., Kagawa Univ.)
Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia
Krasnoyarka Formation
Late Cretaceous (Late Campanian)

***Periporopollenites porulosus* Takahashi, 1962**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 17, pl. 5, fig. 16
Holotype: GK, slide GK-V 2146
Kuma-cho, Kamiukena-gun, Ehime Prefecture
Myojin Formation
Late Eocene

***Persicarioipollis polygonoides* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 61, pl. 24, fig. 12
Holotype: GN, slide no. 3246
Sample Y10-6, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
Coal bearing formation, Changgi Series
Early Miocene

***Persicarioipollis rarus* Takahashi, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 345, pl. 39, fig. 1a, b
Holotype: GN, slide no. 5665
OCH-08, western bluff of Ochiishi harbor, Nemuro City, Hokkaido
Upper Akkeshi Formation
Paleocene (Danian)

***Phyllocladidites brachypterus* Takahashi, 1964**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 227, pl. 35, fig. 9
Holotype: GK, slide GK-V 3132
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Phyllocladidites globulosus* Takahashi et Sugiyama, 1990**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 266, pl. 74, fig. 5a, b
Holotype: GN, slide C-33b
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Phyllocladidites mirandus* Takahashi, 1964**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 228, pl. 35, fig. 13
Holotype: GK, slide GK-V 3152
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group
Late Cretaceous (Campanian)

***Phyllocladidites ovatus* Takahashi, 1988**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 117, pl. 14, fig. 4
Holotype: GN, slide no. 2073
Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 31)
Kasamatsu Formation, Futaba Group
Late Cretaceous (Coniacian)

***Piceapollenites saccellus* Takahashi, 1964**
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 225, pl. 35, fig. 1
Holotype: GK, slide GK-V 3142
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group
Late Cretaceous (Campanian)
(Piceapollis saccellus (Takahashi) Takahashi, 1988 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 114)

***Piceapollenites saccifer* Takahashi, 1979**
Palaeontographica, Abt. B, vol. 170, p. 30, pl. 5, fig. 5
Holotype: GN, slide no. 3501
Sample Y-2, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Piceapollis anatoliensis* Takahashi et Jux, 1991**
Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 36, pl. 10, fig. 8
Holotype: GN-5422
Soma Basin, West Anatolia, Turkey
Lower Coal Bed, Turgut Member, Soma Formation
Early Miocene (Late Burdigarian)

***Piceapollis grandiformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 268, pl. 70, fig. 6

Holotype: GN, slide C-40a

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Piceapollis minor* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 37, pl. 11, fig. 5

Holotype: GN-5421

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Piceapollis minutus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 280, pl. 27, fig. 5

Holotype: GN, slide no. 5647

OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Piceapollis misellus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 268, pl. 68, fig. 2

Holotype: GN, slide C-6d

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Piceapollis saccellus* (Takahashi) Takahashi, 1988 see *Piceapollenites saccellus* Takahashi, 1964**Pinuspollenites conceptionensis* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 36, pl. 2, fig. 15

Holotype: GN, slide no. 2421

Quiriquina Island, central Chile

Quiriquina Formation

Late Cretaceous (Late Senonian or Maastrichtian)

***Pinuspollenites pseudolabdacus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 27, pl. 3, fig. 10

Holotype: GN, slide no. 3644

Sample Y-13, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Pityosporites aliformis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 224, pl. 34, fig. 4

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Pityosporites cretaceus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 273, pl. 63, fig. 1

Holotype: GN, slide C-17d

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Pityosporites microaliformis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 224, pl. 35, fig. 3

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Pityosporites minor* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 98, pl. 11, fig. 20

Holotype: Slide no. 25-1 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 25m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Ton 08” formation

Late Oligocene

***Pityosporites minus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 2, p. 42, pl. 4, fig. 3

Holotype: GN, slide no. 5029

Boring well ID-02, 54.5 m in depth, west of Chojabaru-saki, Iki Island, Nagasaki Prefecture

Pliocene

***Pityosporites orientalis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 297, pl. 17, fig. 22

Holotype: GK, slide GK-V 1574

Sunaban-seam, Maedake pit, Sasebo coalfield, Nagasaki Prefecture

Sechibaru Formation, Sasebo Group

Early Miocene [Oligocene]

***Pityosporites pinoides* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 298, pl. 18, fig. 4

Holotype: GK, slide GK-V 933

Uesanjaku-seam, Kokura pit, Kokura coalfield, Kokura,
Fukuoka Prefecture
Onga Formation
Oligocene

***Pityosporites sieburgensis* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 97, pl. 13, fig. 11
Holotype: Slide no. 25-4 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, 25m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 08” formation
Late Oligocene

***Pityosporites tohokuensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 39, pl. 1, fig. 5a, b
Holotype: GN, slide C-39a
Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Platycaryapollenites pseudotrisolutionis* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 61, pl. 7, fig. 21
Holotype: GN, slide no. 3865
Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany
Paleogene

***Pleosporites shiraianus* Suzuki, 1910**

Bot. Mag. Tokyo, vol. 24, no. 284, p. 191, pl. 7, photo 6; text-figs. 2, 3
Holotype: Bot. Inst., Univ. Tokyo
Hokkaido
Late Cretaceous

***Plicatopollis pseudolunatus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 62, pl. 7, fig. 25
Holotype: GN, slide no. 3863
Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany
Paleogene

***Podocarpidites ezoensis* (Sato) Miki, 1972, see *Podocarpus ezoensis* Sato, 1961**

***Podocarpus ezoensis* Sato, 1961**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 11, no. 1, p. 89, pl. 1, figs. 29, 30
Syntypes: HUMP*
Upper course of Rubeshibe River, tributary of Enbetsu River,

Enbetsu-cho, Teshio-gun, Hokkaido

Hakobuchi Group

Late Cretaceous

(*Podocarpidites ezoensis* (Sato) Miki, 1972, in Miki, A., 1972: Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 15, p. 564)

***Podocarpidites senonicus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 284, pl. 64, fig. 4a, b
Holotype: GN, slide C-34a
Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Polyadopollenites indecorus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 270, pl. 11, fig. 5a, b
Holotype: GN-5322
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Polyadopollenites sculptus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 269, pl. 10, figs. 4a, b
Holotype: GN-5323
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Polyatriopollenites pseudostellatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 201, pl. 27, fig. 29
Holotype: Slide no. 55-5 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, 25m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 08” formation
Late Oligocene

***Polyatriopollenites polyceras* (Takahashi) Takahashi, 1979 see *Polyporopollenites polyceras* Takahashi, 1961**

***Polyatriopollenites similaris* (Takahashi) Takahashi, 1979 see *Polyporopollenites similaris* Takahashi, 1961**

***Polygalacidites speciosus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 318, pl. 52, fig. 5a, b
Holotype: GN, slide no. 4655
Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia
Nanggulan Formation
Eocene

***Polypodiaceoisporites reticosus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 34, pl. 1, fig. 5a-c

Holotype: GN, slide no. 3862

Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Polypodiidites pohangensis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 25, pl. 1, fig. 22

Holotype: GN, slide no. 3441

Sample Y-8, Kumwandong, southeastern area surrounding

Bay of Yeoungill, South Korea

Kumwandong Shale, Changgi Series

Early Miocene

***Polypodiisporites invisus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 217, pl. 31, fig. 2

Holotype: GK, slide GK-V 3152

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Polypodiisporites repandus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 217, pl. 30, fig. 5a, b

Holotype: GK, slide GK-V 3133

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Polyporopollenites asakuraensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 310, pl. 22, fig. 4

Holotype: GK, slide GK-V 717

No. 9 seam, Hooshuyama-3 pit, Asakura coalfield, Fukuoka Prefecture

Hooshuyama Formation

Eocene

***Polyporopollenites grandis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 308, pl. 21, fig. 19

Holotype: GK, slide GK-V 1582

Lower Matsuurasanjaku-seam, Sumitomo-Senryu pit, Sasebo coalfield, Nagasaki Prefecture

Yunoki Formation, Sasebo Group

Early Miocene [Oligocene]

(*Carpinuspollis grandis* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 59)

***Polyporopollenites polyceras* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 309,

pl. 22, fig. 1

Holotype: GK, slide GK-V 671

Middle thin seam of Nanaura Formation, Miike-Mikawa pit,

Miike coalfield, Oomuta, Fukuoka Prefecture

Nanaura Formation

Eocene

(*Polyatriopollenites polyceras* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 59)

***Polyporopollenites punctatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 235, pl. 42, fig. 24a, b

Holotype: GK, slide GK-V 3249

Near Ooyubari-dam, Yubari coalfield, Hokkaido

Upper Hakobuchi Group

Late Cretaceous (Maastrichtian)

***Polyporopollenites similaris* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 309, pl. 21, fig. 28

Holotype: GK, slide GK-V 1573

Sunaban-seam, Maedake pit, Sasebo coalfield, Nagasaki Prefecture

Sechibaru Formation, Sasebo Group

Early Miocene [Oligocene]

(*Polyatriopollenites similaris* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 59)

***Polyvestibulopollenites assamicus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 559, pl. 5, fig. 10

Holotype: Slide MD-231 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Jenam Formation

Oligocene

***Polyvestibulopollenites eminens* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 308, pl. 20, fig. 34

Holotype: GK, slide GK-V 1581

Lower Matsuurasanjaku-seam, Sumitomo-Senryu pit, Sasebo coalfield, Nagasaki Prefecture

Yunoki Formation, Sasebo Group

Early Miocene [Oligocene]

(*Alnipollenites eminens* (Takahashi) Takahashi, 1964 in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 233)

***Polyvestibulopollenites minusculus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 58, pl. 21, fig. 16

Holotype: GN, slide no. 3202

Sample Y10-4, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series
Early Miocene

***Porocolpopollenites miikensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 311,
pl. 22, fig. 9
Holotype: GK, slide GK-V 641
Joosou-seam, Miike-Mikawa pit, Miike coalfield, Oomuta,
Fukuoka Prefecture
Nanaura Formation
Eocene

***Porocolpopollenites schwarzbachi* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 101, pl. 43, fig. 42
Holotype: GK, slide A-3
Herman colliery, Heerlen, Holland
Early Miocene (?)

***Potamogetonacidites difficilis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 35, pl. 8, fig. 16
Holotype: GN, slide no. 3381
Sample Y10-9, Kumwandong, southeastern area surrounding
Bay of Yeoungill, South Korea
Coal bearing formation, Changgi Series
Early Miocene

***Potamogetonacidites senonicus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.
323, pl. 79, fig. 12
Holotype: GN, slide C-6d
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate
Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Proteacidites matsuoakae* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 319, pl. 53,
fig. 5a, b
Holotype: GN, slide no. 4653
Kalisongo, west of Nanggulan, Yogyakarta region, central
Java, Indonesia
Nanggulan Formation
Eocene

***Proteacidites minor* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 48,
pl. 3, fig. 16
Holotype: GN, slide no. 2413
Quiriquina Island, central Chile
Quiriquina Formation
Late Cretaceous (Late Senonian or Maastrichtian)

***Pseudointegricorpus fragile* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 74, pl. 21, fig. 1
Holotype: Gifu Pref. Education Center, slide no. 61003-5
Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Pseudointegricorpus kokufuense* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 72, pl. 21, fig. 2a, b
Holotype: GN, slide no. 2806
Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Pseudointegricorpus protrusum* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no.
2, p. 73, pl. 19, fig. 14
Holotype: GN, slide no. 2808
Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu
Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Psilastephanocolpites elongatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
560, pl. 1, fig. 13
Holotype: Slide MD-223 (i) [GN]
Along Silchar and Haflong road section, north Cachar Hills,
southern Assam, India
Laisong Formation
Oligocene

***Psilastephanocolpites minutus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
561, pl. 18, fig. 2
Holotype: Slide MD-247 (ii) [GN]
Along Silchar and Haflong road section, north Cachar Hills,
southern Assam, India
Bokabil Formation
Miocene

***Psilodiporites rotundus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
256, pl. 15, fig. 14a, b
Holotype: GN-5321
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Psophosphaera gigantea* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 33, pl. 6, fig. 11

Holotype: Gifu Pref. Education Center, slide no. 61003-5

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Pterisporites hokkaidoensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 226, pl. 13, fig. 6a, b

Holotype: GN, slide no. 5580

AKK-12, Cliff along dump yard of snow, east of Ariake-machi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Pterisporites ochiishiensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 226, pl. 14, fig. 4a, b

Holotype: GN, slide no. 5659

OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Pterisporites rotundus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 227, pl. 13, fig. 8a, b

Holotype: GN, slide no. 5677

OCH-09, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Pterisporites verrucatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 228, pl. 12, fig. 6a-c

Holotype: GN, slide no. 5559

AKK-11, cliff along dump yard of snow, east of Ariake-machi, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Pterospermella pterina* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 114, pl. 14, fig. 3

Holotype: GN, slide NNA-2-3

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early-Middle Miocene

***Punctatisporites ainouraensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 286, pl. 13, fig. 10

Holotype: GK, slide GK-V 1607

Upper Matsuurasanjaku-seam, Sumitomo-Senryu pit, Nagasaki Prefecture

Yunoki Formation, Sasego Group

Early Miocene [Oligocene]

***Punctatisporites granulatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 217, pl. 22, fig. 6a, b

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Punctatisporites hatsunesawaensis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 201, pl. 25, fig. 17

Holotype: GK, slide GK-V 3142

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Formation

Late Cretaceous (Campanian)

***Punctatisporites minor* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 229, pl. 20, fig. 5

Holotype: GN, slide no. 5582

OCH-02, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Lower Tokotan Formation

Paleocene

***Punctatisporites punctulatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 201, pl. 25, fig. 7

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Formation

Late Cretaceous (Campanian)

***Punctatisporites ubensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 287, pl. 13, fig. 16

Holotype: GK, slide GK-V 1854-1

Ooha-seam, Okinoyama-pit, Ube-coalmine, Yamaguchi Prefecture

Ube Formation, Ube Group

Eocene

***Quercidites umiensis* (Takahashi) Takahashi, 1979** see
***Tricolpopollenites umiensis* Takahashi, 1957**

***Quercoidites ellipsodeus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 311, pl. 50, fig. 16

Holotype: GN, slide no. 4656

Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Quercoidites microdensus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 42, pl. 5, fig. 1

Holotype: GN, slide no. 3861

Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Quercoidites punctatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 404, pl. 11, fig. 10

Holotype: GN-5318

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Quercoidites somaensis* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 65, pl. 12, figs. 1a, b

Holotype: GN-5466

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Quiriquinaspora chilensis* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 36, pl. 1, fig. 11

Holotype: GN, slide no. 2420

Quiriquina Island, central Chile

Quiriquina Formation

Late Cretaceous (Late Senonian or Maastrichtian)

***Ranunculacidites contaminatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 213, pl. 22, fig. 1

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Retibrevitricolpites macroreticulatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 563, pl. 14, fig. 8

Holotype: Slide MD-225 (i) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Upper Bhuban Formation

Miocene

***Reticulatasporites foraminulatus* Takahashi et Yao, 1969**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 73, p. 45, pl. 5, fig. 4a, b

Holotype: Dept. Geosci., Osaka City Univ., slide no. 66041104-10

500 m north of Harayama, Watsuka-cho, Soraku-gun, Kyoto Prefecture

Mudstone member of B formation

Middle Permian

***Reticulatisporites pusillus* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 10, pl. 1, fig. 8

Holotype: GK, slide GK-V 2127

Naose, Kuma-cho, Kamiukena-gun, Ehime Prefecture

Myojin Formation

Late Eocene

***Reticulatisporites saseboensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 282, pl. 15, fig. 3

Holotype: GK, slide GK-V 1522

Upper Shindenyonshaku-seam, Yoshinoura pit near Sasebo, Nagasaki Prefecture

Ainoura Formation, Sasebo Group

Early Miocene [Oligocene]

***Reticuloidosporites nagaii* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 13, pl. 2, fig. 16

Holotype: GK, slide GK-V 2147

Kuma-cho, Kamiukena-gun, Ehime Prefecture

Myojin Formation

Late Eocene

***Retipilonapites barakensis* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 564, pl. 6, fig. 6

Holotype: Slide MD-219 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Renji Formation

Oligocene

***Retitrescolpites globosus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 66, pl. 15, fig. 7a, b

Holotype: GN-5402

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Retitrescolpites pseudoazemae* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 326, pl. 89, fig. 9a, b

Holotype: GN, slide C-17d

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Retitricolpites multibaculatus* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 287, figs. 31, 32

Holotype: SEM stub. no. M-06, film nos. 139001, 139002 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Retitricolporites afflatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 48, pl. 15, fig. 19

Holotype: GN, slide no. 3501

Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Retitricolporites augustus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 47, pl. 15, fig. 8a, b

Holotype: GN, slide no. 3584

Sample Y-7, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Retitricolporites misellus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 48, pl. 15, fig. 14

Holotype: GN, slide no. 3561

Sample Y-6, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Retitricolporites protensus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 316, pl. 51, fig. 22

Holotype: GN, slide no. 4653

Kalisongo, west of Nanggulan, Yogyakarta region, central

Java, Indonesia

Nanggulan Formation

Eocene

***Retitriletes borealis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 230, pl. 11, fig. 4a, b

Holotype: GN, slide no. 5633

OCH-05, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Upper Tokotan Formation

Paleocene

***Retitriletes nemuroensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 231, pl. 10, fig. 4a, b

Holotype: GN, slide no. 5647

OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Retitriletes triangulatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 231, pl. 10, fig. 7

Holotype: GN, slide no. 5574

AKK-12, cliff along dump yard of snow, east of Ariake-machi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Rhoipites ? hoshuyamaensis* (Takahashi) Takahashi, 1964
see *Tricolporopollenites hoshuyamaensis* Takahashi, 1961*****Rhoipites kitakamiensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 326, pl. 94, fig. 12a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rhoipites minus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 163, pl. 26, fig. 8

Holotype: Slide no. 128-4 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 128 m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Ton 06” formation

Late Oligocene

***Rhoipites ? minutireticulatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 244, pl. 39, fig. 26

Holotype: GK, slide GK-V 3152

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Rhoipites mirus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 53, pl. 6, fig. 12a, b

Holotype: GN, slide no. 3840

Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Rhoipites rotundus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 408, pl. 13, fig. 19

Holotype: GN-5317

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Rossipollis minor* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 296, pl. 25, fig. 10

Holotype: GN, slide no. 5613

OCH-03, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Middle Tokotan Formation

Paleocene

***Rousea elegantula* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 328, pl. 91, fig. 11a, b

Holotype: GN, slide C-15d

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rousea reticosa* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 329, pl. 89, fig. 1a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rousea triangulata* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p.

330, pl. 92, fig. 4a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rousea ugensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 330, pl. 92, fig. 2a, b

Holotype: GN, slide C-39a

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rugubivesiculites japonicus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 288, pl. 72, fig. 4a, b

Holotype: GN, slide C-34a

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rugubivesiculites sphaericus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 289, pl. 74, fig. 1a, b

Holotype: GN, slide C-34a

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Rugulatisporites parvirugulatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 205, pl. 26, fig. 6

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Rugulatisporites salebrosus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 204, pl. 26, fig. 4a, b

Holotype: GK, slide GK-V 3133

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Rugulatisporites sasaensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 284, pl. 14, fig. 4

Holotype: GK, slide GK-V 1503

Coal seam below Shindengoshaku-seam, Hiu pit, Sasebo, Nagasaki Prefecture

Ainoura Formation, Sasebo Group

Early Miocene [Oligocene]

***Rutaceipollenites subtropicus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 408, pl. 13, fig. 4

Holotype: GN-5319

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Satishia pomposa* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 333, pl. 93, fig. 2

Holotype: GN, slide C-39a

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Satishia triformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 334, pl. 90, fig. 18a, b

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Satishia uniformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 334, pl. 100, fig. 6

Holotype: GN, slide C-31; SEM no. 12

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Saxosporis minor* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 233, pl. 8, fig. 4

Holotype: GN, slide no. 5544

AKK-10, Chikushigoi, eastern coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Scabrastephanocolpites ovatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 567, pl. 5, fig. 2

Holotype: Slide MD-231 (ii) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Jenam Formation

Oligocene

***Schizosporis ellipsoideus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 94, pl. 23, fig. 10

Holotype: GN-5488

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Upper Early Miocene (Late Burdigarian)

***Schizosporis exaratus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 63, pl. 24, fig. 9

Holotype: GN, slide no. 3441

Sample Y-8, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Schizosporis infirmus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 73, pl. 11, fig. 3

Holotype: GN, slide no. 4682

Grube Westphal W4 (loc. E), near Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Schizosporis verrucatus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 74, pl. 12, fig. 7a-c

Holotype: GN, slide no. 4678

Grube Westphal W3-W4 (loc. E), near Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Sciadopitipollenites megaorbiculus* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 287, figs. 14, 15

Holotype: SEM stub. no. M-04, film nos. 212000, 211001 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Sciadopityspollenites krutzschii* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 85, pl. 11, fig. 2

Holotype: Slide no. 72-2 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 78m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Sand 07” formation

Late Oligocene

***Sclerotites nipponianus* Yasui, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 3, Bot., vol. 1, pt. 4, p. 443, pl. 23, fig. 111

Holotype: Bot. Inst., Univ. Tokyo

Aichi coal-field, Aichi Prefecture
Upper Tertiary

***Smilacipites spinatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 86, pl. 21, fig. 2a, b

Holotype: Slide no. 193-1 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 193m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Ton 06” formation

Late Oligocene

***Smilacipites spinulifer* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 308, pl. 49, fig. 7

Holotype: GN, slide no. 4654

Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Stereisporites concepcionensis* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 75, pl. 9, fig. 5

Holotype: GN, slide no. 2536

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Stereisporites grossus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 197, pl. 24, fig. 13

Holotype: GK, slide GK-V 3172

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Stereisporites limbatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 196, pl. 24, fig. 4a, b

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Stereisporites nemuroensis* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 50, pl. 1, fig. 4a-b

Holotype: GN, slide no. 5820

KON-05, Konbumori, Nemuro City, Hokkaido

Tokotan Formation

Late Cretaceous (Maastrichtian)

***Stereisporites pseudostereoides* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 197,

pl. 24, fig. 16

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Stereisporites ? tenuiculus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 198, pl. 24, fig. 25

Holotype: GK, slide GK-V 3132

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Striatopollis affinisorbis* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 290, figs. 34, 35

Holotype: SEM stub. no. M-07, film nos. 135018, 135019 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Striatopollis circularis* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 67, pl. 15, fig. 1

Holotype: GN-5401

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Striatopollis nigericus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 223, pl. 23, fig. 1

Holotype: GN-5324

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Striatopollis variabilis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 224, pl. 24, fig. 2

Holotype: GN-5335

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Striatricolporites aceroides* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 48, pl. 16, fig. 3

Holotype: GN, slide no. 3541

Sample Y-4, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Striatricolporites communis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 48, pl. 16, fig. 10
 Holotype: GN, slide no. 3226
 Sample Y10-5, Kumwandong, southeastern area surrounding
 Bay of Yeoungill, South Korea
 Coal bearing formation, Changgi Series
 Early Miocene

***Striatricolporites globularis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 49, pl. 16, fig. 15
 Holotype: GN, slide no. 3521
 Sample Y-3, Yonil district and western district of Pohang,
 South Korea
 Pohang Formation, Yonil Series
 Middle Miocene

***Striatricolporites striatulus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.
 51, pl. 6, fig. 4a, b
 Holotype: GN, slide no. 3862
 Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen,
 Germany
 Paleogene

(Striatocolporites cf. striatulus (Takahashi et Jux)

Takahashi et Jux, 1989 in Bull. Fac. Lib. Arts, Nagasaki
 Univ., (Nat. Sci.), vol. 29, p. 241)

***Striatocolporites minor* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
 568, pl. 5, fig. 11
 Holotype: Slide MD-229 (i) [GN]
 Along Silchar and Haflong road section, north Cachar Hills,
 southern Assam, India
 Jenam Formation
 Oligocene

***Striatocolporites ovuliformis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
 241, pl. 25, fig. 4a, b
 Holotype: GN-5331
 Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Striatopollis striatullus (Takahashi) Takahashi, 1979* see
Tricolpopollenites striatullus Takahashi, 1961*****Striatricolporites striolatus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 317, pl.
 51, fig. 32
 Holotype: GN, slide no. 4653
 Kalisongo, west of Nanggulan, Yogyakarta region, central
 Java, Indonesia
 Nanggulan Formation

Eocene

***Subtriporopollenites chikuoensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 305,
 pl. 20, fig. 20
 Holotype: GK, slide GK-V 1067
 Honishi-seam, Nittan-Takamatsu-coalmine, Chikuo
 coalfield, Fukuoka Prefecture
 Onga Formation
 Oligocene

***Subtriporopollenites consimilis* Takahashi, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 2, p. 154,
 pl. 22, fig. 12
 Holotype: GK, slide GK-V 3017
 Waku(B), Houhoku-machi, Toyoura-gun, Yamaguchi
 Prefecture
 Sakaigawa Formation, Hioki Group
 Late Oligocene

***Subtriporopollenites decoratus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.
 68, pl. 8, fig. 6
 Holotype: GN, slide no. 3842
 Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen,
 Germany
 Paleogene

***Subtriporopollenites falsus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 84, pl. 11,
 fig. 19
 Holotype: GN, slide no. 2536
 Southwest of Arauco, Concepcion area, central Chile
 Concepcion Formation
 Eocene

***Subtriporopollenites incomptus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.
 69, pl. 8, fig. 11
 Holotype: GN, slide no. 3840
 Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen,
 Germany
 Paleogene

***Subtriporopollenites kyushuensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 305,
 pl. 20, fig. 35
 Holotype: GK, slide GK-V 415
 Hitoe-seam, Shime pit, Kasuya coalfield, Fukuoka Prefecture
 Shinbaru Formation
 Oligocene

***Subtriporopollenites levius* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 306,

pl. 21, fig. 12

Holotype: GK, slide GK-V 414

Hitoe-seam, Shime pit, Kasuya coalfield, Fukuoka Prefecture
Shinbaru Formation

Oligocene

***Subtriporopollenites minor* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 360, pl. 45, fig. 16

Holotype: GN, slide no. 5583

OCH-02, southern bluff along Ochiishi harbor, Nemuro City,
Hokkaido

Lower Tokotan Formation

Paleocene

***Subtriporopollenites minutulus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 321, pl. 53,
fig. 10

Holotype: GN, slide no. 4654

Kalisongo, west of Nanggulan, Yogyakarta region, central
Java, Indonesia

Nanggulan Formation

Eocene

***Subtriporopollenites rotundiporifer* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 261,
pl. 16, fig. 2

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Subtriporopollenites rotundulus* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 84, pl. 11,
fig. 12

Holotype: GN, slide no. 2530

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Subtriporopollenites rytideus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 55, pl. 18, fig. 25

Holotype: GN, slide no. 3441

Sample Y-8, Kumwandong, southeastern area surrounding
Bay of Yeoungill, South Korea

Kumwandong Shale, Changgi Series

Early Miocene

***Subtriporopollenites subkyushuensis* Takahashi, 1981**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, p. 28,
pl. 4, fig. 32

Holotype: GN, slide no. 4784

Chojabaru, Iki Island, Nagasaki Prefecture

Chojabaru (Diatomite) Formation

Middle Miocene

***Subtriporopollis reticulatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 262,
pl. 16, fig. 18a, b

Holotype: GN-5328

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Subtriporopollis specialis* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 322, pl. 53,
fig. 20

Holotype: GN, slide no. 4656

Kalisongo, west of Nanggulan, Yogyakarta region, central
Java, Indonesia

Nanggulan Formation

Eocene

***Symplocacites micropunctatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 338,
pl. 96, fig. 5a, b

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate
Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Symplocacites microreticulatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 338,
pl. 96, fig. 10a, b

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate
Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Symplocoipollenites foveolatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2,
p. 175, pl. 29, fig. 1a, b

Holotype: Slide no. 41-1 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 41m in depth, Siegburger Graben,
Nordrhein-Westfalen, Germany

“Sand 07” formation

Late Oligocene

***Symplocoipollenites punctatus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 2,
p. 43, pl. 9, fig. 18

Holotype: GN, slide no. 5040

Boring well ID-02, 91.6m in depth, west of Chojabaru-saki,
Iki Island, Nagasaki Prefecture

Middle Miocene

***Tasmanites tanbaensis* Takahashi et Yao, 1969**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 73, p. 46, pl. 6, fig. 2

Holotype: Dept. Geosci., Osaka City Univ., slide no. 66041104-13

500 m north of Harayama, Watsuka-cho, Soraku-gun, Kyoto Prefecture

Mudstone member of B formation

Middle Permian

***Tetracolporopollenites cretaceus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 246, pl. 39, fig. 33a, b

Holotype: GK, slide GK-V 3131

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Tetracolporopollenites eumorphus* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 102, pl. 44, fig. 31

Holotype: GK, slide A-3

Herman colliery, Heerlen, Holland

Early Miocene (?)

***Tetracolporopollenites globosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 408, pl. 13, fig. 10

Holotype: GN-5318

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Tetracolporopollenites heerlenensis* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 101, pl. 44, fig. 38

Holotype: GK, slide A-3

Herman colliery, Heerlen Holland

Early Miocene (?)

***Tetracolporopollenites minutissimus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 56, pl. 6, fig. 14

Holotype: GN, slide no. 3840

Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Tetracolporopollenites ovoideus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.

57, pl. 6, fig. 17

Holotype: GN, slide no. 3862

Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Tetradomonoporites typhinus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 269, pl. 12, fig. 1

Holotype: GN-5326

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Tetradopollenites ericaceoides* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 333, pl. 27, fig. 11

Holotype: GK, slide GK-V 1348

Yonshaku-seam, Shinootsujii pit, Chikuho coalfield, Katsuki, Fukuoka Prefecture

Onga Formation

Oligocene

***Tiliaepollenites punctulosus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 56, pl. 20, fig. 12

Holotype: GN, slide no. 3291

Sample Y10-2, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Tiliaepollenites tropicus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 322, pl. 53, fig. 24a, b

Holotype: GN, slide no. 4657

Kalisono, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Todisporites grandiformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 220, pl. 5, fig. 6

Holotype: GN, slide C-33b

North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Todisporites miser* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 84, pl. 3, fig. 10

Holotype: GN, slide no. 2052

Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 36)

Tamayama Formation, Futaba Group
Late Cretaceous (Coniacian)

***Toroisporites (Duplotoroisporis) triangulus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 221, pl. 12, fig. 6a, b
Holotype: GN, slide C-33a
North of Uge station, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Trachysporites microverrucatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 222, pl. 24, fig. 5a-c
Holotype: GN, slide C-31e
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Triatriopollenites dubiosus* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 100, pl. 43, fig. 30
Holotype: GK, slide A-1
Herman colliery, Heerlen, Holland
Early Miocene (?)

***Triatriopollenites fayumensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 395, pl. 9, fig. 10
Holotype: GN-5319
Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
Qasr El Sagha Formation
Late Eocene to Early Oligocene

***Triatriopollenites josensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 258, pl. 15, fig. 28
Holotype: GN-5335
Sabon Gida tin mine, Jos Plateau, Nigeria
Unnamed carbonaceous clay bed
Late Oligocene to Early Miocene

***Triatriopollenites maedae* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 46, pl. 3, fig. 4
Holotype: GN, slide no. 2416
Quiriquina Island, central Chile
Quiriquina Formation
Late Cretaceous (Late Senonian or Maastrichtian)

***Triatriopollenites mirabilis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 299, pl. 19, fig. 10
Holotype: GK, slide GK-V 1254
Second Middle-seam, Sumitomo-Kishima pit, Karatsu coalfield, Saga Prefecture
Yoshinotani Formation
Oligocene [Late Eocene]

***Triatriopollenites ongaensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 300, pl. 19, fig. 16
Holotype: GK, slide GK-V 1141
Mie-Lower seam, Nittan-Takamatsu-coalmine, Chikuho coalfield, Fukuoka Prefecture
Onga Formation
Oligocene

***Triatriopollenites opacus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 50, pl. 17, fig. 5
Holotype: GN, slide no. 3584
Sample Y-7, Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Triatriopollenites subtriangularis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 50, pl. 17, fig. 2
Holotype: GN, slide no. 3269
Sample Y10-1, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
Coal bearing formation, Changgi Series
Early Miocene

***Triatriopollenites yururitoensis* Takahashi, 1991**

Japan. Jour. Palynol., vol. 37, no. 1, p. 31, pl. 2, fig. 10a-b
Holotype: GN, slide no. 5938
YUR-04, Yururi Island, Nemuro City, Hokkaido
Kiritappu Formation
Paleocene

***Tricolpites ellipsoideus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 340, pl. 90, fig. 17
Holotype: GN, slide C-31c
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Tricolpites ellipticus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 45, pl. 5, fig. 16
Holotype: GN, slide no. 3840

Koettgen (loc. A) in Bergisch Gladbach or ? Lueckerath (loc. B) in Bensberg, Nordrhein-Westfalen, Germany
Paleogene

***Tricolpites hokkaidoanus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 364, pl. 40, fig. 31

Holotype: GN, slide no. 5621

OCH-04, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Upper Tokotan Formation

Paleocene

***Tricolpites intrabaculatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 365, pl. 41, fig. 26a, b

Holotype: GN, slide no. 5685

OCH-09, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Tricolpites marginatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 141, pl. 23, fig. 3

Holotype: Slide no. 177-1 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, depth not indicated, Siegburger

Graben, Nordrhein-Westfalen, Germany

“Ton 06” or “Sand 05” formations

Late Oligocene

***Tricolpites microreticulatus* (Takahashi) Takahashi, 1977**
see *Tricolpopollenites microreticulatus* Takahashi, 1961.

***Tricolpites microretiformis* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 46, pl. 5, fig. 21a, b

Holotype: GN, slide no. 3861

Koettgen (loc. A) in Bergisch Gladbach or ? Lueckerath (loc. B) in Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Tricolpites minutireticulosus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 40, pl. 10, fig. 5a, b

Holotype: GN, slide no. 3402

Sample Y10-10, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Tricolpites minutireticulata* (Takahashi) Takahashi, 1977**
see *Tricolpopollenites minutireticulata* Takahashi, 1964.

***Tricolpites minutiretiformis* (Takahashi) Takahashi, 1982**
see *Tricolpopollenites minutiretiformis* Takahashi, 1964.

***Tricolpites oviformis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 342, pl. 89, fig. 11

Holotype: GN, slide C-17e

Uge harbor, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Tricolpites punctatus* M. Takahashi et Saiki, 1995**

Jour. Plant Res., vol. 108, p. 51, figs. 13, 14

Holotype: SEM stub. no. M-02 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1064), ca. 9 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Maastrichtian)

***Tricolpites regularis* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 46, pl. 9, fig. 2a, b

Holotype: GN, slide no. 4388

Fuestenbrunnchen no. 1 & 2 (loc. D), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Tricolpites reticosus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 40, pl. 10, fig. 3

Holotype: GN, slide no. 3541

Sample Y-4, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Tricolpites rudis* (Takahashi) Takahashi, 1970** see
Tricolpopollenites rudis Takahashi, 1961

***Tricolpites sphaericus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 132, pl. 19, fig. 27

Holotype: GN, slide no. 2045

Oohisa-machi, Iwaki City, Fukushima Prefecture (H. E.)

Tamayama Formation, Futaba Group

Late Cretaceous (Santonian)

***Tricolpites sphaeroides* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 342, pl. 90, fig. 3a, b

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Tricolpites strireticulatus* M. Takahashi et Saiki, 1995**

Jour. Plant Res., vol. 108, p. 51, figs. 15, 16
Holotype: SEM stub. no. M-03 (Dept. Bot., Fac. Educ., Kagawa Univ.)
Naiba River (NB1064), ca. 9 km northeast from Bykov, south Sakhalin, Russia
Krasnoyarka Formation
Late Cretaceous (Maastrichtian)

***Tricolpites tecturatus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 69, pl. 14, fig. 16a, b
Holotype: GN-5466
Soma Basin, West Anatolia, Turkey
Lower Coal Bed, Turgut Member, Soma Formation
Early Miocene (Late Burdigarian)

***Tricolpopollenites abnormis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 317, pl. 23, fig. 36
Holotype: GK, slide GK-V 1838-1
Middle part of Sanjaku-seam, Higashi-Misome pit, Ube-Koosan coalmine, Ube coalfield, Yamaguchi Prefecture
Ube Formation, Ube Group
Eocene

***Tricolpopollenites aequatoripunctatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 407, pl. 11, fig. 16
Holotype: GN-5317
Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
Qasr El Sagha Formation
Late Eocene to Early Oligocene

***Tricolpopollenites akkeshiensis* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 368, pl. 40, fig. 17
Holotype: GN, slide no. 5502
AKK-05, Okimanbetsu, western coast of Akkeshi Bay, Akkeshi-cho, Akkeshi-gun, Hokkaido
Lower Akkeshi Formation
Cretaceous - Paleocene (Danian)

***Tricolpopollenites anatolicus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 70, pl. 13, fig. 26
Holotype: GN-5476
Soma Basin, West Anatolia, Turkey
Upper Coal Bed, Yatagan Member, Denis Formation
Late Miocene (Tortonian)

***Tricolpopollenites augustinensis* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 137, pl. 27, fig. 8
Holotype: Slide no. 349-2 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, 348-349m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany
"Sand 05" formation
Late Oligocene

***Tricolpopollenites baculatus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 348, pl. 88, fig. 25
Holotype: GN, slide C-31b
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Tricolpopollenites chagrenatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 407, pl. 11, fig. 14
Holotype: GN-5317
Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
Qasr El Sagha Formation
Late Eocene to Early Oligocene

Tricolpopollenites chikushiensis* subsp. *globulosus

Takahashi, 1961 (= *Tricolpopollenites chikushiensis* subsp. *chikushiensis*)
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 316, pl. 23, fig. 27
Holotype: GK, slide GK-V 1318
Takaeezari-seam, Shinootsuji pit, Chikuho coalfield, Katsuki, Fukuoka Prefecture
Onga Formation
Oligocene

Tricolpopollenites chikushiensis* subsp. *grandiformis

Takahashi, 1961
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 317, pl. 23, fig. 33
Holotype: GK, slide GK-V 1367
Namaeyoheda-seam, Shinootsuji pit, Chikuho coalfield, Katsuki, Fukuoka Prefecture
Onga Formation
Oligocene

***Tricolpopollenites conicus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 239, pl. 39, fig. 10
Holotype: GK, slide GK-V 3131
Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Tricolpopollenites corrugatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 137, pl. 22, fig. 28

Holotype: Slide no. 158-1 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, depth not indicated, Siegburger

Graben, Nordrhein-Westfalen, Germany

“Sand 07”, “Ton 06” or “Sand 05” formation

Late Oligocene

***Tricolpopollenites ditis* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 218, pl. 38, fig. 49

Holotype: GK-V 165-1

Fukuhaku coalmine, Kasuya, Fukuoka Prefecture

Ureta-seam, Upper Umi Formation

Eocene

(*Cupuliferoidaepollenites ditis* (Takahashi) Takahashi, 1979 in *Palaeontographica*, Abt. B, vol. 170, p. 37)

***Tricolpopollenites elongatus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 311, pl. 50, fig. 14

Holotype: GN, slide no. 4657

Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Tricolpopollenites facetus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 314, pl. 23, fig. 15

Holotype: GK, slide GK-V 1054

Hitoe-seam, Nittan-Takamatsu-coalmine, Chikuhō coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

(*Cupuliferoidaepollenites facetus* (Takahashi) Takahashi, 1979 in *Palaeontographica*, Abt. B, vol. 170, p. 37)

***Tricolpopollenites granulatus* Takahashi, 1987**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 1, p. 19, pl. 3, fig. 24

Holotype: GN, slide no. 4573

Boring well (Tsu-Ko-1), 1590.3m in depth, western slope of Tsushima Trough in Korea Strait

Middle Miocene

***Tricolpopollenites inamoenus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 313, pl. 22, fig. 49

Holotype: GK, slide GK-V 156

Urata-seam, Fukuhaku-Yoshinoura pit, Kasuya coalfield,

Fukuoka Prefecture

Upper part of Umi Formation

Eocene

***Tricolpopollenites intramarginalis* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 43, pl. 4, fig. 36

Holotype: GN, slide no. 3861

Lueckerath (loc. B) in Bensberg, or ? Grube Westphal (loc. E) near Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Tricolpopollenites lanceolatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 408, pl. 12, fig. 2

Holotype: GN-5319

Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Tricolpopollenites meinohamensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 315, pl. 23, fig. 22

Holotype: GK, slide GK-V 1069

Honishi-Lower seam, Nittan-Takamatsu-coalmine, Chikuhō coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

***Tricolpopollenites meinohamensis rotundus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 315, pl. 23, fig. 18

Holotype: GK, slide GK-V 1346

Yonshaku-seam, Shinootsuji pit, Chikuhō coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

***Tricolpopollenites microreticulatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 318, pl. 23, fig. 39

Holotype: GK, slide GK-V 1771

Upper part of Yonshaku-seam, Mitsubishi-Sakito pit, Sakito-Matsushima coalfield, Nagasaki Prefecture

Sakito Formation

Oligocene [Late Eocene]

(*Tricolpites microreticulatus* (Takahashi) Takahashi, 1977 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 44)

***Tricolpopollenites minutiretiformis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 238,

pl. 38, fig. 17

Holotype: GK, slide GK-V 3142

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

(*Tricolpites minutiretiformis* (Takahashi) Takahashi, 1982
in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22,
no. 2, p. 41)

***Tricolpopollenites minutissimus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 261,
pl. 44, fig. 7

Holotype: GK, slide GK-V 3203

Coal-seam (J), near Ooyubari-dam, Yubari coalfield, Hokkaido

Noborikawa Formation

Middle Eocene

**(*Cupuliferoideaepollenites minutissimus* (Takahashi)
Takahashi, 1988** in Bull. Fac. Lib. Arts, Nagasaki Univ.,
(Nat. Sci.), vol. 28, p. 128)

***Tricolpopollenites oblongus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
369, pl. 40, fig. 22

Holotype: GN, slide no. 5608

OCH-03, southern bluff along Ochiishi harbor, Nemuro City,
Hokkaido

Middle Tokotan Formation

Paleocene

***Tricolpopollenites pseudoasper* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.
408, pl. 12, fig. 6

Holotype: GN-5318

Fayum Oasis, near to Nile Valley at northeastern edge of
Western Desert, Egypt

Qasr El Sagha Formation

Late Eocene to Early Oligocene

***Tricolpopollenites punctatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
370, pl. 40, fig. 13

Holotype: GN, slide no. 5584

AKK-11, cliff along dump yard of snow, east of
Ariake-machi, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Tricolpopollenites reticulatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 318,
pl. 23, fig. 48

Holotype: GK, slide GK-V 1138

Mie-Lower seam, Nittan-Takamatsu-coalmine, Chikuhō
coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

***Tricolpopollenites rotundulus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p.
370, pl. 40, fig. 19

Holotype: GN, slide no. 5556

AKK-11, cliff along dump yard of snow, east of
Ariake-machi, Akkeshi-cho, Akkeshi-gun, Hokkaido

Middle Akkeshi Formation

Cretaceous - Paleocene (Danian)

***Tricolpopollenites rudis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 319,
pl. 24, fig. 9

Holotype: GK, slide GK-V 1318

Takaeezari-seam, Shinootsuji pit, Chikuhō coalfield, Katsuki,
Fukuoka Prefecture

Onga Formation

Oligocene

(*Tricolpites rudis* (Takahashi) Takahashi, 1990 in Bull. Fac.
Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, no. 2, p. 344)

***Tricolpopollenites sculptus* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 219, pl.
38, fig. 51

Holotype: GK-V 155

Fukuhaku coalmine, Kasuya, Fukuoka Prefecture

Urata-seam, Upper Umi Formation

Eocene

***Tricolpopollenites striatellus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 319,
pl. 23, fig. 50

Holotype: GK, slide GK-V 351

Itsue-seam, Shime pit, Kasuya coalfield, Fukuoka Prefecture
Shinbaru Formation

Oligocene

(*Striatopollis striatellus* (Takahashi) Takahashi, 1979 in
Palaeontographica, Abt. B, vol. 170, p. 39)

***Tricolpopollenites subasper* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 217, pl.
38, fig. 42

Holotype: GK-V 303

Fukuhaku coalmine, Kasuya, Fukuoka Prefecture

Nakaziro-seam, Upper Umi Formation

Eocene

***Tricolpopollenites tridivulsus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p.
44, pl. 5, fig. 12

Holotype: GN, slide no. 3840

Koettgen (loc. A), or ? Grube Westphal (loc. E),

Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Tricolpopollenites trisulcatus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 2, p. 43, pl. 10, fig. 1

Holotype: GN, slide no. 5030

Boring well ID-02, 399.9m in depth, west of Chojabaru-saki, Iki Island, Nagasaki Prefecture

Middle Miocene

***Tricolpopollenites umiensis* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 217, pl. 38, fig. 39

Holotype: GK-V 330

Shime coalmine, Kasuya, Fukuoka Prefecture

Akatsuchi-seam, Upper Umi Formation

Eocene

(*Quercidites umiensis* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 38)

***Tricolpopollenites vulgaris* Takahashi, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 5, no. 4, p. 218, pl. 38, fig. 45

Holotype: GK-V 163

Fukuhaku coalmine, Kasuya, Fukuoka Prefecture

Urata-seam, Upper Umi Formation

Eocene

(*Cupuliferoideaepollenites vulgaris* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 37)

***Tricolpopollenites weylandii* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 313, pl. 23, fig. 2

Holotype: GK, slide GK-V 1081

Honishi-Upper-seam, Nittan- Takamatsu-coalmine, Chikuho coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

(*Cupuliferoideaepollenites weylandii* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 37)

***Tricolporopollenites asperatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 324, pl. 25, fig. 2

Holotype: GK, slide GK-V 1024

Idagoshaku-seam, Mitsui-Tagawa-coalmine, Chikuho coalfield, Fukuoka Prefecture

Uwaishi Formation

Eocene

***Tricolporopollenites castaneoides* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 321, pl. 24, fig. 34

Holotype: GK, slide GK-V 1751

Middle part of Jootan-seam, Mitsubishi-Sakito pit, Nagasaki Prefecture

Sakito Formation

Oligocene [Late Eocene]

(*Cupuliferoipollenites castaneoides* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 45)

***Tricolporopollenites chagrenatus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 50, pl. 9, fig. 9

Holotype: GN, slide no. 4387

Fuerstenbrunnchen no. 1 (loc. D), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Tricolporopollenites changgiensis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 42, pl. 13, fig. 1

Holotype: GN, slide no. 3382

Sample Y10-9, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Tricolporopollenites clavatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 331, pl. 26, fig. 27

Holotype: GK, slide GK-V 1233

Iwayasanjaku-seam, Sumitomo-Kishima pit, Karatsu coalfield, Saga Prefecture

Yoshinotani Formation

Oligocene [Late Eocene]

(*Ilexpollenites clavatus* (Takahashi) Takahashi 1964 in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 264)

***Tricolporopollenites claviger* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 331, pl. 26, fig. 23

Holotype: GK, slide GK-V 353

Itsue-seam, Shime pit, Kashuya coalfield, Fukuoka Prefecture

Shinbaru Formation

Oligocene

(*Ilexpollenites claviger* (Takahashi) Takahashi et Sugiyama, 1990 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 317)

***Tricolporopollenites consularis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 323, pl. 24, fig. 55

Holotype: GK, slide GK-V 1281

Upper part of Kyuragigoshaku-seam, Meiji-Tateyama pit, Karatsu coalfield, Saga Prefecture

Kyuragi Formation

Oligocene [Late Eocene]

(*Intrabaculitricolporites consularis* (Takahashi) Takahashi et Jux consularis, 1989 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 234)

***Tricolporopollenites consularis* subsp. *globularis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 41, pl. 11, fig. 8

Holotype: GN, slide no. 3502

Sample Y-2, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

(*Intrabaculitricolporites consularis* subsp. *globularis* (Takahashi) Takahashi et Jux 1989 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 235)

***Tricolporopollenites ellipsoideus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, p. 153, pl. 24, fig. 23

Holotype: GN, slide no. 158-1

Boring core, near St. Augustin, south of Siegburg, Nordrhein-Westfalen, Germany

Koelner Formation, clay 08 member (-158m)

Late Oligocene

(*Intrabaculitricolporites ellipsoideus* (Takahashi et Jux) Takahashi et Jux, 1991 in Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 77)

***Tricolporopollenites emarginalis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 41, pl. 11, fig. 20

Holotype: GN, slide no. 3521

Sample Y-3, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Tricolporopollenites excellens* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 331, pl. 26, fig. 28

Holotype: GK, slide GK-V 641

Joosou-seam, Miike-Mikawa pit, Miike coalfield, Oomuta, Fukuoka Prefecture

Nanaura Formation

Eocene

(*Ilexpollenites excellens* (Takahashi) Takahashi, 1964 in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 263)

***Tricolporopollenites genkaiensis* Takahashi, 1981**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 1, p. 28, pl. 3, fig. 38

Holotype: GN, slide no. 4733

Chojabaru, Iki Island, Nagasaki Prefecture

Chojabaru (Diatomite) Formation

Middle Miocene

***Tricolporopollenites gracilentus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 49, pl. 5, fig. 36

Holotype: GN, slide no. 3840

Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Tricolporopollenites hayashii* Takahashi, 1981**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 1, p. 27, pl. 3, fig. 25

Holotype: GN, slide no. 4733

Chojabaru, Iki Island, Nagasaki Prefecture

Chojabaru (Diatomite) Formation

Middle Miocene

***Tricolporopollenites hitomaruensis* Takahashi, 1963**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 51, p. 124, pl. 18, fig. 23

Holotype: GK, slide GK-V 1576

Ura, Yuya-cho, Ootsu-gun, Yamaguchi Prefecture

Lower part of Hitomaru Formation

Early Miocene [Oligocene]

Tricolporopollenites hoshuyamaensis* subsp. *fossulatus

Takahashi, 1961 (= *Tricolporopollenites hoshuyamensis hoshuyamaensis* Takahashi)

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 325, pl. 25, fig. 7

Holotype: GK, slide GK-V 747

Coal seam no. 7 of Doshi Formation, Hooshuyama-1 pit, Asakura coalfield, Fukuoka Prefecture

Doshi Formation

(*Rhoipites?* *hoshuyamaensis* (Takahashi) Takahashi, 1964

in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 262)

Eocene

Tricolporopollenites hoshuyamaensis* subsp. *foveolatus

Takahashi, 1961

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 326, pl. 25, fig. 15

Holotype: GK, slide GK-V 715

Coal seam no. 9 of Hooshuyama Formation, Hooshuyama-3 pit, Asakura coalfield, Fukuoka Prefecture

Hooshuyama Formation

Eocene

***Tricolporopollenites ikiensis* Takahashi, 1981**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 1, p. 27, pl. 3, fig. 31

Holotype: GN, slide no. 4713

Chojabaru, Iki Island, Nagasaki Prefecture

Chojabaru (Diatomite) Formation

Middle Miocene

***Tricolporopollenites incertus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 322, pl. 24, fig. 51

Holotype: GK, slide GK-V 199

Kowabo-seam, Momota pit, Kasuya coalfield, Fukuoka Prefecture

Takada Formation

Eocene

***Tricolporopollenites incomptus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 41, pl. 11, fig. 24

Holotype: GN, slide no. 3221

Sample Y10-5, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Tricolporopollenites infrabaculatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 42, pl. 11, fig. 27

Holotype: GN, slide no. 3751

Sample CH, Yonil district and western district of Pohang, South Korea

Cheonbug (Seoam) Conglomerate, Yonil Series

Middle Miocene

***Tricolporopollenites ishuensis* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, no. 2, p. 43, pl. 7, fig. 33

Holotype: GN, slide no. 5174

Boring well ID-02, 263.6m in depth, west of Chojabaru-saki, Iki Island, Nagasaki Prefecture

Middle Miocene

***Tricolporopollenites javanensis* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 313, pl. 51, fig. 1

Holotype: GN, slide no. 4656

Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Tricolporopollenites katsukiensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 327, pl. 25, fig. 23

Holotype: GK, slide GK-V 1338

Shintakae-seam, Shinootsuji pit, Chikuho coalfield, Katsuki, Fukuoka Prefecture

Onga Formation

Oligocene

***Tricolporopollenites marginatus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 313, pl. 51, fig. 11

Holotype: GN, slide no. 4655

Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia

Nanggulan Formation

Eocene

***Tricolporopollenites matsushitae* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 326, pl. 25, fig. 17

Holotype: GK, slide GK-V 1366

Namaeyoheda-seam, Shinootsuji pit, Chikuho coalfield, Katsuki, Fukuoka Prefecture

Onga Formation

Oligocene

***Tricolporopollenites microporifer* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 323, pl. 24, fig. 57

Holotype: GK, slide GK-V 775

Coal seam no. 5 of Doshi Formation, Hooshuyama-1 pit, Asakura coalfield, Fukuoka Prefecture

Doshi Formation

Eocene

***Tricolporopollenites minor* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 320, pl. 24, fig. 18

Holotype: GK, slide GK-V 520

Hasshaku-seam, Second pit of Sawara-coalmine, Sawara, Fukuoka-coalfield, Fukuoka Prefecture

Atago Formation

Oligocene

(*Cyrrillaceapollenites minor* (Takahashi) Takahashi, 1979
in Palaeontographica, Abt. B, vol. 170, p. 46)

***Tricolporopollenites minutiporifer* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 134, pl. 19, fig. 40

Holotype: GN, slide no. 2031

Oohisa-machi, Iwaki City, Fukushima Prefecture (H. E.)

Tamayama Formation, Futaba Group

Late Cretaceous (Santonian)

***Tricolporopollenites minutiverrucatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 43, pl. 13, fig. 8

Holotype: GN, slide no. 3582

Sample Y-7, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Tricolporopollenites nagatoensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 327, pl. 26, fig. 3

Holotype: GK, slide GK-V 1846-1

Lower part of Sanjaku-seam, Higashimisome pit, Ube-coalmine, Ube coalfield, Ube, Yamaguchi Prefecture
Ube Formation, Ube Group
Eocene

***Tricolporopollenites ongaensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 327, pl. 25, fig. 25
Holotype: GK, slide GK-V 1367
Nameyoheda-seam, Shinootsujii pit, Katsuki, Chikuhō coalfield, Fukuoka Prefecture
Onga Formation
Oligocene

***Tricolporopollenites ovatorotundus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 42, pl. 12, fig. 30
Holotype: GN, slide no. 3316
Sample Y10-3, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea
Coal bearing formation, Changgi Series
Early Miocene

***Tricolporopollenites praestans* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 16, pl. 4, fig. 52
Holotype: GK, slide GK-V 2147
Kuma-cho, Kamiukena-gun, Ehime Prefecture
Myojin Formation
Late Eocene

***Tricolporopollenites protensus* (Takahashi) Takahashi et Jux, 1989** see *Cupuliferoipollenites protensus* Takahashi, 1979

***Tricolporopollenites pseudocastaneoides* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 152, pl. 24, fig. 11
Holotype: Slide no. 158-1 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 08” or “Ton 06” formation
Late Oligocene

***Tricolporopollenites pseudochagrenatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 154, pl. 24, fig. 28
Holotype: Slide no. 158-1 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Sand 07”, “Ton 06” or “Sand 05” formation
Late Oligocene

***Tricolporopollenites punctulatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 42, pl. 9, fig. 10
Holotype: GN, slide no. 2703
Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Tricolporopollenites punctulosus* Takahashi, 1977**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 17, p. 45, pl. 4, fig. 19
Holotype: GN, slide no. 2411
Quiriquina Island, central Chile
Quiriquina Formation
Late Cretaceous (Late Senonian or Maastrichtian)

***Tricolporopollenites rarus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 154, pl. 24, fig. 25
Holotype: Slide no. 158-1 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, 158-163m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 06” formation
Late Oligocene

***Tricolporopollenites rarus* Takahashi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 126, p. 314, pl. 51, fig. 19
Holotype: GN, slide no. 4656
Kalisongo, west of Nanggulan, Yogyakarta region, central Java, Indonesia
Nanggulan Formation
Eocene

***Tricolporopollenites sakitoensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 322, pl. 24, fig. 47
Holotype: GK, slide GK-V 1751
Middle part of Jootan-seam, Mitsubishi-Sakito pit, Sakito-Matsushima coalfield, Nagasaki Prefecture
Sakito Formation
Oligocene [Late Eocene]

***Tricolporopollenites salebrosus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 158, pl. 24, fig. 46
Holotype: Slide no. 158-2 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 06” formation
Late Oligocene

***Tricolporopollenites sculptus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 155, pl. 24, fig. 33

Holotype: Slide no. 193-2 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Sand 07” or “Ton 06” formation
Late Oligocene

***Tricolporopollenites specialis* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat., Sci.), vol. 26, no. 2, p. 156, pl. 24, fig. 43

Holotype: Slide no. 93-6 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Sand 07”, “Ton 06” or “Sand 05” formation
Late Oligocene

***Tricolporopollenites sphaeroideus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 158, pl. 25, fig. 7

Holotype: Slide no. 190-1 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 08”, “Sand 07” or “Ton 06” formation
Late Oligocene

***Tricolporopollenites subpusillus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 151, pl. 24, fig. 4

Holotype: Slide no. 158-1 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Ton 08”, “Sand 07” or “Ton 06” formation
Late Oligocene

***Tricolporopollenites tertiaris* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 332, pl. 26, fig. 33

Holotype: GK, slide GK-V 1761
Lower part of Yonshaku-seam, Mitsubishi-Sakito pit, Sakito-Matsushima coalfield, Nagasaki Prefecture
Sakito Formation
Oligocene [Late Eocene]

(*Ilexpollenites tertiaris* (Takahashi) Takahashi, 1963
in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 150)

***Tricolporopollenites turcianus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 83, pl. 16, fig. 26

Holotype: GN-5477
Soma Basin, West Anatolia, Turkey
Upper Coal Bed, Yatagan Member, Denis Formation
Late Miocene (Tortonian)

***Tricolporopollenites verrucatus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 157, pl. 24, fig. 45

Holotype: Slide no. 55-6 (Geol. Inst., Univ. Nagasaki)
Boring well St. Augustin, depth not indicated, Siegburger Graben, Nordrhein-Westfalen, Germany
“Sand 07” or “Ton 06” formations
Late Oligocene

***Tricolporopollenites yoshinouraensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 324, pl. 25, fig. 4

Holotype: GK, slide GK-V 1505
Coal seam below Shindengoshaku-seam, Hiu pit, Sasebo coalfield, Nagasaki Prefecture
Ainoura Formation
Early Miocene [Oligocene]

***Tricolporopollenites kimii* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 47, pl. 14, fig. 2a-d

Holotype: GN, slide no. 3022
Yonil district and western district of Pohang, South Korea
Pohang Formation, Yonil Series
Middle Miocene

***Trilites consimilis* Takahashi et Shimono, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 26, pl. 3, fig. 6

Holotype: GN, slide no. 2812
Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
Miyadani-gawa Formation
Late Cretaceous (Maastrichtian)

***Trilites pulchellus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 223, pl. 16, fig. 1a, b

Holotype: GN, slide C-31b
South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Trilites pustulosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 224, pl. 16, fig. 5a, b

Holotype: GN, slide C-33a
North of Uge station Taneichi-machi, Kunohe-gun, Iwate Prefecture
Uge Member, Taneichi Formation
Late Cretaceous (Santonian)

***Triorites scabratus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p.

259, pl. 16, fig. 3

Holotype: GN-5330

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Triplanosporites apticus* Takahashi, 1974**

Pollen et Spores, vol. 16, p. 541, pl. 1, fig. 9

Holotype: GN, slide no. 2016

Shimanokoshi, Tanohata-mura, Shimoheii-gun, Iwate Prefecture

Upper part of Tanohata Formation, Miyako Group

Early Cretaceous (Late Aptian)

***Triplanosporites giganteus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 227, pl. 3, fig. 2

Holotype: GN, slide C-34a

Uge, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Triplanosporites inornatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 23, pl. 2, fig. 14

Holotype: GN, slide no. 2809

Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Triplanosporites minor* Takahashi, 1977**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 106, p. 76, pl. 10, fig. 3

Holotype: GN, slide no. 2532

Southwest of Arauco, Concepcion area, central Chile

Concepcion Formation

Eocene

***Triplanosporites minutulus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 82, pl. 10, fig. 4

Holotype: GN, slide no. 2052

Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 36)

Tamayama Formation, Futaba Group

Late Cretaceous (Coniacian)

***Triplanosporites quadrangulatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 240, pl. 4, fig. 3

Holotype: GN, slide no. 5651

OCH-06, western bluff of Ochiishi harbor, Nemuro City, Hokkaido

Upper Akkeshi Formation

Paleocene (Danian)

***Triplanosporites rikuchuensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 229, pl. 7, fig. 6

Holotype: GN, slide C-31d

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Triplanosporites sinuatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 211, pl. 28, fig. 14

Holotype: GK, slide GK-V 3161

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Triplanosporites taneichiensis* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 229, pl. 5, fig. 8

Holotype: GN, slide C-31c

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Triplanosporites varius* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 230, pl. 6, fig. 5

Holotype: GN, slide C-31d

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

***Tripuripollenites annularis* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 52, pl. 18, fig. 2

Holotype: GN, slide no. 3481

Sample Y-1, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Tripuripollenites constatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 300, pl. 19, fig. 22

Holotype: GK, slide GK-V 351

Itsue-seam, Shime pit, Kasuya coalfield, Fukuoka Prefecture Shinbaru Formation

Oligocene

(*Momipites constatus* (Takahashi) Takahashi, 1964 in Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, p. 229)

***Triporopollenites festatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 301, pl. 19, fig. 31

Holotype: GK, slide GK-V 937

Uesanjaku-seam, Kokura pit, Kokura, Kokura coalfield

Fukuoka Prefecture

Onga Formation

Oligocene

***Triporopollenites formosus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 302, pl. 19, fig. 43

Holotype: GK, slide GK-V 773

No. 8 seam, Hooshuyama-3 pit, Asakura coalfield, Fukuoka Prefecture

Hooshuyama Formation

Eocene

***Triporopollenites hizenensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 302, pl. 19, fig. 38

Holotype: GK, slide GK-V 1772

Upper part of Yonshaku-seam, Mitsubishi-Sakito pit,

Sakito-Matsushima coalfield, Nagasaki Prefecture

Sakito Formation

Oligocene [Late Eocene]

(*Engelhardtoidites hizenensis* (Takahashi) Takahashi, 1979 in Palaeontographica, Abt. B, vol. 170, p. 54)

***Triporopollenites kasuyaensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 303, pl. 19, fig. 40

Holotype: GK, slide GK-V 248

Funaishi-seam, Momota pit, Kasuya coalfield, Fukuoka Prefecture

Takada Formation

Eocene

***Triporopollenites minutulus* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no. 2, p. 187, pl. 28, fig. 14

Holotype: Slide no. 100-3 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 100m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Ton 06” formation

Late Oligocene

***Triporopollenites moderatus* Takahashi et Jux, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 32, p. 91, pl. 20, fig. 16

Holotype: GN-5401

Soma Basin, West Anatolia, Turkey

Lower Coal Bed, Turgut Member, Soma Formation

Early Miocene (Late Burdigarian)

***Triporopollenites orbicularis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 304, pl. 20, fig. 3

Holotype: GK, slide GK-V 1843-1

Lower part of Sanjaku-seam, Ube-Koosan-coalmine, Ube coalfield, Yamaguchi Prefecture

Ube Formation, Ube Group

Eocene

***Triporopollenites pseudocoryloides* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 65, pl. 7, fig. 41

Holotype: GN, slide no. 3840

Lueckerath (loc. B), Bensberg, Nordrhein-Westfalen, Germany

Paleogene

***Triporopollenites rotundatus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 52, pl. 18, fig. 4

Holotype: GN, slide no. 3481

Sample Y-1, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Triporopollenites rotundulus* Weyland et Takahashi, 1961**

Palaeontographica, Abt. B, vol. 109, p. 100, pl. 43, figs. 33-34

Holotype: GK, slide A-2

Herman colliery, Heerlen, Holland

Early Miocene (?)

***Triporopollenites schultzei* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 65, pl. 7, fig. 37

Holotype: GN, slide no. 3840

Koettgen (loc. A), Bergisch Gladbach, Nordrhein-Westfalen, Germany

Paleogene

***Triporopollenites shimensis* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 301, pl. 20, fig. 8

Holotype: GK, slide GK-V 1137

Mie-Lower-seam, Nittan-Takamatsu-coalmine, Chikuho coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

***Triporopollenites subfragilis* Takahashi et Jux, 1986**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 26, no.

2, p. 188, pl. 28, fig. 17

Holotype: Slide no. 80-3 (Geol. Inst., Univ. Nagasaki)

Boring well St. Augustin, 80m in depth, Siegburger Graben, Nordrhein-Westfalen, Germany

“Sand 07” formation

Late Oligocene

***Triporopollenites subrotundus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 258, pl. 17, fig. 3

Holotype: GN-5328

Sabon Gida tin mine, Jos Plateau, Nigeria

Unnamed carbonaceous clay bed

Late Oligocene to Early Miocene

***Triporopollenites suzukii* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 376, pl. 43, fig. 17

Holotype: GN, slide no. 5582

OCH-02, southern bluff along Ochiishi harbor, Nemuro City, Hokkaido

Lower Tokotan Formation

Paleocene

***Triporopollenites tumescens* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 303, pl. 20, fig. 2

Holotype: GK, slide GK-V 1137

Mie-Lower-seam, Nittan-Takamatsu-coalmine, Chikuho coalfield, Fukuoka Prefecture

Onga Formation

Oligocene

***Trivestibulopollenites pseudobetuloides* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 54, pl. 19, fig. 7

Holotype: GN, slide no. 3581

Sample Y-7, Yonil district and western district of Pohang, South Korea

Pohang Formation, Yonil Series

Middle Miocene

***Tuberculatisporites echinaceus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 285, pl. 15, fig. 5

Holotype: GK, slide GK-V 1522

Upper part of Shindenyonshaku-seam, Yoshinoura pit, near Sasebo, Nagasaki Prefecture

Ainoura Formation, Sasebo Group

Early Miocene [Oligocene]

***Tuberculatisporites echinulus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 285, pl. 14, fig. 14

Holotype: GK, slide GK-V 1503

Coal seam below Shindengoshaku-seam, Hiu-pit, Sasebo, Nagasaki Prefecture

Ainoura Formation, Sasebo Group

Early Miocene [Oligocene]

***Tuberculatisporites parvierinaceus* Takahashi, 1963**

Japan. Jour. Geol. Geogr., vol. 34, p. 133, pl. 7, fig. 2a, b

Holotype: GK, slide GK-V 3056

East of Hakkomaru, Wakamatsu City, Fukuoka Prefecture

Middle part of Sakamizu Formation, Ashiya Group

Oligocene

***Tubulifloridites punctoides* M. Takahashi, 1997**

Jour. Plant Res., vol. 110, p. 290, figs. 43, 44

Holotype: SEM stub. no. M-8, film nos. 41114, 41115 (Dept. Bot., Fac. Educ., Kagawa Univ.)

Naiba River (NB1061), ca. 8 km northeast from Bykov, south Sakhalin, Russia

Krasnoyarka Formation

Late Cretaceous (Late Campanian)

***Tytthodiscus densiporosus* subsp. *densiporosus* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 113, pl. 12, fig. 2

Holotype: GN, slide NNA-2-3

2 km SSE of Sekizawa, Nakajo-cho, Kita-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early-Middle Miocene

***Tytthodiscus densiporosus* subsp. *minus* Takahashi et Matsuoka, 1981**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 122, p. 114, pl. 12, fig. 15

Holotype: GN, slide NNA-4-5

Minami-Imogawa, Shitada-mura, Minami-Kanbara-gun, Niigata Prefecture

Nanatani Formation

Early-Middle Miocene

***Ulmoideipites fornicatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, p. 87, pl. 10, fig. 5

Holotype: GN, slide no. 2806

North of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation

Late Cretaceous (Maastrichtian)

***Ulmipollenites semiundulosus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 264, pl. 17, fig. 16

Holotype: GN-5323

Sabon Gida tin mine, Jos Plateau, Nigeria
 Unnamed carbonaceous clay bed
 Late Oligocene to Early Miocene

***Ulmipollenites undulipunctatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 87, pl. 10, fig. 14
 Holotype: GN, slide no. 2806
 Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
 Miyadani-gawa Formation
 Late Cretaceous (Maastrichtian)

***Undulatisporites fayumensis* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 379, pl. 2, fig. 6
 Holotype: GN-5318
 Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
 Qasr El Sagha Formation
 Late Eocene to Early Oligocene

***Undulatisporites flexuosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 230, pl. 12, fig. 1
 Holotype: GN, slide C-31b
 South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture
 Uge Member, Taneichi Formation
 Late Cretaceous (Santonian)

***Undulatisporites rotundus* Takahashi, 1988**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 28, p. 85, pl. 3, fig. 8
 Holotype: GN, slide no. 2124
 Oohisa-machi, Iwaki City, Fukushima Prefecture (Po 33)
 Tamayama Formation, Futaba Group
 Late Cretaceous (Coniacian)

***Undulatisporites subtriangulatus* Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 243, pl. 14, figs. 10a, b
 Holotype: GN, slide no. 5693
 OCH-10, northern bluff of Ochiishi Bay (under Ochiishi Ioran station), Nemuro City, Hokkaido
 Upper Tokotan Formation
 Paleocene

***Undulatisporites unduliradius* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 25, pl. 2, fig. 10
 Holotype: GN, slide no. 2710
 Loc. no. 2, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture

Miyadani-gawa Formation
 Late Cretaceous (Maastrichtian)

***Undulatosporites rugulatus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 219, pl. 31, fig. 4
 Holotype: GK, slide GK-V 3173
 Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido
 Lower Hakobuchi Group
 Late Cretaceous (Campanian)

***Undulozonosporites subtriangulus* Takahashi et Jux, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 23, p. 35, pl. 2, figs. 2a-c
 Holotype: GN, slide no. 4402
 Fuerstenbrunnchen no. 2 (loc. D), Bensberg, Nordrhein-Westfalen, Germany
 Paleogene

***Umoideipites fornicatus* Takahashi, 1982**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 22, no. 2, p. 87, pl. 10, fig. 5
 Holotype: GN, slide no. 2806
 Loc. no. 6, north of Miyaji, Kokufu-machi, Yoshiki-gun, Gifu Prefecture
 Miyadani-gawa Formation
 Late Cretaceous (Maastrichtian)

***Verrucatosporites minutiverrucatus* Takahashi et Jux, 1989**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 29, p. 384, pl. 6, fig. 7
 Holotype: GN-5318
 Fayum Oasis, near to Nile Valley at northeastern edge of Western Desert, Egypt
 Qasr El Sagha Formation
 Late Eocene to Early Oligocene

***Verrucatosporites miyahisae* Takahashi, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 12, pl. 2, fig. 7
 Holotype: GK, slide GK-V 2136
 Sakura, Kutani-mura, Onsen-gun, Ehime Prefecture
 Myojin Formation
 Late Eocene

***Verrucatosporites verrucatus* Takahashi, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 3, p. 291, pl. 15, fig. 17
 Holotype: GK, slide GK-V 143
 Kowabo-seam, Takeuchi-Umi pit, Kasuya coalfield, Fukuoka Prefecture
 Takada Formation
 Eocene

***Verrucatosporites verruculosus* Takahashi et Sugiyama, 1990**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 30, p. 232, pl. 53, fig. 5

Holotype: GN, slide C-31b

South of Kanuka, Taneichi-machi, Kunohe-gun, Iwate Prefecture

Uge Member, Taneichi Formation

Late Cretaceous (Santonian)

Holotype: GN, slide no. 700

Sample Y-17, Yonil district and western district of Pohang, South Korea

Eedong Formation, Yonil Series

Middle Miocene

***Verrucosiporites miocenicus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 594, pl. 13, fig. 10

Holotype: Slide MD-218 (i) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Upper Bhuban Formation

Miocene

***Verrucosiporites permirus* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 194, pl. 23, fig. 22

Holotype: GK, slide GK-V 3172

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Verrutriporites sparsiverrucatus* Kumar et Takahashi, 1991**

Bull. Fac. Lib. Arts, Nagasaki Univ., (Nat. Sci.), vol. 31, p. 574, pl. 18, fig. 11

Holotype: Slide MD-236 (i) [GN]

Along Silchar and Haflong road section, north Cachar Hills, southern Assam, India

Bokabil Formation

Miocene

***Weigelapollis magnispinosus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 55, pl. 19, fig. 19a, b

Holotype: GN, slide no. 3335

Sample Y10-7, Kumwandong, southeastern area surrounding Bay of Yeoungill, South Korea

Coal bearing formation, Changgi Series

Early Miocene

***Weylandipollis retiformis* Takahashi, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 14, no. 3, p. 247, pl. 32, fig. 2a, b

Holotype: GK, slide GK-V 3143

Hatsune-sawa, Ooyubari, Yubari coalfield, Hokkaido

Lower Hakobuchi Group

Late Cretaceous (Campanian)

***Zonalapollenites koreanus* Takahashi, 1979**

Palaeontographica, Abt. B, vol. 170, p. 26, pl. 2, fig. 7

Paleozoic Smaller Benthic Foraminifera**Shuko Adachi**

**Institute of Geoscience, University of Tsukuba
Tsukuba 305-8571, Japan**

***Abadehella biconvexa* Okimura & Ishii, 1975**

Kyoto Univ., Mem. Fac. Sci., ser. Geol. & Mineral., v. 41, no. 1, 44, Pl. 1, figs. 1, 2, 6, 7, 9; Pl. 3, fig. 8

Holotype: IGH: Ab-C-021

Abadeh, central Iran (30 55 N, 53 15 E).

Abadeh Formation

Late Permian

***Abadehella coniformis* Okimura & Ishii, 1975**

Kyoto Univ., Mem. Fac. Sci., ser. Geol. & Mineral., v. 41, no. 1, 43, Pl. 2, figs. 1-5, 7, 8; Pl. 1, fig. 3; Pl. 4, figs. 2-4

Holotype: IGH: Ab-C-011

Abadeh, central Iran (30 55 N, 53 15 E) (or Guryul ravine, Kashmir, India, or Japan)

Abadeh Formation (or Zewan Formation, or Takauchi Limestone)

Late Permian

***Abadehella iwaiensis* Kobayashi, 1997**

Jour. Foram. Res., vol. 27, no. 3, 189, Pl. 3, figs. 28-30

Holotype: D2-002699

Iwai, Itsukaichi Town, Tokyo Prefecture

limestone pebbles and cobbles of Kaizawa Formation

Late Permian

***Abadehella tarazi* Okimura & Ishii, 1975**

Kyoto Univ., Mem. Fac. Sci., ser. Geol. & Mineral., v. 41, no. 1, 42, 43, Pl. 1, figs. 3, 4; Pl. 3, fig. 2

Holotype: IGH: Ab-C-001

Abadeh, central Iran (30 55 N, 53 15 E).

Abadeh Formation

Late Permian

***Bradyina nautiliformis shikokuensis* Ishizaki, 1962**

Tohoku Univ., Sci. Rep., 2nd ser. (Geol.), v. 34, no. 2, 136, 137, Pl. 7, fig. 1

Holotype: IGPS coll. cat. no. 78801

Nakakubo, Yanadani Village, Kamiukena County, Ehime Prefecture

Nakakubo Formation

Early to Middle Permian

***Colaniella cuneiformis* Okimura, 1988**

Jour. Paleontol., v. 62, no. 5, 717, 718, Fig. 6.24-27

Holotype: Reg. No. GSP:BM-2685

Zaluch Nala, western Salt Range, Pakistan

Wargal Formation

Late Permian

***Colaniella minuta* Okimura, 1988**

Jour. Paleontol., v. 62, no. 5, 719, 721, Fig. 6.1-4

Holotype: Reg. No. GSP: BM-2684a

Zaluch Nala, western Salt Range, Pakistan

Wargal Formation

Late Permian

***Colaniella pseudolepida* Okimura, 1988**

Jour. Paleontol., v. 62, no. 5, 721, 722, Fig. 6.28-32

Holotype: Reg. No. GSP:BM-2686b

Zaluch Nala, western Salt Range, Pakistan

Wargal Formation

Late Permian

***Colaniella pseudominima* Okimura, 1988**

Jour. Paleontol., v. 62, no. 5, 722, Fig. 6.9-6.11

Holotype: Reg. No. GSP:BM-2686a

Zaluch Nala, western Salt Range, Pakistan

Wargal Formation

Late Permian

***Colaniella zaluchense* Okimura, 1988**

Jour. Paleontol., v. 62, no. 5, 722, Fig. 6.5-6.8

Holotype: Reg. No. GSP:BM-2688

Zaluch Nala, western Salt Range, Pakistan

Wargal Formation

Late Permian

***Cryptoseptida kanyoensis* Kobayashi, 1997**

Jour. Foram. Res., vol. 27, no. 3, 189, Pl. 5, figs. 14-18

Holotype: D2-002575

Kanyo, Itsukaichi Town, Tokyo Prefecture

Oguno Formation

Late Permian

***Endothyra igoi* Kobayashi, 1994**

Palaeontol. Soc. Japan, Trans. Proc., N.S., no. 176, 620, 624, Fig. 3.1-7

Holotype: D2-1267a

Loc. 21, about 2 km northeast of Iwai, Itsukaichi City, Tokyo Prefecture

Kamiyozawa Formation

Carboniferous

***Endothyra kibiensis* Sada, 1969**

Palaeontol. Soc. Japan, Trans. Proc., N.S., no. 75, 122, 123, Pl. 12, figs. 15-18

Holotype: Reg. No. A72301-39a (Institute of Geology and Mineralogy, Hiroshima University)

Taishaku Mountains

Taishaku Limestone

Carboniferous

***Endothyranopsis Hirosei* Okimura, 1964**

Hiroshima Univ., Geol. Rep., no. 14, 259, 260, Pl. 21, figs. 1-4

Holotype: YOAK 26-1

Okubo, Yamaguchi Prefecture

Akiyoshi Limestone

Carboniferous

***Fukujia typica* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 268, Pl. 30, figs. 1, 2

Holotype: IGUT no. 5180

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica ambigua* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 270, Pl. 30, fig. 8

Holotype: IGUT no. 5197

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous to Permian

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica beedeinoidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 269, 270, Pl. 29, fig. 15

Holotype: IGUT no. 5193

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica fusielloidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 269, Pl. 29, figs. 11, 12

Holotype: IGUT no. 5189

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica gigantea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 269, Pl. 29, figs. 13, 14

Holotype: IGUT no. 5191

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica globivalvulinoidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 271, Pl. 30, fig. 12

Holotype: IGUT no. 5200

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica loeiensis* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 271, Pl. 30, figs. 6, 7

Holotype: TKD 22197b

Huai Bun Nak, near Wang Saphung, North Thailand

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica minima* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 270, Pl. 30, figs. 9, 10

Holotype: IGUT no. 5198

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica mixtura* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 270, 271, Pl. 30, fig. 11

Holotype: IGUT no. 5199

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture.

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica ozawainelloidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 268, Pl. 29, figs. 1, 3

Holotype: IGUT no. 5182

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica paraendothyroidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 271, Pl. 30, figs. 13, 14

Holotype: IGUT no. 5201

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture

Ichinotani Formation

Carboniferous

(*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica paraozawainelloidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 268, 269, Pl. 29, figs. 4-6

Holotype: IGUT no. 5184

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica paraprimitiva* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 270, Pl. 30, fig. 3

Holotype: IGUT no. 5194

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica primitiva* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 270, Pl. 30, figs. 4, 5

Holotype: IGUT no. 5195

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica problematica* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 268, Pl. 29, fig. 2

Holotype: IGUT no. 5184

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica profusulinelloidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 269, Pl. 29, figs. 9, 10

Holotype: IGUT no. 5187

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Fukujia typica thaiensis* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 271, Pl. 29, figs. 7, 8

Holotype: TKD 22196a

Huai Bun Nak, near Wang Saphung, North Thailand

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Globivalvulina regularis* Okimura, 1972**

Palaeontol. Soc. Japan, Trans. Proc., N.S., no. 87, 422, 423, Pl. 50, figs. 15-19

Holotype: YONG6-15

Kitakami Massif

Nagaiwa Formation

Carboniferous

***Granuliferella pauciseptata* Okimura, 1958**

Hiroshima Univ., Jour. Sci. ser. C, v. 2, no. 3, 257, 258, Pl. 32, figs. 12, 13, 17

Holotype: specimen illustrated on Pl. 32, fig. 17, IGMH (no register number)

Morikuni, Toyonaga-machi, Niimi City

Nagoe Formation

Carboniferous

***Gyroporella* sp. nov. Konishi, 1952**

Palaeontol. Soc. Japan, Trans. Proc., N.S., no. 5, 157, Pl. 14, figs. 15, 16

Holotype: no type designation

Dodo, 5.5 km north of Yanahara Mine, Kitawaki Village, Katsuta County, Okayama Prefecture

Dodo Conglomerate

Permian

***Hemigordius japonica* Ozawa, 1925**

Tokyo Imp. Univ., Coll. Sci., Jour., v. 45, Art 6, 7, Pl. 2, figs. 10, 11

Holotype: no type designation

Kaerimizu

Early Permian

***Ichinotania endothyroidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 272, Pl. 30, figs. 15-17

Holotype: IGUT no. 5203

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Ichinotania epiendothyroidea* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 272, Pl. 30, figs. 18, 19(?)

Holotype: IGUT no. 5206

Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
Ichinotani Formation

Carboniferous

(*Insolentithea horrida* (Brazhnikova) by Pinard et Mamet (1998))

***Neodiscus mirabilis* Ueno, 1992**

Palaeontol. Soc. Japan, Trans. Proc. N.S., no. 168, 1291, Fig.

12.1-4
 Holotype: IGUT-KU0220
 Takakurayama, about 10 km north of Taira, Fukushima
 Prefecture
 Motomura Formation
 Permian

***Neoendothyra japonica* Igo, 1983**

Tokyo Gakugei Univ., Bull., sec. 4, v. 35, 106, Pl. 1, figs.
 9-13
 Holotype: TGF11
 Mt. Ishiyama, Ono Town, about 15 km northwest of Gifu
 City, Gifu Prefecture
 Ishiyama Limestone
 Late Permian

***Paraglobivalvulina piyasini* Sakagami & Hatta, 1982**

In Kobayashi, T., Toriyama, R., and Hashimoto, W. (eds.),
 Geol. Palaeontol., Southeast Asia, v. 24, 11, 12, Pl. 5, figs.
 1-24, Text-figs. 1, 2
 Holotype: KDPP-D-16b
 Haii Mae Phlung, Thailand
 Huai Thak Formation
 Late Permian

***Parahaplophragmella spira* Adachi, 1980**

Prof. S. Kanno Mem. Vol., Tsukuba, 272, 273, Pl. 30, fig. 20
 Holotype: IGUT no. 5208
 Fukuji, Kamitakara Village, Yoshiki County, Gifu Prefecture
 Ichinotani Formation
 Carboniferous
 (*Insolentitheca horrida* (Brazhnikova) by Pinard et Mamet
 (1998))

***Paraplectogyra gigantea* Okimura, 1958**

Hiroshima Univ., Jour. Sci. ser. C, v. 2, no. 3, 256, 257, Pl. 34,
 fig. 12; Pl. 35, figs. 9, 12
 Holotype: specimen illustrated on pl. 35, fig. 12, IGMH (no
 register number)
 Morikuni, Toyonaga-machi, Niimi City
 Nagoe Formation
 Carboniferous

***Paraplectogyra longiseptata* Okimura, 1958**

Hiroshima Univ., Jour. Sci. ser. C, v. 2, no. 3, 256, Pl. 33, fig.
 1; Pl. 35, fig. 7; Pl. 36, fig. 13
 Holotype: specimen illustrated on pl. 33, fig. 1, IGMH (no
 register number)
 Morikuni, Toyonaga-machi, Niimi City
 Nagoe Formation
 Carboniferous

***Paraplectogyra masanae* Okimura, 1958**

Hiroshima Univ., Jour. Sci., ser. C, v. 2, no. 3, 255, 256, Pl.

32, figs. 10, 11, 16
 Holotype: specimen illustrated on pl. 32, fig. 11, IGMH (no
 register number)
 Morikuni, Toyonaga-machi, Niimi City
 Nagoe Formation
 Carboniferous

***Planoendothyra mameti* Igo & Adachi, 1981**

Tsukuba Univ., Inst. Geosci., Sci. Rep., sec. B, v. 2, 109, Pl. 6,
 figs. 9-11
 Holotype: IGUT no. 5312
 Fukuji, Kamitakara Village, Yoshiki-Gun, Gifu Prefecture
 Ichinotani Formation
 Carboniferous

***Quasiendothyra japonica* Sada, 1969**

Palaeontol. Soc. Japan, Trans. Proc., N.S., no. 75, 124, Pl. 13,
 figs. 20-23
 Holotype: Rg. No. A72301-18b (Institute of Geology and
 Mineralogy, Hiroshima University)
 Taishaku Mountains
 Taishaku Limestone
 Carboniferous

***Saccaminopsis okimurai* Niko and Hamada, 1987**

Sci. Pap., Coll. Arts and Sci., Univ. Tolyo, v. 36, no. 2, 176,
 Fig. 3-B
 Holotype: UMUT PF 18084
 Kuraoka, Miyazaki Prefecture
 Gion-yama Formation
 Middle Silurian

***Spirillina grandis* Ozawa, 1925**

Tokyo Imp. Univ., Coll. Sci., Jour., v. 45, Art 6, 13, 14, Pl. 2,
 fig. 4
 Holotype: no type designation
 Kaerimizu
 Early Permian

***Tetrataxis linea* Ozawa, 1925**

Tokyo Imp. Univ., Coll. Sci., Jour., v. 45, Art 6, 9, Pl. 2,
 fig. 1
 Holotype: no type designation
 Yunokami, Ofuku Village
 Permian

***Tetrataxis schellwieni* Ozawa, 1925**

Tokyo Imp. Univ., Coll. Sci., Jour., v. 45, Art 6, 9, Pl. 2,
 fig. 2a
 Holotype: no type designation
 Late Permian

***Tetrataxis subsphericus* Noda, 1956**

Kyushu Univ., Dept. General Educ., Earth Sci., Rep., v. 2, 5,

6, Pl. 1, fig. 4

Holotype: specimen illustrated on Pl. 1, fig. 4 (no register number)

Sekido, Korea

Toman Formation

Late Permian

***Textularia obusa* Fujimoto, 1938**

Palaeont. Soc. Japan, Trans. Proc., no. 10, 12, Pl. 8, fig. 3

Holotype: TKD no. 1044

Zido, Korea

Carboniferous

***Tournayella hirosimana* Sada, 1969**

Palaeont. Soc. Japan, Trans. Proc., N.S., no. 75, 124, 125, Pl. 13, figs. 17, 18

Holotype: Rg. no. A72301-33f (Institute of Geology and Mineralogy, Hiroshima University)

Taishaku Mountains

Taishaku Limestone

Carboniferous

Mesozoic and Cenozoic larger Foraminifera

Kuniteru Matsumaru

Department of Geology, Faculty of Education, Saitama
University, Saitama 338-8570, Japan

<Mesozoic Larger Foraminifera>

Pseudocyclammia lituus (Yokoyama, 1890)

In: Yabe, H. and Hanzawa, S., 1926, Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 9-10, pl. 2, figs. 3-6, fig. 1

Holotype: not be designated

Torinosu and Iwasa-Kompilayama, near Sakawa-Cho, Takaoka-Gun, Kochi Prefecture

Torinosu Limestone

Late Jurassic (Kimmeridgian)

[= "*Cyclammia*" *lituus* Yokoyama, 1890]

Torinosuella peneropliformis (Yabe and Hanzawa, 1926)

Sci. Rep. Tohoku Univ. 2nd ser. (Geol.), vol. 9, no. 1, p. 11, figs. 1-2

Holotype: not be designated

Iwasa-Kompilayama, near Sakawa-Cho, Takaoka-Gun, Kochi Prefecture

Torinosu Limestone

Late Jurassic (Kimmeridgian)

[= *Choffatella peneropliformis* Yabe and Hanzawa, 1926]

Orbitolina ezoensis Yabe and Hanzawa, 1926

Sci. Rep. Tohoku Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 17-18, pl. 3, figs. 18-20; pl. 5, figs. 4-17

Holotype: not be designated

Above the Panketoputuyeushi stream lying 12 km above the Sorachi waterfall, and below the Shirikeshomap stream near the Sorachi waterfall, the Ishikari (=Sorachi) river, Horokanai-Cho, Sorachi-Shicho, Hokkaido

Lower Ammonites Beds ("Furano Formation")

Late Early Cretaceous (Aptian and Albian)

[= *Orbitolina discoidea-conoidea* var. *ezoensis* Yabe and Hanzawa, 1926]

Orbitolina japonica Yabe and Hanzawa, 1926

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 18, pl. 4, fig. 17

Holotype: not be designated

Probably below the Shirikeshomap stream near the Sorachi waterfall, the Ishikari (=Sorachi) river, Horokanai-Cho, Sorachi-Shicho, Hokkaido

Upper Ammonites Beds ("Furano Formation")

Late Early Cretaceous (Aptian and Albian)

Orbitolina miyakoensis Yabe and Hanzawa, 1926

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 18-19, pl. 4, figs. 11-15; pl. 5, figs. 1-3

Holotype: not be designated

Haibe and Hiraiga, Tanohata Village, Shimohei-Gun, Iwate Prefecture

Hiraiga Formation

Late Early Cretaceous (Aptian and Albian)

[= *Orbitolina japonica* var. *miyakoensis* Yabe and Hanzawa, 1926]

Orbitolina planoconvexa Yabe and Hanzawa, 1926

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 19, pl. 4, fig. 16; pl. 6, figs. 1-7

Holotype: not be designated

Akito and Hiraiga, Tanohata Village, Shimohei-Gun, Iwate Prefecture

Hiraiga Formation

Late Early Cretaceous (Aptian and Albian)

Orbitolina shikokuensis Yabe and Hanzawa, 1926

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 9, no. 1, p. 19, pl. 6, figs. 1-16

Holotype: not be designated

At 900 m southeast of the Hanoura railway station, Hanoura-Cho, Katsuura-Gun, Tokushima Prefecture

Hanoura Formation, Monobegawa Group

Late Early Cretaceous (Aptian and Albian)

<Cenozoic larger Foraminifera>

Acervulina linearis Hanzawa, 1947

Jap. Jour. Geol. Geogr., vol. 20, nos. 2-4, p. 60-61, pl. 15, figs. 2-5

Holotype: IGPS no. 66273

Nakanai, New Britain Island, Bismarck Archipelago, Papua New Guinea

Eocene Limestone of Nakanai

Late Eocene

Alveolina boninensis Hanzawa, 1950

Short papers IGPS, no. 1, p. 1-4, pl. 1, figs. 1-6

Holotype: IGPS no. 66279

Shizukazawa, Okimura, Ogasawara Village, Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Yusan Formation

Middle Eocene

[= *Alveolina elliptica* (Sowerby, 1840) by Matsumaru, 1996]

Assilina formosensis Hanzawa, 1931

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no.2A, p. 193-194, pl. 29, figs. 1-9

Holotype: not be designated

Near the police-guardpost Keinanzan and Tozenzan, Heito-Gun, Takao Prefecture, Taiwan (Formosa)

Hori Slate Formation (= Pilushanian Stage of Li-Sho Chang, 1976)

Lower and middle Eocene

***Asterocyclina asterodisca* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers, no. 36, p. 122-125, pl. 40, figs. 2, 4; pl. 41, figs. 1-4, 6-8; pl. 42, figs. 1, 3, 5; fig. 29-3

Holotype: Saitama Univ. coll. no. 8818

Loc. No. OK82001 of Okiko/Tsukigaoka Shrine section, Okimura, Ogasawara Village, Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Okimura Formation

Late Middle Eocene

***Asterocyclina hahajimensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers, no. 36, p. 125-126, pl. 42, figs. 6a-b; pl. 43, fig. 6; fig. 29-2

Holotype: Saitama Univ. coll. no. 8820

Loc. No. TJ82402-1 of Toejutaku section, Okimura, Ogasawara Village, Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Okimura Formation

Late Middle Eocene

***Baculogypsinoides spinosus* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 45, pl. 2, fig. 7; pl. 9, fig. 13

Holotype: not be designated

Junkoshi, Takao Prefecture, Taiwan (Formosa)

Riukiu Limestone from Kotobuki-Yama, Takao City

Pleistocene

***Biplanispira depressa* Hanzawa, 1957**

Geol. Soc. Amer., Mem. no. 66, p. 51, pl. 10, figs. 3a-d

Holotype: IGPS no. 65900 ?; Hypotype, IGPS no. 61813

Loc. no. Z25, Ogso Talofof, Saipan Island, Micronesia

Matansa Limestone

Late Eocene

[=*Biplanispira mirabilis* (Umbgrove) forma *depressa* Hanzawa, 1947]

***Biplanispira elliptica* Hanzawa, 1957**

Geol. Soc. Amer., Mem. no. 66, p. 51, pl. 10, figs. 2a-e

Holotype: IGPS no. 65900?; Hypotype, IGPS no. 65900?

Loc. no. Z25, Ogso Talofof, Saipan Island, Micronesia

Matansa Limestone

Late Eocene

[=*Biplanispira mirabilis* (Umbgrove) forma *elliptica* Hanzawa, 1957]

***Biplanispira inflata* Hanzawa, 1957**

Geol. Soc. Amer., Mem. no. 66, p. 52, pl. 8, figs. 3, 5-6; pl. 9, fig. 8

Holotype: IGPS no. 65899

Loc. no. 464, Ponia, Rota Island, Micronesia

Matansa Limestone

Late Eocene

***Boninella boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers, no. 36, p. 48-50, pl. 4, figs. 1-4; pl. 5, fig. 8; fig. 23-3

Holotype: Saitama Univ. coll. no. 8806

Loc. no. 45 of 1304 section, a cliff faced toward the Jinny beach, Minamizaki cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Borelis boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers, no. 36, p. 208-210, pl. 83, figs. 1-2; pl. 85, fig. 5

Holotype: Saitama Univ. coll. no. 8826

Loc. no. 53 of 801 section, Minamizaki Cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Borelis globosa* Matsumaru, 1974**

Geol. Palaeont. Southeast Asia, vol. 14, p. 113, pl. 19, figs. 2-4, 7

Holotype: Saitama Univ. coll. no. 741201

Loc. no. 538, gray limestone exposure of 14 km southwest from Lingig, 22 km northwest of Boston, Mindanao Island, Philippines

Agtuucanon Formation

Miocene

***Borelis parvulus* Hanzawa, 1957**

Geol. Soc. Amer., Mem. no. 66, p. 56, pl. 23, figs. 3a-c

Holotype: IGPS no. 662246

Loc. no. D126, I Denni, Saipan Island, Micronesia

Tagpochau Limestone

Early Miocene

***Borelis philippinensis* Hanzawa, 1949**

Jap. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 156-157, pl. 4, figs. 1-7

Holotype: IGPS no. 66274

Sagada, Mountain Province, Luzon Island, Philippines

Sagada Limestone

Lower Miocene

***Borelis pygmaeus* Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p.

94-95, pl. 26, figs. 14-15

Holotype: not be designated

A limestone-cliff at the northern foot of Pasir Pabeasan (906m+ high) lying to the west of the Tagogapoe Village, near Radjamandara, about 50 km west of Bandung, Java Island, Indonesia

Radjamandara Limestone (= Tagogapu Limestone or Cebu Limestone)

Late Oligocene and early Miocene

[= *Borelis (Fasciolites) pygmaeus* Hanzawa, 1930]

***Borodinia septentrionalis* Hanzawa, 1940**

Jubil. Publ. H. Yabe's 60th birthday, p. 790-791, pl. 42, figs. 10-12

Holotype: IGPS no. 21897

Kita-Daito-Zima (Island) deep well at depth of 316.36 m, Okinawa Prefecture

25 °56'47"N, 131 °17'30" N)

Coarse grained calcareous sand, Kita-Daito Limestone Complex

Early Miocene

***Bullalveolina boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 212, pl. 83, figs. 5-7

Holotype: Saitama Univ. coll. no. 8829

Loc. no. 53 of 801 section, Minamizaki Cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Daviesina boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 41-44, pl. 1, figs. 1-5; pl. 2, figs. 1-8

Holotype: Saitama Univ. coll. no. 8816

Loc. no. NS72402, Nishiura bay, 2.1 km northwest of Okimura, Ogasawara Village, Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Okimura Formation

Late Middle Eocene

***Discocyclusa changi* Hashimoto and Kurihara, 1974**

Bull. Geol. Surv. Taiwan, no. 24, p. 38-40

Holotype: not be designated

Tsukeng, east of Nantou, Central Taiwan (Formosa)

Late Eocene

[= *Discocyclusa (Discocyclusa) changi* Hashimoto and Kurihara, 1974]

***Discocyclusa dogaisis* Hanzawa, 1965**

Sci. Rep. Tohoku Univ., 2nd ser. (Geol.), vol. 37, no. 1, p. 44-46, figs. 1-7; pl. 7, figs. 1-4

Holotype: IGPS no. 85487

Loc. no. S115 of Tayama's (1938) coll., southwest of Ogso

Dogas, Saipan Island, Micronesia

Late Eocene

[= *Discocyclusa (Discocyclusa) dogaisis* Hanzawa, 1965]

***Discocyclusa fukamiensis* Hanzawa, 1964**

Earth Sci. Dept. General Educ., Kyushu Univ., no. 11, p. 7-9, pl. 6, figs. 1-5

Syntype: IGPS no. 8536

By roadside, a little south of Hongo, Miyakouchi, Kawaura-Cho, Amakusa-Shimo-Shima, Amakusa-Gun, Kumamoto Prefecture (32 °18'N, 130 °08'E)

Akashimisaki Formation

Early Eocene

[= *Orthophragma (Discocyclusa) aff. Pratti* Michelin, 1846]

***Discocyclusa indopacifica* Hanzawa, 1957**

Geol. Soc. Amer., Mem. no. 66, p. 82-83, pl. 12, figs. 1-2; pl. 13, figs. 2, 5-6

Hypotype: IGPSno. 61863

Loc. no. D35, east of Sadog Dogas, Saipan Island, Micronesia

Matansa Limestone

Late Eocene

[= *Discocyclusa (Discocyclusa) indopacifica* Hanzawa, 1957; *Discocyclusa dispansa* (Sowerby) of Less, 1987]

***Eulepidina dickersoni* Yabe and Hanzawa, 1925**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 7, no. 4, p. 104-105

Holotype: not be designated

Loc. no. 31X, Cambangug Claim, previously known from Pauting Botow near Cebu City, and the Compostela Mine, both of Cebu Island, Philippines

Lepidocyclusa limestone from Cambangug Claim

Early Miocene

[= *Lepidocyclusa (Eulepidina) dickersoni* Yabe and Hanzawa, 1925]

***Eulepidina gibbosa* Yabe, 1919**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 5, no. 2, p. 46

Holotype: not be designated

Pauting Botow near Cebu City, Cebu Island, Philippines

Lepidocyclusa limestone of Pauting Botow

Late Oligocene and early Miocene

[= *Lepidocyclusa (Eulepidina) gibbosa* Yabe, 1919]

***Eulepidina monstrosa* Yabe, 1919**

Sci. Rep. Tohoku Univ., 2nd ser. (Geol.), vol. 5, no. 2, p. 42-43,

Pl. 6; fig. 5A; pl. 7, figs. 11, 12A-13

Holotype: not be designated

Pauting Botow near Cebu City, Cebu Island, Philippines

Lepidocyclina limestone of Pauting Botow
Late Oligocene and early Miocene
[= *Lepidocyclina (Eulepidina) monstrosa* Yabe, 1919]

***Eulepidina plana* Yabe and Hanzawa, 1925**
Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 7, no. 4, p. 106-107; pl. 26, figs. 5-7
Holotype: not be designated
Loc. no. 31X, Cambangug Claim, previously known from Pauting Botow near Cebu City, and the Compostela Mine, both of Cebu Island, Philippines
Lepidocyclina limestone of Cambangug Claim
Early Miocene
[= *Lepidocyclina (Eulepidina) richthofeni* Smith var. *plana* Yabe and Hanzawa, 1925]

***Eulepidina rotaensis* Hanzawa, 1957**
Geol. Soc. Amer., Mem. No. 66, p. 75-76, pl. 22, fig. 5
Holotype: IGPS no. 66224
Loc. no. 392, Hiirippo, Rota Island, Micronesia
Tagpochau Limestone
Oligocene and early Miocene
[= *Lepidocyclina (Eulepidina) rotaensis* Hanzawa, 1957]

***Flosculinella fusiformis* Hashimoto and Matsumaru, 1975**
Geol. Palaeont. Southeast Asia, vol. 16, p. 123-124, pl. 14, fig. 8
Holotype: Saitama Univ. coll. no. 751001
Loc. no. 4, Disilombo creek, Palanan river, 7km south of Palanan, Isabela State, Luzon Island, Philippines
Calcareous facies of the N1 Stage of the Bureau of Mines, Philippines
Early Miocene

***Grzybowskia boninensis* Matsumaru, 1996**
Palaeont. Soc. Japan, Spec. papers no. 36, p. 100-102, pl. 30, figs. 1-7
Holotype: Saitama Univ. coll. no. 8822
Loc. no. OK23.95 of Okiko/Tsukigaoka Shrine section, Okimura, Ogasawara Village, Haha-Jima, Ogasawara Islands, Tokyo-To (Prefecture)
Sekimon Limestone
Late Eocene

***Gypsina saipanensis* Hanzawa, 1957**
Geol. Soc. Amer., Mem. no. 66, pl. 26, fig. 7; pl. 38, fig. 1
Holotype: IGPS no. 65900
Loc. no. Z25, Ogso Talofof, Saipan Island, Micronesia
Matansa Limestone
Late Eocene

***Kanakaia marianensis* Hanzawa, 1957**
Geol. Soc. Amer., Mem. no. 66, p. 38, pl. 33, figs. 1-9
Holotype: IGPS no. 66206

Loc. no. D91, Laulau, Saipan Island, Micronesia
Tagpochau Limestone
Early Miocene

***Ladoronia vermicularis* Hanzawa, 1957**
Geol. Soc. Amer., Mem. no. 66, p. 69, pl. 25, figs. 1-5
Holotype: IGPS no. 65898
Loc. no. H 3, south of Laderan Laguna, Saipan Island, Micronesia
Tagpochau Limestone
Early Miocene
[= *Acervulina (Ladoronia) vermicularis* Hanzawa, 1957]

***Lepidocyclina formosensis* Hanzawa, 1939**
Proc. Imp. Acad. Tokyo, vol. 15, no. 6, p. 184-185, figs. 2-4
Holotype: not be designated
Three localities, i.e. About 1 km west of Reikwan police guard-post (ca. 1824 m); about 200 m east of the boundary between Reikwan and Sinkwan (ca. 1291 m); and about 800 m farther west, all of east of Taito City, Taiwan (Formosa)
Lepidocyclina-containing dark gray calcareous sandstone
Eocene, but Hashimoto and Matsumaru (1975) redescribed this species from the lowest part of the C group in Lingkuan(= Reikwan)-Hsinkuan(= Sinkwan) Block, and its age is regarded as Early Oligocene (Tertiary d Stage)

***Lituoluba eocenica* Yabe, 1921**
Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 5, no. 4, p. 100, pl. 16, fig. 9
Holotype: not be designated
?Southwestern coast (= Miyukihama beach ?) of Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)
Nummulites-bearing calcareous tuff (= Yusan Formation)
Middle Eocene

***Miogypsina inflata* Yabe and Hanzawa, 1930**
Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 33, pl. 3, fig. 6; pl. 10, fig. 10?; pl. 12, figs. 6-7; pl. 14, fig. 6; pl. 16, fig. 9
Holotype: not be designated
Reisui-Ko, Pinai-Ko, Daiho-Ko, Shoso-Ko, Keibi and Shokei, all of Taihoku Prefecture, and Mabutoku, Shinchiku Prefecture, both of Taiwan (Formosa)
Lower part of the Kaizan Beds (Formation)
Early Miocene

***Miogypsina japonica* Ujiie, 1973**
Bull. Nat. Sci. Mus., vol. 16, no. 1, p. 110-112, pl. 2, figs. 1-3
Holotype: Micropal. Coll., Nat. Sci. Mus., 81
Road cutting near Inokoshi, Kawakami-Cho, Kawakami-Gun, Okayama Prefecture
Takakura Formation, Bihoku Group
Late Early Miocene to early Middle Miocene

***Miogypsina kotoi* Hanzawa, 1931**

Sci. rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 154, pl. 25, figs. 14-18

Holotype: IGPS no. 66289

Top of a hill (Kikuka-San) lying to the south of Otsuki railway station, Otsuki city, Yamanashi Prefecture (35°35'N, 138°57'E)

Kawaguchi Formation, Onuma Group

Late Early Miocene

***Miogypsina mamillata* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 34, pl. 1, fig. 1; pl. 3, figs. 7-8; pl. 4, fig. 6; pl. 6, fig. 13; pl. 11, figs. 7-8; pl. 12, fig. 1; pl. 13, fig. 8

Holotype: not be designated

Seisui-Ko, Reisui-Ko, Nanseikaku, Kokan, Sekkai-Ko, Nanshikyo, Diho-Sogo, Sokaku, Shoso-Ko, and Seitan, all of Taihoku Prefecture, and Toshi-Ko and Keifuisha, both of Shinchiku Prefecture, Taiwan (Formosa)

Lower part of the Kaizan Beds (Formation)

Early Miocene

***Miogypsina millepunctata* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 33, pl. 9, fig. 9; pl. 11, figs. 7-8

Holotype: not be designated

Sekiheki-Ryo, Taihoku Prefecture, and Keifui-Sha, Shinchiku Prefecture, Taiwan (Formosa)

Lower part of the Kaizan Beds (Formation)

Early Miocene

***Miogypsina nipponica* Matsumaru, 1980**

Prof. Saburo Kanno Mem. Vol., p. 216-218, pl. 25, figs. 1-12

Holotype: Saitama Univ. coll. no. 800301

Loc. no. UN-1, Mitsubishi cement quarry, 1 km southeast of Yokoze railway station, Yokoze-Cho, Chichibu-Gun, Saitama Prefecture (35°58' N, 139°6' E)

Middle Member of the Kamiyokoze Formation, Chichibu Group

Early Middle Miocene

***Miogypsina ozawai* Hanzawa, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 155, pl. 24, fig. 12; pl. 25, figs. 10-13; pl. 26, fig. 3

Holotype: IGPS no. 66287

Ishiyazawa, Nishikatsura-Cho, Minamitsuru-Gun, Yamanashi Prefecture (35°30' N, 138°49' E)

Kawaguchi Formation, Onuma Group

Late Early Miocene

***Miogypsina saitoi* Yabe and Hanzawa, 1930**

Sci. rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 34, pl. 5, fig. 8; pl. 12, fig. 3; pl. 14, fig. 7

Holotype: not be designated

Daiko-Ko and Rinzai, Taihoku Prefecture, and Mabutoku and Keifui-Sha, Shinchiku Prefecture, Taiwan (Formosa)

Lower part of the Kaizan Beds (Formation)

Early Miocene

***Miogypsina yabei* Hanzawa, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 154-155, pl. 25, figs. 6-9; pl. 26, fig. 5

Holotype: IGPS no. 66300

Kayanuma, Matsuida-Cho, Ashigarakami-Gun, Kanagawa Prefecture (35°22' N, 139°9' E)

Kawaguchi Formation, Onuma Group

Late Early Miocene

***Miogypsinella boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec Papers no. 36, p. 50-54, pl. 5, figs. 1-7; pl. 6, figs. 1-12; pl. 7, figs. 1-16; fig. 23-4

Holotype: Saitama Univ. coll. no. 8823

Loc. no. 43 of 1304 section, a cliff faced toward the Jinny beach, Minamizaki Cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper member of the Minamizaki Limestone

Late Oligocene

***Miogypsinella borodinensis* Hanzawa, 1940**

Jubil. Pub. H. Yabe's 60th birthday, p. 779-780, pl. 39, figs. 1-9

Holotype: IGPS no. 21546

Kita-Daito-Zima (Island) deep well at a depth of 407.82 m, Okinawa Prefecture (25°56'47" N, 131°17'30" E)

Fine grained calcareous sand, Kita-Daito Limestone Complex

Late Oligocene

***Miogypsinoides formosensis* Yabe and Hanzawa, 1928**

Proc. Imp. Acad. Tokyo, vol. 4, no. 9, p. 535, fig. 1a-b

Holotype: not be designated

Taianryo (Sekihekiryo) in Dojosho, Kaizan-Gun, Taihoku City, Taiwan (Formosa)

Arisan Formation (= Kaizan Beds in Yabe and Hanzawa, 1930)

Early Miocene

[=*Miogypsina* (*Miogypsinoides*) *dehaartii* Vlerk var. *formosensis* Yabe and Hanzawa, 1928]

***Miogypsinoides lateralis* Hanzawa, 1940**

Jubil. Pub. H. Yabe's 60th birthday, p. 783, pl. 39, figs. 10-14

Holotype: IGPS no. 21491

Kita-Daito-Zima (Island) deep well at depth of 302.31-394.92 m, Okinawa Prefecture

Coarse grained calcareous sand, Kita-Daito Limestone Complex

Early Miocene

***Miogypsinoides pustulosa* Hanzawa, 1940**

Jubil. Pub. H. Yabe's 60th birthday, p. 780-782, pl. 39, fig. 20; pl. 40, figs. 2-29; pl. 42, fig. 13

Holotype: IGPS no. 21489

Kita-Daito-Zima (Island) deep well at depth of 209.26-302.31 m, Okinawa Prefecture (25°56'47" N, 131°17'30" E)

Coarse grained calcareous sand, Kita-Daito Limestone Complex

Early Miocene

[=*Miogypsinoides dehaartii* (Vlerk) var. *pustulosa* Hanzawa, 1940]

***Miogypsinoides saipanensis* Hanzawa, 1957**

Geol. Soc. Amer., Mem., no. 66, p. 93, pl. 15, figs. 2, 8

Holotype: IGPS no. 65896

Loc. no. D11, Kanat Fanunchuluyan, Saipan Island, Micronesia

Tagpochau Limestone

Early Miocene

***Miolepidocyclina japonica* Matsumaru, 1972**

Prof. Jun-Ichi Iwai Mem. Volume, p. 680-681, pl. 3, figs. 1-4

Holotype: Saitama Univ. coll. no. 720301

North side of the Sagae river, Gassanzawa, Nishikawa-Cho, Nishimurayama-Gun, Yamagata Prefecture

Gassanzawa Formation

Early Middle Miocene

***Neolacazopsis osozawai* Matsumaru, 1990**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 160, p. 668-672, figs. 2-7

Holotype: Saitama Univ. coll. no. 8804

Loc. 1, a tributary river of the Ashikubo river, at the opposite side of Ashikubo-Okugumi, Shizuoka City, Shizuoka Prefecture (35°3'38" N, 138°19'43" E)

Basaltic and calcareous sandstone (= Takisawa Formation), Setogawa Group

Middle to late Eocene

***Neoplanorbulinella saipanensis* Matsumaru, 1976**

Progress in Micropaleontology, p. 201-202, pl. 6, figs. 1-12

Holotype: Saitama Univ. coll. no. 711127

Loc. no. M101, quarry of As Matuis between Matansa and Magpi, Saipan Island, Micronesia (15°15'40" N, 145°47'50" E)

Tagpochau limestone

Late Oligocene and early Miocene

***Nephrolepidina angularis* Newton and Holland, 1902**

Jour. Coll. Sci. Tokyo, vol. 17, no. 6, p. 10-11, pl. 1, figs. 1, 6; pl. 3, fig. 7

Holotype: not be designated

Sonai, Iriomote Island, Ryukyu (Sakishima) Islands,

Okinawa Prefecture

Sonai Limestone (= Sonai Conglomerate)

Miocene

[=*Orbitoides (Lepidocyclina) angularis* Newton and Holland]

***Nephrolepidina cf. douvillei* Yabe and Hanzawa, 1922**

Jour. Geol. Geogr. Japan, vol. 1, no. 1, p. 49, pl. 5, fig. 4; pl. 7, fig. 7

Hypotype: IGCP no. 66281

Along bottom of valley of Osaka river at Abuta, Nakaosaka, Shimonita-Cho, Kanra-Gun, Gunma Prefecture

(36°14' N, 138°45' E)

Abuta Limestone Member (Matsumaru, 1967), Idozawa Formation, Tomioka Group

Late Early Miocene

[= Yabe and Hanzawa (1922) and Hanzawa (1957, p. 76) have described that *Lepidocyclina (Nephrolepidina) douvillei* was preoccupied, but should be for a while suspended as cf. *douvillei* from somewhat different and unknown of nucleoconch.]

***Nephrolepidina cebuensis* Yabe and Hanzawa, 1925**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 7, no. 4, p. 109, pl. 25, figs. 12-14; pl. 26, fig. 15; pl. 27, figs. 11

Holotype: not be designated

Loc. no. 31x, Cambangug Claim, previously known from Pauting Botow near Cebu City, and the Compostela Mine, both of Cebu Island, Philippines

Lepidocyclina limestone from Cambangug Claim

Early Miocene

[=*Lepidocyclina (Nephrolepidina?) cebuensis* Yabe and Hanzawa, 1925]

***Nephrolepidina hanzawai* Matsumaru, 1992**

Cent. Jap. Micropaleontology, p. 263-264, figs. 2-11-15

Holotype: Saitama Univ. coll. no. 890601

Loc. no. SH3, Shimoshiroiwa, Nakaizu-Cho, Takata-Gun, Shizuoka Prefecture (34°58' N, 138°59' E)

Shimoshiroiwa Formation

Late Middle Miocene

[=*Nephrolepidina sumatrensis* (Brady) var. *hanzawai* Matsumaru, 1992]

***Nephrolepidina hornibrooki* Matsumaru, 1971**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 84, p. 186-187, pl. 23, figs. 12-37

Holotype: IGPS no. 91691

Loc. no. S441559, Alexander St., Greymouth on the west coast of the South Island, New Zealand

Blue Bottom Formation

Early Miocene

***Nephrolepidina ichikawai* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 30, pl. 9, figs. 1-4

Holotype: not be designated

Loc. no. 12, Y. Ichikawa coll., Shoso-Ko, An-Ko, Shinten-Sho, Bunzan-Gun, Taihoku Prefecture, Taiwan (Formosa)

Lower part of the Kaizan Beds (Formation)

Early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *ichikawai* Yabe and Hanzawa, 1930]

***Multilepidina irregularis* Hanzawa, 1932**

Proc. Imp. Acad. Tokyo, vol. 8, no. 9, p. 448, figs. 1-6

Holotype: not be designated

Loc. no. ca. 500 m southwest of Kowaritsu, Taito District, Taiwan (Formosa)

Kaizan Formation (= Kangkou Limestone, Tuluanshan Formation by Chang, 1968)

Early Miocene

[=*Lepidocyclina* (*Multilepidina*) *irregularis* Hanzawa, 1932]

***Nephrolepidina izulensis* (Hanzawa, 1931)**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 163, pl. 27, figs. 5-8

Holotype: IGPS no. 20843

Shimoshiroiwa, Nakaizu-Cho, Takata-Gun, Shizuoka Prefecture (34 °58' N, 138 °59' E)

Shimoshiroiwa Formation

Late Middle Miocene

[=*Lepidocyclina* (*Amphilepidina*) *nipponica* Hanzawa var. *izulensis* Hanzawa, 1931]

***Nephrolepidina japonica* (Yabe, 1906)**

Jour. Geol. Soc. Tokyo (now Japan), vol. 13, no. 156, p. 317, figs. 1-2 (in Japanese)

Holotype: specimen missing, 1922; Topotype: IGPS no. 66281

Along bottom of valley of Osaka river, Abuta, Nakaosaka, Shimonita-Cho, Kanra-Gun, Gunma Prefecture (36 °14' N, 138 °45' E)

Abuta Limestone Member (Matsumaru, 1967), Idozawa Formation, Tomioka Group

Late Early Miocene

[=*Orbitoides* (*Lepidocyclina*) *japonica* Yabe, 1906]

***Nephrolepidina laevigata* (Hanzawa, 1931)**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 166, pl. 27, fig. 16; pl. 28, fig. 1

Holotype: IGPS no. 20838

Shimoshiroiwa, Nakaizu-Cho, Takata-Gun, Shizuoka Prefecture (34 °58' N, 138 °59' E)

Shimoshiroiwa Formation

Late Middle Miocene

[=*Lepidocyclina* (*Amphilepidina*) *laevigata* Hanzawa, 1931]

***Nephrolepidina makiyamai* (Morishima, 1949)**

Jour. Paleont., vol. 23, no. 2, p. 212-213, pl. 44, figs. 1-4; pl. 45, figs. 1-4

Holotype: No. L7, Kyoto Imp. Univ. Micropaleontological Type Collection

Loc. no. M-1, left bank of Kurami river, Shinzaike, Kakegawa City, Shizuoka Prefecture

Tozawa Bed, Shinzaike Green Tuff (Formation), Saigo Group

Late Early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *makiyamai* Morishima, 1949]

***Nephrolepidina melanesiana* Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 93, pl. 26, figs. 3-5, 8, 11-13 (non 14), 17; pl. 27, figs. 3-5, 9-13, 16

Holotype: not be designated

Limestone cliff at the northern foot of Pasir Pabeasan (905 m high) lying to the west of Tagogapoe (= Tagogapu), Java Island, Indonesia

Tagogapoe Limestone

Late Oligocene and Early Miocene

[=*Nephrolepidina parva* (Oppenoorth, 1918) by Hanzawa, 1957]

***Nephrolepidina mirabilis* Yabe and Hanzawa, 1928**

Proc. Imp. Acad., vol. 4, no. 9, p. 535-536, figs. 2-3

Holotype: not be designated

Taikanko, Mizuho-Ku, Kwarenko District, Taiwan (Formosa)

Arisan Formation

Early Miocene

[=*Lepidocyclina sumatrensis* (Brady) forma *mirabilis* Yabe and Hanzawa, 1928]

***Nephrolepidina newtoni* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 28-29, pl. 5, figs. 1-2

Holotype: not be designated

Kwanko in Taichu Prefecture, Taiwan (Formosa)

Lower Part of the Kaizan Beds (Formation)

Early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *newtoni* Yabe and Hanzawa, 1930]

***Nephrolepidina nipponica* (Hanzawa, 1931)**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 151-152, pl. 24, figs. 1-7, 11; pl. 25, figs. 1-5; pl. 26, figs. 1-3, 5

Holotype: IGPS no. 22663

Tenjin Pass, Kuboi, Kawaguchi-Cho, Minamitsuru-Gun, Yamanashi Prefecture (35°21' N, 138°44' E)
Kawaguchi Formation, Onuma Group
Late Early Miocene
[=*Lepidocyclina* (*Amphilepidina*) *nipponica* Hanzawa, 1931]

***Nephrolepidina plicomargo* Hanzawa, 1940**

Jubil. Publ. H. Yabe's 60th birthday, p. 786-787, pl. 41, figs. 1-5

Holotype: IGPS no. 21494

Kita-Daito-Zima (Island) deep well at depth of 305.7- 394.89 m, Okinawa Prefecture (25°56'47" N, 131°17'30" E)

Coarse grained calcareous sand, Kita Daito Limestone Complex

Early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *plicomargo* Hanzawa, 1940]

***Nephrolepidina polygonalis* (Hanzawa, 1931)**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 164-165, pl. 27, figs. 8-9

Holotype: IGPS no. 20840

Shimoshiroiwa, Nakaizu-Cho, Takata-Gun, Shizuoka Prefecture (34°58' N, 138°59' E)

Shimoshiroiwa Formation

Late Middle Miocene

[=*Lepidocyclina* (*Amphilepidina*) *polygonalis* Hanzawa, 1931]

***Nephrolepidina praejaponica* Matsumaru, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 156, p. 265-267, figs. 6-1-13

Holotype: Saitama Univ. coll. no. 8802

Loc. no. 2, about 800 m south of Yokomichi, Tosa Shimizu City, Kochi Prefecture (32°48'29" N, 132°55'15" E)

Misaki Formation

Early Miocene

***Nephrolepidina scabra* (Hanzawa, 1931)**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 12, no. 2A, p. 165-166, pl. 27, figs. 14-15; pl. 28, figs. 2-4

Holotype: IGPS no. 20842

Shimoshiroiwa, Nakaizu-Cho, Takata-Gun, Shizuoka Prefecture (34°58'N, 138°59' E)

Shimoshiroiwa Formation

Late Middle Miocene

[=*Lepidocyclina* (*Amphilepidina*) *scabra* Hanzawa, 1931]

***Nephrolepidina sondaica* Yabe and Hanzawa, 1929**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 11, no. 3, p. 172, pl. 20, fig. 8; pl. 21, fig. 5-6; pl. 27, fig. 5

Holotype: not be designated

Silico near Tanah Merah, Klias Peninsula, northeast Borneo,

Sabah, Malaysia

Gomantong Limestone

Late Oligocene and early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *sondaica* Yabe and Hanzawa, 1929]

***Nephrolepidina taiwanensis* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p.30-31, pl. 5, fig. 7; pl. 6, fig. 10; pl. 8, fig. 1; pl. 9, fig. 9; pl. 10, figs. 6-7; pl. 12, fig. 8; pl. 16, fig. 8?

Holotype: not be designated

Sekiheki-Ryo, Sanshikyaku, along the road Daiho-Sogo, Taihoku Prefecture; Mabutoku, Shinchiku Prefecture; and Taikanko, Kwarenko District, and Koden, both in Tainan Prefecture, Taiwan (Formosa)

Kaizan Beds (Formation)

Early Miocene

[=*Lepidocyclina* (*Nephrolepidina*) *taiwanensis* Yabe and Hanzawa, 1930]

***Nummulites amakusensis* Yabe and Hanzawa, 1925**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 7, no. 3, p. 78-79, pl. 18, fig. 5 8 (non fig. 1); pl. 19, figs. 1, 3; pl. 20, figs. 1-2

Holotype: IGPS no. 8536

By roadside, a little south of Hongo, Miyanakouchi, Kawaura-Cho, Amakusa Shimo-shima (Island), Amakusa-Gun, Kumamoto Prefecture (32°18' N, 130°08' E) Akashimisasi Formation

Early Eocene

[=*Nummulites subamakusensis* Yabe and Hanzawa, 1925, which is a megalospheric form of *N. amakusensis* Yabe and Hanzawa by hanzawa, 1947, p. 569]

***Nummulites boninensis* Hanzawa, 1947**

Jour. Paleont., vol. 41, no. 3, p. 256-259, pl. 39, figs. 1-13; pl. 40, figs. 1-9

Syntype: IGPS no. 20034

Shizukasawa, Okimura, Haha-Jima (Hillsborough Island), Ogasawara Village, Ogasawara Islands, Tokyo-To (Prefecture)

Yusan Formation

Middle Eocene

[=Matsumaru (1996) identified 6 species from *Nummulites boninensis* Hanzawa, which has been shown in a wide morphological variation in every respect, including one incomplete, for positive identification as follows: *Nummulites aturicus* Jolu and Leymerie, 1848, *N. gizehensis* (Forskal, 1775), *N. millicaput* Boubee, 1832, *N. pengaronensis* Verbeek, 1871, *N. perforatus* (Montfort, 1808), and *N. sp.*, which is similar to *Nummulites yawensis* Cotter or *N. acutus* (Sowerby)]

***Nummulites hongoensis* Hanzawa, 1964**

Earth Sci. Dept. General Educ., Kyushu Univ., no. 11, p. 5-6, pl. 3, figs. 1-10

Syntype: IGPS no. 8536

By roadside, a little south of Hongo, Miyanokouchi, Kawaura-Cho, Amakusa Shimo-shima (Island), Amakusa-Gun, Kumamoto Prefecture (32°18' N, 130°08' E) Akashimisaki Formation

Early Eocene

***Nummulites ushibukensis* Hanzawa and Urata, 1964**

Earth Sci. Dept. General Educ., Kyushu Univ., no. 11, p. 6-7, pl. 4, figs. 1-11; pl. 5, figs. 6-16

Hypotype: IGPS nos. 85478, 85480, 85482, 85483, 85484, and 85475

Beach to the east of Fukami, Ushi-Jima (Island), Akashi, Kudama-Cho; sea cliff along the southern tip of the Kudama-Misaki; beach 250 m northeast of Kompira-Yama (Mt. Kompira); raised abrasion bench 600 m east of Degushi, Gesu-Jima (Island), Ushibuka City, Amakusa Shimo-Shima (Island), Kumamoto Prefecture

Akashimisaki Formation

Early Eocene

***Operculina balcei* Hashimoto and Matsumaru, 1978**

Geol. Palaeont. Southeast Asia, vol. 19, p. 93-94, pl. 12, figs. 6-10; pl. 13, figs. 1-4, 8

Holotype: Saitama Univ. coll. no. 780101

Left bank of the Bued River Canyon about 100 m above the side of the tenement of souvenir shops at the entrance to the Zigzag Road of the Kennon Road (National Road No. 11), Benguet, Mountain Province, Luzon Island, Philippines

Zigzag Limestone, Zigzag Formation

Early Miocene

***Operculina japonica* Hanzawa, 1935**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 18, no. 1, p. 19-22, pl. 1, figs. 4-28

Holotype: IGPS no. 21242

West of Tonosawa, Odose, Fukaura-Cho, Nishitsugaru-Gun, Aomori Prefecture

Shiomizaki Formation

Late Early and early Middle Miocene

[=*Operculina complanata* (Defrance) *japonica* Hanzawa, 1935]

***Operculina multiseptata* Yabe and Hanzawa, 1930**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 14, no. 1, p. 39-40, pl. 11, figs. 6-7; pl. 15, figs. 1-7; pl. 16, fig. 1

Holotype: not designated

Sogo, Sokaku, Taihyo, Keibi, and Seifuku, Taihoku Prefecture, and Ibao-Sha, Shipajii-Sha, Shampin, Toryo, Inouye hot spring, Merakan-Sha, Soro-Sha, Gaogan-Sha, Karapai-Sha, Kamino-Shima, and Bunsui-Ryo, Shinchiku

Prefecture,

Taiwan (Formosa)

Lower Part of the Kaizan Beds (Formation)

[=*Operculina bartschi* Cushman var. *multiseptata* Yabe and Hanzawa, 1930]

***Orbitoclypeus kimurai* Matsumaru, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 156, p. 260-262, figs. 3-1, 2, 4-7, 9, 10, 12; 5-1, 2, 5

Holotype: Saitama Univ. coll. no. 8801

Loc. no. 1, about 800 m northeast of Takahata, Tosa Shimizu City, Kochi Prefecture (32°49'55" N, 132°54'34" E)

Shimizu Formation

Late Eocene

***Orbitogypsina globules* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 194-196, pl. 77, figs. 1-3; pl. 78, figs. 1-4

Holotype: Saitama Univ. coll. no. 8812

Loc. no. OK27.95 of Okiko/Tsuigaoka Shrine section, Okimura, Ogasawara Village, Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Sekimon Limestone

Late Eocene

***Orbitogypsina vesicularis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 192-194, pl. 75, figs. 1-3; pl. 76, figs. 1-8

Holotype: Saitama Univ. coll. no. 8810

Loc. no. 48 of 1304 section, a cliff faced toward the Jinny Beach, Minamizaki Cape, Chichi-jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Paleomiogypsina boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 56-58, pl. 8, figs. 1-2; pl. 9, figs. 1-14; pl. 32, fig. 7; figs. 23-2

Holotype: Saitama Univ. coll. no. 8808

Loc. no. 8 of 1304 section, a cliff faced toward the Jinny Beach, Minamizaki Cape, Chichi-jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Peelella boninensis* Matsumaru, 1996**

Palaeont. Soc. Japa, Spec. papers no. 36, p. 156-158, pl. 56, figs. 1-8; pl. 57, figs. 1-10

Holotype: Saitama Univ. coll. no. 8814

Loc. no. 9709, 200 m northwest of Ogi-Ike (Pond), Minami-Jima (Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Pellatospira provalei* Yabe, 1921**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 5, no. 4, p. 108, pl. 19, fig. 7; pl. 20, figs. 7a-c

Holotype: not be designated

Probably from Temptok near Bintot, Borneo. Indonesia

Late Eocene

[=*Pellatospira madaraszii* von Hantken var. *provalei* Yabe, 1921]

***Pellatospira reticularis* Hanzawa, 1947**

Jap. Jour. Geol. Geogr., vol. 20, nos. 2-4, p. 59-60, pl. 14, figs. 1-4; pl. 15, fig. 1

Holotype: IGPS no. 66273

Nakanai, New Britain Island, Bismark Islands, Papua New Guinea

Eocene Limestone from Nakanai, New Britain Island

Late Eocene

***Praerhapydionina boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 223-224, pl. 87, figs. 3-10

Holotype: Saitama Univ. coll. no. 8835

Loc. no. 58 of 801 N section, Minamizaki Cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

***Pseudorbitella americana* Hanzawa, 1963**

Jour. Geol. Soc. India, vol. 4, p. 32-34, pl. 3, figs. 1-7; figs. 1-2

Hypotype: IGPS no. 85474, which is one of Rutten's hypotypes of D13997-14002 and 14016, Min.-Geol. Inst., Univ. Utrecht

Loc. no. L128, southern Santa Clara Province, Cuba

Upper Cretaceous Beds

Late Cretaceous

***Quinqueloculina boninensis* Matsumaru, 1996**

Palaeont. Soc. Japan, Spec. papers no. 36, p. 218, pl. 85, figs. 2-5

Holotype: Saitama Univ. coll. no. 8830

Loc. no. 49 of 801 N section, Minamizaki Cape, Chichi-Jima (Peel Island), Ogasawara Islands, Tokyo-To (Prefecture)

Upper Member of the Minamizaki Limestone

Late Oligocene

[=*Quinqueloculina ? boninensis* Matsumaru, 1996]

***Sagenina expansa* Yabe, 1921**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 5, no. 4, p. 98, pl. 16, figs. 3-5

Holotype: not be designated

?Southwestern coast (=Miyukihama ?) of Haha-Jima (Hillsborough Island), Ogasawara Islands, Tokyo-To (Prefecture)

Nummulites bearing calcareous tuff (= Yusan Formation?)

Middle Eocene

***Serraia cataloniensis* Matsumaru, 1999**

Palaeont. Res., vol. 3, no. 4, p. 261-263, figs. 2-1-3; 3-1-5; 4-1-3; 5-1-3

Holotype: Saitama Univ. coll. no. 8841

Loc. no. sample 4 of Puig Aguilera outcrop, Igualada, 50 km northwest of Barcelona, Spain

La Tossa Formation

Late Middle Eocene

***Spiroclypeus umbonatus* Yabe and Hanzawa, 1929**

Sci. Rep. Tohoku Imp. Univ., 2nd ser. (Geol.), vol. 11, no. 3, p. 187-188, pl. 24, figs. 5-8

Holotype: not be designated

Loc. no. 804, creek east of Barrio Tuganon, Danao, Cebu Island; no. F272, on south slope of Mt. Mangilac, Danao, Cebu Island, and no. 2, New Colorado Mine, Arroyo, Masbate Island, Philippines, W. D. Smith coll.

Eulepidina rocks and possibly equivalent to the *Eulepidina* rocks rather than to the *Nephrolepidina* rocks

Late Oligocene and early Miocene

[=*Spiroclypeus margaritatus* (Schlumberger) var. *umbonatus* Yabe and Hanzawa, 1929]

***Tania inokoshiensis* Matsumaru, 1990**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 158, p. 536-538, figs. 1-1-6

Holotype: Saitama Univ. coll. no. 8803

Inokoshi, Koyamaichi Village, Kawakami-Gun, Okayama Prefecture (34°45' N, 133°24' E)

Miogypsina Sandstone, lower Formation, Bihoku Group

Early Miocene

***Tayamaia marianensis* (Hanzawa, 1957)**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 22-23, fig. 3

Holotype: IGPS no. 66204

Loc. no. S88, Kanat Fahang Lichan, Saipan Island, Micronesia

Tagpochau Limestone

Early Miocene

Paleozoic and Mesozoic corals

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Acanthogyra tosaensis Eguchi, 1951

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 57, pl. 24, fig. 1; pl. 26, fig. 12

Holotype: IGPS no. 65910

Konpirayama, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°28'37"N, 133°16'18"E

Torinosu Limestone

Tithonian to Berriasian, Late Jurassic

Acanthohalysites kuraokensis Hamada, 1958

Jour. Fac. Sci. Univ. Tokyo, Sec. 2, vol. 11, p. 101, pl. 8, figs. 1-3

Holotype: PCa 7269

Loc. 11 at a road cut on the western foot of the Gionyama, Gokase-cho, Nishiusuki-gun, Miyazaki Prefecture

G2 Unit of the Gionyama Formation

Wenlock (?), Silurian

(*Halysites kuraokensis* (Hamada) by Nakai, 1981)

Acanthohalysites pycnoblatoides Etheridge *yabei* Hamada, 1958

Jour. Fac. Sci. Univ. Tokyo, Sec. 2, vol. 11, p. 105

Holotype: Geol. Paleont., Tohoku Univ., Sec. no. 1a (thin section)

Lo-ling-po, north of No-lu-ping, Hu-chi, Hsingshan-hsin, Province of Hubei, Central China

Middle Gotlandian bed

Middle Silurian

Acrocyathus floriformis d'Orbigny *hemisphaericus* (Hayasaka) see *Lithostrotionella hemisphaerica* Hayasaka, 1936

Acrocyathus girtyi (Hayasaka) see *Lithostrotionella girtyi* Hayasaka, 1936

Acrocyathus? unicus (Yabe and Hayasaka) see *Lithostrotion (Lithostrotionella) unicum* Yabe and Hayasaka, 1915

Actinacis? miyakoensis Eguchi, 1951

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 40, pl. 10, figs. 1, 6

Holotype: IGPS no. 65390

Matsushima, near Moshi, Omoto, Iwaizumi-cho, Shimohei-

gun, Iwate Prefecture; 39°49'46"N, 141°50'45"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

Actinacis? tosaensis Eguchi, 1951

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 71, pl. 5, fig. 11

Holotype: IGPS no. 65347

Mukuroji, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'35"N, 133°17'23"E

Torinosu Limestone

Doggerian to Malmian, Jurassic

Actinastrea caillomensis Yamagiwa, 1981

Palaeont. Study on the Andes (II), Geol. Lab., Fac. Sci., Chiba Univ., p. 42, pl. 1, figs. 1a-c

Holotype: OKES 810101

At 22 km west of Cailloma, Arequipa Department, southern Peru

Limestone in the Upper Jurassic to Lower Cretaceous Yura Group

Late Jurassic to Early Cretaceous

Actinastrea naradaniensis Yamagiwa, Habuchi and Miyata, 1976

Mem. Osaka. Kyoiku Univ., Ser. 3, vol. 25, no. 3, p. 139, pl. 1, fig. 3

Holotype: Reg. no. 76003 (Inst. Geosci., Osaka Kyoiku Univ.)

Naradani District, Sagawa-cho, Takaoka-gun, Kochi Prefecture

Limestone lens (Loc. 1) in the Naradani Formation

Oxfordian to Kimmeridgian Late Jurassic

Adamanophyllum abukumaense Minato and Minoura, 1976

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, no. 2, p. 368; fig. 2, A-C

Holotype: UHR 30170a, 30170b; Paratype: UHR 30167

Abukuma Mountains, Fukushima Prefecture

Tateishi Formation

Early Namurian, Carboniferous

Akagophyllum akagoense (Ozawa) see *Lonsdaleia (Waagenophyllum) indica* Waagen and Wentzel *akagoensis* Ozawa, 1925

Akagophyllum hasegawai Minato and Kato, 1965

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 80, pl. 3, fig. 1, text-figs. 33, 34, 48h

Holotype: UHR 18147a, 18147b

Behind the Hinaga Shrine, not far from Shibukura, Mine City, Yamaguchi Prefecture

Akiyoshi Limestone Group

Permian

***Akagophyllum joshuense* Igo and Adachi, 2001**

Mem. Natn. Sci. Mus., Tokyo, Ser. C, no. 37, p. 81, figs. 6-1-6, 7-1-6, 8-1

Holotype: IGUT 8099, Paratypes: IGUT 8100, 8101

Mt. Kanoyama, Nakazato-mura, Tano-gun, Gunma Prefecture

Konoyama Limestone

Latest Gzhelian to earliest Asselian (Late Carboniferous to earliest Permian)

***Akagophyllum nogamie* (Yamagiwa) see *Waagenophyllum nogamie* Yamagiwa, 1961**

***Akagophyllum yabei* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 79, text-fig. 32

Holotype: IGPS no. 7923

Kaerimizu, Mito-cho, Mine-gun, Yamaguchi Prefecture

Pseudofusulina Zone of the Akiyoshi Limestone Group

Early Middle Permian

***Akiyosiphyllum stylophorum* Yabe and Sugiyama, 1942**

Proc. Imp. Acad. Tokyo, vol. 18, p. 574, figs. 1, 2

Holotype: Reg. no. 65033

Okubo, Mito-cho, Mine-gun, Yamaguchi Prefecture

Akiyoshi Limestone Group

Visean, Carboniferous

***Amandophyllum heritschi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 8, no. 1, p. 33

Holotype: 1566 (Graz University)

Watschiger Alp and Noelpling graben in Carnic Alps

Late Carboniferous

***Amphiastrea hiraigaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 15, pl. 2, figs. 9, 10

Holotype: IGPS no. 56600

Hiraiga, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Amphiastrea kamoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 59, pl. 24, figs. 10a, b

Holotype: IGPS no. 65343, Paratype: IGPS no. 65345

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Amphiastrea yabei* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 16, pl. 12, figs. 4, 5

Holotype: IGPS no. 39473, Paratypes: IGPS no. 65487, 65488

Haipe (southern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Moshi Sandstone

Early Cretaceous

***Amphimeandra eguchii* (Mori) see *Latomeandra? eguchii* Mori, 1963**

***Amplexocarinia radícula* Igo and Adachi, 1980**

Prof. Saburo Kanno Mem. Vol., p. 314, pl. 38, figs. 2-9

Holotype: Reg. no. 5266, Paratypes: Reg. no. 5267, 5268

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Lowest part of the Middle Member of the Ichinotani Formation

Carboniferous

***Amplexus nipponensis* Oishi and Minato, 1952**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 8, no. 2, pl. 2, figs. 1, 4, 5, 8, 10, 11, 13, 14; pl. 4, figs. 1-3, 5-24

Syntypes: UHR 15491, 15495-15497, 15500-15502, 15504-15506, 15508

Kozubo, Yokota-mura, Kesen-gun, Iwate Prefecture

Odaira Formation

Visean, Carboniferous

***Amygdalophylloidium naosoidea* (Minato) see *Amygdalophyllum naosoidea* Minato, 1951**

***Amygdalophylloides densus* Yoshida, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 166, p. 1120, figs. 5-1a-5, 6-1a-7

Holotype: IGSH-YY 10021, Paratypes: IGSH-YY 10022-10062

OM 601 in section 1, Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture

From the *Eostaffella-Millerella* Zone, Omi Limestone Group

Late Visean to Early Bashkirian, Carboniferous

***Amygdalophylloides denticulatus* Yoshida, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 166, p. 1125, figs. 8-1a-f

Holotype: IGSH-YY 10063

OM 601, Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture

From the *Eostaffella-Millerella* Zone, Omi Limestone Group

Late Visean to Early Bashkirian, Carboniferous

***Amygdalophylloides gracilis* (Hayasaka) see *Axophyllum gracile* Hayasaka, 1924**

***Amygdalophylloides longiseptatus* Yoshida, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 166, p. 1132, figs. 14-1a-4b

Holotype: IGSH-YY 10098, Paratypes: IGSH-YY 10099, 10100 (from OM707), 10101 (from OM708), 10102 (from OM829)

OM 707 (holotype), 708, and 829, Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture
From the *Eostaffella-Millerella* Zone, Omi Limestone Group
Late Viséan to Early Bashkirian, Carboniferous

***Amygdalophylloides omiensis* Yoshida, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 166, p. 1130, figs. 12-1a-2b

Holotype: IGSH-YY 10088, Paratypes: IGSH-YY 10089-10097

OM 616, Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture
From the lower part of the *Eostaffella-Millerella* Zone, Omi Limestone Group
Late Viséan to Early Bashkirian, Carboniferous

***Amygdalophylloides parvus* Yoshida, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 166, p. 1135, figs. 16-1a-7

Holotype: IGSH-YY 10103 (OM 731), Paratypes: IGSH-YY 10104-10145 (from OM731), 10146 (from OM708)

OM 731 and 708, Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture
From the lower part of the *Eostaffella-Millerella* Zone, Omi Limestone Group
Late Viséan to Early Bashkirian, Carboniferous

***Amygdalophylloides uzurense* (Yamagiwa and Ota) see *Lophophyllidium uzurense* Yamagiwa and Ota, 1963**

***Amygdalophylloides wuwangshie* Igo and Kamikawa, 1998**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, sec. B, vol. 19, p. 39, figs. 3-1-5, 4-1-4

Holotype: IGUT5836a, Paratypes: IGUT5836b, 5837a, b, 5838a-c

Upper stream of the Shibusawa Valley, Nanmoku-mura, Gunma Prefecture
Exotic block limestone in the Sumaizukuzawa Formation
Late Moscovian, Carboniferous

***Amygdalophyllum naosoidea* Minato, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 1, p. 3, figs. a1-a3

Holotype: IV1, 2, Ozawa collection stored at Institute of

Geology, Tokyo University
Okubo, Mito-cho, Mine-gun, Yamaguchi Prefecture
From the lower part of the Akiyoshi Limestone Group
Middle Viséan (?), Carboniferous

***(Amygdalophyllidium naosoidea* (Minato) by Kato and Minato, 1975)**

***Amygdalophyllum setamaiensis* Yabe and Minato, 1946**

Proc. Japan Acad., vol. 22, p. 210, figs. 1, 2

Holotype: Reg. no. 15857

Takenohara, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture
Onimaru Formation
Viséan, Early Carboniferous

***Anabacia cyclolitoidea* Yabe and Eguchi, 1933**

Japan. Jour. Geol. Geogr., vol. 10, nos. 3, 4, p.123, pl. 11, figs. 1-4

Holotype: IGPS Reg. no. 41944, Paratype: IGPS Reg. no. 41943

Higashi-nagano, Toyota-cho, Toyoura-gun, Yamaguchi Prefecture
Toyora Group
Jurassic

***Aplosmilium? somaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 73, pl. 20, fig. 1

Holotype: IGPS no. 65260

Nakayama, Haranomachi City, Fukushima Prefecture; 37° 38'55"N, 140° 55'10"E
Torinosu Limestone
Doggerian to Malmian, Jurassic

***Aplosmilium? tochikuboensis* Mori, 1963**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 35, no. 1, p. 60, pl. 21, fig. 2; pl. 23, fig. 1

Holotype: IGPS no. 85521

Loc. 5, north of Tochikubo, Kashima-cho, Soma-gun, Fukushima Prefecture
Koike Limestone, upper part of the Nakanosawa Formation, Somanakamura Group
Kimmeridgian, Late Jurassic

***Arachnastraea koreanica* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 69

Holotype: no record

Jido, near Heijo and Kogendo, Korea
Fusulina-limestone associated with *Chaetetes*
Moscovian (?), Late Carboniferous

***Arachnastraea manchurica* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 69

Holotype: no record

Niu-hsin-tai, east of Honkeiko (Ponhsipu), Southern Manchuria, China
Schwagerina-limestone
 Late Carboniferous

***Arachnastraea molli* forma *sinuoseptata* Yabe and Eguchi, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 605, p. 75
 Holotype: no record
 Honkeiko, Northeastern China
 Middle Carboniferous

***Arachnolasma ichinotaniensis* Igo and Adachi, 2000**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 21, p. 55, figs. 8-3, 5-7, 9-2-3a-b, 10-1a-3c
 Holotype: IGUT 8053, Paratypes: IGUT 8000, 8006
 Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
 The Lower Member of the Ichinotani Formation
 Latest Visean (?) to Serpukhovian, Carboniferous

***Aridophyllum fluegeli* Kato and Ezaki, 1986**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 21, no. 4, p. 650, pl. 1, fig. 2; pl. 3, figs. 1a-c
 Holotype: UHR 30659
 Kampong Awah quarry, Pahang, Malaysia
 Permian

***Asserculinia solida* Wang and Sugiyama, 2001**

Jour. Paleont., vol. 75, no. 4, p. 773, figs. 9.5-9.16
 Holotype: NIGP 131684 (Nanjing Institute of Geology and Palaeontology), Paratypes: NIGP 131683, 131685
 From the basal part of Maokou Formation, Bed 101, Tieqiao Section, Laibin, Guangxi Province, South China
 Maokouan Subseries
 Middle Permian

***Astrocoenia japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 17, pl. 8, figs. 7, 8
 Holotype: (not indicated), IGPS no. 35257 (figured in pl. 8, fig. 7 from Hideshima)
 Hideshima, Sakiyama-mura (39°44'30"N, 141°58'30"E); Haibe (northern cliff); Hiraiga (northern cliff); Hiraiga (southern cliff); Koikorobe, all in Tanohata-mura; Moshi, Omoto, Iwaizumi-cho; Matsushima, near Moshi; Todana; Taro, Taro-mura; Masaki north of Taro, all in Taro-mura, Shimohei-gun, Iwate Prefecture
 Moshi Sandstone and Hiraiga Sandstone
 Early Cretaceous

***Aulina manchuriensis* Yabe and Minato, 1944**

Japan. Jour. Geol. Geogr., vol. 19, p. 148, text-figs. 1-10; pl. 14, figs. 1-5; pl. 15, figs. 1-3

Syntypes: UHR 15222, 15224, 15227-15229, 15230
 Ronjazu, Mincheng, Kirin Province, China
 Kirin Formation
 Early Carboniferous

***Aulocystis okitsui* Niko, 2001**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 27, nos.1-2, p. 8, figs. 2-1-4, 3-1-6
 Holotype: NSM PA14619, Paratypes: NSM PA14620-14623, 14625, 14626, 14628-14631, 14633
 Chouzuga-dani Valley of the Katsuura area, Tokushima Prefecture
 Lower Suberidani Group
 Early Ludlow, Silurian

***Aulostrotion yokokuraense* Nakai, 1980**

"Earth Science" (Chikyu Kagaku), Jour. Ass. Geol. Coll. Japan, vol. 34, no. 3, p. 141, pl. 1, figs. 1-4; pl. 2, fig. 2
 Holotype: UHR 30420, Paratypes: UHR 30421, 30422
 600 m northwest of Buntoku (Loc. B), Yokokura, Ochi-cho, Takaoka-gun, Kochi Prefecture
 Buntoku Formation
 Late Visean, Early Carboniferous

***Aulostylus tubiferus* (Hayasaka) see *Lithostrotionella tubifere* Hayasaka, 1936**

***Axolithophyllum forthyvesiculare* Kanmera, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 218, pl. 16, figs. 1-9
 Holotype: GK-D. 50202, Paratypes: GK-D. 50114, 50115, 50118-50201, 50203
 From Loc. Ya. 4, a cliff between the 620- and 660-meter-contours about 100 meters northward of a foot path running from Nozoe to the east crest of Mt. Yayamadake, Izumi-mura, Yatsushiro-gun, Kumamoto Prefecture
Fusulina ohtanii Subzone in the *Beedina* Zone of the Yayamadake Limestone
 Late Moscovian, Carboniferous
 (emended; the original species name, *frothyvesiculare* is incorrect in spelling)

***Axophyllum gracile* Hayasaka, 1924**

Sci. Rept., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 8, p. 23, pl. 4, figs. 10-13 (falsely numbered in the plate 4 as figs. 5-8 respectively)
 Holotype: no record
 Omi-machi, Nishi-kubiki-gun, Niigata Prefecture
 Omi Limestone Group
 Middle Carboniferous
 (*Amygdalophylloides gracilis* (Hayasaka) by Minato and Kato, 1975)

***Axosmia hayasakai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 57, pl. 24, fig. 2

Holotype: IGPS no. 65934

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Caninia cornucopiae* Micheline mut. *neocarbonaria* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 8, figs. 3a, b and c

Holotype: no record

East of Yangjiaoshan, Weining Yizu Huizu Miaozu Autonomous County, Guizhou Province, China

Late Carboniferous

***Caninia juddi* (Thompson) var. *ozawai* Minato, 1943**

Jour. Sigen Kenkyusho, vol. 1, no. 2, p. 230, pl. 23, figs. 1a-d
Syntypes: UHR 15445, 15452

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Carboniferous

***Caninia pseudoyohi* Igo, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 43, p. 129, pl. 19, figs. 1, 2

Holotype: Reg. no. 20475

Southern slope of the Mizuboradani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Ichinotani Formation

Early Middle Carboniferous

Carcinophyllum enorme* (Ozawa) see *Lonsdaleia enormis* Ozawa, 1925**Carcinophyllum hasegawai* Yoshida, Okimura, and Kato, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 148, p. 237, figs. 9, 1a-5; figs. 10, 1a-3c

Holotype: IGSH-YY 10007, Paratypes: IGSH-YY 10008-10016

Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture

Lower part of the *Endothyra* Zone, Omi Limestone

Early Carboniferous

***Carcinophyllum onukii* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 140, pl. 17, figs. 4-6

Holotype: Specimen stored at Tohoku University (original description)

Shizu, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture
Onimaru Formation

Late Visean, Early Carboniferous

***Carinthiaphyllum igoi* Niikawa, 1981**

Jour. General Education Dept., Niigata Univ., no. 11, p. 145, pl. 3, figs. 1-5

Holotype: NU 10007, Paratypes: NU 10008-10011

Ichinotani, Fukuji (Loc. 39), Yoshiki-gun, Gifu Prefecture

Fusulinella-Fusulina Zone of the Ichinotani Formation

Moscovian, Carboniferous

***Carinthiaphyllum yezoense* Minato and Rowett, 1967**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 13, no. 4, p. 323, pl. 39, figs. 1-5; pl. 40, figs. 1-6

Holotype: UHR 18791-3, Paratypes: UHR 18796a-e

The Loc. 1 located on a tributary of the Sumikawa River, about 13 km NNW from Fukushima, Matsumae-gun, Hokkaido

Fusulinella Zone, Middle Carboniferous

Fusulinella Zone, Middle Carboniferous

Catenipora gotlandicus* (Yabe) see *Halysites gotlandicus* Yabe, 1915**Centrastrea japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 50, pl. 17, fig. 6

Holotype: IGPS no. 39738, Paratype: IGPS no. 65389

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38°50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Centrastrea miyakoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 33, pl. 7, fig. 3

Holotype: IGPS no. 56597

Haibe (northern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Centrastrea? ogawaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 68, pl. 14, fig. 6

Holotype: IGPS no. 65041

South of Ogawa, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°29'35"N, 135°11'34"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Centrastrea tokushimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 67, pl. 25, fig. 7

Holotype: IGPS no. 65377
Kawaguchi-mura, Kaifu-gun, Tokushima Prefecture
Torinosu Limestone
Malmian, Jurassic

***Chihsiaphyllum kanmerai* Sugiyama, 1982**

Geol. Palaeont. Southeast Asia, vol. 24, p. 19, pl. 6, figs. 1-7
Holotype: GFD 20113
Khao Khao, Sara Buri, Thailand
Ratburi Limestone
Midian, Permian

***Cladochonus cylindratus* Niko, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 3, 4, p. 116, figs. 2A-F

Holotype: NSM PA14370
At the locality A, Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Black argillaceous limestone in the upper part of the Unit 1, Lower Member of the Ichinotani Formation
Serpukhovian, late Early Carboniferous

***Cladochonus hamadai* Igo and Adachi, 1980**

Prof. Saburo Kanno Mem. Vol., p. 313, pl. 36, figs. 1-2; pl. 37, figs. 1-4; pl. 38, fig. 1

Holotype: Reg. no. 5261, Paratypes: Reg. no. 5262-5265
Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Middle part of the Lower Member of the Ichinotani Formation
Carboniferous

***Cladochonus malayensis* Hamada, 1973**

Geol. Palaeont. Southeast Asia, vol. 13, p. 33, pl. 4, figs. 1, 2, text-fig. 1A

Holotype: No registration number. The specimen illustrated in Pl. 4 is kept in the University of Tokyo
Locality r94 near Kampong Jeluton, North Kedah (southeast of Alor Star), northwest Malaya
Kampong Sena Formation
Possibly early Tournaisian, Carboniferous

***Cladochonus verrucatus* Niko, 2001**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 27, nos. 1, 2, p. 29, figs. 2-3-4, 3-1-7

Holotype: HMM 04078 (The Hikaru Memorial Museum), Paratype: HMM 04109
Mizubora-dani Valley and Mizuyaga-dani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Mizuyagadani Formation
Sakmarian, Early Permian

***Clisaxophyllum awa* Minato, 1951**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 1, p. 5, text-figs.

c1, 2, d1-3

Holotype: UHR 15683 (numbered in Minato, 1955)
Omi-cho, Nishikubiki-gun, Niigata Prefecture
Lower *Fusulinella* Zone of Omi Limestone Group
Carboniferous
(Junior synonym of *Echigophyllum giganteum* Yabe and Hayasaka by Niikawa, 2001)

***Clisaxophyllum awa* Minato *atetsuense* Minato and Nakazawa, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 25, p. 18, pl. 3, figs. 3, 4

Syntypes: UHR 12452-12459
Morikuni, Niimi City, Okayama Prefecture
Atetsu Limestone Group
Early Carboniferous

***Clisophyllum ehimense* Ishii and Yamagiwa, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 44, p. 154; pl. 1, figs. 1, 4, 5

Holotype: PC 2000a, 2000b, Paratype: PC 2001
Omodani (holotype) and Itadorigawa (paratype), Kurosegawa, Shirokawa-cho, Higashi-ura-gun, Ehime Prefecture
Ryuzen Group (holotype) and Itadorigawa Formation (paratype)
Late Carboniferous

***Clisophyllum kurohimense* Yoshida, Okimura, and Kato, 1987**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 148, p. 231, figs. 4, 4a-6

Holotype: IGSH-YY 10001, Paratypes: IGSH-YY 10002-10006
Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture
Endothyra Zone of the Omi Limestone
Early Carboniferous

***Clisophyllum nodai* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 6, figs. 1a, b, pl. 11, figs. 6a, b
Holotype: no record
East of Aijiaping, Weining Yizu Huiyu Miaozu Autonomous County, Guizhou Province, and Xinhua County, Hunan Province (originally described from Hubei but province name was wrong), China
Early Carboniferous
(*Neoclisophyllum nodai* (Yabe and Hayasaka) by Yü *et al.*, 1963)

***Clisophyllum subramosum* Kanmera, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 211, pl. 14, figs. 1-12; pl. 15, fig. 11; text-fig. 3

Holotype: GK-D. 50051 (Loc. Ya. 116), Paratypes: GK-D 50052-50070, 50082 (from Loc. Ya. 116), 50071-50073, 50083 (from Loc. Ya. 4)

Loc. Ya. 116 (holotype) at an altitude of 740 m on a walking pass which runs from Hiata to the east crest of Mt. Yayamadake, and Ya. 4 (eastern slope of Mt. Yayamadake), Izumi-mura, Yatsushiro-gun, Kumamoto Prefecture

Lowest part of the *Fusulina ohtanii* Subzone, *Beedina* Zone of the Yayamadake Limestone

Late Moscovian, Carboniferous

***Coenites triangularis* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 133, pl. 21 (9), figs. 3-5

Holotype: IGPS no. 60642

Kusayami-zawa at the southern foot of Takainari-yama, Hikoichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Comalia asiatica* Yabe and Sugiyama, 1933**

Proc. Imp. Acad. Japan, vol. 9, no. 2, p. 61, pl. 28, figs. 1, 2

Holotype: IGPS no. 43475

Arinoki, Sakawa-cho, Takaoka-gun, Kochi Prefecture

Torinosu Limestone

Malimian, Jurassic

***Connectastrea yabei* Eguchi, 1936**

Proc. Imp. Acad. Japan, vol. 12, no. 3, p. 70

Holotype: no record

Miyako City, Iwate Prefecture

Hiraiga Sandstone

Aptian to Albian, Early Cretaceous

***Corwenia hasimotoi* Nagao and Minato, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, no. 2, p. 102, pl. 27, figs. 1-6

Holotype: UHR 8964

The limestone quarry, south of Tosayama Limestone quarry, Kochi Prefecture

Moscovian, Carboniferous

***Corwenia? lircayensis* Yamagiwa and Villavicencio, 1982**

Bull. Nat. Sci. Mus. Tokyo, Ser. C, vol. 8, no. 2, p. 61, pl. 1, figs. 1-7

Holotype: NSM PA 12152, Paratypes: NSM PA 12153-12155

Lircay, Huancavelica Department, Central Peru

Morrowan, Carboniferous

***Cyathaxonia niryoensis* Yamagiwa, Ishii, and Hayashi, 1988**

Mem. Osaka Kyoiku Univ., Ser. 3, vol. 37, no. 1, p. 51, pl. 1, figs. 1a, b, 2, 3a-c, 4

Holotype: IAGG 88001, Paratypes: IAGG 88002, 88003,

88004

Niryo, Takatsuki City, Osaka

From a limestone lens in the Kurogara Formation, Tamba Group

Late Asselian, Early Permian

***Cyathaxonia weyeri* Igo and Adachi, 2000**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 21, p. 43, figs. 2-1a-6, 13, 14

Holotype: IGUT 8036, Paratypes: IGUT 8035, 8037-8041

Ichinotani (Level 504, 500 and 502), Fukuji,

Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

The Lower Member of the Ichinotani Formation

Bashkirian, Carboniferous

***Cyathophyllum douvellei* Frech var. *sinense* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 9, figs. 11a, b

Holotype: no record

Yanglinchang, Dagan County, Yunnan Province, China

Middle Devonian

***Cyathophyllum (Fascicularia) caespitosum* Goldfuss var. *breviseptata* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, p. 136, pl. 8, fig. 7

Holotype: no record

South of Pingyipu, Pingwu County, Sichuan Province, China

Middle Devonian

***Cyathophyllum yanadai* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 8, figs. 4a, b

Holotype: no record

Between of Honghuayuan and Tengzi, Guizhou Province, China

Late Carboniferous

***Cyclolites? japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 34, pl. 7, fig. 6

Holotype: IGPS no. 65996

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39° 44'30"N, 141° 58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Cylindrophyllum simplex* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 91, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 6, figs. 3a, b

Holotype: no record

Hung Kuo Chi, Dagan County, Yunnan Province, China

Devonian

***Cystiphyllum aseptatum* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 123, pl. 27 (15), figs. 1, 1a

Holotype: IGPS no. 61515

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (1), Kawauchi Formation
Silurian

***Cystophora dubia* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 73

Holotype: no record

Shin-so-do in Ko-to-gun, east of Heijo, Korea

Uppermost Carboniferous

Late Carboniferous

***Cystophora kikkawai* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 72

Holotype: no record

Tai-sei-do, Ko-to-gun, Heian-nan-do, Korea

Fusulina-limestone with *Caninia* sp.

Late Carboniferous

***Cystophora manchurica* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 71

Holotype: no record

Honkeiko (Ponnhsihu), in southern Manchuria, N. E. China

Fusulina-limestone

Late Carboniferous

***Dermosmilia jezoensis* Eguchi, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 605, p. 69, pl. 2, fig. 4

Holotype: IGPS no. 44315

Kanayama-mura, Ishikari Province, Hokkaido

Orbitolina Limestone

Early Cretaceous

***Dermosmilia miyakoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 21, pl. 13, figs. 9-11, 16

Holotype: IGPS no. 65489, Paratype: IGPS no. 65350

Haibe (northern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Dermosmilia nagaoui* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 21, pl. 13, figs. 12, 15

Holotype: IGPS no. 56598

Hiraiga, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Early Cretaceous

***Dermosmilia trichotoma* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 20, pl. 1, fig. 11, pl. 13, figs. 13, 14, 17, 18

Holotype: IGPS no. 56599

Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Dibunophyllum asiaticum* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 98, pl. 8, fig. 1; pl. 10

Holotype: UHR 15120, Paratypes: UHR 15113, 15117, 15252

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Late Viséan, Carboniferous

***Dibunophyllum inugasirayamaensis* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 225, pl. 21, fig. 1

Holotype: UHR 15425

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Viséan, Carboniferous

***Dibunophyllum omorii* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 7, p. 169, pl. 2, figs. 1, 2

Holotype: IAGG 59004-59008

Kumasaki, Sonobe-cho, Funai-gun, Kyoto Prefecture

Triticites Zone?

Late Carboniferous (?) or Early Permian

***Dibunophyllum rugosum* Smith var. *ofukuense* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 77, pl. 12, figs. 6, 7

Holotype: III 32-35 (University of Tokyo)

Ofuku-dai and Hosoono, Akiyoshi

Akiyoshi Limestone Group

Moscovian, Carboniferous

***Dibunophyllum yui* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 224, pl. 20, figs. 3, 9-11

Holotype: UHR 15120, Paratypes: UHR 15113, 15117, 15252

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate

Prefecture
Onimaru Formation
Visean, Carboniferous
(Synonym with *Dibunophyllum asiaticum* Minato by Minato, 1955)

***Dimorpharaea? japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 37, pl. 11, fig. 6

Holotype: IGPS no. 65305

Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture;
39°55'53"N, 141°50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Dimorpharaea tosaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 70, pl. 25, fig. 3

Holotype: IGPS no. 65362

Hanabata, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture;
33°28'30"N, 133°17'38"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Dimorphastrea mitodaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 69, pl. 25, fig. 6

Holotype: IGPS no. 38459

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture;
33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Dimorphoseris tabayamensis* Nishimiya and Yamagiwa, 1973**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 89, p. 21, pl. 6, figs. 2a, b

Holotype: Reg. no. 72092406a, b (Inst. Geosci., Osaka Kyoiku Univ.)

Loc. 5, Aoiwadani, Tabayama-mura, Kitatsuru-gun, Yamanashi Prefecture

Kosode Formation

Late Jurassic

***Diphyphyllum delicatum* Minato and Kato, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S. no. 28, p. 137, text-figs. B, C

Holotype: UHR 12446 (i-ix)

Eastern slope facing Onimaru pass, Hikoroichi, Ofunato City, Iwate Prefecture

Nagaiwa Formation

Late Bashkirian, Carboniferous

***Diphyphyllum delicatum* Minato and Kato *nishitamensis* Igo and Kobayashi, 1980**

Sci. Rept. Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 1, p.159, pl. 14, figs. 3-5

Holotype: Reg. no. 5254, Paratypes: Reg. nos. 5255, 5256

Mitsuzawa Valley, north of Itsukaichi, Akiruno City, Tokyo Mitsuzawa Limestone

Early Namurian, Carboniferous

***Diphyphyllum equiseptatum* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 137

Holotype: no record

Nagaiwa, Hikoroichi and behind the Nojiri Mines in Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation?

Early Carboniferous

***Diphyphyllum flexuosum* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 135

Holotype: no record

Nagaiwa, Hikoroichi and behind the Nojiri Mines in Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation?

Early Carboniferous

***Diphyphyllum platiforme* Yü var. *kakisakoense* Kanmera, 1952**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 3, no. 4, p. 168, pl. 9, figs. 1-15

Holotype: GK-D. 50003, Paratypes: GK-D. 50004-50012

Tsutsui, Kakisako, Izumi-mura, Yatsushiro-gun, Kumamoto Prefecture

Kakisako Formation

Visean, Carboniferous

***Diphyphyllum simplex* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 136, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 10, figs. 1a, b

Holotype: no record

Xialuoshiqiao, Jiyang County, Hunan Province, China

The exposure yielded *Syringopora* and *Heterocaninia*

Early Carboniferous

***Diplaraea sakamotoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 80, pl. 14, figs. 10, 11

Holotype: IGPS no. 65435

Sakamoto, Sakamoto-mura, Yatsushiro-gun, Kumamoto Prefecture; 32°26'15"N, 130°39'40"E

Torinosu Limestone

Doggerian to Malmian, Jurassic

***Diplaraea somaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 79, pl. 20, fig. 7

Holotype: IGPS no. 38368

Hayama, Kamimano, Kashima-cho, Soma-gun, Fukushima Prefecture; 37°43'41"N, 140°54'15"E

Torinosu Limestone

Doggerian to Malmian, Jurassic

***Diplaraea tosaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 69, pl. 25, fig. 4

Holotype: IGPS no. 38224

South of Ogawa, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°29'35"N, 135°11'34"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Diplocoenia hayasakai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 62, pl. 14, fig. 5

Holotype: IGPS no. 65343

Konpira-yama, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°28'37"N, 133°16'18"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Diplogyra lamellosa* Eguchi, 1936**

Proc. Imp. Acad. Japan, vol. 12, no. 3, p. 70, figs. 3, 3a

Holotype: IGPS no. 35258

Northern cliff, Hiraiga, Tanohata-mura, Shimohei-gun, Iwate Prefecture

Orbitolina Sandstone

Early Cretaceous

***Donetzites kibiensis* Niko, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 1-2, p. 33, figs. 3, 4

Holotype: NSM PA14516, Paratype: NSM PA14519

Float blocks along the Shigi-gawa River in the Yoshii area, Situki-gun, Okayama Prefecture

HL1 (holotype) and HL4 samples (float blocks) from the Hina Limestone

Late Viséan to Early Bashkirian, Carboniferous

***Donetzites vermiculatus* Niko, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 1-2, p. 35, fig. 5

Holotype: NSM PA14520

Float blocks along the Shigi-gawa River in the Yoshii area, Situki-gun, Okayama Prefecture

HL5 sample (float block) from the Hina Limestone

Late Viséan to Early Bashkirian, Carboniferous

***Dorlodotia fujimotoi* Igo, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 43, p. 130, pl. 19, figs. 13-15

Holotype: Reg. no. 21088, Paratype: Reg. no. 21087

Middle course of the Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Ichinotani Formation (the *Profusulinella* Zone or the lowest *Fusulinella* Zone)

Late Bashkirian or early Moscovian, Carboniferous

***Durhamina? andensis* Yamagiwa and Rangel, 1979**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 115, p. 140, pl. 20, figs. 1-6

Holotype: NSM PA 11999, Paratypes: NSM PA 12000, 12001

Limestone at the south of Pampa Lobos, Chaparra area, Southwest Peru

Early Walfcampian, Permian

***Durhamina kitakamiensis* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 1, p. 38, pl. 5; text-figs. 7, 8

Syntypes: UHR 17654-8

Sakamotosawa, Hikoroichi-machi, Ofunato City, Iwate Prefecture

Lower Sakamotosawa Series, *Pseudoschwagerina* Zone

Early Permian

***Durhamina suzukensis* Yamagiwa and Isobe, 1991**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 17, no. 4, p. 154, pl. 1, figs. 1, 2; pl. 2, figs. 1, 2; pl. 3, figs. 1, 2; pl. 4, figs. 1, 2

Holotype: NSM PA 12857, Paratypes: NSM PA 12858-12860

From a gray limestone lens in the "Fujiwaradake Limestone", Fujiwara-cho, Inabe-gun, Mie Prefecture (About 1000m SSE of the Kurakake Pass and about 1800m NNE of the Oikedake Mt.)

"Fujiwaradake Limestone"

Early Permian

***Echigophyllum giganteum* Yabe and Hayasaka, 1924**

Sci. Rept., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 8, p. 20; pl. 4, figs. 5-7 (falsely numbered in the plate 4 as figs. 9-11, respectively)

Holotype: no record

Omi-cho, Nishikubiki-gun, Niigata Prefecture

Lower part of Omi Limestone

Early Carboniferous?

***Enallhelia nipponica* Eguchi, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 583, p. 138, pl. 6, figs. 4-7

Holotype: IGPS no. 39726

Nagasawa, Yogai, Kesen-numa City, Miyagi Prefecture "Monobegawa Series"

Middle Albian, Cretaceous

***Enallhelia nipponica somaensis* Eguchi, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 583, p. 139, pl. 6, figs. 8-11

Holotype: IGPS no. 65261

Tomizawa, Soma City, Fukushima Prefecture

Torinosu Limestone

Doggerian to Malmian, Jurassic

***Eofletcheria adachii* Niko, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, no. 1-2, p. 42, figs. 2A-E, 3A, B

Holotype: NSM PA 14267, Paratypes: NSM PA 14271-14275, 14278, 14281, 14282

At the locality 1, western foot of Mt. Gioniyama, Kuraoka, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

G2 Memeber, Gioniyama Formation

Late Wenlock, Silurian

***Eofletcheria nipponica* Niko, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, no. 1-2, p. 45, figs. 4A-E

Holotype: NSM PA 14287 (from the locality 1), Paratype: NSM PA 14288 (from the locality 2)

Locality 1, western foot of Mt. Gioniyama, and locality 2, northern foot of Mt. Gioniyama, Kuraoka, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

G3 Memeber, Gioniyama Formation

Early Ludlow, Silurian

***Eohydnohora saikiensis* Yamagiwa, Naruhashi and Sasada, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, no. 4, p. 121, pl. 1, figs. 1a-c

Holotype: NSM PA 12101

Loc. 2 at the north of Ono, Saiki City, Oita Prefecture

A Torinosu type limestone in the upper part of the Yonozu Group

Early Cretaceous

***Eohydnohora sanchuensis* Yamagiwa, Hisada and Tamura, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 1-2, p. 55, figs. 2-1-2a, b

Holotype: NSM PA 14252, Paratype: NSM PA 14251

Shinzaburozawa (Loc. 2), Saku-cho, Minamisaku-gun, Nagano Prefecture

A Torinosu type limestones in the Ishido Formation

Barremian to Early Aptian, Early Cretaceous

***Eohydnohora tosaensis* Yabe and Eguchi, 1936**

Proc. Imp. Acad., vol. 12, no. 5, p. 142, figs. 1-3

Holotype: IGPS no. 59344

Oku-minodani, Ryoseki, Kureda, Nankoku City, Kochi Prefecture

Upper Monobegawa Group

Albian to Early Cenomanian, Cretaceous

***Eugyra? magnus* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 13, pl. 2, fig. 6

Holotype: IGPS no. 65997

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39 ° 44'30"N, 141 ° 58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Eugyra oshimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 45, pl. 15, fig. 5

Holotype: IGPS no. 39725, Paratype: IGPS no. 65901, 65059

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 ° 35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Eugyra sugiyamai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 54, pl. 19, figs. 1-4

Holotype: IGPS no. 37937

Furuya, Ohinata, Saku-cho, Minami-saku-gun, Nagano Prefecture; 36 ° 06'47"N, 138 ° 37'46"E

Torinosu Limestone

Early Cretaceous

***Falsicatenipora japonica* (Sugiyama) see *Halysites japonicus* Sugiyama, 1940**

***Falsicatenipora shikokuensis* Noda and Hamada, 1958**

Jour. Fac. Sci. Univ. Tokyo, vol. 11, no. 2, p. 99, pl. 6, figs. 4, 5; pl. 7, figs. 1-7

Holotype: PCa 7253, Paratypes: PCa 7254-9, 7263

Loc. 4b at the northwestern side of Mt. Yokokura, Ochi-cho (Type Locality) and the loc. 11 at the western foot of the Gioniyama, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

From a sandy limestone of the G2 Unit at the Yokokura-yama of the Gioniyama Formation

Wenlock (?), Silurian

***Favia haipensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 22, pl. 1, fig. 16, pl. 5, figs. 1, 2

Holotype: IGPS no. 65442

Haipe (northern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture ; 39 ° 55'53"N, 141 ° 50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Favia jezoensis* Eguchi, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 605, p.69, pl. 2, fig. 5

Holotype: IGPS no. 65981

Ashibetsu River, Ashibetsu City, Hokkaido

Lower Yezo Group

Early Cretaceous

***Favia oishii* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 22, pl. 14, fig. 4

Holotype: IGPS no. 65444

Haibe (southern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Moshi Sandstone

Early Cretaceous

***Favites? taruensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 75, pl. 21, fig. 2

Holotype: IGPS no. 37854

Taru, Istukaichi-machi, Akiruno City, Tokyo; 35°44'00"N, 139°13'00"E

Torinosu Limestone

Malmian, Late Jurassic

***Favosites asper d'Orbigny aokii* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 127, pl. 22 (10), figs. 1-7

Holotype: IGPS no. 61502, Paratype: IGPS no. 61526

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Favosites coreanicus* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 71, pl. 13, figs. 4, 5

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Original age of the limestone conglomerate referred to Silurian?

***Favosites flexuosus* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 47, pl. 3, figs. 2a-c

Holotype: GISUL 30108, Paratypes: GISUL 30109 (section), 30110 (section), 30111

Loc. 6-9, down stream side of small water fall in the lower part of the Ichinotani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Bed 10 of the Fukuji Formation

Silurian

***Favosites forbesi* Edwards and Haime var. *sugiyamai* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 49, pl. 2, figs. 1a-f; pl. 4, figs. 1, 2

Syntypes: GISUL 30114, 30115

Loc. 4-5, 5-5, 6-12 and 6-13, on the eastern side slope of the Ichinotani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Bed 7 of the Fukuji Formation

Silurian

***Favosites forbesi* Edwards and Haime var. *takarensis* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 50, pl. 2, figs. 3a-c, 4a, b, 5a, b; pl. 4, figs. 4-6

Syntype: GISUL 30116

Loc. 1-1, 1-2, 2-1, and 4-2, on the western slope of the Fukuji village, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Upper part of Bed 1 of the Fukuji Formation

Silurian

***Favosites hidensis* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 53, pl. 3, figs. 4a-c; pl. 4, fig. 7

Holotype: GISUL 30119, Paratypes: GISUL 30120 (section), 30121, 30122

Loc. 4-5, 5-6, 6-12, 5-5, and 5-4, on the east side slope of the Ichinotani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Bed 6 (loc. 4-5, 5-6), Bed 7 (6-12, 5-5), and Bed 11 (5-4) of the Fukuji Formation

Silurian

***Favosites ichinotanensis* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 48, pl. 3, figs. 1a-c

Holotype: GISUL 30112, Paratype: GISUL 30113 (section)

Loc. 5-4 eastern side of the Ichinotani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Bed 11 of the Fukuji Formation

Silurian

***Favosites kennihoensis* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 71, pl. 12, fig. 7; pl. 13, figs. 2, 3

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Original age of the limestone conglomerate referred to Silurian?

***Favosites kennihoensis* var. *reguaris* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 72, pl. 13, figs. 6-8

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Original age of the limestone conglomerate referred to Silurian?

***Favosites minor* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 73, pl. 14, figs. 5-7

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Original age of the limestone conglomerate referred to Silurian?

***Favosites shimizui* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 72, pl. 14, figs. 1-4

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Original age of the limestone conglomerate referred to Silurian?

***Favosites sinensis* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 8, figs. 2a-c

Holotype: no record

Baishipu, Pingwu County, Sichuan Province (originally described from Jiangxi but province name was wrong), China Devonian

***Favosites uniformis* Yang var. *igo* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 54, pl. 1, figs. 3a-d; pl. 4, fig. 3

Syntypes: GISUL 30123, 30124 (section), 30125

Loc. 5-5, 6-19, and 6-12, on the east side slope of the Ichinotani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Bed 7 (loc. 5-5, 6-12) and Bed 9 (6-10) of the Fukuji Formation

Silurian

***Fomichevella irianica* Kato, Sundari and Skwarko, 1999**

Geological Research and Development Centre, Paleont. Ser., no. 9, p. 16, pl. 2, figs. 1a-c; pl. 3, figs. 1a-f; pl. 4, figs. 1a, b

Holotype: 79SA51, 51-C(a-e); 12 thin sections (Geological Research and Development Centre, Bundung, Indonesia)

Upper of Jass River, a tributary of the Aifam River, western

Irian Jaya, Indonesia

Float cobble from the Aimau Formation

Bashkirian, Carboniferous

***Fomichevella japonica* Igo and Adachi, 2000**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 21, p. 45, figs. 3-1a-3

Holotype: IGUT 8054, Paratypes: IGUT 8055, 8056

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Ichinotani Formation

Moscovian, Carboniferous

***Geinitzella waageni* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 10, fig. 4

Holotype: no record

North of Jiangdi, Ludian County, Yunnan Province, China

Permian

***Geyeronaotia rodriguez* Igo and Adachi, 2001**

Mem. Natn. Sci. Mus., Tokyo, Ser. C, (37), p. 78, figs. 3-1-8, 4-1-8, 5-1-7

Holotype: IGUT 8090, Paratypes: IGUT 8091-8098

Mt. Kanoyama, Nakazato-mura, Tano-gun, Gunma Prefecture

Konoyama Limestone

Gzhelian, Late Carboniferous

Geyerophyllum gerthi* (Ozawa) see *Lonsdaleia gerthi* Ozawa, 1925**Geyerophyllum hunabuseum* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 158; pl. 16, figs. 1, 6, 9; pl. 25, fig. 3; pl. 30, fig. 7

Holotype: Collection by G. Iizaka stored in Tokyo University (from Minato, 1955)

Mt. Funabuse, Yamagata-gun, Gifu Prefecture

Yabeina Zone (?), Middle Permian

Geyerophyllum nishikawai* (Hayasaka and Minato) see *Lonsdaleoides nishikawai* Hayasaka and Minato, 1966**Gokaselites nodai* Niko and Adachi, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 1-2, p. 46, figs. 1, 2

Holotype: NSM PA 14528, Paratypes: NSM PA14529-14534

The Locality 1, western foot of Mt. Gionyama, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

G2 Member of the Gionyama Formation

Late Wenlock, Silurian

***Halysites arisuensis* Kawamura, 1980**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 19, no. 3, p. 284,

pl. 5, figs. 1-6; pl. 6, figs. 1-6; pl. 7, figs. 1-3; text-figs. 6g, h
 Holotype: UHR 30408, Paratypes: UHR 30409, 30410, 30411, 30412, 30413

Loc. B, Okuhinotsuchi, 9 km northwest of Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

The lower part of the Upper Member of the Okuhinotsuchi Formation

Wenlock, Silurian

***Halysites bellulus* Hamada, 1958**

Jour. Fac. Sci. Univ. Tokyo, vol. 11, no. 2, p. 103, pl. 10, figs. 2-4

Holotype: PCa 7276

Western foot of Gionyama, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

G3 limestone unit of the Gionyama Formation

Ludlow, Silurian

***Halysites gotolandicus* Yabe, 1915**

Sci. Rept. Tohoku Imp. Univ., 2nd Ser., (Geol.), vol. 1, no. 4, p. 34 (10), pl. 7 (3), figs. 1, 2

Holotype: no record

Korpklint, north of Visby, Gotland, Sweden

Silurian

(*Catenipora gotolandicus* (Yabe) by Hamada, 1957)

***Halysites kuraokensis* (Hamada) see *Acanthohalysites kuraokensis* Hamada, 1958**

***Halysites japonicus* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 131, pl. 28 (16), figs. 1, 2; pl. 30 (18), figs. 6-8

Holotype: IGPS no. 39524

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (3), Kawauchi Formation

Silurian

(*Falsicatenipora japonica* (Sugiyama) by Hamada, 1958)

***Halysites kitakamiensis* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 129, pl. 27 (15), figs. 4-9; pl. 28 (16), figs. 3-8; pl. 30 (18), fig. 14

Holotype: IGPS no. 61503 from *Halysites*-limestone (1) at Higuchi-zawa, Paratypes: IGPS no. 60641, 61529 (Kusayami-zawa), 50594, 62542, 63004, 63015, 63025, 63062, 63267 (Higuchi-zawa), 50599, 61517, 62541 (Higuchi-zawa)

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi and Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (1), Kawauchi Formation

Silurian

(*Pseudohalysites kitakamiensis* (Sugiyama) by Hamada, 1958)

***Halysites sapporiensis* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 77, pl. 17, fig. 4; pl. 18, figs. 3, 4

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)
 Original age of the limestone conglomerate referred to Silurian?

(*Quepora sapporiensis* (Ozaki) by Hamada, 1957)

***Halysites sindoensis* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 77, pl. 16, figs. 5-7; pl. 17, figs. 2, 3

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)
 Original age of the limestone conglomerate referred to Silurian?

(*Quepora sindoensis* (Ozaki) by Hamada, 1957)

***Halysites tenuis* Hamada, 1958**

Jour. Fac. Sci. Univ. Tokyo, vol. 11, no. 2, p. 103, pl. 10, fig. 1

Holotype: PCa 7275

Western foot of Gionyama, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

G3 limestone unit of the Gionyama Formation

Ludlow, Silurian

***Heliolites arboreus* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 140, pl. 25 (13), fig. 7; pl. 26 (14), fig. 14; pl. 30 (18), figs. 12, 13

Holotype: IGPS no. 61548

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Heliolites onukii* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 139, pl. 25 (13), figs. 3-6

Holotype: IGPS no. 60627, Paratype: IGPS no. 60628

Yamanasu-zawa, Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Clathrodictyon-limestone, Kawauchi Formation

Silurian

***Helipoora japonica* Eguchi, 1948**

Jour. Paleont., v. 22, no. 3, p. 363, pl. 60, figs. 1, 2

Holotype: IGPS no. 56594

Southern cliff at Haipe, Tanohata-mura, Shimohei-gun, Iwate Prefecture
Hiraiga Sandstone
Aptian to Albian, Cretaceous

***Heritschioides ojensis* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., Ser. B, Nat. Sci., no. 7, p. 170, pl. 1, figs. 4-6
Holotype: IAGG 59009, 59010
Oji, Shino-machi, Kameoka City, Kyoto
Pseudofusulina vulgaris Subzone
Early Permian

***Heritschioides ozakii* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., Ser. B, Nat. Sci., no. 7, p. 171, pl. 1, figs. 7-9; pl. 3, figs. 1, 2
Holotype: IAGG 59011, 59012, Paratypes: IAGG 59013-59015
Inukanno, Nishibetsuin-machi, Kameoka City, Kyoto
Pseudofusulina vulgaris Subzone
Early Permian

***Heterocaninia makotokatoi* Igo and Adachi, 1994**

Sci. Rept. Inst. Geosci., Univ. Tsukuba, Sec. B, Geol. Sci., vol. 15, p. 76, figs. 3-6
Holotype: IGUT 5801, Paratypes: IGUT 5802, 5803
Middle of Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Basal part of the Ichinotani Formation
Late Viséan, Carboniferous

***Heterocaninia pauciradiale* Hamada, 1960**

Sci. Pap. Coll. Gen. Edu., Univ. Tokyo, vol. 10, no. 2, p. 348, pl. 1, figs. 4-8
Syntypes: PCa 7321-7325
Chiang-khan, near M. Loei, northern Thailand
Viséan limestone bed
Viséan, Early Carboniferous

***Heterocaninia tholusitabulata* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 11, figs. 2a-d
Holotype: no record
Xialuoshiqiao, Jiyang County, Hunan Province (originally described from Guizhou but province name was wrong), China
Carboniferous

***Heterocoenia tetrseptata* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 41, pl. 1, figs. 9, 10
Holotype: IGPS no. 56595
Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture;
39°55'53"N, 141°50'53"E

Moshi Sandstone
Early Cretaceous

***Heterophyllia? tokyoensis* Igo and Kobayashi, 1980**

Sci. Rept. Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 1, p.160, pl. 15, figs. 1-6; text-fig. 6
Holotype: Reg. no. 5257, Paratypes: Reg. nos. 5258, 5259, 5260
Mitsuzawa Valley, north of Itsukaichi, Akiruno City, Tokyo
Mitsuzawa Limestone
Early Namurian, Carboniferous

***Hexaphyllia elegans* Yabe and Sugiyama, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 552, p. 82, pl. 4, figs. 1-7
Holotype: IGPS no. 63272, Paratype: IGPS no. 63279?
Pass between Higuchi-zawa in Kawauchi and Onimaru in Ohmori, Hikoroichi, Ofunato City, Iwate Prefecture
Onimaru Formation
Viséan, Carboniferous

***Hexaphyllia inflata* Sugiyama, 1984**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 19, p. 50, pl. 3, figs. 1-9; text-figs. 8, 10-13
Holotype: GF.D 20027a-h
Shishide-dai, Mito-cho, Mine-gun, Yamaguchi Prefecture
Akiyoshi Limestone Group
Late Viséan, Carboniferous

***Hexaphyllia japonica* Yabe and Sugiyama, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 552, p. 501, pl. 26, figs. 1b, c, 4, 5
Syntypes: IGPS no. 63280, 63271, 63272
Pass between Higuchi-zawa in Kawauchi and Onimaru in Ohmori, Hikoroichi, Ofunato City, Iwate Prefecture
Onimaru Formation
Viséan, Carboniferous

***Hexaphyllia yabei* Sugiyama, 1984**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 19, p. 42, pl. 1, figs. 1-8; pl. 2, figs. 1-4; pl. 4, figs. 3-5; text-figs. 8-11, 13
Holotype: GF.D 20061a, b
Shishide-dai, Mito-cho, Mine-gun, Yamaguchi Prefecture
Akiyoshi Limestone Group
Late Viséan to Serpukhovian, Carboniferous

***Hillaepora gionensis* Niko and Adachi, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 3-4, p. 112, figs. 1-1-5
Holotype: NSM PA 14536, Paratypes: NSM PA 14537-14539
Locality 3 in the Kuraoka area, Gokase-cho, Nishiusuki-gun, Miyazaki Prefecture
G3 Memeber, Gionyama Formation
Early Ludlow, Silurian

***Hiroshimaphyllum simplex* Yoshida, Okimura, and Kato, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 148, p. 239, figs. 10-4a-7

Holotype: IGSH-YY 10017, Paratypes: IGSH-YY 10018-10020

Fukugakuchi area, Omi-cho, Nishikubiki-gun, Niigata Prefecture

Lower part of the *Endothyra* Zone, Omi Limestone

Late Viséan, Early Carboniferous

Hiroshimaphyllum toriyamai* (Minato) see *Lonsdaleoides toriyamai* Minato, 1955**Houchangocyathus wangi* Ezaki, 2000**

Palaeontology, vol. 43, pt. 2, p. 203, pl. 1, figs. 1-4; text-figs. 3-5, 8A

Holotype: OCU 6542, Paratypes: OCU 6548-6549, 6574, 6576 (locality and horizon as for the holotype), OCU 6575 (from Shachang Village, Luodian County, Guizhou Province, South China)

South of Houchang Village, Ziyun County, Guizhou Province, China

The upper part of the *Yabeina gubleri* Range Subzone of the *Neoschwagerina* Range Zone

Maokouan, Middle Permian

***Houchangocyathus yaoi* Ezaki, 2000**

Palaeontology, vol. 43, pt. 2, p. 207, pl. 1, figs. 5-8, text-figs. 6,7, 8B

Holotype: OCU 6547, Paratypes: OCU 6548-6549, 6574, 6576 (same locality and horizon with holotype), OCU 6575 from Shachang Village, Luodian County, Guizhou Province) South of Houchang Village, Ziyun County, Guizhou Province, China

The upper part of the *Yabeina gubleri* Range Subzone of the *Neoschwagerina* Range Zone

Maokouan, Middle Permian

***Huangia? kanensis* Kawano, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 36, p. 182, pl. 20, figs. 3-8

Holotype: no record

At the Abu Quarry, Izuto, Kane, Ato-cho, Abu-gun, Yamaguchi Prefecture

Izuto Limestone

Permian

***Huangia misakensis* Yokoyama, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 243, pl. 27, figs. 5a-d

Holotype: IGSH Y.T. 4

Misaka, about 200 m north of the Misaka Primary School, Tojo-cho, Hiba-gun, Hiroshima Prefecture

Taisyaku Limestone

Permian

***Huangia mizuyagadaniensis* Kamei, 1957**

Jour. Fac. Lib. Arts Sci., Shinshu Univ., no. 7, p. 33, pl. 2, figs. 1, 2; pl. 3, figs. 1-4

Syntypes: GISUL 60103-60105

Mizuyagadani valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Mizuyagadani Formation

Artinskian, Permian

***Ibukiphyllum densum* Kato and Minato, 1975**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 17, no. 1, p. 110, pl. 6, fig. 1

Holotype: Omi 572 (four thin sections)

Omi, Omi-cho, Nishikubiki-gun, Niigata Prefecture

Omi Limestone

Middle Carboniferous

Ibukiphyllum kameokense* (Sakaguchi and Yamagiwa) see *Stylidophyllum kameokense* Sakaguchi and Yamagiwa, 1958**Ibukiphyllum meandroides* (Sakaguchi and Yamagiwa) see *Polythecalis? meandroides* Sakaguchi and Yamagiwa, 1958*****Ibukiphyllum oishiense* Furutani, 1981**

Bull. Mizunami Fossil Mus., no. 8, p. 144, pl. 52, figs. 3, 4; pl. 53, figs. 1, 2; pl. 54, figs. 5-7

Holotype: ESN 140005

About 1.5 km north west from Otaki, Tarui-cho, Fuwa-gun, Gifu Prefecture

Exotic limestone block in Mesozoic rocks

Fusulinella Zone, Middle Carboniferous

Ibukiphyllum quadratum* (Sakaguchi and Yamagiwa) see *Stylidophyllum quadratum* Sakaguchi and Yamagiwa, 1958**Ibukiphyllum sekii* (Minato) see *Wentzelella sekii* Minato, 1955*****Innixiphyllum wuae* Wang and Sugiyama, 2001**

Jour. Paleont., vol. 75, no. 4, p. 763, figs. 4, 5.1-5.6

Holotype: NIGP 131642 (Nanjing Institute of Geology and Palaeontology), Paratypes: NIGP 131643-131650

From basal part of Maokou Formation, Bed 100, Teiqiao Section, Laibin, Guangxi Province, South China

Upper Chihshian Subseries and Lower Maokouan Subseries

Middle Permian

***Ipciphyllum heritschi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 151

Lectotype: specimen given by Heritsch (1939) as pl. 1, figs. 4, 5

Ala Dagh, Kilikischer Taurus, Turkey

Permian Bed

Permian

***Ipciphyllum huangi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 157

Syntypes: Cat. no. 14043, 14044 (Inst. Geol. and Palaeont., Academia Sinica)

Maokou site, Ziyun district, Kueichow Province, China

Maokou Limestone

Parafusulina to *Neoschwagerina* Zone, Middle Permian

***Ipciphyllum ishii* Yamagiwa and Yamano, 1990**

Bull. Nat. Sci. Mus., Tokyo Ser. C, vol. 16, no. 3, p. 120, pl. 1, figs. 1-3; pl. 2, figs. 1-4

Holotype: NSM-PA 12856

Akasaka Limestone, Ogaki City, Gifu Prefecture

Upper Formation (*Yabeina* Zone) in the Akasaka Limestone

Middle Permian

***Ipciphyllum saraburiense* Sugiyama, 1982**

Geol. Palaeont. Southeast Asia, vol. 24, p. 24 pl. 7, figs. 1-7

Holotype: GF.D 20115

Khao Khao, Sara Buri, Thailand

Ratburi Limestone

Midian, Permian

***Ipciphyllum subelegans* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 155

Holotype: R. 42001 (British Museum)

Gelikkhana Section, Ora, Northern Iraq

Wentzelella limestone

Neoschwagerina Zone, Middle Permian

***Ipciphyllum tschernyschewi* Minato, 1960**

Stockholm Contrib. Geol., 6 (3), p. 28, pl. 1, figs. 1-8

Holotype: P.M.O.A. 5234 (Paleontologisk Museum, Universitet i Oslo)

Big Bear Cape (Store Bjønekap), King Oscar's Land on Ellesmereland

Parafusulina Zone?

Permian

***Iranophyllum (Iranophyllum) shirasakiense* Yamagiwa and Suzuki, 1976**

Bull. Nat. Sci. Mus., Ser. C, vol. 2, no. 1, p. 29, pl. 1, figs. 1, 2

Holotype: NSM PA 11668

Shirasaki, about 1.5 km north west from Kaimori, Yura-cho, Hitaka-gun, Wakayama Prefecture

Lower part of the Sh3 Formation (*Yabeina* aff. *globosa* Zone) of the Shirasaki Limestone

Middle Permian

***Iranophyllum (Laophyllum) nakamurai* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 176, pl. 15, figs. 1a-f

Syntypes: UHR 18255-18260

Iwahatazawa, Yukisawa, Rikuzen Takada City, Iwate Prefecture

Pseudoschwagerina Zone

Early Permian

***Iranophyllum permicum* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 115, pl. 31, fig. 4; pl. 37, fig. 3

Holotype: UHR 15519

Sashizawa, Maiya-machi, Tome-gun, Iwate Prefecture

Pseudoschwagerina Zone

Early Permian

***Iranophyllum tunicatum* Igo, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 34, p. 82, pl. 8, figs. 1a, b; text-fig. 1

Holotype: Reg. no. 21015

Osobudani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

From the pebbles of the Osobudani Conglomerete

Late Early Permian

***Isastrea kosodeensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 77, pl. 27, figs. 3, 4

Holotype: Reg. no. H. 456 (Huzimoto's collection)

Kosode, Tambayama-mura, Kita-turu-gun, Yamanashi Prefecture; 35°47'56"N, 138°58'19"E

Torinosu Limestone

Malmian, Jurassic

***Isastrea (Latomeandrea) yabei* Eguchi, 1934**

Jap. Jour. Geol. Geogr., vol. 11, nos. 3-4, p. 158, pl. 17, figs. 1-2; pl. 16, figs. 1-3

Holotype: IGPS no. 50750

Hosoura, near Sidugawa-cho, Motoyosi-gun, Miyagi Prefecture

Trigonia Sandstone, upper part of Niranohama Bed

Late Jurassic

***Isastrea matumotoi* Eguchi, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 605, p.70, pl. 2, figs. 1-3

Holotype: IGPS no. 65357
Upper course of Shubari river, Ishikari Province, Hokkaido
Orbitolina limestone
Early Cretaceous

***Isastrea sugiyamai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 65, pl. 26, fig. 11

Holotype: IGPS no. 65358
Arinoki-dai, near Umabara, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°31'14"N, 133°17'20"E
Torinosu Limestone
Callovian to Kimmeridgean, Jurassic

***Isastrea? taruensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 77, pl. 21, fig. 2

Holotype: IGPS no. 37854
Taru near Itsukaichi, Akiruno City, Tokyo; 35°44'00"N, 139°13'00"E
Torinosu Limestone
Malmian, Jurassic

***Isastrea yuraensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 78, pl. 27, fig. 6

Holotype: IGPS no. 65357
Tamari-ike, Yura-cho, Hidaka-gun, Wakayama Prefecture; 33°59'12"N, 135°09'58.4"E
Torinosu Limestone
Malmian, Jurassic

***Ivanovia manchurica* (Yabe and Eguchi) forma *eguchii* Igo, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 43, p. 133, pl. 18, fig. 4

Holotype: Reg. no. 21197
Northern slope of the Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Ichinotani Formation (upper part of the *Fusulinella* zone)
Moscovian, Carboniferous

***Klaamannipora persiaensis* Niko, Kakuwa, Watanabe, and Matsumoto, 2000**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 26, nos. 1-2, p. 88, figs. 1, 2

Holotype: NSM PA 14381
At the loc. 3 (Niko *et al.*, 1999) near Banestan Village, Kerman area of southern East-Central Iran
An unnamed formation near Banestan Village
Late Llandovery or early Wenlock, Silurian

***Kleopatrina (Kleopatrina) wilsoni* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 8, no. 1, p. 69

Holotype: UCMP 30268
Gray limestone, Arrow Canyon Mountains, Clark County, Nevada
Wolfcampian
Permian?

***Kobyra ragaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 34, pl. 9, figs. 7, 9, 10

Holotype: IGPS no. 64313
Raga, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E
Orbitolina-sandstone
Early Cretaceous

***Kobyra ragaensis* Eguchi *nagaoui* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 35, pl. 6, figs. 6, 8; pl. 7, figs. 4, 5; pl. 10, figs. 4, 8

Holotype: IGPS no. 65320
Haibe (southern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E
Moshi Sandstone
Aptian to Early Albian, Early Cretaceous

***Kobyra shiriyaensis* Murata, 1962**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 5, p. 122, pl. 30, figs. 1-6

Holotype: IGPS no. 76566
Cape Shiriya, Higashidori-mura, Shimokita-gun, Aomori Prefecture
Tatemachi-jima Formation
Jurassic

***Kionophyllum carbonarium* Igo, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 43, p. 131, pl. 18, figs. 16, 17

Holotype: Reg. no. 21086
Middle course of the Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Ichinotani Formation (*Profusulinella* Zone or lowest *Fusulinella* Zone)
Late Bashkirian or early Moscovian, Carboniferous

***Kitakamiphyllum cylindricus* (Sugiyama) see *Maia cylindrica* Sugiyama, 1940**

***Koninckocarania flexuosa* Dobrolyubova *ogurai* Igo, 1958**
Japanese Jour. Geol. Geogra., vol. 29, no. 4, p. 220, pl. 16, figs. 6-8

Holotype: Reg. no. 21204, Paratypes: Reg. no. 21205
Middle course of the Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Upper part of the Middle Ichinotani Formation
Moscovian, Late Carboniferous

Koninckocarinia flexuosa Dobrolyubova sugiyamai Igo, 1958

Japanese Jour. Geol. Geogra., vol. 29, no. 4, p. 219, pl. 15, figs. 1-11; pl. 16, figs. 1-5; text-figs. 1-7

Holotype: Reg. no. 21200, Paratypes: Reg. no. 21201-21203, 21206-21216

Middle course of the Ichinotani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
Upper part of the Middle Ichinotani Formation
Moscovian, Late Carboniferous

Koninckophyllum ingavatae Sugiyama, 1981

Geol. Palaeont. Southeast Asia, vol. 22, p. 5, pl. 1, figs. 1-13

Holotype: GF.D 20001

Kabin Buri, Thailand

Ratburi Limestone?

Early Carboniferous?

Koreanopora proporooides Ozaki, 1934

Jour. Shanghai Sci. Inst., sec. II, vol. 1, p. 68, pl. 11, figs. 4-6

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)
Silurian?

Kueichouphyllum kesenense Minato, 1955

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 172, pl. 11, fig. 1; pl. 15, fig. 7c

Holotype: UHR 15137

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

LateVisean, Carboniferous

Kueichouphyllum latifossulatum Kanmera, 1952

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 3, no. 4, p. 164, pl. 8, figs. 1-8, 1a, 4a

Holotype: GK-D.50001, Paratype: GK-D.50002

Tsutsui and Yatsui, Kakisako, Izumi-mura, Yatsushiro-gun, Kumamoto Prefecture

Kakisako Formation

Visean, Carboniferous

Kueichouphyllum yabei Minato, 1943

Jour. Sigenkagaku Kenkyusyo, vol. 1, no. 1, p. 103, pl. 2, figs. 1-3; pl. 3, figs. 1-3; pl. 4, figs. 1, 3-5; pl. 5, all figures; pl. 6, figs. 5c'-f'

Syntypes: UHR 15136, 15140, 15143, 15144, 15150, 15153, 15283

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Carboniferous

Kueichouphyllum yahagiense Minato, 1955

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p.172, pl. 9, fig. 6; pl. 41, fig. 4; pl. 42, fig. 5

Syntypes: UHR 15146, 15151, 15873, 15874, 16850-16853

North of Hotokezawa, Yahagi-cho, Rikuzen-takada City, Iwate Prefecture

Onimaru Formation

Late Visean, Carboniferous

Kueichowpora setamaiensis Minato, 1955

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 188, pl. 31, figs. 3, 5, 6; text-fig. 25

Syntypes: UHR15165-15168, 15173, 15175

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Late Visean, Carboniferous

Labechiella regularis Sugiyama, 1939

Jubil. Public. Commem. Prof. Yabe's 60th birthday, vol. 1, p. 444, pl. 24, figs. 10, 11 (not illustrated)

Holotype: IGPS no. 50595, Paratypes: IGPS no. 61531, 62207

Kusayamizawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

(*Labechiellata reguralis* (Sugiyama) by Mori, 1994)

***Labechiellata reguralis* (Sugiyama) see *Labechiella regularis* Sugiyama, 1939**

Latiphyllia ragaensis Eguchi, 1951

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 19, pl. 13, figs. 6, 7

Holotype: IGPS no. 35260

Northern cliff, Raga, Tanohata-mura, Shimohei-gun, Iwate Prefecture

Orbitolina Sandstone

Early Cretaceous

Latomeandra? eguchii Mori, 1963

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 35, no. 1, p. 61, pl. 23, figs. 4, 5

Holotype: IGPS no. 85527

Loc. 3, Minaminosawa, Soma City, and Loc. 4, north of Hayama, Kashima-machi, Soma-gun, Fukushima Prefecture

Koike Limestone, upper part of the Nakanosawa Formation, Somanakamura Group

Kimmeridgian, Late Jurassic

(*Amphimeandra eguchii* (Mori) by Beauvais and Mori, 1988)

***Latomeandra mitodaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 66, pl. 24, fig. 6

Holotype: IGPS no. 65335

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Latomeandra somaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 78, pl. 20, fig. 6

Holotype: IGPS no. 65259

Tomizawa, Soma City, Fukushima Prefecture; 37°44'45"N, 140°54'12"E

Torinosu Limestone

Doggerian to Malmian, Jurassic

***Latomeandra tosaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 66, pl. 34, fig. 7

Holotype: IGPS no. 65336, Paratypes: IGPS no. 65338, 65364, 38459, 38513

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Lithostrotion hinozuchiense* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 78, pl. 36, figs. 1, 2

Holotype: UHR16754, Paratypes: UHR16753, 16755, 16758

Hinozuchi, Shimoarisu, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Early Carboniferous

***Lithostrotion irregulare* Phillips var. *asiatica* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 23, p. 57, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 10, figs. 2a, b, pl. 11, figs. 7a, b

Holotype: no record

Gangdu, Xinhua County, Hunan Province, and Xizang Autonomous Region, China

Carboniferous

***Lithostrotion (Lithostrotion) densitabulata* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 130

Holotype: no record

Kamiarisu, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation?

Early Carboniferous

***Lithostrotion (Lithostrotion) peculiare* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 131

Holotype: no record

Yukisawa, Yahagi-mura, Kesen-gun, Iwate Prefecture

Onimaru Formation

Early Carboniferous

***Lithostrotion (Lithostrotion) pseudomartini* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 128

Holotype: no record

Nagaiwa, Hikoroichi, Ofunato City, Iwate Prefecture

The coral limestone exposed at Nagaiwa

Carboniferous

(*Siphonodendron pseudomartini* (Yabe and Hayasaka) by Minato, 1943)

***Lithostrotion (Lithostrotion) somaense* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 127

Holotype: no record

At the limestone exposure between Okura and Kami-tochikubo, about 16 km west of Kashima, Kashima-cho, Soma-gun, Fukushima Prefecture

Tateishi Formation

Early Carboniferous

***Lithostrotion (Lithostrotionella) unicum* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 133, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 9, figs. 12a, b

Holotype: no record

Hongshan, Dongchuan City (Huize County), Yunnan Province, China

Carboniferous

(*Acroclyathus? unicus* (Yabe and Hayasaka) by Sando, 1983)

***Lithostrotion (Siphonodendron) hinensis* Yamagiwa, Suzuki and Okimura, 2000**

Okayama Univ. Earth Sci. Rept., vol. 7, no. 1, p. 48, pl. 1, figs. 1-7

Holotype: ESO-F 01001

Float boulder of Shigi River, Yoshii-cho, Shituki-gun, Okayama Prefecture

Hina Limestone

Probably Late Visean, Carboniferous

***Lithostrotion (Siphonodendron) kamiyai* Niko and Yamagiwa, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 3-4, p. 133, figs. 3, 4

Holotype: NSM PA 14340

Tsuchikura-zawa Valley in the upper reaches of the Kotaki-gawa River in Itoigawa City, Niigata Prefecture
Limestone blocks in the "Omi non-calcareous group"
Late Viséan (to Serpukhovian?), Carboniferous

***Lithostrotionella (Siphonodendron) mitsuzawensis* Yamagiwa, 1977**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 104, p. 444, pl. 48, figs. 1, 2

Holotype: NSM PA 11669

Mitsuzawa, Itsukaichi, Akiruno City, Tokyo
Early Namurian, Carboniferous

***Lithostrotionella (Siphonodendron) nipponalpinum* Igo and Adachi, 1981**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 123, p. 182, pl. 27, figs. 1, 2; text-figs. 2a, b

Holotype: IGUT 5368

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Upper most level of Unit 1, the Lower Member of the Ichinotani Formation

Late Viséan, Carboniferous

***Lithostrotionella americana* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 62, pl. 14, figs. 1, 2

Loc. No. 2333, near Scottsville, Alvaton quadrangle, Kentucky, USA

Carboniferous

(Part: junior synonym of *Stereophyllum banffense* (Warren), 1927 by Sando, 1983)

(Part: junior synonym of *Acrocyathus floriformis* d'Orbigny, 1849 by Sando, 1983)

***Lithostrotionella castelnaui* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 58, pl. 11, figs. 1, 2

Loc. No. 499, River bluff, 1 mile south of Maeystone, Illinois, USA

Carboniferous

(Part: junior synonym of *Acrocyathus floriformis* d'Orbigny, 1849 by Sando, 1983)

***Lithostrotionella floriformis* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 64, pl. 17, fig. 1

From Loc. No. 3760, west end of the southern shore of Madre de Dios Island, Alaska, USA

Carboniferous

(Junior synonym of *Stereophyllum banffense* (Warren), 1927 by Sando, 1983)

***Lithostrotionella girtyi* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 65, pl. 18, fig. 3

Holotype: USNM 120243

Loc. No. 4810 H, North side of the Feather River, 3 or 4 miles north of Oroville, California, USA

Carboniferous

(Part: junior synonym of *Stereophyllum microstylum* (White), 1880 by Sando, 1983, part; *Acrocyathus girtyi* (Hayasaka) by Sando, 1983)

***Lithostrotionella hemisphaerica* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 61, pl. 12, fig. 1; pl. 13, figs. 1, 2

From Loc. No. 1148, 3 miles west of Tennessee, Glochester-Mocomb quadrangle, Illinois

St. Louis Limestone

Carboniferous

(Part: junior synonym of *Stereophyllum microstylum* (White), 1880, part; junior synonym of *Acrocyathus floriformis* d'Orbigny, 1849, part; *Acrocyathus floriformis* d'Orbigny *hemisphaericus* (Hayasaka) by Sando, 1983)

***Lithostrotionella kitakamiensis* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 88, pl. 4, figs. 2, 7, 8, 10; pl. 34, figs. 2, 3

Syntypes: UHR 17608-17609, 17611-17613, 17224

Sakamotozawa, Hikoroichi, Ofunato City, Iwate Prefecture
Nagaiwa Formation

Middle Carboniferous

(Questionably referred to *Petalaxis* by Sando, 1983)

***Lithostrotionella multiradiata* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 66, pl. 15, fig. 1

Holotype, USNM 120244, Paratype: USNM 162005

From Loc. No. 490, Old Laketown Canyon, Rendolph quadrangle, Utah, USA

Carboniferous

(Junior synonym of *Stereophyllum microstylum* (White), 1880 by Sando, 1983)

***Lithostrotionella simplex* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 70, pl. 14, fig. 4

Holotype: USNM 120249

From Loc. No. 5893, Paradise Canyon, Wasatch Range, Utah, USA

Above of the phosphatic horizon

Carboniferous

(*Petalaxis simplex* (Hayasaka) by Sando, 1983)

***Lithostrotionella tabulata* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p.

69, pl. 17, fig. 2

Holotype: USNM 120246

From Loc. No. 1476, Lanes Creek region, Idaho, USA

Near the top of the Brager Series

Carboniferous

(*Petalaxis tabulatus* (Hayasaka) by Sando, 1983)

***Lithostrotionella taishakuensis* Yokoyama, 1957**

Jour. Sci. Hiroshima univ., Ser. C, vol. 2, no. 1, p. 78, pl. 10, figs. 1-4

Holotype: IGSH Y.T. 1

Dangyoikei, Taishaku-gorge, Tojo-cho, Hiba-gun, Hiroshima Prefecture

Dangyoikei Formation

Carboniferous

(*Petalaxis taishakuensis* (Yokoyama) by Sando, 1983)

***Lithostrotionella tubifere* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 69, pl. 16, figs. 1, 2

Holotype: USNM 120247a, b

From Loc. No. 5894, Crest of the ridge, east of Old Beldy, at the altitude of about 900 feet, Montana, USA

Carboniferous

(*Aulostylus tubiferus* (Hayasaka) by Sando, 1983)

***Lithostrotionella vesicularis* Hayasaka, 1936**

Mem. Fac. Sci. Agric., Taihoku Imp. Univ., vol. 13, no. 5, p. 68, pl. 14, fig. 3

From Loc. No. 3747 C, south shore of the island at the entrance to Soda Bay, Alaska, USA

Carboniferous

(Junior synonym of *Stereophyllum banffense* (Warren), 1927 by Sando, 1983)

***Lonsdaleia akasakensis* Yabe, 1902**

Jour. Geol. Soc. Tokyo, vol. 9, no. 104, p. 4, fig. 3

Holotype: no record

Akasaka, Ogaki City, Gifu Prefecture

Neoschwagerina Zone, Akasaka Limestone

Midian, Middle Permian

(*Waagenophyllum* (*Waagenophyllum*) *akasakense* (Yabe) by Minato and Kato, 1965)

***Lonsdaleia enormis* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 69, pl. 14, figs. 1-4

Holotype: III 67-69, Ozawa Collection, Tokyo University

Tobinosu, Mito-cho, Mine-gun, Yamaguchi Prefecture

Nagatophyllum satoi Zone, Akiyoshi Limestone Group

Middle Viséan, Carboniferous

(*Carcinophyllum enorme* (Ozawa) by Haikawa and Ota, 1983)

***Lonsdaleia gerthi* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 73, pl. 13, fig. 10; pl. 12, figs. 9-12

Holotype: no record

Shiraiwa, Omine, Mine City, Yamaguchi Prefecture

Akiyoshi Limestone Group

Permian

(*Geyerophyllum gerthi* (Ozawa) by Minato and Kato, 1975)

***Lonsdaleia katoi* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 70, pl. 13, figs. 2-4, 11

Holotype: no record

Shiraiwa, Omine, Mine City, Yamaguchi Prefecture

Akiyoshi Limestone Group

Permian

***Lonsdaleia* (*Lonsdaleia*) *japonica* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 106

Holotype: no record

Hikoroichi, Ofunato City, Iwate Prefecture

Onimaru Formation

Late Viséan, Early Carboniferous

(*Actinocyathus japonicus* (Yabe and Hayasaka) by Kato et al., 1989)

***Lonsdaleia* (*Lonsdaleia*) *volzi* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 108

Lectotype: the slide figured as pl. 8, figs. 6a, b in Yabe and Hayasaka (1920) which was designated by Minato and Kato (1965)

Shichang, Weining Yizu Huizu Miaozu Autonomous County, Guizhou Province, China

Chihhsia Limestone, *Pseudofusulina* Zone

Early Permian

(*Wentzellophyllum volzi* (Yabe and Hayasaka) by Minato and Kato, 1965)

***Lonsdaleia* (*Stylidophyllum*) *floriformis* (Martin) *abukumensis* Sato, 1956**

Sci. Rept. Tokyo Kyoiku Daigaku, Sec. C, vol. 4, p. 250, pl. 10, figs. 2a-f

Holotype: Reg. no. 6130, Paratype: Reg. no. 6141 (Institute of Geology and Mineralogy, Tokyo University of Education)

Tateishi, Kashima-cho, Soma-gun, Fukushima Prefecture

Tateishi Formation

Viséan, Early Carboniferous

(*Actinocyathus abukumensis* (Sato) by Kato and Minato, 1979)

***13Lonsdaleia* (*Waagenella*) *hupeiensis* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 104, Geographical

research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 8, fig. 1

Holotype: no record

Fushan coal field, Longgang Town, Yangxin County, Hubei Province, China

The exposure also yielded *Fusulinella* sp.

Carboniferous

***Lonsdaleia (Waagenella) omiensis* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 104

Holotype: no record

Omi, Nishikubiki-gun, Niigata Prefecture

Omi Limestone

Late Early Carboniferous

(*Corwenia?* *omiensis* (Yabe and Hayasaka) by Minato, 1995)

***Lonsdaleia (Waagenophyllum) indica* Waagen and Wentzel *akagoensis* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 76, pl. 14, figs. 7-9

Syntypes: Seven thin sections numbered 77-81, 83 and 84 stored at Tokyo University

Kaerimizu, Mito-cho, Mine-gun, Yamaguchi Prefecture

Akiyoshi Limestone Group

Early Permian

(*Akagophyllum akagoense* (Ozawa) by Minato and Kato, 1965)

***Lonsdaleia (?Waagenophyllum) yokoyamai* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 72, pl. 13, figs. 5, 6

Holotype: no record

Kaerimizu, Mito-cho, Mine-gun, Yamaguchi Prefecture

Akiyoshi Limestone Group

Early Permian

(*Yokoyamaella (Yokoyamaella) yokoyamai* (Ozawa) by Minato and Kato, 1965)

***Lonsdaleiastraea iranica* Ezaki, 1991**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 23, no. 1, p. 120, pl. 23, figs. 1a, b

Holotype: OCU 6259

Kuh-e-Hambars, Abadeh, Iran

Lower part of Unit 3 of the Surmag Formation

Permian

***Lonsdaleiastraea matsushitae* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 93, pl. 8, figs. 1, 2

Holotype: IAGG 60055, 60056

Loc. no. 27, near Matsunagi, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Middle Permian

(*Yokoyamaella (Maoriphyllum) matsushitae* (Yamagiwa) by Minato and Kato, 1965)

***Lonsdaleiastraea nipponica* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 134, pl. 30, fig. 5

Holotype: GKD.PT. 276

Kanoide (Toriyama's GKD.PT. 276), Mine City, Yamaguchi Prefecture

Akiyoshi Limestone Group

Late Carboniferous

***Lonsdaleiastraea nishinensis* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 93, pl. 8, figs. 4, 5

Holotype: IAGG 60058, 60059

Loc. no. 28, north of Honmura, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Middle Permian

(*Yokoyamaella (Maoriphyllum) nishinense* (Yamagiwa) by Minato and Kato, 1965)

***Lonsdaleiastraea schoupei* Minato and Kato, 1980**

Münster. Forsch. Geol. Paläont., vol. 52, p. 5, taf. 2, fig. 2

Holotype: UHR 30423a, 30423b

Kayo-Oka Pass, Otomo, Rikuzen-takada City, Iwate Prefecture; 39°12'N, 141°40'7"E

Kanokura Formation, *Cancellina-Polydiexodina* Zone

Middle Permian

***Lonsdaleiastraea yamanbaensis* Minato, 1949**

Proc. Jap. Acad., vol. 25, no. 2, p. 58, fig. 1

Syntypes: UHR 16459, 16528-16529

Yamanba, Sakawa-cho, Takaoka-gun, Kochi Prefecture

Middle Permian

***Lonsdaleoides nishikawai* Hayasaka and Minato, 1966**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 3, p. 274, pl. 33, text-figs 1-3

Holotype: UHR 18485, Paratypes: UHR 18486, 18487, 18488

Loc. 2045 of Mr. I. Nishikawa, Miharano, Hiroshima Prefecture

Triticites sp. associated

Late Carboniferous

(*Geyerphyllum nishikawai* (Hayasaka and Minato) by Minato and Kato, 1975)

***Lonsdaleoides shikokuensis* Yamagiwa, 1961**

Bull. Osaka Mus. Nat. Hist., no. 13, p. 88, pl. 1, figs. 1-5

Holotype: JPC. 40028, Paratype: Reg. No. F7847 (Osaka)

Mus. Nat. Hist.)

Omidani, north of Sakasyu, Kisawa-mura, Naka-gun, Tokushima Prefecture

Late Carboniferous

(Possibly belonging to *Hiroshimaphyllum* mentioned by Kato and Minato, 1975)

***Lonsdaleoides toriyamai* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 165, pl. 3, fig. 6; pl. 16, fig. 7; pl. 23, figs. 1-3; text-figs. 21, 22

Syntypes: UHR 17809, 17810

Okubo, Mito-cho, Mine-gun, Yamaguchi Prefecture

Profusulinella Zone of the Akiyoshi Limestone Group

Moscovian, Carboniferous

(*Hiroshimaphyllum toriyamai* (Minato) by Kato and Minato, 1975)

***Lophocarinophyllum sandoi* Wang and Sugiyama, 2001**

Jour. Paleont., vol. 75, no. 4, p. 769, fig. 7

Holotype: NIGP 131669, Paratypes: NIGP 131670-131675

From the basal part of Maokou Formation, Bed 100 and 101, Tieqiao Section, Laibin, Guangxi Province, South China

Maokouan Subseries

Middle Permian

***Lophophyllidium shikie* Yamagiwa, 1960**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 9, p. 78, pl. 1, figs. 3a-c

Syntypes: JPC. 40020-22

Niikuradani, near Itohara, Oya-cho, Yabu-gun, Hyogo Prefecture

From a pebble in the Miharaiyama Group (Triassic)

Triassic but derived from Carboniferous or Permian

***Lophophyllidium suetomii* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 151; pl. 26, fig. 7; text-fig. 17

Holotype: UHR 17399

Kawaguchi, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Pseudoschwagerina Zone, basal part of the Sakamotozawa Formation

Early Permian

***Lophophyllidium uzurense* Yamagiwa and Ota, 1963**

Bull. Akiyoshi-dai Sci. Mus., no. 2, p. 91, pl. 1, fig. 6, pl. 2, figs. 1-5

Holotype: ASM 1005a-c, Paratypes: ASM 1004, 1006a, b

Uzura quarry, Shuho-cho, Mine-gun, Yamaguchi Prefecture

Millerella yowarensis Zone of the Akiyoshi Limestone Group

Serpukhovian, Carboniferous

(*Amygdalophylloides uzurense* (Yamagiwa and Ota) by Minato and Kato, 1975)

***Lophophyllum sinense* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 6, figs. 2a-g

Holotype: no record

East of Aijiaping, Weining Yizu Huizu Miaozu Autonomous County, Guizhou Province, China

Early Carboniferous

(*Arachnolasma sinense* (Yabe and Hayasaka) by Grabau, 1922)

***Lublinophyllum vesiculosum* Kato, Sundari and Skwarko, 1999**

Geological Research and Development Centre, Paleont. Ser., no. 9, p. 13, pl. 1, figs. 1a-d; pl. 5, figs. 1a, b

Holotype: 79SS4 (4 thin sections) (Geological Research and Development Centre, Bundung, Indonesia)

Upper Aifam River, western Irian Jaya, Indonesia

Float cobble from the Aimau Formation

Bashkirian, Carboniferous

(emended; the original species name, *vesiculocum*, is incorrect in spelling)

***Maeandrella? haipensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 24, pl. 5, fig. 7

Holotype: IGPS no. 65992

Koikorobe (holotype) and Haipe (northern cliff), in Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39 ° 55'53"N, 141 ° 50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Maia cylindrica* Sugiyama, 1940**

Sci. Rept. Tokyo Univ., 2nd Ser. (Geol.), vol. 21, p. 122, pl. 29 (17), figs. 22-24

Holotype: IGPS no. 61523

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Solenopora-limestone, upper part of Kawauchi Formation

Silurian

(*Kitakamiphyllum cylindricum* (Sugiyama) by Hill, 1956)

***Mandulapora yamagii* Niko, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 1- 2, p. 38, figs. 7, 8, 9-1

Holotype: NSM PA 14517, Paratypes: NSM PA 14521, 14524-14527

Float blocks along the Shigi-gawa River in the Yoshii area, Situki-gun, Okayama Prefecture

HL2 (holotype), 3, 6, 9, 10, and 14 sample (float block) from the Hina Limestone

Late Viséan to Early Bashkirian, Carboniferous

***Mastophyllia japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 52, pl. 17, fig. 5

Holotype: IGPS no. 39729

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 °35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Mazaphyllum mirum* Kato, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 127, p. 390, pl. 61, figs. 1, 2; text-figs. 1A-C

Holotype: UHR 30519

A float derived from the Silurian Kawauchi Formation, at Sugiyama One, Higuchizawa, Ofunato City, Iwate Prefecture Kawauchi Formation

Silurian

(Junior synonym of *Labechiellata regularis* (Sugiyama), 1939, by Mori, 1994)

***Meandrarea hiraigaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 37, pl. 6, figs. 5, 7, pl. 7, fig. 7

Holotype: IGPS no. 65322

Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39 °55'53"N, 141 °50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Meandrarea mabutii* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 51, pl. 17, fig. 8

Holotype: IGPS no. 65388

Kazamatsu, Oshima, Kesen-numa City, Miyagi Prefecture; 38 °50'50"N, 141 °35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Meandrarea mitodaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 71, pl. 26, fig. 8

Holotype: IGPS no. 65334, Paratype: IGPS no. 38443

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33 °30'40"N, 133 °19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Meandrarea miyakoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 38, pl. 9, fig. 8

Holotype: IGPS no. 65329

Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39 °55'53"N, 141 °50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Meandrarea nipponica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 51, pl. 16, figs. 9, 10

Holotype: IGPS no. 39735

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 °35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Meandrarea somaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 80, pl. 20, fig. 8

Holotype: IGPS no. 65264

South of Hayama, Kamimano, Kashima-cho, Soma-gun, Fukushima Prefecture; 37 °43'41"N, 140 °54'15"E

Torinosu Limestone

Doggerian to Malmian, Jurassic

***Meniscophyllum longiseptata* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 68, pl. 37, fig. 1

Holotype: stored at Inst. Geol. Palaeont. Tohoku University Okubo, Mito-cho, Mine-gun, Yamaguchi Prefecture

Nagatophyllum satoi Zone of the Akiyoshi Limestone Group Middle Visean, Carboniferous

***Michelinia (Michelinopora) multitabulata* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 59

Holotype: no record

Exposed between Sagadachi and Maiya, Motoyoshi-gun, Miyagi Prefecture

Fusulina-limestone

Permian

***Michelinia (Protomichelinia) microstoma* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 61, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 9, figs. 8a, b

Holotype: no record

Meizigou, 20 ri south of Wuchang, Hubei Province, China

The formation yielded abundant brachiopods

Early Permian

***Microsolena japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 50, pl. 16, fig. 11; pl. 17, fig. 1

Holotype: IGPS no. 65340

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 °35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Microsolena subexcavata* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 51, pl. 17, fig. 2

Holotype: IGPS no. 55907

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 °35'00"E

Oshima Formation

Middle Albian, Cretaceous

***Microsolena yabei* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 36, pl. 8, figs. 4, 5, 7

Holotype: IGPS no. 65310

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39 ° 44'30"N, 141 °58'30"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Miyakopora miyakoensis* Eguchi, 1936**

Proc. Imp. Acad. Japan, vol. 12, no. 3, p. 70, figs. 4, 4a

Holotype: IGPS no. 35256

Miyako City, Iwate Prefecture

Hiraiga Sandstone

Aptian to Early Albian, Cretaceous

***Miyakosmia densa* Eguchi, 1936**

Proc. Imp. Acad. Japan, vol. 12, no. 3, p. 70, fig. 1

Holotype: no. 44500, Geol. Inst. Tokyo Univ. (Yabe Coll.)

Hiraiga, Tanohata-mura, Shimohei-gun, Iwate Prefecture

Hiraiga Sandstone

Aptian to Early Albian, Cretaceous

***Miyakosmia ishidai* Eguchi, 1936**

Proc. Imp. Acad. Japan, vol. 12, no. 3, p. 70, fig. 2

Holotype: IGPS no. 50520, Geol. Inst. Tokyo Univ. (Yabe Coll.)

Miyako City, Iwate Prefecture

Hiraiga Sandstone

Aptian to Early Albian, Cretaceous

***Montastraea aokii* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 76, pl. 19, figs. 10-12

Holotype: IGPS no. 43471

Nishitokura, near Itsukaichi, Akiruno City, Tokyo; 35 ° 44'42"N, 139 °12'07"E

Torinosu Limestone

Malmian, Jurassic

***Montastraea ebrasensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 76, pl. 14, figs. 8, 9

Holotype: IGPS no. 65436

Ebirase, Yoshio, Ashikita-cho, Ashikita-gun, Kumamoto

Prefecture; 32 °19'20"N, 130 °36'20"E

"Torinosu Limestone"

Doggerian to Malmian, Jurassic

***Montastraea kawabataensis* Eguchi, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 605, p. 69

Holotype: no record

Ishikari Province, Hokkaido

Lower Yezo Group

Early Cretaceous

***Montastraea nagaoui* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 25, pl. 3, fig. 12

Holotype: IGPS no. 65317

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39 ° 44'30"N, 141 °58'30"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Montastraea nipponica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 25, pl. 1, figs. 14, 15; pl. 5, figs. 3-5

Holotype: IGPS no. 56592, Paratypes: IGPS no. 59183 (Haipe, northern cliff); 65498 (Hiraiga, northern cliff); 56593, 65445 (Koikorobe); 65474, 65471, 65469, 65470, 65479, 65455 (Moshi)

Haipe (northern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39 °55'53"N, 141 °50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Montlivaltia mitodaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 63, pl. 24, fig. 3

Holotype: IGPS no. 65939

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33 °30'40"N, 133 °19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Montlivaltia norica* Frech *ominensis* Okuda and Yamagiwa, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 110, p. 300, pl. 40, figs. 1, 2

Holotype: OMNH (Osaka Museum of Natural History) M341 At the Loc. 1, East of Mt. Daifugen along the upper stream of Wasabidani River, Kawakami-mura, Yoshino-gun, Nara Prefecture

The B Formation

Late Triassic or more later

***Montlivaltia? todanaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 18, pl.

13, figs. 1, 2

Holotype: IGPS no. 65936

Todana, Taro-mura, Shimohai-gun, Iwate Prefecture; 39° 44'00"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Multisolenia tessellata* Niko and Adachi, 2000**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 26, nos. 3-4, p. 110, figs. 2, 3-1

Holotype: NSM PA 14596, Paratypes: NSM PA 14595, 14597-14599, 14602, 14603. Examined collections: NSM PA 14600, 14601, 14604-14607, 14610

Loc. 1, western foot of Gionyama, Kuraoka, Gokase-cho, Nishi-usuki-gun, Miyazaki Prefecture

The G2 Member of Gionyama Formation

Late Wenlock, Silurian

***Multithecopora yabei* Niko, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 3-4, p. 124, figs. 3A, 7G, 8A-D

Holotype: NSM PA 14377, Paratype: NSM PA 14378

At the locality B and E, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Brown limestone block at the locality B (holotype) and dark grey limestone block at the locality E (paratype), and the both blocks derived from the Unit 1, Lower Member of the Ichinotani Formation

Visean or Sepukhovian, late Early Carboniferous

***Myriopora pyriformis* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 7, fig. 2b

Holotype: no record

South of Sipu, Weining Yizu Huizu Miaozu Autonomous County, Guizhou Province

Late Carboniferous

***Nagatophyllum akiyoshiensis* Haikawa, 1995**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 30, p. 28, pl. 6, figs. 1-6; pl. 7, figs. 1-6; text-figs. 3, 4-2

Holotype: ASM 10827, Paratypes: ASM 10824, 10826, 10829-10833, 10837

Hi85-14 and Ok84-40, Okubo, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Gnathodus semiglaber-*Gnathodus cuneiformis* Zone, lower part of the Akiyoshi Limestone Group

Late Tournaisian, Carboniferous

***Nagatophyllum otai* Haikawa, 1995**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 30, p. 33, pl. 10, figs. 1-6; pl. 11, figs. 1-3; text-figs. 3, 4-4

Holotype: ASM 10822, Paratypes: ASM 10820, 10821, 10823, 10839, 10840, 10842

Ok84-17, Okubo, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Lower upper part of the *Paragnathodus commutatus*-*Gnathodus texanus* Zone, lower part of the Akiyoshi Limestone Group

Late Early Visean, Carboniferous

***Nagatophyllum ozawai* Haikawa, 1995**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 30, p. 30, pl. 8, figs. 1-3; pl. 9, figs. 1-5; text-figs. 3, 4-3, 8, 9

Holotype: ASM 10819 b1-12 (from Ob50), Paratypes: ASM 1097 A1-4, 10813a-c, 10814a-d, 10815a-c (from OK32a), ASM 10818 a1-8 (from Ob50)

Ok32a and Ob50 (holotype), Okubo, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Lower part of the *Paragnathodus commutatus*-*Gnathodus texanus* Zone, lower part of the Akiyoshi Limestone Group

Early Visean, Carboniferous

***Nagatophyllum satoi* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 79, pl. 12, figs. 1-5

Holotype: Ozawa Collection stored in Tokyo University Tobinosu, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Lower part of the Akiyoshi Limestone Group

Middle Visean, Early Carboniferous

***Nagatophyllum toriyamai* Haikawa, 1995**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 30, p. 24, pl. 5, figs. 1, 2; text-figs. 3, 4-1, 7

Holotype: ASM 10825, Paratypes: ASM 10834-10836

Hi85-14, Hirotani, Okubo, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Lower part of the *Gnathodus semiglaber* - *Gnathodus cuneiformis* Zone, lower part of the Akiyoshi Limestone Group

Late Tournaisian, Carboniferous

***Neokoninckophyllum nipponense* Kato, 1959**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 265, pl. 1, figs. 1-8

Holotype: UHR 12991, Paratype: UHR 12992-13006

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Ichinotani Formation

Carboniferous

***Nipponophyllum hesslandi* Kato, 1982**

Acta Univ. Stockholmiensis, Stockholm Contrib. Geol., vol. 37, no. 9, p. 124, pl. 1, figs. 1, 2

Holotype: Reg. No. 172 a-c (stored in Stockholm University), Paratype: Reg. No. 15a, b

Holotype from Hammershagehallar, Gotland, Sweden (topographic map sheet 51 Hoburgen SO and 5J Hemse SV, CJ 3645 1397), and paratype from Holmhällar, Gotland,

Sweden (topographic map sheet 51 Hoburgen SO and 5J Hemse SV, CJ 3535 1306)

From red, bedded, stromatoporoid limestone, Sundre Beds

Late Ludlow, Silurian

(emended; the original species name, *hesslandii*, is incorrect in spelling)

***Nipponophyllum giganteum* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 116, pl. 17 (5), figs. 10-12; pl. 30 (18), figs. 3, 4

Holotype: IGPS no. 63005

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (2), Kawauchi Formation

Silurian

***Nipponophyllum yabei* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 117, pl. 21 (9), fig. 7; pl. 30 (18), figs. 9, 10

Holotype: IGPS no. 50598

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (2), Kawauchi Formation

Silurian

***Omiphylum confertum* Kato, 1967**

Contributions to Celebrate Prof. Hayasaka, I. 76th Birthday, p. 105, pl. 3 (1)

Holotype: UHR 13528

Omi, Omi-cho, Nishikubiki-gun, Niigata Prefecture

Omi Limestone

Middle Carboniferous

***Omphalophyllia yamanbaensis* Yabe and Sugiyama, 1933**

Japanese Jour. Geol. Geogr., vol. 10, p. 114, pl. 8, figs. 1-3

Holotype: IGPS no. 43473

Yamanba, Sakawa-cho, Takaoka-gun, Kochi Prefecture

Upper Triassic

Late Triassic

***Orionastraea magna* Kato and Mitchell, 1970**

Palaeontology, vol. 13, no. 1, p. 49, pl. 13, figs. 1-5

Holotype: GSM (Institute of Geological Science, Garwood Collection) 65802, Paratypes: GSM 65800-1, 65803, 66699, 66700, 66703-6, SME (Sedgwick Museum, Cambridge) 13857

Holotype from low escarpment, 1/3 miles NE. of Brunton House, 1/3 miles S. of Feizor, 3 miles NW. of Settle, Yorkshire, England; paratypes (GSM 65800-1, 65803) from same locality with holotype, GSM 66699, 66700, and 66703-6 from 2 miles E. of Settle, SME 13857 from 7.5 miles NW. of Settle, Yorkshire, England

From the *Orionastraea* Band, Upper *Dibunophyllum* (D2) Zone

Visean, Carboniferous

***Ozakiphyllum compactum* Kato and Minato, 1975**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 17, no. 1, p. 103; pl. 4, figs. 3-5

Holotype: MK 136 (i-v)

Yakusen, Mine City, Yamaguchi Prefecture

Fusulinella biconica Zone, Akiyoshi Limestone Group

Moscovian, Middle Carboniferous

***Ozakiphyllum hayasakai* Kato and Minato, 1975**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 17, no. 1, p. 102, pl. 4, figs. 1, 2

Holotype: III 96-98 (Ozawa coll.)

Edo, Mito-cho, Mine-gun, Yamaguchi Prefecture

Fusulinella biconica Zone, Akiyoshi Limestone Group,

Moscovian, Middle Carboniferous

***Ozakiphyllum ozawae* (Yamagiwa and Ota) see *Stylidophyllum ozawae* Yamagiwa and Ota, 1963**

***Ozakiphyllum? yokomizoi* (Yokoyama) see *Stylidophyllum yokomizoi* Yokoyama, 1957**

***Pachypora chaetetoidea* Hayasaka, 1932**

Trans. Nat. Hist. Soc. Formosa, vol. 22, nos. 118-119, p. 3, pl. 1, figs. 4-7; pl. 2, fig. 2

Holotype: no record

Yakei-zima, Ogatsu-cho, Monou-gun, Miyagi Prefecture

Yabeina Zone?

Late Middle Permian

(*Thamnopora? chaetoidea* (Hayasaka) by Minato, 1955)

***Pachypora kitakamiensis* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 132, pl. 20 (8), figs. 9, 10; pl. 21 (9), fig. 2

Holotype: A thin section without numbering record

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Pachypora nipponica* Hayasaka, 1932**

Trans. Nat. Hist. Soc. Formosa, vol. 22, nos. 118-119, p. 2, pl. 1, figs. 1-3; pl. 2, fig. 1

Holotype: no record

Yakei-zima, Ogatsu-cho, Monou-gun, Miyagi Prefecture

Yabeina Zone?

Late Middle Permian

(*Thamnopora? nipponica* (Hayasaka) by Minato, 1955)

***Palaeosmia membiensis* Minato and Ogata, 1977**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 17, no. 3, p. 529, pl. 1, figs. 1, 2; pl. 2, figs. 3, 4; text-fig. 2

Holotype: UHR 30188

About 600m southwest of Membi-Peak, north of Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture; 39 °12'30"N, 140 °30'30"E

Early Carboniferous

***Palaeosmia kitakamiensis* Minato, 1952**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 8, no. 2, pl. 3, figs. 1-4

Syntypes: UHR 15518, 15253-15260

Usagisawa, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Late Viséan, Carboniferous

***Parafavosites fukujensis* Kamei, 1955**

Jour. Shinshu Univ., no. 5, p. 55, pl. 1, fig. 6; pl. 3, figs. 5a-c

Holotype: GISUL 30126, Paratype: GISUL 30127

Loc. 1-1, on the western slope of the Fukuji village,

Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Upper part of the Bed 1 of the Fukuji Formation

Silurian

***Paraipephyllum hudsoni* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 161

Syntypes: R. 42014, 42013 (British Museum)

Zinner Limestone, Harrur section, Chalki, northern Iraq

Wentzelella Limestone, Zinner Limestone

Neoschwagerina Zone, Middle Permian

***Paraipephyllum karasawense* Yamagiwa and Tsuda, 1980**

Bull. Natn. Sci. Mus., Ser. C, vol. 6, no. 3, p. 97, pl. 1, figs. 1-3

Holotype: NSM-PA12063

Karasawa, Kuzu-cho, Aso-gun, Tochigi Prefecture

Pebble in the basal limestone conglomerate of the Adoyama Formation

Permian

***Parastriatopora hyugaensis* Niko and Adachi, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 3-4, p. 116, figs. 3-2, 3, 4-1-6

Holotype: NSM PA14558, Paratypes: NSM PA14555-14557, 14559-14562

Locality 1 in the Kuraoka area, Gokase-cho, Nishiusuki-gun, Miyazaki Prefecture

G2 Member, Gionyama Formation

Late Wenlock, Silurian

***Praewentzelella honjoi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 181, pl. 4, figs. 3-4; pl. 16, figs. 1-5; text-figs. 55, 56

Holotype: UHR 18204, Paratypes: UHR 18196-18203

Akasaka Limestone, Ogaki City, Gifu Prefecture

Neoschwagerina Zone of the Akasaka Limestone

Middle Permian

***Parawentzelella (Miyagiella) miyagiensis* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 168, pl. 1, figs. 2, 4; pl. 13, figs. 1-3; text-figs. 53, 54

Holotype: UHR 18274, Paratypes: UHR 18272, 18273, 18245-18246, 18219-18221

Iwaizaki, Hajikami Motoyoshi, Kesen-numa City, Miyagi Prefecture

Iwaizaki Limestone

Neoschwagerina Zone, Middle Permian

***Parawentzelella (Miyagiella) motoyoshiensis* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 170, pl. 7, fig. 1; pl. 14, figs. 1-5

Holotype: UHR 18236, Paratypes: UHR 18232-18235, 18237, 18238, 18241-18243, 18239-18240

Iwaizaki, Hajikami Motoyoshi, Kesen-numa City, Miyagi Prefecture

Iwaizaki Limestone

Neoschwagerina Zone, Middle Permian

***Parawentzelella (Parawentzelella) iwaizakisensis* (Yabe and Minato) see *Wentzelella iwaizakiensis* Yabe and Minato, 1945**

***Pavastehphyllum (Sakamonosawanella) sakamotosawanum* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 66, pl. 4, figs. 5, 6

Holotype: UHR 15527, Paratype: UHR 15519

Sasizawa, Maiya, Touwa-cho, Tome-gun, Miyagi Prefecture

Lower Sakamotozawa Series

Early Permian

***Pavastehphyllum (Thomasiphyllum) yanagidai* Sugiyama, 1996**

Prof. Hisayoshi Igo Comm. Vol. Geol. Paleont. Japan and Southeast Asia, p. 210, figs. 3, 1-5; figs. 5, 1a-c

Holotype: GF.D 20561, Paratypes: GF.D 20557-20560, 20562-20565, 20682, 20687, 20688

From the point 89082004 at the southern margin of Khao Ya, 20 km northeast from Phatthalung, Peninsular Thailand

Ratburi Limestone

Late Murgabian or Midian, late Middle Permian

***Petalaxis hangzhouensis* Yamagiwa, Wang and Maeda, 1991**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 161, p. 752, figs. 2-1, 2, 3-1, 2

Holotype: CF-8701 (Zhejiang Univ.)
 Along Manjuelong Highway, Hangzhou City, Zhejiang
 Province, China
 Upper Huanglong Formation
 Moscovian, Carboniferous

***Petalaxis sandoi* Igo and Kamikawa, 1998**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, sec. B, vol. 19, p. 37,
 figs. 6-2-6

Holotype: IGUT 5834, Paratype: IGUT 5839
 Upper stream of the Shibusawa Valley, Nanmoku-mura,
 Kanra-gun, Gunma Prefecture
 Exotic block limestone in the Sumaizukuzawa Formation
 Late Moscovian, Carboniferous

***Petalaxis simplex* (Hayasaka) see *Lithostrotionella simplex*
 Hayasaka, 1936**

***Petalaxis tabulatus* (Hayasaka) see *Lithostrotionella*
tabulata Hayasaka, 1936**

***Petalaxis taishakuensis* (Yokoyama) see *Lithostrotionella*
taishakuensis Yokoyama, 1957**

***Phaulactis (Lykophyllum) onukii* Murata, 1977**

Kumamoto Jour. Sci., Geol., vol. 10, no. 2, p. 31, pl. 1, figs.
 1-3; pl. 2, figs. 1, 2

Holotype: IGPS, Coll. Cat. No. 95847, Paratypes: IGPS, Coll.
 Cat. No. 95848A-F

Gyoninzawa, Hikoroichi-machi, Ofunato City, Iwate
 Prefecture

Lower part of the Kawauchi Formation

Late Wenlock, Silurian

***Phaulactis variabilis* Kato and Ezaki, 1986**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 21, no. 4, p. 490,
 pl. 2, figs. 1, 2; text-fig. 3

Holotype: UHR 30640, Paratypes: UHR 30641-30652

30m WNW of the bridge on the road from Björsjölagård to
 Djupadal, Scania, Sweden

Björsjölagård limestone and shale (division 1) of the
 Öved-Ramsasa Group

Late Ludlow, Silurian

***Pilophyllum keimorii* Kato and Ezaki, 1986**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 21, no. 4, p. 494,
 pl. 3, figs. 1, 2

Holotype: UHR 30653, Paratype: UHR 30654

30m WNW of the bridge on the road from Björsjölagård to
 Djupadal, Scania, Sweden

Björsjölagård limestone and shale (division 1) of the
 Öved-Ramsasa Group

Late Ludlow, Silurian

***Placocoenia hideshimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 27, pl. 5,
 figs. 3, 6

Holotype: IGPS no. 65472, Paratype: IGPS no. 65473

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39 °
 44'30"N, 141 °58'30"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Placocoenia japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 27, pl. 4,
 figs. 3-5

Holotype: IGPS no. 65463

Matsushima, near Moshi, Omoto, Iwaizumi-cho,
 Shimohei-gun, Iwate Prefecture; 39 °49'46"N, 141 °50'45"E
 Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Placocoenia? ohinataensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 55, pl.
 19, fig. 9

Holotype: IGPS no. 65452

Furuya, Ohinata, Saku-cho, Minamisaku-gun, Nagano
 Prefecture; 36 °06'47"N, 138 °37'46"E

"Torinosu Limestone"

Early Cretaceous

***Placocoenia orbitoides* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 26, pl. 3,
 figs. 3-5

Holotype: IGPS no. 65367, Paratypes: IGPS no. 65480,
 65982 (from Matsushima)

Koikorobe (type locality), Tanohata-mura (39 °55'53"N,
 141 °50'53"E), and Matsushima near Moshi, Omoto,
 Iwaizumi-cho, Shimohei-gun, Iwate Prefecture

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Placocoenia tanohataensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 26, pl. 3,
 figs. 6-8

Holotype: IGPS no. 65481

Koikorobe, Tanohata-mura, Shimohei-gun, Iwate Prefecture;
 39 °55'53"N, 141 °50'53"E

Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Placocoenia tosaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 65, pl.
 22, fig. 10

Holotype: IGPS no. 37944

Hanabata, Togano, Sakawa-cho, Takaoka-gun, Kochi
 Prefecture; 33 °28'30"N, 133 °17'38"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Placocoenia? yatsushiroensis* Yamagiwa, Miyata, and Sano, 1978**

Mem. Osaka. Kyoiku Univ., Ser. 3, vol. 26, no. 3, p. 183, pl. 1, figs. 1, 2

Holotype: NSM PA 11952

Sakamoto, Sakamoto-mura, Yatsushiro-gun, Kumamoto Prefecture

From a limestone lens in the Sakamoto Formation

Late Jurassic

***Plasmopora nakamurai* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 66, pl. 10, figs. 7, 8

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic) Silurian?

***Plasmoporella minutissima* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 140, pl. 24 (12), fig. 4

Holotype: IGPS no. 60802

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Platycyathus kawakamiensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 6, pl. 1, figs. 6, 6a, 7, 8, 8a

Holotype: IGPS no. 37233

The Kawakami colliery near Toyohara City, South Saghalin Hobetsu shale (Upper Ammonite beds)

Cretaceous

***Platycyathus yezoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 6, pl. 1, figs. 1, 1a, 2, 3, 13

Holotype: IGPS no. 41941, Paratypes: IGPS no. 39725, 43451, 50235 (from the Kawakami colliery), 50250 (from Tomarionnai)

The Yachiyo coal mines near Akkeshi, Eastern Hokkaido (holotype locality) (42°58'53"N, 144°37'24"E), the Kawakami colliery, South Saghalin, and Tomarionnai, South Saghalin

Hobetsu Shale (Upper Ammonite beds)

Cretaceous

***Plerophyllum hidense* Kamei, 1957**

Jour. Fac. Lib. Arts Sci., Shinshu Univ., no. 7, p. 31, pl. 1,

figs. 1-7

Syntypes: GISUL 60101, 60102

Mizuyagadani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Mizuyagadani Formation

Artinskian, Permian

***Pleurosmilia hideshimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 11, pl. 2, figs. 4, 5

Holotype: IGPS no. 56690

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39°44'30"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Polycoelina japonica* Ozawa, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, no. 6, p. 80, pl. 14, figs. 10-12

Holotype: no record

Tobinosu, Oda, Mito-cho, Mine-gun, Yamaguchi Prefecture

Nagatophyllum satoi Zone of the Akiyoshi Limestone Group

Middle Viséan, Early Carboniferous

***Polyorophe? dubia* Yabe, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, p. 42, pl. 15, figs. 5a-c

Holotype: no record

Noluping, Huxi, Xingshan County, Hubei Province, China

Middle(?) Ordovician

***Polyphylloseris iwateensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 40, pl. 11, figs. 1-4

Holotype: IGPS no. 54269

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39°44'30"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Polyphylloseris mammillata* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 39, pl. 10, fig. 2

Holotype: IGPS no. 37191

Matsushima, near Moshi, Omoto, Iwaizumi-cho, Shimohei-gun, Iwate Prefecture; 39°49'46"N, 141°50'45"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Polythecalis confluens* Yabe and Hayasaka, 1916**

Jour. Geol. Soc. Tokyo, vol. 23, p. 65, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 11, figs. 1a, b

Holotype: no record

Hongshan, Donchuan City (Huize County), Yunnan Province, China

The exposure yielded *Tetrapora elegantula* Yabe and Hayasaka

Early Permian

***Polythecalis japonicus* Yabe and Minato, 1945**

Proc. Imp. Acad. Japan, vol. 21, no. 10, p. 466, figs. 1-3

Holotype: no record

Koike near Sakawa, Sakawa-cho, Takaoka-gun, Kochi Prefecture

Middle Permian

***Polythecalis kitakamiensis* Minato and Kato, 1980**

Münster. Forsch. Geol. Paläont., vol. 52, p. 2, taf. 1, fig. 1-6, taf. 2, fig. 1

Holotype: UHR 19005

Kayo-Oka Pass, Otomo, Rikuzen-takada City, Iwate Prefecture; 39°12'N, 141°40'7"E

Sakamotosawa Formation

Pseudofusulina-Zone, Middle Permian

***Polythecalis? meandroides* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 7, p. 172, pl. 3, figs. 3a, b

Holotype: IAGG 59016

Oji, Shino-machi, Kameoka City, Kyoto

Pseudofusulina vulgaris Subzone

Early Permian

(*Ibukiphyllum meandroides* (Sakaguchi and Yamagiwa) by Kato and Minato, 1975)

***Propora yabei* Ozaki, 1934**

Jour. Shanghai Sci. Inst., sec. II, vol. 1, p. 67, pl. 11, figs. 2, 3

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic)

Silurian?

***Protolonsdaleiastraea dobrolyubovae* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 1, p. 63

Holotype: The figured specimen, Osipov collection

Juresan river, South Urals, Russia

Probably Sakmarian (*Pseudofusulina* Zone) to "Artinskian", Early Permian

***Pseudoagatheria hiraigaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 10, pl. 1, figs. 9, 10

Holotype: IGPS no. 65491

Hiraiga (southern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Pseudodorlodotia kakimii* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 90, pl. 1, figs. 1, 2; pl. 4, figs. 4, 11, 12; pl. 22, fig. 7

Syntypes: UHR 17315, 17317-17319, 17389, 17845

Nagaiwa, Hikoroichi, Ofunato City, Iwate Prefecture

Onimaru Formation

Late Viséan, Early Carboniferous

***Pseudofavosites hinaensis* Niko, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 1-2, p. 31, figs. 2, 9-2

Holotype: NSM PA14522

Float blocks along the Shigi-gawa River in the Yoshii area, Situki-gun, Okayama Prefecture

HL7 sample (float block) from the Hina Limestone

Late Viséan to Early Bashkirian, Carboniferous

***Pseudofavosites okuhidaensis* Niko, 2000**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 26, nos. 3-4, p. 125, fig. 3

Holotype: HMM 04105-3 (The Hikaru Memorial Museum in Takayama, Gifu)

Mizuyagadani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

A float block in the Mizuyagadani Valley, which from the Ichinotani Formation

Bashkirian to Gzhelian, Carboniferous

***Pseudohalysites kitakamiensis* (Sugiyama) see *Halysites kitakamiensis* Sugiyama, 1940**

***Pseudohuangia stoecklini* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 94, pl. 5, figs. 1-2

Holotype: UHR 18298

South flank of Kuh-e-Jamal, Southeast of Tabas, East Iran

Pseudofusulina to *Parafusulina* Zone

Permian

***Pseudopavona crassisepta* Kanmera, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 224, pl. 15, figs. 12, 13; pl. 17, figs. 1-7; pl. 18, figs. 1-9; text-figs. 4, 5

Holotype: GK-D. 50204 (Loc. Ya.116), Paratypes: GK-D. 50205, 50206, 50209, 50214 (Loc. Ya.116), GK-D. 50208, 50210, 50211, 50215-50217, 50219 (Loc. Ya.4)

Loc. Ya. 116 (holotype) at an altitude of 740 m on a foot path which runs from Hiata to the east crest of Mt. Yayamadake, Izumi-mura, Yatsushiro-gun, Kumamoto Prefecture

Late Carboniferous

***Pseudopavona taisyakuana* Yabe, Sugiyama and Eguchi, 1943**

Jour. Geol. Soc. Japan, vol. 50, no. 600, p. 299, figs. 1, 2
 Holotype: no record
 Taisyaku, at a point of 1 km below of the dam, at the end of
 Taishaku-gorge, Tojo-cho, Hiba-gun, Hiroshima Prefecture
 Taishaku Limestone
 Middle Carboniferous

***Pseudopavona taisyakuana* Yabe, Sugiyama and Eguchi
izutoensis Kawano, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 36, p. 183, pl. 20,
 figs. 1, 2
 Holotype: no record
 Kane, Ato-cho, Abu-gun, Yamaguchi Prefecture
 Izuto Limestone
 Permian

***Pseudoromingeria onishii* Niko, 2001**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 27, no. 1-2, p. 17,
 figs. 2-1-3, 3-1-3, 4-1-4
 Holotype: NSM PA14634, Paratypes: NSM PA14635, 14636
 Gongen-dani Valley, Taga-cho, Inugami-gun, Shiga
 Prefecture
 Ryozensan Limestone Formation
 Early Permian

***Pseudoyatsengia kuzuensis* Yabe, 1951**

Proc. Japan Acad., vol. 27, no. 4, p. 201, text-figs. 1, 2
 Holotype: IGPS no. 66343
 Aisawa, Kuzu, Nabeyama, Tochigi Prefecture
Parafusulina Zone
 Permian

***Quepora sapporiensis* (Ozaki) see *Halysites sapporiensis*
 Ozaki, 1934**

***Quepora sindoensis* (Ozaki) see *Halysites sindoensis* Ozaki,
 1934**

***Radiciphyllia akiyoshiensis* Sugiyama, 1984**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 19, p. 59, pl. 5, figs.
 1-5; pl. 6, figs. 1a-e; text-figs. 15, 16
 Holotype: GF.D 20049
 Shishide-dai, Mito-cho, Mine-gun, Yamaguchi Prefecture
 Akiyoshi Limestone Group
 Late Viséan, Carboniferous

***Radiciphyllia toriyamai* Sugiyama, 1984**

Bull. Akiyoshi-dai Mus. Nat. Hist., no. 19, p. 62, pl. 5, figs.
 6-9; pl. 7, figs. 1-6; text-figs. 16, 17
 Holotype: GF.D 20129a-d

Shishide-dai, Mito-cho, Mine-gun, Yamaguchi Prefecture
 Akiyoshi Limestone Group
 Late Viséan, Carboniferous

***Rhabdophyllia osimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 47, pl.
 15, figs. 6-9
 Holotype: IGPS no. 39727, Paratypes: IGPS no. 65961,
 65926, 65927, 65339
 Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 °
 50'50"N, 141 °35'00"E
 Oshima Group
 Middle Albian, Cretaceous

***Rhizophyllum lunulatum* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 123, pl.
 17 (5), fig. 7; pl. 18 (6), figs. 9, 10; pl. 20 (8), fig. 11; pl. 27
 (15), fig. 3; pl. 31 (19), fig. 6
 Holotype: IGPS no. 63046
 Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate
 Prefecture
Halysites-limestone (1), Kawauchi Formation
 Silurian

***Rhodophyllum fukudai* Minato and Kato, 1957**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 9, no. 4, p. 483, pl.
 1, figs. 1-9; pl. 3, fig. 5
 Holotype: UHR 9913, Paratypes: UHR 9711, 9905, 9911,
 9716, 9717, 9887-9888, 9891, 9892, 9894, 9910
 Kirin Province, Northeast China
 Kirin Formation
 Late Viséan, Carboniferous

***Rhodophyllum? minatoi* Kato, 1959**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 271;
 pl. 2, fig. 1-3
 Holotype: UHR 13007
 Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu
 Prefecture
 Ichinotani Formation
 Viséan, Early Carboniferous

***Rhodophyllum sugiyamai* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 227, pl. 20,
 fig. 12, pl. 21, figs. 9a, b
 Syntaypes: UHR 15074-15075
 Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate
 Prefecture
 Onimaru Formation
 Viséan, Carboniferous

***Rhodophyllum yokoyamai* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 228, pl. 20,
 figs. 7a, b; pl. 21, figs. 4a, b, 6a, b

Syntypes: UHR 15076, 15078

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Carboniferous

***Romingeria? kotoi* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 85

Holotype: no record

Kinsho-zan, Akasaka, Ogaki City, Gifu Prefecture

Neoschwagerina globosa limestone

Midian, Permian

(*Pseudoromingeria kotoi* (Yabe and Hayasaka) by Yabe and Sugiyama, 1941)

***Sapporipora favositoides* Ozaki, 1934**

Jour. Shanghai Sci. Inst., Sec. II, vol. 1, p. 75, pl. 15, figs. 5-7

Holotype: no record

About 2 km northeast of Ken-niho, Kosyu-gun, Kokaido, Korea

"Ken-niho limestone conglomerate", a member of the Tудо Group, lower part of the Daido Formation (Lower Jurassic) Silurian?

***Sciophyllum japonicum* Minato and Saito, 1957**

Japan. Jour. Geol. Geogr., vol. 28, nos. 1-3, p. 92-94, pl. 5, figs. 1-5

Holotype: UHR 12465, Paratypes: UHR12466-12468

Matsubi, Shimoarisu, Sumida-cho, Kesen-gun, Iwate Prefecture

Nagaiwa Formation

Namurian, Carboniferous

***Sestrophyllum fedorowskii* Igo and Adachi, 2000**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 21, p. 65, figs. 13-2a-c

Holotype: IGUT8030

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

The Upper Member of the Ichinotani Formation

Gzhelian to Asselian (?), Late Carboniferous to Early Permian

***Setamaiella hayasakai* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 229, pl. 20, figs. 4a, b

Holotype: UHR 15451

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Early Carboniferous

***Sinkiangopora kurohimensis* Niko and Hasegawa, 2000**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 26, no. 3-4, p. 133,

figs. 2, 3, 4-4

Holotype: NSM PA 14615, Paratype: NSM PA 14616

Higashiyama quarry, Omi-cho, Nishikubiki-gun, Niigata Prefecture

Omi Limestone Group

Probably late Bashkirian, Carboniferous

***Sinopora choiana* Minato and Kato, 1974**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 16, nos. 2-3, p. 55, pl. 6, figs. 2-3; pl. 7, figs. 1-2

Holotype: UHR 19806, Paratype: UHR 19006

Nagaiwa, Yomogibara, Sumida-cho, Kesen-gun, Iwate Prefecture

Nagaiwa Formation

Namurian, Late Carboniferous

***Sinopora ryozensanensis* Niko, 2001**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 27, nos. 1-2, p. 20, figs. 3-3, 4-1-6

Holotype: NSM PA 14641, Paratypes: NSM PA 14637, 14639, 14643, 14644, 14653-14656

Gongen-dani Valley, Taga-cho, Inugami-gun, Shiga Prefecture

Ryozensan Limestone Formation

Early Permian

***Siphonodendron asiatica* (Yabe and Hayasaka) minor Minato, 1948**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 7, no. 1, p. 63, pl. 7, figs. 3-6

Syntypes: UHR 15010-15017

Ronjanzu, Tonronjazu, near Mincheng, Kirin Province, Northeast China

Kirin Formation

Visean, Early Carboniferous

***Siphonodendron hidense* Kato, 1959**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 277, pl. 3, fig. 5

Holotype: UHR 13025

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Ichinotani Formation

Visean, Early Carboniferous

***Siphonodendron inugasirayamaensis* Minato, 1943**

Jour. Sigenkagaku Kenkyusya, vol. 1, no. 2, p. 235, pl. 22, figs. 1, 7; pl. 23, figs. 4a, b, 7a, b

Holotype: UHR 15331, Paratypes: UHR 15330, 16902

Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Early Carboniferous

***Siphonodendron japonicum* Minato and Kato, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 26, p. 47, pl. 9, figs. 7-10

Holotype: UHR 12443

Niikuradani, near Itohara, Oya-cho, Yabu-gun, Hyogo Prefecture

Carboniferous

***Siphonodendron nakazawai* Minato and Kato, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 26, p. 48, pl. 9, figs. 1-6

Holotype: UHR 12442

Tadewara, Oe-cho, Kasa-gun, Kyoto

Carboniferous

***Sochkineophyllum japonicum* Igo, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 34, p. 81, pl. 8, figs. 4a, b

Holotype: Reg. no. 21003, Paratype: Reg. no. 21013

At the Mizuyagadani Vallery, Fukuji, Yoshiki-gun, Gifu Prefecture

Middle part of the Mizuyagadani Formation

Early Permian

***Sochkineophyllum japonicum* Igo *pauciseptatum* Igo, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 34, p. 81, pl. 8, figs. 5a, b, 6

Holotype: Reg. no. 20500, Paratype: Reg. no. 21501

At the Mizuyagadani Vallery, Fukuji, Yoshiki-gun, Gifu Prefecture

Middle part of the Mizuyagadani Formation

Early Permian

***Sochkineophyllum s-hashimotoi* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 67, pl. 37, figs. 2a-e

Holotype: UHR 15879, Paratypes: UHR 15880-15882

Nokkoshi-saka, Rikuzen-Takada City, Iwate Prefecture

Yabeina Zone

Midian, Permian

***Spongiomorpha sanpozanensis* Yabe and Sugiyama, 1937**

Proc. Imp. Acad. Tokyo, vol. 10, p. 7, figs. a, b

Holotype: no record

Near the top of hill called Sanpozan, Noichi-cho, Kami-gun, Kochi Prefecture

Sambozan Limestone

Ladinian to Carnian, Triassic

***Spongophyllum yoshii* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 117, pl. 29 (17), figs. 6-8

Holotype: IGPS no. 61516

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate

Prefecture

Halysites-limestone (2), Kawauchi Formation
Silurian

***Stephanocoenia japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 63, pl. 24, fig. 5

Holotype: IGPS no. 65363

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Jurassic

***Striatopora sugiyamai* Niko and Adachi, 1999**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 25, nos. 3-4, p. 114, figs. 2-1-7, 3-1

Holotype: NSM PA 14540, Paratypes: NSM PA 14541-14549, 14551

Locality 1 in the Kuraoka area, Gokase-cho, Nishiusuki-gun, Miyazaki Prefecture

G2 Memeber, Gionyama Formation

Late Wenlock, Silurian

***Stylidophyllum eguchii* Yokoyama, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 245, pl. 27, figs. 4a, b

Holotype: IGSH Y.T. 5

Misaka, Tojo-cho, Hiba-gun, Hiroshima Prefecture

Taishaku Limestone

Permian

(*Wentzellophyllum eguchii* (Yokoyama) by Minato and Kato, 1965)

***Stylidophyllum kameokense* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 7, p. 173, pl. 3, fig. 4; pl. 4, fig. 1; pl. 5, fig. 1

Holotype: IAGG 59017, 59018

Oji, Shino-machi, Kameoka City, Kyoto

Pseudofusulina vulgaris Subzone

Early Permian

(*Ibukiphyllum kameokense* (Sakaguchi and Yamagiwa) by Kato and Minato, 1975)

***Stylidophyllum kinkiense* Sakaguchi and Yamagiwa, 1963**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 49, p. 10, pl. 2, figs. 1a, b, 2

Holotype: IGOG 62002a, b, Paratype: IGOG 62003

Kannon-toge, Sonobe-cho, Funai-gun, Kyoto

Kannon-toge Limestone in the Sonobe Formation

Early Permian

(*Wentzellophyllum kinkiense* (Sakaguchi and Yamagiwa) by Minato and Kato, 1965)

***Stylidophyllum manchuriense* Minato and Kato, 1957**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 4, p. 495, pl. 2, fig. 1; pl. 3, fig. 13

Holotype: UHR 9720-i, ii, iii

Kirin Province, Northeast China

Kirin Formation

Early Permian

***Stylidophyllum matsunagiense* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 90, pl. 4, figs. 1-3

Holotype: IAGG 60027-29

Loc. no. 18, near Matsunagi, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Early Permian

(Junior synonym of *Yokoyamaella* (*Yokoyamaella*) *yokoyamai* (*Ozawa*) by Minato and Kato, 1965)

***Stylidophyllum ozawae* Yamagiwa and Ota, 1963**

Bull. Akiyoshi-dai Sci. Mus., no. 2, p. 89, pl. 1, figs. 1-3

Holotype: ASM 1001a-c

Uzura Quarry, Shuho-cho, Mine-gun, Yamaguchi Prefecture

Millerella yowarensis zone of the Akiyoshi Limestone Group

Serpukhovian, Carboniferous

(*Ozakiophyllum ozawae* (*Yamagiwa and Ota*) by Kato and Minato, 1975)

***Stylidophyllum quadratum* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 7, p. 173, pl. 4, figs. 2-4

Holotype: IAGG 59019, 59020

Inukanno, Kameoka City, Kyoto Prefecture

Pseudofusulina vulgaris Subzone

Early Permian

(*Ibukiphylum quadratum* (*Sakaguchi and Yamagiwa*) by Kato and Minato, 1975)

***Stylidophyllum sikokuense* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 132, pl. 32, fig. 1

Holotype: no record

Koike, near Sakawa-cho, Takaoka-gun, Kochi Prefecture

Middle Permian?

***Stylidophyllum yokomizoi* Yokoyama, 1957**

Jour. Sci. Hiroshima Univ., Ser. C, vol. 2, no. 1, p. 79, pl. 11, figs. 1, 2

Holotype: IGSH Y.T. 2

Shinmen, Yuki-cho, Jinseki-gun, Hiroshima Prefecture

Late Carboniferous

(*Ozakiophyllum?* *yokomizoi* (*Yokoyama*) by Kato and Minato, 1975)

***Stylidophyllum yokoyamai tertioseptatum* Yokoyama, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 245, pl. 27, figs. 1a-c

Holotype: IGSH Y.T. 6

Misaka, Tojo-cho, Hiba-gun, Hiroshima Prefecture

Permian

(*Yokoyamaella* (*Yokoyamaella*) *tertioseptata* (*Yokoyama*) by Minato and Kato, 1965)

***Stylina* (*Convexastrea*) *hukawazaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 74, pl. 22, figs. 4-6

Holotype: IGPS no. 43402

Fukazawa, near Itsukaichi, Akiruno City, Tokyo; 35 ° 44'42"N, 139 °12'07"E

Torinosu Limestone

Malmian, Jurassic

***Stylina* (*Convexastrea*) *somaensis* Mori, 1963**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 35, no. 1, p. 56, pl. 21, figs. 4, 5

Holotype: IGPS no. 85531

Loc. 2, Minaminosawa, Soma City, Fukushima Prefecture

Koike Limestone, upper part of the Nakanosawa Formation, Somanakamura Group

Kimmeridgian, Late Jurassic

***Stylina higoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 74, pl. 12, figs. 6-9

Holotype: IGPS no. 65455, Paratype: IGPS no. 65437

Sakamoto, Sakamoto-mura, Yatsushiro-gun, Kumamoto Prefecture; 32 °26'15"N, 130 °39'40"E

Torinosu Limestone

Late Jurassic to Early Cretaceous

***Stylina?* *japonica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 46, pl. 16, fig. 1, text-figs. 2, 3

Holotype: IGPS no. 39730, Paratype: IGPS no. 65905

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38 ° 50'50"N, 141 °35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Stylina kantoensis* Nishimiya and Yamagiwa, 1973**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 89, p. 20, pl. 6, fig. 1

Holotype: Reg. no. 72092405 (Inst. Geosci., Osaka Kyoiku Univ.)

Loc. 20, Kosodegawa, Tabayama-mura, Kitatsuru-gun, Yamanashi Prefecture

Kosode Formation

Late Jurassic

***Stylina mabutii* Eguchi, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 585, p. 145

Holotype: IGPS no. 65464

West of Inomine, Hidaka-mura, Takaoka-gun, Kochi Prefecture

Torinosu Limestone

Doggerian to Malmian, Late Jurassic

***Stylina motonobui* Eguchi, 1942**

Jour. Geol. Soc. Japan, vol. 49, no. 585, p. 145, fig. 2

Holotype: IGPS no. 65378

Yamagami, Kasasa-cho, Kawanabe-gun, Kagoshima Prefecture

Torinosu Limestone

Doggerian to Malmian, Late Jurassic

***Stylina nakasai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 60, pl. 22, figs. 8, 9

Holotype: IGPS no. 65432

Konpira-yama, Takaoka-gun, Kochi Prefecture; 33°28'37"N, 133°16'18"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Stylina (Stylina) shinkaiensis* Yamagiwa, Tamura and Tanaka 1988**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 14, no. 2, p. 75, pl. 1, figs. 3-5

Holotype: NSM PA 12551, Paratype: NSM PA 12552

Oyabu Valley 1.5km SW of Shinkai, Honjo-mura, Minamiyamabe-gun, Oita Prefecture

A limestone lens of the Torinosu type in the Shinkai Formation

Late Jurassic

***Stylina sugiyamai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 60, pl. 22, fig. 7

Holotype: IGPS no. 37927

Tenmangu, west of Hanabata, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°28'54"N, 133°17'27"E

Torinosu Limestone

Late Jurassic to Early Cretaceous

***Stylomaeandra pseudominima* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 28, pl. 9, figs. 1-6

Holotype: IGPS no. 65301 (from Hiraiga Sandstone), Paratypes: IGPS no. 65302, 65392 (Hiraiga Sandstone); 65309, 65906, 65324 (from Moshi Sandstone)

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39°44'30"N, 141°58'30"E

Hiraiga Sandstone (holotype) and Moshi Sandstone

Aptian to Early Albian, Early Cretaceous

***Stylosmilia fascicularis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 73, pl. 5, fig. 10; pl. 27, fig. 7

Holotype: IGPS no. 65437

Sakamoto, Sakamoto-mura, Yatsushiro-gun, Kumamoto Prefecture; 32°26'15"N, 130°39'40"E

Torinosu Limestone

Early Cretaceous

***Stylosmilia naumanni* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 58, p. 73, pl. 23, figs. 1, 2; pl. 28, figs. 3, 4

Holotype: IGPS no. 37909 (Okuno-taki), Paratype: IGPS no. 65479

Okuno-tani, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture (type locality) (33°29'23"N, 133°18'56"E); Sakamoto-mura, Yatsushiro-gun, Kumamoto Prefecture (paratype)

Torinosu Limestone

Late Jurassic to Early Cretaceous

***Stylosmilia shirakurai* Yamagiwa, Hisada and Tamura, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 1-2, p. 58, figs. 3-2a-c

Holotype: NSM PA 14258, Paratypes: NSM PA 14257, 14259

Higashinagayasawa (Loc. 5), Saku-cho, Minamisaku-gun, Nagano Prefecture

A Torinosu type limestone lens in the Unit 1 of the Ishido Formation

Barremian to Early Aptian, Early Cretaceous

***Stylosmilia subgracilis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 59, pl. 23, fig. 8

Holotype: IGPS no. 65381

Mitoda, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Late Jurassic

***Stylosmilia yabei* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 59, pl. 24, fig. 4

Holotype: IGPS no. 65348

Mitoda, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Late Jurassic

***Sugiyamaella carbonarium* Yabe and Minato, 1944**

Japanese Jour. Geol. Geogr., vol. 19, no. 1-4, p. 144, pl. 13, figs. 1-9; text-figs. 1-4

Syntypes: UHR 15126, 15127, 15129, 15135, 15883, 16003
Komata, Yokota-machi, Rikuzentakada City, Iwate Prefecture

Kotsubo Formation

Early Carboniferous

***Sutherlandia minatoi* Niko, 2000**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 26, nos. 3-4, p. 122, figs. 1-2

Holotype: HMM 04105-2 (The Hikaru Memorial Museum in Takayama, Gifu)

Mizuyagadani Valley, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

A float block in the Mizuyagadani Valley, which from the Ichinotani Formation

Bashkirian to Gzhelian, Carboniferous

***Sverigophyllum hesslandi* Minato, 1961**

Stockholm Contrib. Geol., vol. 8, no. 4, p. 68, pl. 9, text-figs. 11-13

Holotype: Dept. of Geology, Univ. Stockholm, no. Co. 3

Gotland (locality and horizon unknown)

Silurian

***Syringopora ichinotaniensis* Niko, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 3-4, p. 119, figs. 5A-E, 6A-C

Holotype: NSM PA 14374, Paratype: NSM PA 14375

At the locality A, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

Black argillaceous limestone in the upper part of the Unit 1, Lower Member of the Ichinotani Formation

Serpukhovian, late Early Carboniferous

***Syringopora kotakiensis* Niko and Yamagiwa, 1998**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 24, nos. 3-4, p. 145, figs. 10-1-6

Holotype: NSM PA 14366, Paratypes: NSM PA 14365, 14367-14369

Tsuchikura-zawa Valley in the upper reaches of the Kotaki-gawa River in Itoigawa City, Niigata Prefecture

Limestone blocks in the "Omi non-calcareous group"

Late Visean (to Serpukhovian?), Carboniferous

***Taisyakuphyllum fujimotoi* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no.10, p. 107, pl. 2, figs. 3-10

Holotype: IAGG 60014-60018, Paratypes: IAGG 60012, 60013

Loc. no. 6, 14, 15, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Early to middle Late Carboniferous

(Junior synonym of *Taisyakuphyllum rostfer* Minato by Rowett and Minato, 1968)

***Taisyakuphyllum hashimotoi* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no.10, p. 107, pl. 1, figs. 1-4

Holotype: IAGG 60001-60004

Loc. no. 24, south of Honmura, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Early to middle Late Carboniferous

(Junior synonym of *Taisyakuphyllum rostfer* Minato by Rowett and Minato, 1968)

***Taisyakuphyllum nakazawae* Yamagiwa, 1960**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 9, p. 77, pl. 1, figs. 4a-g

Holotype: JPC. 40013-40019

Naka, Fukuchiyama City, Kyoto

Materials obtained in the limestone-slab from the Middle to Upper Permian Maizuru Group

Permian but derived from Carboniferous

(Junior synonym of *Taisyakuphyllum rostfer* Minato by Rowett and Minato, 1968)

***Taisyakuphyllum rostfer* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 143, pl. 22, fig. 12; pl. 25, fig. 4; pl. 34, fig. 8; text-fig. 15

Holotype: Ozawa Collection IV 4-6 (Ofuku-dai), Paratypes: Tohoku Univ. Coll. and Fujimoto Coll. Stored in Tokyo Kyoiku Univ.

Ofuku-dai, Akiyoshi (Ozawa's IV, 4, 5, 6), Mine City, Yamaguchi Prefecture, Taisyaku (Tohoku U. coll. and Fujimoto coll.), Tojo-cho, Hiba-gun, Hiroshima Prefecture

Fusulinella Zone, Akiyoshi Limestone Group

Moscovian, Carboniferous

Tanbaella izuruhensis* (Sakaguchi and Yamagiwa) see *Waagenophyllum izuruhense* Sakaguchi and Yamagiwa, 1958**Tetrapora elegans* Yabe and Hayasaka, 1920**

Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 9, figs. 9a, b

Holotype: no record

Zhongjiang County, Sichuan Province, China

Late Carboniferous

(Original species name, *elegaus*, was apparently misspelled of *elegans*)

***Tetrapora elegantula* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 89, Geographical research

in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 6, figs. 4a, b and 5 (part)

Holotype: no record

Fujian Province, and between Honghuayuan and Xiangzi, Guizhou Province, China

The exposure yielded *Polythecalis confluens* (Permian coral), and *Cyathophyllum yanadai*

Late Carboniferous?

***Thamnasteria abukumaensis* Mori, 1963**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 35, no. 1, p. 58, pl. 21, figs. 6, 7

Holotype: IGPS no. 85532

Loc. 4, north of Hayama, Kashima-cho, Soma-gun, Fukushima Prefecture

Koike Limestone, upper part of the Nakanosawa Formation, Somanakamura Group

Kimmeridgian, Late Jurassic

***Thamnasteria contorta* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 30, pl. 5, figs. 8, 9; pl. 6, figs. 1, 3

Holotype: IGPS no. 65315

Haibe (northern cliff), Tanohata-mura, shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thamnasteria cycloides* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 49, pl. 16, figs. 7, 7a; text-fig. 5

Holotype: IGPS no. 39734

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38°50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Cretaceous

***Thamnasteria haradai* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, pl. 26, figs. 2, 4, 8

Holotype: IGPS no. 38464

Taru, Itsukaichi, Akiruno City, Tokyo

Torinosu Limestone

Malmian

Late Jurassic

***Thamnasteria hideshimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 31, pl. 8, fig. 3

Holotype: IGPS no. 65311

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39°44'30"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thamnasteria hiraigaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 30, pl. 6, figs. 2, 4; pl. 11, fig. 7

Holotype: IGPS no. 35136

Hiraiga (southern cliff), Tanohata-mura, shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thamnasteria huzimotoi* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 79, pl. 26, fig. 10

Holotype: IGPS no. 65371

Nishitokura, near Itsukaichi, Akiruno City, Tokyo; 35°44'42"N, 139°12'07"E

Torinosu Limestone

Malmian, Late Jurassic

***Thamnasteria jezoensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 54, pl. 18, figs. 5, 6

Holotype: IGPS no. 65374

North of Shimanoshita tunnel, Ashibetsu City, Hokkaido; 43°22'42"N, 142°20'42"E

Shimokurosawa shale (Lower Ammonite beds)

Early Cretaceous

***Thamnasteria komagataensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 48, pl. 17, fig. 4

Holotype: IGPS no. 65957

Komagata, Oshima, Kesen-numa City, Miyagi Prefecture; 38°50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Thamnasteria maxima* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 47, pl. 16, figs. 2-4

Holotype: IGPS no. 39731

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38°50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Thamnasteria naumanni* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 67, pl. 23, fig. 4

Holotype: IGPS no. 65333, Paratypes: IGPS no. 65370, 37455

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Late Jurassic

***Thamnasteria protoserioides* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 49, pl. 17, figs. 3, 7

Holotype: IGPS no. 65948

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38° 50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Thamnasteria rikuzenica* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 48, pl. 16, fig. 5; text-fig. 4

Holotype: IGPS no. 39732

Yogai, Oshima, Kesen-numa City, Miyagi Prefecture; 38° 50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Early Cretaceous

***Thamnasteria (Thamnasteria) furukawai* Kanmera, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 15, no. 1, p. 135, pl. 19, figs. 1-7

Holotype: GK.F 350, Paratype: GK.F 351

Loc. Ko. 278 at Koguchi, Ashikita-cho, Ashikita-gun, Kumamoto Prefecture

Koguchi Formation, Konose Group

Norian, Late Triassic

***Thamnasteria (Thamnasteria) mombasensis* Yamagiwa, 1979**

4th Prelim. Rept. Afr. Studies, Nagoya Univ., p. 83, pl. 1, figs. 1, 2

Holotype: DESN 78001

Loc. 1 at about 4 miles southwest from Tsulujimba in Mombasa-Kwale area, Kenya

The Kambe Limestone

Bajocian to Bathonian, Middle Jurassic

***Thamnasteria (Thamnasteria) mwachiensis* Yamagiwa, 1981**

6th Prelim. Rept. Afr. Studies, Nagoya Univ., p. 159, pl. 1, figs. 1-3

Holotype: DESN 80001

Loc. 2 (shown in Yamagiwa, 1979) at 2 miles west from Mwachi in Mombasa-Kwale area, Kenya

The Kambe Limestone

Bajocian to Bathonian, Middle Jurassic

***Thamnasteria torinosuensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 67, pl. 24, fig. 9

Holotype: IGPS no. 65342; Paratype: IGPS no. 38465

Mitoda, Kamo, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°30'40"N, 133°19'14"E

Torinosu Limestone

Callovian to Kimmeridgian, Late Jurassic

***Thamnasteria yuraensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 79, pl. 28, figs. 7, 8

Holotype: IGPS no. 65921

Monzen, Yura-cho, Hidaka-gun, Wakayama Prefecture; 33° 58'18"N, 135°07'58.4"E

Torinosu Limestone

Malmian, Jurassic

***Thecosmilia eguchii* Kanmera, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 15, no. 1, p. 124, pl. 17, figs. 1-7; pl. 18, fig. 7

Holotype: GK.F 341, Paratypes: GK.F 342, 343, and 344

Loc. Ko. 278 at Koguchi, Ashikita-cho, Ashikita-gun, Kumamoto Prefecture

Koguchi Formation, Konose Group

Norian, Late Triassic

***Thecosmilia hideshimaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 19, pl. 13, figs. 3-5, 19

Holotype: IGPS no. 39737

Hideshima, Sakiyama, Miyako City, Iwate Prefecture; 39° 44'30"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thecosmilia konosensis* Kanmera, 1964**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 15, no. 1, p. 127, pl. 15, figs. 1-8; pl. 16, figs. 1-9

Holotype: GK.F 348

Loc. Ko. 325 in a small stream between Shitomi and Ose, Kuma-mura, Kuma-gun, Kumamoto Prefecture

Ohse Formation, Konose Group

Ladinian?, Middle Triassic

***Thecosmilia (Latiphyllia) ragaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 19, pl. 13, figs. 6, 7

Holotype: IGPS no. 35260, Paratype: 65490

Raga (northern cliff), Tanohata-mura, Shimohei-gun, Iwate Prefecture; 39°55'53"N, 141°50'53"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thecosmilia somaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 74, pl. 20, fig. 5

Holotype: IGPS no. 65354

Koike, Kamimano, Kashima-cho, Soma-gun, Fukushima Prefecture; 37°41'15"N, 140°55'00"E

Torinosu Limestone

Doggerian to Malmian, Late Jurassic

***Thecosmilia tosaensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 63, pl. 23, fig. 3

Holotype: IGPS no. 37916

Iwasa-yama, Togano, Sakawa-cho, Takaoka-gun, Kochi Prefecture; 33°38'35"N, 133°16'34"E

Torinosu Limestone

Tithonian to Berriasian, Jurassic

***Thecosmilia wasabidaniensis* Okuda and Yamagiwa, 1978**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 110, p. 302, pl. 40, fig. 5

Holotype: OMNH (Osaka Museum of Natural History), M344

At the Loc. 1, East of Mt. Daifugen along the upper stream of Wasabidani River, Kawakami-mura, Yoshino-gun, Nara Prefecture

The B Formation

Late Triassic or more later

***Thigmastrea? shimoheiensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 14, pl. 4, figs. 1, 2

Holotype: IGPS no. 65400

Todana, Taro-cho, Shimohei-gun, Iwate Prefecture; 39°44'00"N, 141°58'30"E

Hiraiga Sandstone

Aptian to Early Albian, Early Cretaceous

***Thysanophyllum longiseptatum* Yabe and Hayasaka, 1915**

Jour. Geol. Soc. Tokyo, vol. 22, p. 138, Geographical research in China 1911-1916, Atlas of fossils, Tokyo Geographical Society, pl. 11, figs. 4a-c

Holotype: no record

South of Yangjiaao, Anhua County, Hunan Province, China

Carboniferous

(*Pseudodorlodotia longiseptatum* (Yabe and Hayasaka) by Minato, 1955)

***Tollina kitakamiana* Niko, 1997**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 23, nos. 1-2, p. 114, figs. 1A-C, 2A-C

Holotype: NSM PA 12950

Gyoninzawa in the Onimaru area, Hikoroichi-machi, Ofunato City, Iwate Prefecture

Dark-grey micritic limestone at the basal part of the Kawauchi Formation

Llandovery, Early Silurian

***Trochocyathus sachalinensis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 7, pl. 1, figs. 4, 4a, 6, 5a

Holotype: IGPS no. 43449

Sea cliff near the "Cape de la Jonquiere", Noth Saghalin Hobetsu Shale (Upper Ammonite beds)

Cretaceous

***Trochosmilia? orientalis* Eguchi, 1951**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 24, p. 44, pl. 15, fig. 1

Holotype: IGPS no. 56929

Kazamatsu, Oshima, Kesen-numa City, Miyagi Prefecture; 38°50'50"N, 141°35'00"E

Oshima Group

Middle Albian, Cretaceous

***Tryplasma hayasakai* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 21, p. 120, pl. 29 (17), figs. 13-15

Holotype: IGPS no. 63013, Paratypes: IGPS no. 60639, 60814, 60811

Yamanasu-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Clathrodictyon-limestone, Kawauchi Formation

Silurian

***Tryplasma hayasakai* Sugiyama *multiseptata* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 21, p. 120, pl. 30 (18), fig. 11

Holotype: IGPS no. 60819, Paratypes: IGPS no. 60806, 61508

Yamanasu-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Clathrodictyon-limestone, Kawauchi Formation

Silurian

***Tryplasma higitizawaensis* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 21, p. 119, pl. 22 (10), figs. 17, 18

Holotype: IGPS no. 63014

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (2), Kawauchi Formation

Silurian

***Tryplasma japonica* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser. (Geol.), vol. 21, p. 119, pl. 21 (9), fig. 8; pl. 29 (17), figs. 9-12; pl. 30 (18), fig. 15

Holotype: IGPS no. 61515, Paratype: IGPS no. 63012

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (1), Kawauchi Formation

Silurian

***Tryplasma ozakii* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 121, pl. 29 (17), figs. 16-18; pl. 30 (18), figs. 1, 2

Holotype: IGPS no. 63008, Paratype: IGPS no. 63025

Higuchi-zawa in Kawauchi, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone (2), Kawauchi Formation

Silurian

***Tryplasma takainariensis* Sugiyama, 1940**

Sci. Rept. Tohoku Univ., 2nd Ser., (Geol.), vol. 21, p. 121, pl. 31 (19), figs. 9, 10

Holotype: IGPS no. 63027

Kusayami-zawa at the southern foot of Takainari-yama, Hikoroichi, Ofunato City, Iwate Prefecture

Halysites-limestone, Kawauchi Formation

Silurian

***Tschussovskenia? takedai* Kato, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 33, p. 36, text-figs. 1-6

Holotype: UHR 17768, Paratype: UHR 17777

Middle course of Takanosu-zawa, Sumita-cho, Kesen-gun, Iwate Prefecture

Onimaru Formation

Visean, Early Carboniferous

***Verbeekiella japonicum* Yabe and Minato, 1944**

Proc. Imp. Acad. Tokyo, vol. 20, p. 161, figs. 1-11

Holotype: UHR 15471, Paratypes: UHR 15440, 15467, 15498, 15469, 15458

Kohama, Jugohama-mura, Momoo-gun, Miyagi Prefecture

Kanokura Formation

Artinskian, Permian

***Waagenophyllum (Chaoiphyllum) chaoi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 124

Holotype: No. 3948 (Geol. Surv. China)

At the loc. no. 1434 by Y. T. Chao, Gnomeishan, Szechuan Province, China

Unknown

Middle Permian

***Waagenophyllum izuruhense* Sakaguchi and Yamagiwa, 1958**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 7, p. 176, pl. 3, figs. 5a, b; pl. 4, fig. 6; pl. 5, figs. 2, 3

Holotype: IAGG 59026-59028, Paratype: IAGG 59029

Izuruha-Shimojo, Takatsuki City, Osaka

Neoschwagerina craticulifera Subzone

Midian, Permian

(*Tanbaella izuruhensis* (Sakaguchi and Yamagiwa) by

Minato and Kato, 1975)

***Waagenophyllum (Liangshanophyllum) wui* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 129

Holotype: Cat. No. 6950

Liangshan, Southern Shensi, China

Wuchiaping limestone, Loping series

(=*Palaeofusulina-Reichelina* zone)

Late Permian

***Waagenophyllum longiseptatum* Yokoyama, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 241, pl. 28, figs. 3a-c

Holotype: IGSH Y.T. 3

Central part of Taishaku Plateau, Tojo-cho, Hiba-gun, Hiroshima Prefecture

Taishaku Limestone

Permian

(Junior synonym of *Waagenophyllum (Waagenophyllum) compactum* Minato and Kato by Minato and Kato, 1965)

***Waagenophyllum nogamie* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 94, pl. 7, figs. 1-3

Holotype: IAGG 60048-60050

Loc. no. 23, near Shoyama, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Middle Permian

(*Akagophyllum nogamie* (Yamagiwa) by Minato and Kato, 1965)

***Waagenophyllum novaezelandiae* Leed *japonicum* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 95, pl. 7, figs. 4-6

Holotype: IAGG 60051-60053

Loc. no. 22, near Shoyama, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Early Permian

***Waagenophyllum polyseptata* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 105, pl. 21, fig. 3

Syntypes: UHR 15526, 15512-15513

Tsukitate, Nishitsuki-mura, Motoyoshi-gun, Miyagi Prefecture

Midian Permian

***Waagenophyllum pulchrum* Hamada, 1962**

Bull. Choshi Marine Lab., Chiba Univ., no. 4, p. 7, pl. 1, figs.

1, 2; pl.2, fig. 1; pl. 3, figs. 1-3; pl. 4, figs. 1-5

Holotype: Reg. No. 6206

Takagami quarry, Choshi City, Chiba Prefecture

Middle Permian

***Waagenophyllum tambense* Sakaguchi and Yamagiwa, 1963**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 49, p. 11, pl. 2, figs. 3a, b

Holotype: JPC 40030a, b

A limestone quarry, east of Ogonjo, Oharano, Ukyo-ku, Kyoto City, Kyoto Prefecture

Upper part of the Izuruha Formation

Middle Permian

(Junior synonym of *Waagenophyllum (Waagenophyllum) yunnanense* Chi, 1938 by Minato and kato, 1965)

***Waagenophyllum (Waagenophyllum) akasakense* (Yabe) see *Lonsdaleia akasakensis* Yabe, 1902**

***Waagenophyllum (Waagenophyllum) ciliense* Shen, Kawamura and Yang, 1998**

Facies, 39, p. 56, pl. 11, figs. 1, 3, 5, 10

Holotype: CCP-5-2, Paratype: CCP-51

Shuanglong-quan section, Kangjia-ping, Cili County, Hunan Province, China

Middle part of Changhsing Formation

Changhsingian, Late Permian

***Waagenophyllum (Waagenophyllum) compactum* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 120, text-fig. 46

Holotype: UHR 18206, Paratypes: UHR 18205, 17894

Kinsho-zan, Akasaka, Ogaki City, Gifu Prefecture

Yabeina Zone of the Akasaka Limestone

Midian, Permian

***Waagenophyllum (Waagenophyllum) okinawense* Haikawa and Ishibashi, 1981**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 24, no. 3, p.181, pl. 15, figs. 1-6; pl. 16, figs. 1-10; pl. 17, figs. 1, 2; text-fig. 5

Holotype: ASM 10736-3a

Motobu Peninsula, Nago City, Okinawa Prefecture

Middle Permian

***Waagenophyllum (Waagenophyllum) smithi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 122

Holotype: R. 6589 (British Museum)

Virgal, Salt Range, Panjab, Pakistan

Middle Productus Limestone

Midian, Permian

***Wenlockia thomasi* Kato, 1966**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 3, p. 258, pl. 30, figs. 1-5; text-fig. 1

Holotype: UHR 18586

Quarry on the northside of the Church Stretton - Much Wenlock road (route B4371), about 1 1/4 miles from Much

Wenlock, Stretton Westwood, Shropshire, Great Britain

Wenlock Limestone

Wenlock, Silurian

***Wentzelella iwaizakiensis* Yabe and Minato, 1945**

Proc. Imp. Acad. Japan, vol. 21, no. 10, p. 470

Holotype: no record

Iwaizaki, Hashikami, Kesen-numa City, Miyagi Prefecture

Iwaizaki Limestone

Permian

(*Parawentzelella (Parawentzelella) iwaizakisensis* (Yabe and Minato) by Minato and Kato, 1965)

***Wentzelella kitakamiensis* Yabe and Minato, 1944**

Japanese Jour. Geol. Geogr., vol. 19, nos. 1-4, p. 139, pl. 11

Syntypes: UHR 15156-15159

Katshizawa, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Kanokura Formation

Midian, Permian

(*Wentzelella (Szechuanophyllum) kitakamiensis* Yabe and Minato by Minato and Kato, 1965)

***Wentzelella maiyaensis* Yabe and Minato, 1944**

Japanese Jour. Geol. Geogr., vol. 19, nos. 1-4, p. 141, pl. 12, figs. 1-3

Holotype: UHR 15232-15234

Yamasaki, Maiya-cho, Tome-gun, Miyagi Prefecture

Limestone block in the Usuginu Conglomerate

Permian

***Wentzelella malayensis* Igo, 1964**

Japanese Jour. Geol. Geogr., vol. 35, no. 1, p. 65, pl. 2, figs. 6, 7; text-fig. 3

Holotype: (no numbering) illustrated in pl.2, figs. 6, 7; text-fig. 3

Ulu Sungei Atok in Pahang, Malaysia (4 °21'N, 102 °15'E)

Permian Limestone

Middle Permian

***Wentzelella nabaensis* Yamagiwa, 1960**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 9, p. 73, pl. 1, figs. 1a, b

Holotype: JPC. 40001, 40002 (Kyoto Univ.)

Nabae, Takahama City, Fukui Prefecture

Materials found in a pseudopebble collected from a member

of the Permian Maizuru Group
Permian

(Junior synonym of *Wentzelella* (*Wentzelella*) *osobudaniensis* Igo by Minato and Kato, 1965)

***Wentzelella osobudaniensis* Igo, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 34, p. 83, pl. 8, fig. 3

Holotype: Reg. no. 20472

Osobudani Valley, Mizuyagadani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture

From the pebble of the Osobudani conglomerate

Early Middle Permian or late Early Permian

***Wentzelella ozawai* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 110; pl. 25, fig. 5, 7; pl. 30, fig. 8; text-figs. 8B, 1-3

Sibukura, Omine, Mine City, Yamaguchi Prefecture

Yabeina Zone, Akiyoshi Limestone Group

Midian, Permian

(*Yokoyamaella* (*Maoriphyllum*) *ozawai* (Minato) by Minato and Kato, 1975)

***Wentzelella sekii* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 108, pl. 26, fig. 9; text-figs. 8D, 1-4

Holotype: Seki Collection stored in Tohoku Univ.

Oishizawa, Iwate-mura, Fuwa-gun, Gifu Prefecture

Parafusulina Zone

Middle Permian

(*Ibukiphyllum sekii* (Minato) by Kato and Minato, 1975)

***Wentzelella shimoyukawensis* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 92, pl. 6, figs. 3, 4

Holotype: IAGG 60042, 60043

Loc. no. 22, near Shoyama, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone

Early Permian

(Junior synonym of *Yokoyamaella* (*Yokoyamaella*) *yokoyamai* (Ozawa) by Minato and Kato, 1965)

***Wentzelellites senni* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 218, text-fig. 6e

Holotype: figured specimen by Sen (1931) in pl. 6, fig. 1(F.398, Presidency College coll.)

Namal gorge, Salt Range, Pakistan

Middle Productus Limestone

Middle Permian

***Wentzeloides fontainei* Kato and Ezaki, 1986**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 21, no. 4, p. 654,

pl. 1, figs. 3a-b; pl. 5, figs. 1-8; pl. 6, figs. 1-3

Holotype: UHR 30663, Paratype: UHR 30664, 30665

Kampong, Awah quarry, Pahang, Malaysia

Permian

***Wentzelophyllum eguchii* (Yokoyama) see *Stylidophyllum eguchii* Yokoyama, 1960**

***Wentzelophyllum? douglasi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 212

Holotype: Slide no. B. 311, specimen G.S.I type no. 15917

Tang-i-Shakari, Iran

Parafusulina Zone

Middle Permian

***Wentzelophyllum felseri* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 204, pl. 1, fig. 7; pl. 2, figs. 5, 6; pl. 18, fig. 3; text-fig. 5e

Holotype: specimen figured by Felser (1937) in pl. 1, figs. 8a, b with the Coral number 67

Zweikofel, Carnic Alps, Austria

Upper *Schwagerina* Limestone

Early Permian

***Wentzelophyllum? gelikhanense* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 211

Holotype: R. 41966, section R42027(a-e) (British Museum)

Geli-Khana section, Ora, Northern Iraq

Scree of the uppermost bed of *Michelinia* limestone, Geli-Khana section

Middle Permian

***Wentzelophyllum hayasakai* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 207, pl. 19, figs. 1-3

Syntypes: UHR 18281-182814

East of Sekiya, Hikoroichi, Ofunato City, Iwate Prefecture

Sakamotozawa Formation

Early Permian

***Wentzelophyllum kinkiense* (Sakaguchi and Yamagiwa) see *Stylidophyllum kinkiense* Sakaguchi and Yamagiwa, 1963**

***Wentzelophyllum kitakamiense* Minato and Rowett, 1967**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 13, no. 4, p. 345, pl. 43

Holotype: UHR 18472

Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Pseudoschwagerina Zone

Early Permian

***Wentzellophyllum? langpotangense* Minato and Kato, 1965**
 Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 213

Holotype: figured specimen by Huang (1932) in pl. 7, fig. 3
 Pass NW of Langpotang, Lipohsien, Kueichow Province, China

Chihsia Limestone
 Chihsian, Middle Permian

***Wentzellophyllum? tabasense* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 213, pl. 20, figs. 1-3

Holotype: UHR 18152
 south flank of Kuh-e-Jamal, Southeast of Tabas, East Iran

Parafusulina Zone
 Middle Permian

***Wentzellophyllum volzi* (Yabe and Hayasaka) see *Lonsdaleia (Lonsdaleia) volzi* Yabe and Hayasaka, 1915**

***Yabeiphyllum rossi* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 1, p. 49, pls. 3, 4; text-figs. 13-15

Holotype: USNM 139785
 Float material, north of Wolfcamp well, west end of Wolfcamp hills, Texas, USA

Gaptank Formation (upper Pennsylvanian) or Neal Ranch Formation (Lower Permian)

Late Carboniferous or Early Permian

***Yabeiphyllum hayasakai* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 13, no. 1, p. 46, text-figs. 11, 12

Holotype: UHR 18470a, b, Paratype: UHR 18471
 Loc. N 65, Southwest of Oniana, Akiyoshi Limestone Plateau, Shuho-cho, Mine-gun, Yamaguchi Prefecture
Triticites simplex Subzone of *Pseudoschwagerina* Zone
 Early Permian?

***Yatsengia ibukiensis* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 118, pl. 28, figs. 1, 2; text-figs. 9A-C

Syntypes: Seki Collection stored in Tohoku University and Ozawa Collection stored in Tokyo University

North of Yakata, Suisho-mura, Ibuki and Funabuse, Gifu Prefecture; Serida, Akiyoshi (Ozawa coll.), Shuho-cho, Mine-gun, Yamaguchi Prefecture

Parafusulina Zone
 Middle Permian

***Yatsengia kabayamensis* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 120, pl. 37, fig. 10; pl. 41, fig. 3; pl. 43, fig. 3; text-figs. 9D-K

Syntypes: UHR 17220-17222, 17392

Kabayamasawa, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture

Parafusulina Zone
 Middle Permian

***Yatsengia kiangsuensis* Yoh and Huang *atetsuensis* Yamagiwa, 1961**

Mem. Osaka Univ. Lib. Arts & Educ., B, Nat. Sci., no. 10, p. 98, pl. 8, figs. 6, 7

Holotype: IAGG 60060, 60061

Loc. no. 27, near Matsunagi, Atetsu Plateau, Niimi City, Okayama Prefecture

Atetsu Limestone
 Middle Permian

***Yatsengia kiangsuensis* Yoh and Huang *mabutii* Minato, 1955**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 9, no. 2, p. 117-118, text-figs. L, M; pl. 18, figs. 7-10; pl. 29, figs. 1-4

Syntypes: UHR 15179, 15446, 15461, 15465, 16974

Iwaizaki, Hajikami-mura, Motoyoshi-gun, Miyagi Prefecture
 Iwaizaki Limestone

Midian, Permian

***Yatsengia suzukii* Igo and Adachi, 2001**

Bull. Natn. Sci. Mus., Tokyo, Ser. C, vol. 27, nos. 1-2, p. 34, figs. 2-1-3, 3-1-2

Holotype: IGUT 8080, Paratypes: IGUT 8081, 8082

Nagaami quarry, Kamisenba, Kuzu-cho, Aso-gun, Tochigi Prefecture

From limestone pebbles of conglomerate of the unnamed formation exposed at the Nagaami quarry, *Parafusulina* Zone
 Kubergandian, Permian

***Yokoyamaella (Maoriphyllum) matsushitae* (Yamagiwa) see *Lonsdaleiastraea matsushitae* Yamagiwa, 1961**

***Yokoyamaella (Maoriphyllum) minense* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 145

Holotype: Ozawa Coll. III 62

Shiraiwa (loc. III 62 by Ozawa, Y.), Omine, Mine City, Yamaguchi Prefecture

Akiyoshi Limestone Group
 Midian, Permian

***Yokoyamaella (Maoriphyllum) nishinense* (Yamagiwa) see *Lonsdaleiastraea nishinensis* Yamagiwa, 1961**

***Yokoyamaella (Yokoyamaella?) kaludjeracensis* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 141

Holotype: Specimen illustrated by Kostic-Podgorska (1954) in pl. 3
 Kaludjerac (Petrovac a/m), "Montenegrish" coastal region, Jugoslavia
Pseudofusulina Zone
 Late Early Permian

Ichinotani, Fukuji, Kamitakara-mura, Yoshiki-gun, Gifu Prefecture
 The Lower Member of the Ichinotani Formation
 Latest Viséan? to Serpukhovian, Early Carboniferous

***Yokoyamaella (Yokoyamaella) kurohime* Minato and Kato, 1965**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 12, nos. 3-4, p. 141, pl. 10, fig. 1
 Holotype: UHR 18151a-d
 At the top of Mt. Kurohime, Omi-cho, Nishikubiki-gun, Niigata Prefecture
Pseudofusulina Zone, Omi Limestone
 Early Permian

***Yokoyamaella (Yokoyamaella) tertioseptata* (Yokoyama) see *Stylidophyllum yokoyamai tertioseptatum* Yokoyama, 1960**

***Yokoyamaella (Yokoyamaella) yamagiwai* Igo and Adachi, 2001**

Mem. Natn. Sci. Mus., Tokyo, Ser. C, (37), p. 83, fig. 8-2-7
 Holotype: IGUT 8013, Paratypes: IGUT 8012
 Mt. Kanoyama, Nakazato-mura, Tano-gun, Gunma Prefecture
 Konoyama Limestone
 Asselian to Sakmarian, Early Permian

***Yokoyamaella (Yokoyamaella) yokoyamai* (Ozawa) see *Lonsdaleia (?Waagenophyllum) yokoyamai* Ozawa, 1925**

***Yuanophyllum (Kesenella) yabei* Nagao and Minato, 1941**

Jour. Fac. Sci., Hokkaido Imp. Univ., Ser. 4, vol. 6, no. 2, p.107, pl. 28, figs. 1-7
 Syntypes: UHR 15442-15450
 Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture
 Onimaru Formation
 Late Viséan, Early Carboniferous

***Yuanophyllum kitakamiense* Minato and Rowett, 1967**

Jour. Fac. Sci. Hokkaido Univ., Ser. 4, vol. 13, no. 4, p. 338, pl. 42, figs. 1-5; text-fig. 1
 Holotype: UHR 18639
 Inugashirayama, Setamai, Sumida-cho, Kesen-gun, Iwate Prefecture
 Onimaru Formation
 Late Viséan, Early Carboniferous

***Yuanophyllum pauciseptatum* Igo and Adachi, 2000**

Sci. Rept., Inst. Geosci., Univ. Tsukuba, Sec. B, vol. 21, p. 61, figs. 8-1a-2b, 4a-b
 Holotype: IGUT 8016, Paratypes: IGUT 8015, 8050

Triassic Ammonoidea

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Anasibirites archiperipheras Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 71, pl. 2, figs. 5a-b.

Holotype: IGPS 45160B

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

(*Meekoceras obscurum* Shimizu & Jimbo, 1933, p. 25)

Anasibirites ehimensis Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 74, pl. 3, figs. 12a-b.

Holotype: IGPS 45170

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Anasibirites intermedius Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 75, pl. 5, figs. 9a-b.

Holotype: IGPS 79171

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Anasibirites multiplicatus (Yehara, 1927) see *Ophiceras multiplicatum* Yehara, 1927

Japan. Jour. Geol. Geogr., vol. 5, p.162, pl. 14, fig. 4

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

(Bando, 1964, p. 76, pl. 3, figs. 4a-b, 9a-b, 11a=b, 13a-b; pl. 5, figs. 10, 15; pl. 6, figs. 6a-b, 7.)

Anasibirites onoi (Yehara, 1925) see *Meekoceras onoi* Yehara, 1925

Jour. Geol. Soc. Tokyo, vol. 32, p. 38, pl. 13, fig. 1

Holotype: IGPS 45169

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic
(see Bando, 1964)

Anasibirites pacificus (Yehara, 1927) see *Xenodiscus pacificus* Yehara, 1927

Japan. Jour. Geol. Geogr., vol. 5, p.163, pl. 16, fig. 5

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

(see *A. pacificus*, Bando, 1964)

Anasibirites shimizui Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 72, pl. 3, figs. 10a-b.

Holotype: IGPS 78332

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Arctoprionites minor Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 97, pl. 4, figs. 4a-b

Holotype: IGPS 78336A

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Arctoprionites nipponicus Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 97, pl. 4, figs. 9a-b.

Holotype: IGPS 78337

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Arctoprionites yeharai Bando, 1964

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 95, pl. 4, fig. 8.

Holotype: IGPS 78335J

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

Balatonites gottschei (Mojsisovics, 1888), see *Arpadites gottschei* Mojs.

Beitr. Paläont. Geol. Öost-Üng., vol. 7, p. 172, pl. 18, fig. 2.

Holotype: GT.MM5014

Minato near Inai, Inai-mura, Ojika-gun, Miyagi Prefecture

Isatomae Formation
Anisian, Middle Triassic

***Balatonites kitakamicus* (Diener, 1915)**

Denkschr. Akad. Wiss. Wien, Bd. 92, p. 12, pl. 2, fig. 2

Holotype: IGPS

Inai, Oshika-gun, Miyagi Prefecture

Isatomae Formation

Anisian, Middle Triassic

(*Anolcites? kitakamicus* Diener, 1915)

***Balatonites oyamai* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 115, pl. 5, figs. 4a-b.

Holotype: IGPS 62558

Iwaida of Watanoha-cho at about 6 km east of Ishinomaki City, Miyagi Prefecture.

Isatome Formation

Anisian, Middle Triassic

***Beyrichites chitanii* Yabe & Shimizu, 1927**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 11, no. 2, p. 116, pl. 11, fig. 5.

Holotype: IGPS 35178

Northeast of the Rifu Station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Buchites kumamotoensis* Ishibashi, 1972**

Trans. Proc. Paleont. Soc. Japan., N.S., No. 88, p. 449-450, pl. 54, fig. 8

Holotype: GK.F 458

Loc. 25, Uminoura, Tanoura-cho, Ashikita-gun, Kumamoto Prefecture

Tanoura Formation

Carnian, Upper Triassic

***Cyrtopterites sakawanus* (Mojsisovics, 1888) see *Arpadites sakawanus* Mojs.**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 172, pl. 17, fig. 5.

Holotype: GT.MM5012

Inotani of Kochigatani in the Sakawa basin, Sakawa-machi, Takaoka-gun, Kochi Prefecture (see Yabe, 1905, p.133)

Kochigatani Group

Carno-Norian, Upper Triassic

***Danubites japonicus* Shimizu, 1930**

Tohoku Imp. Univ., Sci. Rept. 2nd Ser. (Geol), Vol. 14, No. 1, p. 69, pl. 14, figs. 5-6.

Holotype:

Inai, Inai-mura, Oshika-gun, Miyagi Prefecture

Isatomae Formation

Anisian, Middle Triassic

(Diener, 1915, Denkschr. Akad. Wiss. Wien, Bd. 92, p. 14, pl.

4, figs. 3-4.)

***Danubites naumanni* (Mojsisovics, 1888), see *Ceratites naumanni* Mojs., 1888**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 169, pl. 18, fig. 1.

Holotype: GT.MM5013

Ouri near Inai, Inai-mura, Ojika-gun, Miyagi Prefecture

Isatomae Formation, Inai Group

Anisian, Middle Triassic

***Danubites shimizui* Ichikawa**

Holotype:

Miyagi Prefecture

Isatomae Formation

Anisian, Middle Triassic

***Dieneroceras iwaiense* (Kummel and Sakagami, 1960), see *Ophiceras iwaiense* Sakagami, 1955.**

Breviora, No. 126, p. 4-5, pl. 1, figs. 3-5; pl. 2, figs. 7-9, Mus. Comp. Zool., Harvard Univ.

Holotype: TUE5251

Kaizawa Valley, Iwai, Hinode-cho, Nishitama-gun, Tokyo-to

Iwai Formation

Skythian, Lower Triassic

(Sakagami, 1955. Sci. Rept., Tokyo Kyouiku Daigaku, Sec. C, No.30, p. 135-136, pl. 1, figs. 1-9.)

***Eosturia towaensis* Bando and Ehiro, 1982**

Trans. Proc. Palaeont. Soc. Japan, N.S., No. 127, p. 382-383, pl. 60, figs. 2a-b, text-fig. 5.

Holotype: GLKU-Os-81001

2 km southwest of Asadanuki, near Mizusakai-toge, Towa-cho, Tome-gun, Miyagi Prefecture

Osawa Formation

Spathian, Upper Skythian, Lower Triassic

(Dark gray shale of the uppermost part of the Osawa Formation. *Subcolumbites perrinismithi* Zone)

***Epiceratites? motobuensis* Ishibashi, 1973**

Mem. Fac. Sci., Kyushu Univ., Ser. (D Geology), Vol. 22, No. 1, p. 6-7, pl. 1, figs. 1-3; pl. 2, fig. 1.

Holotype: GK-F 470

LYa, Yamakawa, Motobu-cho, Okinawa-jima

Nakijin Formation

Juvavites cf. *kellyi* Zone, Upper Carnian

***Flexoptychites matsushimaensis* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 105, pl. 5, figs. 1a-c.

Holotype: IGPS 79173

Hamada at about 1 km northwest of Hamada station along the Senseki Electric Car line, Shiogama City, Miyagi Prefecture.

Rifu Formation

Protrachyceras reitzi Zone, Lower Ladinian, Middle Triassic

***Glyptopliceras japonicum* Nakazawa and Shimizu, 1955**

Trans. Proc. Palaeont. Soc. Japan, N.S., (17), p. 16-17, pl. 3, Figs. 1a, b and 2

Holotype: JM. 10111

Ichino-tani, Suehiro, Yasutomi-chou, Hyogo Prefecture formation III, Maizuru Group

Skythian (Smithian), Lower Triassic

(See Nakazawa et al., 1994)

***Gymnites (Inaigymnites) uedai* Bando, 1967**

Mem. Fac. Educ., Kagawa Univ., pt. 2, p. 2, pl. 1, Fig. 1

Holotype: NSMT5604

Inai of Ishinomaki, Miyagi Prefecture

Isatomae Formation

Anisian, Middle Triassic

***Gymnites watanabei* Mojsisovics, 1888**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 173, pl. 19, fig. 1.

Holotype: GT.MM5015

Minato near Inai, Inai-mura, Ojika-gun, Miyagi Prefecture

(141°19'N; 38°25'E)

Isatomae Formation

Anisian, Middle Triassic

***Gymnotoceras paucicostatus* (Yabe & Shimizu, 1927) see *Ceratites (Gymnotoceras) paucicostatus* Yabe & Shimizu, 1927**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 11, no. 2, p. 121, pl. 11, fig. 11.

Holotype: IGPS 35177, Paratype: IGPS 3530

Northeast of the Rifu Station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Hemiprionites katoi* (Yehara) see *Meekoceras katoi* Yehara, 1927**

Japan. Jour. Geol. Geogr., vol. 5, p. 157, pl. 15, fig. 3.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian, Lower Triassic

(see Bando, 1964)

***Hemiprionites kuharanus* (Yehara, 1927), see *Meekoceras kuharanus* Yehara, 1927**

Japan. Jour. Geol. Geogr., vol. 5, p. 155, pl. 14, fig. 5.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian, Lower Triassic

(Shimizu & Jimbo, 1933; Bando, 1964)

***Hemiprionites kuharanus iyonus* Bando, 1964, see *Meekoceras kuharanus compressum* Shimizu & Jimbo, 1933**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 91, pl. 1, figs. 18.

Holotype: IGPS 45167B

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian Lower Triassic

(Shimizu & Jimbo, 1933)

***Hemiprionites morianus* (Yehara, 1927) see *Meekoceras morianum* Yehara 1927, p. 155, figs. 2, 4, 5**

Japan. Jour. Geol. Geogr., vol. 5, p. 155, pl. 13, fig. 4.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian, Lower Triassic

(see Shimizu & Jimbo, 1933; Bando, 1964)

***Hemiprionites sawatanus* (Yehara, 1925), see *Meekoceras (Gyronites) sawatanus* Yehara, 1925**

Jour. Geol. Soc. Tokyo, vol. 32, p. 39, pl. 32, fig. 3.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian, Lower Triassic

(Yehara, 1927; Shimizu & Jimbo, 1933; Bando, 1964)

***Hemiprionites shikokuensis* (Shimizu & Jimbo, 1933), see *Meekoceras morianum* Yehara, 1927**

Japan. Jour. Geol. Geogr., vol. 5, p. 155, pl. 13, fig. 3.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Skythian, Lower Triassic

(Bando, 1964)

***Hemiprionites shimizui* Bando, 1964**

Trans. Proc. Palaeont. Soc. Japan, N.S., No. 56, 332-344, Pl. 49, Figs. 1, 2.

Holotype: IGPS45158 Para:GLKU-C158

Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture

Taho Formation

Upper Skythian, Lower Triassic

***Hemiprionites tahoensis* (Yehara, 1925) see *Lecanites tahoensis* Yehara, 1926**

Jour. Geol. Soc. Tokyo, vol. 32, p. 40, pl. 13, fig. 6.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

(Yehara, 1927; Shimizu & Jimbo, 1933; Bando, 1964)

***Hollandites haradai* (Mojsisovics, 1888)**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 169, pl. 17, fig. 3.

Holotype: GT.MM5010

Minato, Inai-mura, Ojika-gun, near Ishinomaki City, Miyagi Prefecture

(141°19'N; 38°25'E)

Isatomaie Formation

Anisian, Middle Triassic

(see Ichikawa, 1951)

***Hollandites japonicus* (Mojsisovics, 1888)**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 169, pl. 17, fig. 2.

Holotype: GT.MM5008

Ouri, near Inai, Inai-mura, Ojika-gun, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

(see Ichikawa, 1951, *H. japonicus* var. *tokuraensis* Bando, 1959)

***Hollandites japonicus crassiocostatus* (Shimizu, 1930) see Diener 1915**

Tohoku Imp. Univ., Sci. Rept. 2nd Ser. (Geol), Vol. 14, No. 1, p. 66, pl. 14, fig. 2.

Holotype: IGPS

Inai, Inai-mura, aaoshika-gun, iyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

(Diener, 1915, Denkschr. Akad. Wiss. Wien, Bd. 92, p. 6, pl. 6 fig. 1.)

***Hollandites japonicus tokuraensis* Onuki & Bando, 1959**

Jap. Jour. Geol. Geogr., vol. 30, p. 99, pl. 8, Fig. 1.

Holotype: IGPS 76364

Tokura, Motoyopshi Gun, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

***Hollandites nipponicus* (Shimizu, 1930)**

Tohoku Imp. Univ., Sci. Rept. 2nd Ser. (Geol), Vol. 14, No. 1, p. 75, pl. 14, figs. 15-16.

Holotype: IGPS

Railway cutting, northeast of the Rifu station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Hollandites nodai* (Diener, 1915)**

Denkschr. Akad. Wiss. Wien, Bd. 92, p. 12, pl. 1, fig. 3

Holotype:

Inai, Inai-mura, Oshika-gun, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

***Hungarites nipponicus* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 124, pl. 6, fig. 4a.

Holotype: IGPS 76568

Hamada at about 1 km northwest of Hamada station along the Senseki Electric Car line, Shiogama City, Miyagi Prefecture.

Rifu Formation

Lower Ladinian, Middle Triassic

***Japonites planiplicatus* (Mojsisovics, 1888), see *Ceratites* (?) *planiplecatus* Mojs.**

Beitr. Paläont. Geol. Öst-Üng., vol. 7, p. 170, pl. 20 fig. 1.

Holotype: GT.MM5016

A block of shale procured from the sea -bottom near Okatsuhama, Okatsu-machi, Ojika-gun, Miyagi Prefecture

see Yabe, 1903, p. 118

Isatomaie Foramtion

Anisian, Middle Triassic

(See Mojsisovics, 1893, p. 5, 503, 504; 1902, p. 323 for the generic revision)

***Kellenites* n. sp. (Bando, 1964)**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 111, pl. 5, fig. 3.

Holotype: IGPS 76569

Tatta? along the Tohoku Railway Line, Matsushima-cho, Miyagi Prefecture

Rifu Formation

Uppermost Anisian, Middle Triassic

***Meekoceras japonicum* Shimizu & Jimbo, 1933 see *Meekoceras* cf. *lingtiense* Krafft & Diener, (Yehara, 1927)**

Japan. Jour. Geol. Geogr., vol. 5, p.154, pl. 15, fig. 2

Holotype: IGPS 45159B

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture Taho Formation

Skythian, Lower Triassic

(see Shimizu & Jimbo, 1933; Bando, 1964)

***Meekoceras japonicum compressum* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 80, pl. 2, figs. 7a-b.

Holotype: IGPS 45163

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture
Taho Formation
Skythian, Lower Triassic

***Meekoceras orientale* Shimizu & Jimbo, 1933**, see ***Meekoceras cf. markhami* Diener, (Yehara, 1927)**
Japan. Jour. Geol. Geogr., vol. 5, p.156, pl. 14, fig. 3.

Holotype:

Anasibirites beds of the Taho Faormation at Taho near Uonashi, Shirokawa-cho, Higashiuwa-gun, Ehime Prefecture
Taho Formation

Skythian, Lower Triassic

(see Shimizu & Jimbo, 1933: Bando, 1964)

***Metadagnoceras motoyoshiense* Ehiro, 1993**

Trans. Proc. Palaeont. Soc. Japan, N.S. No. 171, p. 232, Figs. 2a-b, 3.

Holotype IPPM 60015 (IPPM=Iwate Prefectural Museum)

Yamaya, Motoyoshi-cho, Motoyoshi-gun, Miyagi Prefecture

Osawa Formation

Spathian Stage of the Scythian, Lower Triassic

***Monophyllites arakurensis* Nakazawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N.S., (30), p. 217, pl. 31, Fig. 1a-d

Holotype : JM. 10456

Nakano-tani, Kyoto-fu

Arakura Formation, Maizuru Group

Carnian, Upper Triassic

***Nevadites angusticostatus* Yabe & Shimizu, 1927**

Hamada at about 1 km northwest of Hamada station along the Senseki Electric Car line, Shiogama City, Miyagi Prefecture.

Holotype: IGPS 35302

Rifu Formation

Ladinian, Middle Triassic

***Owenites shimizui* (Kummel and Sakagami, 1960)**, see ***Kingites shimizui* Sakagami, 1955**

Breviora, No. 126, p. 6-7, pl. 2, figs. 5-6, Mus. Comp. Zool., Harvard Univ.

Holotype: TUE 5262

Kaizawa Valley, Iwai, Hinode-cho, Nishitama-gun, Tokyo-to
Iwai Formation

Skythian, Lower Triassic

(Sci. Rept., Tokyo Kyouiku Daigaku, Sec. C, No.30, p. 138-139, pl. 2., figs. 2a-c)

***Paraceratites orientalis* (Yabe & Shimizu, 1927)**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 11, no. 2, p. 120, pl. 11, fig. 8.

Holotype: IGPS 35174=60899, Paratype: IGPS 35181

Northeast of the Rifu Station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Parakellnerites bandoi* Ehiro, 1992**

Saito Ho-on Kai Mus. Nat. Hist., Res. Bull., No.60, p. 4-5, pl. 1, fig. 1

Holotype: IGPS 102418

ca. 1 km east of Hanaremorori (about 1.4 km north of Hamada), Rifu-cho, Miyagi Prefecture

Rifu Formation

Lower Ladinian, Middle Triassic

***Paratrachyceras n. sp.* (Bando, 1964)**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 108, pl. 6, figs. 5a-b.

Holotype: GLKU-C129

Shimoyama at about 1.5 km northeast of Sakawa, Takaoka-gun, Kochi Prefecture, Shikoku.

Kochigatani Group

Carnian, Upper Triassic

***Ptychites compressus* Yabe & Shimizu, 1927**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 11, no. 2, p. 113, pl. 10, fig. 7.

Holotype: IGPS 35180, Paratype: IGPSms. 35181, 35182

Northeast of the Rifu Station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

(See *Ptychites opulentus* Mojsisovics, 1882)

***Ptychites compressus hamadaensis* Onukie & Bando, 1959**

Cont. Inst. Geol. Paleont., Tohoku Univ., No. 50, p. 73

Holotype: IGPS 76536

Taruda, Rifu-cho, Miyagi-gun, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Ptychites inaicus* Diener, 1915**

Denkschr. Akad. Wiss. Wien, Bd. 92, p. 20, pl. 4, Fig. 1.

Holotype:

Inai, Ishinomaki, Miyagi Prefecture

Isatomae Formation

Anisian, Middle Triassic

***Ptychites miyagiensis* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 101, pl. 13, figs. 1a-b.

Holotype: IGPS 79176

Hamada at about 1 km northwest of Hamada station along the Senseki Electric Car line, Shiogama City, Miyagi Prefecture.

Rifu Formation

Protrachyceras reitzi Zone, Lower Ladinian, Middle Triassic

***Ptychites nipponicus* Bando, 1964**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 36, no. 1, p. 100, pl. 11, fig. 1.

Holotype: IGPS 76542

Hamada at about 1 km northwest of Hamada station along the Senseki Electric Car line, Shiogama City, Miyagi Prefecture.

Rifu Formation

Protrachyceras reitzi Zone, Lower Ladinian, Middle Triassic

Zohoin Formatôn

Ladinian?, Middle Triassic

***Ussurites yabei* (Diener), 1915**

Denkschr. Akad. Wiss. Wien, Bd. 92, p. 20, pl. 4, Fig. 1.

Holotype:

Inai, Ishinomaki, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

(*Monophyllites* (*Ussurites*) *yabei*)

***Ptychites rifunus* Yabe & Shimizu, 1927**

Sci. Rept. Tohoku Univ., 2nd ser. Geol., vol. 11, no. 2, p. 115, pl. 11, figs. 2,3.

Holotype: IGPS 35173

Northeast of the Rifu Station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Ptychites yabei* Shimizu, 1930**

Tohoku Imp. Univ., Sci. Rept. 2nd Ser. (Geol), Vol. 14, No. 1, p. 76, pl. 14, figs. 17-19.

Holotype: IGPS

Railway cutting, northeast of the Rifu station, Miyagi Prefecture

Rifu Formation

Ladinian, Middle Triassic

***Rikuzenites nobilis* Yabe, 1949**

Japan Acad. Proc., 25, no. 11, p. 32-35, Fig. 1.

Not numbered

Yanaizu, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

***Sturia japonica* Diener, 1915**

Denkschr. Akad. Wiss. Wien, Bd. 92, p. 20, pl. 6 Figs. 1-2.

Holotype:

Inai, Ishinomaki, Miyagi Prefecture

Isatomaie Formation

Anisian, Middle Triassic

***Thisbites nakijinensis* Ishibashi, 1973**

Mem. Fac. Sci., Kyushu Univ., Ser. (D Geology), Vol. 22, No. 1, p. 7-8, figs. 3-17.

Holotype: GK-F 474

HNa-3, western area of Nakijin Castle, Nakijin-son, Okinawa-jima

Nakijin Formation

Sandlingites aff. *oribasus* Zone, Upper Carnian

***Thisbites orientalis* Shimizu, 1930**

Jap. Jan. Geo. Geog., Vol. 8, Nos. 1-2, p. 17, pl. 6, Fig. 9.

Holotype: Unknown

Zohoin, near Sakawa, Takaoka-gun, Kochi Prefecture

Cretaceous Ammonoidea

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Remarks:

1) Localities for type specimens described from Sakhalin before the World War II are followed to the original description.

2) Most holotypes and paratypes described as the Y. Kawashita's private collection will be donated to the National Science Museum, Tokyo.

Acanthoceras pseudodeverianum Jimbo, 1894

(= *Romaniceras pseudodeverianum* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 178, pl. 5, fig. 1, 1a

Holotype: UMUT MM7516 (= GT. I-106)

Obirashibets (= Obirashibe River), Tappu area, Obira Town, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Romaniceras* by Matsumoto, Saito, and Fukada (1957, p. 22).

Reference: Matsumoto, T., Saito, R. and Fukada, A., 1957. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 6, No. 1, pp. 1-45, pls. 1-18.

Acanthoceras rotomagense var. *asiatica* Jimbo, 1894

(= *Calycoceras asiaticum* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 177, pl. 4, fig. 1, 1a

Holotype: UMUT MM7512 (= GT. I-105)

Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido

Middle Yezo Group

Middle Cenomanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Calycoceras* by Matsumoto, Saito and Fukada (1957, p. 11).

Reference: Matsumoto, T., Saito, R. and Fukada, A., 1957. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 6, No. 1, pp. 1-45, pls. 1-18.

Acanthoceras takahashii Matsumoto, 1975

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 22, No. 2, p. 126, pl. 16, fig. 1

Holotype: GK. H5605

Upper reaches of the Kami-ichinosawa, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (132°3'30"E, 43°16'38"N)

Unit Iib, Mikasa Formation, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

Acanthoceras takahashii Matsumoto, 1975

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 22, No. 2, p. 126, pl. 17, fig. 1

Paratype: GK. H5606

Loc. Ik 1102, eastern wing of a major anticline in the Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°00'E, 43°15'N)

Middle part of unit Iib, Mikasa Formation, Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

Acanthoplites subcornuerianus Shimizu, 1931

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 32, pl. 1, figs. 8, 9

Holotype: IGPS 36512

Hideshima, Sakiyama Vilege, Shimohei County, Iwate Prefecture, Pacific coast of northeast Honshu (ca. 141°59'25"E, 39°40'00"N)

Hiraiga Formation, Miyako Group

Aptian, Lower Cretaceous

Ainoceras kamuy Matsumoto and Kanie, 1967

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 351, pl. 20, figs. 1-3 & 5; text-fig. 3

Holotype: GK. H5575 (pl. 20, fig. 1; text-fig. 3)

Paratypes: GK. H5577 (pl. 20, fig. 2; text-fig. 3), GK. H5581 (pl. 20, fig. 3), GK H5580 (pl. 20, fig. 5)

3rd tributary of Nio-no-sawa, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°00'38"E, 44°46'25"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

Ainoceras kamuy Matsumoto and Kanie, 1967

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 351, pl. 20, fig. 4

Paratype: GK. H5579

Gakko-no-sawa Creek, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°01'E, 44°44'N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

Ainoceras kamuy Matsumoto and Kanie, 1967

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 351, pl. 20, fig. 6; text-figs. 1, 2

Paratypes: GY 1-1 (text-fig. 1), GY 1-2 (text-fig. 2), GY 2-1 (pl. 20, fig. 6), GY 3 (p. 351, listed only)

Loc. U260, Hattori ranch, Urakawa area, Hidaka Province, southern central Hokkaido (142°29'01"E, 42°09'51"N)

Upper Yezo Group

Approximately Lower Campanian, Upper Yezo Group

Remarks: All of these paratypes are now housed in the National Science Museum, Tokyo

***Ainoceras kamuy* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 351

Paratype: UMUT MM5677 (= GT. I-3575)

Loc. T960p, a small branch near Ichinohashi Bridge in the middle course of the Abeshinai River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142° 01'45"E, 44° 41'18"N)

Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, pl. 21, fig. 5

Holotype: GY 16 (transferred to the National Science Museum, Tokyo, NSM)

Loc. U118-3, Nishihorobetsu, Urakawa area, Hidaka Province, southern central Hokkaido (142° 48'41"E, 42° 10'47"N)

Unit U2b of Kanie = Ur3b of Matsumoto, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

Remarks: This specimen is now housed in the National Science Museum, Tokyo.

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, pl. 21, fig. 1

Paratype: UMUT MM5679 (= GT. I-3573a)

Loc. T522p, Rubeshibets Creek, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142° 00'42"E, 44° 42'29"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, pl. 21, fig.

Paratypes: UMUT MM5680 (= GT. I-3576)(pl. 21, fig. 1), UMUT MM5678 (= GT. I-3572)(p. 356, list only)

Loc. T944d, Osoushunai Creek, a tributary of the Abeshinai River, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142° 02'08"E, 44° 38'53"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, pl. 21, fig. 3

Paratype: GK. H5578

Rubeshibets Creek, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142° 00'40"E, 44° 42'30"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, pl. 21, fig. 4

Paratype: UMUT MM5681 (= GT. I-3577)

Loc. T209p3, Osoushunai Creek, a tributary of the Abeshinai River, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142° 02'11"E, 44° 39'01"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, text-figs. 5, 7

Paratype: GK. H5121

Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356, text-fig. 6

Paratype: GK. H5582

4th tributary of the Rubeshibets Creek, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142° 00'47"E, 44° 42'24"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ainoceras paucicostatum* Matsumoto and Kanie, 1967**

Mem. Fac. Sci., Kyushu Univ., ser. D (Geol.), Vol. 18, No. 2, p. 356

Paratype: IGPS 5387

Rubeshibets Creek, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142° 00'40"E, 44° 42'30"N)

Osousyunai Formation, Upper Yezo Group

Approximately Lower Campanian, Upper Cretaceous

***Ammonites kotoi* Yabe, 1904**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p.26, pl.6, figs. 3, 4

Holotype: UMUT MM 7561 (= GT. I-254)

Yubarigawa (=Yubari River), Sorachi Province, central Hokkaido

Upper Yezo Group

Upper Cretaceous

Remarks: Matsumoto (1973, p. 32, fig. 2) regarded this species as synonymous with *Fagesia thevestensis* (Peron, 1896).

Reference : Matsumoto, T., 1973. Trans. Proc. Palaeont. Soc. Japan, N. S., No. 89, 27-41, pl. 8.

***Ampakabites regina* Matsumoto, Fujishima and Miyauchi, 1978**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 1, p. 11, pl. 3, fig. 1

Holotype: HCS. No. 92 (Y. Fujishima Coll.)

Right bank exposure in the Panke-moyubari Creek, near 10 km point along the abandoned forestry railway in Oyubari area, Sorachi Province, central Hokkaido
Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Ampakabites regina* Matsumoto, Fujishima and Miyauchi, 1978**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 1, p. 11, pl. 4, fig. 1

Paratype: Miyauchi Collection, No. 28c

Northwestern end of the Chiyenaibo, eastern side of Soya Peninsula, northern Hokkaido (141°56'55"E, 45°31'00"N)
Chiyenaibo Formation, Middle Yezo Group
Cenomanian-Santonian, Upper Cretaceous

***Anagaudryceras howarthi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 46, fig. 22

Holotype: GK. H1145

Loc. Y213p, Oyubari (Shiyubari) area, Yubari City, Sorachi Province, central Hokkaido (142°10'13"E, 43°10'20"N)
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Anagaudryceras howarthi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 46, fig. 24B

Paratype: TNHM. 9501

Raunenai-zawa Creek, Shuparo Lake, Oyubari (Shiyubari) area, Yubari City, Sorachi Province, central Hokkaido
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Anagaudryceras howarthi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 46, fig. 24A

Paratype: GK. H1151

Y129p-4, Shuparo River, Oyubari (Shiyubari) area, Yubari City, Sorachi Province, central Hokkaido (142°08'57"E, 43°09'17"N)
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Anagaudryceras howarthi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 46

Paratype: GT. I-3280 (list only) (missing)

Loc. T 542p, Saku-gakko-no-sawa Creek, Abeshinai-Saku area, Teshio Province, northern Hokkaido (142°00'45"E, 44°44'10"N)
Member IIc or IId, Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Anagaudryceras howarthi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 46, fig. 23

Paratype: GK. H8448

Loc. T 1078, Saku-gakko-no-sawa Creek, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°01'02"E, 44°44'11"N)
Member IId, Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., No. 39, p. 29, pl. 9, fig. 1a-d; text-fig. 7

Holotype: GK. H6882

Loc. Aw. 15, Haraikawa, Nandan Town, Awaji Island, Hyogo Prefecture, southwest Japan (132°48'E, 34°12'N)
Shimonada Formation, Izumi Group
Lower Maastrichtian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., No. 39, p. 29, pl. 4, fig. 1

Paratype: GK. H5980

Loc. P-240, Pinneshiri Quadrangle, Tombetsu area, northern Hokkaido
Unit H3, Hakobuchi Group
Maastrichtian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., No. 39, p. 29

Paratypes: GK. H5981, GK. H5982 (list only)

Loc. Nj-68, Tombetsu Valley, Nakatombetsu Town, Tenpoku Province, northern Hokkaido
C Formation, Hakobuchi Group
Lower Maastrichtian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., No. 39, p. 29

Paratype: GK. H5983 (list only)

Loc. Nm175, Nemuro Province, eastern Hokkaido
Unit N4, Nemuro Group
Lower Maastrichtian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., No. 39, p. 29

Paratype: GK. H5984 (list only)

Loc. Kd1404, Nemuro Province, eastern Hokkaido
Senposhi Formation, Nemuro Group
Lower Maastrichtian, Upper Cretaceous

***Anagaudryceras matsumotoi* Morozumi, 1985**

Bull. Osaka City Mus. Nat. Hist., p. 29

Paratype: GT. I-3785 (list only)

Loc. N109c, Naibuchi Valley, Naibuchi (=Naiba) area, south Sakhalin, Russia (ca. 142°31'E, 47°19'N)
Lower part of the Ryugase Group

Lower Maastrichtian, Upper Cretaceous

***Anagaudryceras nanum* Matsumoto, 1985**

Sci. Rep. Yokosuka City Mus., No. 33, p. 25, pl. 5, figs. 1-4

Holotype: GK. H3124

Loc. U45, Urakawa area, Hidaka Province, southern-central Hokkaido (142 °48'05"E, 42 °10'45"N)

Ur4b, Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Anagaudryceras tetragonum* Matsumoto and Kanie, 1985**

Sci. Rep. Yokosuka City Mus., No. 33, p. 29, pl. 5, figs. 9-11

Holotype: YCM. Ur 076001

Loc. U76A, Higashi Town, upper course of the Urokobetsu Creek, Urakawa area, Hidaka Province, southern-central Hokkaido (142 °47'43"E, 42 °10'26"N)

H1, Hakobuchi Group

Maastrichtian, Upper Cretaceous

***Anapachydiscus deccanensis yezoensis* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 113, p. 36, pl. 7, fig. 1

Holotype: UMUT MM5645 (= GT. I-2742)

Sanushibe River, Hobetsu area, Iburi Province, southern central Hokkaido (ca. 142 °08'E, 42 °52'N)

Anapachydiscus beds, Upper Yezo Group

Santonian, Upper Cretaceous

***Anathoceras pseudodeverianum* Jimbo, 1894**

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 178, pl. 5, fig. 1, 1a

Holotype: UMUT MM7516 (= GT. I-106)

Obirashibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Anathoceras rotomagense* var. *asiatica* Jimbo, 1894**

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 177, pl. 4, fig. 1, 1a

Holotype: UMUT MM7512 (= GT. I-105)

Ikushumbets, Mikasa City, Sorachi Province, central Hokkaido

Middle Yezo Group

Middle Cenomanian, Upper Cretaceous

***Ancycloceras chosiense* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 37, pl. 3, figs. 22-24

Holotype: IGPS 36832

A little north of Komo, Hanoura Town, Naka County, Tokushima Prefecture, Shikoku (134 °35'49"E, 33 °56'41"N)

Mochii Formation

Lower Aptian, Lower Cretaceous

***Ancycloceras giganteum* Yabe and Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 37, pl. 4, fig. 7

Holotype: IGPS 35297

A little north of Komo, Hanoura Town, Naka County, Tokushima Prefecture, Shikoku (134 °35'49"E, 33 °56'41"N)

Mochii Formation

Lower Aptian, Lower Cretaceous

***Anisoceras Haradanum* Yokoyama, 1890**

(= *Polyptychoceras haradanum* (Yokoyama, 1890))

Palaeontographica, Vol. 36, p. 182, pl. 20, fig. 5

Lectotype: Unnumbered specimen registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München

Iburi (= Efue), near Urakawa, Hidaka Province, southern central Hokkaido (ca. 142 °44'E, 44 °42'12"N)

Upper Yezo Group

Santonian-Campanian, Upper Cretaceous

Remarks: Lectotype was designated by Matsumoto (1963, p. 30).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniversary Vol., 27-32, pls.44-51.

***Anisoceras hashimotoi* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 172, pl. 22, fig. 1

Holotype: TKD. 30543

Loc. P6, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 °05'30"E, 44 °16'43"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Anisoceras hashimotoi* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 172, pl. 22, figs. 2-4

Paratypes: TKD. 30544A (pl. 22, fig. 2),

TKD. 30544B (pl. 22, fig. 3), TKD. 30544C (pl. 22, fig. 4)

Loc. P8, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 °05'30"E, 44 °16'43"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Anisoceras hashimotoi* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 172, pl. 22, fig. 5

Paratype: TKD. 30542A

Loc. P1, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 °05'30"E, 44 °16'43"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

Anisoceras subquadratum* Yokoyama, 1890*(= *Polyptychoceras subquadratum* (Yokoyama, 1890))**

Palaeontographica, Vol. 36, p. 183, pl. 20, fig. 6

Lectotype: Unnumbered specimen registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München

Near Urakawa, Hidaka Province, southern central Hokkaido

Upper Yezo Group

Santonian-Campanian, Upper Cretaceous

Remarks: Lectotype was designated by Matsumoto (1963, p. 30).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniv. Vol., 27-32, pls.44-51.***Anisoceras subquadratum* Yokoyama, 1890****(= *Polyptychoceras subquadratum* (Yokoyama, 1890))**

Palaeontographica, Vol. 36, p. 182, pl. 20, fig. 4

Paralectotype: Unnumbered specimen registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München

Iburi (=Efue), near Urakawa, Hidaka Province, southern central Hokkaido (ca. 142°44'E, 42°12'N)

Upper Yezo Group

Santonian, Upper Cretaceous

Anisoceras subundatum* Yokoyama, 1890*(= *Polyptychoceras subundatum* (Yokoyama, 1890))**

Palaeontographica, Vol. 36, p. 183, pl. 20, fig. 7

Syntype: Unnumbered specimen registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München

Near Urakawa, Hidaka Province, southern central Hokkaido

Upper Yezo Group

Santonian-Campanian, Upper Cretaceous

Remarks: Lectotype was designated by Matsumoto (1963, p. 30).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniv. Vol., 27-32, pls.44-51.***Australiceras asiaticum* Matsumoto, 1947 (= *Crioceratites* (*Paracrioceratites*) *asiaticum* (Matsumoto, 1947))**

Sci. Rep. Kyushu Univ., Geol. Ser., Vol. 2, No. 1, p. 13, pl. 1, fig. 1; text-fig. 1

Lectotype: GK. H8301

Loc. Yu-103, Yuasa-Fujinami, Yuasa area, Wakayama Prefecture, west Honshu

Lower part of Arida Formation

Lower Barremian, Lower Cretaceous

Remarks: The generic position of this species was transferred to *Crioceratites* by Matsukawa and Obata (1993, p. 251), who also designated this specimen as the lectotype.

Reference: Matsukawa, M. and Obata, I., 1993. Palaeontology, Vol. 36, No. 2, 249-266, pls. 1-3.

***Baculites anceps pacificus* Matsumoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 59, pl. 20, fig. 3

Paratype: GK. H3555

Loc. U238, Nishihorobetsu, Urakawa area, Hidaka Province, southern Hokkaido (142°50'38"E, 42°9'59"N)

Unit Ur. 5b, zone of *Inoceramus schmidti*, Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Baculites anceps pacificus* Matsumoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 59, text-fig. 156

Paratype: GK. H3553

Loc. U47b, upper reaches of the Horobetsu Creek, Urakawa area, Hidaka Province, southern Hokkaido (142°48'02"E, 42°10'40"N)

Unit Ur4b, zone of *Inoceramus schmidti*, Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Baculites chicoensis yezoensis* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 70, pl. 25, figs. 1a, b, 2a, b, 3a-d, 4a-d, 5a-c

Holotype: GK. H5975 (pl. 25, fig. 1a, 1b)

Paratypes: MNH. 130 (p. 70, list only), MNH. 133 (fig. 4a-d; text-fig. 11B, C), 134 (fig. 3a-d), 135 (fig. 5a-c), 137 (figs. 2a, b), 138 (p. 70, list only)(T. Miyauchi's collection)

Kiyohama-II, Soya Peninsula, northern Hokkaido (141°54'11"E, 43°30'35"N)

Unit F (Fukiyose Bed), Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Baculites kotanii* Matsumoto, Hashimoto and Furuichi, 1980**

Proc. Japan Acad., Vol. 56, Ser. B, p. 408, fig. 1

Holotype: GLKU. IZ-80001 (Geological Laboratory, Kagawa University)

1130 m south of Gesho, Miki Town, Kita County, Kagawa Prefecture, Shikoku (ca. 134°07'55"E, 34°09'28"N)

Basal member, Izumu Group

Campanian, Upper Cretaceous

***Baculites kotanii* Matsumoto, Hashimoto and Furuichi, 1980**

Proc. Japan Acad., Vol. 56, Ser. B, p. 408

Paratype: GLKU. IZ-80002 (Geological Laboratory, Kagawa University)

Takeyashiki, Nagao Town, Okawa County, Kagawa Prefecture, Shikoku

Basal member, Izumu Group

Campanian, Upper Cretaceous

***Baculites kotanii* Matsumoto, Hashimoto and Furuichi, 1980**

Proc. Japan Acad., Vol. 56, Ser. B, p. 408

Paratypes: GK. H5910, GK. H5911, GK. H5912 (list only)

Dogadaira, Miki Town, Okawa County, Kagawa Prefecture, Shikoku (134 °08'09"E, 34 °10'06"N)

Basal member, Izumu Group

Campanian, Upper Cretaceous

***Baculites princeps* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 55, pl. 13, fig. 1; text-figs. 138, 139

Holotype: GK. H4454 (pl. 13, fig. 1; text-fig. 138)

Paratypes: GK. H4453 (p. 55, list only), GK. H4455 (p. 55, list only), GK. H4456 (text-fig. 139), GK. H4457-4460 (p. 55, list only)

Loc. Y420, Kotodono-sawa Creek, a tributary of the Haboro River, Haboro Town, northwestern Hokkaido

(141 °59'00"E, 44 °15'38"N)

Upper part of member U3 of K. Tanaka, Upper Yezo Group

Upper Santonian, Upper Cretaceous

***Baculites princeps* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 55

Paratypes: GK. H5248, GK. H5249, GK. H5250 (list only)

Loc. CK94, Ainu-sawa Creek, a tributary of the Haboro River, Chikubetsu area, Teshio Province, northwestern Hokkaido (141 °56'22"E, 44 °19'24"N)

Member, Upper Yezo Group

Upper Santonian, Upper Cretaceous

***Baculites princeps* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 55

Paratypes: GK. H4461, GK. H4463, GK. H4465, GK. H4469, GK. H4470, GK. H4473-4477 (list only)

Loc. Ik1264p2, Kikumezawa Creek, a tributary of the Ikushumbets Valley, Sorachi Province, central Hokkaido (142 °00'58"E, 43 °13'10"N)

Bed III d, Upper Yezo Group

Upper Santonian, Upper Cretaceous

***Baculites pseudobaculus* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 68, pl. 14, fig. 3; text-figs. 166, 167

Holotype: GK. H4803 (pl. 14, fig. 3; text-fig. 166)

Paratype: GK. H4803 (text-fig. 167), GK. H4804, GK. H4809, GK. H5239, GK. H5240 (list only)

Loc. CK54, Sankebetsu Creek, branch of the Chikubetsu River, Teshio Province, northwestern Hokkaido (ca. 141 °55'E, 44 °20'N)

Member B2, Upper Yezo Group

Approximately Lower Santonian, Upper Cretaceous

***Baculites regina* Obata and Matsumoto, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 85, pl. 22, figs. 3-6; pl. 23, fig. 1; pl. 24, figs. 1, 3; text-fig. 195, 196, 207, 209

Holotype: UMUT MM7716b (= GT. I-575b)(pl. 24, fig. 1)

Paratypes: UMUT MM7715 [= GT. I-574](pl. 22, fig. 3; text-fig. 207), UMUT MM7718b [= GT. I-578b](pl. 22, fig. 4; text-fig. 195), UMUT MM7716a [= GT. I-575a](pl. 23, fig. 1; text-fig. 207), UMUT MM7716c [= GT. I-575c](pl. 22, fig. 5; text-fig. 209), UMUT MM7718a [= GT. I-578a](pl. 22, fig. 6), UMUT MM7719 [= GT. I-580](pl. 24, fig. 3)

Kuratani, Shinke, Sennan County (now Izumisano City), Osaka Prefecture, west Japan (ca. 135 °20'E, 34 °21'N)

Azenotani shale Member, Izumi Group

Probably Campanian, Upper Cretaceous

***Baculites tanakae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 51, pl. 17, fig. 2; text-fig. 115

Holotype: GK. H4288 (pl. 17, fig. 2)(pl. 17, fig. 2)

Paratypes: GK. H4230 (text-fig. 115), GK. H4229, GK. H4231- GK. H4234, GK. H4237- GK. H 4244, GK. H4246 - GK. H4253 (p. 51, list only)

Loc. Sk60 [=Y339], along the main stream of the Haboro River, Haboro area, northwestern Hokkaido

Member U6, uppermost part of Upper Yezo Group

Approximately Campanian, Upper Cretaceous

***Baculites tanakae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 51

Paratypes: GK. H4954 - GK. H4977 (list only)

Loc. T1186p1, upper reaches of Saku-gakko-sawa, Abeshinai-Saku area, Teshio Province, northern Hokkaido (141 °59'58"E, 44 °43'53"N)

Probably III d-e, Osousyunai Formation, Upper Yezo Group

Campanian, Upper Cretaceous

***Baculites tanakae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 51

Paratype: GK. H4978 - GK. H4988 (list only)

Saku area, Teshio Province, northern Hokkaido (without precise locality record)

Probably Osousyunai Formation, Upper Yezo Group

Probably Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40, pl. 20, fig. 6; text-fig. 91

Holotype: GK. H4794

Loc. CK64, main stream of the Detofutamata River, Chikubetsu area, northwestern Hokkaido (141 °57'59"E, 44 °20'02"N)

Member B1, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40, text-fig. 92

Paratype: UMUT MM5676 (= GT. I-3584)

Loc. T311, Wakkawembets Creek, a tributary of the Abeshinai River, Nakagawa Town, Teshio Province, Hokkaido (142°02'42"E, 44°38'07"N)

Unit IIIId, Osousyunai Formation, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40

Paratypes: GK. H4790 - GK. H4793

Loc. CK75, main stream of the Detofutamata River, Chikubetsu area, northwestern Hokkaido (141°57'32"E, 44°19'15"N)

Member B1, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40

Paratype: GK. H5251 (list only)

Loc. CK46, Sankebetsu River, Chikubetsu area, northwestern Hokkaido

(141°58'00"E, 44°21'40"N)

Member A, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40

Paratypes: GK. H5232 - GK. H5238 (list only)

Loc. CK12, Panke-zawa Creek, Chikubetsu area, northwestern Hokkaido

(141°54'03"E, 44°22'38"N)

Member C, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 40

Paratypes: GK. H4705 - GK. H4709 (list only)

Loc. T1187p2, Saku-gakkono-sawa Creek, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (141°59'58"E, 44°43'53"N)

Unit IIIId, Osousyunai Formation, Upper Yezo Group
Campanian, Upper Cretaceous

***Baculites uedae* Matsumoto and Obata, 1963**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2,

p. 40

Paratype: GK. H4480 - GK. H4489 (list only)

Loc. Y531, Kotan-zawa Creek, a tributary of the Haboro River, Haboro area, northwestern Hokkaido

Middle part of U3, Upper Yezo Group

Campanian, Upper Cretaceous

***Baculites (Lechites) yokoyamai* Tokunaga and Shimizu, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 2, Vol. 1, p. 195, pl. 22, fig. 5a, b; pl. 26, fig. 11

Holotype: Unnumbered specimen in the Waseda University (lost by fire during the World War II)

Upper reaches of the Sakurazawa Creek, Oriki, Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu

(140°57'38"E, 37°12'18"N)

Ashizawa Formation, Futaba Group

Conacian, Upper Cretaceous

***Baculites yokoyamai* Tokunaga and Shimizu, 1926**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., Vol. 13, No. 1, p. 30, pl.

10, fig. 5

Neotype: GK. H4580

Loc. IK1111a, an outcrop in the lower course of the Bannosawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake) (142°00'31"E, 43°13'34"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

Remarks: Neotype was designated by Matsumoto and Obata (1963, p. 30-31).

Reference: Matsumoto, T. and Obata, I., 1963. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 13, No. 2, 1-116, pls. 1-27.

***Barroisicerus minimum* Yabe (MS), Hayasaka and Fukada, 1951 (= *Reesidites minimus* (Hayasaka and Fukada, 1953))**

Jour. Fac. Sci., Hokkaido Univ., ser. 4, Vol. 7, No. 4, p. 325, pl. 1, figs. 1-4

Holotype: Specimen housed in Department of Geology and Mineralogy, Hokkaido University (register number undescribed)

Loc. Ik 1103, cliff along forestry railway in Ikushumbets Valley, about 200m below from the confluence with the Ban-no-sawa Creek, Mikasa City, Sorachi Province, central Hokkaido (142°00'33"E, 43°13'53"N)

Unit IIIa, Upper Yezo Group

Upper Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Reesidites* by Wright and Matsumoto (1954, p. 130).

Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls. 7-8.

***Barroisicerus (Basseoceras) inornatum* Matsumoto, 1969**

Mem. Fac. Sci. Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 303, pl. 39 [27], fig. 1; text-figs. 3-4

Holotype: GK. H5460 [= T. Muramoto's Collection no. P5-6234]

Gono-sawa Creek, Pombets, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 141 °59'E, 43 °14'N)

Zone of *Inoceramus uwajimensis*, Upper Yezo Group Coniacian, Upper Cretaceous

***Beudanticeras shikokuense* Yabe and Shimizu, 1927**

(= *Desmoceras (Pseudouhligella) dawsoni shikokuense* (Yabe and Shimizu, 1927))

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., Geol., Vol. 11, No. 1, p. 69, pl. 3(1), fig. 10

Holotype: IGPS. 35154

Sakamoto, Tanano Villege, Katsura County, Tokushima Prefecture, east Shikoku (ca. 134 °27'E, 33 °56'N)

Monobegawa Series (Fujikawa Formation)

Upper Albian, Lower Cretaceous

Remarks: The generic position of this subspecies was transferred to *Desmoceras (Pseudouhligella)* by Nakai and Matsumoto (1968, p. 9).

Reference: Nakai, I. and Matsumoto, T., 1968. Jour. Sci. Hiroshima Univ., Ser. C, Vol. 6, No. 1, 1-15, pls. 1-3.

***Bhimaites ? kawai* Matsumoto, 1997**

Paleont. Res., Vol. 1, No. 2, p. 150, figs. 1-3

Holotype: GK. H8490 (= YKC 061111)

Loc. R 813, River Sounnai, Soeushinai area, northwestern Hokkaido (142 °03'57"E, 44 °12'00"N)

Uppermost part of Member My2, Middle Yezo Group

Upper part of the Upper Albian, Upper Cretaceous

***Bhimaites takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Special Paps., No. 30, p. 107, fig. 47

Holotype: GK. H8094

Kamikinembets, Oyubari (Shiyubari) area, Yubari City, Sorachi Province, central

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Brewericeras enorme* Matsumoto, 1980**

Trans. Proc. Palaeont. Soc. Japan, New Ser., No. 118, p. 331, pl. 37, fig. 2

Holotype: GK. H6907

Loc. C, at the altitude of about 200 m on an ascending path from Miyaji to Mt. Joguzan, Kumamoto Prefecture, Kyushu

Middle Member of Yatsushiro Formation

Albian, Lower Cretaceous

***Calycoceras orientale* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 6, No. 1, p. 16, pl. 5, fig. 1a-c

Holotype: UMUT MM5657 (= GT. I-3168)

Loc. T711b, Nionosawa Creek, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °01'15"E, 44 °46'31"N)

Middle Yezo Group

Middle Cenomanian, Upper Cretaceous

***Canadoceras compressum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 310, pl. 20, fig. 1

Holotype: GK. H3830

Loc. H12d6, Hetonai area, Iburi Province, southern central Hokkaido (142 °12'57"E, 42 °46'06"N)

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras compressum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 310, pl. 20, fig. 2a, b

Paratype: GK. H3831

Loc. H12b, Hetonai area, Iburi Province, southern central Hokkaido (142 °12'57"E, 42 °46'07"N)

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 295, pl. 13, fig. 1a, b

Holotype: UMUT MM7650 (= GT. I-381)

The Chiptaushibets Creek, Tsumbetsu, Kitami Province, northern Hokkaido

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 295, pl. 14, fig. 1

Paratype: UMUT MM 6832 (= GT. I-2801)

Loc. N107b, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °31'E, 47 °19'N)

Ryugase Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 295, pl. 14, fig. 2

Paratype: UMUT MM 6833 (= GT. I-2791)

Loc. N22p, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °31'E, 47 °20'N)

Ryugase Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese

Islands, Jap. Soc. Prom. Sci., Tokyo, p. 295, pl. 14, fig. 1

Paratype: UMUT MM 6834 (= GT. I-2802)

Loc. N463, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °29'E, 47 °22'N)

Ryugase Group

Lower Maastrichtian, Upper Cretaceous

***Canadoceras minimum* Matsumoto and Miyauchi, 1984**

Palaeont.Soc. Japan, Special Paps., No. 27, p. 50, pl. 19, fig. 1a-c; pl. 21, figs. 1a-d, 2a-c

Holotype: GK. H5976 (pl. 20, fig. 1a-c)

Paratypes: GK. H5977 (pl. 19, fig. 1a-c), MNH. 142(pl. 21, fig. 2a-c), H4233 (pl. 21, fig. 1a-d)(T. Miyauchi's private collection)

Loc. Kiyohama-I, Soya harbour, Soya Peninsula, northern Hokkaido

(141 °53'11"E, 45 °29'41"N)

Unit F (=Fukiyose Bed), Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Canadoceras multicoatum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 304, pl. 18, fig. 1a-c

Holotype: UMUT MM9118 (= GT. I-1444)

Loc. Togushi 825, Nishi-Notoro Peninsula, Sakhalin, Russia (ca. 142 °07'E, 46 °03'N)

Ryugase Group

Campanian ?, Upper Cretaceous

***Canadoceras multicoatum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 304, pl. 18, fig. 2

Paratype: UMUT MM6851 (= GT. I-2803)

Loc. N465c1, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °29'E, 47 °23'N)

Ryugase Group

Campanian ?, Upper Cretaceous

***Canadoceras mysticum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 307, pl. 19, fig. 1a-c

Holotype: GK. H5184

Locality uncertain, Teshio Province, northern Hokkaido

Yezo Group

Upper Cretaceous

***Canadoceras mysticum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 307, pl. 15, fig. 2

Paratype: UMUT MM9117 (= GT. I-1440)

Loc. Togushi 9-8, Nishi-Notoro Peninsula, Sakhalin, Russia (ca. 142 °07'E, 46 °03'N)

Ryugase Group

Upper Cretaceous

***Canadoceras tanii* Matsumoto and Morozumi, 1980**

Bull. Osaka Mus. Nat. Hist., No. 33, p. 7, pl. 2, fig. 1

Holotype: MT80 (M. Tani's Collection, ? now kept in Osaka Museum of Natural History)

Loc. 4, Takinoike, Izumisano City, Osaka Prefecture, west Japan

Horizon A2, Azenotani Formation, Izumi Group (135 ° 19'53"E, 34 °21'07"N)

Campanian or Maastrichtian, Upper Cretaceous

***Cirroceras* (?) *nakaminatoensis* Saito, 1959**

(= *Didymoceras nakaminatoensis* (Saito, 1958))

Bull. Fac. Arts & Sci., Ibaraki Univ., Nat. Sci., No. 9, p. 79, pl. 1, figs. 1-2

Holotype: GIUM coll. cat. no. 4075 (Dept. Earth Sci., Ibaraki Univ.)

Pacific coast of Hiraiso, Nakaminato City, Ibaraki Prefecture, northeastern Honshu (ca. 140 °37'18"E, 36 °21'20"N)

Hiraiso Member, Nakaminato Formation, Naka Group

Upper Campanian to Lower Maastrichtian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Didymoceras* by Saito (1962, p. 53, table 13).

Reference: Saito, T., 1962. Bull. Fac. Arts & Sci., Ibaraki Univ., Nat. Sci., No. 13, 51-88, pls. 1-8.

***Cobbanoceras tanakai* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 220, pl. 37 [20], fig. 3; pl. 38 [21], fig. 1; text-fig. 4 [44]-5 [45]

Holotype: GK. H5522

Loc. NH279a, the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwest Hokkaido

Unit Uf, Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Cobbanoceras tanakai* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 220, pl. 39 [22], fig. 1

Paratype: GK. H5523

Loc. NH671, a branch of the Obirashibe River (Forestry section 197), Tappu area, Obira Town, Rumoi Province, northwest Hokkaido

Unit Ug, Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Colombiceras satowi* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 34, pl. 3, figs. 5-10

Holotype: IGPS 35387

Near Inubo Cape, Choshi Peninsula, Chiba Prefecture, central Honshu (ca. 140 °52'E, 35 °42'N)

Choshi Group

Aptian, Lower Cretaceous

***Crioceras ishiwarai* Yabe and Shimizu, 1925**

Jap. Jour. Geol. Geogr., Vol. 4, Nos. 3-4, p. 85, pl. 5; text-figs. 1, 2

Holotype: unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Shiraito-hama, Oshima Island, Kesenuma City, Miyagi Prefecture, Pacific coast of northeast Honshu (ca. 141°37'E, 38°52'N)

Oshima Formation

Hauterivian-Barremian, Lower Cretaceous

***Crioceras spinigerum* Jimbo, 1894**

(= *Neocrioceras spinigerum* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 184, pl. 8, fig. 1, 1a, b

Lectotype: UMUT MM7521 (= GT. I-122)(pl. 8, fig. 1)

Paralectotype: UMUT MM7522 (= GT. I-123)(pl. 8, fig. 1a, b)

Tshashikots in Ikandai, Urakawa area, Hidaka Province, southern-central Hokkaido (142°44'23"E, 42°10'32"N)

Upper Yezo Group

Santonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Neocrioceras* by Spath (1921). Lectotype was designated by Matsumoto (1985, p. 56).

References: Spath, L. F., 1921. Ann. Durban Mus., Vol. 3, 39-57, pls. 6-7.

Matsumoto, T., 1985. Proc. Jap. Acad., Vol. 61, Ser. B, 56-59.

***Crioceras yagii* Yabe and Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 9, No. 2, p. 72(40), pl. 15 (4), figs. 16-19

Holotype: Unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Ishido, Minami-Saku County, Nagano Prefecture, central Honshu (ca. 138°38'E, 36°07'N)

Ishido Group (= Ishido Formation)

Barremian, Lower Cretaceous

***Damesites ainuanus* Matsumoto, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 27, p. 86, pl. 15, fig. 1a-d

Holotype: GK. H4198

Loc. Ik 2013d, Pombetsu River, Mikasa City, Ishikari Province, central Hokkaido (141°58'39"E, 43°16'26"N)

Middle Yezo Group

Turonian, Upper Cretaceous

***Damesites ainuanus* Matsumoto, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 27, p. 86, pl. 15, fig. 2a-c

Paratype: GK. H4199

Loc. Ik 2013g, Pombetsu River, Mikasa City, Ishikari Province,

central Hokkaido (141°58'39"E, 43°16'26"N)

Middle Yezo Group

Turonian, Upper Cretaceous

***Damesites damesi intermedia* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 270, pl. 6, fig. 4a, b

Holotype: GK. H3269

Loc. U513, Urakawa area, Hidaka Province, southern central Hokkaido (142°44'48"E, 42°10'36"N)

Unit Ur2, Upper Yezo Group

Coniacian, Upper Cretaceous

***Damesites hetonaiensis* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 271, pl. 6, fig. 1a-c

Holotype: GK H3836

Loc. H12d3, southern side of the Mukawa River, Hetonai (= Tomiuchi) area, Iburu Province, southern central Hokkaido (142°12'57"E, 42°46'06"N)

Member IVa, upper part of the Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Damesites laticarinatus* Saito and Matsumoto, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 22, p. 192, text-fig. 1

Holotype: repository undescribed

The Ikushumbets Valley, Mikasa City, Ishikari Province, central Hokkaido (ca. 141°59'E, 43°15'N)

Mikasa Formation, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Damesites semicostatus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 3, p. 126, pl. 25, fig. 1a-d

Lectotype: UMUT MM5579 (= GT. I-3104)

Loc. T592b, the Abeshinai Valley, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'43"E, 44°42'32"N)

Unit IIIa, Upper Yezo Group

Lower Santonian, Upper Cretaceous

Remarks: Lectotype was designated by Obata (1959, p. 35).

Reference: Obata, I., 1959. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 9, no. 1, pp. 33-45, pls. 4-5.

***Defordiceras (?) japonicum* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 22, No. 2, p. 301, pl. 47 (51), fig. 2

Holotype: GK. H5638

Loc. R371, Sakasa-gawa Creek, a tributary of the Haboro River, Haboro area, Tomamae County, northwestern Hokkaido (141°58'59"E, 44°16'18"N)

Unit B1 or A, Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Defordiceras (?) japonicum* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 22, No. 2, p. 301, pl. 30 (34), fig. 3

Paratype: GK. H5504

Loc. CK 109, an outcrop in the Pisshiri-zawa Creek, Deto-futamata, a tributary of the Haboro River, Haboro area, Tomamae County, northwestern Hokkaido (141°58'21"E, 44°19'27"N)

Unit B1 or A, Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Desmoceras Damesi* Jimbo, 1894**

(= *Damesites damesi* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 172, pl. 1, fig. 2, 2a, 2b

Lectotype: UMUT MM7500 (= GT. I-91)

Between Tsuetomanai and Motomari, along the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Coniacian-Santonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Damesites* by Matsumoto (1942, p. 24). Matsumoto (1963, p. 42) designated this specimen as lectotype.

References: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol. 18, 24-29.

Matsumoto, T., 1963. Palaeont. Soc. Japan, 25th Anniv. Vol., 41-48, pls. 60-68.

***Desmoceras Damesi* Jimbo, 1894**

(= *Damesites damesi* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 172, pl. 1, fig. 3

Paralectotype: UMUT MM7503 (= GT. I-92a)

Tsuetomanai-Motomachi, the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Coniacian-Santonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Damesites* by Matsumoto (1942, p. 24). Matsumoto (1954, p. 267, pl. 5, fig. 1a-d) designated this specimen as paralectotype.

References: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol. 18, 24-29.

Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniv. Vol., 41-48, pls. 60-68.

***Desmoceras Dawsoni* Whiteaves var. *japonica* Yabe, 1904 (= *Desmoceras (Pseudouhligella) japonicum* Yabe, 1904)**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p. 35, pl. 5, figs. 3a,b

Holotype: UMUT MM7574 (= GT. I-260)

Middle course of the Ikushumbetsu River, Mikasa City, Ishikari Province, central Hokkaido (ca. 141°59'E, 43°15'N)

Middle Yezo Group (Thetis zone, associated with Thetis aff.

Whiteaves)

Cenomanian, Upper Cretaceous

***Desmoceras ishikawai* Jimbo, 1894**

(= *Yokoyamaoceras ishikawai* (Jimbo, 1894), **macroconch**)

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 174, pl. 1, fig. 5, 5a

Lectotype: UMUT MM7507 (= GT. I-95a)

The Obirashibetsu River, about 52 km from its mouth, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Santonian, Upper Cretaceous

Remarks: Lectotype was designated by Matsumoto (1954, p. 94). The generic position of this species was transferred to *Yokoyamaoceras* by Maeda (1993, p. 122).

References: Matsumoto, T., 1954. In T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, 243-324, pls. 1-20, Japan Society for Promotion of Science, Tokyo.

Maeda, H., 1993. Trans. Proc. Palaeont. Soc. Jap., N. S., No. 169, 97-128.

***Desmoceras kawanoi* Jimbo, 1894**

(= *Zelandites kawanoi* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 174, pl. 1, fig. 7, 7a

Holotype: UMUT MM7509 (= GT. I-98)

Tshashikots in Ikandai near Urakawa, Hidaka Province, southern-central Hokkaido (142°44'23"E, 42°10'32"N)

Upper Yezo Group

Santonian, Upper Cretaceous

Remarks: Generic position of this species was transferred to *Zelandites* by Matsumoto (1938, p. 143).

Reference: Matsumoto, T., 1938. Jap. Jour. Geol. Geogr., Vol. 15, 137-148, pl. 14.

***Desmoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 249, pl. 1, fig. 1a, b

Lectotype: UMUT MM6667 (= GT. I-2551)

Loc. N507p, Iwano-sawa, Naibuchi (= Naiba) area, south Sakhalin, Russia (ca. 142°34'E, 47°17'N)

Member Ky, Kawakita Group

Uppermost Albian or Lowest Cenomanian, Upper ? Cretaceous

Remarks: Lectotype was designated by Obata (1959, p. 34).

Reference: Obata, I., 1959. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 9, No. 1, 33-45, pls. 4-5.

***Desmoceras kossmati* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 249, pl. 6, fig. 6

Paralectotype: UMUT MM6668 (= GT. I-2552)

Loc. N503b, the Naibuchi Valley, Naibuchi (= Naiba) area, south Sakhalin, Russia (ca. 142°34'E, 47°17'N)

Member Kxx (upper part), Kawakita Group

Uppermost Albian or Lowest Cenomanian, Upper ?

Cretaceous

Remarks: Paralectotype was designated by Obata (1959, p. 34).

Reference: Obata, I. 1959. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 9, no. 1, 33-45, pls. 4-5.

***Desmoceras planulatiforme* Jimbo, 1894**

(= *Jimboiceras planulatiforme* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p.173, pl.1, fig.4,4a

Lectotype: UMUT MM7499 (= GT. I-94)

Opirashibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Jimboiceras* by Shimizu (1935, p. 180). Lectotype was designated by Matsumoto (1963, p. 43, pl. 60, fig. 4).

References: Shimizu, S., 1935. Jour. Shanghai Sci. Inst., Sec. 2, Vol. 1, 159-226.

Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniv. Vol., 41-48, pls. 60-68.

***Desmoceras poronaicum* Yabe, 1904**

(= *Desmoceras (Pseudouhligella) poronaicum* Yabe, 1904)

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p. 39, pl. 6, figs. 1, 2

Holotype: UMUT MM7456 (= GT. I-261, 262)

Poronai, Province of Ishikari, central Hokkaido

Upper Ammonite-beds, Middle Yezo Group

Senonian (Cenomanian), Upper Cretaceous

***Desmoceras (Pseudouhligella) ezoanum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 260, pl. 3, fig. 1a-c

Holotype: UMUT MM6705 (= GT. I-3030)

Loc. T843, Chirashinai River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 06'03"E, 44 ° 42'37"N)

Unit I1b-c, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) ezoanum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 260, pl. 3, fig. 2a, b

Paratype: UMUT MM6706 (= GT. I-3034b)

Loc. T27d, a small western tributary No. 1 of the Abeshinai River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 01'23"E, 44 ° 43'43"N)

Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) ezoanum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 260, pl. 3, fig. 3a, b

Paratype: UMUT MM6707 (= GT. I-3035)

Loc. T32-33p, a river gravel in the lower course of the Gakko-zawa, Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 02'13"E, 44 ° 44'25"N)

Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) ezoanum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 260, pl. 3, fig. 4a, b

Paratype: UMUT MM6708 (= GT. I-3041)

Loc. T591d, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 02'31"E, 44 ° 42'51"N)

Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) ezoanum* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 260, pl. 3, figs. 5, 6

Paratypes: UMUT MM6700 (= GT. I-3032b)(pl. 3, fig. 5a, b), UMUT MM6701 (= GT. I-3032c)(pl. 3, fig. 6a, b)

Loc. T27dp, a small western tributary No. 1 of the Abeshinai River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 01'23"E, 44 ° 43'43"N)

Unit I1c(b), Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) japonicum compressor* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 258, pl. 2, fig. 4a-c

Holotype: UMUT MM6694 (= GT. I-3026)

Loc. T225c, a small eastern tributary No. 9 of the Abeshinai River, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 02'43"E, 44 ° 40'32"N)

Unit I1b, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) japonicum mediocompressa* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 257, pl. 2, fig. 2a, b

Holotype: UMUT MM6690 (= GT. I-3020a)

Loc. T608, the Saku River, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 05'41"E, 44 ° 44'47"N)

Unit I1b, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Desmoceras (Pseudouhligella) japonicum mediocompressa* Matsumoto, 1954**

T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands. Jap. Soc. Prom. Sci., Tokyo, p. 257, pl. 2, fig. 3a, b

Paratype: UMUT MM6691 (= GT. I-3021a)

Loc. T591d, Abeshinai River, Nakagawa Town, Teshio

Province, northern Hokkaido (142°02'24"E, 44°41'09"N)
Unit IIB (lower part), Middle Yezo Group
Cenomanian, Upper Cretaceous

***Desmoceras (?) pseudodifficile* Yabe and Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 9, No. 2, p. 70(38),
pl. 15 (4), fig. 11

Holotype: Unnumbered specimen at Institute of Geology and
Paleontology, Tohoku University

Ishido, Minami-Saku County, Nagano Prefecture, central
Honshu

Ishido Group (= Ishido Formation)

Barremian, Lower Cretaceous

***Desmoceras yubarens* Jimbo, 1894**

(= *Mesopuzosia yubarens* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 174, pl. 1, fig. 6, 6a.

Holotype: UMUT MM7508 (= GT. I-97)

Yubari, Sorachi Province, central Hokkaido

Upper Yezo Group

Coniacian, Upper Cretaceous

Remarks: The generic position of this species was transferred
to *Mesopuzosia* by Matsumoto (1954, p. 86, pl. 13, fig. 3a,
b).

Reference: Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu
Univ., Ser. D, Vol. 5, No. 2, 69-118, pls. 9-23.

***Dihamites obiraensis* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3,
p. 355, pl. 59, fig. 2

Holotype: Ob 1006, K. Muramoto's private collection

Aka-no-sawa Creek, a northern tributary of the Obirashibe
River, Tappu area, Obira Town, Rumoi Province,
northwestern Hokkaido (ca. 141°58'E, 44°44'08"N)

Unit Uh or higher, Upper Yezo Group

Upper Santonian, Upper Cretaceous

***Dipoloceras (Diplasioceras) tosaense* Matsumoto and
Hirata, 1969**

Jour. Fac. Sci., Hiroshima Univ., Ser. C, Vol. 6, No. 1, p. 179,
pl. 20, fig. 1a-c

Holotype: M. Hirata Collection No. 7002 (internal mould)
and No. 7003 (external mould), now preserved at the
Geological Museum in Makino Botanical Garden, Kochi

Loc. no. 1603, Nakahashi, Azai, Hewa, Tosa City, Kochi
Prefecture, Shikoku

Hayama Formation

Middle Albian, Lower Cretaceous

***Douvilleiceras nodosocostatiforme* Shimizu, 1931**

(= *Diadochoceras nodosocostatiforme* (Shimizu, 1931))

Sci. Rep. Tohoku Imp. Univ., 2nd ser., Vol. 15, No. 1, p. 35, pl.
1, figs. 6, 7

Holotype: IGPS 35152

Loc. Hn. 4151, Matsushima, Omoto village, Iwate Prefecture,
northeast Honshu (141°58'57"E, 39°49'51"N)

Hiraiga Formation, Miyako Group

Uppermost Albian, Lower Cretaceous

Remarks: The generic position of this species was transferred
to *Diadochoceras* by Obata (1975, p. 2).

Reference: Obata, I., 1975. Bull. Natn. Sci. Mus., Ser. C, Vol.
1, No. 1, 1-10. pls. 1-3.

***Eodouvilleiceras kumaense* Matsumoto and Tamura, 1982**

Proc. Jap. Acad., Vol. 58, Ser. B, p. 149, fig. 2A

Holotype: GK. H6904

Loc. Km 4043B, right side of Nakazono River, a tributary to
the River Kuma, Kuma area, about 1700m SE of Tomochi,
Kumamoto Prefecture, west Kyushu (130°39'39"E, 32°
15'31"N)

Lower part of Tomochi Formation

Uppermost Aptian, Lower Cretaceous

***Eodouvilleiceras kumaense* Matsumoto and Tamura, 1982**

Proc. Jap. Acad., Vol. 58, Ser. B, p. 149, fig. 2B

Paratype: Mamoru Itazaki's private collection

Loc. Km 4043B, right side of Nakazono River, a tributary to
the River Kuma, Kuma area, about 1700m SE of Tomochi,
Kumamoto Prefecture, west Kyushu (130°39'39"E, 32°
15'31"N)

Itazaki Formation of the Itshochi Group

Uppermost Aptian, Lower Cretaceous

***Eodouvilleiceras matsumotoi* Obata, 1969**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 76, p. 166, pl.
18, fig. 5a-e; text-fig. 1

Holotype: NSM 7272 (pl. 18, fig. 5a-e; text-fig. 1)

Paratypes: NSM 7269, NSM 7281 (list only)

Loc. Hn. 4201, Tairajima, Omoto village, Iwate Prefecture,
northeastern Honshu (141°59'00"E, 39°49'54"N)

Hiraiga Formation, Miyako Group

Upper Aptian, Lower Cretaceous

***Eodouvilleiceras matsumotoi* Obata, 1969**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 76, p. 166, pl.
18, figs. 2a-f, 3a-c

Paratypes: NSM 7263 (p. 166, list only), NSM 7264 (pl. 18,
fig. 2a-f), NSM 7268 (pl. 18, fig. 3a-c)

Loc. Hn. 4151, Matsushima, Omoto village, Iwate Prefecture,
northeastern Honshu (141°58'57"E, 39°49'51"N)

Hiraiga Formation, Miyako Group

Upper Aptian, Lower Cretaceous

***Eodouvilleiceras matsumotoi* Obata, 1969**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 76, p. 166, pl.
19, fig. 2

Paratype: IGPS. 87145

Loc. Hn. 4157, Matsushima, Omoto village, Iwate Prefecture,

northeastern Honshu (141°58'57"E, 39°49'51"N)
Hiraiga Formation, Miyako Group
Upper Aptian, Lower Cretaceous

***Eogunnarites hashimotoi* Matsumoto and Inoma, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p.120-122, pl. 30, figs. 1-2

Holotype: TKD. 30590

Loc. P2, Shumarinai River, Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eogunnarites pentagonus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 74, pl. 16, figs. 1, 2

Holotype: TTC. 641008-A (pl. 16, fig. 1), Takemi Takahashi's private collection (pl. 16, fig.1)

Paratype: TTC. 641088 (pl. 16, fig. 2), Takemi Takahashi's private collection

7th branch of Kami-ichi-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142°03'04"E, 43°16'36"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eogunnarites pentagonus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 74, pl. 16, figs. 3, 4; pl. 17, figs. 3, 4

Paratypes: TTC. 410724 (pl. 16, fig. 3), TTC. 570428 (pl. 16, fig. 4), TTC. 390917 (pl.17, fig. 3), TTC. 390706 (pl. 17, fig. 4), Takemi Takahashi's private collection

Loc. IK1100, lower stream of the Bannosawa Creek, a tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142°00'15"E, 43°13'34"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eogunnarites pentagonus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 74, pl.17, fig.2
Paratype: TTC. 410830, Takemi Takahashi's private collection

Suido-no-sawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141°59'50"E, 43°15'30"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eogunnarites sanadai* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 78, pl. 18, fig. 2
Holotype: TTC. 391028, Takemi Takahashi's private collection

Loc. IK1101, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142°00'15"E, 43°13'34"N)
Unit Iib, Mikasa Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Eogunnarites sanadai* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 78, pl.18, figs. 1, 3

Paratypes: GK. H8344 (pl. 18, fig. 1), TTC. 370501, Takemi Takahashi's private collection (pl. 18, fig. 3)

Suido-no-sawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141°59'50"E, 43°15'30"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eogunnarites tanakai* Hayakawa, 1997**

Bull. Mikasa City Mus., No. 1, p. 20, fig. 1.

Holotype: MCM-A611

Loc. no. 558, Shumarinai area, Uryu County, northwestern Hokkaido

Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eomadrasites nipponicus* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 135, pl. 10, fig. 3

Holotype: GK. H1559

A river gravel at loc. T233p, Shibunnai-toge-no-sawa Creek, Saku (Abeshinai) area, Nakagawa Town, northern Hokkaido (141°04'52"E, 44°39'39"N)

Unit Iib, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eomadrasites robustus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 85, pl. 19, fig. 4
Holotype: TTC. 420821, Takemi Takahashi's private collection

Loc. IK1102, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Eomadrasites subnipponicus* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 137, pl. 10, fig. 2a, a', b, text-fig. 8

Holotype: UMUT MM6877 (= GT. I-3235)

Loc. T863, the Abeshinai Valley, Saku (Abeshinai) area, Nakagawa Town, northern Hokkaido (142°02'33"E, 44°41'31"N)

Unit Iia, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Epigonicerias glabrum* var. *problematica* Matsumoto, 1942**

Proc. Imp. Acad. Tokyo, Vol. 18, p. 672, fig. 1

Holotype: UMUT MM5529

Hokkaido (no detailed locality record)

Upper Yezo Group

Senonian, Upper Cretaceous

***Epipuzosia maya* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 142, fig. 66

Holotype: YKC. 570915, Y. Kawashita's private collection

Loc. R 8024, Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Unit Mj, Middle Yezo Group

Lower or Middle Turonian, Upper Cretaceous

***Epipuzosia maya* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 142, fig. 67

Paratype: GK. H8100

Loc. R 2101b, Kanajiri-zawa Creek, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142°00'05"E, 44°06'07"N)

Unit Mj, Middle Yezo Group

Lower or Middle Turonian, Upper Cretaceous

***Epipuzosia maya* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 142, fig. 68

Paratype: GK. H8101

Loc. R 2101m, Kanajiri-zawa Creek, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142°00'05"E, 44°06'07"N)

Unit Mj, Middle Yezo Group

Lower or Middle Turonian, Upper Cretaceous

***Eubostriochoceras densicostatum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 332, pl. 52, fig. 2

Holotype: M 90, T. Muramoto's private collection

Loc. Ik 1172, near "9 km point" of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (142°00'10"E, 43°13'39"N)

Upper Yezo Group

Santonian, Upper Cretaceous

***Eubostriochoceras indopacificum* Matsumoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 18, No. 2, p. 333, pl. 18, fig. 1

Holotype: IGPS 35159

Sakurazawa Creek, Oriki, Futaba County, Fukushima Prefecture, northeastern Honshu (ca. 140°58'E, 37°12'N)

Lower Futaba Formation

Coniacian, Upper Cretaceous

***Eubostriochoceras muramotoi* Matsumoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 18, No. 2,

p. 335, pl. 19, fig. 1

Holotype: No. 6209, T. Muramoto's private collection

Loc. Ik 2107 p1, Pombets Go-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'00"E, 43°14'19"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Eubostriochoceras muramotoi* Matsumoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 18, No. 2, p. 335, pl. 19, fig. 2

Paratype: No. 1430A, T. Muramoto's private collection

Ichi-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°02'E, 43°15'N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Euomphaloceras asura* Matsumoto and Muramoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 277, pl. 35, fig. 1; pl. 36, fig. 1; text-fig. 7

Holotype: GK. H5602

Loc. T 1165, Saku-gakko-no-sawa Creek, Abeshinai-Saku area, Nakagawa Town, northern Hokkaido (142°01'06"E, 44°44'14"N)

Unit IIB-c, Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

***Eupachydiscus keramasatoshii* Matsumoto, 1990**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 160, p. 624, figs. 3A-C, 4

Holotype: No. 482, M. Kera's private collection

Loc. Y 5512, Masago-zawa Creek, a tributary of the Shuparo River, Oyubari area, central Hokkaido (ca. 142°07'E, 43°10'N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Fagesia japonica* Matsumoto and Muramoto, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 109, p. 283, pl. 39, fig. 3

Holotype: HCS. No. 1 (Geological Section, Hokkaido Colliery & Steamship Co. Ltd., Yubari)

Loc. H2074, the left bank of creek called the Nutapomanai, a tributary of the River Hobetsu, Hobetsu area, central Hokkaido (142°10'49"E, 42°54'54"N)

Middle Yezo Group

Lower Turonian, Upper Cretaceous

***Fagesia japonica* Matsumoto and Muramoto, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 109, p. 283

Paratype: GK. H5855

Loc. R5231b, an outcrop in the main stream of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142°00'26"E, 44°06'13"N)

Middle Yezo Group
Lower Turonian, Upper Cretaceous

***Fagesia japonica* Matsumoto and Muramoto, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 109, p. 283, pl. 39, fig. 2

Paratype: Ob1005, K. Muramoto's private collection

Loc. R4601p (250 m NWW from the conference with a small tributary called the 82 Rin-pan-no-sawa), Naka-kinembetsu River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°56'12"E, 44°01'44"N)

Middle Yezo Group
Lower Turonian, Upper Cretaceous

***Ficheuria pusilla* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 290, text-fig. 15; pl. 42, fig. 4

Holotype: TKD. 30603

Loc. P5, Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group
Upper Albian, Lower Cretaceous

***Ficheuria pusilla* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 290, pl. 42, fig. 5

Paratype: TKD. 30168 (A, B)

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group
Upper Albian, Lower Cretaceous

***Forbesiceras mikasaense* Matsumoto, 1897**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 145, p. 21, fig. 3-1a-c; text-fig. 1

Holotype: TTC. 390413, T. Takahashi's private collection

Loc. IK 1100, Katsurazawa quarry (now abandoned), on the right side of the Ikushumbetsu River, Mikasa Town, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Forbesiceras mikasaense* Matsumoto, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 145, p. 21, figs. 4-1a-c, 5-1a, b, 6-1a-c, 6-2a-c, 3a-c, 6-4a-c, 6-5, 7-1a-c, 7-2a, b

Paratypes: MC. Ik 1101c, T. & K. Muramoto's private collection (fig. 4-1a-c); TTC. 410626 (fig. 5-1a, b), TTC. 390412 (fig. 6-1a-c), TTC. 400426 (fig. 6-2a-c), TTC. 400728 (fig. 6-3a-c), TTC. 410710 (fig. 6-4a-c), T. Takahashi's private collection; H. Inoue's private collection (p. 21, list only); No. 129, K. Sanda's private collection (fig. 7-1a-c); Y. Kera's private collection (fig. 7-2a, b); GK. H8108 (fig. 6-5); GK. H8125 (p. 21, list only)

Loc. IK 1100-IK1101, Katsurazawa quarry (now abandoned),

on the right side of the Ikushumbetsu River, Mikasa Town, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Forresteria (Forresteria) armata* Matsumoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 313, pl. 41 [29], fig. 1; text-fig. 8

Holotype: GK. H5621

A fallen nodule at Loc. Ik 2144p, Pombets Gono-sawa Creek, Pombets, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (141°58'31"E, 43°17'30"N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Forresteria (Muramotoa) muramotoi* Matsumoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 320, pl. 43 [31], fig. 1

Holotype: GK. H5620

A fallen nodule at loc. Ik2150p, Pombets Gono-sawa Creek, Pombets, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (141°58'34"E, 43°17'32"N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Forresteria (Muramotoa) muramotoi* Matsumoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 320, p. 320

Paratype: T. Takahashi's private collection (list only)

Pombets Gono-sawa Creek, Pombets, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (ca. 141°58'E, 43°17'N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Forresteria (Muramotoa) yezoensis* Matsumoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 317, pl. 42 [30], fig. 2; text-fig. 10

Holotype: GK. H5462

A fallen nodule at loc. Ik2155pl, Pombets Gono-sawa Creek, Pombets, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (141°58'35"E, 43°17'35"N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Forresteria (Muramotoa) yezoensis* Matsumoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 3, p. 317, pl. 42 [30], fig. 1

Paratypes: GK. H5463 [=T. Muramoto's coll. no. P5-6323](pl. 42 [30], fig. 1), GK. H5557 [=T. Takahashi's coll. no. 41-6-1.1](p. 317, list only)

Pombets Gono-sawa Creek, Pombets, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (ca. 141°

58°E, 43°17'N)
Upper Yezo Group
Coniacian, Upper Cretaceous

***Gabbioceras mikasaense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 4, fig. 2-4a,b
Holotype: MCM. A397
Loc. 1 (NSM PCL 4-14-14), a roadside cliff, Ikushumbets area, Misaka City, Sorachi Province, central Hokkaido (141° 58'32"E, 43°14'02"N)
Member 2b, Misaka Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Gabbioceras mikasaense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 4, figs. 1-2; 2-3a,b.
Paratype: MCM. A399
Loc. 2 (NSM PCL 4-14-13), a roadside cliff, Ikushumbets area, Misaka City, Sorachi Province, central Hokkaido (141° 58'30"E, 43°14'04"N)
Member 2a, Misaka Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Gabbioceras mikasaense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 4, figs. 2-5, 2-6, 2-8
Paratypes: MCM. A398 (fig. 2-5), MCM. A400 (fig. 2-6), MCM. A401 (fig. 2-8)
Loc. 3 (NSM PCL 4-15-1), a cliff above a shelter covering the prefectural road from Ikushumbets to Katsurazawa dam, Ikushumbets area, Misaka City, Sorachi Province, central Hokkaido (142°00'02"E, 43°14'34"N)
Member 2b, Misaka Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Gabbioceras yezoense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 2, figs. 1-1, 2-2a, b
Holotype: NSM. PM8300
Loc. 4 (NSM PCL 3-35-4), a concretion in the Shumarinai-gawa River, Horokanai Town, northwestern Hokkaido (142°05'46"E, 44°16'49"N)
Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Gabbioceras yezoense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 2, fig. 2-1a-c
Paratype: NSM. PM8299
Loc. 6 (NSM PCL 3-4,5-4), a concretion gravel on the coast near the fishery harbor of Higashiura, Wakkanai City, Soya Peninsula, northern Hokkaido (142°01'48"E, 45°25'26"N)
Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Gabbioceras yezoense* Shigeta, 1996**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 22, Nos. 1-2, p. 2, fig. 2-7.
Paratype: UMUT MM18958
Loc. 5 (NSM PCL 3-35-3), a concretion gravel in the Suribachi-zawa Creek, Sounnai River, Horokanai Town, northwestern Hokkaido (142°04'52"E, 44°13'00"N)
Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Gaudryceras hamanakense* Matsumoto and Yoshida, 1979**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 114, p. 68, pl. 10, figs. 1, 2; pl. 11, figs. 1, 2
Holotype: GK. H5873 (pl. 10, fig. 1)
Paratypes: YU. C7615 (S. Yoshida Collection) (pl. 10, fig. 2; pl. 11, fig. 2), TKD. 30481 (pl. 10, fig. 3), TKD. 30480 (pl. 11, fig. 1)
Loc. KU1056A, Ponporoto, Hamanaka Town, Akkeshi County, eastern Hokkaido (145°09'46"E, 43°08'43"N)
Lower part of At 2, Akkeshi Formation, Nemuro Group
Upper Maastrichtian, Upper Cretaceous

***Gaudryceras izumiense* Matsumoto and Morozumi, 1980**

Bull. Osaka Mus. Nat. Hist., No. 33, p. 12, pl. 11, fig. 1; pl. 12, fig. 1; pl. 13, fig. 1
Holotype: OMNH. M1125 (pl. 11, fig. 1)
Paratypes: MT54 (pl. 12, fig. 1), MT 82 (pl. 13, fig. 1)(M. Tani's private collection)
Loc. 7, Sobura, Kaizuka City, Osaka Prefecture, west Honshu (ca. 135°25'E, 34°22'N)
Horizon B5, Azenotani Formation, Izumi Group
Maastrichtian, Upper Cretaceous

***Gaudryceras limatum* Yabe, 1903**

(= *Anagaudryceras limatum* (Yabe, 1903))

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 34, pl. 6, fig. 3a,b
Holotype: UMUT MM7465 (= GT. I-193)
Yoshiashizawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido
Upper Ammonite-beds (= Upper Yezo Group)
Coniacian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Anagaudryceras* by Matsumoto (1942, p. 666).
Reference: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol.18, 666-670.

***Gaudryceras limatum* Yabe, 1903**

(= *Anagaudryceras limatum* (Yabe, 1903))

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 34, pl. 4, fig. 2; pl. 5, fig. 2.
Paratype: UMUT MM7466 (= GT. I-194)

Yubarigawa (= Shubari River), Oyubari area, Sorachi Province, central Hokkaido
Upper Ammonite-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Anagaudryceras* by Matsumoto (1942, p. 666).
Reference: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol.18, 666-670.

***Gaudryceras mamiyai* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 55, pl. 24, fig. 1-d
Holotype: GK. H5974
Paratypes: MNH. 185 (pl. 24, fig. 1-d), MNH. 186 (p. 55, list only) ; T. Miyauchi's private collection
Kiyohama-II, Soya Peninsula, northern Hokkaido (141 ° 54'13"E, 45 °30'35"N)
Unit H, Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Gaudryceras striatum* (Jimbo, 1894) var. *pauciradiata* Matsumoto, 1941**

Jour. Geol. Soc. Japan, Vol. 48, No. 568, p. 21, text-fig. 2c
Syntype: UMUT MM6887 (= GT. I-3516)
Abeshinai area, Nakagawa Town, Teshio province, northern Hokkaido (detailed locality undescribed)
Upper Yezo Group
Campanian, Upper Cretaceous

***Gaudryceras striatum* var. *picta* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 31, pl. 4, fig. 6a-c
Holotype: UMUT MM7467 (= GT. I-192)
Uipets-rubeshibe, Enbetsu Town, Province of Teshio, northern Hokkaido (ca. 141 °59'E, 44 °42'N)
Pachydiscus-beds (= Upper Yezo Group)
Campanian, Upper Cretaceous

***Gaudryceras subcostatum* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 75, fig. 38A-E
Holotype: UMUT MM19693 (= GT. I-3268a)(fig. 38A-C)
Paratype: UMUT MM19694 (= GT. I-3268b)(fig. 38D, E)
Loc. T 881b, Shibunnai, Abeshinai River, Nakagawa Town, Teshio Province, northern Hokkaido (142 °05'24"E, 44 ° 39'41"N)
Unit IIb, Middle Yezo Group
Cenomanian, Upper Cretaceous

***Gaudryceras subcostatum* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 75, fig. 38D, E
Loc. T 881b, Shibunnai, Abeshinai River, Nakagawa Town, Teshio Province, northern Hokkaido (142 °05'24"E, 44 ° 39'41"N)
Unit IIb, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Gaudryceras tenuiliratum* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 19 (see also Yokoyama, 1890, pl. 18, figs. 12a, b)
Lectotype: Nr. 1889. IX. 16, Bayer Staatssammlung für Paläontologie und historische Geologie, München
Iburi (= Efue), Urakawa area, Hidaka Province, southern central Hokkaido (ca. 142 °44'E, 42 °12'N)
Pachydiscus-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: Matsumoto (1963, p. 29) designated this specimen as the lectotype.
Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniv. Vol., 27-32, pls.44-51.

***Gaudryceras tenuiliratum* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 19, pl. 3, fig. 3
Paralectotype: UMUT MM7473
Bannosawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (ca. 141 ° 59'E, 43 °13'N)
Pachydiscus-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: Matsumoto (1995, p. 103) designated this specimen as the paralectotype.
Reference: Matsumoto, T., 1995. Palaeont. Soc. Japan, Spec. Paps., No. 35, 1-152, pls. 10-31.

***Gaudryceras tenuiliratum* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 19, pl. 3, fig. 4
Paralectotype: UMUT MM7474
Sanushube Creek, a tributary of the River Hobetsu, Yufutsu-gun (Iburi Province), southern central Hokkaido (ca. 142 °07'34"E, 42 °53'04"N)
Pachydiscus-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: Matsumoto (1995, p. 103) designated this specimen as the paralectotype.
Reference: Matsumoto, T., 1995. Palaeont. Soc. Japan, Spec. Paps., No. 35, 1-152, pls. 10-31.

***Gaudryceras tenuiliratum* var. *infrequens* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p.28, pl. 4, fig.3a,b.
Lectotype: UMUT MM7470 (missing)
Opirashibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido
Upper Ammonite-beds (*Scaphites* beds) (= Middle Yezo Group)
Senonian, Upper Cretaceous
Remarks: Matsumoto (1995, p. 103) designated this

specimen as the lectotype, but the specimen is now missing.
Reference: Matsumoto, T., 1995. Palaeont. Soc. Japan, Spec. Paps., No. 35, 1-152, pls. 10-31.

***Gaudryceras tenuiliratum* var. *intermedia* Yabe, 1903
(= *Gaudryceras intermedium* Yabe, 1903)**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol.18, No. 2, p. 27, pl. 3, fig. 1a, b
Syntype: UMUT MM7471 (= GT. I-654) (missing)
Sanushube Creek, a tributary of the River Hobetsu, Yufutsu-gun (Iburi Province), southern central Hokkaido (ca. 142°07'34"E, 42°53'04"N)
Upper Ammonite-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous

***Gaudryceras tenuiliratum* var. *ornata* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 24, pl. 3, fig. 2,a-b.
Syntype: UMUT MM7472 (missing)
Kikumezawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°01'E, 43°12'N)
Pachydiscus-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous

***Gaudryceras tombetsensis* Matsumoto, 1984**

Sci. Rep. Yokosuka City Mus., No. 32, p. 2, pl. 1, figs. 1-2
Holotype: GK. H5991
Lower course of the Kikusuigawa Creek, a tributary of the Tombetsu River, near Matsuneshiri, Esashi County, northern Hokkaido (142°12'52"E, 44°55'50"N)
Member H3 or possibly Member H4, Hakobuchi Group
Maastrichtian, Upper Cretaceous

***Gaudryceras tombetsensis* Matsumoto, 1984**

Sci. Rep. Yokosuka City Mus., No. 32, p. 2, pl. 2, figs. 1-4
Paratype: GK. H5992
A fallen nodule in the Heitaro-zawa Creek, a tributary of the Tombetsu River, about 3.5km northwest of the street of Nakatonbetsu Town, northern Hokkaido (ca. 142°15'E, 44°59'N)
Unit E1, Hakobuchi Group
Maastrichtian, Upper Cretaceous

***Gaudryceras venustum* Matsumoto, 1984**

Sci. Rep. Yokosuka City Mus., No. 32, p. 5, pl. 3, figs. 1-2
Holotype: GK. H5994
Loc.H311a, Kiusu, Nakahobetsu, Yufutu County, southern central Hokkaido (142°09'17"E, 42°48'31"N)
Bed IVc5, upper part of the Fukaushi Formation, Hakobuchi Group
Upper Maastrichtian, Upper Cretaceous

***Gaudryceras venustum* Matsumoto, 1984**

Sci. Rep. Yokosuka City Mus., No. 32, p. 5
Paratype: GK. H5999
Loc. H172, western branch of the Panke-rusa-no-sawa Creek, a northern tributary of the Hobestu River, Tomiuchi (= Hetonai) area, southern-central Hokkaido
Bed IVc5, upper part of the Fukaushi Formation, Hakobuchi Group
Lower Maastrichtian, Upper Cretaceous

***Gaudryceras Yamashitai* Yabe, 1903**

(= *Anagaudryceras yamashitai* (Yabe, 1903))
Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 38, pl. 4, fig. 7
Holotype: UMUT MM7462 (= GT. I-201)
Makaupippe or Sanushibe, Popets (= Hobetsu River), Hobetsu area, Iburi Province, Hokkaido
Upper Ammonite-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Anagaudryceras* by Matsumoto (1942, p. 666).
Reference: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol. 18, 666-670.

***Gaudryceras Yokoyamai* Yabe, 1903**

(= *Anagaudryceras yokoyamai* (Yabe, 1903))
Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 36, pl. 6, figs. 1a-b, 2a-b; pl. 7, fig. 6'
Holotype: UMUT MM7464 (= GT. I-197)(pl. 6, fig. 1a, b)
Paratypes: UMUT MM7463 (= GT. I-208)(pl. 6, fig. 2a, b; pl. 7, fig. 6'), UMUT. MM19777 [= GT. I-199] (list only)
Yubarizawa(= Yubari River or Ikushumbets River), Province of Ishikari (now Sorachi), central Hokkaido
Upper Ammonite-beds (= Upper Yezo Group)
Senonian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Anagaudryceras* by Matsumoto (1941, p. 20).
Reference: Matsumoto, T., 1941. Jour. Geol. Soc. Japan, Vol. 48, No. 568, 17-37 (in Japanese).

***Gauthiericeris rarum* Yabe, 1925 (Yabe MS. Nom.)**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, No. 4, p. 135 (11), pl. 33 (4), figs. 11-15
Holotype: Tohoku Univ. specimen (registered number undescribed)
Kikume-zawa Creek, near the junction with the Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (now under the Katsurazawa Lake) (142°00'49"E, 43°13'29"N)
Upper Ammonite Beds (Upper Yezo Group)
Senonian, Upper Cretaceous

***Grandidiericeris nagoi* Matsumoto and Saito, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 145, p. 2, figs. 1A-C & 3-1a, b, c

Holotype: GMH. No. 12008

Loc. IK 966d, a river-side outcrop in the Ikushumbets River, now submerged under the Katurazawa Lake, Mikasa City, Sorachi Province, central Hokkaido (142 °00'40"E, 43 °14'11"N)

Green sandstone (Member GS2), Upper Yezo Group
Coniacian, Upper Cretaceous

***Grandidierceras nagoi* Matsumoto and Saito, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 145, p. 2, fig. 4-1a, b

Paratype: IGPS. 98917

Loc: Unknown. Possibly Hokkaido

Possibly Upper Yezo Group

Possibly Coniacian, Upper Cretaceous

***Haboroceras haboroense* Toshimitsu, 1988**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 2, p. 151, pl. 29, fig. 3a-e

Holotype: GK. H8216

Loc. RH1200f, a road cut on the Sakasagawa forest road, Haboro area, Tomamae County, northwestern Hokkaido (141 °58'22"E, 44 °16'07"N)

Middle part of the Upper Haborogawa Formation, Upper Yezo Group

Upper Santonian - Lower Campanian, Upper Cretaceous

***Hamites obstrictum* Jimbo, 1894**

(= *Polyptychoceras obstrictum* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 184, pl. 7, fig. 2,2a

Lectotype: UMUT MM7523 (= GT. I-124)

The Obirashibe River, about 48 km from its mouth, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Upper Cretaceous

Remarks: The generic position of this species was transferred to *Polyptychoceras* by Wright and Matsumoto (1954, p. 117). Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls. 7-8.

***Hamites quadrinodosus* Jimbo, 1894**

(= *Pseudoxybeloceras quadrinodosum* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 185, pl. 7, fig. 3,3a

Lectotype: UMUT MM7524-1 (= GT. I-125)

Near Chupitaushunai, a left tributary of the Tonbetsu River, Kitami Province, northern Hokkaido

Upper Yezo Group

Turonian – Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Polyptychoceras* by Wright and Matsumoto (1954, p. 119). Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls. 7-8.

***Hauericeras angustum* Yabe, 1904**

(= *Hauericeras* (*Gardeniceras*) *angustum* Yabe, 1904)

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 33, pl. 5, figs. 5, 6.

Holotype: UMUT MM7573 (= GT. I-257)

Ikandai coast, near Urakawa, Province of Hidaka, southern Hokkaido (142 °44'23"E, 42 °10'32"N)

Upper Ammonite-beds (=Upper Yezo Group)

Senonian, Upper Cretaceous

***Helicoceras scalare* Yabe, 1904**

(= *Scalarites scalaris* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 9, pl. 3, fig. 2.

Holotype: UMUT MM7549a (= GT. I-233)

Opiraushibets (=Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Scaphites-beds (=Middle Yezo Group)

Senonian (Turonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Polyptychoceras* by Wright and Matsumoto (1954, p. 117). Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls. 7-8.

***Helicoceras scalare* Yabe, 1904**

(= *Scalarites scalaris* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 9, pl. 3, figs. 3a-c.

Paratype: UMUT MM7549b (= GT. I-234)

Opiraushibets (=Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Scaphites-beds (=Middle Yezo Group)

Senonian (Turonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Polyptychoceras* by Wright and Matsumoto (1954, p. 117). Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls. 7-8.

***Helicoceras* (?) *venustum* Yabe, 1904**

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 11, pl. 5, figs. 1, 2.

Holotype: UMUT MM7552 (= GT. I-240)

Sanushibe, Province of Iburu, central Hokkaido

Pachydiscus-beds (=Upper Yezo Group)

Senonian, Upper Cretaceous

***Helicoceras* (?) *venustum* Yabe, 1904**

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 11, pl. 3, fig. 4.

Paratype: UMUT MM7551 (= GT. I-239)

Opiraushibets (=Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Scaphites-beds (=Middle Yezo Group)
Senonian (Turonian), Upper Cretaceous

***Hemiptyloceras ezoanum* Inoma, 1980**

Prof. Saburo Kanno Mem. Vol., Univ. Tsukuba, p. 167, pl. 21, figs. 1, 2; text-fig. 1

Holotype: TKD. 300721B (pl. 21, fig. 2)

Paratype: TKD. 30071A (pl. 21, fig. 1; text-fig. 1)

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group

Cenomanian, Upper Cretaceous

***Heteroceras (?) japonicum* Yabe, 1904**

(= *Eubostrychoceras japonicum* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 17, pl. 3, fig. 8.

Holotype: UMUT MM7559 (= GT. I-249)

Yubarigawa (=Yubari River), Province of Ishikari, central Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Eubostrychoceras* by Matsumoto (1977, p. 329).

Reference: Matsumoto, T., 1977. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 23, No. 3, 303-366, pls. 43-61.

***Heteroceras (?) orientale* Yabe, 1904**

(= *Hyphantoceras orientale* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 19, pl. 3, fig. 7.

Holotype: UMUT MM7572 (= GT. I-251)

Urakawa, Province of Hidaka, southern central Hokkaido

Upper Ammonite-beds (= Upper Yezo Group)

Senonian (Santonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Hyphantoceras* by Matsumoto (1977, p. 310).

Reference: Matsumoto, T., 1977. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 23, No. 3, 303-366, pls. 43-61.

***Heteroceras (?) Oshimai* Yabe, 1904**

(= *Hyphantoceras oshimai* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 12, pl. 3, fig. 5.

Holotype: UMUT MM7553 (= GT. I-241)

Ikushumbets, Province of Ishikari (now Sorachi), central Hokkaido

Upper Ammonite-beds (= Upper Yezo Group)

Senonian (Santonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Hyphantoceras* by Shimizu (1935, p. 193).

Reference: Shimizu, S., 1935. Jour. Shanghai Sci. Inst., Sec. 2, Vol. 1, 159-226.

***Heteroceras (?) Oshimai* Yabe, 1904**

(= *Hyphantoceras oshimai* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 12, pl. 3, fig. 6.

Paratype: UMUT MM7554 (= GT. I-242)

Shikuruki, Province of Ishikari (now Sorachi), central Hokkaido

Upper Ammonite-beds (= Upper Yezo Group)

Senonian (Santonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Hyphantoceras* by Shimizu (1935, p. 193).

Reference: Shimizu, S., 1935. Jour. Shanghai Sci. Inst., Sec. 2, Vol. 1, 159-226.

***Heteroceras (?) Otsukai* var. *multicostata* Yabe, 1904**

(= *Bostrychoceras otsukai* var. *multicostata* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 16, pl. 3, fig. 9.

Holotype: UMUT MM7558 (= GT. I-231)

Opiraushibets (=Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Scaphites-beds (Middle Yezo Group)

Senonian (Turonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Bostrychoceras* by Matsumoto (1967, p. 338).

Reference: Matsumoto, T., 1967. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 18, No. 2, 331-347, pls. 18-19.

***Heteroceras (?) Otsukai* var. *multicostata* Yabe, 1904**

(= *Bostrychoceras otsukai* var. *multicostata* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 16, pl. 4, fig. 3; pl. 6, fig. 8

Paratype: UMUT MM7557 (= GT. I-245)

Yubarigawa (=Yubari River), Province of Ishikari (now Sorachi), central Hokkaido

Upper Ammonite-beds (Upper Yezo Group)

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Bostrychoceras* by Matsumoto (1967, p. 338).

Reference: Matsumoto, T., 1967. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 18, No. 2, 331-347, pls. 18-19.

***Heteroceras (?) Otsukai* Yabe, 1904**

(= *Bostrychoceras otsukai* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 16, pl. 4, fig. 1

Holotype: UMUT MM7555 (= GT. I-243)

Kikumezawa Creek, a tributary of the Ikushumbets River, Province of Ishikari (now Sorachi), central Hokkaido (ca. 142°01'E, 43°13'N)

Pachydiscus-beds (=Upper Yezo Group)

Senonian (Santonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Bostrychoceras* by Matsumoto (1967, p. 338).

Reference: Matsumoto, T., 1967. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 18, No. 2, 331-347, pls. 18-19.

***Heteroceras* (?) *Otsukai* Yabe, 1904**

(= *Bostrychoceras otsukai* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ., Tokyo, Vol. 20, No. 2, p. 16, pl. 4, fig. 2; pl. 6, fig. 7

Paratype: UMUT MM7556 (= GT. I-244)

Yubarigawa (=Yubari River), Province of Ishikari, central Hokkaido

Upper Ammonite-beds (=Upper Yezo Group)

Senonian (Santonian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Bostrychoceras* by Matsumoto (1967, p. 338).

Reference: Matsumoto, T., 1967. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 18, No. 2, 331-347, pls. 18-19.

***Heteroptychoceras obatai* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 357

Paratype: NSM. PM7249

Loc. Ob-02, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Santonian, Upper Cretaceous

***Heteroptychoceras obatai* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 357, pl. 60, fig. 1

Paratype: T. Muramoto Collection

Loc. Hbo 2018, Ohtodo-sawa, a branch of the River Haboro, northwestern Hokkaido (ca. 141 °59'E, 44 °15'N)

Unit U5 (fine sandy siltstone), Upper Yezo Group

Santonian, Upper Cretaceous

***Heteroptychoceras obatai* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 357

Paratype: T. Miyauchi's private collection

Chiyenaibo, near Momoshiro, east of Cape Soya, northern Hokkaido

Upper Yezo Group

Santonian, Upper Cretaceous

***Heteroptychoceras obatai* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 357, pl. 58, fig. 4

Holotype: NSM. PM7243

Loc. Y103p, Isojiro-no-sawa Creek, Oyubari area, Sorachi Province, central Hokkaido (142 °07'47"E, 43 °05'48"N)

Upper Yezo Group

Santonian, Upper Cretaceous

***Holcodiscoides aquarius* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 66, pl. 14, fig. 1
Holotype: TTC. 380524, Takemi Takahashi's private collection

Suido-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142 °59'50"E, 43 °15'30"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Holcodiscoides aquarius* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 66, pl. 14, fig. 4

Paratype: TTC. 370717, Takemi Takahashi's private collection

Onko-no-sawa Creek, Pombets, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido

Mikasa Formation, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Holcodiscoides aquarius* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 66, pl. 14, fig. 2

Paratypes: TTC. 370427D, TTC. 370427E, Takemi Takahashi's private collection

Loc. IK1100, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'30"E, 43 °15'00"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Holcodiscoides pusillus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 69, pl. 14, figs. 5-8

Holotype: TTC. 370427F, Takemi Takahashi's private collection (pl. 14, fig. 4)

Paratypes: TTC. 400513 (pl. 14, fig. 6),

TTC. 370427G (pl. 14, fig. 7), TTC. 370427H (pl. 14, fig. 8), Takemi Takahashi's private collection

Loc. IK1100, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'30"E, 43 °15'00"N)

Unit Iib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Holcodiscus Kotoi* Jimbo, 1894**

(= *Yokoyamaoceras kotoi* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 179, pl. 5, fig. 2,2a

Holotype: UMUT MM7517 (= GT. I-107)

The Obirashibe River, about 60 km from its mouth, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Upper Turonian – Coniacian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Yokoyamaoceras* by Wright and Matsumoto (1954, p. 128).

Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, 107-134, pls.

7-8.

***Holotaterceras tatsuyai* Hayakawa, 1998**

Bull. Mikasa City Mus., Nat. Sci., No. 2, p. 42, fig. 1A, B
Holotype: MCM-A612

Horotate River, a tributary of the Kotanbetsu River, Kotanbetsu area, Tomamae County, Rumoi Province, northwestern Hokkaido (ca. 141°59'E, 44°08'N)
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Hoplitoplacenticerias fugen* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 25, pl. 8, fig. 5a, b
Holotype: GK. H5960

Loc. E 33, Wembets (= Embetsu)-Rubeshibe River, Embetsu Town, northern Hokkaido (141°58'49"E, 44°41'50"N)
Unit Y, Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Hoplitoplacenticerias monju* Matsumoto, 1982**

Proc. Jap. Acad., Vol. 58, Ser. B, p. 249, fig. 1a-c
Holotype: GK. H5933

Loc. E 33, Embetsu-Rubeshibe River, Embetsu Town, Teshio Province, northwestern Hokkaido (141°58'49"E, 44°41'50"N)
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Hoplitoplacenticerias monju* Matsumoto, 1982**

Proc. Jap. Acad., Vol. 58, Ser. B, p. 249, fig. 2a-c
Paratype: Y. Kawashita's private collection

A stream of Tan-no-sawa Creek, a branch of the Abeshinai River, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°00'E, 44°44'41"N)
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Hoplitoplacenticerias monju* Matsumoto, 1982**

Proc. Jap. Acad., Vol. 58, Ser. B, p. 249, figs. 1-2
Paratype: GK. H5966

Tan-no-sawa Creek, a tributary of the Abeshinai River, Abeshinai area, Nakagawa Town, northern Hokkaido (ca. 142°00'E, 44°44'41"N)
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Hourcquia kawashitai* Matsumoto and Toshimitsu, 1984**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 25, No. 2, p. 233, pl. 32, figs. 1, 2; text-figs. 2A, B, 3A-D
Holotype: YKC. 57-6-20-E, Y. Kawashita's private collection (pl. 32, fig. 1; text-fig. 2A, B)
Paratypes: GK. H5990 (pl. 32, fig. 2a-c), YKC. 57-9-10-D, Y. Kawashita's private collection (pl. 32, fig. 2a-c)

Floated or fallen nodule in the Karasemi-zawa Creek, Haboro area, northwestern Hokkaido (ca. 142°02'E, 44°18'N)
Lower member of the Shirochi Formation, Middle Yezo Group
Upper Turonian, Upper Cretaceous

***Hourcquia pacifica* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 20, No. 2, p. 311, pl. 49, fig. 2; text-fig. 4
Holotype: GK. H5203
Near the colliery of Kawakami, south Sakhalin, Russia
Possibly Miho Group
Possibly Upper Turonian, Upper Cretaceous

***Hyperpuzosia tamon* Matsumoto, 1988**

Palaeont. Soc. Jap., Spec. Paps., No. 30, p. 147, figs. 69-74, 77
Holotype: YKC. 480628-1, Y. Kawashita's private collection (figs. 69, 70A)
Paratypes: YKC. 480628-2 (figs. 70B-C, 71), YKC. 501005 (fig. 72), YKC. 490927 (fig. 74), YKC. 560820 (fig. 77), Y. Kawashita's private collection; NSM. MM9597 (fig. 73)
Oku-futamata-zawa Creek, a tributary of the Pombets River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido
Unit Ma, Lower Yezo Group
Probably Lower Albian, Lower Cretaceous

***Hyperpuzosia tamon* Matsumoto, 1988**

Palaeont. Soc. Jap., Spec. Paps., No. 30, p. 147, fig. 75.
Paratype: GK. H8103
Loc. Ik 2918p, Oku-futamata-zawa Creek, Pombetsu, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido
Unit Ma, Lower Yezo Group
Probably Lower Albian, Lower Cretaceous

***Hyperpuzosia tamon* Matsumoto, 1988**

Palaeont. Soc. Jap., Spec. Paps., No. 30, p. 147, fig. 76.
Paratype: GK. H8104
Pombetsu River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido
Unit Ma, Lower Yezo Group
Probably Lower Albian, Lower Cretaceous

***Hyperpuzosia tamon* Matsumoto, 1988**

Palaeont. Soc. Jap., Spec. Paps., No. 30, p. 147.
Paratype: TTC. 370722, T. Takahashi's private collection
Loc. Ik 2932, 163-Rinpan-no-sawa Creek, a tributary of the Pombetsu River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido
Unit Ma, Lower Yezo Group
Probably Lower Albian, Lower Cretaceous

***Hyphantoceras (?) heteromorphum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, no. 3, p. 314, pl. 47, fig. 2.

Holotype: NSM. PM7244

Loc. Ik-M1-p5, Kami-ichi-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142° 02'E, 43° 15'N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Hyphantoceras transitorium* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, no. 3, p. 313, pl. 44, fig. 5.

Holotype: NSM. PM7261

Inari-zawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142° 02'20"E, 43° 13'03"N)

Upper Yezo Group

Santonian, Upper Cretaceous

***Hypophylloceras yeharai* Nakai and Matsumoto, 1968**

Jour. Sci. Hiroshima Univ., Ser. C, Vol. 6, No. 1, p. 4, pl. 1, figs. 1-3

Holotype: GK. H6842 (pl. 1, fig. 1)

Paratypes: GK. H6843a (pl. 1, fig. 2), GK. H6843b (pl. 1, fig. 3)

Loc. Kt. 1017, about 500 m southwest of Kiwada, Katsuura Town, Tokushima Prefecture, Shikoku (134° 26'44"E, 33° 55'37"N)

Upper part of Fujikawa Formation

Upper Albian, Lower Cretaceous

***Hypophylloceras yeharai* Nakai and Matsumoto, 1968**

Jour. Sci. Hiroshima Univ., Ser. C, Vol. 6, No. 1, p. 4.

Paratypes: KT No. 660, 661 of Yehara's collection

Sakamoto, Katsuura-gawa area (no record of precise locality on label) (ca. 142° 27'E, 33° 56'N)

Fujikawa Formation

Upper Albian, Lower Cretaceous

***Hypostlingoceras japonicum* Matsumoto and Takahashi, 2000**

Paleont. Res., Vol. 4, No. 4, p. 269, figs. 7A, B, 8A-E

Holotype: GK. H8542

Ganseki-zawa Creek, the 8th branch of the Kami-ichino-sawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 142° 02'53"E, 43° 16'57"N)

Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Hypostlingoceras japonicum* Matsumoto and Takahashi, 2000**

Paleont. Res., Vol. 4, No. 4, p. 269, fig. 9A-E

Paratype: GK. H8541

Loc. 7045 in the Suido-no-sawa Creek, a short branch of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141° 59'05"E, 43° 15'43"N)

Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Hypostlingoceras mikasaense* Matsumoto and Takahashi, 2000**

Paleont. Res., Vol. 4, No. 4, p. 271, fig. 11A-E

Holotype: GK. H8540

Northeastern rivulet ("Migimara") of the Ganseki-zawa Creek, the 8th branch of the Kami-ichino-sawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (142° 02'53"E, 43° 16'57"N)

Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Inflatoceras imaii* Yabe and Shimizu, 1931**

(= *Mortonoceras (Cantabrigites) imaii* (Yabe and Shimizu, 1931))

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 39, pl. 4, fig. 8

Holotype: IGPS 36858

Ponhorokabets Creek, Yubari City, Sorachi Province, central Hokkaido (ca. 141° 57'40"E, 43° 04'20"N)

Lower Ammonites Beds (= Middle Yezo Group)

Upper Albian, Lower Cretaceous

Remarks: The generic position of this species was transferred to *Mortonoceras (Cantabrigites)* by Matsumoto and Harada (1964).

Reference: Matsumoto, T. and Harada, M., 1964. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 15, No. 1, 79-115, pls. 9-11.

***Ishikariceras binodosum* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 236, pl. 43 [26], fig. 1; text-figs. 17 [57]-18 [58]

Holotype: GK. H5576

Upper reaches of Ichi-no-sawa Creek, branch of the Ikushumbets River, Ishikari Province, central Hokkaido (ca. 142° 02'30"E, 43° 16'00"N)

Upper Yezo Group (zone of *Inoceramus uwajimensis*)

Coniacian, Upper Cretaceous

***Jimboiceras mihoense* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 98, pl. 21, fig. 1

Holotype: UMUT MM9130 (= GT. I-2641)

Loc. N131m, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142° 33'E, 47° 20'N)

Zone Mh 5, Miho Group

Upper Coniacian or lower Santonian, Upper Cretaceous

***Jimboiceras mihoense* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2,

p. 98, pl. 21, figs. 2a, b, 3

Paratypes: UMUT MM6652 (= GT. I-2642) (fig. 2a, b),
UMUT MM6653 (= GT. I-2650) (fig. 3)

Loc. N136, the Naibuchi Valley, Naibuchi (=Naiba) district,
south Sakhalin, Russia (ca. 142°33'E, 47°21'N)

Zone Mh 5, Miho Group

Upper part of Coniacian to lower part of Santonian, Upper
Cretaceous

***Karsteniceras obatai* Matsukawa, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 148, p. 349, fig.
3-3

Holotype: NSM. PM9589

Loc. 7309, Isejigaura, Choshi City, Chiba Prefecture, central
Honshu (140°52'15"E, 35°43'26"N)

Kimigahama Formation, Choshi Group

Lower Barremian, Lower Cretaceous

***Karsteniceras obatai* Matsukawa, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 148, p. 349, figs.
1, 2; fig. 3-4

Paratype: NSM. PM9590

Isejigaura, Choshi City, Chiba Prefecture, central Honshu (ca.
140°52'E, 35°43'N)

Kimigahama Formation, Choshi Group

Lower Barremian, Lower Cretaceous

***Karsteniceras obatai* Matsukawa, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 148, p. 349, fig.
3-1a-c

Paratype: NSM. PM9591

Loc. 7403, Isejigaura, Choshi City, Chiba Prefecture, central
Honshu (140°52'15"E, 35°43'22"N)

Kimigahama Formation, Choshi Group

Lower Barremian, Lower Cretaceous

***Karsteniceras obatai* Matsukawa, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 148, p. 349, fig.
3-2

Paratype: NSM. PM9593

Loc. 7433, Isejigaura, Choshi City, Chiba Prefecture, central
Honshu (140°52'17"E, 35°43'19"N)

Kimigahama Formation, Choshi Group

Lower Barremian, Lower Cretaceous

***Kawashitaceras obiraense* Matsumoto, 1984**

Proc. Jap. Acad., Vol. 60, Ser. B, p.342, figs. 2-4

Holotype: Y. Kawashita's private collection

Small branch stream of the Obirashibe River, about a point
500m southeast from the bridge called "Tengu-bashi", Obira
area, Rumoi Province, northwestern Hokkaido (ca. 141°55'E,
44°04'N)

Upper Yezo Group

Upper Turonian or Coniacian, Upper Cretaceous

***Kazanskyella (?) japonica* Matsumoto, 1952**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 3, p. 182,
pl. 13, fig. 2a, b

Holotype: GK. H4022

Taru, Kamibun Villege ?, Takaoka district, Kochi Prefecture,
Shikoku

Susaki formation ?

Lower Cretaceous

***Kitchinites (Neopuzosia) haboroensis* Matsumoto and
Inoma, 1972**

Trans. Proc. Palaeont. Soc. Jap, N. S., No. 87, p. 384, pl. 47,
fig. 5

Holotype: GK. H5654

Loc. IA-1564, Haboro dome, Haboro area, Tomamae County,
northwest Hokkaido

Unit B of Upper Yezo Group

Santonian, Upper Cretaceous

***Kitchinites (Neopuzosia) haboroensis* Matsumoto and
Inoma, 1972**

Trans. Proc. Palaeont. Soc. Jap, N. S., No. 87, p. 384, pl. 47,
fig. 6

Paratype: GK. H5655

Loc. IA-1562, Haboro dome, Haboro area, Tomamae County,
northwest Hokkaido

Unit A to D of of Upper Yezo Group

Santonian, Upper Cretaceous

***Kossmatella (Murphyella) enigma* Matsumoto, Muramoto
and Takahashi, 1972**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 2,
p. 210, pl.33, figs. 1-3

Holotype: GK. H5667 (pl. 33, fig. 1)

Paratypes: GK. H5688 (pl. 33, fig. 2), GK. H5673 (pl. 33, fig.
3)

Loc. Ik 1100, Ikushumbets, Mikasa City, Sorachi Province,
central Hokkaido (141°59'30"E, 43°15'00"N)

Lower part of member IIb, Mikasa Formation (Zone of
Mantelliceras japonicum)

Lower Cenomanian, Upper Cretaceous

***Kossmaticeras flexuosum* Matsumoto, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 96, pl. 22, fig. 2

Holotype: GK. H8342

Nutapomanai Creek, Hobetsu area, Iburi Province,
southern-central Hokkaido (ca. 142°00'E, 42°55'N)

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Kossmaticeras flexuosum* Matsumoto, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 96, pl. 22, fig. 1

Paratype: GK. H5216

Loc. NH9 of K. Tanaka, Takishita, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°54'52"E, 44°03'46"N)

Unit Mm-o, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Kossmaticeras flexuosum* Matsumoto, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 96, pl. 23, fig. 3
Paratype: GK. H8354

Loc. R 2247, Kami-kinenbetsu River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°59'00"E, 44°03'48"N)

Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Kossmaticeras flexuosum* Matsumoto, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 96
Paratype: 0610p, T. Muramoto's private collection

Kami-kinenbetsu River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (ca. 141°59'E, 44°04'N)

Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Kossmaticeras japonicum* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 150, pl. 9, fig. 3a, b

Holotype: UMUT MM7627 (= GT. I-353)

Kikume-zawa Creek, a tributary of the Ikushumbetsu River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°01'E, 43°13'N)

Upper Yezo Group
Senonian, Upper Cretaceous

***Kossmaticeras theobaldianum paucicostatum* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 147, pl. 9, fig. 2
Holotype: Hokkaido University specimen (registered number unknown)

Loc. no. 62004, Bannosawa Creek, a tributary of the Ikushumbetsu River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (ca. 141°59'E, 43°13'N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Kossmaticeras theobaldianum paucicostatum* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 147, pl. 9, fig. 1
Paratype: GK. H4101

Loc. Ik. 931, an outcrop in the Ikushumbetsu River near the confluence with the Bannosawa Creek (now under the Katsurazawa Lake), Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido (142°01'16"E, 43°13'32"N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Leptoceras asiaticum* Yabe and Shimizu, 1926**

(= *Karsteniceras asiaticum* (Yabe and Shimizu, 1926))

Sci. Rep. Tohoku Imp. Univ., Vol. 9, No. 2, p. 73(41), pl. 15(4), fig. 21

Holotype: IGPS 22849

Loc. SA-621, Ishido, Sanchu area, central Honshu (ca. 138°36'E, 36°07'N)

Lower part of Ishido Formation
Lower Barremian, Lower Cretaceous

Remarks: The generic position of this species was transmitted to *Karsteniceras* by Matsukawa, 1988, p. 399).

Reference: Matsukawa, M., 1988. Trans. Proc. Palaeont. Soc. Jap., N. S., No. 149, 396-416, figs. 1-11.

***Lewesiceras kawashitai* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Jap., N. S., No. 113, p. 32, pl. 4, fig. 1

Holotype: Y. Kawashita's private collection

A rolled or fallen nodule in the Ashibetsu River, a point about 2 km downstream from the Kami-Ashibetsu dam, Ashibetsu area, central Hokkaido (142°06'58"E, 43°18'22"N)

Upper Yezo Group
Coniacian, Upper Cretaceous

***Lewesiceras satoi* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Jap., N. S., No. 113, p. 34, pl. 5, fig. 1

Holotype: HCS. No. 187, Geological Section, Hokkaido Colliery & Steamship Co. Ltd., Yubari

A floated nodule at a point about 100 m downstream from the conference with a branch called the Nutapomanai Creek, Hobetsu River, Hobetsu area, central Hokkaido (142°11'25"E, 42°54'34"N)

Middle Yezo Group
Turonian, Upper Cretaceous

***Lewesiceras satoi* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Jap., N. S., No. 113, p. 34

Paratype: HCS. No. 3, Geological Section, Hokkaido Colliery & Steamship Co. Ltd., Yubari

A floated nodule at T. Sato's H2074, in the Nutapomanai Creek, Hobetsu area, central Hokkaido (ca. 142°11'E, 42°55'N)

Middle Yezo Group
Turonian, Upper Cretaceous

***Libycoceras awajiense* Matsumoto and Morozumi, 1988**

Trans. Proc. Palaeont. Soc. Jap., N. S., No. 150, p. 466, figs. 1A-C, 2

Holotype: M. Takada's private collection

Loc. Aw 7 (Nagata), Nagata, Midori Town, Mihara County, Awaji Island, Hyogo Prefecture, west Honshu (134°48'03"E, 34°19'14"N)

Seidan Formation, Izumi Group

Upper Campanian, Upper Cretaceous

***Lymaniceras planulatum* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 1, p. 31, pl. 7, figs. 1-5; pl. 8, figs. 1-3, 6-8; text-figs. 11-12, 14, 15; text-fig. 10

Holotype: GK. H5430 (pl. 7, fig. 1; text-fig. 10)

Paratypes: GK. H5465 (pl. 7, fig. 2), GK. H5467a (pl. 7, fig. 3; text-fig. 12), GK. H5476 (pl. 7, fig. 4), GK. H5474 (pl. 7, fig. 5; text-fig. 11), GK. H5466 (pl. 8, fig. 1), GK. H5429a (pl. 8, fig. 2; text-fig. 14), GK. H5429b (pl. 8, fig. 3), GK. H5528 (pl. 8, fig. 6; text-fig. 15), GK. H5468 (pl. 8, fig. 7), GK. H5472 (pl. 8, fig. 8), GK. H5427 (p. 31; listed only), GK. H5467b (p. 31; listed only)

Loc. Ik2012c, an outcrop in the lower course of the Pombetsu River, a tributary of Ikushumbets, Mikasa City, central Hokkaido (141°58'42"E, 43°16'25"N)

Unit IIIa, Upper Yezo Group (zone of *Inoceramus tenuistriatus* - *I. teshioensis*)

Uppermost Turonian, Upper Cretaceous

***Lymaniceras planulatum* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 1, p. 31, pl. 8, fig. 4; text-fig. 13

Paratype: GK. H5527

Loc. B223, an outcrop in the upper reaches of the Bibai River, Bibai area, central Hokkaido (ca. 142°01'E, 43°22'N)

Bed Uw1, Upper Yezo Group

Uppermost Turonian, Upper Cretaceous

***Lymaniceras planulatum* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 1, p. 31

Paratype: GK. H5526

Loc. B218, an outcrop in the upper reaches of the Bibai River, Bibai area, central Hokkaido (ca. 142°01'E, 43°22'N)

Bed Uw1, Upper Yezo Group

Uppermost Turonian, Upper Cretaceous

***Lytoceras crassicutatum* Jimbo, 1894**

(= *Gaudryceras crassicutatum* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 182, pl. 6, fig. 7,7a

Holotype: UMUT MM7492 (= GT. I-117)

Near the Town of Soya, Soya Peninsula, Kitami Province, northern Hokkaido (ca. 141°53'E, 45°30'N)

Hakobuchi Group

Upper Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Gaudryceras* by Yabe (1903, p. 29).

Reference: Yabe, H., 1903. Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, 1-55, pls. 1-7.

***Lytoceras crassum* Jimbo, 1894**

(= *Tetragonites crassus* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 181, pl. 6, fig. 5, 5a

Holotype: UMUT MM7515 (= GT. I-115)

A nodule in the river gravel of the Pombets River, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Tetragonites* by Matsumoto (1942, p. 672), who suggested this species as a variety of *Epigonoceras glabrum* (Jimbo, 1894).

Reference: Matsumoto, T., 1942. Proc. Imp. Acad. Tokyo, Vol. 18, 666-670.

***Lytoceras denseplicatum* Jimbo, 1894**

(= *Gaudryceras denseplicatum* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 182, pl. 7, fig. 1,1a

Holotype: UMUT MM7491 (= GT. I-118)

Ekimommanoro, a branch of the Anoro River, Yubari coal-field, Sorachi Province, central Hokkaido

Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Gaudryceras* by Yabe (1903, p. 27).

Reference: Yabe, H., 1903. Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, 1-55, pls. 1-7.

***Lytoceras ezoense* Yabe, 1903**

(= *Ammonoceratites ezoense* (Yabe, 1903))

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 9, pl. 1, fig. 1; pl. 5, fig. 1

Holotype: UMUT MM7476

The Pombets River, a tributary of the Ikushumbets River, Mikasa City, Province of Sorachi, central Hokkaido

Lower Ammonite beds (= Middle Yezo Group)

Albian, Lower Cretaceous

Remarks: The generic position of this species was transferred to *Ammonoeras* Lamarck, 1822 by Shimizu (1931, p. 21).

Later, Arkell et al. (1957) treated *Ammonoeras* as a junior synonym of *Ammonoceratites*, Rfinesque, 1815). Reference: Shimizu, S., 1931. Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, 1-40, pls. 1-4; Arkell, W. J. et al., 1957. Mesozoic Ammonoidea. L80-L465. In: Treatise on Invertebrate Paleontology, Part L, Mollusca 4 (ed. Moore, R. C).

***Lytoceras glabrum* Jimbo, 1894**

(= *Tetragonites glabrus* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 180, pl. 6, fig. 2,2a

Holotype: UMUT MM7513 (= GT. I-111)

Ikandai coast, Urakawa area, Hidaka Province, southern-central Hokkaido (142°44'23"E, 42°10'32"N)

Upper Yezo Group

Santonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Tetragonites* by Yabe (1903, p. 43).

Reference: Yabe, H., 1903. Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, 1-55, pls. 1-7.

***Lytoceras imperiale* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 11, pl. 2, fig. 1, pl. 4, fig. 1

Holotype: UMUT MM7475 (= GT. I-173)

A cliff above the large gorge of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 141 ° 59'E, 43 ° 15'N)

Lower Ammonite-beds (= Middle Yezo Group)

Albian, Lower Cretaceous

***Lytoceras sphaeronotum* Jimbo, 1894**

Paläont. Abh., N. F., Vol. 2, No. 3, p. 181, pl. 6, fig. 3,3a

Syntype: UMUT MM7514 (= GT. I-113) (missing)

On way from Tsetomanai to Motomari, north of the town of Esashi, Kitami Province, northern Hokkaido

Upper Yezo Group

Upper Cretaceous

Remarks: This species was regarded as synonymous with *Desmophyllites* cf. *diphyloides* Forbes by Matsumoto (1963, p. 44).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Japan, 25th Anniv. Vol., 41-48, pls. 60-68.

***Lytoceras striatum* Jimbo, 1894**

(= *Gaudryceras striatum* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p. 181, pl. 6, fig. 5,5a

Holotype: UMUT MM7493 (= GT. I-116)

Loc. The Abeshinai-Rubeshibe Creek, a tributary of the Abeshinai River, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 00'23"E, 44 ° 42'23"N)

Upper Yezo Group

Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Gaudryceras* by Yabe (1903, p. 31).

Reference: Yabe, H., 1903. Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, 1-55, pls. 1-7.

***Maccarthytites mikasaensis* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 55, pl. 10, figs. 1-3; text-fig. 8

Holotype: TTC. 380415, Takemi Takahashi's private collection (pl. 10, figs. 1, 2; text-fig. 8)

Paratype: TTC. 370600, Takemi Takahashi's private collection (pl. 10, fig. 3)

Loc. IK1054, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 ° 59'51"E, 43 ° 14'28"N)

Unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Maccarthytites mikasaensis* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 55, pl. 12, fig. 2

Paratype: GK. H8339

Loc. IK1055, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 ° 59'51"E, 43 ° 14'28"N)

Unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Maccarthytites mikasaensis* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 55, pl.11, figs.1, 2, 4; pl.12, fig. 1

Paratypes: TTC. 441019(pl. 11, fig. 2), TTC. 510704(pl.11, fig.1; pl.12, fig.1), TTC. 501101(pl. 11, fig. 4), Takemi Takahashi's private collection

7th branch of the Kami-ichi-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142 ° 02'50"E, 43 ° 15'56"N)

Unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Maccarthytites mikasaensis* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 55, pl. 11, fig. 3

Paratypes: USSR-CM-103a(pl. 11, fig. 3), USSR-CM-103b . 55, listed only), Shigehiro Uchida's private collection

Loc. IK-1402r (Uchida), Suido-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 ° 58'56"E, 43 ° 15'38"N)

Unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Madagascarites ryu* Matsumoto and Muramoto, 1967 (= *Ryuella ryu* (Matsumoto and Muramoto, 1967))**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 18, No. 2, p. 362, pl. 19, fig. 3; pl. 22, fig. 1; pl. 23, fig. 3

Holotype: No. 9100A, Tatsuo Muramoto's private collection (pl. 22, fig. 1; pl. 23, fig. 3)

Paratypes: GK. H5449a, b (= Tatsuo Muramoto Coll. No. 9100c)(pl. 19, fig. 3), No. 9100B, Tatsuo Muramoto's private collection (pl. 23, fig. 1)

Loc. Ik967, an outcrop along the main stream of the Ikushumbets River, Mikasa City, central Hokkaido (142 ° 00'39"E, 43 ° 14'14"N)

Zone of *Reesidites minimus*, Upper Yezo Group

Uppermost Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Ryuella* by Klinger and Kennedy (1997, p. 238).

Reference: Klinger, H. C. and Kennedy, W. J., 1997. Ann. South African Mus., Vol. 105, No. 3, 227-247, 17 figs.

Madagascarites ryu* Matsumoto and Muramoto, 1967*(= *Ryuella ryu* (Matsumoto and Muramoto, 1967))**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 18, No. 2, p. 362, pl. 23, fig. 2

Paratypes: GK. H5451 (pl. 23, fig. 2), GK. H5450 (p. 362, listed only)

Loc. Ik968, an outcrop along the main stream of the Ikushumbets River, Mikasa City, central Hokkaido (142 ° 00'39"E, 43 °14'14"N)

Zone of *Reesidites minimus*, Upper Yezo Group

Uppermost Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Ryuella* by Klinger and Kennedy (1997, p. 238).

Reference: Klinger, H. C. and Kennedy, W. J., 1997. Ann. South African Mus., Vol. 105, No. 3, 227-247, 17 figs.

Mammites costatus* Matsumoto and Kawashita, 1978*(= *Neomphaloceras costatum* (Matsumoto and Kawashita, 1978))**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 1, p. 5, pl. 1, fig. 1

Holotype: No. 51-8-20, Yoshitaro Kawashita's private collection

Shogako-no-sawa Creek, near Kashima, Oyubari area, central Hokkaido (ca. 142 °07'38"E, 43 °04'36"N)

Middle Yezo Group

Lower Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Neomphaloceras* by Matsumoto (1991, p. 920).

Reference: Matsumoto, T., 1991. Trans. Proc. Palaeont. Soc. Jap., N. S., No. 164, 910-927, figs. 1-8.

Mammites costatus* Matsumoto and Kawashita, 1978*(= *Neomphaloceras costatum* (Matsumoto and Kawashita, 1978))**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 1, p. 5, pl. 1, fig. 2

Paratype: No. 51-11-14, Yoshitaro Kawashita's private collection

Oyubari area, Sorachi Province, central Hokkaido

Middle Yezo Group

Lower Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Neomphaloceras* by Matsumoto (1991, p. 920).

Reference: Matsumoto, T., 1991. Trans. Proc. Palaeont. Soc. Jap., N. S., No. 164, 910-927, figs. 1-8.

***Mantelliceras* (?) *nagaoi* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 6, No. 1, p. 6, pl. 12, fig. 1; pl. 13, fig. 2

Holotype: GH. No. 12007

Abeshinai, Nakagawa Town, Teshio Province, northern Hokkaido

Middle Yezo Group

Upper Cretaceous

***Mantelliceras japonicum* Matsumoto, Muramoto and Takahashi, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 6, No. 1, p. 253, pl. 25, figs. 1, 2; pl. 26, figs. 1, 2; pl. 27, figs. 1, 2; text-figs. 1, 2

Holotype: GK. H5428 [Mu. 12716] (pl. 25, fig. 1; pl. 26, fig. 1; text-figs. 1-2)

Paratypes: GK. H5426 (pl. 25, fig. 2; pl. 26, fig. 2), GK. H5427 (pl. 27, fig. 1), GK. H5609 (pl. 27, fig. 2), GK. H5559 (p. 253, listed only), GK. H5560 (p. 253, listed only)

Loc. Ik1100, an outcrop along the Ikushumbets River, Mikasa City, central Hokkaido (141 °59'30"E, 43 °15'00"N)

Lower part of unit IIb, Mikasa Formation

Lower Cenomanian, Upper Cretaceous

***Mantelliceras japonicum* Matsumoto, Muramoto and Takahashi, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 6, No. 1, p. 253, pl. 26, fig. 3

Paratype: GK. H5594

Loc. Ik 1065g, Shimo-ichi-no-sawa, a tributary of the Ikushumbets River, Mikasa City, central Hokkaido (141 ° 58'33"E, 43 °14'21"N)

Lower part of unit IIb, Mikasa Formation

Lower Cenomanian, Upper Cretaceous

***Mariella* (*Mariella*) *pacifica* Matsumoto, Inoma and Kawashita, 1999**

Paleont. Res., Vol. 3, No. 2, p. 113, figs. 5-1--7

Holotype: GS. G170 (Geological Collections, Faculty of Culture and Education, Saga University, Saga)(fig. 5--1a-c)

Paratypes: GS. G171 (fig. 5-2), GS. G172 (fig. 5-3), GS. G173 (fig. 5-4), GS. G174 (fig. 5-5), GS. G175 (list only), GS. G176 (fig. 5-6), GS. G177 (fig. 5-6), GS. G178 (fig. 5-7), GS. G179 (list only), (Geological Collections, Faculty of Culture and Education, Saga University, Saga)

Loc. R905, Hotei-zawa Creek, a branch of the Shumarinai River, Soeshinai area, Uryu County, northwestern Hokkaido (found together with the holotype in the same nodule)

Unit My3, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Marshallites compressus* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 123, pl. 8, figs. 1, 2 & 4

Holotype: UMUT MM6863 (= GT. I-3231) [=transferred to Kyushu University, GK. H2751] (pl. 8, fig. 1a, b)

Paratypes: UMUT MM6864 (= GT. I-3234b)(pl. 8, fig. 2), UMUT MM6866 (= GT. I-3236)(pl. 1, fig. 4)

Loc. T608, Saku-gawa Creek, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °

05°42'E, 44°44'47"N)
Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites compressus puzosioides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 125, pl. 8, figs. 3, 4

Holotype: UMUT MM6867 (= GT. I-3240)(pl. 8, fig. 3)

Paratype: UMUT MM6868 (= GT. I-3239) (pl. 8, fig. 4a, b)

Loc. T863, the Abeshinai River, Abeshinai area, Nakagawa Town, Teshio province, northern Hokkaido (142°02'35"E, 44°41'32"N)

Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites hendersoni* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 30, pl. 3, fig. 4

Holotype: TTC. 450422, Takemi Takahashi's private collection

Loc. IK1103, an outcrop along the Ikushumbets River, Ikushumbets area, Mikasa City, central Hokkaido (141°59'58"E, 43°14'35"N)

Member IIb, Mikasa Formation, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Marshallites hendersoni* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 30, pl. 3, fig. 5

Paratype: UMUT MM6869 (= GT. I-3232a)

Loc. T608, Saku-gawa Creek, Saku (Abeshinai) area, Nakagawa Town, Teshio Province, northern Hokkaido (142°05'42"E, 44°44'47"N)

IIb, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Marshallites involutus* Matsumoto and Saito, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 38, pl. 6, fig. 1

Holotype: GK. H8338

Loc. Kurumi-zawa Creek, Saku (Abeshinai) area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°04'30"E, 44°36'56"N)

Shibunnai-toge Formation of Shimizu (1932), Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites involutus* Matsumoto and Saito, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 38, pl. 6, fig. 3

Paratype: GK. H5218

Loc. NH619 (K. Tanaka's loc.), Shinonome-zawa Creek, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Unit Mf, Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites involutus* Matsumoto and Saito, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 38, pl. 6, fig. 2

Paratype: GK. H8337A

Ikushumbets River, Ikushumbets area, Mikasa City, central Hokkaido

Unit IIc, Mikasa Formation, Middle Yezo Group
Upper Cenomanian, Upper Cretaceous

***Marshallites involutus* Matsumoto and Saito, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p. 38, pl. 6, figs. 4, 5

Paratype: GK. H5423 (pl. 6, fig. 4); TTC. 370915, Takemi Takahashi's private collection (pl. 6, fig. 5)

Loc. IK1103, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Unit IIb, Mikasa Formation, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Marshallites kossmati* Matsumoto and Inoma, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p.108, pl. 25, fig. 1

Holotype: TKD. 30155

Loc. 70904B, Shumarinai River, Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Marshallites kossmati* Matsumoto and Inoma, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p.108, pl. 25, figs. 2, 3

Paratypes: TKD. 30585A (pl. 25, fig. 3), TKD. 30585B (pl. 25, fig. 2)

Loc. P7, Shumarinai River, Shumarinai-Soeushinai, Uryu County, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Marshallites miyakoensis* Obata and Futakami, 1991**

Palaeont. Soc. Jap., Spec. Paps., No. 33, p.124, pl. 31, figs. 1-5

Holotype: NSM. PM7692 (pl. 31, fig. 5)

Paratypes: NSM. PM 7693 (pl. 31, fig. 2), NSM. PM7694 (pl. 31, fig. 1), NSM. PM7694 (pl. 31, fig. 3), NSM. PM 7696 (pl. 31, fig. 4)

Hiraname coast, Miyako area, Iwate Prefecture, Pacific Coast of northern Honshu (141°56'49"E, 39°56'20"N)

Aketo Formation, Miyako Group
Lower Albian, Lower Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, pl. 8, fig. 5a, b

Holotype : GK. H1552

Loc. Y140d, Hikage-no-sawa Creek, a tributary of the Yubari River, Oyubari area, Sorachi Province, central Hokkaido

(142°09'58"E, 43°09'23"N)
Member IIm, Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, pl. 8, fig. 6
Paratype: GK. H1553

Loc. Y235, the Shiyubari Valley, Oyubari area, Sorachi Province, central Hokkaido (142°10'57"E, 43°10'57"N)
Member IIj, Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, pl. 8, fig. 7a, b

Paratype: UMUT MM6870 (= GT.I-2710 or GT. I-3710)
Loc. N44d, Kamo-gawa Creek, Naibuchi (= Naiba) district, South Sakhalin, Russia (ca. 142°34'E, 47°21'N)
Zone Kz-Mh, Miho Group
Cenomanian, Upper Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, text-fig. 4
Paratype: UMUT MM6871 (= GT. I-3232b) (missing)

Loc. T608, Saku-gawa Creek, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°05'42"E, 44°44'47"N)
Middle Yezo Group
Cenomanian, Upper Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, pl. 4, fig. 6.
Paratype: UMUT MM6872 (= GT. I-3237)

Loc. T225c, an outcrop along the Abeshinai River, Saku (Abeshinai) area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'46"E, 44°40'34"N)
Unit IIb, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Marshallites olcostephanoides* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 129, pl. 4, fig. 3.
Paratype: UMUT MM6875

Loc. T229p3, a rollen nodule in the Abeshinai River, Saku (Abeshinai) area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'52"E, 44°40'32"N)
Unit IIb, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Marshallites rotundatus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 43, pl. 7, figs. 1-2

Holotype: GK. H8268
Loc. IK1066p, a rollen nodule at the entrance of the Torii-sawa Creek, Ikushumbets area, Mikasa City, Sorachi

Province, central Hokkaido (141°48'38"E, 43°15'02"N)
Unit IIb, Mikasa Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Marshallites rotundatus* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 43, pl. 7, figs. 3-5

Paratypes: TTC. 370427A(fig. 4), TTC. 370427B(fig. 3), Takemi Takahashi's private collection; GK.H 8356(fig. 5)
Loc. IK1100, an outcrop along the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)
Unit IIb, Mikasa Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Marshallites virgatoides* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 36, pl. 5, figs. 4, 5

Holotype: TTC. 490224(fig. 5), Takemi Takahashi's private collection
Paratype: TTC. 350900(fig. 4), Takemi Takahashi's private collection
Loc. IK1103, an outcrop along the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)
Member IIb, Mikasa Formation, Middle Yezo Group
Middle Cenomanian, Upper Cretaceous

***Menuites japonicus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 158, pl. 31, figs. 1a-c, 2a-d

Holotype: UMUT MM5626 (= GT. I-3462)
Loc. T277c, an outcrop in the Abeshinai River, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°01'29"E, 44°40'22"N)
Unit IIIId, Upper Yezo Group
Upper Santonian, Upper Cretaceous

***Menuites japonicus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 158, pl. 31, fig. 3a, b

Paratype: UMUT MM5627 (= GT. I-3471)
A river gravel at Loc. T956p, in a sort branch of the Abeshinai River, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'14"E, 44°41'34"N)
Upper Yezo Group
Upper? Santonian, Upper Cretaceous

***Menuites japonicus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 158, pl. 33, fig. 2a-d

Paratype: UMUT MM5628 (= GT. I-2771)
Loc. N446f, the third tributary of the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142°

30°E, 47°21'N)
Unit Mh6 - (?), Miho Group
Upper Santonian, Upper Cretaceous

***Menuites japonicus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 158, pl. 33, fig. 3a-c
Paratype: UMUT MM7685 (= GT. I-536)
Main course of the Naibuchi River, Naibuchi (=Naiba) district, south Sakhalin, Russia
Miho Group
Senonian, Upper Cretaceous

***Menuites naibutiensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 164, pl. 33, fig. 1a-d
Holotype: UMUT MM5629 (= GT. I-524)
The Juhachi-rinpan-nino-sawa Creek, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142°34'E, 47°18'N)
Probably unit Mh6, Miho Group
Senonian, Upper Cretaceous

***Menuites pusillus* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 165, pl. 32, fig. 1a-d
Holotype: GK. H3382
Loc. U505, Wave-cut bench on the coast of Ikandai, Urakawa area, Hidaka Province, south-central Hokkaido (142°44'23"E, 42°10'32"N)
Unit Ur2, Upper Yezo Group
Upper Santonian, Upper Cretaceous

***Menuites sanadai* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 17, pl. 5, fig. 1a-d
Holotype: GK. H5969
Loc. T 5011, Utsu River, Teshio Mountains, northern Hokkaido
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Menuites sanadai* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 17, text-fig. 5A, B
Paratype: T. Shimanuki's private collection
Loc. E 42, Wembets (= Embetsu)-Rubeshibe River, Embetsu Town, northern Hokkaido (141°58'49"E, 44°41'50"N)
Unit Y, Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Mesopuzosia densicostata* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 87, pl. 22, fig. 1a, b
Holotype: UMUT MM7694 (= GT. I-544)

Santan-gawa Creek, a tributary of the Naibuchi Valley, Naibuchi (= Naiba) area, south, Sakhalin, Russia
Unit Mh6, Miho Group
Santonian, Upper Cretaceous

***Mesopuzosia densicostata* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 87, pl. 22, fig. 2
Paratype: UMUT MM6621 (= GT. I-3438)
Loc. T311p, Wakkawembetsu Creek, a tributary of the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'47"E, 44°38'08"N)
Unit III d (upper), Upper Yezo Group
Upper Santonian, Upper Cretaceous

***Mesopuzosia pacifica* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 82, pl. 15, fig. 1a, b
Holotype: GK. H1257
Loc. Y216p1 in the Shiyubari Valley, Oyubari area, Sorachi Province, central Hokkaido (142°10'09"E, 43°10'29"N)
Saku Formation, Middle Yezo Group
Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, figs. 12, 13, 25E
Holotype: TTC. 570926, T. Takahashi's private collection
Loc. Y5323, on the left side of the lower course of the Kaneobets Creek, a tributary of the Yubari River, Oyubari area, Sorachi Province, central Hokkaido (142°08'24"E, 43°02'29"N)
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 15A-D
Paratype: GK. H8122
Loc. Ik2014d, an outcrop exposed in the Pombetsu River, Mikasa City, Sorachi Province, central Hokkaido (141°58'40"E, 43°16'27"N)
Middle Yezo Group
Upper Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 14
Paratype: GK. H8124
Hakkinzawa Creek, a tributary of the Yubari River, Oyubari area, Sorachi Province, central Hokkaido (ca. 142°09'E, 43°03'N)
Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 16

Paratype: Y. Kera's private collection, No. 387

A river boulder in the Kaneobetsu Creek, a tributary of the Yubari River, Oyubari area, Sorachi Province, central Hokkaido (ca. 142°08'E, 43°02'30"N)

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 17

Paratype: NSM. PM3500

Loc. Yb 29, an outcrop on the right bank of the Shihorokabetsu Creek, Yubari City, Sorachi Province, central Hokkaido (141°59'00"E, 43°03'34"N)

Unit MK4, Mikasa Formation, Middle Yezo Group

Upper Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52

Paratype: GK. H8256 (list only)

Loc. H005, an outcrop exposed in the Hachigatsu-zawa Creek, a tributary of the Ashibetsu River, Ashibetsu area, Sorachi Province, central Hokkaido (ca. 142°04-05'E, 43°25'N)

Middle Yezo Group

Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 15E-H

Paratype: GK. H8257

A branch of the Poroko-ashibetsu Creek, a tributary of the Ashibetsu River, Ashibetsu area, Sorachi Province, central Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52

Paratype: TTC. 501123, T. Takahashi's private collection (list only)

5th branch of the Kami-ichi-no-sawa Creek, a tributary of the Ikushumbetsu River, Mikasa City, Sorachi Province, central Hokkaido (142°02'14"E, 43°16'14"N)

Middle Yezo Group

Upper Turonian, Upper Cretaceous

***Mesopuzosia takahashii* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 52, fig. 18

Paratype: UMUT MM6646B (= GT. I-2651B)

Loc. I236p, the first tributary of the Aikawa River, formerly in the University Frestry of the University of Tokyo, south Sakhalin, Russia

Miho Group

Upper Cretaceous (exact age unknown)

***Metaptychoceras periodicum* Inoma, 1980**

Professor Saburo Kanno Memorial Volume, p. 169, pl. 21, figs. 10-13; text-fig. 3

Holotype: TKD. 30072A (pl. 21, fig. 12)

Paratypes: TKD. 30072D (pl. 21, fig. 10), TKD. 30072B (pl. 21, fig. 11; text-fig. 3), TKD. 30072C (pl. 21, fig. 13)

Loc. 70904A, the Shumarinai River, Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido (142°05'30"E, 44°16'43"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Microdesmoceras tetragonum* Matsumoto and Muramoto, 1972**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 87, p. 378, pl. 47, fig. 1

Holotype: GK. H5653

Loc. Ik 1101 on the northern wall of the V-shaped valley of the Ikushumbetsu, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Lower part of unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Microdesmoceras tetragonum* Matsumoto and Muramoto, 1972**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 87, p. 378, pl. 47, figs. 2, 3

Paratypes: Two unregistered specimens, T. Muramoto's private collection

Loc. Ik 1051b on the northern wall of the V-shaped valley of the Ikushumbetsu, Mikasa City, Sorachi Province, central Hokkaido (142°00'05"E, 43°14'32"N)

Lower part of unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Microdesmoceras tetragonum* Matsumoto and Muramoto, 1972**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 87, p. 378, pl. 47, fig. 4

Paratype: GK. H5650

Loc. Ik 1067bp on the southern wall of the Shimo-ichino-sawa, a tributary of the Ikushumbetsu, Mikasa City, Sorachi Province, central Hokkaido (141°59'03"E, 43°14'30"N)

Lower part of unit IIB, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Mikasaites orbicularis* Matsumoto, 1956**

Jap. Jour. Geol. Geogr., Vol. 27, p. 175, pl. 16, figs. 1a-d,

2a-c

Holotype: GK. H4202 (pl. 16, fig. 1a-d)
 Paratype: No. 1458, T. & K. Muramoto's private collection (pl. 16, fig. 2a-c)
 Loc. Ik1265b, Tori-zawa Creek, Sorachi Province, central Hokkaido (141°59'05"E, 43°14'33"N)
 Unit I1b, Mikasa Formation, Middle Yezo Group
 Lower Cenomanian, Upper Cretaceous

***Miogaudryceras yokoi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 28, figs. 14, 15
 Holotype: GK. H8411
 Loc. KY 740 in the upper stream of the Suribachi-zawa Creek, Horokanai area, Uryu, County, northwestern Hokkaido (ca. 142°04'06"E, 44°13'34"N)
 Member My3, Middle Yezo Group
 Lower Cenomanian, Upper Cretaceous

***Miogaudryceras yokoi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 28, figs. 16B
 Paratype: GK. H8412
 Loc. KY 800, Suribachi-zawa Creek, a tributary of the Sounnai River, Horokanai area, Uryu County, northwestern Hokkaido (ca. 142°04'41"E, 44°13'17"N)
 Middle Yezo Group
 Lower Cenomanian, Upper Cretaceous

***Miogaudryceras yokoi* Matsumoto, 1995**

Palaeont. Soc. Japan, Spec. Paps., No. 35, p. 28, figs. 164A.
 Paratype: GK. H8413
 A river gravel in the Shumarinai River at loc. KY541, Horokanai area, northwestern Hokkaido (ca. 142°06'E, 44°17'N)
 Middle Yezo Group
 Lower Cenomanian, Upper Cretaceous

***Miyakoceras tanohatense* Obata, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 67, p. 131, pl. 11, figs. 3a-d, 4a-d; text-fig. 1
 Holotype: NSM. 6119 (pl. 11, fig. 3a-d; text-fig. 1)
 Paratype: NSM. 6120 (pl. 11, fig. 4a-d)
 Loc. Hn. 1902, southern Haibe, Tanohata village, Iwate Prefecture, northeastern Honshu (141°56'41"E, 39°55'23"N)
 Hiraiga Formation, Miyako Group
 Upper Aptian, Lower Cretaceous

***Miyakoceras tanohatense* Obata, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 67, p. 131, pl. 11, fig. 2a-d
 Paratype: NSM. 6121
 A fallen block at Tokozo, possibly derived from loc. Hn. 0016, Tanohata Village, Iwate Prefecture, northeastern Honshu (141°56'45"E, 39°55'43"N)
 Hiraiga Formation, Miyako Group

Upper Aptian, Lower Cretaceous

***Miyakoceras tanohatense* Obata, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 67, p. 131, pl. 11, fig. 1
 Paratype: NSM. 6118
 Loc. Hn. 0220, Kofunare, Tanohata Village, Iwate Prefecture, Japan
 Hiraiga Formation, Miyako Group
 Upper Aptian, Lower Cretaceous

***Mortonicerias fukazawai* Yabe and Shimizu, 1925**

(= *Protexanites fukazawai* (Yabe and Shimizu, 1925))
 Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, no. 4, p. 130, pl. 30, fig. 1; pl. 31, figs. 1-4 & 6; pl. 33, figs. 1, 2
 Lectotype: IGPS. 8045 (pl. 30, fig. 1; pl. 31, fig. 6; pl. 33, figs. 1, 2)
 Paralectotype: IGPS. ? (pl. 31, figs. 1-4)
 A locality between Oda and Akase, Uto City, northern side of the Uto Peninsula, Kumamoto Prefecture, west Kyushu (ca. 130°30'E, 32°39'N)
 Member I-d, Himenoura Group
 Upper Santonian-Lower Campanian, Upper Cretaceous
 Remarks: The generic position of this species was transferred to *Protexanites* by Matsumoto (1965, p. 38). Lectotype was designated by Matsumoto and Ueda (1962, p. 174).
 References: Matsumoto, T., 1965. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 16, No. 1, 1-80, pls. 1-18.
 Matsumoto, T. and Ueda, Y., 1962. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 12, No. 2, 162-174, pls. 22-27.

***Mortonicerias kawasaki* Kawada, 1929**

Jour. Geol. Soc. Tokyo, Vol. 36, No. 428, p. 4, pl. 14, figs. 2, 3
 Holotype: UMUT MM7701 [= GT. I-553]
 Santan-gawa Creek, a tributary of the Naibuchi River, Naibuchi (=Naiba) district, south Sakhalin, Russia
 Unit Mh 6, Miho Group
 Santonian, Upper Cretaceous

***Mortonicerias nomii* Yabe and Shimizu, 1925**

(= *Protexanites nomii* (Yabe and Shimizu, 1925))
 Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, No. 4, p. 131, pl. 32 (3), figs. 1-3
 Holotype: Tohoku University specimen (missing); its plaster cast, IGPS. 22402
 An outcrop at the confluence of the Penkemoyuparo Creek with the Shiyuparo (Yubari) River, Oyubari area, Sorachi Province, central Hokkaido (ca. 142°06'41"E, 43°01'29"N)
 Upper Yezo Group
 Santonian, Upper Cretaceous
 Remarks: The generic position of this species was transferred to *Protexanites* by Matsumoto (1965, p. 38).

References: Matsumoto, T., 1965. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 16, No. 1, 1-80, pls. 1-18.

***Mortonicerus orientale* Yabe and Shimizu, 1925
(= *Paratexanites orientalis* (Yabe and Shimizu, 1925))**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, no. 4, p. 129 (5), pl. 31 (2), figs. 4, 5; pl. 33(4), fig. 16

Holotype: IGPS. 7329

The Shiyuparo (Shiyubari) River, Oyubari area or Kikume-zawa Creek, near the junction with the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Paratexanites* by Matsumoto (1965, p. 41).

References: Matsumoto, T., 1965. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 16, No. 1, 1-80, pls. 1-18.

***Mortonicerus sanushibense* [recte] Yabe and Shimizu, 1925 (= *Texanites* (*Plesiotexanites*) *sanushibensis* (Yabe and Shimizu, 1925))**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, No. 4, p. 132(8), pl. 33(4), figs. 3-5

Holotype: IGPS. 8039

Upper reaches of the Sanushibe Creek, a tributary of the Hobetsu River, Hobetsu Town, Iburi Province, southern central Hokkaido (ca. 142 °07'E, 42 °52'N)

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Texanites* (*Plesiotexanites*) by Matsumoto (1970, p. 292).

Reference: Matsumoto, T., 1970. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 20, No. 2, 225-304, pls. 30-47.

***Muramotoceras laxum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 337, pl. 45, figs. 1, 2; pl. 52, fig. 1; text-fig. 8

Holotype: NSM. PM7239 (pl. 52, fig. 1; text-fig. 8)

Paratypes: NSM. PM7209 (pl. 45, fig. 1), NSM. PM7210 (pl. 45, fig. 2),

A rollen gravel in the Sato-no-sawa Creek at Ob-S-p1, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142 °02'08"E, 44 °02'27"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Muramotoceras yezoense* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 335, pl. 53, fig. 1; text-fig. 6

A rollen gravel in the Sato-no-sawa Creek at Ob-S-R1-2p, a tributary of the Obirashibe River, Tappu area, Obira Town,

Rumoi Province, northwestern Hokkaido (142 °02'08"E, 44 °02'27"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Muramotoceras yezoense* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 335, pl. 53, figs. 1-4; pl. 54, fig. 1; text-figs. 6, 7

Holotype: NSM. PM7207 (pl. 53, fig. 1; text-fig. 6)

Paratypes: NSM. PM7208 (pl. 53, fig. 2), NSM. PM7211 (list only), NSM. PM7212 (list only), NSM. PM7213 (pl. 53, fig. 3), NSM. PM7214 (list only), NSM. PM7215 (pl. 54, fig. 1), NSM. PM7216 (list only), NSM. PM7217 (list only),

NSM. PM7218 (list only), NSM. PM7219 (pl. 53, fig. 4; text-fig. 7), GK. H5652 (list only)

Rollen gravels in the Sato-no-sawa Creek at Ob-S-R1-2p, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142 °02'08"E, 44 °02'27"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Muramotoceras yezoense* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 335, pl. 53, fig. 5

Paratype: NSM. PM7263 (mistakenly indicated as PM7264 in the figure caption), NSM. PM7274 (list only)

Loc. Yy 050p, a river gravel in the Isojiro-no-sawa Creek, a tributary of the Syubari River, Oyubari area, Sorachi Province, central Hokkaido (ca. 142 °08'E, 43 °06'N)

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Neocirocera dentatum* Matsumoto and Obata, 1984**

Proc. Jap. Acad., Vol. 60, Ser. B, p.341, figs.1-2

Holotype: Y. Kawashita's private collection

Upper reaches of the Naka-no-futamata-gawa Creek, a tributary to the River Haboro, Haboro area, Tomamae County northwestern Hokkaido (ca. 142 °02'48"E, 44 °19'18"N)

Middle Yezo Group

Upper Turonian, Upper Cretaceous

***Neocirocera* (?) *sanushibense* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 4, No. 2, p. 121, pl. 7, fig. 5a, b

Holotype: UMUT MM7619 (= GT. I-342)

Saushisanushibe, Iburi Province, southern-central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Neocrioceras* (?) *sanushibense* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 4, No. 2, p. 121, text-fig. 22

Paratype: GK. H3542

Loc. U238, Nishihorobetsu, Urakawa area, Hidaka Province, southern-central Hokkaido (142°50'34"E, 42°09'58"N)

Unit Ur5, Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Neocrioceras* (?) *undulosum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 343, pl. 47, fig. 1

Holotype: NSM. PM7221

Loc. Ob-S-R1, eastern branch of the Sato-no-sawa Creek, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142°02'08"E, 44°02'27"N)

Middle Yezo Group

Middle? Turonian, Upper Cretaceous

***Neocrioceras* (?) *undulosum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 343

Paratypes: NSM. PM7222, NSM. PM7224, NSM. PM7225 (all list only)

A river gravel at Ob-S-R1p3, eastern branch of the Sato-no-sawa Creek, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142°02'08"E, 44°02'27"N)

Middle Yezo Group

Middle? Turonian, Upper Cretaceous

***Neophylloceras* *hetonaiense* Matsumoto, 1942**

(= *Hypophylloceras* (*Neophylloceras*) *hetonaiense* (Matsumoto, 1942))

Proc. Imp. Acad., Tokyo, Vol. 18, No. 18, p. 675, fig. 1a3, b3

Lectotype: GK. H3801a

Loc. H12b, an outcrop exposed in the small riblet near Omagari, Tomiuchi area, Iburi Province, southern central Hokkaido

Unit IVb, Hakobuchi Group

Upper Campanian, Upper Cretaceous

Remarks. Lectotype was designated by Matsumoto (1959, p. 5).

Reference: Matsumoto, T., 1959. Mem. Fac. Sci., Kyushu Univ., Ser. D, Spec. Vol. 1, 1-172, pls. 1-41.

***Neophylloceras* *subramosum* Shimizu, 1934**

(= *Hypophylloceras* (*Neophylloceras*) *subramosum* (Shimizu, 1934))

Ammonites in S. Shimizu and T. Obata, Ammonites: Iwanami's lecture series of Geology and Paleontology, Tokyo, p. 62, fig. 34A-C

Holotype: Unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Wakkawebets Creek, a tributary of the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°03'E, 44°38'N)

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Hypophylloceras* (*Neophylloceras*) by Wright (1996, p. 1). Reference: Wright, C. W., 1996. Treatise on Invertebrate Paleontology, Part L, Mollusca 4, Revised, Vol. 4, Cretaceous Ammonoidea, 362pp+ i-xx, Geol. Soc. Amer. & Univ. Kansas.

***Neostlingoceras* *asiaticum* Matsumoto and Takahashi, 2000**

Paleont. Res., Vol. 4, No. 4, p. 266, figs. 5A-I, 6

Holotype: GK. H8536 (fig. 5A-C)

Paratypes: GK. H8537 (figs. 5D-F, 6), GK. H3538 (fig. 5G-I)

Loc. 1103, an outcrop along the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Mikasa Formation, Middle Yezo Group

Middle Cenomanian, Upper Cretaceous

***Neostlingoceras* *cobbani* Matsumoto and Takahashi, 2000**

Paleont. Res., Vol. 4, No. 4, p. 267, fig. 5J-L

Holotype: GK. H8535

Loc. 1103, an outcrop along the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Mikasa Formation, Middle Yezo Group

Middle Cenomanian, Upper Cretaceous

***Niceforoceras* (?) *japonicum* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 71, pl. 11, fig. 1; text-fig. 40

Holotype: GK. H5495

Loc. JPE. 12, the Kumaoui-zawa Creek, a right tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°04'33"E, 43°14'27"N)

Upper Yezo Group

Coniacian?, Upper Cretaceous

***Nipponites* *bacchus* Matsumoto and Muramoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 18, No. 2, p. 365, pl. 23, fig. 5; pl. 24, fig. 1

Holotype: GK. H5444 [= Muramoto Coll. No. 122]

Loc. Ik2013, an outcrop in the lower course of the Pombets River, a tributary of Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141°59'39"E, 43°16'26"N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Nipponites bacchus* Matsumoto and Muramoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 18, No. 2, p. 365

Paratype: GK. H5584

Loc. Ik963b, an outcrop in the Ikushumbets River, about 100m west from the confluence with the Kami-ichi-no-sawa Creek, Mikasa City, Sorachi Province, central Hokkaido (142 °01'04"E, 43 °14'23"N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Nipponites bacchus* Matsumoto and Muramoto, 1967**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 18, No. 2, p. 365

Paratype: Unnumbered specimen in T. Takahashi's private collection

Loc. Ik2014, an outcrop in the lower course of the Pombets River, a tributary of Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141 °58'40"E, 43 °16'27"N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Nipponites mirabilis* Yabe, 1904**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p. 20, pl. 4, figs. 4-7; pl. 6, fig. 6

Holotype: UMUT MM7560 (= GT. I-253)

Opirashibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Ammonite-beds (= Middle Yezo Group)

Possibly Middle Turonian, Upper Cretaceous

***Nipponites mirabilis* var. *sachalinensis* Kawada, 1929**

Jour. Geol. Soc. Tokyo, Vol. 36, No. 428, p. 5, pl. 14, fig. 1

Holotype: UMUT MM7666

Miho River, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °30'E, 47 °19'N)

Miho Group

Turonian, Upper Cretaceous

***Nostoceras hetonaiense* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 23, No. 3, p. 322, pl. 54, fig. 2; pl. 55, fig. 1

Holotype: GK. H5798a

Loc. H1091p, Tonai-no-sawa Creek, Tomiuchi (Hetonai) area, Iburi Province, southern central Hokkaido

Upper part of Hakobuchi Group

Lower Maestrichtian, Upper Cretaceous

***Nowakites mikasaensis* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 113, p. 39, pl. 6, fig. 1

Holotype: M-1709, T. Muramoto's private collection

A small branch A of the Banno-sawa Creek, a tributary of the River Ikushumbets, Mikasa City, Sorachi Province, central

Hokkaido (ca. 141 °59'E, 43 °13'N)

Upper Yezo Group

Lower Coniacian, Upper Cretaceous

***Nowakites yubarensis* Matsumoto, 1979**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 113, p. 38, pl. 5, fig. 2-3

Holotype: GK. H5872

Loc. Yb 15, an outcrop in the Ponhorokabetsu River, Yubari City, Sorachi Province, central Hokkaido (141 °57'39"E, 43 °04'20"N)

Unit Mk3, Mikasa Formation

Middle Turonian, Upper Cretaceous

***Obiraceras ornatum* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 22, No. 2, p.151, pl. 23, fig.1

Holotype: GK. H5689

Sato-no-sawa Creek (Migi-ichi-no-sawa, Migi-sawa), a tributary of the Kami-kinembetsu River, a major branch of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (142 °02'08"E, 44 °02'27"N)

Middle Yezo Group

Upper Turonian, Upper Cretaceous

***Olcostephanus unicus* Yabe, 1904**

(= *Eogunnarites unicus* (Yabe, 1904))

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p. 28, pl. 6, fig. 5

Holotype: UMUT MM7457 (= GT. I-255)

Kamitakambe Creek, a right branch of the Ikushumbets River, between the Poronai and the Ikushumbets coal mines, Province of Sorachi, central Hokkaido (141 °57'22"E, 43 °14'06"N)

Mikasa Formation, Middle Yezo Group

Cenomanian, Upper Cretaceous

Remarks. The generic position of this species was transferred to *Eogunnarites* by Wright and Matsumoto (1954, p. 126).

Reference: Wright, C. W. and Matsumoto, T., 1954. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 4, No. 2, pp. 107-134, pls. 7-8.

***Otoscaphtes (Hyposcaphtes) matsumotoi* Tanabe, 1977**

Palaeont. Soc. Japan, Spec. Paps., No. 21, p. 20, pl. 1, figs. 7, 8

Holotype: GK. H5827 (pl. 1, fig. 8)

Paratypes: GK. H5830 (p. 20, list only), GK. H5832 (pl. 1, fig. 7), GK. H5833 (p. 20, list only)

Fallen nodule derived from loc. Ik 2710-11, an outcrop in the Ponbetsu-Gonosawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'00"E, 43 °14'19"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Pachydesmoceras kossmati* Matsumoto, 1987**

Proc. Jap. Acad., Vol. 63, Ser. B, p. 6, fig. 1

Paratype: 398, M. Kera's private collection

Kaneobets Creek, Oyubari (Shiyubari) area, Yubari City, Sorachi Province, central Hokkaido (ca. 142°08'00"E, 43°02'32"N)

Middle Yezo Group

Lower to middle part of the Turonian, Upper Cretaceous

Remarks: The holotype of this species, Warth Collection in the Geological Survey of India came from Odium, Uttattur Formation of South India (designated by Matsumoto, 1987).

Reference: Matsumoto, T., 1987. Proc. Jap. Acad., Ser. B, Vol. 63, No. 1, 5-8, fig. 1.

***Pachydesmoceras pachydiscoide* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 101, pl. 9, fig. 2a, b

Holotype: UMUT MM6660 (= GT. I-2805)

The Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia

Miho Group

Middle part of Turonian to Coniacian, Upper Cretaceous

***Pachydesmoceras pachydiscoide* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 101

Paratypes: UMUT. MM6661 (= GT. I-2716), UMUT. MM6662 (= GT. I-2717), UMUT. MM6663 (= GT. I-2718), UMUT. MM6664 (= GT. I-2721), UMUT. MM6665 (= GT. I-2720)(list only, all missing)

Locs. N 123c (for MM6661) and N320b (for MM6662 and MM6663), Naibuchi Valley, Naibuchi (= Naiba) district, South Sakhalin, Russia (ca. 142°33'E, 47°20'N)

Unit Mh2-3, Miho Group

Upper Turonian, Upper Cretaceous

***Pachydesmoceras pachydiscoide* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 101

Paratypes: UMUT. MM6664 (= GT. I-2721), UMUT. MM6665 (= GT. I-2720) (list only, both missing)

Left tributary of the Obirashibe River, about 1km above the mouth of the Sankeshomap Creek, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Pachydiscus haradai* Jimbo, 1894**

(= *Eupachydiscus haradai* (Jimbo, 1894))

Paläont. Abh., N. F., Vol. 2, No. 3, p.175, pl. 2, fig.2, 2a

Lectotype: UMUT MM7498 (= GT. I-100)

The Abeshinai River, Saku area, Nakagawa Town, Teshio

Province, northern Hokkaido

Upper Yezo Group

Upper Santonian -Lower Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Eupachydiscus* by Matsumoto (1951, p. 22).

Reference: Matsumoto, T., 1951. Trans Proc. Palaeont. Soc. Japan, N.S., No. 1, 19-26.

***Pachydiscus (Neodesmoceras) gracilis* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 24, No. 2, p. 60, pl.10, fig. 1; pl. 12, Fig. 2

Holotype: GK. H5885

Loc. H311a, Kiusu, Hobetsu Valley, Iburi Province, northern Hokkaido (142°09'17"E, 42°38'31"N)

Unit IVc5 = K6b2 (uppermost of the Fukaushi Formation), Hakobuchi Group

Maastrichtian, Upper Cretaceous

***Pachydiscus (Neodesmoceras) gracilis* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 24, No. 2, p. 60, pl. 10, fig. 2, 3

Paratype: GK. H5881

Loc. P220, Heitaro-zawa, Tombetsu Valley, Esashi County, northern Hokkaido (ca. 142°15'E, 44°59'N)

Unit D = H3b, Hakobuchi Group

Uppermost Campanian?, Upper Cretaceous

***Pachydiscus (Neodesmoceras) gracilis* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 24, No. 2, p. 60, pl. 11, fig. 1

Paratype: GK. H5896

Loc. H335, Kiusu, Hobetsu River, Iburi Province, southern central Hokkaido (142°09'17"E, 42°48'19"N)

Unit IVc5 = K6b2 (uppermost part of the Fukaushi Formation), Hakobuchi Group

Maastrichtian, Upper Cretaceous

***Pachydiscus (Neodesmoceras) japonicum* (Saito MS.) Matsumoto, 1954**

Jap. Jour. Geol. Geogr., Vol. 24, p. 89, pl. 9, fig. 1a-c

Holotype: Specimen housed in the Department of Geology and Mineralogy, Hokkaido University (registered number undescribed)

Penkemobetsu River, Shimo-hobetsu, Iburi Province, southern central Hokkaido (ca. 142°10'E, 42°47'N)

Hakobuchi Group ?

Senonian, Upper Cretaceous

***Pachydiscus (Neodesmoceras) japonicum* (Saito MS.) Matsumoto, 1954**

Jap. Jour. Geol. Geogr., Vol. 24, p. 89, pl. 10, fig. 1a-c, pl. 11, figs. 1, 2

Paratype: GK. H3830

Loc. H12b6, Hetonai area, Iburi Province, southern central

Hokkaido (142 °13'00"E, 42 °46'15"N)
Hakobuchi Group ?
Senonian, Upper Cretaceous

***Pachydiscus (Pachydiscus) awajiensis* Morozumi, 1985**

Bull. Osaka Mus. Nat. Hist., No. 39, p. 18, pl. 2, fig. 1a, b; pl. 3, figs. 1, 2; pl. 4, fig. 2; text-fig. 4
Holotype: OMNH. M2205 (pl. 2, fig. 1a, b; pl. 3, fig. 2; text-fig. 4)
Paratypes: OMNH. M2216 (pl. 3, fig. 1a, b), OMNH. M2199 (pl. 4, fig. 2); KS830417 (pl. 2, fig. 2a-c), K. Sakakibara's private collection
Loc. Aw. 7, Nagata, Midori Town, Awaji Island, Hyogo Prefecture, west Honshu (134 °47'55"E, 34 °19'19"N)
Seidan Formation, Izumi Group
Uppermost Campanian or Lowest Maastrichtian, Upper Cretaceous

***Pachydiscus (Pachydiscus) excelsus* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 2, p. 50, pl. 8, fig. 1
Holotype: GK. H5895
Sanushube Creek, a tributary of the River Hobetsu, Yufutsu County (Iburi Province), southern central Hokkaido (ca. 142 °07'34"E, 42 °53'04"N)
Unit IVa, Hakobuchi Group
Middle Campanian, Upper Cretaceous

***Pachydiscus fascicostatus* Yabe, 1921**

(= *Menuites fascicostatus* (Yabe, 1921))

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 5, No. 3, p. 57, pl. 8, fig. 5; pl. 9, figs. 2-5
Holotype: UMUT MM6764 (= GT. I-386)
Tan-no-sawa, a tributary of the Abeshinai River, Abeshinai area, Nakagawa Town, northern Hokkaido (ca. 142 °00'E, 44 °41'N)
Zone of *Metaplacenticerias subtilistriatum*, Hakobuchi Group
Upper Campanian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Menuites* by Wright (1996, p. 106).
Reference: Wright, C. W., 1996. Treatise on Invertebrate Paleontology, Part L, Mollusca 4, Revised, Vol. 4, Cretaceous Ammonoidea, 362pp+ i-xx, Geol. Soc. Amer. & Univ. Kansas.

***Pachydiscus (Pachydiscus) flexuosus* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 2, p. 53, pl. 9, figs. 1, 2
Holotype: GK. H5877
Loc. Kd525, about 2250 m northwest of Utsunai, Tombetsu Valley, Esashi County, northern Hokkaido
Unit D2 = Member H3b, Hakobuchi Group
Uppermost Campanian?, Upper Cretaceous

***Pachydiscus (Pachydiscus) flexuosus* Matsumoto, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, no. 2, p. 53, pl. 9, fig. 3; pl. 12, fig. 1
Paratype: GK. H5879
P. 238 (Pinneshiri quadrangle), Tombetsu Valley, Esashi County, northern Hokkaido
Unit D = Member H3, Hakobuchi Group
Uppermost Campanian?, Upper Cretaceous

***Pachydiscus (Pachydiscus) hidakaensis* Matsumoto and Kanie, 1979**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 26, No. 2, p. 64, pl. 13, fig. 1
Holotype: YCM. Ur 133001
Loc. U133, Shiroizumi, Urakawa Town, Hidaka Province, southern central Hokkaido (142 °49'11"E, 42 °10'49"N)
Unit H2 (silty sandstone), Hakaobuchi Group
Senonian, Upper Cretaceous

***Pachydiscus Naumanni* Yokoyama, 1890**

(= *Menuites naumanni* (Yokoyama, 1890))

Palaeontographica, Vol. 36, p. 187, pl. 19, fig. 6a, b; pl. 22, figs. 1, 1a, 1b
Syntypes: Registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München
Iburi (=Efue) near Urakawa, Hidaka Province, southern-central Hokkaido (ca. 142 °44'E, 42 °12'N)
Upper Yezo Group
Lower Campanian, Upper Cretaceous
Remarks: The generic position of this species was transferred to *Menuites* by Wright (1996, p. 105).
Reference: Wright, C. W., 1996. Treatise on Invertebrate Paleontology, Part L, Mollusca 4, Revised, Vol. 4, Cretaceous Ammonoidea, 362pp+ i-xx, Geol. Soc. Amer. & Univ. Kansas.

***Pachydiscus sahekii* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 43, pl. 14, fig. 1a, b; pl. 15, fig. 2a, b; pl. 16, fig. 2
Holotype: GK. H5973 (pl. 14, fig. 1a, b)
Paratypes: MNH. 188 (pl. 16, fig. 2), MNH. 187 (p. 43, list only), MNH. 189 (pl. 15, fig. 2a, b); T. Miyauchi's private collection
Soya harbour, Soya Peninsula, northern Hokkaido (141 °52'52"E, 45 °29'06"N)
Unit H, Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Pachydiscus soyaensis* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 41, pl. 10, fig. 5a-c; pl. 12, fig. 1a-d; pl. 13, fig. 1; pl. 16, fig. 1; pl. 17, fig. 1; pl. 21, fig. 3
Holotype: GK. H5972 (pl. 10, fig. 5a-c)
Paratypes: MNH. 124 (pl. 12, fig. 1a-d), MNH. 119 (pl. 17,

fig. 1), MNH. 120 (pl. 16, fig. 1), MNH. 202(pl. 13, fig. 1), MNH. 203, MNH. 204(pl. 21, fig. 3); T. Miyauchi's private collection

Locs. W 7B (for MNH. 120) and W 7A (for the rest), Soya harbour, Soya Peninsula, northern Hokkaido (141°52'52"E, 45°29'06"N)

Unit H, Hakobuchi Group

Upper Campanian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287, pl. 10, fig. 4a, b

Holotype: UMUT MM6821 (= GT. I-2815)

Loc. N105, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142°30'E, 47°19'N)

Ryugase Group ?

Senonian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287, pl. 12, fig. 1a, b

Paratype: Without numbering, preserved in Hokkaido University

Locality uncertain, Kitami Province, northern Hokkaido Upper Yezo Group

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287

Paratype: UMUT MM6822 (= GT. I-2816)

Loc. N413p, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142°29'E, 47°21'N)

Unit Rdy or Rcy, Ryugase Group

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287

Paratype: UMUT MM6823 (= GT. I-2817)

Loc. N111b, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142°30'E, 47°19'N)

Unit Rdy or Rcy, Ryugase Group

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287

Paratype: UMUT MM6824 (= GT. I-2818)

Loc. N108, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia (ca. 142°29'E, 47°22'N)

Unit Rdy(?), Ryugase Group

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 287

Paratype: UMUT MM6825 (= GT. I-2819)

Loc. N457e7, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin (ca. 142°29'E, 47°23'N)

Unit Rdy or Rcy, Ryugase Group

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus obsoletus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 289, pl. 10, fig. 5a, b

Holotype: UMUT MM6830 (= GT. I-2827)(pl. 10, fig. 5a, b); Paratype: UMUT MM6831(= GT. I-2828)

Hayakawa, the Naibuchi Valley, Naibuchi (=Naiba) district, south Sakhalin, Russia

Ryugase Group ?

Maastrichtian, Upper Cretaceous

***Pachydiscus subcompressus obsoletus* Matsumoto, 1954**

In T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 289, pl. 11, fig. 1a-c

Paratype: GH. No. 9460, Department of Geology & Mineralogy, Hokkaido University

Locality uncertain, somewhere in Sakhalin, Russia

Ryugase Group ?

Maastrichtian, Upper Cretaceous

***Pachydiscus subtililobatus* Jimbo, 1894**

(= "*Anapachydiscus*" (= *Menuites*) *subtililobatus* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 176, pl. 4, fig. 2, 2a

Holotype: UMUT MM7496 (= GT. I-102)

A marl nodule in the river gravel of the Chikapunnai Creek, a left tributary of the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°01'20"E, 44°41'40"N)

Upper Yezo Group

Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Anapachydiscus* by Matsumoto (1963, p.43, pl.63, fig.2).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap. 25th Anniv. Vol. 41-48, pls.60-68.

***Pachydiscus Sutneri* Yokoyama, 1890**

(= "*Anapachydiscus*" (= *Menuites*) *sutneri* (Yokoyama, 1890))

Palaeontographica, Vol. 36, p. 187, pl. 23, fig. 1

Holotype: Registered in Bayer Staatssammlung für Paläontologie und historische Geologie, München

Ibui (= Efüe) near Urakawa, Urakawa Town, Hidaka

Province, southern central Hokkaido (ca. 142 °44'E, 42 ° 12'N)

Santonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Anapachydiscus* by Matsumoto (1954, p. 276).

Reference: Matsumoto, T., 1954. In T. Matsumoto (ed.): The Cretaceous System in the Japanese Islands, 243-324, pls.1-20, Jap. Soc. Prom. Sci., Tokyo.

***Pachydiscus teshioensis* Jimbo, 1894**

(= *Eupachydiscus teshioensis* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 176, pl. 3, fig. 1, 1a
Holotype: UMUT MM7497 (= GT. I-101)

A concretion in the river gravel, Tsikapunnai (=Chikabunnai), a left tributary of the Abeshinai River, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °01'20"E, 44 °41'40"N)

Upper Yezo Group

Upper Cretaceous

Remarks: The generic position of this species was transferred to *Eupachydiscus* by Matsumoto (1963, p. 43).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Japan, 25th Anniv. Vol. 41-48, pls. 60-68.

***Pachydiscus yokoyamai* Jimbo, 1894**

(= *Canadoceras yokoyamai* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p.177, pl. 2, fig.3, 3a
Lectotype: UMUT MM7511 (= GT. I-103)

Chupitashunai, a left tributary of the Tonbetsu, Kitami Province, northern Hokkaido (ca. 142 °11'E, 44 °53'N)

Upper Yezo Group

Upper Campanian, Upper Cretaceous

***Parapachydiscus kobayashii* Shimizu, 1935**

(= *Pachydiscus (Pachydiscus) kobayashii* (Shimizu, 1935))

Jour. Shanghai Sci. Inst., Sec. 2, Vol. 1, No. 11, p. 208 (see also Jour. Geol. Soc. Tokyo, Vol. 38, pl. 11)

Holotype: UMUT MM7720 (= GT. I-581)

Izumi Mountains, Wakayama Prefecture, southwest Japan.

Azenotani Formation, Izumi Group

Lower Maastrichtian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Pachydiscus* by Matsumoto and Morozumi (1980, p. 8).

Reference: Matsumoto, T. and Morozumi, Y., 1980. Bull. Osaka Mus. Nat. Hist., No. 33, 1-31, pls. 1-16.

***Parahoplites colossus* Matsumoto, 1984**

Rep. Geol. Surv. Hokkaido, No. 55, p. 21, pl. 1, figs. 1-3; pl. 2, figs. 1-3; text-fig. 1A, B

Holotype: Geological Survey of Hokkaido Collection, No. 187

A cliff on the left side of the lower course of the Pankenai creek, a tributary of the Teshio River, near Utanai, Nakagawa Town, northern Hokkaido (142 °05'30"E, 44 °51'00"N)

Member K₂, Kamiji Formation, Lower Yezo Group
Middle Upper Aptian, Lower Cretaceous

***Parahoplites yaegashii* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 30, pl. 2, figs. 1-3; pl. 3, figs. 1, 2

Holotype: IGPS 36856

Komo, Hanoura Town, Naka County, Tokushima Prefecture, Shikoku

Mochii Formation

Aptian, Lower Cretaceous

***Parajaubertella zizoh* Matsumoto, Yokoi and Kawashita, 1997**

Paleont. Res., Vol. 1, No. 3, p. 194, fig. 7-4a-d

Holotype: GK. H8482

A nodule fallen from the outcrop at loc. R575, on the right side of a small branch gully of the middle course of the Suribachi-zawa Creek, a tributary of the Sounnai River, Soeushinai area, Uryu County, northwestern Hokkaido (142 ° 04'48"E, 44 °13'04"N)

Unit My₃, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Parajaubertella kawakitana* Matsumoto, 1942**

Proc. Imp. Acad. Tokyo, Vol. 18, p. 667, fig. 2a

Holotype: UMUT MM19698 (= GT. I-3716)

Loc. N94b, the Yuno-sawa Creek, a tributary of the Naibuchi Valley, south Sakhalin, Russia (ca. 142 °34'E, 47 °20'N)

Member Ky, Kawakita Group

Lower Cenomanian, Upper Cretaceous

***Parajaubertella kawakitana* Matsumoto, 1942**

Proc. Imp. Acad. Tokyo, Vol. 18, p. 667, fig. 2d

Paratype: UMUT MM19699 (= GT. I-3717)

Loc. N97p, the Yuno-sawa Creek, a tributary of the Naibuchi Valley, south Sakhalin, Russia (ca. 142 °34'E, 47 °20'N)

Member Kx, Kawakita Group

Lower Cenomanian, Upper Cretaceous

***Parajaubertella kawakitana* Matsumoto, 1942**

Proc. Imp. Acad. Tokyo, Vol. 18, p. 667, fig. 2c

Paratype: GK H1136

Loc. Y536a, an outcrop in the Tengu-zawa Creek, a tributary of the Syuparo River, Oyubari area, Sorachi Province, central Hokkaido (142 °12'40"E, 43 °10'38"N)

Unit IId, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Parapachydiscus kobayashii* Shimizu, 1935**

(= *Pachydiscus (Pachydiscus) kobayashii* (Shimizu, 1935))

Jour. Shanghai Sci. Inst., Sec. 2, Vol. 1, No. 11, p. 208

Holotype: UMUT MM7720 (= GT. I-581)

Loc. 2, Azenotani, Sennan City, Osaka Prefecture, west

Honshu (135 °17'33"E, 34 °21'04"N)
 Horizon A2, Azenotani Formation, Izumi Group
 Campanian or Maastrichtian, Upper Cretaceous
 Remarks: The generic position of this species was transferred to *Pachydiscus* (*Pachydiscus*) by Matsumoto and Morozumi (1980, p. 8).
 Reference: Matsumoto, T. and Morozumi, Y., 1980. Bull. Osaka Mus. Nat. Hist., No. 33, 1-31, pls. 1-16

***Parasolenoceras periodicum* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 64, pl. 28, fig. 1a, b; pl. 31, fig. 1a-c
 Holotype: GK. H5979 (pl. 31, fig. 1a-c)
 Paratype: MNH. 220, T. Miyauchi's private collection (pl. 28, fig. 1a, b)
 Loc. W7A, Soya harbour, Soya Peninsula, northern Hokkaido (141 °52'52"E, 45 °29'06"N)
 Unit H, Hakobuchi Group
 Upper Campanian, Upper Cretaceous

***Parasolenoceras tomitai* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 32, pl. 8, figs. 1a-c and 2a, b
 Holotype: GK. H5968A, B
 Loc. E42, Wembets (= Embetsu)-Rubeshibe River, Embetsu Town, northern Hokkaido (141 °58'49"E, 44 °41'50"N)
 Unit Y, Hakobuchi Group
 Upper Campanian, Upper Cretaceous

***Paratexanites (Paratexanites) compressus* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 255, pl. 36 (40), fig. 4
 Holotype: GK. H5511
 Loc. IK 882, an outcrop in the Inari-zawa Creek, a tributary of the Ikushumbets River. Mikasa City, Sorachi Province, central Hokkaido (ca. 142 °02'E, 43 °13'N)
 Upper Yezo Group
 Upper Coniacian, Upper Cretaceous

***Paratexanites (Paratexanites) compressus* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 255, pl. 36 (40), fig. 5; text-fig. 13(87)
 Paratype: GK. H5531
 Loc. 12-0404, Hobetsu, Iburi Province, southern central Hokkaido
 Upper Yezo Group
 Senonian, Upper Cretaceous

***Paratexanites (Paratexanites) muramotoi* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 257, pl. 37 (41), fig. 1; text-fig. 14(88)

Holotype: GK. H5645

A river gravel at YY053p, in the Isojiro-zawa Creek, a tributary of the Shiyubari (Yubari) River, Oyubari area, Sorachi Province, central Hokkaido (ca. 142 °07'E, 43 °06'N)
 Upper Yezo Group
 Senonian, Upper Cretaceous

***Paratexanites (Paratexanites) mikasaensis* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 258, pl. 37 (41), figs. 2, 3; text-fig. 15 (89)
 Holotype: GK. H5510
 From 17km point, main course of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido
 Upper Yezo Group
 Senonian, Upper Cretaceous

***Patagiosites laevis* Morozumi, 1985**

Bull. Osaka Mus. Nat. Hist., No. 39, p. 23, pl. 6, fig. 1a-c ; pl. 7, fig. 2
 Holotype: JM386, J. Miyamoto's private collection (pl. 6, fig. 1a-c)
 Paratype: SN01, S. Nanko's private collection (pl. 7, fig. 2)
 Loc. Aw. 1, Kiba, Seidan Town, Awaji Island, Hyogo Prefecture, west Honshu (134 °40'05"E, 34 °17'05"N)
 Seidan Formation, Izumi Group
 Upper Campanian, Upper Cretaceous

***Peroniceras amakusense* Yabe, 1902**

(= *Texanites amakusense* (Yabe, 1902))

Jour. Geol. Soc. Tokyo, Vol. 9, p. 4, pl. 1, fig. 1a, b
 Lectotype: UMUT MM7480 (= GT. Cr. 1714)
 Amakusa, Kumamoto Prefecture, west Kyushu
 Upper Cretaceous beds (= Himenoura Group)
 Lower Senonian, Upper Cretaceous
 Remarks: The generic position of this species was transferred to *Texanites* by Matsumoto and Ueda (1962, p. 172), who also designated this specimen as the lectotype.
 Reference: Matsumoto, T. and Ueda, Y., 1962. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 12, 162-174, pls. 22-27.

***Peroniceras latum* Matsumoto, Muramoto and Hirano, 1981**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 121, p. 52, pl. 6, fig. 1; pl. 7, fig. 1; text-fig. 1
 Holotype: HCS.73, Hokkaido Colliery and Steamship Company, Yubari City
 Loc. Ik 1540, main stream of the Ikushunbetsu River, about 100m downstream from the confluence with the tributary Samatazawa, Mikasa City, Sorachi Province, central Hokkaido (142 °03'30"E, 43 °12'41"N)
 Upper Yezo Group
 Upper Coniacian, Upper Cretaceous

Peroniceras ninakawai* Yabe and Shimizu, 1925*(= *Cobbanoceras ninakawai* (Yabe and Shimizu, 1925))**

Sci. Rep. Tohoku Imp. Univ., Ser. 2, Vol. 7, p. 137[13], pl. 31 [2], figs. 8, 9; pl. 33[4], fig. 17

Holotype: IGPS 8026

Yanagi-no-sawa Creek, a branch of the Sanushibe River, Iburi Province, south central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Cobannoceras* by Matsumoto (1965, p. 223).

Reference: Matsumoto, T., 1965. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 16, No. 3, 209-243, pls. 36-43.

***Peroniceras yubarensis* Matsumoto, Muramoto and Hirano, 1981**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 121, p. 55, pl. 6, fig. 2; pl. 7, fig. 2; text-fig. 2

Holotype: Yb5152, K. Muramoto's private collection

Main stream of the Shiyubari River, at a point close to loc. Y102 of Matsumoto (1942), Oyubari area, Sorachi Province, central Hokkaido (142°06'35"E, 43°09'03"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

Phylloceras ezoense* Yokoyama, 1890*(= *Phyllopachyceras yezoense* (Yokoyama, 1890))**

Palaeontographica, Vol. 36, p. 178, pl. 19, fig. 2a, b

Holotype: Unnumbered specimens registered in the Bayer Staatssammlung für Paläontologie und historische Geologie, München

Near Urakawa, Hidaka Province, southern central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Phyllopachyceras* by Matsumoto (1963, p. 29).Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th Anniversary Vol., 27-32, pls. 44-51.***Placentoceras subtilistriatum* Jimbo, 1894****(= *Metaplacentoceras subtilistriatum* (Jimbo, 1894))**

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 171, pl. 1, fig. 1, 1a

Lectotype: UMUT MM7502 (= GT. I-88)

Wembets (= Embetsu)-Rubeshibe River, Embetsu Town, northern Hokkaido (141°58'49"E, 44°41'50"N)

Hakobuchi Group

Upper Campanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Metaplacentoceras* by Matsumoto (1953, p. 140).

Matsumoto (1984, p. 21) designated one of Jimbo's (1894) two syntypes as the lectotype.

References: Matsumoto, T., 1953. Jap. Jour. Geol. Geogr., Vol. 23, 139-150, pl. 13.

Matsumoto, T., 1984. Palaeont. Soc. Jap. Spec. Paps. No. 27,

5-32, pls. 1-9.

***Platknemiceras caseyi* Matsumoto, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 118, p. 333, pl. 37, fig. 5

Holotype: GK. H6905A

Loc. Km 1843b, north of Shimo-fukami, Sakamoto Village, Yatsushiro County, Kumamoto Prefecture, west Kyushu (130°40'50"E, 32°28'33"N)

Middle Member of Yatsushiro Formation

Albian, Lower Cretaceous

***Polyaspidoceras shimizui* Matsumoto, 1978**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 24, No. 1, p. 18, pl. 6, fig. 1

Holotype: IGPS 54404

Miho Creek, a tributary of the Naibuchi River, Naibuchi (= Naiba) district, south Saghalin, Russia (ca. 142°36'E, 47°19'N)

Miho Group

? Turonian, Upper Cretaceous

***Pravitoceras sigmoidale* Yabe, 1902**

Jour. Geol. Soc. Tokyo, Vol. 9, p. 3, pl. 1, figs. 2, 3

Syntypes: UMUT MM7478 (pl. 1, fig. 2),

UMUT MM7479 (pl. 1, fig. 3)

Along the western coast of the Awaji Island, near the town Minato, Hyogo Prefecture, west Honshu (ca. 134°42'E, 39°19'N)

Izumi Group

Campanian, Upper Cretaceous

***Prionocycloceras matsumotoi* Futakami, 1991**

Jour. Kawamura Women's Univ., Vol. 2, p. 258, pl. 1, figs. 1-7; text-fig. 1A, B(3)

Holotype: NSM. PM9568 (pl. 1, fig. 6; text-fig. 1A, B(3))

Paratypes: NSM. PM9569 (pl. 1, fig. 7), NSM. PM9570 (pl. 1, fig. 4), NSM. PM9571 (pl. 1, fig. 8), NSM. PM9572 (pl. 1, fig. 3), NSM. PM9573 (pl. 1, fig. 5)

Loc. Ki504F, a rolled nodule in the Kamiichi-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (142°02'20"E, 43°15'49"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Prionocycloceras obatai* Futakami, 1991**

Jour. Kawamura Women's Univ., Vol. 2, p. 261, pl. 2, fig. 3; text-fig. 2A, B

Holotype: NSM. PM9578

Loc. Ki607, the Roku-no-sawa Creek, a tributary of the Kamiichi-no-sawa River, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (142°02'29"E, 43°16'29"N)

Lower part of the Upper Yezo Group

Lower to middle (?) Coniacian, Upper Cretaceous

***Prionocloceras obatai* Futakami, 1991**

Jour. Kawamura Women's Univ., Vol. 2, p. 261, pl. 2, fig. 4

Paratype: NSM. PM9579

Loc. Ki404b, the Fukuro-sawa Creek, a tributary of the Kamiichi-no-sawa River, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (142 °02'19"E, 43 °16'11"N)

Lower part of the Upper Yezo Group

Lower to middle (?) Coniacian, Upper Cretaceous

***Prionocloceras sigmoidale* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 41, pl. 9, fig. 1; text-fig. 17

Holotype: GK. H5435

Loc. 2001 of T. Muramoto, Ban-no-sawa Creek, a tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (ca. 141 °59'E, 43 °13'N)

Unit IIIb, Upper Yezo Group

Turonian, Upper Cretaceous

***Prionocloceras sigmoidale* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 41, pl. 10, fig. 2; text-fig. 18

Paratype: Mikasa High School Coll., No. 108

Ich-no-sawa Creek, a tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (ca. 142 °01'E, 43 °15'N)

Unit IIIb, Upper Yezo Group

Turonian, Upper Cretaceous

***Prionocloceras wrighti* Matsumoto, 1971**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 21, No. 1, p. 134, pl. 22, fig. 2

Holotype: GK. H5556 (pl. 22, fig. 2)

Paratypes: GK. H5436 (list only), GK. H5488 (list only)

Kami-ichino-sawa, a right tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi province, central Hokkaido (ca. 142 °02'E, 43 °16'N)

Unit IIIb, Upper Yezo Group

Turonian, Upper Cretaceous

***Prionocyclus aberrans* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 25, pl. 5, fig. 1; text-fig. 8

Holotype: GH. 12006 (Hokkaido Univ. Coll. 12006)

A locality close to an abandoned colliery called "Ponbetsu Mansei-shako", Pombets, Mikasa City, Sorachi province, central Hokkaido (ca. 141 °59'E, 43 °16'N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Prionocyclus aberrans* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 25, pl. 6, fig. 3; text-fig. 9

Paratype: IGPS. 54757

Mikasa Endless of Pombets Coal Mine, Pombets, Mikasa City, Sorachi province, central Hokkaido (ca. 141 °59'E, 43 °16'N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Prionocyclus cobbani* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 16, No. 1, p. 21, pl. 4, figs. 1-4; text-fig. 7

Holotype: GK. H5432 (pl. 4, fig. 1; text-fig. 7)

Paratypes: GK. H5480 (pl. 4, fig. 2), GK. H5431 (pl. 4, fig. 4), GK H5433 (pl. 4, fig. 3)

Loc. Ik2012c, gully on the right side of the Pombets Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (141 °58'41"E, 43 °16'27"N)

Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Prionotropis teshioensis* Yabe and Shimizu, 1925**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 7, No. 4, p. 134(10), pl. 31 (2), fig. 10, pl. 33 (4), figs. 6-10

Syntypes: Tohoku University specimens (registered number undescribed)

A fallen concretion in the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Scaphites Beds (=Middle Yezo Group)

Turonian, Upper Cretaceous

Remarks: Matsumoto (1959, p. 109) treated this species as synonymous with *Subprionocyclus branneri* (Anderson, 1902).

Reference: Matsumoto, T., 1959. Mem. Fac. Sci., Kyushu Univ., Ser. D, Spec. Vol. 1, 1-172, pls. 1-41.

***Protexanites (Miotexanites) minimus* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. C (Geol.), Vol. 20, No. 2, p. 246, pl. 33(37), figs. 1-3; text-fig. 8(82)

Holotype: GK. H5634

11km point measured on the abandoned forestry railway, main stream of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Possibly Coniacian or Lower Santonian, Upper Cretaceous

***Protexanites (Protexanites) bontanti shimizui* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., Vol. 20, No. 2, pl. 31(35), fig. 2a-d; text-fig. 6a, b

Holotype: IGPS. 36962

Namikawa, Toyohara County, south Sakhalin, Russia

Miho Group?

Senonian, Upper Cretaceous

***Protokosmaticeras yezoense* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 64, pl.13, fig.1
 Holotype: TTC. 570523, Takemi Takahashi's private collection
 Takambets, Horonai, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (ca. 141 °57'06"E, 43 °14'26"N)
 Mikasa Formation, Middle Yezo Group
 Middle Cenomanian, Upper Cretaceous

***Pseudaspideceras (Ampalabites) kawashitai* Matsumoto and Obata, 1982**

Bull. Nat. Sci. Mus., Tokyo, Ser. C, Vol. 8, No. 2, p. 75, pl. 3, fig. 1a,b; text-fig. 2
 Holotype: Y. Kawashita's private collection
 Upper reaches of the Kamimaki-zawa Creek, in a right branch 1 km upstream from the branching point, Oyubari area, Sorachi Province, central Hokkaido (ca. 142 °10'E, 43 °08'N)
 Middle Yezo Group
 Lower Turonian, Upper Cretaceous

***Pseudaspidoceras sorachiense* Matsumoto and Hashimoto, 1953**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 12, p. 101, pl. 10, fig. 1a, b
 Holotype: GK. H4023
 Loc. KY301b, the Sorachi River, Minami-Furano Town, Kamikawa Province, central Hokkaido
 Middle Yezo Group
 Lower Turonian, Upper Cretaceous

***Pseudobarroisiceras compressum* Matsumoto and Toshimitsu, 1984**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 25, No. 2, p. 237, pl. 34, fig. 1a, b; text-fig. 4A-C
 Holotype: YKC. 57-6-20 B, Y. Kawashita's private collection
 Floated or fallen nodule at RH2715p in the Karasemi-zawa Creek, Haboro area, Rumoi Province, northwestern Hokkaido
 Lower member of the Shirochi Formation, Middle Yezo Group
 Upper Turonian, Upper Cretaceous

***Pseudobarroisiceras nagaoui* Shimizu, 1932**

Jap. Jour. Geol. Geogr., Vol. 10, p. 1, pl. 1, fig. 1-2, 4-8
 Holotype: IGPS 49432 (= now registered as IGPS. 36853)
 Lower course of the Wakkawenbetsu Creek, a tributary of the Abeshinai River, Abeshina-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142 °03'E, 44 °38'N)
 Middle Abeshinai Group (= Upper Yezo Group)

Senonian, Upper Cretaceous

***Pseudohaploceras japonicum* Obata and Matsukawa, 1984**

Bull. Nat. Sci. Mus., Ser. C (Geol.), Vol. 10, No. 1, p. 28, pl. 2, figs. 4, 5a, b
 Holotype: NSM. PM7296 (pl. 2, fig. 5a, b)
 Paratype: NSM. PM7297 (pl. 2, fig. 4)
 Loc. SA-203, Mamono-zawa Valley, Nakazato village, Gunma Prefecture, central Honshu (ca. 138 °50'E, 36 °14'00"N)
 Ishido Formation
 Barremian, Lower Cretaceous

***Pseudohaploceras nipponicum* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 27, pl. 1, figs. 17-19
 Holotype: IGCP. 36514
 Matsushima, Taro-mura, Shimohei-gun, Iwate Prefecture, Pacific Coast of northern Honshu (141 °58'57"E, 39 °49'51"N)
 Hiraiga Formation, Miyako Group
 Upper Aptian, Lower Cretaceous

***Pseudokosmaticeras yagii* Matsumoto, 1990**

Bull. Hobetsu Mus., No. 6, p. 5, pl. 1A-C; text-fig. 1
 Holotype: HCS. No.13, Hokkaido Colliery and Steamship Company Collection
 A nodule loose on the upper course of the Kuriki River, 4 km northeast of Noborikawa, Noborikawa area, Iburi Province, southern central Hokkaido
 Upper Yezo Group or Hakobuchi Group
 Upper Campanian or Lower Maastrichtian, Upper Cretaceous

***Pseudoleymeriella hataii* Obata, 1973**

Sci Rep. Tohoku Univ., 2nd Ser., Spec. Vol. 6, p. 310, pl. 34, figs. 1a-d, 4a-c, 5a-d, 7a-c, 8a-d, text-figs. 1, 2
 Holotype: NSM. PM7282 (pl. 34, fig. 1a-d)
 Paratypes: NSM. PM7283 (pl. 34, fig. 8a-d, text-fig. 1), NSM. PM7285 (pl. 34, fig. 4a-c), NSM. PM7287 (pl. 34, fig. 7a-c), NSM. PM7288 (pl. 34, fig. 5a-d, text-fig. 2), NSM. PM7290 (list only), NSM. PM7291 (list only)
 Loc. Hn. 0650, Aketo coast, Tanohata village, Shimohei County, Iwate Prefecture, Pacific Coast of northern Honshu (141 °56'53"E, 39 °56'24"N)
 Upper part of the "Orbitolina Sandstone" [=uppermost part of the Hiraiga Formation], Miyako Group
 Upper Aptian, Lower Cretaceous

***Pseudoleymeriella hataii* Obata, 1973**

Sci Rep. Tohoku Univ., 2nd Ser., Spec. Vol. 6, p. 310, pl. 34, fig. 2a-c
 Paratype: NSM. PM7289
 Loc. Hn. 0679, Hiraname coast, north of Raga, Tanohata

village, Shimohei County, Iwate Prefecture, Pacific Coast of northern Honshu (141°56'44"E, 39°56'00"N)
Aketo Formation, Miyako Group
Lower Albian, Lower Cretaceous

***Pseudolemeriella hiranamensis* Obata, 1973**

Sci Rep. Tohoku Univ., 2nd Ser., Spec. Vol. 6, p. 312, pl. 34, fig. 6a-d

Holotype: NSM. PM7284

Loc. Hn. 0650, Aketo coast, Tanohata village, Shimohei County, Iwate Prefecture, Pacific Coast of northern Honshu (141°56'53"E, 39°56'24"N)

Upper part of the "Orbitolina Sandstone" [=uppermost part of the Hiraiga Formation], Miyako Group

Upper Aptian, Lower Cretaceous

***Pseudolemeriella hiranamensis* Obata, 1973**

Sci Rep. Tohoku Univ., 2nd Ser., Spec. Vol. 6, p. 312, pl. 34, fig. 3a-c

Paratype: NSM. PM7286

Loc. Hn. 6201, Hiraname, Tanohata village, Shimohei County, Iwate Prefecture, Pacific Coast of northern Honshu (141°56'44"E, 39°56'00"N)

Aketo Formation, Miyako Group

Lower Albian, Lower Cretaceous

***Pseudosaynella otsukai* Yabe and Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 9, No. 2, p. 68(36), pl. 15(4), figs. 5-8

Holotype: Unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Kawarazawa, Gumma Prefecture, central Honshu

Kawarazawa Group (= Kawarazawa Formation)

Aptian, Lower Cretaceous

***Pseudothurmannia hanouraensis* Yabe and Shimizu (MS. Nom.), 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 29, pl. 1, figs. 20-24, pl. 3, fig. 11

Holotype: IGPS 35304 (pl. 1, fig. 20)

Paratypes: IGPS 36516 (pl. 1, fig. 21), IGPS 36860 (pl. 1, figs. 23-25; pl. 3, fig. 1)

Ushiotoshiyama, Hanoura Town, Naka County, Tokushima Prefecture, Shikoku

Hanoura Formation

Neocomian, Lower Cretaceous

***Pteropuzosia kawashitai* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 159, fig. 79

Holotype: YKC. 540610, Y. Kawashita's private collection

A point about 900 m upstream from the entrance of the 66-rimpan-zawa Creek near Tengu-bashi Bridge, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (the locality is now under

the Obirashibe Lake) (141°55'16"E, 44°03'54"N)

Unit Mj-k, Middle Yezo Group

Turonian, Upper Cretaceous

***Pteropuzosia kawashitai* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 159, fig. 80

Paratype: GK. H8096

A river gravel at loc. T 1080p in the Saku-gakko-no-sawa Creek, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°00'40"E, 44°44'38"N)

Unit IId, Saku Formation, Middle Yezo Group

Turonian, Upper Cretaceous

***Pteropuzosia kawashitai* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 159, fig. 81; fig. 82A

Paratype: YKC. 610801, Y. Kawashita's private collection

Loc. Y 5154, an outcrop in the Taki-no-sawa Creek, a tributary of the Shubari River, Oyubari area, Sorachi Province, central Hokkaido (142°09'08"E, 43°04'33"N)

Middle Yezo Group

Upper Lower Turonian, Upper Cretaceous

***Pteropuzosia kawashitai* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 159, figs. 82B, 83

Paratype: YKC. 580724, Y. Kawashita's private collection

A river gravel at loc. Y 5155p in the Taki-no-sawa Creek, a tributary of the Shubari River, Oyubari area, Sorachi Province, central Hokkaido (142°00'40"E, 44°44'38"N)

Middle Yezo Group

Possibly Lower Turonian, Upper Cretaceous

***Pteropuzosia kawashitai* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 159, fig. 84

Paratype: YKC. 531007, Y. Kawashita's private collection

Loc. Y 5155r, an outcrop in the Taki-no-sawa Creek, a tributary of the Shubari River, Oyubari area, Sorachi Province, central Hokkaido (142°00'40"E, 44°44'38"N)

Middle Yezo Group

Upper Lower Turonian, Upper Cretaceous

***Ptychoceras pseudo-gaultinum* Yokoyama, 1890**

(= *Polyptychoceras pseudogaultinum* (Yokoyama, 1890))

Palaeontographica, Vol. 36, p. 181, pl. 20, figs. 1-3

Syntypes: Unnumbered specimens registered in the Bayer Staatssammlung für Paläontologie und historische Geologie, München

Urakawa, Hidaka Province, southern central Hokkaido

Upper Yezo Group

Senonian (Santonian-Campanian), Upper Cretaceous

Remarks: The generic position of this species was transferred to *Polyptychoceras* by Matsumoto (1963, p. 29).

Reference: Matsumoto, T., 1963. Palaeont. Soc. Jap., 25th

Anniversary Vol., 27-32, pls.44-51.

***Pulchellia ishidoensis* Yabe and Shimizu, 1926**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser., Vol. 9, No. 2, p. 74(42), pl. 15 (4), figs. 22-24

Holotype: Unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Ishido, Minami-Saku County, Nagano Prefecture, central Honshu (ca. 138 °38'E, 36 °07'N)

Ishido Group (= Ishido Formation)

Barremian, Lower Cretaceous

***Puzosia* (?) *ambigua* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 2, p. 78, pl. 10, figs. 2, 3

Holotype: UMUT MM6612 (= GT. I-2639)

Loc. N309d, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °33'E, 47 °18'N)

Unit Mho, Miho Group

Cenomanian, Upper Cretaceous

Remarks: Matsumoto (1988, p. 98) regarded this species as a junior synonym of *Austiniceras austeni* (Sharpe, 1855).

Reference: Matsumoto, T., 1988. Palaeont. Soc. Jap. Spec. Paps., No. 30, 1-179, figs. 1-88.

***Puzosia elegans* Matsumoto, 1988**

Palaeont. Soc. Japan, Spec. Paps., No. 30, p. 36, fig. 4.

Holotype: NSM. PI-6345

Loc. Ik 1038, an outcrop exposed on the right (northern) side of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142 °00'14"E, 43 °14'33"N)

Unit IIc, Mikasa Formation

Upper Cenomanian, Upper Cretaceous

***Puzosia kuratai* Tokunaga and Shimizu, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 2, Vol. 1, p. 196, pl. 22, fig. 6; pl. 23, figs. 4, 5; pl. 24

Syntypes: Two unnumbered specimens housed in Waseda University (lost by fire during the World War II)

Upper reaches of the Sakurazawa Creek, Oriki, Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu (140 °57'38"E, 37 °12'18"N)

Asizawa Formation, Futaba Group

Coniacian, Upper Cretaceous

***Puzosia nipponica* Matsumoto, 1954**

(= *Austiniceras nipponicum* (Matsumoto, 1954))

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 2, p. 77, pl. 10, fig. 1a, b

Holotype: UMUT MM6600 (= GT. I-3191)

A river gravel in the Saku-gakkono-sawa Creek at loc. T547p, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °00'38"E, 44 °44'08"N)

Unit IIb, Middle Yezo Group

Cenomanian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Austiniceras* by Matsumoto (1988, p. 103).

Reference: Matsumoto, T., 1988. Palaeont. Soc. Japan, Spec. Paps., No. 30, 1-179, figs. 1-88.

***Puzosia nipponica* Matsumoto, 1954**

(= *Austiniceras nipponicum* (Matsumoto, 1954))

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 2, p. 77, pl. 11, fig. 1a-c

Paratype: GK. H1221

Loc. Y141, an outcrop exposed in the lower course of the Hikage-zawa Creek, Oyubari area, Sorachi Province, central Hokkaido (142 °10'11"E, 43 °09'26"N)

Unit IIK, Middle Yezo Group

Cenomanian, Upper Cretaceous

***Puzosia orientale* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 2, p. 74, pl. 13, figs. 1, 2

Loc. Y420c, an outcrop in the Hinata-zawa Creek, a tributary of the the Shiyubari River, Oyubari area, Sorachi Province, central Hokkaido (142 °10'35"E, 43 °11'03"N)

Unit IIIn, Middle Yezo Group

Lower Turonian, Upper Cretaceous

***Puzosia subcorbarica* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 2, p. 73, pl. 9, fig. 1a, b

Holotype: UMUT MM7639 (= GT. I-370)

A point a little above the Ikushumbets gorge, Mikasa City, Sorachi Province, central Hokkaido

Middle Yezo Group

Albian, Lower Cretaceous

***Puzosia subcorbarica* Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 5, No. 2, p. 73, pl. 12, fig. 1

Paratype: UMUT MM6594 (= GT. I-671)(missing)

A point a little above the Ikushumbets gorge, Mikasa City, Sorachi Province, central Hokkaido

Middle Yezo Group

Albian, Lower Cretaceous

***Puzosia* (?) *yabei* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 24

Holotype: IGPS. 36506

Matsushima, Taro Villedge, Shimohei County, Iwate Prefecture, Pacific coast of northeast Honshu (141 °58'57"E, 39 °49'51"N)

Hiraiga Formation, Miyako Group

Aptian, Lower Cretaceous

***Reesidites elegans* Matsumoto and Inoma, 1971**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 139, pl. 23, figs. 1-3

Holotype: TKU. 30376-(1) (Institute of Geoscience, Tsukuba University)(pl. 23, fig. 1)

Paratypes: TKU. 30376-(2) (pl. 23, fig. 2), TKU. 30376-(3) (pl. 23, fig. 3), (Institute of Geoscience, Tsukuba University)

Loc. 71705, upper reaches of the Shirochiune-zawa Creek, a branch of the Naka-futamata-gawa River, Haboro area, Rumoi Province, northwestern Hokkaido (142 °02'20"E, 44 °17'34"N)

Unit Uy2 in the geological map "Soeushinai", Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Reesidites latus* Matsumoto and Obata, 1982**

Bull. Nat. Sci. Mus., Ser. C, Vol. 8, No. 2, p. 82, pl. 6, fig. 2a,b

Holotype: No. 54-10-20, Y. Kawashita's private collection

Loc. 163 (of T. Takahashi), in the Ponnebetsu(= Suido-no-sawa) Creek, Manji area, central Hokkaido, Sorachi Province, central Hokkaido (141 °58'38"E, 43 °07'21"N)

Mikasa Formation, Middle Yezo Group

Uppermost Turonian, Upper Cretaceous

***Reymentites hataii* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 240, pl. 42 [25], fig. 3; text-figs. 19 [59]-20 [60]

Holotype: IGPS 54746

The Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido

Possibly Upper Yezo Group

Possibly Senonian (Coniacian and Santonian), Upper Cretaceous

***Rhyoptychoceras mikasaense* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 352, pl. 59, fig. 1

Holotype: TTC. 5000, T. Takahashi's private collection

Loc. Ik 2710, Pombetsu-go-no-sawa Creek, a tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'00"E, 43 °14'19"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Romaniceras* (?) *otatumei* Matsumoto, Saito and Fukada, 1957**

(= *Yubariceras otatumei* (Matsumoto, Saito and Fukada, 1957))

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 6, No. 1, p. 25, pl. 2, fig. 2a, b

Holotype: UMUT MM5663 (= GT. I-3185)

Nutappomai, Kami-hobetsu area, Iburi Province, southern

central Hokkaido (ca. 142 °11'E, 42 °55'N)

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Yubariceras* by Matsumoto (1975, p. 144).

Reference: Matsumoto, T., 1975. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 22, No. 2, 99-163, pls. 11-23.

***Romaniceras* (new genus?) *aequicostatum* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 22, No. 2, p. 124, pl. 15, fig. 3

Holotype: GK. H5690

A river gravel at loc. Ik 1420p, in the Kami-ichi-no-sawa Creek, a branch of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142 °01'58"E, 43 °15'04"N)

Mikasa Formation, Middle Yezo Group

Middle or Upper Turonian, Upper Cretaceous

***Romaniceras yezoense* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 22, No. 2, p. 118, pl. 15, fig. 1

Holotype: GK. H5695

Loc. Yb423, Ponhorokabetsu River, Yubari City, Sorachi Province, central Hokkaido (141 °57'39"E, 43 °04'20"N)

Unit Mk2 or Mk3, Mikasa Formation, Middle Yezo Group

Middle to Upper Turonian, Upper Cretaceous

***Ryugasella ryugasensis* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 4, No. 2, p. 122, pl. 7, fig. 4a-d, text-fig. 13a-e

Holotype: UMUT MM6583 (= GT. I-2862)

Loc. N18f, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142 °31'E, 47 °20'N)

Unit Ray1, Ryugase Group

Campanian, Upper Cretaceous

***Saghalinites teshioensis* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 27, pl. 9, figs. 1a-c

Holotype: GK. H5971 (pl. 9, figs. 1a-c)

Paratype: GK. H5970 (list only; mistakenly described as GK. H5941 on p. 27)

Loc. T 5011, Utsu River, Teshio Mountains, northern Hokkaido

Hakobuchi Group

Upper Campanian, Upper Cretaceous

***Saghalinites teshioensis* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 27, pl. 9, figs. 3a-c

Paratype: GK. H5941

Loc. E45, Wembets (= Embetsu)-Rubeshibe River, Embetsu

Town, Teshio Province, northern Hokkaido (141°58'49"E, 44°41'50"N)
Unit Y, Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Saghalinites teshioensis* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 27, pl. 9, fig. 2a-c.
Paratypes: GK. H5939 (pl. 9, fig. 2a-c), GK. H5940 (list only)
Wembets (= Embetsu)-Rubeshibe River, Embetsu Town, Teshio Province, northern Hokkaido (ca. 141°58'49"E, 44°41'50"N)
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Saghalinites teshioensis* Matsumoto, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 27
Paratype: unnumbered specimen at the Department of Earth and Planetary Science, Kyushu University
Abeshinai-Rubeshibe River, Nakagawa Town, Teshio Province, northern Hokkaido (ca. 142°00'25"E, 44°42'24"N)
Hakobuchi Group
Upper Campanian, Upper Cretaceous

***Saynella matsushimaensis* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 15, No. 1, p. 25, pl. 1, figs. 10-13; pl. 3, fig. 26
Holotype: IGPS 36507
Matsushima, Taro Villege, Shimohei County, Iwate Prefecture, Pacific coast of northeast Honshu (141°58'57"E, 39°49'51"N)
Hiraiga Formation, Miyako Group
Aptian, Lower Cretaceous

***Scalarites densicostatus* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 349, pl. 57, fig. 1
Holotype: GK. H5806
Loc. Ik 2013, an outcrop along the Pombets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°58'39"E, 43°16'26"N)
Lower part of Upper Yezo Group
Middle Turonian to Coniacian, Upper Cretaceous

***Scalarites mihoensis* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 4, No. 2, p. 118, pl. 7, fig. 1; text-fig. 2
Holotype: UMUT MM6564 (= GT. I-2951a)
Loc. N27a, the Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia (ca. 142°33'E, 47°20'N)
Unit Mh4, Miho Group
Upper Turonian-Coniacian, Upper Cretaceous

***Scalarites mihoensis* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 4, No. 2, p. 118
Paratypes: UMUT MM6566 (= GT. I-2951b), UMUT MM6567 (= GT. I-2949), UMUT MM6568 (= GT. I-2950), UMUT MM6569 (= GT. I-2953), UMUT MM6570 (= GT. I-2954), UMUT MM6571 (= GT. I-2955), UMUT MM6572 (= GT. I-2956)
The Naibuchi Valley, Naibuchi (= Naiba) district, south Sakhalin, Russia
Unit Mh3-Mh4, Miho Group
Upper Turonian-Coniacian, Upper Cretaceous

***Scalarites mihoensis* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 4, No. 2, p. 118, pl. 7, fig. 2
Paratypes: UMUT MM6565 (= GT. I-3352)(pl. 7, fig. 2); UMUT MM6573 (= GT. I-3354), UMUT MM6574 (= GT. I-3357), UMUT MM6575 (= GT. I-3362), UMUT MM6576 (= GT. I-3363), UMUT MM6577 (= GT. I-3373), UMUT MM6578 (= GT. I-3375), UMUT MM6579 (= GT. I-3382), UMUT MM6580 (= GT. I-3383) (all list only)
Abeshinai River, Saku area, Nakagawa Town, Teshio Province, northern Hokkaido
Unit IId-IIIa, Middle Yezo Group
Upper Turonian-Coniacian, Upper Cretaceous

***Scalarites mihoensis* Wright and Matsumoto, 1954**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 4, No. 2, p. 118
Paratypes: GK. H1451, GK. H1454 (list only)
Shiyubari River, Oyubari area, Sorachi Province, central Hokkaido
Unit IIs-IIIa, Middle Yezo Group
Upper Turonian-Coniacian, Upper Cretaceous

***Scaphites (?) formosus* Yabe, 1910**

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p.166, pl. 15, fig. 8a,b
Holotype: UMUT MM7582 (GT. I-291)
Kikumezawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 142°01'E, 43°13'N)
Upper Yezo Group
Cenonian, Upper Cretaceous

***Scaphites (?) gracilis* Yabe, 1910**

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p.166, pl.15, fig.9
Holotype: UMUT MM7581 (= GT. I-290)
Opirashibets (=Obirashibe) River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido
Upper Yezo Group
Santonian, Upper Cretaceous

***Scaphites japonicus* Inoma, 1980**

Prof. Saburo Kanno Memorial Vol., p. 176, pl. 22, fig. 11.

Holotype: TKD. 30565

P7, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 ° 05'26"E, 44 ° 16'42"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Scaphites japonicus* Inoma, 1980**

Prof. Saburo Kanno Memorial Vol., p. 176, pl. 22, fig. 9

Paratype: TKD. 30091A

Loc. 70904A, the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 ° 05'26"E, 44 ° 16'42"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Scaphites japonicus* Inoma, 1980**

Prof. Saburo Kanno Memorial Vol., p. 176, pl. 22, fig. 10.

Paratype : TKD. 30564

P2, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area, northwestern Hokkaido (142 ° 05'26"E, 44 ° 16'42"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Scaphites (?) pseudoaequalis* Yabe, 1910**

(= *Yezoites klamathensis* (Anderson, 1901), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p.163, pl.15, fig.1

Syntype: UMUT MM 7576 (= GT. I-281)

Bannnosawa Creek, a tributary of the Kushumbets River, Mikasa City, Sorachi Province, central Hokkaido (ca. 141 ° 59'E, 43 ° 13'N)

Upper Yezo Group

Coniacian, Upper Cretaceous

Remarks: The microconch of this species is regarded as the form described under *Scaphites klamathensis* Anderson or *Otoscapites klamathensis* (Anderson).

***Scaphites (?) pseudoaequalis* Yabe, 1910**

(= *Yezoites klamathensis* (Anderson, 1901), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p.163, pl.15, fig.2a,b

Syntype: UMUT MM 7577 (= GT. I-283)

Opiraushibets (=Obirashibe) River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Upper Yezo Group

Coniacian, Upper Cretaceous

***Scaphites puerculus* Jimbo, 1894**

(= *Yezoites puerculus* (Jimbo, 1894), microconch)

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 183, pl. 5, fig. 4,4a

Lectotype: UMUT MM7520 (GT. I-120)

The Pankemoyuparo Creek, a left tributary of the Yubari River, Sorachi Province, central Hokkaido (ca. 142 °10'E, 42 °59'N)

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: The generic position of this species was transferred to *Yezoites* by Yabe (1910, p. 170). Lectotype was designated by Matsumoto (1963, p. 44).

Remarks: The macroconch of this species is regarded as the form described under *Yezoites planus* Yabe, 1910 (see Davis *et al.*, 1996, p. 506).

References: Matsumoto, T., Palaeont. Soc. Jap., 25th Anniv. Vol., 41-48, pls.60-68.

Davis, R. A. et al., 1996. In: Ammonoid Paleobiology (N. H. Landman, Tanabe, K. and Davis, R. H. eds.), 463-539.

Plenum, New York.

Yabe, H., 1910. Beitr. Paläont. Geol. des Österreich-Ungarns und des Orients, Vol. 23, 159-174, pl.15.

***Scaphites Yokoyamai* Jimbo, 1894**

(= *Yezoites yokoyamai* (Jimbo, 1894))

Paläont. Abhandl., N. F., Vol. 2, No. 3, p. 183, pl. 5, fig. 3,3a

Syntype: UMUT MM7519 (= GT. I-119)

The Pankemoyuparo Creek, a left tributary of the Yubari River, Sorachi Province, central Hokkaido (ca. 142 °10'E, 42 °59'N)

Middle Yezo Group

Turonian, Upper Cretaceous

***Scaphites (?) Yonekurai* Yabe, 1910**

(= *Yezoites yonekurai* (Yabe, 1910), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p.165, pl.15, figs.4a,b, 5a, b

Syntypes: UMUT MM7578 (= GT. I-286)(pl. 15, fig. 4a, b),

UMUT MM7579 (= GT. I-287)(pl. 15, fig. 5a, b)

Opiraushibets (=Obirashibe) River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

Remarks: Microconch of this species is regarded as the form described under *Scaphites perrini* Anderson, 1902.

***Schlueterella kawadai* Matsumoto and Miyauchi, 1984**

Palaeont. Soc. Japan, Spec. Paps., No. 27, p. 61, pl. 26, fig. 1a-c; pl. 27, figs. 3a-e, 4; pl. 28, fig. 2a-c; pl. 29, fig. 1a-c; pl. 30, figs. 1, 2a, b; pl. 31, fig. 3

Holotype: GK. H5978 (pl. 26, fig. 1a-c; pl. 27, fig. 4)

Paratypes: MNH. 111(pl. 30, fig. 2a, b), MNH. 211(p. 61, list only), MNH. 212 (pl. 29, fig. 1a-c), MNH. 215(pl. 27, fig. 3a-e), MNH. 216 (pl. 30, fig. 1), MNH. 83A (pl. 28, fig. 2a-c; pl. 31, fig. 3), MNH. 75 (p. 61, list only), MNH. 77 (p. 61, list only), MNH. 78 (p. 61, list only), MNH. 79 (p. 61, list only), MNH. 80 (p. 61, list only), MNH. 82 (p. 61, list only), MNH. 84 (p. 61, list only), MNH. 85 (p. 61, list only),

MNH. 86 (p. 61, list only), MNH. 92 (p. 61, list only), MNH. 94 (p. 61, list only), MNH. 101 (p. 61, list only), MNH. 209 (p. 61, list only), MNH. 210 (p. 61, list only); T. Miyauchi's private collection

Soya Harbour, Soya Peninsula, northern Hokkaido (141 ° 52'52"E, 45 ° 29'06"N)

Unit H, Hakobuchi Group

Upper Campanian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24, pl. 8, fig. 1; text-fig. 61

Holotype: GK H538 (pl. 8, fig. 1)

Paratypes: GK H5387 (text-fig. 61), GK H5375 (p. 24, list only), GK H5376 (p. 24, list only), GK H5377 (p. 24, list only), GK H5378 (p. 24, list only), GK H5379 (p. 24, list only), GK H5380 (p. 24, list only), GK H5381 (p. 24, list only), GK H5382 (p. 24, list only), GK H5383 (p. 24, list only), GK H5384 (p. 24, list only), GK H5385 (p. 24, list only), GK H5388 (p. 24, list only)

Loc. Ik2014e, an outcrop exposed along the Pombets Creek, a tributary of the Ikushumbets River, Pombets area, Mikasa City, Sorachi Province, central Hokkaido (141 ° 58'40"E, 43 ° 16'27"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24, text-figs. 50, 51, 53, 55, 57

Paratypes: GK H4369 (p. 24, list only), GK H4370 (text-fig. 57), GK H4371 (p. 24, list only), GK H4374 (text-fig. 53), GK H4375 (text-fig. 51), GK H4376 (text-fig. 50), GK H4377 (p. 24, list only), GK H4378 (p. 24, list only), GK H4379 (p. 24, list only), GK H4372 (text-fig. 55)

Loc. Ik2014d, an outcrop exposed along the Pombets Creek, a tributary of the Ikushumbets River, Pombets area, Mikasa City, Sorachi Province, central Hokkaido (141 ° 58'40"E, 43 ° 16'27"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24, text-figs. 54, 58

Paratypes: GK H4426 (text-fig. 54), GK H4427 (p. 24, list only), GK H4428 (p. 24, list only), GK H4429 (p. 24, list only), GK H4430 (p. 24, list only), GK H4431 (p. 24, list only), GK H4432 (p. 24, list only), GK H4433 (p. 24, list only), GK H4434 (p. 24, list only), GK H4435 (p. 24, list only), GK H4436 (p. 24, list only), GK H4437 (p. 24, list only), GK H4438 (text-fig. 58), GK H4439 (p. 24, list only), GK H4440 (p. 24, list only), GK H4441 (p. 24, list only), GK H4442 (text-fig. 56), GK H4443 (p. 24, list only), GK H4444

(p. 24, list only)

Loc. Ik940, an outcrop along the main course of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake)(142 ° 00'39"E, 43 ° 16'46"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24

Paratype: GK H4445 (list only)

Loc. Ik968b, an outcrop along the main course of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake)(142 ° 00'41"E, 43 ° 14'06"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24

Paratypes: GK H4446, GK H4447 (list only)

Loc. Ik967, an outcrop along the main course of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake)(142 ° 00'41"E, 43 ° 14'06"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras intermedium* Matsumono and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 24

Paratype: GK H5374

Loc. Ik939, an outcrop along the main course of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake)(142 ° 00'40"E, 43 ° 13'35"N)

Unit IIIa, near basal part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sciponoceras matsumotoi* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p.171, text-fig. 4; pl. 21, fig. 14

Holotype: TKD. 30538A

P1, a rolled nodule in the Shumarinai River, Shumarina-Soeushinai area, northwestern Hokkaido (142 ° 05'26"E, 44 ° 16'42"N)

Middle Yezo Group

Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Sciponoceras matsumotoi* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p.171, pl. 21, fig. 16

Paratype: TKD. 30074A

Loc. 70904A, the Shumarinai River, Shumarina-Soeushinai area, northwestern Hokkaido (142 °05'26"E, 44 °16'42"N)
Middle Yezo Group
Uppermost Albian or Lowest Cenomanian, mid-Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18, pl. 6, fig. 1; text-figs. 34, 36, 39, 42, 45, 46
Holotype: UMUT MM5672 (= GT. I-3160a)(p. 18, pl. 6, fig. 1; text-figs. 42, 45)
Paratype: UMUT MM5673 (= GT. I-3160b-d)(text-figs. 34, 36, 39, 46)

Loc. T610e, Saku-gawa (Sakkotan) Creek, a tributary of the Teshio River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °04'27"E, 44 °44'57"N)
Unit IIc (a), upper part of Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18, text-fig. 49
Paratype: GK. H1415d

Loc. Y415, an outcrop in the lower course of the Hinata-zawa Creek, Shuyubari (= Oyubari) area, Sorachi Province, central Hokkaido (142 °10'30"E, 43 °10'53"N)
Unit IIIn, lower part of Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18, text-figs. 34, 47, 48
Paratypes: GK. H4364 (text-fig. 47), GK. H4366 (text-fig. 48), GK. H4360 (list only), GK. H4361 (text-fig. 34), GK. H4362 (list only), GK. H4363 (list only), GK. H4365 (list only), GK. H4367 (list only), GK. H4368 (list only), GK. H4357 (list only)

Loc. P. 27, the Porokoashibetsu Creek, a tributary of the Ashibetsu River, Sorachi Province, central Hokkaido (ca. 142 °05'E, 43 °21'N)
Unit Ue4, lower part of Upper Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18
Paratypes: GK. H4358 (list only), GK. H4359 (list only),
Loc. P. 28, the Porokoashibetsu Creek, a tributary of the Ashibetsu River, Sorachi Province, central Hokkaido (ca. 142 °05'E, 43 °21'N)
Unit Ue4, lower part of Upper Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18, text-figs. 37, 38, 40, 41
Paratypes: GK. H4738 (text-fig. 41), GK. H4739 (text-fig. 37), GK. H4740 (text-fig. 40), GK. H4741 (text-fig. 38), GK. H4929 (list only), GK. H4930 (list only), GK. H4931 (list only), GK. H4989 (list only),
A river gravel at loc. T1022p7, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 01'18"E, 44 °44'24"N)
Unit IId, lower part of Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18
Paratypes: GK. H4932 (list only), GK. H4934 (list only)
A river gravel at loc. T1022p8, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142 ° 01'18"E, 44 °44'24"N)
Unit IId, lower part of Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18
Paratype: UMUT MM5674 (= GT. I-3344a-d)
A river gravel at loc. T726p, Niono-sawa Creek, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142 °00'49"E, 44 °46'31"N)
Unit IId, lower part of Saku Formation, Middle Yezo Group
Middle Turonian, Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18, text-figs. 36, 43, 44
Paratypes: GK. H1411a-g (text-figs. 36, 43, 44), GK. H1413 (list only)
Loc. Y419, Oyubari area, Sorachi Province, central Hokkaido (142 °10'35"E, 43 °11'06"N)
Unit IIIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18
Paratypes: GK. H1414, GK. H1416, GK. H1417 (all list only)
Loc. Y418, an outcrop in the lower course of the Hinata-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °10'35"E, 43 °11'05"N)
Unit IIIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper

Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18

Paratype: GK. H1414a-c

Loc. Y415, an outcrop in the lower course of the Hinata-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'50"E, 43 °09'23"N)

Unit IIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18

Paratype: GK. H1415a-g

Loc. Y137, an outcrop in the upper course of the Yubari River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'50"E, 43 °09'29"N)

Unit IIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18

Paratype: GK. H1421a-c

Loc. Y205, an outcrop in the upper course of the Yubari River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °10'05"E, 43 °09'52"N)

Unit IIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18

Paratype: GK. H1422a-b

Loc. Y455, an outcrop in the small riblet near the confluence between the Yubari River and the Hikage-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'52"E, 43 °09'18"N)

Unit IIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sciponoceras orientale* Matusmoto and Obata, 1963**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 13, No. 2, p. 18

Paratype: GK. H4536

Loc. Y138E, an outcrop in the lower stream of the Hikage-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'58"E, 43 °09'26"N)

Unit IIn, lower part of Saku Formation, Middle Yezo Group
Lower part of Upper Gyliakian (= Lower Turonian), Upper Cretaceous

***Sharpeiceras kikuae* Matsumoto and Kawashita, 1995**

Jour. Fac. Educ., Saga Univ., Vol. 42, No. 2, p. 186, pl. 5, fig. 1a, b

Holotype: YKC. 060628, Y. Kawashita's private collection
Loc. Y 5091, Hakkin-zawa Creek, a tributary of the Shiyubari (= Yubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °10'32"E, 43 °02'10"N)

Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Sharpeiceras kongo* Matsumoto, Muramoto and Takahashi, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 261, pl. 29, fig. 1; pl. 30, fig. 1

Holotype: No. 425261, Takemi Takahashi's private collection (pl. 29, fig. 1; pl. 30, fig. 1)

Paratype: GK. H5604 (list only)

Loc. IK 1100, Katurazawa quarry (now closed) along the main stream of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141 °59'30"E, 43 °15'00"N)

Lower part of unit I Ib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Sharpeiceras kongo* Matsumoto, Muramoto and Takahashi, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 261

Paratype: No. 405161, Takami Takahashi's private collection (list only)

Loc. Ik1101 ("Manushi-zawa"), Mikasa City, Sorachi Province, central Hokkaido (141 °59'30"E, 43 °15'00"N)

Lower part of unit I Ib, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Shastrioceras intermedium* Matsukawa and Obata, 1993**

Palaeontology, Vol. 36, No. 2, p. 258, text-fig. 5A, B

Holotype: NSM. PM7446

Loc. 1405, Suhara, Yuasa area, Wakayama Prefecture, west Honshu (135 °10'01"E, 34 °02'35"N)

Upper part of the Arida Formation

Lower Barremian, Lower Cretaceous

***Shastrioceras intermedium* Matsukawa and Obata, 1993**

Palaeontology, Vol. 36, No. 2, p. 258, text-fig. 5C, D

Paratypes: NSM. PM7630 (text-fig. 5C), NSM. PM7631 (text-fig. 5D)

Loc. 1405, Suhara, Yuasa area, Wakayama Prefecture, west

Honshu (135 °10'01"E, 34 °02'35"N)
Upper part of the Arida Formation
Lower Barremian, Lower Cretaceous

***Shastricrioceras nipponicum* Matsumoto, 1947**

Sci. Rep. Kyushu Univ., Geol. Ser., Vol. 2, p. 19, pl. 1, fig. 3; text-fig. 2

Lectotype: GK. H8305

Loc. Yu-103, Yuasa-Fujinami, Yuasa area, Wakayama Prefecture, west Honshu (135 °12'10"E, 34 °02'38"N)
Middle part of Arida Formation

Lower Barremian

Remarks: Lectotype was designated by Mastukawa and Obata (1993, p. 255).

***Shuparoceras abei* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 113, pl. 13, fig. 1

Holotype: HCS. No. 57, Geological Survey, Hokkaido Colliery & Steamship Co., Yubari City (donated to the Mikasa City Museum, MCM.A823)

River gravel in the Shiyubari (= Yubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Shuparoceras abei* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 113

Paratype: T. Takahashi's private collection, 45-8-11

Loc. Y5203, an outcrop in the Hakkin-zawa Creek, a tributary of the Yubari River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °08'33"E, 43 °03'01"N)

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Shuparoceras yagii* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 110, pl. 12, fig.

Holotype: HCS. No. 56, Geological Survey, Hokkaido Colliery & Steamship Co., Yubari City

River gravel in the Shiyubari (= Yubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Shuparoceras yagii* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 110

Paratype: K. Muramoto's private collection, Yb3003

200 m south along the strike of Loc. Y5194 in the Isojiro-no-sawa Creek, a tributary of the Yubari River, Oyubari (Shiyubari) area, Sorachi Province, central

Hokkaido (ca. 142 °08'E, 43 °06'N)

Middle Yezo Group

Turonian, Upper Cretaceous

***Simbirskites kochibei* Yabe and Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., 2nd Ser., Vol. 9, No. 2, p. 69(37), pl. 15 (4), figs. 9, 10

Holotype: Unnumbered specimen at Institute of Geology and Paleontology, Tohoku University

Kawarazawa, Gumma Prefecture, central Honshu

Kawarazawa Group (= Kawarazawa Formation)

Aptian, Lower Cretaceous

***Sornayceras omorii* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 230, pl. 42 [25], fig. 2; text-figs. 13 [53]-14 [54]

Holotype: GK. H5493

Upper main stream of the Ikushumbets River, somewhat above confluence with the Inari-zawa Creek, Mikasa City, Sorachi province, central Hokkaido (ca. 142 °03'00"E, 43 °13'35"N)

Middle part of Upper Yezo Group

Upper Coniacian, Upper Cretaceous

***Sornayceras omorii* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 230, pl. 42 [25], fig. 1; text-fig. 15 [55]

Paratype: Mikasa High School Coll. No. 120

Ikushumbets, Mikasa City, Sorachi province, central Hokkaido (without a precise locality record)

? Upper Yezo Group

? Coniacian, Upper Cretaceous

***Sornayceras proteus* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 3, p. 227, pl. 40 [23], fig. 1; text-figs. 11 [51]-12 [52]

Holotype: GK. H5438

Yoshiyachi-zawa Creek, a branch of the Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido

Upper Yezo Group

Upper Lower Urakawan (= Upper Coniacian), Upper Cretaceous

***Sornayceras wadae* Matsumoto, 1971**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 21, No. 1, p. 142, pl. 24, fig. 1

Holotype: GK. H5647

Loc. Ik. 1527, an outcrop exposed between the Red Bridge and the confluence with the Kumaoui-zawa Creek in the upper reaches of the Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (142 °04'30"E, 43 °14'26"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Sounnaites hokkaidoensis* Matsumoto and Inoma, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p.118, pl. 30, figs. 3-4; text-fig. 14

Holotype: GK.H 8341

Loc. IA 2102, Sounnai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'13"E, 44°12'53"N)

Unit My2, Middle Yezo Group

Upper Albian, Lower Cretaceous

***Stoliczkaia (Shumarinaia) asiatica* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 279, pl. 39, fig. 6

Holotype: TKD. 30173 A

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) asiatica* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 279, pl. 39, figs. 1, 2, 4

Paratypes: TKD. 30173 B (pl. 39, fig. 4), TKD. 30178 A (pl. 39, fig. 1), TKD. 30178 B (pl. 39, fig. 2)

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) asiatica* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 279, pl. 39, figs. 5, 7

Paratypes: TKD. 30174 C (pl. 39, fig. 5), TKD. 30174 A (pl. 39, fig. 7)

Loc. 70904B, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 277, pl. 39, fig. 1a, b; text-fig. 10a, b

Holotype: TKD. 30178A

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 277, pl. 39, fig. 2a, b

Paratype: TKD. 30178B

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 277, pl. 39, fig. 3a, b

Paratype: TKD. 30602

A floated nodule (P8) in the middle course of the Shumarinai River, about 5 km west from Shumarinai, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 277, pl. 39, fig. 3a, b

Paratype: GK. H4214

A floated nodule (P8) in the middle course of the Shumarinai River, about 5 km west from Shumarinai, Horokanai Town, Uryu County, northwestern Hokkaido (142°05'28"E, 44°16'39"N)

Member My3, Middle Yezo Group

Lowest Cenomanian, Upper Cretaceous

***Stoliczkaia (Stoliczkaia) amanoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 271, pl. 38, fig. 3

Holotype: GK. H4214

Shishijima Island, Amakusa Islands, Kumamoto Prefecture, western Kyushu (ca. 130°13'-16'E, 32°15'-18'N)

Member Ile, Goshonoura Group

Lower part of the Lower Cenomanian, Upper Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 271, pl. 38, fig. 2

Paratype: TKD. 30176

Loc. 81011, a branch of the Sounnai Creek, west of Soeushinai, Horokanai Town, Uryu County, northwestern

Hokkaido (142 °04'35"E, 44 °13'28"N)
Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Shumarinaia) hashimotoi* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 271, pl. 38, fig. 4

Paratype: TKD. 30175

Loc. 70904A, an outcrop in the Shumarinai River, Shumarinai-Soeushinai area, Sorachi Province, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stoliczkaia (Stoliczkaia) yezoana* Matsumoto and Inoma, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 2, p. 275, text-fig. 9; pl. 39, fig. 8

Holotype: TKD. 30177

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area, Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stomohamites japonicum* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 168, pl. 21, fig. 3

Holotype: TKD. 30069A (pl. 21, fig. 3),

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stomohamites japonicum* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 168, pl. 21, figs. 8, 9.

Paratypes: TKD. 30069C (pl. 21, fig. 9), TKD. 30069D (pl. 21, fig. 8)

Loc. 70904A, Shumarinai River, Shumarinai-Soeushinai area Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stomohamites japonicum* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 168, pl. 21, figs. 5, 7

Paratypes: TKD. 30070A (pl. 21, fig. 5), TKD. 30070B (pl. 21, fig. 7)

Loc. 70904B, Shumarinai River, Shumarinai-Soeushinai area Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

***Stomohamites japonicum* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 168, pl. 21, fig. 6

Paratype: TKD. 30532

P1, a rolled nodule in the Shumarinai River, Shumarinai-Soeushinai area Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

Uppermost Albian or Lowest Cenomanian

***Stomohamites japonicum* Inoma, 1980**

Prof. Saburo Kanno Memorial Volume, p. 168

Paratype: TKD. 30535A, TKD. 30536A (list only)

P7-8, rolled nodules in the Shumarinai River, Shumarinai-Soeushinai area Horokanai Town, Uryu County, northwestern Hokkaido (142 °05'28"E, 44 °16'39"N)

Middle Yezo Group

Upper Albian to Lower Cenomanian, mid-Cretaceous

Uppermost Albian or Lowest Cenomanian

***Subprionotropis muramotoi* Matsumoto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 16, No. 1, p. 47, pl. 4, fig. 5; text-fig. 21

Holotype: GK. H5434

Loc. Ik2012c, a cliff in the lower course of the Pombets River, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido (141 °58'41"E, 43 °16'27"N)

Unit IIIa', lower part of Upper Yezo Group

Upper Turonian, Upper Cretaceous

***Sumitoceras faustum* Matsumoto and Muramoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 283, pl. 38, fig. 1

Holotype: GK H5595

Loc. Ik1038, an outcrop exposed in the lower course from the Katsurazawa dam, Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (142 °00'14"E, 43 °14'34"N)

Unit IIc, middle part of Mikasa Formation, Middle Yezo Group

Uppermost Cenomanian, Upper Cretaceous

***Sumitoceras faustum* Matsumoto and Muramoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 283, pl. 38, figs. 2, 4; text-fig. 8

Paratypes: GK. H5615 (p. 283, list only), GK. H5616 (p. 283, list only), GK. H5617 (pl. 38, fig. 2), GK. H5561 (pl. 38, fig. 4; text-fig. 8)

Loc. Ik1038, an outcrop exposed in the lower course from the Katsurazawa dam, Ikushumbets River, Mikasa City, Sorachi province, central Hokkaido (142 °00'14"E, 43 °

14°34'N)

Unit IIc, middle part of Mikasa Formation, Middle Yezo Group

Uppermost Cenomanian, Upper Cretaceous

***Sumitomoceras faustum* Matsumoto and Muramoto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 19, No. 2, p. 283, pl. 38, fig. 3

Paratype: GK. H5600

IK 980p, a floated nodule in the lower stream from the Katsurazawa Dam, Ikshumbets River, Mikasa City, Sorachi province, central Hokkaido (142°00'23"E, 43°14'20"N)

Member IIc, middle part of Mikasa Formation, Middle Yezo Group

Uppermost Cenomanian, Upper Cretaceous

***Takahashia eureka* Matsumoto, 1984**

Proc. Japan Acad., Vol. 60, Ser. B, No. 3, p. 33, fig. 1A, B

Holotype: GK. H5567

Loc. IK 1101, Katsurazawa quarry (now abandoned) on the right side of the main stream of the Ikushumbets River, near the Ohashi bridge, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141°59'30"E, 43°15'00"N)

Unit IIb, Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Yezo Group

***Teshioites ryugasensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 174, pl. 36, fig. 1a, b

Holotype: UMUT MM5637 (= GT. I-3488)

A river gravel at T472p, in the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142°01'27"E, 44°40'13"N)

Upper Yezo Group

Campanian, Upper Cretaceous

***Teshioites ryugasensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 174, pl. 36, fig. 2a, b

Paratype: UMUT MM5638 (= GT. I-3473)

Loc. T731, an outcrop in the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142°00'27"E, 44°46'23"N)

Upper Yezo Group

Campanian, Upper Cretaceous

***Teshioites ryugasensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 174, pl. 37, fig. 3a, b

Paratype: UMUT MM ? (= GT. I-3475)

A river gravel at T472p, in the Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142°01'27"E, 44°40'13"N)

Upper Yezo Group

Campanian, Upper Cretaceous

***Teshioites teshioensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 177, pl. 37, fig. 2a, b

Holotype: UMUT MM5643 (= GT. I-3466)

A river gravel in the Kurumi-zawa Creek at loc. T908p, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido (142°04'18"E, 44°36'29"N)

Upper Yezo Group

Campanian, Upper Cretaceous

***Teshioites teshioensis* Matsumoto, 1955**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 5, No. 3, p. 177, pl. 35, fig. 3a-c

Paratype: GK. H5212

Teshio Province, northern Hokkaido (exact locality uncertain)

Upper Yezo Group

Campanian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13-4a, b

Holotype: UMUT MM18667-1

Loc. T1220, an outcrop in the Obirashibe River, at 100 m lower stream from the confluence with the Akanosawa Creek, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°59'16"E, 44°06'36"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 11C-D

Paratypes: UMUT MM18642-6 (fig. 11C-D), UMUT MM18642-1 (UMUT MM18642-1)

Loc. T313, an outcrop in the lower stream of the Wakkawebetsu River, Saku-Abeshinai area, Nakagawa Town, Teshio province, northern Hokkaido (142°02'35"E, 44°38'00"N)

Upper Yezo Group

Lower Campanian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13-3a,b

Paratype: UMUT MM18678-1

Loc. R2110, an outcrop in the upper course of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°59'50"E, 44°06'12"N)

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13-5a, b

Paratype: UMUT MM18671-1

Loc. R4018, an outcrop in the middle course of the Obirashibe River, Tappu area Obira Town, Rumoi Province, northwestern Hokkaido (now under the Obirashibe Lake) (141°55'45"E, 44°04'05"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13-6a, b

Paratype: UMUT MM18682-1

Loc. R6394, an outcrop in the upper course of the Nakakinenbetsu River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (141°58'35"E, 44°00'33"N)

Middle Yezo Group

Lower Turonian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13, 7a-b

Paratype: UMUT MM18681-1

Higashiura, Soya Peninsula, northern Hokkaido

Middle Yezo Group

Lower Turonian, Upper Cretaceous

***Tetragonites minimus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 336, fig. 13, 2a-b

Paratype: UMUT MM18655-1

Loc. RK0043, an outcrop in the upper course of the Kotanbetsu (east of the Kumaoui Bridge), Kotanbetsu area, Tomamae County, Rumoi Province, northwestern Hokkaido (141°58'53"E, 44°10'50"N)

Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Tetragonites popetensis* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 48, pl. 7, fig. 4a, b

Holotype: UMUT MM7460 (= GT. I-207) (missing)

Sanushibe, Iburi Province, southern central Hokkaido (ca. 142°08'E, 42°52'N)

Upper Yezo Group

Senonian, Upper Cretaceous

***Tetragonites popetensis* Yabe, 1903**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 18, No. 2, p. 48, pl. 7, fig. 6

Paratype: UMUT MM7541 (= GT. I-208)

Penke-opushikep, Teshio Province, northern Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Tetragonites terminus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 338, fig. 13-8a, b

Holotype: UMUT MM18635-1

Loc. H12d, Ichiyonagi-no-sawa, Tomiuchi area, Iburi Province, southern central Hokkaido (142°12'56"E, 42°46'06"N)

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Tetragonites terminus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 338, figs. 13-9, 10

Paratypes: UMUT MM18635-2 (fig. 13-9), UMUT MM18635-4 (fig. 13-10a, b)

Loc. H12d, Ichiyonagi-no-sawa, Tomiuchi area, Iburi Province, southern central Hokkaido (142°12'56"E, 42°46'06"N)

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Tetragonites terminus* Shigeta, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 156, p. 338, fig. 11E-F

Paratype: UMUT MM18636-2

Loc. TH12a, Tomiuchi area, Iburi Province, southern central Hokkaido (142°12'55"E, 42°46'07"N)

Hakobuchi Group

Lower Maastrichtian, Upper Cretaceous

***Texanites (Plesiotexanites) pacificus* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 289, pl. 46 (50), fig. 4a, b

Holotype: GK. H5506

Loc. CK52, an outcrop in the Sankebetsu Creek, Haboro-Chikubetsu area, Tomamae County, northwestern Hokkaido (now under the Haboro Lake)(141°56'30"E, 44°20'33"N)

Member B2, Upper Yezo Group

Upper Santonian-Lower Campanian, Upper Cretaceous

***Texanites (Plesiotexanites) pacificus* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 289, pl. 45 (49), figs. 1, 2; text-fig. 24 (89)

Paratype: GK. H5644

13.5 km point along the abandoned forestry railway, under the reaches of the Ikushumbetsu River, Mikasa City, Sorachi province, central Hokkaido

Upper Yezo Group

Possibly Santonian, Upper Cretaceous

***Texanites yazakii* Matsumoto and Haraguchi, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 110, p. 307, pl. 42, figs. 1, 2

Holotype: GK. H5865

Loc. Y1120 (the left side of the creek called the Penkehoroka-yuparo), a tributary of the Shiyuparo River, Oyubari district, Sorachi Province, central Hokkaido (ca. 142°10'E, 42°59'N)

Upper Yezo Group

Santonian, Upper Cretaceous

***Texanites (Plesiotexanites) yezoensis* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 294, pl. 44 (48), fig. 2

Holotype: GK. H5646

A river gravel in a small stream running to the Ikushumbets River at loc. IK M1550p, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Possibly Santonian, Upper Cretaceous

***Texanites (Plesiotexanites) yezoensis* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 294

Paratypes: GH. nos. 3122, 3123 (list only)

Kikume-zawa Creek, a tributary of the Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Possibly Santonian, Upper Cretaceous

***Texanites (Plesiotexanites) yezoensis* Matsumoto, 1970**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 20, No. 2, p. 294

Paratype: GH. no. 7954 (list only)

Below a railway bridge near the entrance of the Ponhorokabetsu River, Yubari City, Sorachi Province, central Hokkaido (141°58'43"E, 43°03'18"N)

Upper Yezo Group

Possibly Santonian, Upper Cretaceous

***Tragodesmocerooides matsumotoi* Hirano, Okamoto, and Hattori, 1990**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 157, p. 394, fig. 11-22, 23, 24

Holotype: WEA 103T, Institute of Earth Science, Waseda University (missing)

Locality A (= R 6072 of Tanabe et al., 1977), Takishita, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (now under the Obirashibe Lake) (141°55'03"E, 44°03'57"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Tragodesmocerooides matsumotoi* Hirano, Okamoto, and Hattori, 1990**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 157, p. 394, figs. 11-16, 17, 18, 19, 20, 21

Paratypes: WEA 101T (figs. 11-16, 17, 18), WEA 102T (figs. 11-19, 20, 21), Institute of Earth Science, Waseda University (missing)

Locality A (= R 6072 of Tanabe et al., 1977), Takishita, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (now under the Obirashibe Lake) (141°55'03"E, 44°03'57"N)

Saku Formation, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Tragodesmocerooides subcostatus* Matsumoto, 1954**

T. Matsumoto (editor): The Cretaceous System in the Japanese Islands, Jap. Soc. Prom. Sci., Tokyo, p. 263, pl. 4, fig. 1a, b

Holotype: UMUT MM6718 (= GT. I-3087)

Loc. T680, an outcrop in the lowest stream of the Abeshinai River, Abeshinai-Saku area, Nakagawa Town, Teshio Province, northern Hokkaido (142°02'44"E, 44°44'02"N)

Saku Formation, Middle Yezo Group

Turonian, Upper Cretaceous

***Trianglites antiquus* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser. D (Geol.), Vol. 23, No. 3, p. 350, pl. 58, fig. 1

Holotype: NSM. PM7259

Saku-gakko-no-sawa Creek, Saku area, Nakagawa Town, Teshio Province, northwestern Hokkaido (ca. 142°1-2'E, 44°44'N)

Saku Formation, Middle Yezo Group

Turonian?, Upper Cretaceous

***Turrilites Komotai* Yabe, 1904**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 20, No. 2, p. 7, pl. 1, fig. 1; pl. 2, fig. 1

Holotype: UMUT MM7458 (= GT. I-232)

A marly nodule found below a cliff of the Ikushumbets River, directly above the coal mine, Mikasa City, Sorachi Province, central Hokkaido

Lower *Acanthoceras*-zone (sandstone) (= Mikasa Formation), Middle Yezo Group

Cenomanian, Upper Cretaceous

***Wellmanites japonicus* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 91, pl. 21, fig. 1

Holotype: TTC. 370417, Takemi Takahashi's private collection

Loc. IK1039, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142°00'14"E, 43°14'35"N)

Unit IIc, Mikasa Formation, Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

***Wellmanites japonicus* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 91, pl. 21, figs. 2, 3

Paratype: GK. H8338 (pl. 21, fig. 2), TTC. 370917 (pl. 21, fig. 3), Takemi Takahashi's private collection

Loc. IK1039, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (142°00'14"E, 43°14'35"N)

Unit IIC, Mikasa Formation, Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

***Wellmanites japonicus* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 91

Paratype: GK. H8091 (list only)

Loc. Y5116, Taki-no-sawa Creek, a tributary of the Yubari (=Shubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (ca. 142°11'00"E, 43°06'32"N)

Unit IIm, Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

***Wellmanites japonicus* Matsumoto, Takahashi and Sanada, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 91

Paratype: GK. H8385 (list only)

Loc. H2431, Hobetsu area, Iburi Province, southern-central Hokkaido

Middle Yezo Group

Upper Cenomanian, Upper Cretaceous

***Worthoceras pacificum* Mastumoto and Yokoi, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 146, p. 43, fig. 4-1, 2; text-fig. 1A-C

Holotype: GK. H8121

Sakin-zawa Creek, Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido (ca. 142°07'E, 44°16'N)

Middle Yezo Group

Probably Cenomanian, Upper Cretaceous

***Worthoceras pacificum* Mastumoto and Yokoi, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 146, p. 43, figs. 4-3-6, 11-15

Paratypes: KYC. 721 (fig. 4-11, 12, 13), KYC. 722 (fig. 4-14, 15), KYC. 723 (fig. 4-3-6), K. Yokoi's private collection

Somewhere in the Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido

Middle Yezo Group

Probably Cenomanian, Upper Cretaceous

***Worthoceras pacificum* Mastumoto and Yokoi, 1987**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 146, p. 43, fig. 4-7-10

Paratypes: H 74 (fig. 4-7-8), H 75 (fig. 4-9-10), K. Yokoi's private collection

Shumarinai River, Shumarinai-Soeushinai area, Uryu County, northwestern Hokkaido (ca. 142°06'E, 44°17'N)

Middle Yezo Group

Probably Cenomanian, Upper Cretaceous

***Yabeiceras himuroi* Tokunaga and Shimizu, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sect. 2, Vol. 1, pt. 6, p. 203, pl. 22, fig. 9; pl. 27, fig. 2a, b

Holotype: unregistered specimen of Waseda University (destroyed by fire in 1944 and now missing)

Upper reaches of the Sakurazawa Creek, Oriki, Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu (ca. 140°57'38"E, 37°12'18"N)

Lower part of Futaba Group (Ashizawa Formation)

Coniacian, Upper Cretaceous

***Yabeiceras kotoi* Tokunaga and Shimizu, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sect. 2, Vol. 1, pt. 6, p. 202, pl. 22, fig. 8; pl. 24, fig. 15

Holotype: unregistered specimen of Waseda University (destroyed by fire in 1944 and now missing)

Upper reaches of the Sakurazawa Creek, Oriki, Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu (ca. 140°57'38"E, 37°12'18"N)

Lower part of Futaba Group (Ashizawa Formation)

Coniacian, Upper Cretaceous

***Yabeiceras orientale* Tokunaga and Shimizu, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sect. 2, Vol. 1, pt. 6, p. 201, pl. 22, fig. 7; pl. 27, fig. 1

Holotype: unregistered specimen of Waseda University (destroyed by fire in 1944 and now missing)

Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu

Lower part of Futaba Group (Ashizawa Formation)

Coniacian, Upper Cretaceous

***Yabeiceras orientale* Tokunaga and Shimizu, 1926**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 56, p. 323, pl. 48, fig. 2; text-fig. 2

Neotype: GK. H5556

Upper reaches of the Sakurazawa Creek, Oriki, Hirono Town, Futaba County, Fukushima Prefecture, northeast Honshu (ca. 140°57'41"E, 37°12'15"N)

Lower part of Futaba Group (Ashizawa Formation)

Coniacian, Upper Cretaceous

Remarks: Neotype was designated by Matsumoto (1969, p. 324).

Reference: Matsumoto, T., 1969. Mem. Fac. Sci., Kyushu Univ., Ser. D, Vol. 19, no. 3, 297-330, pls. 39-45.

***Yakushiceras takahashii* Matsumoto, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 53, pl. 8, figs. 2-4

Holotype: GK. H8335 (pl. 8, figs. 2, 3)

Paratype: GK. H8336 (pl. 8, fig. 4)

A river gravel at loc. IK6018p, in the Torii-zawa Creek, a tributary of the Ikushumbets River, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido
Mikasa Formation, Middle Yezo Group
Lower Cenomanian, Upper Cretaceous

***Yeharaites kawashitai* Matsumoto, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 49, pl. 9, fig. 1

Holotype: YKC. 010718, Yoshitaro Kawashita's private collection

Loc. S-901, Hakkin-zawa Creek, a tributary of the Yubari (Shiyubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (ca. 142 °11'E, 43 °02'N)

Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Yakushiceras takahashii* Matsumoto, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 49, pl. 9, fig. 1

Holotype: YKC. 010718, Yoshitaro Kawashita's private collection

Loc. S-901, Hakkin-zawa Creek, a tributary of the Yubari (Shiyubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (ca. 142 °11'E, 43 °02'N)

Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Yeharaites kobayashii* Matsumoto and Takahashi, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 46, pl. 8, fig. 1; text-fig. 7

Holotype: GK. H8334

Torii-sawa Creek, a tributary of the Ikushumbets River, Ikushumbetsu area, Mikasa City, Sorachi Province, central Hokkaido

Mikasa Formation, Middle Yezo Group

Lower Cenomanian, Upper Cretaceous

***Yezoceras miotuberculatum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 320, pl. 46, fig. 2

Holotype: GK. H1391

Loc. Y112b, Shiyubari (=Yubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °07'34"E, 43 °09'00"N)

Upper Yezo Group

Upper Coniacian, Upper Cretaceous

***Yezoceras miotuberculatum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 320, pl. 46, fig. 1

Paratype: GK. H1392

Loc. Y110d', Shiyubari (=Yubari) River, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °07'16"E, 43 °09'17"N)

Upper Yezo Group

Upper Coniacian, Upper Cretaceous

***Yezoceras miotuberculatum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 320, pl. 61, fig. 2

Paratype: GK. H3541

Loc. U161p, Urakawa area, Hidaka Province, southern central Hokkaido (142 °49'42"E, 42 °10'58"N)

Unit Urla, Upper Yezo Group

Coniacian-Santonian, Upper Cretaceous

***Yezoceras nodosum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 337

Paratype: NSM. PM7255 (list only)

Loc. Ik 2156b, Pombetsu-go-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'00"E, 43 °14'19"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Yezoceras nodosum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 317, pl. 46, fig. 3

Paratype: GK. H5569

Upper course of the Ikushumbets River, above the Kumaioi Bridge, Mikasa City, Sorachi Province, central Hokkaido (now under the Katsurazawa Lake)(142 °03'28"E, 43 °14'10"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Yezoceras nodosum* Matsumoto, 1977**

Mem. Fac. Sci., Kyushu Univ., Ser D (Geol.), Vol. 23, No. 3, p. 317, pl. 45, fig. 2; pl. 46, fig. 4

Holotype: NSM. PM7254 (pl. 45, fig. 2)

Paratype: NNSM. PM7255 (pl. 46, fig. 4)

Loc. Ik 2156b, Pombetsu-go-no-sawa Creek, Ikushumbets area, Mikasa City, Sorachi Province, central Hokkaido (141 °59'00"E, 43 °14'19"N)

Upper Yezo Group

Coniacian, Upper Cretaceous

***Yezoites planus* var. *gigas* Yabe, 1910**

(= *Yezoites puerculus* (Jimbo, 1894), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p. 169, pl. 15, fig. 19

Holotype: UMUT MM7591 (= GT. I-300)

Yubarigawa (= Yubari River), Oyubari area, Sorachi Province,

central Hokkaido
Middle Yezo Group
Turonian, Upper Cretaceous

***Yezoites planus* Yabe, 1910**

(= *Yezoites puerculus* (Jimbo, 1894), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p. 167, pl. 15, figs. 12a, b, 14a, b

Syntypes: UMUT MM7583 (= GT. I-292) (pl.15, fig.14a, b), UMUT MM7584 (= GT. I-293, Cr.105)(pl. 15, fig. 12a, b)

Yubarigawa (= Yubari River), Oyubari area, Sorachi Province, central Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Yezoites planus* Yabe, 1910**

(= *Yezoites puerculus* (Jimbo, 1894), macroconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p. 167, pl. 15, figs. 11, 13, 15-18

Syntypes: UMUT MM7585 (= GT. I-294) (pl. 15, fig. 15a, b),

UMUT MM7586 (= GT. I-295)(pl.15, fig. 16), UMUT

MM7587 (= GT. I-296)(pl.15, fig.13a, b), UMUT MM7588

(= GT. I-297) (pl.15, fig. 11a, b), UMUT MM7589 (= GT.

I-298) (pl.15, fig. 17), UMUT MM7590 (= GT. I-299)(pl. 15,

fig. 18)

Opiraushibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Yezoites puerculus* var. *teshioensis* Yabe, 1910**

(= *Yezoites puerculus* (Jimbo, 1894), microconch)

Beitr. Paläont. Geol. Österreich-Ungarns und des Orients, Vol. 23, p. 171, pl. 15, figs. 23-26

Syntypes: UMUT MM 7451 (pl. 15, fig. 26), UMUT

MM7595 (= GT. I-305)(pl. 15, fig. 25a, b), UMUT MM7596

(= GT. I-306) (pl. 15, fig. 23), UMUT MM7597 (= GT.

I-309) (pl. 15, fig. 24)

Opiraushibets (= Obirashibe River), Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido

Middle Yezo Group

Turonian, Upper Cretaceous

***Yokoyamaoceras jimboi* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 153, pl. 9, fig. 4a, b.

Holotype: UMUT MM7625a (= GT. I-349a)

Saushi-sanushibe, Iburi Province, southern central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras jimboi* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 153, pl. 9, fig. 5a, b, text-fig. 13

Paratype: UMUT MM7625b (= GT. I-349b)

University Museum, University of Tokyo

Saushi-sanushibe, Iburi Province, southern central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras minimum* Matsumoto, 1956**

Jap. Jour. Geol. Geogr., Vol. 27, p. 186, pl. 16, fig. 6a-c

Holotype: GK. H5204

The Ikushumbets River, Mikasa City, Sorachi Province, central Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras* (?) *mysticum* Matsumoto, 1955**

Jap. Jour. Geol. Geogr., Vol. 26, Nos. 1-2, p. 155, pl. 10, fig. 1a, b

Holotype: GK. H3379

Loc. U147p, Urakawa area, Hidaka Province, southern central Hokkaido (142°49'43"E, 44°10'44"N)

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras ornatum* Matsumoto, 1956**

Jap. Jour. Geol. Geogr., Vol. 27, p. 183, pl. 16, fig. 3a, b

Holotype: GK. H5210

The Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras ornatum* Matsumoto, 1956**

Jap. Jour. Geol. Geogr., Vol. 27, p. 183, pl. 16, fig. 4a-d

Paratype: GK. H5211

The Abeshinai River, Saku-Abeshinai area, Nakagawa Town, Teshio Province, northern Hokkaido

Upper Yezo Group

Senonian, Upper Cretaceous

***Yokoyamaoceras yokoi* Matsumoto, 1991**

Palaeont. Soc. Japan, Spec. Paps., No. 33, p. 100, pl. 22, fig. 3; text-fig. 11

Holotype: TMNH 501 [=TY66], Natural History Museum of Toyohashi

Sato-no-sawa Creek, a tributary of the Obirashibe River, Tappu area, Obira Town, Rumoi Province, northwestern Hokkaido (ca. 142°02'E, 44°02'30"N)

Unit Mj, Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Yubariceras fujishimai* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 22, No. 2, p. 148, pl. 22, fig. 2; pl. 23, fig. 3; text-fig. 17

Holotype: HCS. No. 40, Geological Section, Hokkaido

Colliery & Steamship Co. Ltd., Yubari
 About 400 m southeast from the mouth of the Kaneobetsu River, a tributary of the Pankemoyuparo, Oyubari area, Sorachi Province, central Hokkaido (142 °08'28"E, 43 °02'33"N)
 Middle Yezo Group
 Upper Turonian, Upper Cretaceous

***Yubariceras (Romaniceras?) japonicum* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 31, pl. 8, fig. 2; text-figs. 11, 12
 Holotype: UMUT. MM7622 (= GT. I-345)
 Yubari River, Oyubari area, Sorachi Province, central Middle Yezo Group
 Middle to Upper Turonian, Upper Cretaceous

***Yubariceras pseudomphalum* Matsumoto, 1975**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 22, No. 2, p. 146, pl. 22, fig. 1
 Holotype: M. 76, T. Muramoto's private collection
 A river gravel in the Taki-no-sawa Creek (= Pankemoyuparo Creek), a tributary of Yubari River, Oyubari area, Sorachi province, central Hokkaido
 Middle Yezo Group
 Turonian, Upper Cretaceous

***Yubariceras (Romaniceras ?) japonicum* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 31, pl. 8, fig. 2, text-figs. 11, 12
 Holotype: UMUT MM7622 (= GT. I-345)
 Yubari River, Oyubari area, Sorachi province, central Hokkaido
 Middle Yezo Group
 Middle to Upper Turonian, Upper Cretaceous

***Yubariceras yubarense* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 27, pl. 8, fig. 1a, b, text-fig. 9
 Holotype: UMUT MM7620 (= GT. I-343)
 Pankemoyuparo Creek, near the mouth of the Kaneobetsu Creek, Oyubari area, Sorachi Province, central Hokkaido
 Fallen or floated nodule, derived from Middle Yezo Group
 Middle and Upper Turonian, Upper Cretaceous

***Yubariceras yubarense* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 27, pl. 10, fig. 1a, b
 Paratype: GH. 12005, Department of Geology & Mineralogy, Hokkaido University
 Uesugi-zawa Creek, Nakahobetsu, Yufutsu County, Iburi

Province, southern central Hokkaido
 Middle Yezo Group
 Middle-Upper Turonian, Upper Cretaceous

***Yubariceras yubarense* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 27, pl. 11, fig. 1a, b
 Paratype: GK. H1531
 Loc. Y462, an outcrop in the small northern riblet of the Yubari River, near the confluence with the Hikage-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'31"E, 43 °09'43"N)
 Unit IIq-IIr, Saku Formation, Middle Yezo Group
 Middle-Upper Turonian, Upper Cretaceous

***Yubariceras yubarense* Matsumoto, Saito and Fukada, 1957**

Mem. Fac. Sci., Kyushu Univ., Ser. D. (Geol.), Vol. 6, No. 1, p. 27, pl. 13, fig. 1a, b; pl. 15, fig. 1
 Paratype: GK. H1532
 Loc. Y469, an outcrop in the small northern riblet of the Yubari River, near the confluence with the Hikage-zawa Creek, Oyubari (Shiyubari) area, Sorachi Province, central Hokkaido (142 °09'27"E, 43 °10'05"N)
 Unit IIq-IIr, Saku Formation, Middle Yezo Group
 Middle-Upper Turonian, Upper Cretaceous

***Zelandites mihoensis* Matsumoto, 1938**

Jap. Jour. Geol. Geogr., Vol. 15, p. 144, pl. 14, fig. 2a-c
 Holotype: UMUT MM9124 (= GT. I-2509)
 Loc. Ug.5-6-p4, Uguizawa Creek, Naibuchi (= Naiba) area, south Sakhalin, Russia
 Miho Group
 Senonian, Upper Cretaceous

***Zelandites varuna* (Forbes) var. *japonica* Matsumoto, 1938**

Jap. Jour. Geol. Geogr., Vol. 15, p. 140, pl. 14, figs. 5-7
 Syntype: UMUT MM 9122a (= GT. I-2501a)(pl. 14, fig. 6a, b), pl. 14, fig. 6a, b
 (pl. 14, fig. 7a-c), UMUT MM9123 (= GT. I-2502)(pl. 14, fig. 5a, b)
 Loc. N112d and N110b along the second tributary of the Naibuchi (= Naiba) River, Naibuchi (= Naiba) area, south Sakhalin, Russia (ca. 142 °31'E, 47 °19'N)
 Rdy, Ryugase Group
 Campanian, Upper Cretaceous

Mesozoic and Cenozoic Cephalopod**Susumu Tomida**

Chukyo Gakuin University
Sendanbayashi 1-104, Nakatsugawa City,
Gifu 509-9195, Japan

<Mesozoic Nautiloidea>

***Anglonautilus japonicus* Matsumoto & Takahashi, 1982**

Proc. Japan Acad., Vol. 58, Ser. B, p. 295, Figs. 1-3
 Holotype: TTC390715 (T. Takahashi Collection: Pl. 1, Fig. 1; Text-fig. 1A); Paratypes: TTC500413 (Pl. 58, Fig. 1; Text-fig. 1B), TTC400606, TTC390419, TTC380414, TTC390726-3, TTC410710, TTC390717-1, TTC400520, TTC390726-1, TTC390726-2, TTC400516, TTC391102, TTC370524, TTC390917-2, TTC370717, TTC410723, TTC500900; GKH5568, GKH5930)
 Loc. 1K 1100, Katsurazawa pit, on the right side of the main stream of the Ikushunbetsu, central Hokkaido
 Mikasa Formation, Middle Yezo Group
 upper Lower Cenomanian, Upper Cretaceous

***Anglonautilus mamiyai* Matsumoto & Miyauchi, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 132, p. 226, Pl. 50, Fig. 1
 Holotype: MNH 147 (T. Miyauchi Collection)
 Loc. 4, Kiyohama-II Coast (= "Orannai"), Soya Peninsula, northern Hokkaido
 Unit C, Upper Yezo Group
 Campanian, Upper Cretaceous

***Cymatoceras honmai* Matsumoto & Miyauchi, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 132, p. 225, Pl. 48, Fig. 2; Pl. 49, Figs. 1, 2
 Holotype: MNH144 (T. Miyauchi Collection); Paratype: MNH146
 Kiyohama-I Coast, Soya Peninsula, northern Hokkaido
 Upper Yezo Group
 Campanian, Upper Cretaceous

***Cymatoceras pacificum* Matsumoto & Muramoto, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 130, p. 92, Pl. 18, Fig. 1; Pl. 19, Fig. 1; Pl. 20, Figs. 1, 2; Text-fig. 3
 Holotype: MCTS-3025 (Loc. see below); Paratype: MCTS-3010 (Loc. Wakkawenbetsu), GKH5918 (Loc. "Kawakami Colliery", south of the Naibuchi, S. Sakhalin)
 Wakkawenbetsu, upper reaches of the Abeshinai, a tributary of the Teshio River, Saku area, northern Hokkaido
 Upper Yezo Group
 Middle Campanian, Upper Cretaceous

***Cymatoceras pseudo-atlas* Yabe & Shimizu, 1924** see ***Nautilus (Cymatoceras) pseudo-atlas* Yabe & Shimizu, 1924**

***Cymatoceras pseudoneokomiense* Shimizu, 1931**

Sci. Rep. Tohoku Imp. Univ., Ser. 2, Vol. 15, No. 1, p. 18, Pl. 1, Figs. 1-4
 Holotype: IGPS No. 36520; Paratype: IGPS No. 36519
 At Hideshima, Sakiyama-mura, Shimohei-gun, Iwate Prefecture
 Hiraiga sandstone (Parahoplites yaegashii zone) of the Miyako Group
 Albian, Lower Cretaceous

***Cymatoceras yabei* Ozaki & Katto, 1956**

Bull. Nat. Sci. Mus., Vol. 3, No. 2 (No. 39), p. 63, Pls. 11-12, Figs. 1-4
 Holotype: Reg. No. ?
 An exposure, about 250m upstream of the Nagase dam along the river Monobe, at Zaisho-mura, Kami-gun, Kochi Prefecture
 Nagase Formation, Soto-izumi Group
 Gyliakian, Cretaceous

***Eutrephoceras nodai* Matsumoto, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 129, p. 22, Pl. 9, Fig. 1; Text-fig. 10
 Holotype: GKH5924
 Loc. Y6014a, an exposure on the right side of the Takino-sawa, Oyubari area, central Hokkaido
 Middle Yezo Group
 Lower Turonian, Upper Cretaceous

***Eutrephoceras soyaensis* Matsumoto & Miyauchi, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 132, p. 223, Pl. 47, Figs. 1,2; Pl. 48, Fig. 1
 Holotype: MNH148 (T. Miyauchi Collection); Paratypes: MNH8240605, MNH8240606, MNH8232102, MNH8232013, GKH5932
 Kiyohama Coast-II, Soya Peninsula, northern Hokkaido
 Upper Yezo Group
 Campanian, Upper Cretaceous

***Eutrephoceras tawaense* Furuichi, 1982**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 126, p. 336, Pl. 54, Figs. 1-4; Text-figs. 1-4
 Holotype: K-4-50 (Kagawa Natur. Sci. Mus.)
 Tawa pit at Tawa, Nagao-cho, Ookawa-gun, Kagawa Prefecture (134°12'07"E, 34°10'44"N)
 Nakato Shale, lower part of the Izumi Group
 Upper Campanian, Upper Cretaceous

***Germanonautilus kyotanii* Nakazawa, 1959**

Jap. Jour. Geol. Geogr., Vol. 30, p. 129, Pl. 11, Figs. 1a-e;

Text-figs. 2a, b

Holotype: JM.30002

At Kojintawa, Jito, Kawakami-cho, Kawakami-gun, Okayama Prefecture

Upper Formation of the Nariwa Group

Norian, Upper Triassic

***Heminautilus akatsui* Matsumoto, 1980**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 118, p. 328, Pl. 37, Fig. 1; Text-fig. 4

Holotype: GK. H6909A, B

An outcrop exposed on the west side of a road, about 2 km south of Bisho, Toyo-mura, Yatsushiro-gun, Kumamoto Prefecture, Kyushu

Yatsushiro Formation (middle part)

Lower Albian, Lower Cretaceous

***Heminautilus tyosiensis* (Yabe & Ozaki, 1953) see *Platynautilus tyosiensis* Yabe & Ozaki, 1953**

***Indonautilus konishii* Ishibashi, 1977**

Mem. Fac. Sci. Kyushu Univ., Ser. D, Geol., Vol. 23, No. 3, p. 411, Text-figs. 2, 3, Pl. 65, Figs. 1-3

Holotype: GK. F566

Loc. 1, Yamakawa, Motobu-cho, Okinawa-jima, Okinawa Prefecture

Upper Member of the Nakijin Formation (Juvanites cf. kellyi zone)

Upper Carnian, Upper Triassic

***Kummeloceras kamuy* Matsumoto & Muramoto, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 130, p. 86, Pl. 16, Fig. 1; Text-figs. 1, 2

Holotype: MCHbo-2015

Pishshiri-zawa, a branch of the Deto-futamata, a tributary of the Haboro River, Haboro area, northwestern Hokkaido

Upper Yezo Group

Lower Santonian, Upper Cretaceous

***Kummeloceras yamashitai* Matsumoto, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 129, p. 18, Pl. 4, Fig. 1; Pl. 5, Fig. 1; Pl. 6, Fig. 1; Pl. 7, Fig. 1; Text-figs. 4-6

Holotype: GKH5923 (Loc. see below); Paratype: GKH5920 (Kaneobetsu, Oyubari area, central Hokkaido), GKH5921 (Ponbetsu Colliery, Ponbetsu area, central Hokkaido)

Loc. Y5203, left side cliff of the Hakkin-zawa, a tributary of the Yubari River, Oyubari area, central Hokkaido

Middle Yezo Group

Middle Turonian, Upper Cretaceous

***Kummeloceras yezoense* Matsumoto, 1983**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 129, p. 19, Pl. 7, Fig. 2; Pl. 8, Fig. 1; Text-figs. 7-9

Holotype: GK. H5922 (Loc. see below)

Paratype: GKH5929 (Kamikinenbetsu, Obirashibe River, Obira area, Rumoi Province, northwestern Hokkaido)

Loc. Ik5605, Samata-zawa, a tributary of the Ikushunbetsu River, Ikushunbetsu area, central Hokkaido

Upper Yezo Group

Coniacian, Upper Cretaceous

***Nautilus (Cymatoceras) pseudo-atlas* Yabe & Shimizu, 1924**

Jap. Jour. Geol. Geogr., Vol. 3, No. 2, p. 42, Pl. 5.

Holotype: IGPS No. 8044

An exposure, at 1 km north of Himenoura, Himedo-cho, Amakusa-gun, Kumamoto Prefecture

Himenoura Group

Senonian, Upper Cretaceous

***Paracymatoceras tunghaicum* Matsumoto & Amano, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 53, p. 175, Pl. 26, Figs. 1a,b; Text-figs. 2, 3

Holotype: GKH6401

Hirokino-tani, Kashiwaguri, in the southern coast area of Shishi-jima Island, Kagoshima Prefecture, Kyushu (130°14'18"E, 32°15'52"N)

Middle Formation of Goshonoura Group

Approximately Lower Cenomanian, Upper Cretaceous

***Platynautilus tyosiensis* Yabe & Ozaki, 1953**

Bull. Nat. Sci. Mus., No. 32, p. 57, Pl. 1, Figs. 1-4

Holotype: NSM P1-4200

Tokawa quarry, in Tokawa-cho, Choshi City, Chiba Prefecture

Inubo Formation, Choshi Group

Aptian?, Lower Cretaceous

(*Heminautilus tyosiensis* (Yabe & Ozaki, 1953))

***Syringonautilus japonicus* Yabe & Shimizu, 1927**

Sci. Rep. Tohoku Imp. Univ., Ser. 2, Vol. 11, No. 2, p. 133 (33), Pl. 13 (4), Figs. 9, 10

Holotype: IGPS No. 35303

At Hamada, Rifu-cho, Shiogama City, Miyagi Prefecture

Monophyllites zone of the Rifu Group

Anisio-Ladinian, Middle Triassic

<Cenozoic Nautiloidea>

***Aturia aturi* Basterot var. *tokunagai* Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., 2nd. Ser. Vol. 9, No. 2, p. 25(1), Pl. 8 (1), Figs. 7-10

Holotype: IGPS no. 22351

At Takai, Ohtsu-cho, Kitaibaraki City, Ibaragi Prefecture

Kokozura Formation, Taga Group

Middle Miocene

(This is synonymous with *Aturia formae* Parona, 1898, by Tomida, 1990; Bull. Mizunami Fossil Mus., no. 17, p. 99, Pl.

18, Figs. 1-5)

“*Aturia*” *matsushitai* Kobayashi, 1956

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 23, p. 243,
Text-figs. a-d

Holotype: UMUT CM 4684

At Aso-Yoshikuma coal mine, in Usui-cho, Kaho-gun,
Fukuoka Prefecture

Oyake Formation, Nogata Group

Upper Eocene

***Aturia minoensis* Kobayashi, 1954**

Jap. Jour. Geol. Geogr., Vol. 25, Nos. 1-2, p. 36, Pl. 5, Figs.
a-d; Text-fig. 1

Holotype: UMUT CM 4683

At Hazamagahora, Togari, Akeyo-cho, Mizunami City, Gifu
Prefecture

Togari Member of the Akeyo Formation, Mizunami Group

upper Lower Miocene (Blow Zone N. 7)

(This is synonymous with *Aturia cubaensis* (Lea, 1841), by
Tomida, 1992; Bull. Mizunami Fossil Mus., no. 19, p. 226, p.
230)

***Aturia nagaoui* Kobayashi, 1957** see (Yokoyama, 1911, p. 11,
Pl. 3, Figs. 1a, b)

Trans. Proc. Palaeont. Soc. Japan, N. S., No. 27, p. 76. (no
fig.)

Holotype: UMUT CM 20025

At 187m depth of the Manda coal mine, in Arao City,
Kumamoto Prefecture

Manda Group

Upper Eocene

***Aturia yokoyamai* Nagao, 1926**

Sci. Rep. Tohoku Imp. Univ., Ser. 2, Vol. 9, No. 2, p. 29(1),
Pls. 9 (1), 10 (2), 11 (3)

Syntype: IGPS no. 22369

At Asakura coal-field, in Asakura-gun, Fukuoka Prefecture
Kawamagari Formation, Manda Group

Upper Eocene

Syntype: IGPS No. 22368

Meinohama, Nishi-ku, Fukuoka City, Fukuoka Prefecture

Meinohama Formation, Ashiya Group

Upper Oligocene

***Deltoidonautilus okinoshimensis* Tanabe & Chiba, 1983**

Venus, Jap. Jour. Malac., Vol. 42, No. 3, p. 249, Pl. 1, Figs.
1-2; Pl. 2, Figs. 1a-d; Text-fig. 2

Holotype: UMUT CM 18225 (=EE1035); Paratype: UMUT
CM 18226 (=EE1036), UMUT CM 18245 (=EE1039),
UMUT CM 18246 (=EE1037)

At Aze, southwestern coast of the Okinoshima Island,
Nagasaki Prefecture

Okinoshima Formation, Iojima Group

Upper Eocene

(The described specimens were transmitted to the University
Museum, University of Tokyo (UMUT))

***Eutrephoceras japonicum* (Shimizu, 1926) see *Nautilus japonicus* Shimizu, 1926**

***Nautilus japonicus* Shimizu, 1926**

Sci. Rep. Tohoku Imp. Univ., Ser. 2, Vol. 9, No. 2, p. 26 (2),
Pl. 8 (1), Figs. 1-6

Holotype: IGPS no. 22352

At Yamanokami, Hoshuyama-mura, Asakura-gun, Fukuoka
Prefecture

Kawamagari Formation, Doshi Group

Upper Eocene

Paratype: IGPS no. 22353, IGPS no. 22364

At the southern coast of the Okinoshima Island, Nagasaki
Prefecture

Okinoshima Formation, Iojima Group

Upper Eocene

(*Eutrephoceras japonicum* (Shimizu, 1926) by Kobayashi
& Kamada, 1959; Jap. Jour. Geol. Geogr., Vol. 30, p. 105)

***Neocymatoceras tsukushiense* Kobayashi, 1954**

Jap. Jour. Geol. Geogr., Vol. 24, p. 18, Pl. 4, Figs. 1,2; Pl. 5,
Figs. 1, 2

Holotype: UMUT CM 8492 (a plaster model, but an original
unknown)

A quarry of Atagoyama, at Meinohama, Nishi-ku, Fukuoka
City, Fukuoka Prefecture

Meinohama Formation, Ashiya Group

Upper Oligocene

Coleoidea: Belemnitida

***Dictyoconites nipponicus* Shimizu & Mabuti, 1941**

Prof. H. Yabe Jubilee Publication, Vol. 2, p. 923, Pl. 48, Figs.
1-8, Pl. 49, Figs. 1-7

Holotype: Reg. no. 49600

At rocky shore between Niranohama and Hosoura,
Shizugawa-cho, Motoyoshi-gun, Miyagi Prefecture

Saragai Group

Norian, Upper Triassic

***Neohibolites eguchii* Hanai, 1953**

Jap. Jour. Geol. Geogr., Vol. 23, p. 78, Pl. 5, Figs. 1a,b; 2a, b
Holotype: UMUT MM 2539. (Pl. 5; Figs. 2a,b)

At Hiraiga (exactly locality unknown), Tanohata-mura,
Shimohei-gun, Iwate Prefecture

Hiraiga calcareous sandstone Subformation, Miyako Group
Albian, Lower Cretaceous

Paratype: UMUT MM 2540 (PL. 5, Figs. 1a, b)

An exposure, 21 m above the base at Mannemmon, Moshi,
Tanohata-mura, Shimohei-gun, Iwate Prefecture

Moshi conglomeratic sandstone Subformation, Miyako Group
Albian, Lower Cretaceous

***Neohibolites miyakoensis* Hanai, 1953**

Jap. Jour. Geol. Geogr., Vol. 23, p. 69, Pl. 5, Figs. 3, 4, 6-8; Pl. 6, Figs. 1-5; Pl. 7, Figs. 1-4

Holotype: UMUT MM 2531 (Pl. 5, Figs. 3a, b)

An exposure, 3m below the top of the subformation at the northern cliff of the Hiraiga inlet., Tanohata-mura, Shimohei-gun, Iwate Prefecture

Tanohata conglomeratic sandstone Subformation, Miyako Group

Albian, Lower Cretaceous

Paratype: UMUT MM 2532 (Pl. 5, Fig. 8a,b), UNUT MM 2533 (Pl. 5, Fig. 4a,b), UMUT MM 2534 (Pl. 7, Fig. 1), UMUT MM 2535 (Pl. 5, Fig. 7a,b), UMUT MM 2536 (Pl. 6, Fig. 1; Pl. 7, Fig. 3), UMUT MM 2537 (Pl. 6, Figs. 2, 4, 5; Pl. 7, Fig. 2)

An exposure, 17m below the top of the subformation at the Koikorobe section, Tanohata-mura, Shimohei-gun, Iwate Prefecture

Tanohata conglomeratic sandstone Subformation, Miyako Group

Albian, Lower Cretaceous

Coleoidea: Sepiida

***Naefia matsumotoi* Hirano, Obata & Ukishima, 1991**

Saito Ho-on Kai Spec. Pub., No. 3, p. 205, Pl. 1, Figs. 1-8, Pl. 2, Figs. 1-3, Pl. 3, Figs. 1-3, Pl. 4, Figs. 1-3

Holotype: NSM PM7688

A cliff, about 100m NE of Kamui Bridge of Motor road Route 239 crossing over Kotanbetsu River, in Rumoi-gun, Hokkaido

Upper Santonian of Inoceramus amakusensis Zone, Yezo Supergroup

Middle Cenomanian to Lower Campanian, Upper Cretaceous

***Spirula mizunamiensis* Tomida & Itoigawa, 1981**

Bull. Mizunami Fossil Mus., No. 8, p. 22, Pl. 5, Figs. 1-3

Holotype: MFM10080

An exposure, at Okuna, Toki-cho, Mizunami City, Gifu Prefecture

Nataki conglomerate of Oidawara Formation, Mizunami Group

lower Middle Miocene (Blow Zone N. 8)

(Spirulirostra mizunamiensis (Tomida & Itoigawa, 1981)

by Tomida, 1996, Proc. Palaeont. Soc. Japan, N. S., No. 168, p. 1330, Figs. 4(1-6), Figs. 5 (1-7))

Spirulirostra mizunamiensis (Tomida & Itoigawa, 1981)

see *Spirula mizunamiensis* Tomida & Itoigawa, 1981

Coleoidea: Octopoda

***"Argonauta" awaensis* Tomida, 1983**

Bull. Mizunami Fossil Mus., No. 10, p. 112, Pl. 34, Figs. 1a-d, Pl. 35, Figs. 1-3

Holotype: MFM11006; Paratype: MFM11007

Okumotona quarry, at Okumotona, Kyonan-cho, Awa-gun, Chiba Prefecture (139°51'00"E, 35°09'08"N)

Senhata Formation, Toyooka Subgroup, Miura Group
Upper Miocene (Blow Zone N. 17)

(Obinautilus awaensis (Tomida, 1983) by Noda, Ogasawara & Nomura, 1986, Sci. Rep., Inst. Geosci., Univ. Tsukuba, Sec. B, Vol. 7, p. 25)

***Argonauta itoigawai* Tomida, 1983**

Bull. Mizunami Fossil Mus., No. 10, p. 110, Pl. 32, Figs. 1-3, Pl. 33, Fig. 1

Holotype: MFM11005; Paratype: CGU10001 (=CJC10001)

Okumotona quarry, at Okumotona, Kyonan-cho, Awa-gun, Chiba Prefecture (139°51'00"E, 35°09'08"N)

Senhata Formation, Toyooka Subgroup, Miura Group
Upper Miocene (Blow Zone N. 17)

(The Paratype specimen was transmitted to the Chukyo Gakuin University (CGU))

***Argonauta kagana* Kaseno, 1955**

Sci. Rep. Kanazawa Univ., Vol. 3, No. 2, p. 3(341), Pl. 1, Figs. 1a-c

Holotype: GKZ05507

A road-side cutting and valley side exposure, at about 400m SEE from Wakihara, Morimoto-cho, Kahoku-gun, Ishikawa Prefecture (136°46'55".4 E, 36°34'42"N)

Takakubo mudstone Member of the Otokawa Formation
Middle Miocene

(Izumonauta kagana (Kaseno, 1955) by Kobayashi, 1956, Jap. Jour. Geol. Geogr., Vol. 27, Nos. 2-4, p. 99)

***Argonauta kasataniensis* Kaseno, 1955**

Sci. Rep. Kanazawa Univ., Vol. 3, No. 2, p. 5(343), Pl. 1, Figs. 4a,b, 5, 6a, b

Holotype: GKZ05501; Paratype: GKZ05503, GKZ00504, GKZ00505, GKZ00509, GKZ00510, GKZ00511, GKZ00512, GKZ00513

A road-side cutting near the Kasatani Secondary School, at Rengeji, Tsubata-cho, Kahoku-gun, Ishikawa Prefecture (136°47'7".7 E, 36°41'11".4 N)

Yoshikura mudstone Member of the Yoshitaki Formation
Middle Miocene

(Izumonauta kasataniensis (Kaseno, 1955) by Kobayashi, 1956, Jap. Jour. Geol. Geogr., Vol. 27, Nos. 2-4, p. 101, Text-figs. a-b)

***Argonauta tokunagai* Yokoyama, 1913**

Jour. Geol. Soc. Japan, Vol. 20, No. 243, p. 1, Pl. 7, Figs. 1-3;

Pl. 8, Figs. 1-2

Syntype: UMUT CM 4680 (Pl. 7, Figs 1-3); Syntype: UMUT CM 4690 (Pl. 8, Figs. 1,2)

An exposure, at roadside near Yaegaki Temple, south of Chausuyama, Agenoki-mura, In-gori, Izumo (= Agenoki, Matsue City), Shimane Prefecture

Fujina Formation

Middle Miocene

***Izumonauta kagana* (Kaseno, 1955) see *Argonauta kagana* Kaseno, 1955**

***Izumonauta kasataniensis* (Kaseno, 1955) see *Argonauta kasataniensis* Kaseno, 1955**

***Izumonauta lata* Kobayashi, 1954**

Jour. Geol. Soc. Japan, Vol. 25, Nos. 1-2, p. 31, Pl. 3, Figs. 1-4

Holotype: UMUT CM 4681

At Fujina, Tamatsukuri-village (=Tamayu-cho), Yatsuka-gun, Shimane Prefecture

Fujina Formation

Middle Miocene

***Mizuhobaris izumoensis* (Yokoyama, 1913) see *Nautilus izumoensis* Yokoyama, 1913**

***Nautilus izumoensis* Yokoyama, 1913**

Jour. Geol. Soc. Japan, Vol. 20, No. 243, p. 2, Pl. 8, Figs. 3-5

Holotype: UMUT CM 24531

At Mominoko, Fujina, not far from Yumachi in In-gori, Izumo (= Tamayu-cho, Yatsuka-gun), Shimane Prefecture

Fujina Formation

upper Middle Miocene

(*Mizuhobaris izumoensis* (Yokoyama, 1913) by Noda, Ogasawara & Nomura, 1986, Sci. Rep., Inst. Geosci., Univ. Tsukuba, Sec. B, Vol. 7, p. 18, Pls. 5-12)

***Obinautilus awaensis* (Tomida, 1983) see "*Argonauta*" *awaensis* Tomida, 1983**

***Obinautilus pulchra* Kobayashi, 1954**

Jap. Jour. Geol. Geogr., Vol. 24, Nos. 3-4, p. 183, Pl. 22, Figs. 1-4

Holotype: UMUT CM 8493

A cutting, between Aburatsu and Obi towns in Nichinan City, Miyazaki Prefecture

Nichinan Group

Oligocene

(*Obinautilus pulcher* Kobayashi, 1954)

Coleoidea: Vampyromorpha

***Provampyroteuthis giganteus* Kanie, 1998**

Bull. Gumma Mus. Nat. Hist., Vol. 2, p. 24, Figs. 1-5

Holotype: YCM-GP 693 (Loc. see below); Paratype: MT1, MT13 and YCM-GP1170

Loc. R4710 of Matsumoto et al. (1982), Takishita-juhassen, the upper part of the Obirashibetsu River, Tappu, northwestern Hokkaido (141°57'29"E, 44°05'27"N) Upper Yezo Group

Lower Santonian, Upper Cretaceous

Cenozoic Gastropoda

Kenshiro Ogasawara

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Abderospira punctulata (A. Adams) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Roxnia punctulata* A. Adams, 1862

Acanthinella Shuto, 1969 n. gen.
Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 109, Type-species; *Acantina javana* Martin, described from the Upper Miocene in Indonesia

Acantinella javana (Martin) reported by Shuto (1969) from the Upper Miocene Dingle Formation, Philippines: *Acanthina javana* Martin, 1899

Acirsa (Plesiagirsa) watanabei Kanehara, 1937
Bull. Imp. Geol. Surv., vol. 27, no. 1, p. 11, pl. 4, figs. 3, 5, 6
Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))
Nagakura coal-mine, W of Yumoto-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture (37°00'02"N, 140°50'02"E)
Mizunoya Formation
Miocene (early Miocene)

Acmaea angustitesta Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 288, pl. 34, fig. 10
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°49'47"N, 138°16'43"E)
Sawane Formation
Pliocene (early Pleistocene)
(*Lepta (Cryptobranchia) angustitesta* (Yokoyama) by Hatai and Nisiyama (1952))

Acmaea asmiiformis Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec 2, vol. 1, part 8, p. 287, pl. 34, fig. 15
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
Sawane Formation; upper horizon
Pliocene (early Pleistocene)
(*Tectura asmiiformis* (Yokoyama) by Makiyama (1958))

Acmaea asperulata Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt 8, p. 287, pl. 34, fig. 4
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°49'47"N, 138°16'43"E)
Sawane Formation
Pliocene (early Pleistocene)
(*Notoacmaea asperulata* (Yokoyama) by Hatai and Nisiyama (1952): *Siphonacmea angustitesta* (Yokoyama) by Makiyama (1958))

Acmaea concinna Lischke reported by Yokoyama (1926) from the Pliocene (Pleistocene) Sawane Formation, Niigata Prefecture (*Notoacmaea (Notoacmaea) concinna* (Lischke, 1871) by Hatai and Nisiyama (1952))

Acmaea kuragiensis Yokoyama, 1920
Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 100, pl. 6, fig. 9
Holotype: GT no. ? (CM no. 20300)
Koshiba (Kanazawashiba-machi, Kanazawa-ku, Yokohama City, Kanagawa Prefecture)
Koshiba Formation
Upper Musashino=Pleistocene
(*Cocculina kuragiensis* (Yokoyama) by Oyama (1973))

Acmaea nojimensis Yokoyama, 1920
Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 100, pl. 6, fig. 11
Holotype: GT no. ? (CM no. 20301)
Nojima (Sea cliff NE coast of Nojima, Kanazawa-machi, Yokosuka City, Kanagawa Prefecture; 35°19'05"N, 139°33'02"E)
Nojima Formation
Lower Musashino=Pliocene (early Pleistocene)
(*Cocculina nojimensis* (Yokoyama) by Oyama (1973))

Acmaea oblongata Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 288, pl. 34, fig. 14
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°49'47"N, 138°16'43"E)
Sawane Formation
Pliocene (early Pleistocene)
(*Lepta (Cryptobranchia) oblongata* (Yokoyama) by Hatai and Nisiyama (1952): *Siphonacmea oblongata* (Yokoyama) by Makiyama (1958))

Acmaea pallida (Gould) reported by Hase (1965) from the Holocene "Yamashita" Formation, Miyagi Prefecture

Acmaea schrencki (Lischke) reported by Yokoyama (1925) from the Pliocene Shigarami Formation, Nagano Prefecture (*Notoacmaea schrencki* (Lischke) by Hatai and Nisiyama (1952)): *Patella schrencki* Lischke, 1869

***Acmaea sigaramiensis* Makiyama, 1927**

Chikyū (Globe) vol. 8, no. 2, p. 187, pl. 3, figs. 1, 1a

Holotype: GK no. ?

Shigarami (A short distance N of Shimosoyama, Shigarami-mura (Togakushi-mura), Kamiminouchi-gun, Nagano Prefecture; 36°40'N, 138°07'E)

Shigarami Formation

Pliocene

(*Tectula (Niveotectura) sigaramiensis* (Makiyama) by Hatai and Nisiyama (1952))

***Acmaea ? subangulata* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 89, pl. 14, figs. 45, 45a

Holotype: IGPS no. ?

The Hoshuyama Mine, Asakura-gun, Province of Chikuzen (about 200 m S of the bridge E of Kawamagari, and about 600 m W of the village office at Daigyōji, Hoshuyama-mura, Asakura-gun, Fukuoka Prefecture; 33°23'26"N, 133°01'05"E)

Doshi Formation

Upper Eocene

(*Lepta subangulata* (Nagao) by Hatai and Nisiyama (1952))

Actaeopyramis eximia (Lischke) reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

Actaeopyramis lauta (A. Adams, 1853) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

Actaeopyramis pareximia Nomura reported by Hase (1967) from the Holocene "Inai" Formation, Miyagi Prefecture

***Acteocina hamadai* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 165, pl. 26, figs. 16a-b

Holotype: DGS no. 1654 transferred to IGPS, no. 90414

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture

Higashi-Innai Formation

Miocene

(*Acteocina (Decorifer) hamadai* Masuda by Masuda and Noda (1976))

***Acteon imamuræ* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 106, pl.

7, figs. 3a-b

Holotype: JC no. 1400090, Paratype: JC no. 1400091 (from Yunoki)

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture; Paratype, Yunoku, Yatsuo-machi, Nei-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late early Miocene)

***Acteon nakayamai* Habe, 1952**

Venus, vol. 17, no. 2, p. 70, text-fig. 2

Holotype: NSM no. 39806

Moeshima, (Shin-jima), Sakurajima-cho, Kagoshima-gun, Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Formation

Pleistocene (Holocene)

***Acteon numanouchiensis* Hirayama, 1975**

St. Paul's Rev. Sci., vol. 3, no. 4, p. 186, text-figs. 3a-4b

Holotype: GLR no. 1673 (text-figs. 3a-b), Paratype: GLR no. 1674

Sea-side cliff at Hama-cho, a little south of Fujinmisaki, Iwaki City, Fukushima Prefecture; Paratype ?, road-side cliff, a little west of Numanouchi, Iwaki City, Fukushima Prefecture

Shimizu Sandstone Member of the Takaku Formation

Middle Miocene

***Acteon ogurai* Otuka, 1938**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 2, p. 43, pl. 3, fig. 26

Holotype: GT no. 10027

Suketo, town of Shobara (several meters below dam of the Saijo-gawa, about 200 m NNE of the Shobara railway station, and about 500 m NEE of the bridge at Suketo, Shobara-machi, Hiba-gun (Shobara City), Hyogo Prefecture; 34°51'43"N, 133°01'05"E)

(Shobara Formation; Bihoku Group)

Miocene (late early Miocene)

***Acteon osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 105, pl. 7, figs. 2a-b

Holotype: JC no. 1400084, Paratype: JC no. 1400089 (from Tsuzara)

Iwakishin, Osawano-machi, Kaminiikawa-gun Toyama Prefecture: Paratype; Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late early Miocene)

***Acteon ozawai* Otuka, 1938**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 2, p. 43, pl. 3, fig. 27

Holotype: GT no. 10028

Suketo, town of Shobara (several meters below dam of the Saijo-gawa, about 200 m NNE of the Shobara railway station, and about 500 m NEE of the bridge at Suketo, Shobara-machi, Hiba-gun (Shobara City), Hyogo Prefecture; 34°51'43"N, 133°01'05"E)

(Shobara Formation; Bihoku Group)

Miocene (late early Miocene)

Acteon (Acteon) reticulatus **Martin, 1883** reported by Shuto (1982) from the Miocene Paghumayan Formation, Philippines

Acteon sieboldii (**Reeve**) reported by Habe (1950) from the Pleistocene strata in Japan (precise locality unknown) (misspell of specific name: *Acteon sieboldii* (**Reeve**) by Masuda and Noda (1976))

Acteon tornatilis **Linnaeus var. nipponensis** **Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 212, p. 39, pl. 10, figs. 1-3

Holotype: UT no. ? (CM no. 23599, noted as missing by Oyama (1973))

Oji, Musashi and Dokwanyama, Musashi (Oji, Kita-ku and a hill at Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Pleistocene

(*Acteon (Japanacteon) nipponensis* (**Yamakawa**) by Oyama (1973))

Acutitectonica acutissima (**Sowerby**) reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture (*Acutitectonica* **Habe, 1961** n. gen. (Col. Illust. Shells Japan 2, app. p. 10), Type-species, *Solarium acutissimum* Sowerby)

Admete choshiensis **Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 47, pl. 2, figs. 13a-14b

Holotype: GIYU no. ? (figs. 12a-b)

Southwest of Choshi, Chiba Prefecture

Depth of 250–260 fathoms

Recent

Admete couthouyi (**Jay, 1839**) reported by Amano et al. (1988) from the Pliocene Nadachi Formation, Niigata Prefecture

Admete lischkei (**Yokoyama**) reported by Nomura (1937) from the Pliocene Masuda (Kannonji) Formation, Yamagata Prefecture (*Cancellaria lischkei* (**Yokoyama**) by Hatai and Nisiyama (1952))

Admete viridula (**Fabricius**) reported by Yokoyama (1920)

from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture (Synonymus with *Admete couthouyi* **Jay** by Hatai and Nisiyama (1952))

Admete watanabei **Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 47, pl. 2, figs. 12a-b

Holotype: GIYU no. ?

(Precise locality unknown; Probably East of Choshi, Chiba Prefecture)

Depth in above 100 fathoms

Recent

Adamnestia japonica **Adams** reported by Ozaki (1958) from the Pleistocene Kotaki Formation, Chiba Prefecture (*Adamnestia japonica* (**Adams**) by Masuda and Noda (1976))

Adamnestia onukii **Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, pl. 2, figs. 36a-b

Holotype: DGS no. 4634 transferred to IGPS no. 90732

Loc. no. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37°27'59"N, 137°07'40"E

Higashi-Innai Formation

Miocene (late early Miocene)

Afer chinensis **MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 76, pl. 8, fig. 19

Holotype: USNM no. 562827

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Agatha brevis (**Yokoyama**) reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture: see *Pyramidella (Agatha) virgo brevis* **Yokoyama, 1922**

Agladrillia nakazaensis **MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 113, pl. 9, figs. 20, 31

Holotype: USNM no. 562858

Loc. no. 17453, Low road cut at end of small spur of hill west of road, about 0.6 mile north of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Agladrillia oyamai **Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 162, pl. 33, figs. 1-3, 8

Holotype: GK-L no. 8116 (figs. 1-3), Paratype: GK-L nos. 8117, 8118

East and NE sea-cliff at Moeshima (Shin-jima, Sakurajima-machi, Kagoshima-gun), Kagoshima Prefecture; 31°37'E, 130°43'N
Moeshima Formation
Pleistocene (Holocene)

Aforia diomedea **Bartsch** reported by Uozumi et al. (1986) from the Pliocene Takikawa Formation, Hokkaido

Aforia hondoana (**Dall**) reported by Noda (1991) from the Pliocene Yonabaru Formation, Okinawa Prefecture:
Turricula (*Surcula*) *hondoana* **Dall, 1925**

Alectrion papillosus (**Linne**) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Aliculastrum cylindricum (**Helbing**) reported by Hayasaka (1961) from the Pleistocene Toshima Prefecture, Aichi Prefecture

Alocinma longicornis (**Benson**) reported by Matsuoka (1981) from the Pleistocene Katata Formation, Shiga Prefecture: *Paludina* (*Bithynia*) *longicornis* **Benson, 1842**

Aloconatica niasensis (**Wissema**) reported by Majima (1989) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Naticarius* (*Naticarius*) *niasensis* **Wissema, 1947**

Alvania arayai **Nomura, 1938**
Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 270, pl. 33, figs. 20a-b
Holotype: SM no. 2445
Goroku Cliff along the right bank of the Hirosegawa River, Aoba-ku, Sendai City, Miyagi Prefecture (38°16'N, 140°49'E)
Tatsunokuchi Formation
Pliocene
(*Alvania* (*Actonia*) *arrayai* **Nomura** by Hatai and Nisiyama (1952))

Alvania awa **Chinzei, 1959**
Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt.1, p. 109, pl.10, figs.1-4.
Holotype: CM no. 8513 (figs.1-2), Paratype: CM nos. 8514 (figs. 3, 4), 8515-8519
Loc. no. 1, a small cliff, 100 m W of Ochiai, Kintaichi -mura, Ninohe-gun (Nihohi City), Iwate Prefecture
Kubo Formation
Pliocene

Amaea thielei (**de Boury, 1913**) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

Amaea (*Acrilla*) *uwadokoi* **Otuka, 1943**
Jour. Geol. Soc. Japan, vol. 50, no. 593, p. 60, pl. 3, fig. 6
Holotype: UT no. ?
(Southern cliff of the Kurosawa-gawa River, about 300 m SE of the bench-mark (213-55), and about 400 m E of the railway tunnel, Sannai-mura, Hiraga-gun, Akita Prefecture; 39°16'33"N, 140°41'10"E)
Kurosawa Formation
Miocene
(*Acrilla uwadokoi* (**Otuka**) by Hatai and Nisiyama (1952))

Amalda otohime **Majima, Tsuchida and Ohshima, 1993**
Venus, vol. 52, no. 1, p. 52, figs. 3, 4-1 - 4.3, pl. 1, figs. 6a-8b
Holotype: NSMT no. Mo-69661 (figs. 3. 2, 4. 1, pl. 1, figs. 6a-d)
Off Cape Daio-Saki, Shima Peninsula, Mie Prefecture; 34°11.1'N, 136°38.8'E
Depth in 148-149 m
Recent

Amalda parentalis (**Shikama and Oishi in Shikama, 1977**) reported by Majima et al. (1993) from the Ryukyu Limestone, Kikaijima Island, Kagoshima Prefecture designated the Lectotype NSM PM no.15490: *Baryspira utopica parentalis* **Shikama and Oishi, 1977**

Amalthea conica **Schumacher** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

Amathina bobilis (**A. Adams**) reported by Yokoyama (1931) from the Pliocene (Pleistocene) Suttu (Setana) Formation, Hokkaido

Ampullina asagaiensis **Makiyama, 1934**
Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 10, no. 2, art. 6, p. 162, pl. 7, figs. 66, 67
Syntype: GK no. ?
Horizon 4, Cape Mary, Matchgar, Sakhalin, Russia: Sea cliff of Yotsukura-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture (37°07'N, 141°E)
Machigar and Asagai Formations
Oligocene

Ampullina nagaoui **Hatai and Nisiyama, 1952**
Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 3, p. 167
Holotype: IGPS no. 36148
Chogiri, Kiuragi-machi, Higashi-Matsuura-gun, Saga Prefecture
Kiuagi Formation
Eocene (Lower Oligocene by Oyama et al. (1960))
(Valid name designated by Masuda and Noda, 1976 (Spec. Pub. Saito Ho-on Kai, no. 1, p. 12-13))

Amuletum boettgeri (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: *Drillia boettgeri* Martin, 1914

***Anachis (Costoanachis) chinenensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 68, pl. 14, fig. 4

Holotype: USNM no. 562957

Loc. no. 17482b, section in both abandoned road cut and new

road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

***Anachis (Costoanachis) leroyi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 67, pl. 13, fig. 11

Holotype: USNM no. 562936

Loc. no. 17481, roadside exposure near top of hill on

Highway 8 leading down to "White Beach", U. S. Naval

Piers, Okinawa Prefecture

Chinen Formation

Pliocene

***Anacithara bulbosa* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 131, pl. 3, figs. 10, 15

Holotype: GK-L no. 4986 (fig. 15), Paratype: GK-L no. 4987

Roadside cutting at Nihonmatsu, Takanahe-machi, Koyu-gun,

Miyazaki Prefecture

Takanabe Formation

Pliocene

Anacithara (Aanacithara) fortistriata (Smith) reported by Shuto (1965) from the Pleistocene (Holocene) Moeshima Formation, Kagoshima Prefecture: *Pleurotoma (Mangilia) fortistriata* Smith, 1888

***Anacithara (Anacitharoida) kurodai* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 183, pl. 34, figs. 1-3, 8, 13

Holotype: GKM no. 8109 (figs. 1-3), Paratype: GK-L no. 8110

East cliff at Moeshima (Shin-jima, Sakurajima-cho,

Kagoshima-gun), Kagoshima City, Kagoshima Prefecture;

31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene (Holocene)

***Anacithara (Aanacithara) moeshimaensis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 180, pl. 31, figs. 13, 14, pl. 34, fig. 6

Holotype: GKM no. 8111 (pl. 34, fig. 6), Paratype: GK-L nos. 6669, 8107

Northeast sea-cliff at Moeshima isle (Shinjima,

Sakurajima-cho, Kagoshima-gun), Kagoshima City,

Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene (Holocene)

***Anacitharoida* Shuto, 1965** n. subgen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 182,

Type-species; *Anacithara (Anacitharoida) kurodai* Shuto

described from the Pleistocene Moeshima Formation,

Kagoshima Prefecture

Ancilla albocallosa (Lischke, 1873) reported by Nomura

and Zinbo (1934) from the Pleistocene Ryukyu Limestone,

Kikai-jima, Kagoshima Prefecture

***Ancilla (Baryspira) albocallosa okawai* (Yokoyama)**

reported by Shuto (1959) from the upper Miocene to lower

Pliocene, Miyazaki Group, Miyazaki Prefecture: *Ancilla*

okawai Yokoyama, 1923

***Ancilla (Turrancilla) chinenensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 87, pl. 8, fig. 30

Holotype: USNM no. 562837

Loc. 17633, low cliff at canyon head just E of trail pass

through ridge about 0.4 mile SW of China, Okinawa

Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Ancilla hinomotoensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 48, pl. 2, fig. 5

Holotype: UT no. ? (CM no. 20840)

Shito (Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Ancilla (Baryspira) hinomotoensis* Yokoyama by Oyama (1973))

***Ancilla (Turrancilla) matsushitai* Shuto and Ueda, 1967**

Japan. Jour. Geol. Geogr., vol. 38, no. 1, p. 38, pl. 2, figs. 8, 9

Holotype: GK-L no. 6261

Roadside cutting at the pass north of Obo, Arita-machi,

Nishimatsuura-gun, Saga Prefecture

Kishima Formation

Oligocene

***Ancilla miserula* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 343, pl. 66, fig. 16

Holotype: GT no. ?

Zone B: Uwae (northern cliff of the Komaru-gawa, a short

distance W of the main road near Hagenoshita, Uwae-mura

(Takanabe-machi), Kogu-gun, Miyazaki Prefecture; 32°

08'27"N, 131°31'04"E)

(Kounji Formation)

(Pliocene)

(Ancilla (Baryspira) miserula Yokoyama by Hatai and Nisiyama (1952): Synonymus with *Ancilla angustata Sowerby, 1859* by Makiyama (1959))

Ancilla okawai Yokoyama, 1923

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art 2, p. 7, pl. 1, figs. 44-7

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (valley 350 m SW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(Ancilla (Baryspira) okawai Yokoyama by Hatai and Nisiyama (1952): *Ancilla (Baryspira) albocallosa (Lischke, 1874)* by Makiyama (1957))

Ancilla (Turrancilla) otukai Shuto, 1959

Japan. Jour. Geol. Geogr., vol. 30, p. 174, pl. 14, figs. 2-3, 15

Holotype: GK-L no. 4810 (figs.2-3), Paratype: GK-L nos. 4814, 4822

Kanekura, Sanzai-mura, Koyu-gun, Miyazaki Prefecture

Tsuma Formation of the Miyazaki Group

Miocene

Ancilla (Baryspira) oyamai Shuto, 1959

Japan. Jour. Geol. Geogr., vol. 30, p. 171, pl. 14, figs.1, 5

Holotype: GK-L no. 4804, Paratype: GK-L nos. 4805-4808, 4818

Hagenoshita, Uwaye-mura (Takanabe-machi) and Tori -yama (Paratype), Kawaminami-mura, Koyu-gun, Miyazaki Prefecture

Takanabe Formation

Pliocene

Ancilla rubiginosa (Swainson) reported by Yokoyama (1926) from the Pliocene Satsuka (Dainichi) Formation, Shizuoka Prefecture (Synonymus with *Ancilla albocallosa (Lischke)* by Hatai and Nisiyama (1952))

Ancilla suavis Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 334, pl. 36, fig. 17

Holotype: GT no. ?

Shimomata (road-side exposure about 500 m SW of Shimomata, Nishinango-mura, Ogasa-gun, Shizuoka Prefecture; 34°45'05"N, 138°01'E)

Hijikata Formation

Pliocene

(Ancilla angusta suavis Yokoyama by Makiyama (1958))

Ancillina iwaensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 88, pl. 4, fig. 12

Holotype: USNM no. 562717

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 mile N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene

Ancistrolepis bicordata Hatai and Koike, 1957

Japan. Jour. Geol. Geogr., vol. 28, nos. 1-3, p. 87, pl. 4, figs. 3, 5-7, 9, 12, 13

Holotype: IGPS no. 92601 (figs.6, 12), Paratype: (figs. 3, 5, 7, 9, 13)

Loc. no. 11, Heguri River, Tomiyama-machi, Awa-gun, Chiba Prefecture: Paratype, loc. no. 9, Okuzure,

Katsuyama-machi, Awa-gun, Chiba Prefecture

Hota Group

Oligocene

(Trominina bicordata (Hatai and Nishiyama) by Oyama et al. (1960))

Ancistrolepis eguchii Kamada, 1962

Palaeont. Soc. Japan, Spec. Pap., no. 8, p. 165, pl. 19, figs.13a-b

Holotype: IGPS no. 79392 (figs. 13a-b)

Northwestern end of Ena, Ena-machi, Iwaki City, Fukushima Prefecture

Honya Formation

Miocene

(" *Parancistrolepis "eguchii (Kamada)* by Masuda and Noda (1976))

Ancistrolepis fragilis Kuroda, 1931

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinamo), part 4, p. 81, pl. 11, fig. 86

Holotype: GK no. ?

Shigarami (100 m W of primary school, Ikari, Sakae-mura, Kamiminochi-gun, Nagano Prefecture; 36°36'N, 138°03'E)

Ogawa Formation (Shigarami Formation)

Miocene (Pliocene)

Ancistrolepis grammatus (Dall) reported by Amano et al. (1996) from the Pleistocene Omma Formation, Ishikawa Prefecture: *Chrysodomus (Ancistrolepis) grammatus Dall, 1907* originally described from the Tsugaku Strait (300 fathoms)

Ancistrolepis hikidai Kuroda, 1944 reported by Amano et al. (1996) from the Pliocene Higashimeya Formation, Aomori Prefecture

Ancistrolepis hiranoi Shikama, 1962 Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 44, pl. 2, figs. 1a-b

Ancistrolepis hiranoi Shikama, 1962

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 44, pl. 2, figs. 1a-b

Holotype: GIYU no. ?

East of Choshi, Chiba Prefecture

Depth in 250-250 fathoms
Recent

***Ancistrolepis hokkaidoensis* Hayasaka and Uozumi, 1954**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, Geol. and Mineral., vol. 8, no. 4, p. 402, pl. 25, fig. 8, pl. 26, fig. 5

Holotype: UH no. 11277 (Lectotype was designated by Oyama et al. (1960))

Loc. no. 5011, Omatsurinosawa, a branch of the Azuma-gawa, Azuma-mura (-machi), Yufutsu-gun, Iburi Province, Hokkaido

“ Momijiyama ” Formation

Oligocene

(*Trominina hokkaidoensis* (Hayasaka and Uozumi) by Oyama et al. (1960))

***Ancistrolepis (Ancistrolepis) iwakiensis* Honda, 2000**

Paleont. Res., vol. 2, no. 2, p. 92, figs. 3a-c

Holotype: GSJF no. 15135

At a depth of 675.00 to 675.20 m in drill core A-1 (GSJ B326), along a tributary of the Tomioka-gawa, Honcho-nishi, Tomioka-machi, Futaba-gun, Fukushima Prefecture; 37 ° 20'16"N, 140 ° 59'20"E

Iwaki Formation

Lower Oligocene

***Ancistrolepis japonicus* Takeda, 1953**

Studies on Coal Geology, no. 3, p. 57, pl. 1, figs. 1, 3, 5-7

Holotype: UH no. 11111

North branch of Oko river, Honto-gun, South Sakhalin (Russia)

Maoka Group

Upper Oligocene

(*Trominina japonica* (Takeda) by Oyama et al. (1960))

***Ancistrolepis (Parancistrolepis) kamakurensis* Shikama, 1969**

In Shikama and Masujima, 1969, Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 15, p. 88, pl. 6, figs. 1-3

Syntype: GIYU no. ? (figs. 1, 3)

Loc. no. 321, Koizumiyato, Kamakura, Kanagawa Prefecture
Imaizumi Sand and gravel bed of the Nojima Formation

Pliocene

***Ancistrolepis koyamai* (Kuroda)** reported by Amano et al (1966) from the Pliocene Joshita Formation, Nagano Prefecture

***Ancistrolepis macneili* Kanno, 1971**

Palaeont. Soc. Japan, Spec. Pap., no. 16, p. 119, pl. 14, fig. 7
Holotype: TUE no. 10051

Loc. no. 80906, south of the Yagataga Glacier, Alaska, USA
Poul Creek Formation

Oligocene

***Ancistrolepis magnus* Dall** reported by Hatai (1940) from the Pliocene (Miocene) Suenomatsuyama Formation, Iwate Prefecture

***Ancistrolepis masudaensis* Nomura, 1937**

Saito Ho-on Kai, Mus., Res. Bull., no. 13, p. 177, pl. 24, figs. 14a-b

Holotype: SM no. 12636

Northern side cliff immediately W of the bridge on the tributary of the Nikko-gawa River (about 1.1 km SW of the temple at Masuda, and about 300 m SW of the electric power house, Yawata-machi, Akumi-gun, Yamagata Prefecture; 32 ° 59'29"N, 140 ° 02'02"E)

Masuda (Kannonji) Formation

Pliocene

***Ancistrolepis mogamiensis* (Nomura and Zinbo)** reported by Otuka (1941) from the Miocene Kurosawa Formation, Akita Prefecture: see ***Buccinum mogamiense* Nomura and Zinbo, 1935**

***Ancistrolepis peulepis* Kanehara, 1937**

Jour. Geol. Soc. Japan, vol. 44, no. 526, p. 707, pl. 22, fig. 2

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Southern cliff at entrance of Yoshida-zawa, a tributary of the Paromantua-gawa, Embetsu-mura (-machi), Teshio-gun, Rumoi Province, Hokkaido (44 ° 47'04"N, 141 ° 52'02"E)

Yuchi Formation

Pliocene

***Ancistrolepis schencki* Hatai and Koike, 1957**

Japan. Jour. Geol. Geogr., vol. 28, nos. 1-3, p. 88, pl. 4, figs. 10, 11

Holotype: IGPS no. 92600

Loc. no. 11, Heguri River, Tomiyama-machi, Awa-gun, Chiba Prefecture

Hota Group

Oligocene

***Ancistrolepis striatus* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 216, pl. 6, fig. 21

Holotype: TKD no. 5870

Loc. No. 112, a right river side cliff of the river Akahira at Tomita, Chichibu City, Saitama Prefecture

Tomita siltstone of the Ushikubitoge Formation

Oligocene (early Miocene)

***Ancistrolepis togariensis* Naruse, 1952**

Cenozoic Res., no. 12, p. 12, pl. 16, figs. 1a-b

Holotype: CM no. ?

Hazamagahora, Togari, Akeyo-mura, Toki-gun (Mizunami City), Gifu Prefecture

Togari Formation
Miocene

***Ancistrolepis tricordatus* Nomura and Onisi, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 185, pl. 17, fig. 1

Holotype: SM no. 21716

Vicinity of Adachi Murata-machi, Shibata-gun, Miyagi Prefecture (River-side cliff 150 m W of Adachi, Murata-machi, Shinata-gun, Miyagi Prefecture; 38°07'01"N, 140°42'04"E)

(Murata Formation)

Miocene

(*Rectisulcus tricordatus* (Nomura and Onisi) by Oyama (1961))

***Ancistrolepis trochoideus* (Dall)** reported by Suzuki (1935) from the Pliocene (Pleistocene) Sanbonmatsu Formation, Chiba Prefecture; ***Chrysodomus trochoideus* Dall, 1907**

***Ancistrolepis trochoideus miensis* Araki, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 36, p. 165, pl. 18, figs. 7a-b, 8

Holotype: Mie Univ., no.? Syntype: MU nos. ? (figs. 7, 8)

Cliff of the southern slope of Kaisekizan, Sakahihara, Hisai-cho, Isshi-gun, Mie Prefecture

Kaisekizan Formation

Miocene

(*Ancistrolepis miensis* Araki by Hatai and Nisiyama (1952))

***Ancistrolepis trochoideus tokoyodaensis* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 150, pl. 15, figs. 16, 17

Holotype: NSM no. 4446

Road side cutting Tokoyoda-mati (-machi), Tyosi City (Choshi City), Chiba Prefecture

Iioka Formation

Pliocene

***Ancistrolepis (Cliopegma) unica* (Pilsbry)** reported by Shuto (1962) from the Middle Miocene Boroishi Member of the Miyazaki Group: ***Buccinum inicum* Pilsbry, 1905**

***Ancistrolepis yamanei* Kanehara, 1937**

Bull. Imp. Geol. Surv., vol. 27, no. 1, p. 13, pl. 3, fig. 7

Holotype: GSJ no. ?, Paratype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Nagakura coal-mine, W of Yumoto-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture (37°00'02"N, 140°50'02"E)

Mizunoya Formation

Miocene (early Miocene)

***Ancistrolepis yudaensis* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 630, pl. 50, fig. 88

Holotype: GT no. 1574

East side river cliff of Mabechi-gawa and E of the small sand bank about 400 m SW of Yuda, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture (40°19'N, 141°19'10"E)

Shiratori Formation (Kadonosawa Formation)

Miocene

***Ancistrolepis yudaensis* var. *ishikariensis* Hayasaka and Matsui, 1951**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, Geol. and Mineral., vol. 7, no. 4, p. 334, pl. 1, figs. 3, 4a-b

Holotype: UH no. 2 (fig. 3)

Momijiyama, Yubari River, Yubari City, Ishikari Province, Hokkaido

Momijiyama Formation

Oligocene

(Fig. 3; *Ancistrolepis hokkaidoensis* Hayasaka and Uozumi, 1954 by Oyama et al. (1960); *Trominina hokkaidoensis* (Hayasaka and Uozumi) by Hatai and Nisiyama (1952); Fig. 4; *Trominina ishikariensis* (Hayasaka and Matsui) by Oyama et al. (1960))

***Ancitrosyrinx osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 99, pl. 6, figs. 7a-8

Holotype: JC no. 1400071 (figs. 7a-b), Paratype: JC no. 1400072 (from Tsuzara)

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene

***Ancitrosyrinx pulcherrissimus* Kira, 1959** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Angaria delphinus* (Linnaeus)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Delphinula distorta* Linnaeus, 1758**

***Angaria distorta* (Linnaeus)** reported by Okumura and Takei (1993) from the Pliocene Ananai Formation, Kochi Prefecture: ***Delphinula distorta* Linnaeus, 1758**

***Angaria formosa* (Reeve, 1842)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Anguloclavus* Shuto, 1983** n. subgen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 9, Type-species; *Mangilia multicosata* Schepman described from off Cobourg Peninsula, Australia

***Antiguraleus stellatomoides* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 14, pl. 2, figs. 8, 9, text-fig. 3

Holotype: AM no. C134686a, Paratype: AM no. C134686b-c HMAS "Kimbla", Stn. 20, 16.8 miles NE of North Reef, Queensland, Australia; 23°08.4'S, 152°12.3'E

Depth 115 m, W. F. Ponder et al., coll., Dec. 14, 1977

Recent

***Antillophos fusiforme* (Hirayama)** reported by Oyama et al. (1960) from the Oligocene Ashiya Group, Yamaguchi Prefecture: see ***Phos fusiformis* Hirayama, 1956**

***Antimelatoma ? buddhaica* (Vrederburg)** reported by Shuto (1984) from the Miocene of Myaukmigon, Burma: ***Drillia (Brchytoma) buddhaica* Vredenburg, 1921**

***"Antimitra" okinawaensis* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 58, pl. 12, figs. 6a-b

Holotype: IGUT no. 10876

Loc. No. 82-21, cliff at Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Antiplanes obesus* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 158, pl. 16, fig. 17

Syntype: NSM no. 4454

Road-side cutting at Tokoyoda-mati (-machi), Tyosi City (Choshi City), Chiba Prefecture

Iioka Formation

Pliocene

(***Antiplanes (Rectiplanes) obesus* Ozaki** by Hatai and Nisiyama (1952))

***Antiplanes perversa contraria* (Yokoyama)** reported by Otuka (1936) from the Pliocene (Pleistocene) Wakimoto Formation, Akita Prefecture; see ***Pleurotoma perversa contraria* Yokoyama**

***Antiplanes sadoensis* (Yokoyama)** reported by Nomura (1937) from the Pliocene Masuda Formation, Yamagata Prefecture (Synonymus with ***Rectiplanes sanctioanis* (Smith)** by Hatai and Nisiyama (1952)); see ***Pleurotoma sadoensis* Yokoyama**

***Antiplanes sanctioannis* (Smith)** reported by Makiyama (1958) from the Pliocene (Pleistocene) Sawane Formation, Niigata Prefecture: ***Pleurotoma sanctioannis* Smith, 1857**

***Antisabia foliacea* (Quoy and Gaimard)** reported by Itoigawa et al (1974) from the middle Miocen Kujiri Facies

of the Mizunami Group Gifu Prefecture: ***Amalthea foliacea* Quoy and Gaimard, 1835**

***Aoteadrillia longiplicate* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 117, pl. 8, fig. 8, 11

Holotype: GKL no. 6001 (fig.11), Paratype: GKL no. 6002

Road side cutting at Hagenoshita, Uwaye-mura, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Apollon minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 284, pl. 5, figs. 4a-b

Holotype: ESN no. 20063, Paratype: ESN no. 20064

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukubora Sandstone of the Oidawara Formation

Miocene

***Apollon osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 87, pl. 4, figs. 9-10

Holotype: JC no. 1400044 (fig. 9), Paratype: JC no. 1400045 (from Iwakishin)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene

***Apollon sazanami* Hatai and Kotaka, 1959**

Saito Ho-on Kai Mus., Res. Bull., no. 28, 9, p. 8, text-figs. 4, 6

Holotype: IGPS no. 77795, Paratype: IGPS no. 77796

Upperstream of the Okamami-zawa, Tamano area, Obana-zawa-machi, Kitamura-gun, Yamagata Prefecture

Kaminohata Sandstone Member of the Ginzan Formation

Miocene

***Apollon yabei* (Nomura and Hatai)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see ***Bursa yabei* Nomura and Hatai, 1936**

***Aptyxis okinawa* MaNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 84, pl. 4, figs. 5, 9

Holotype: USNM no. 562711

Loc. no. 17447, low cut on side of small promontory on top of a narrow erosional spur, about 0.5 miles N-NW of the north junction of Highways 13 and 46 at Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene

Archimediella (Torculoidella) spolongensis (Martin) reported by Shuto (1974) from the Lower Miocene at Spolong hill, West Progo Mountain, Java Islands, Indonesia: *Turritella spolongensis* Martin, 1916

Archimediella (Torculoidella) vittulata (Adams and Reeve) reported by Shuto (1974) from the Pliocene at Tji Mantjeurih, Java Islands, Indonesia: *Turritella vittulata* Adams and Reeve, 1850

Architectonica (Solariaxis) dilecta (Deshayes) reported by Noda (1988) from the Shinzato Formation, Okinawa Prefecture: *Helicacis lelectus (Deshayes)* by Nomura and Zinbo (1934): *Solarium dilectum* Deshayes, 1863

Architectonica distinguinda Nomura and Zinbo, 1934
Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 161, pl. 5, fig. 34a-c
Holotype: IGPS no. 50432
Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture
Ryukyu Limestone (Wan Formation)
Pleistocene

Architectonica kurodae Tsuda, 1959
Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 82, pl. 3, figs. 16a-b
Holotype: JC no. 1400034
Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
Kurosedani Formation
Miocene

Architectonica (Solariaxis) lenticulata (Yokoyama) reported by Taki and Oyama (1954) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture : see *Solarium lenticulatum* Yokoyama, 1920

Architectonica makiyamae Tsuda, 1959
Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 82, pl. 3, figs. 17a-b
Holotype: JC no. 1400035
Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
Kurosedani Formation
Miocene

Architectonica maxima (Philippi, 1848) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Architectonica (Solariaxis) nomurai MacNeil, 1960
U. S. Geol. Surv., Prof. Paper 339, p. 38, pl. 1, figs. 15, 23, 27
Holotype: USNM no. 562656
Loc. no. 17451, road cut on east side of Highway 46 about

0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture
Yonabaru Formation
Miocene (Pliocene)

Architectonica osawanoensis Tsuda, 1959
Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 83, pl. 4, figs. 1a-b
Holotype: JC no. 1400036
Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
Kurosedani Formation
Miocene

Architectonica oyamai Masuda and Noda, 1976
Spec. Pub., Saito Ho-on Kai, no. 1, p. 14-15.
Holotype: CM, no. 20970
Shito, Ichihara City, Chiba Prefecture.
Semata Formation
Pleistocene
(Invalid Oyama (1954) as *Architectonica yokoyamai* Oyama, n. n. for the specimen described by Yokoyama (1922; Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art 1, p. 77, pl. 3, fig. 20))

Architectonica perspectiva (Linnaeus, 1758) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Architectonica trochearis (Hinds) reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

Architectonica (Architectonica) yokoyamai Oyama, 1954
In Taki and Oyama (1954), p. 9, pl. 23, fig. 20
Holotype: UT no. ? (CM no. 20970): Type; *Solarium (Philippia) pseudoperspectivum* Yokoyama (1922; pl. 3, fig. 20)
Shito, Ichihara-gun (Ichihara City), Chiba Prefecture
Semata Formation
Pleistocene
(Invalid and identified with *Architectonica oyamai* Masuda and Noda, 1976)

Argobuccinum (Fusitorion) nipponensis natorianum Nomura, 1940
Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol), vol. 21, no. 1, p. 40, pl. 3, figs. 8a-b
Holotype: SM no. 19928
Roadside cutting near the Akyu electric car station at Kita-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture (38°13'N, 140°45'E)
Moniwa Formation
Miocene

Argyropeza divine **Mervill and Standen** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

Argyropeza izekiana **Kuroda** (1949: Venus, vol. 15, nos. 5-8, p. 76-79, fig. 1) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Argyropeza shinzatoensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 12, pl. 10, figs. 15a-b

Holotype: IGUT no. 10135

Loc. No. 034, southern cliff of Shure Golf Links, about 1 km NW of Kuteken, Chinen-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Ariadnaria insignoides* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 136, pl. 5, figs. 12a-b

Holotype: Keio Yochisya no. ?

Koshiba-4, see cliff, W of Shiba-machi, Kanazawa-ku, Yokohama City, Kanagawa Prefecture

Koshiba Formation; upper part

Pleistocene

***Ariella (Vexiariella) cancellata* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ., Ser. D. Geol., vol. 25, no. 1, p. 6, pl. 1, figs. 11, 12, text-fig. 4

Holotype: AM no. C134664

Loc. No. BMR-1220, 150 km NW of Melville Island, Northern Territory, Australia; 9°53'S, 130°02'E

Depth 205 m, P. H. Colman coll., Dec. 5, 1969

Recent

***Asperdaphne peradmirabilis bulbosa* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 198, pl. 33, fig. 10, pl. 35, figs. 1, 2, 13

Holotype: GKL no. 6662 (pl. 35, figs. 1, 2), Paratype: GKL nos. 6663, 8092, 8093

East sea-cliff at Moeshima, (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31°37'E, 130°43'N Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Asprella (Asprella) busuegoi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 215, pl. 24, figs. 18, 19, 22-24, text-figs. 40, 41

Holotype: GK-L no. 6431 (fig. 24), GK-L nos. 6429, 6430 (figs. 22, 23), 6559 (figs. 18, 19; loc. SKGS-71)

Loc. no. SKGS-73, 2500 m N of Lambunao along the main road leading to Calinog via Ulian River-bridge, Panay Island, the Philippines; Paratype, loc. no. SKGS-71, cliff along the

left bank of the Tigum River between Santa Barbara and Cabatuan, Panay Island, the Philippines

Ulian Formation and Cabatuan Formation (Paratype)

Late Miocene and Pliocene (Paratype)

***Asprella comatosaeformis* (Yokoyama)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture: see *Conus comatosaeformis* **Yokoyama, 1928**

***Asprella (Asprella) comatose* (Pilsbry)** reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture: *Conus comatose* **Pilsbry, 1904**

***Asprella (Asprella) mucronata* (Reeve)** reported by Shuto (1969) from the Pliocene Miyazaki Group, Miyazaki Prefecture: *Conus mucronata* **Reeve, 1843**

***Asprella (Endemoconus) toyamaensis* (Tsuda)** reported by Shuto (1961) from the Miocene Kawabaru Member of the Miyazaki Group, Miyazaki Prefecture: see *Conus (Asprella) toyamaensis* **Tsuda, 1959**

Assiminea lutea japonica* v. *Martens reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Assiminea japonica* v. *Martens* by Masuda and Noda(1976))

***Astenostoma epitonica* (Fischer)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (Miss spell of genus name: *Astenotoma epitonica* **(Fischer, 1927))**

***Astenostoma perepitonica* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 18, no. 2, p. 118, pl. 6, figs. 43a-b

Holotype: IGPS no. 52252

1100 m NE of Hakussyaton, station 9, Koryu-syo, Tikonan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(Miss spell of genus name: *Astenotoma perepitonica* **Nomura; *Gemmula perepitonica* (Nomura)** by Masuda and Huang (1999): *Tomopleura perepitonica* **(Nomura)**)

***Astenostoma vertebrata* (Smith, 1875)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (Miss spell of genus name: *Asthenotoma vertebrata* **(Smith))**

***Asthenostoma nipponicum* (Smith, 1879)** reported by Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture (Miss-spell of genetic name: see *Asthenotoma nipponicum* **(Smith))**

***Asthenostoma nipponicum* (Smith, 1879)** reported by

Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture

***Asthenotoma subdifficulis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 96, pl. 4, figs. 23, 24

Syntype: GK no. 89

Dainichi (valley about 350 m NW of Dainichi, Ugari-mura, Suchi-gun (Fukuroi City), Shizoka Prefecture (34°48'07"N, 137°56'00"E)

Dainichi Formation

Pliocene

***Asthenotoma tobleri* Martin, 1914** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia

Asthenostoma vertebrata* (Smith, 1875)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Tomopleura vertebrata* (Smith)** by Masuda and Haung (1990))

***Asthenotoma yokoyamai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 95, pl. 4, figs. 21, 22

Syntype: GK no. 88

Tannoyama and Honohashi, Kakegawa City, Shizoka Prefecture

Dainichi Formation

Pliocene

(***Tomopleura yokoyamai* (Makiyama)** by Hatai and Nisiyama (1952))

***Astraea (Astralium) calcar* (Linnaeus)** reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

***Astraea furuichii* Saito, Bando and Noda, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 283, pl. 31, fig. 10

Holotype: IGPS no. 86747

Loc. no. 1 (cliff, about 300 m W of Abuzaki), Teshima Island, Tonosho-cho, Shodo-gun, Kagawa Prefecture

Teshima Formation

Miocene (Eocene)

***Astraea hayakawai* Kanno, 1958**

Sci. Rep., Tokyo Kyoiku Daigaku Sec. C, vol. 6, no. 55, p. 208, pl. 6, figs. 1-4

Holotype: TKD no. 6161 (figs. 2, 4), Paratype: TKD no. 6162

Loc. No. 803, a river side cliff, about 200 m downstream of the Shimizu bridge, Tochiya, Chichibu City, Saitama Prefecture; Paratype, loc. No. 804, a river side cliff near the Yamada bridge, Yamada, Chichibu City, Saitama Prefecture

Hiranita Formation

Lower Miocene

***Astraea (Calcar) henica* (Watson)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Astralium henica* Watson, 1886**

***Astraea (Bolma) modesta* (Reeve, 1842)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Trochus modestus* Reeve**

***Astraea (Pachypoma) omorii* Shibata, 1957**

Trans. proc. Palaeont. Soc. Japan, N.S., no. 25, p. 24, pl. 4, figs. 2a-c

Holotype: TKD no. 5276

Along the Hayato-gawa near Ochiai, Miyagase-mura (Aikawa-machi), Aiko-gun, Kanagawa Prefecture

Ochiai Formation

Miocene

***Astraea (Calcar) propria* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 74, pl. 7, figs. 15-17

Holotype: IGPS no. 74312

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

***Astraea pseudomodesta* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), vol. 18, no. 2, p. 208, pl. 10, figs. 1a-c

Holotype: IGPS no. 48987

Siko, Kosyun-syo, Kosyun-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

(***Bolma pseudomodesta* (Nomura)** by Masuda and Huang (1990))

***Astraea tyosiensis* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 11, pl. 5, figs. 1-3

Holotype: NSM no. 4257

Sea shore at western end of Tokawa Village, Choshi City, Chiba Prefecture (Precise formation unknown)

Basal Conglomerate of the Pliocene (Naarai Formation)

Pliocene

***Astraea virgata* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 12, pl. 6, figs. 1-6

Holotype: NSM no. 4301 (figs. 1-3), Paratype: NSM no. 4302

Beach on the western end of Tokawa village, Choshi City, Chiba Prefecture (precise formation unknown)

Basal Conglomerate of the Pliocene (Naarai Formation)

Pliocene

Astraliium haematragum (Menke) reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture

Astraliium (Distellifer) rhodostoma (Lamarck) reported by Amano et al. (2000) from the Pliocene Tentokuji Formation, Akita Prefecture

Ataxocerithium dijki (Martin) reported by Shuto (1974) from the Lower Miocene at Ngembak, Java Islands, Indonesia: *Bittium dijki* Martin, 1884

***Athleta (Volutospina) japonica* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.) vol. 12, no. 1, p. 120, pl. 16, fig. 1

Holotype: GS no. 36123, Paratype: GS nos. 36123, 36108, 36109, 36125, 36126

The Hosyuyama Mine (about 200 m S of the bridge at E of Kawamagari, and about 600 m W of the village office at Daigyoji, Hosyuyama-mura, Asakura-gun, Fukuoka Prefecture; 33°23'26"N, 130°52'14"E): Paratype; near top of hill (92 m) about 300 m W of Abo, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; western sea cliff about 350 m SW of the shrine on the hill, Io-jima, Iojima-mura, Nishisonogi-gun, Nagasaki Prefecture; western slope of the Utsubogi hill, about 250 m S of the crossing at Utsubogi, Kiuragi-mura, Higashimatsuura-gun, Saga Prefecture

Doshi Formation; Okinoshima, Funatsu and Kiuragi Formations (Paratype)

Upper Eocene

(*Volutospina japonica* (Nagao) by Oyama et al. (1960))

***Athleta (Volutospina) nishimurai* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1., p. 118, pl. 16, fig. 24

Holotype: GS no. 36120, Paratype: GS nos. 36120, 36119, 36122

The Hosyuyama Mine (about 200 m S of the bridge at E of Kawamagari, and about 600 m W of the village office at Daigyoji, Hosyuyama-mura, Asakura-gun, Fukuoka Prefecture; 33°23'26"N, 130°52'14"E): Paratype (River cliff along the small river, a short distance S of the large bridge, about 500 m NW of Kawamagari, Hosyuyama-mura, Asakura-gun, Fukuoka Prefecture; 33°23'46"N, 130°51'51"E: Southern coast about 300 m S of the hill (149 m) on Okinoshima, Iojima-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°41'14"N, 129°46'52"E)

Kawamagari Formation and Okinoshima Formation (Paratype)

Middle to Upper Eocene

(*Volutospina ? nishimurai* (Nagao) by Oyama et al. (1960))

Atys (Aliculastrum) cylindrica (Helbling) reported by

MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Aliculastrum cylindricum* (Helbling) by Masuda and Noda (1976))

***Atys ? okinawa* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 127, pl. 6, fig. 21

Holotype: USNM no.562782

Loc. no. 17447, low cut on side of small promontory on top of a narrow erosional spur, about 0.5 Mi N-NW of the north junction of Highways 13 and 46 at Iwa, Okinawa Prefecture Yonabaru Formation

Miocene

(*Haloa okinawa* (MacNeil) by Masuda and Noda (1976))

***Aulacofusus coerulescens* Kuroda and Habe, 1966**

reported by Aoki and Baba (1984) from the Pliocene Nobori Formation, Kochi Prefecture

***Aulacofusus iioakaensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 160, pl. 10, figs. 10a-b

Holotype: Keio Yochgisa no. ?

Road-side cut at north of Iioka, Iioka-machi, Kaijou-gun, Chiba Prefecture

Iioka Formation; upper part

Pleistocene

***Aulacofusus mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 75, pl. 3, fig. 11

Holotype: ESN no. 30021 (fig.11)

Loc. no. K90, Isehata, Ichishi-cho, Ichishi-gun, Mie Prefecture

Oi Formation

Miocene

(*Colus (Aulacofusus) mitsuganoensis* (Shibata) by Masuda and Noda (1976))

***Austrosina gotoi* Itoigawa and Nishimoto, 1984**

Bull. Mizunami Fossil Mus., no. 11, p. 26, pl. 7, figs. 1a-3c

Holotype: MFM no. 10086 (fig. 1a-c), Paratype: MFM nos. 10087, 10088 (figs. 2, 3)

Akatsuki-bora, Hiyoshi-cho, Mizunami City, Gifu Prefecture Shukunohora facies of the Akeyo Formation

Early Miocene

***Australoba picta* (A. Adams) reported by Matsushima**

(1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Diffaloba picta* (A. Adams) by Masuda and Noda (1976))

***Austrodaphnella torresensis* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 22, pl. 2, fig. 5, text-fig. 5

Holotype: AM no. C134682a, Paratype: AM no. C134682b-c
Off Murray Islands, Torres Strait, Queensland, Australia
Depth 9-15 m, C. Hedley coll.
Recent

***Austropusilla (Metaclathurella) crokerensis* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 16, pl. 2, figs. 1, 2, text-fig. 6
Holotype: AM no. C134692
Arafra Sea, approximately 45 miles N of Croker Island, Northern Territory, Australia; 10°17'S, 132°38'E
Depth 65 m, P. H. Colman coll., Nov. 9, 1969
Recent

***Awateria ? dormitor* (Vredenburg) reported by Shuto (1984) from the Miocene of Dalabe, Burma: *Drillia domitor* Vredenburg, 1921**

***Babylonia (Babylonia) areolata* (Link) reported by Shuto (1962) from the upper Miocene Tonogori Member of the Miyazaki Group, Miyazaki Prefecture**

***Babylonia elata* (Yokoyama) reported by Shikama (1943) from the Pliocene Dainichi Formation, Shizuoka Prefecture (*Eburna elata* (Yokoyama) by Hatai and Nisiyama (1952): see *Eburna elata* Yokoyama, 1923)**

***Babylonia japonica* (Reeve) reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture: *Eburna japonica* Reeve, 1843**

***Babylonia kozaiensis* Nomura, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 548, p. 265, pl. 13, figs. 8a-b
Holotype: SM no. 17366
(Path-side cutting at a short distance S of the two ponds, about 700 m E of Yamaguchi, Kozai-mura (Marumori-machi), Igu-gun, Miyagi Prefecture; 37°54'16"N, 140°50'05"E)
Kozai Formation (Hazama Formation)
Miocene

***Babylonia kozaiensis kokozurana* Nomura, 1939**

Jour. Geol. Soc. Japan, vol. 46, no. 548, p. 356, pl. 13, figs. 9a-b
Holotype: SM no. 3579
(West side cliff of the main road near the midway of the two tunnels, E of Kokozura, Nakoso-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture; 36°51'18", 140°47'32"E)
Kokozura Formation
Miocene

***Babylonia toyamaensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 92, pl. 5, figs. 3a-4

Holotype: JC no. 1400056 (figs. 3a-b), Paratype: JC no. 1400057 (from Shimizu)
Kashio, Yatsuo-machi, Nei-gun, Toyama Prefecture; Paratype, Shimizu, Yatsuo-machi, Nei-gun, Toyama Prefecture
Kurosedani Formation
Miocene

"*Balcis*" *chinensis* Noda, 1980

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 13, pl. 5, fig. 12, pl. 10, fig. 8
Holotype: IGUT no. 10150, Paratype: IGUT nos. 10490-1, -2
Loc. No. 034, southern cliff of Shure Golf Links, about 1 km NW of Kuteken, Chinen-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Barchytoma japonica* (Smith) reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Inquisitor japonica* (Smith) by Masuda and Noda (1976))**

***Baryspira albocallosa okawai* (Yokoyama, 1923) reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture: see *Ancilla okawai* Yokoyama**

***Baryspira hilgendorfi* (v. Martens) reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture**

***Baryspira regina* Tomida and Ozawa, 1998**

Nagoya Univ., Furukawa Mus., Spec. Rep., no. 7, p. 61, pl. 11, figs. 6a-b, 12a-b
Holotype: ESN no. 2857 (pl. 11, figs. 6a-b), Paratype : ESN nos. 2859, 2860 (figs. 12a-b)
Exposure at sand pit situated about 100 m E of road at Godajima, Toyooka Village, Iwata-gun, Shizuoka Prefecture; 34°49'18"N, 137°51'04"E
Aburayama Formation
Lower Pleistocene

***Basilissa ? laeviuscula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 113, pl. 5, fig. 24
Holotype: UT no. ? (CM no. 21121)
Shito (Shito, Ichihara City, Chiba Prefecture)
Kazusa Group (Semata Formation)
Pleistocene
(Synonymus with *Viviparus (Cipangopaludina) japonicus* (v. Martens) by Oyama (1973))

***Basilissa (Orectospira) nenokamiensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 209, pl. 6, figs. 11, 12

Holotype: TKD, no. 5863 (fig. 11), Paratype: TKD, 5864

Loc. No. 207, a river side exposure near a fall, Nenokami, Hikokubo, Yoshida-machi, Chichibu-gun, Saitama Prefecture

Nenokami Formation

Oligocene (early Miocene)

(*Orectospira nenokamiensis* (Kanno))

***Bathybembix argenteo-nitens* (Lischke)** reported by Yokoyama (1925) from the Pliocene Shirado (Miocene Taga) Formation, Ibaraki Prefecture (*Trochus argenteonitens* (Lischke) by Hatai and Nisiyama (1952))

***Bathybembix jonesi* Kanno, 1971**

Palaeont. Soc. Japan, Spec. Pap., no. 16, p. 101, pl. 12, figs. 3a-c

Holotype: TUE no. 10027, Paratype: TUE no. 10028

Loc. No. 20508-2, Northern part of the Yagataga Glacier, Capa Yagataga, Alaska, USA

Poul Creek Formation

Oligocene

***Bathybembix (Ginebis) sakhalinensis* (Takeda)** reported by Oyama et al. (1960) from the Oligocene stratum in Sakhalin (Russia): see *Turcicula sakhalinensis* Takeda, 1953

***Bathytoma (Bathytoma) luedorfi* (Lischke)** reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture: *Pleurotoma (Genota) luhdorfi* Lischke, 1872

***Bathytoma (Parabathytoma) microgemmata* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 88, pl. 9, fig. 6

Holotype: GKL, no. 6054

Road side cutting at Kano, Takaoka-machi, Higashi-morokata-gun, Miyazaki Prefecture

Tano Formation

Miocene

***Bathytoma osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 101, pl. 6, figs. 11a-13

Holotype: JC no. 1400076 (figs. 11a-b), Paratype: JC nos. 1400078 (from Iwakishin), 1400077 (from Tsuzara)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture: Paratype; Iwakishin, Osawano-machi, Kami-niikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene

***Batillaria atukoe* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 623, pl. 49, fig. 70

Holotype: GT no. 1536, Paratype: GT no. 1537

East side river cliff of the Mabechi-gawa and E of the small sand bank, about 400 m SW of Yuda, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°19'N, 141°19'10"E: Paratype (Road-side cliff at Narayama, about 350 m E of the bridge, Namiuchi-mura (Ichinohe-machi), Ninohe-gun, Iwate Prefecture; 40°13'35"N, 141°18'45"E)

Shiratori Formation (Kadonosawa Formation)

Miocene

***Batillaria cumingi* (Crosse)** reported by Kuroda (1931) from the Miocene Ogawa Formation, Nagano Prefecture (*Rampania cumingi* (Crosse) by Hatai and Nisiyama (1952))

***Batillaria flectosiphonata* Ozawa, 1996**

Venus, vol. 55, no. 3, p. 190, fig. 2, pl. 1, figs. 1-12

Holotype: NSM-Mo no. 70527, Paratype: NSMT-Mo nos. 70528a-m, ESN nos. 2585a-g

Intertidal rocky bottom in a lagoon in Komi in the western coast of the Iriomote Island, Taketomi-cho, Yaeyama-gun, Okinawa Prefecture; 24°18'50"N, 123°54'43"E

Living specimen

Recent

***Batillaria (Batillaria) herklotsi* (Martin)** reported by Shuto (1978) from the Middle Miocene Njalindong bed of Tji Angsan, Java, Indonesia: *Potamides herklotsi* Martin, 1879

Batillaria minoensis

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 280, pl. 4, figs. 4a-b

Holotype: ESN, no. 20048, Paratype: ESN no. 20049

Loc. No. S20-1, Anabora, Toki City, Gifu Prefecture, Paratype; Loc. No. S20-2, Anabora, Toki City, Gifu Prefecture

Togari Facies of the Akeyo Formation

Miocene

***Batillaria mizunamiensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 280, pl. 4, figs. 1a-b

Holotype: ESN, no. 20050, Paratype: ESN no. 20051

Loc. No. S24-1, western part of Tsukiyoshi (Akeyo-cho), Mizunami City, Gifu Prefecture

Tsukiyoshi Facies of the Akeyo Formation

Miocene

***Batillaria multiformis* (Lischke)** reported by Nagasawa (1961) from the Pleistocene Shimosueyoshi Formation, Kanagawa Prefecture

***Batillaria murayamai* Yokoyama** reported by Hayasaka and Hayasaka (1960) from the Pliocene (Pleistocene) Tungyuping Formatio, Taiwan

***Batillaria (Myonchonina) myonchonensis* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 76, pl. 7, figs. 1, 9

Holotype: IGPS no. 74320

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

***Batillaria narusei* Taguchi, 1992**

Venus, vol. 51, no. 3, p. 168, figs. 16, 17

Holotype: MFM no. 20046, Paratype: MFM no. 20047

Niida, Tsuyama City, Okayama Prefecture; 35 °03'05"N, 134 °04'01"E

Yoshino Formation of the Katsuta Group

Middle Miocene

***Batillaria (Batillaria) noetlingi* (Martin)** reported by Shuto (1978) from the Middle Miocene Njalindoeng bed, Java, Indonesia: ***Cerithium (Cerithium) noetlingi* Martin, 1899**

***Batillaria s-itoi* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 343, pl. 20, fig. 5

Holotype: SM no. 7953

Yanagawa-machi (River cliff of the Hirose-gawa at the SE corner of the Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture, 37 °51'05"N, 140 °36'05"E)

Yanagawa Formation

Miocene

***(Batillaria sito* Nomura and Zinbo, 1936)**

***Batillaria s-hataii* Nomura 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol.), vol. 19, no. 2, p. 270, pl. 33, figs. 6-8

Holotype: SM no. 2256, Paratype: SM no. 2256, GS no. 15964

Goroku cliff along the right bank of the Hirose-gawa, Aoba-ku, Sendai City, Miyagi Prefecture (38 °16'N, 140 °49'E)

Tatsunokuchi Formation

Pliocene

***(Batillaria shataii* Nomura, 1938)**

***Batillaria tateiwai* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, p. 147-148, pl. 12, figs. 5, 6.

Syntype: Geol. Surv. Chosen and GK., no. ?

Nanseki, North Korea

Heirokudo Formation

Miocene

***(Batillaria (Tateiwaia) tateiwai* Makiyama** by Hatai and Nisiyama (1952), ***Tateiwaia tateiwai* (Makiyama)**)

***Batillaria (Batillaria?) tjilonganensis* (Martin)** reported by Shuto (1978) from the Njalindoeng bed at Kali Tji Bods, Java, Indonesia: ***Cerithium (Cerithium) tjilonganensis* Martin, 1899**

***Batillaria toshioi* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 2, pl. 1, figs. 7a-9

Holotype: DGS no. 4580 transferred to IGPS, no. 90179 (figs. 7a-b)

Loc. No. 23, river cliff, about 1 km SES of Mukaiyama, Suzu City, Ishikawa Prefecture; 37 °28'05"N, 137 °06'39"E

Higashi-Innai Formation

Miocene

***Batillaria yamanarii* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, art. 8, p. 148-149, pl. 12, fig. 4.

Holotype: Geol. Surv. Chosen, no. ?

Nanseki and Daitokudo, North Korea

Heirokudo Formation

Miocene

***Batillaria zonalis* (Bruguère)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Bedevea blosvillei curvirostra* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 108, pl. 17, figs. 1-3

Holotype: GK-L no. 7489

Loc. no. SKGS-71, riverside cliff of the Tigum River, NE of Santa Barbara, Panay Island, the Philippines

Santa Barbara Siltstone of the Cabatuan Formation

Pliocene

***Bedevea birileffi* (Lischke)** reported by Itoigawa (1964)

from the Pleistocene Kozaki Formation, Aichi Prefecture

***Bela candida* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 261, pl. 34, fig. 1

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37 °59'47"N, 138 °16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

***(Propebela (Turritoma) candida* (Yokoyama)** by Hatai and Nisiyama (1952))

***Bela dissolute* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8 p. 263, pl. 32, fig. 13

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Granotoma dissolute* (Yokoyama) by Hatai and Nisiyama (1952))

***Bela exquisite* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 262, pl. 32, fig. 9

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

(*Nematoma exquisite* (Yokoyama) by Hatai and Nisiyama (1952))

***Bela kagana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 172, pl. 47, fig. 2

Holotype: GT no. ?

Kakuma (Road-side cutting on the contact point of the road and small road, about 100 m S of the junction of the two small rivers at Kakuma, Asakura-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36°32'44"N, 136°42'28"E)

Omma Formation

Pliocene (early Pleistocene)

(*Oenopota kagana* (Yokoyama) by Hatai and Nisiyama (1952))

***Bela ozawai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 260, pl. 32, fig. 8

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane

Pliocene

(*Funitoma ? ozawai* (Yokoyama) by Hatai and Nisiyama (1952): *Propebela ? ozawai* (Yokoyama) by Makiyama (1958))

***Bela reticostulata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 44, pl. 1, fig. 38

Holotype: UT no. ? (CM no. 20815)

Shito (Ichihara City, Chiba Prefecture)

Kazusa Group (Kioroshi Formation)

Pleistocene

(*Asperdaphne reticostulata* (Yokoyama) by Oyama (1973))

***Bela sattva* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 260, pl. 32, fig. 5

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Surculites ? sattva* (Yokoyama) by Makiyama (1958))

***Bela yanamii* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 261, pl. 32, fig. 11

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Plicifusus yanamii* (Yokoyama) by Hatai and Nisiyama (1952): (*Mohnia yanamii* (Yokoyama) by Makiyama (1958)))

***Bellamyia celsispiralis* Gurung, Takayasu and Matsuoka, 1997**

Palenot. Res., vol. 1, no.3, p. 169, figs. 4-1 - 4

Holotype: TMNH no. 0298, Paratype: TMNH nos. 02099, 02100, 02101

Loc. no. F-18, about 500 m W of Dumkibas along the Mahendra Highway, Nepal

Middle Member of the Binai Khola Formation

Mio-Pliocene

Bellamyia (*Sinotaia*) *mabutii* (Suzuki) reported by Honda (1989) from the Oligocene Sakhubetsu Formation, Hokkaido: see *Viviparus mabutii* Suzuki, 1941

Bellaspira (*Lyromangilia* ?) *semicarinata* (Pilsbry) reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture: *Mangilia semicarinata* Pilsbry, 1904

Belophos ? pseudomelongenum (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: *Genotia* (*Pseudotoma*) *pseudomelongena* Martin, 1914

***Bembix convexiusculum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6 p. 90, pl. 5, fig. 32

Holotype: GT no. ?, Lectotype: CM no. 20276

(Sea cliff SW of Sakanoshita, Hase, Kamakura City, Kanagawa Prefecture; 35°18'02"N, 139°32'E)

Kamakura Formation

Lower Musashino=Pliocene (Pleistocene)

(*Lischkeia convexiusculum* (Yokoyama) by Hatai and Nisiyama (1952): synonymus with *Bathybembix argenteonitens* (Lischke) by Oyama (1973))

***Bembix crumpii* (Pilsbry)** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Kamakura Formation, Kanagawa Prefecture (*Lischkeia crumpii* (Pilsbry) by Hatai and Nisiyama (1952))

***Benthodaphne* Oyama, 1962 n. gen.**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 46, p. 272, Type-species; *Pleurotoma* (*Bela* ?) *glabra* Yokoyama (1920) described from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture

***Benthovoluta* Kuroda and Habe, 1950 n. gen.**

Illust. Cat. Japan, Shell., no. 5, p. 37, Type species; *Phenacoptygma* ? *kiiensis* Kuroda (= *Benthovoluta hilgendorfi* (v. Martens) described from the off Hakodate, Japan (type locality is probably error; may from Honshu, Shikoku or Kyushu (Kuroda and Habe, 1950))

***Benthovoluta hirgendorfi* (v. Martens)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Voluta hilgendorfi* v. Martens, 1897

***Benthovoluta okinavensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 96, pl. 9, figs. 2, 3

Holotype: USNM no. 562841

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

(Synonymus with *Benthovoluta hilgendorfi* (v. Martens) by Masuda and Noda (1976))

***Beringius behringii indentatus* Dall, 1919** reported by Iwai (1965) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture

***Beringius* ? *hanzoganensis* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 358, pl. 68, fig. 6

Holotype: GT no. ?

Hanzogane, Higashiyama, Echigo (River-side cliff at Hanzogane, Hanzogane-mura, Koshi-gun, Niigata Prefecture; 37°23'N, 138°56'20"E)

(Ushigakubi Formation)

Pliocene (Miocene)

***Beringius hobetsuensis* (Matsui)** reported by Oyama et al. (1960) from the Oligocene Momijiyama Formation, Hokkaido

***Beringius magarikawaensis* Nomura and Zinbo, 1937**

Saito Ho-on Kai. Mus., Res. Bull., no. 13, p. 167, pl. 22, figs. 14a-b

Holotype: SM no. 8449, Paratype: SM no. 8449

(River-side cliff along the Magarikawa, about 250 m SW of the primary school at) Magarikawa, Toyoda-mura, Mogami-gun, Yamagata Prefecture (38°49'07"N, 140°11'39"E)

Hanezawa Formation

Pliocene (Miocene)

***Beringius mitsuchii* Kanehara, 1937**

Jour. Geol. Soc. Japan, vol. 44, no. 527, p. 15, pl. 3, figs. 1-3

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Nagakura coal mine, W of Yumoto-machi, Iwaki-gun (Iwaki City), Fkushima Prefecture (37°00'02"N, 140°50'02"E)

Mizunoya Formation

Miocene (early Miocene)

(*Ancistrolepis mitsuchii* (Kanehara) by Hatai and Nisiyama (1952))

***Biplex perca* Perry, 1811** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation; and also reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Biplex prisca* Makiyama, 1927** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture (*Biplex prisca* (Makiyama)): see *Gyrineum* (*Biplex*) *perca prisca* Makiyama, 1927

***Birmadrillia* Shuto, 1984 n. subgen.**

Mem. Fac. Sci., Kyushu Univ. Ser. D., vol. 25, no. 2, p. 142, Type-species; *Drillia* (*Crassispira*) *constricta* Vredenburg described from the Miocene of Myaukmigon, Burma

***Bittium acutangulum* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 7

Holotype: UT no. ? (CM no. 21832)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(*Bittium* (*Plesiotrochus*) *acutangulum* Yokoyama by

Oyama (1973))

Bittium alutraceum* (Gould, 1861)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan, and also reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture (Bittium alutaceum* Gould** by Masuda and Noda (1976))

***Bittium a-satoi* Oinomikado and Ikebe, 1939**

Venus, vol. 9, no. 2, p. 99, text-figs. 5a-b (p. 108)

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Small valley on the boundary between Tagami-mura and Kamo-machi, about 500 m E of Myogadani, Tagami-mura (-machi), Minamikambara-gun, Niigata Prefecture (37 ° 40'21"N, 139 ° 04'E)

Lower Saruhirama

Pliocene

(***Bittium (Stylidium) asatoi* Oinomikado and Ikebe** by Hatai and Nisiyama (1952))

***Bittium binodulosum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 68, pl. 4, fig. 8

Holotype: GT no. ? (CM no. 20187)

Koshiha (Sea cliff of Koshiha, Kanazawa-machi, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35 ° 20'05"N, 139 ° 38'06"E)

Koshiha Formation

Lower Musashino=Pliocene (Pleistocene)

(***Plesioacirsa yokoyamai* (Otuka)** by Makiyama (1958))

***Bittium crosio* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 67, pl. 3, fig. 11

Dainichi (Valley about 350 m NW of Dainichi, Ugari-mura, Suchi-gun (Fukuroi City), Shizuoka Prefecture; 34 ° 48'07"N, 137 ° 56'00"E)

Dainichi Formation

Pliocene

***Bittium etigoensis* Oinomikado and Ikebe, 1939**

Venus, vol. 9, no. 2, p. 101, text-figs. 8a-b (p. 108), text-figs. 6, 7 (Paratypes)

Holotype: GSJ no. ?, Paratype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Northwestern foot of the small isolated hill, about 120 m SW of the contact point of the main road and the small road at Funabashi, Nishigoshi-mura (Izumozaki-machi), Santo-gun, Niigata Prefecture; 37 ° 30'34"N, 138 ° 42'12"E)

Funabashi Formation (Haizume Formation)

Pliocene (Pleistocene)

(***Bittium (Semibittium) etigoensis* Oinomikado and Ikebe** by Hatai and Nisiyama (1952))

***Bittium horinjiensis* (Onoyama MS) Oinomikado and Ikebe (1939)**

Venus, vol. 9, no. 2, p. 106, text-figs. 1a-b

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Near the crossing point of the path and the small rivers, and about 150 m SW of the contact point of the main road and the road at Horinji, Ishiguro-mura (Fukumitsu-machi), Minamitonami-gun, Toyama Prefecture (36 ° 33'44"N, 136 ° 51'24"E)

Horinji Formation

Pliocene

(***Bittium (Stylidium) horinjiensis* Oninomikado and Ikebe** by Hatai and Nisiyama (1952))

***Bittium intaminatum* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt. 4, p. 201, pl. 12, fig. 5

Holotype: GT no. ?

Nishigoto (Road cliff about 2 km NW of Nishigoto, on road leading to Kubota, Tsunetoyo-mura (Hanawa-machi), Higashi-Shirakawa-gun, Fukushima Prefecture; 36 ° 59'03"N, 140 ° 22'E)

Tanagura Formation

Pliocene (Miocene)

***Bittium kurodai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 66, pl. 3, fig. 8

Holotype: GK no. 235

Dainichi (About 150 m W of Honohashi, Saigo-mura (Kakegawa City), and 2.5 km N of the Kakegawa railway station (Kakegawa City), Shizuoka Prefecture; 34 ° 47'02"N, 138 ° 00'06"E)

Dainichi Formation

Pliocene

***Bittium misellissimum* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 343, pl. 41, figs. 19, 20

Holotype: GT no. ?

Dainichi (Valley about 350 m NW of Dainichi, Ugari-mura, Suchi-gun (Fukuroi City), Shizuoka Prefecture; 34 ° 48'07"N, 137 ° 56'E)

Satsuka Formation

Pliocene

***Bittium mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 71, pl. 3, figs. 1, 2

Holotype: ESN, no. 30016 (fig. 1)

Sada (K66), Hakusan-cho, Ichishi-gun, Mie Prefecture

Oi Formation

Miocene

(Tachyrhynchus mitsuganoensis (Shibata) by Masuda and Noda (1976))

***Bittium numamuraeum* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 13

Holotype: UT no. ? (CM no. 21834)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

***(Bittium (Bittium) alutaceum numamuranum* Yokoyama by Oyama (1973))**

***Bittium onoyamai* Oinomikado and Ikebe, 1939**

Venus vol. 9, no. 2, p. 105, text-figs. 2a-b

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Southeastern slope of the hill, about 500 m NEE of the shrine and about 200 m NW of the contact point of the road and the small road E of Tagawa, Konade-mura (Oyabe City), Nishitonami-gun, Toyama Prefecture; 36 °41'48"N, 139 °53'24"E

Tagawa Formation

Pliocene (early Pleistocene)

***(Bittium (Stylidium) onoyamai* Oinomikado and Ikebe by Hatai and Nisiyama (1952))**

***Bittium ozawai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 270, pl. 32, fig. 20

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37 °59'47"N, 138 °16'43"E)

Sawane Formation

Pliocene

(Synonymus with *Batillaria cumingi* (Crosse) by Hatai and Nisiyama (1952))

***Bittium perpusillum* Tryon, 1887** reported by Nomura and Zinbo (1934) from the Pleistocene Rhykyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Bittium (Bittium) samaranganum* (Martin)** reported by Shuto (1978) from the Boemiajoe, Kali Glagah, Java, Indonesia: ***Cerithium samaranganum* Martin, 1884**

***Bittium tayaensis* Nomura and Hatai, 1938**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 60, fig. 2

Holotype: SM no. ?

Cliff of the Sannai-gawa opposite Taya, Iwami -Sannai-mura (Kawabe-machi), Kawabe-gun, Akita Prefecture; 39 °42'N, 140 °17'E

Taya Formation (Tentokuji Formation)
Miocene (Pliocene)

***Bittium (?) tuberculosum* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 175, pl. 47, fig. 9

Holotype: GT no. ?

Nagaya (Road-side cliff about 150 m E of the bridge and about 300 m NW of the shrine at Nagaya, Kosaka-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36 °34'23"N, 136 °41'51"E)

Onma Formation

Pliocene (early Pleistocene)

***(Halloysia (Trypanaxis ?) tuberculosa* (Yokoyama) by Hatai and Nisiyama (1952): *Tachyrhynchus tuberculosus* (Yokoyama) by Makiyama (1959))**

***Bittium (Stylidium) yokosukense* Oyama, 1954**

In Taki and Oyama, 1954; Palaeont. Soc. Japan, Spec. Pap. no. 2, p. 52, pl. 5, fi. 13

Holotype: UT no. ?

Type; *Bittium perpusillum*, Yokoyama (1920: p. 67, pl. 4, figs. 13a-b), described from Yokosuka, Yokosuka City, Kanagawa Prefecture (precise locality unknown)

“Yokosuka” Formation

Pleistocene

***Bittium venustellum* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 175, pl. 47, fig. 7

Holotype: GT no. ?

Nagaya (Road-side cliff about 150 m E of the bridge and about 300 m NW of the shrine at Nagaya, Kosaka-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36 °34'23"N, 136 °41'51"E)

Onma Formation

Pliocene (Pleistocene)

***(Bittium (Stylidium) venustellum* Yokoyama by Hatai and Nisiyama (1952): *Tachyrhynchus venustellus* (Yokoyama) by Makiyama (1959))**

***Bittium yokoyamai* Otuka, 1936**

Jour. Geol. Soc. Japan, vol. 43, no. 516, p. 733, pl. 42, fig. 12

Holotype: GT no. ?

Manganji (A small cliff behind the village, a short distance SW of the contact point of the two roads at Manganji, Otomo-mura, Yuri-gun (Honjo City), Akita Prefecture; 39 °20'58"N, 140 °05'28"E)

(Wakimoto; Sasaoka Formation)

Pliocene (early Pleistocene)

***Biwamelania Matsuoka and Nakamura, 1981* subgen. redefined Matsuoka, 1985 (Trans. Proc. Palaeont. Soc. Japan, N. S., no. 139, p. 189)**

***Bolma hataii* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 34, pl. 7, figs. 5, 9, 14
Holotype: USNM no. 562793

Loc. no. 17456, thin tuffaceous bed in low road cut east side of Highway 64 about 0.6 Mi (airline) W of the junction of Highways 137 and 64 at Hiyakuna, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Bolma (Obolma) takitai* (Ozaki)** reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

***Bolma (Bolma) virgata* (Ozaki)** reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

***Boninena hataii* Habe, 1973**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol), Spec. Vol. no. 6, p. 52, pl. 4, fig. 5

Holotype: NSMT no. 42235

Sand dune, Minami-jima, Ogasawara-mura, Tokyo Prefecture

Minami-jima Formation

Pleistocene

***Boreoscala greenlandica* (Perry)** reported by Amano and Sato (1995) from the Pliocene Joshita Formation, Nagano Prefecture

***Boreoscala nagaminensis* (Otuka)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Eptonium (Boreoscala) nagaminensis* Otuka, 1934

***Boreotrophon alaskanus* Dall, 1902** reported by Noda et al. (1995) from the Pliocene Hitachi Formation, Ibaraki Prefecture

***Boreotrophon beringi* Dall, 1902** reported by Noda et al. (1983) from the Pliocene Yuchi Formation, Hokkaido

***Boreotrophon kanno* Amano, 1980**

Prof. Kanno, S. Mem. Vol., p. 111, pl. 13, figs. 3, 7

Holotype: IGUT no. 15038, Paratype: IGUT nos. 15039, 15040

Loc. no. 11b, stram floor just below Loc. no. 11a (stream side cliff at 2.5 km up of the Shimoyudoro-sawa), Rumoi City, Hokkaido

Yudoro Formation

Miocene

***Boreotrophon pacificus* Dall, 1902** reported by Amano and Sato (1995) from the Pliocene Joshita Formation, Nagano Prefecture

***Boreotrophon solitarius* (Yokoyama)** reported by Amano and Sato (1995) from the Pliocene Joshita Formation, Nagano Prefecture

***Boreotrophon uyemurai* (Yokoyama)** reported by Noda et al. (1984) from the Pliocene Yuchi Formation, Hokkaido

***Boreotrophon xestra* (Dall, 1918)** reported by Matsui (1985) from the Pliocene Sasaoka Formation, Akita Prefecture

***Borsonella aokii* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 204, pl. 18, figs. 21-23

Holotype: Keio Yochisya no. ?

River floor of the Koito-gawa, near the Miaki-hashii, south of Higashihigasa, Kimitsu City, Chiba Prefecture

Umegase Formation; lower part

Pleistocene

***Borsonella shinzato* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 114, pl. 9, fig. 18

Holotype: USNM no. 562857

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at

Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Borsonia miyazakiensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 127, pl. 3, fig. 6, pl. 5, fig. 8

Holotype: GKL, no. 6036 (pl. 3, fig. 6), Paratype: GKL nos. 6037, 6048

Road side cutting at Hagenoshita, Uwaye-mura, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Borsonia shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 114, pl. 9, fig. 18

Holotype: USNM no. 562868

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at

Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Borsonia smithi hagenoshita* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 129, pl. 3, fig. 16, 17

Holotype: GKL, no. 4943

Road side cutting at Hagenoshita, Uwaye-mura, Koyu-gun,

Miyazaki Prefecture
Takanabe Member of the Miyazaki Group
Pliocene

***Bostrycapulus gravispinosus* (Kuroda and Habe, 1950)**
reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Bostrycapulus minoensis* (Itoigawa)** reported by Itoigawa et al. (1974) from the Miocene Akeyo Formation, Gifu Prefecture: see ***Crepidula minoensis* Itoigawa, 1960**

***Brachtoma kakeokensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 307, pl. 13, fig. 18

Holotype: GT no. Y-0018

Sea cliff at Tomiya, Minato-machi (sea cliff about 1 km SW of Kazasaminato railway station, Minato-machi, Kimitsu-gun (Futtsu City), Chiba Prefecture; 35°12'08"N, 139°51'05"E)
Tomita Tuffaceous Sandstone
Pliocene

***Brachycythara kyushuensis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 190, pl. 31, figs. 15-17

Holotype: GKM no. 6667

Northeast sea-cliff at Moeshima, Kagoshima City (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Brachytoma tosaensis* Nomura, 1937**

Japan. Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 88, pl. 6, figs. 12a-b

Holotype: IGPS no. 57390

Tonohama (Near the junction of the tributary and the small river, a short distance E of the road at Todani, N of Tonohama), Yasuda-cho, Aki-gun, Kochi Prefecture (Ananai Formation)

Pliocene

***(Drillia (Clathrodrillia) tosaensis* (Nomura)** by Hatai and Nisiyama (1952))

***Brochina glabella* (A. Adams)** reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture

***Brotia palaeocostula* Gurung, Takayasu and Matsuoka, 1997**

Paleont. Res., vol. 1, no. 3, p. 173, figs. 5-17 - 23

Holotype: TMNH no. 02130, Paratype: TMNH nos. 02131, 02132, 02133

Loc. no. F-72, at the right bank of the Jhumsakhola River,

about 600 m E of the confluence with the Tinaukhola River, Nepal

Upper Member of the Arung Khola Formation

Mio-Pliocene

***Buccinaria (Ootomella) loochooensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 120, pl. 15, figs. 5-9

Holotype: USNM no. 562985 (fig. 5)

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

***Buccinaria (Ootomella) miyagishimana* Noda, 1988**

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 58, pl. 11, figs. 5a-b

Holotype: IGUT no. 10864

Loc. No. 82-35, about 500 m N of Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Buccinaria okinawa* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 119, pl. 6, figs. 3, 9, pl. 10, figs. 2-3

Holotype: USNM, no. 562870 (pl. 10, figs. 2-3)

Loc. no. 17677, roadside exposure near base of hill on Highway 8 near "White Beach", U. S. Naval Piers, Okinawa Prefecture (pl. 10, figs. 2, 3)

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Buccinaria teramachii* (Kuroda, 1952)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Buccinum ainusawaense* Noda, 1992**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 62, nos. 1-2, p. 104, pl. 10, figs. 4a-b, pl. 11, figs. 9, 16, 18a-19b

Holotype: IGPS no. 100931, Paratype: IGPS no. 100932, 100933

Loc. No. CH55, middle stream of the Ainusawa, a tributary of the Haboro River; Paratype, Loc. CH59, upper stream of a tributary of the Detofutamata River a tributary of the Haboro River; River, Paratype, CH63, middle stream of the Nakafutamata River, a tributary of the Haboro River: Haboro-chi, Tomamae-gun, Hokkaido

Chikubetsu Formation

Middle Miocene

***Buccinum ampullaceum* (Middendorff)** reported by Ozaki (1954) from the Pliocene stratum in Chiba Prefecture

(precise formation unknown: ***Volutharpa ampullacea***)

Middendorff, 1848)***Buccinum aomoriensis* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 28, pl. 3, figs. 3a-b

Holotype: IGPS no. 90509

Loc. no. 6, left cliff of Chikagawa River, about 200 m from the sea shore, Chikagawa, Mutsu City, Aomori Prefecture

Hamada Formation

Pliocene (early Pleistocene)

***Buccinum darumanum* Noda, 1992**

Sci. Rep. Tohoku Univ., 2nd Se. (Geol.), vol. 62, nos. 1-2, p. 104, pl. 10, figs. 7a-8b, 10a-b, pl. 12, figs. 1a-b

Holotype: IGPS no. 100934, Paratype: IGPS nos. 100935-100937

Loc. No. CC32, upper stream of the Sankebetsu River, a tributary of the Chikubetsu River; Paratype, loc. CC34, the Sengakuzawa, a tributary of the Sankebetsu River; Paratype loc. CH55, the Ainusawa, a tributary of the Haboro River: Haboro-cho, Tomamae-gun, Hokkaido

Chikubetsu Formation

Middle Miocene

***Buccinum (Euthria) dinglese* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 122, pl. 9, figs. 19, 22-24

Holotype: GK-L no. 6935 (figs. 23, 24), Paratype: GK-L nos. 6956 (figs. 19, 22) and 7123 (loc. SKGS-75)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines: Paratype, loc. no. SKGS-75, 500 m N of SKGS-74, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Buccinum genbiense* Nomura, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 5, p. 97, pl. 3, figs. 9, 10

Holotype: SM no. 5594

A road-side cliff about 1 km S of the Nurusawa hot-spring, Genbi-mura, Nishiiwai-gun, Iwate Prefecture (39 °10'N, 140 °52'02"E)

(Nurusawa Formation)

Miocene

***Buccinum haboroense* Noda, 1992**

Sci. Rep. Tohoku Univ., 2nd Se. (Geol.), vol. 62, nos. 1-2, p. 105, pl. 10, figs. 12a-b

Holotype: IGPS no. 100938

Loc. CH18, middle stream of the Habaro River, Tomamae-cho, Totomae-gun, Hokkaido

Chikubetsu Formation

Middle Miocene

***Buccinum ishidai* Hayasaka, 1957**

Saito Ho-on Kai Mus., Res. Bull., no. 26, p. 29, text-figs. 2a-b

Holotype: IGPS, no. 77500

Loc. no. 6, road side cutting near the Kurosawa primary school, about 600 m E of the Kurosawa station, Sannai-mura,

Hiraga-gun, Akita Prefecture

Kurosawa Formation

Miocene

***Buccinum koyamai* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 82, pl. 5, fig. 34

Holotype: GT no. ?

A short distance N of Takenokawa, Miasa-mura, Kitaazumi-gun, Nagano Prefecture; 36 °35'N, 137 °56'E)

Ogawa Formation

Miocene

***Buccinum kuratai* Otuka, 1943**

Trans. Palaeont. Soc. Japan, no. 163, p. 62, pl. 3, fig. 8

Holotype: GT no. ?, Paratype, GT no. ?

Loc. no. 532 (Path-side cutting about 150 m S of the contact point of the two roads at Nango, Sannai-mura, Hiraga-gun, Akita Prefecture; 39 °14'31"N, 140 °40' 49"E)

Kurosawa Formation

Miocene

***Buccinum kurodai* Kanehara, 1937**

Bull. Imp. Geol. Surv. Japan, vol. 27, no. 1, p. 12, pl. 4, figs. 1, 2, 3

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Nagakura coal-mine, W of Yumoto-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture (37 °00'02"N, 140 °50'02"E)

Mizunoya Formation

Miocene

***Buccinum leucostoma* Lischke, 1871** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Nojima Formation, Kanagawa Prefecture

***Buccinum leucostoma* var. *sachalinensis* Yokoyama, 1929**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 2, part 9, p. 382, pl. 72, figs. 1, 2

Holotype: UT no. ?

River Uinii, North Sakhalin, Russia

Beds I in the "Upper Sandstone" (Nutovo Beds)

Pleistocene ?

(Junior homonym of *Buccinum sakhalinense* Dall, 1907; ***Buccinum matajroi* Makiyama, 1959** n. n.)

***Buccinum matajroi* Makiyama, 1959** n. n.

Palaeont. Soc. Japan, Spec. Pap., no. 5, explanation of pl. 70,

figs. 1, 2, Type-species; *Buccinum leucostoma* var. *sachalinensis* Yokoyama, 1929 (Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, part 9, p. 382, pl. 72, figs. 1, 2)
Holotype: UT no. ?
River Uinii, North Sakhalin, Russia
Beds I in the "Upper Sandstone" (Nutovo Beds)
Pleistocene ?

***Buccinum matchgarensis* Makiyama, 1934**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 10, no. 2 (Art. 6), p. 165, pl. 7, figs. 56, 57
Holotype: UK no. 100022 (by Oyama et al. (1960))
Cliff along the Cape Mary, western part of the abandoned village Matchgar in Schmidt Peninsula, Sakhalin
Matchgar horizon 4
Oligocene ?

***Buccinum middendorff* Verkrutzen** reported by Noda et al. (1984) from the Pliocene Yuchi Formation, Hokkaido

***Buccinum mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 76, pl. 3, figs. 12a-b
Holotype: ESN, no. 30023, Paratype: ESN no. ?
Loc. no. K73, Nakano-mura, Hakusan-cho, Ichishi-gun, Mie Prefecture
Oi Formation
Miocene

***Buccinum mogamiense* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 15, pl. 1, fig. 3
Holotype: SM no. 5843 (designated by Hatai and Nisiyama (1952)), Paratype: SM no. 5843
(Northeastern side cliff of the small valley about 170 m W of Furukuchi railway station of the Western Rikuu Line, and about 70 m S of the primary school at) Furukuchi, Furukuchi-mura (Tozawa-mura), Mogami-gun, Yamagata Prefecture (38°44'02"N, 140°08'37"E)
Furukuchi Formation
Miocene
(*Ancistrolepis mogamiensis* (Nomura and Zinbo) by Hatai and Nisiyama (1952))

***Buccinum multispirale* Noda, 1992**

Sci. Rep. Tohoku Univ., 2nd Se. (Geol.), vol. 62, nos. 1-2, p. 106, pl. 10, figs. 3a-b, 5a-b, 11a-b
Holotype: IGPS no. 100939, Paratype: IGPS nos. 100940, 100941
Loc. No. CH9, upper stream of the Migimatazawa, a tributary of the Haboro River; Loc. CH55, Ainusawa, a tributary of the Haboro River; Haboro-cho, Tomamae-gun, Hokkaido
Chikubetsu Formation
Middle Miocene

***Buccinum mutsuurensis* Shikama, 1969**

In Shikama and Masujima, 1969, Sci. Rep., Yokohama Nat. Univ. Sec. 2, no. 15, p. 89, pl. 6, fig. 5
Holotype: GIYU no. ?
Loc. no. 313, Nishigoyato, Mutsuura, Kanagawa-ku, Yokohama City, Kanagawa Prefecture
Nojima Formation
Pliocene

***Buccinum nakafutaense* Noda, 1992**

Sci. Rep. Tohoku Univ., 2nd Se. (Geol.), vol. 62, nos. 1-2, p. 106, pl. 10, figs. 9a-b
Holotype: IGPS no. 100942
Loc. CH63, middle stream of the Nakafutamata River, a tributary of the Haboro River, Haboro-cho, Tomamae-gun, Hokkaido
Chikubetsu Formation
Middle Miocene

***Buccinum nakamurai* Makiyama, 1934**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 10, no. 2, art. 6, p. 165, pl. 7, figs. 61-62
Holotype: GK no. ?
Yotsukura cliff (Sea cliff of Yotsukura-machi, Iwaki City, Fukushima Prefecture; 37°07'N, 141°E)
Asagai Formation
Oligocene

***Buccinum ochotense* (Middendorff)** reported by Iwai (1965) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture

***Buccinum roossicum* Dall, 1907** reported by Matsui (1985) from the Plio-Pleistocene Sasaoka Formation, Akita Prefecture

***Buccinum saitoi* Amano and Watanabe, 2001**

Paleont. Res., vol. 5, no. 3, p. 217, figs. 2-8, 2-9
Holotype: JUE no. 15701, Paratype: JUE no. 15702
Loc. no. 4, small outcrop on the Koide River, about 1.1 km upstream of its mouth, Shibata City, Niigata Prefecture
Kuwa Formation
Pliocene

***Buccinum schantaricum choshiensis* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 46, pl. 1, figs. 5a-b
Holotype: GIYU no.
Off Choshi, Chiba Prefecture (precise locality unknown)
Living Specimen
Recent

***Buccinum "shantaricum"* (Middendorff)** reported by Kanehara (1942) from the Plio-Pliocene (Pleistocene)

Shibikawa Formation, Akita Prefecture (New n. of *Buccinum wakimotoensis* by Hatai and Nisiyama (1952))

***Buccinum shibatensis* Amano and Watanabe, 2001**

Paleont. Res., vol. 5, no. 3, p. 217, figs. 2-3, 2-6
Holotype: JUE no.15699, Paratype: JUE no. 15700
Loc. no. 4, small outcrop on the Koide River, about 1.1 km upstream of its mouth, Shibata City, Niigata Prefecture
Kuwa Formation
Pliocene

***Buccinum sinanoense* Makiyama, 1927**

Chikyu (Globe), vol. 8, no. 2, p. 188, pl. 3, fig. 2
Holotype: GK no. ?
300 m N of Ichinose, Sakae-mura, Kamiminouchi-gun, Nagano Prefecture (36°37'N, 138°03'E)
Ogawa Formation
Miocene

***Buccinum striatissimum* Sowerby** reported by Amano (1994) from the Pliocene Kurokura Formation, Niigata Prefecture

***Buccinum suruganum kasimaensis* Ozaki, 1958**

Bull. National Sci. Mus. (Tokyo), no. 42, p. 152, pl. 9, fig. 10
Holotype: NSM no. 4402
Beach on the western end of Tokawa-mati (-machi), Ttosi (Choshi) City, Chiba Prefecture
Naarai Formation
Pliocene

***Buccinum tenue* Gray** reported by Noda et al (1983) from the Pliocene Yuchi Formation, Hokkaido

***Buccinum tenue rhodium* Dall, 1919** reported by Nakata and Amano (1991) from the Pliocene Nagasawa Formation, Niigata Prefecture

***Buccinum tsubai* Kuroda** reported by Noda et al. (1983) from the Pliocene Yuchi Formation, Hokkaido

***Buccinum undatum* Linnaeus var.** reported by Kochibe (1882) from the Miocene Tsurushihama (Taga) Formation, Ibaraki Prefecture (*Buccinum* n. sp. ? by Hatai and Nisiyama (1952))

***Buccinum unuscarinatum* Tiba** reported by Nakata and Amano (1991) from the Pliocene Nagasawa Formation, Niigata Prefecture

***Buccinum yatukanum* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 7, pl. 1, figs. 3a-b
Holotype: GS no. 60026

Lake cliff about 300 m NWW of Jyakusan, N of Fujina, Tamayu-mura (-machi), Yatsuka-gun, Shimane Prefecture (35°26'N, 133°02'E)
Fujina Formation
Miocene

***Buccinum yoroianum* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 153, pl. 15, fig. 6, pl. 17, fig. 10
Holotype: NSM, no. 4483 (pl. 17, fig. 10)
Road-side cutting 0.5 km SW of Tokoyoda-mati, Tyosi City (Tokoyoda-machi, Choshi City), Chiba Prefecture
Iioka Formation
Pliocene

***Bulbus fragilis* (Leach)** reported by Majima (1989) from the lower Miocene Honya Formation, Fukushima Prefecture: ***Natica fragilis* Leach, 1819**

***Bulimus (Parafossarulus) osawaensis* Kanno, 1954**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 3, no. 19, p. 80, pl. 6, figs. 1-3
Holotype: TKD no. 5890
A small valley about 100 m E of the Osawa-Pass on the road leading from Nakamura-machi to Kakuda-machi, Marumori-machi, Date-gun, Fukushima Prefecture
Osawa Formation
Lower Miocene

***Bulla multiarata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 29, pl. 1, fig. 14
Holotype: UT no. ? (CM no. 20763)
Shito (Shito, Ichihara City, Chiba Prefecture)
Kazusa Group (Semata Formation)
Pleistocene
(Synonymus with *Abderospira punctulata* (A. Adams) by Oyama (1973))

Bulla ovula* Sowerby** reported by Yokoyama (1922) from the Shimosa Group at Shisui, Chiba Prefecture (Holoa rotundata* (A. Adams)** by Oyama (1973))

***Buccinum mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 76, pl. 3, figs. 12a-b
Holotype: ESN no. 30023, Paratype: ESN no. ?
Loc. no. K73, Nakanoura, Hakusan-cho, Ichishi-gun, Mie Prefecture
Oi Formation
Miocene

***Bufonariella ranelloides* (Reeve)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture:

Bursa ramelloides* Reeve, 1844**Bullia (Adenus ?) chitanii* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 338, pl. 41, fig. 17

Holotype: GT no. ?

Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura, Ogawa-gun (Kakegawa City), Shizuoka Prefecture; 34 ° 47'01"N, 138 °E)

Satsuka Formation (Dainichi Formation, Kakegawa Group)

Pliocene

(*Nassarius (Caesia) demissus* (Yokoyama) by Makiyama (1958))

***Bullus vernicosus* (Gould, 1859)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Bursa nobilis* (Reeve, 1844)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Bursa (Bufonaria) ranelloides* (Reeve, 1844)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Bursa shinsorutonensis* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 77, pl. 7, figs. 23, 24

Holotype: IGPS no. 74317

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Hei roku Formation

Lower Miocene

***Bursa (Gyrineum) subgranosa* (Beck)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: ***Ranella subgranosa* Beck**

***Bursa yabei* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 141, pl. 17, figs. 14a-15b

Holotype: SHM no. ?

Okada (Cliff bordering stream immediately NW of Okada, Hanawa-machi, Higashishirakawa-gun, Fukushima Prefecture; 37 °01'N, 140 °26'03"E)

Tanagura Formation (Kubota Formation)

Miocene

(*Apollon yabei* (Nomura and Hatai) by Oyama (1961))

***Cadulus wangwaensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 93 (41), pl. 6 (1), fig. 3

Holotype: IGPS no. 52450

Wangwa, Hsinchu, Taiwan

Byotitu Bed

Pliocene (Pleistocene by Masuda and Huang (1990))

***Caecum (Micranellum) yotume* Nomura, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 271, pl. 38, fig. 16

Goroku cliff along the right bank of the Hirose-gawa River, Aoba-ku, Sendai City, Miyagi Prefecture (38 °16'N, 140 ° 49'E)

Tatsunokuchi Formation

Pliocene

Calcar haematraga* (Menke)** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (Astralium haematraga* (Menke)** by Masuda and Noda (1976))

***Calcar loochooensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 33, pl. 16, figs. 16-18

Holotype: USNM no. 563009

Loc. no. 17669, Bulldozer trench on south side of secondary road about 0.8 Mi SW of the road circle at Kadena, Okinawa Prefecture

Naha Formation

Pliocene (Pleistocene)

(***Astralium loochooensis* (MacNeil)** by Masuda and Noda (1976))

***Calliostoma (Tristichotrochus) aculeate* (Sowerby)** reported by Noda (1988) from the Shinzato Formation, Okinawa Prefecture; ***Calliostoma aculeatum* Sowerby, 1912**

***Calliostoma (Akoya) akoya* Ikebe, 1942**

Japan. Jour. Geol. Geogr., vol. 18, no. 4, p. 257

Holotype: Hirase Coll. (noted as destroyed in the last war by Shikama (1962))

Off Okinose, Sagami Bay

Living specimen 500 fathoms in depth

Recent

***Calliostoma (Tristichotrochus) batoensis* Hatai and Nisiyama, 1949**

Jour. Geol. Soc. Japan, vol. 46, no. 544, p. 92, pl. 24, fig. 1

Holotype: GS no. 72515

North cliff of the Mumo-gawa, about 150 m E of the bridge SW of Bato-machi, Nasu-gun, Tochigi Prefecture (36 ° 43'06"N, 140 °10'E)

Karasuyama Formation

Miocene

(***Turcica batoensis* (Hatai and Nisiyama)** by Oyama (1961))

***Calliostoma cecillei* (Philippi)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan:

Trochus cecillei* Philippi, 1849**Calliostoma cipangoanum* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, Art. 6, p. 93, pl. 5, fig. 23

Holotype: UT no. ? (CM no. 20282, noted as missing by Oyama (1973))

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)

Yokosuka Zone

Pleistocene

(*Calliostoma* (*Tristichotrochus*) *shinagawaense* *cipangoanum* Yokoyama by Oyama (1973))

Calliostoma (*Tristichotrochus*) *consors* (Lishke) reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture

Calliostoma formosense (E. A. Smith) reported by Tomida (1996) from the Osozawa Member of the Akebono Formation, Yamanashi Prefecture

Calliostoma (*Calotropis*) *haliarchus* (Melvill) reported by Ikebe (1942) from the Pliocene (Pleistocene) Umegase Formation, Chiba Prefecture

***Calliostoma* (*Calotropis*) *hataii* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 201, pl. 5, figs. 10-12

Holotype: TKD, no. 5855 (figs. 11a-b), Paratype: TKD no. 5856, 5860

Loc. No. 207, a river side exposure near a fall, Nenokami in Hikokubo, Yoshida-machi, Saitama Prefecture; Paratype, loc. No. 208, a small valley cliff, about 500 m N of Ashida, Yoshida-machi; loc. No. 201, a right river side exposure, about 70 m downstream of Gohei bridge, Obashira, Chichibu City, Saitama Prefecture

Nenokami Formation

Oligocene (Early Miocene)

***Calliostoma ikebei* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 140, pl. 8, figs. 14, 15

Holotype: NSM, no. 4397

Beach on the western end of Tokawa-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Na-arai Formation

Pliocene

***Calliostoma* (*Pulchrastele*) *ikebei* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 25, pl. 16, figs. 3, 8

Holotype: USNM, no. 562999

Loc. no. 17497a, edge of Chinen plateau overlooking Baten-ko above the village of Sashiki, Okinawa Prefecture

Naha Formation

Pliocene (Pleistocene)

(Homonymus with above species: *Calliostoma macneili* Masuda and Noda, 1976)

***Calliostoma ishii*anum Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 1, part 9, p. 373, pl. 43, fig. 10

Holotype: UT no. ?

Tonami, Takatoyo-mura, Atsumi-gun (Toyohashi City), Aichi Prefecture

Upper Clay (Toyohashi Formation)

Pleistocene (middle Pleistocene)

(Synonymus with *Calliostoma multiliratum* (Sowerby) by Makiyama (1958))

***Calliostoma kalavinka* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 285, pl. 33, fig. 19

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene

(*Turbo kalavinkum* (Yokoyama) by Hatai and Nisiyama (1952): immature form of Buccinid by Makiyama (1958): *Ariadna kalavinka* (Yokoyama) by Oyama (1961))

***Calliostoma kiheiziebisu* Otuka, 1939**

Venus, vol. 9, no. 1, p. 28, text-figs. a-b

Holotype: EQRIUT no. 5000

Kashimanada, Ibaraki Prefecture

Living specimen; 600 m depth

Recent

***Calliostoma* (*Otukaia*) *kiheiziebisu akimotoense* Ikebe, 1942**

Japan. Jour. Geol. Geogr., vol. 18, no. 4, p. 278, pl. 27, figs. 11a-c

Holotype: GK no. ?

Higashihigasa, Akimoto-mura, Kimitsu-gun, Kazusa (Cliff of the Koito-gawa, about 500 m SW of Higashihigasa, Kimitsu City, Chiba Prefecture; 35°14'02"N, 140°E)

Umegase Formation

Pliocene (Pleistocene)

***Calliostoma* (*Astele*) *kikaianum* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 161, pl. 5, fig. 21

Holotype: IGPS no. 50610

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture Ryukyu Limestone (Wan Formation),

Pleistocene

***Calliostoma kounjianum* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 347, pl. 67, fig. 10

Holotype: GT no. ?

Kounji (Road-side cutting at the N foot of the hill, a short distance W of the bridge at Kounji, Takanabe-machi, Koyu-gun, Miyazaki Prefecture; 37°07'11"N, 131°30'10"E) (Kounji Formation)

Pliocene

(*Calliostoma (Otukaia) kounjianum* Yokoyama by Hatai and Nisiyama (1952))

***Calliostoma (Pulchrastele) macneili* Masada and Noda, 1976**

Spec. Pub. Saito Ho-on Kai, no. 1, p. 9.

Holotype: USNM no. 562999

Edge of the Chinen plateau, south of Sashiki, Sashiki-mura, Yanabaru-gun, Okinawa Prefecture

Naha Limestone

Pliocene

(New name for *Calliostome (Pulchrastel) ikebei* MacNeil, 1960; U. S. Geol. Surv., Prof. Pap., 339, p. 25, pl. 16, figs. 3, 8 (preoccupied by Ozaki (1958))

***Calliostoma (Tristichotrochus) miyokoae* Kamada, 1962**

Palaeont. Soc. Japan, Spec. Pap., no. 8, p.146, pl. 18, figs. 5a-7b

Holotype: IGPS no. 79389 (figs. 5a-b)

Numanouchi harbor, Toyoma-machi, Taira City (Iwaki City), Fukushima Prefecture

Numanouchi Formation

Miocene

***Calliostoma multiliratum* (Sowerby, 1875)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Calliostoma (Tristichotrochus) myonchonensis* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 72, pl. 7, figs. 6-8

Holotype: IGPS no. 74315

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, Korea (North Korea)

Heiroku Formation

Early Miocene

***Calliostoma (Tristichotrochus) nahaensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 25, pl. 16, figs. 2, 7

Holotype: USNM no. 562998

Loc. no. 17484, road cut on south side of Highway 60 about 0.6 Mi W of the junction with Highway 3, Okinawa

Prefecture

Naha Formation

Pliocene

(*Calliostoma (Tristichotrochus) nahaensis* MacNeil by Masuda and Noda (1976))

***Calliostoma (Fautor) namuchakuensis* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 73, pl. 7, figs. 18-20

Holotype: IGPS no. 74316, Paratype: IGPS no. 74316

Namuchaku, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, Heirokudo, North Korea

Heiroku Formation

Lower Miocene

***Calliostoma otaniensis* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 331, pl. 36, figs. 7a-b

Holotype: DGS no. 1406 transferred to IGPS no. 90736

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu Cirt, Ishikawa Prefecture; 37°29'41"N, 137°19'28"E

Higashi-Innai Formation

Miocene

***Calliostoma sagamianum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 92, pl. 6, fig. 1

Holotype: UT no. ? (CM no. 20283)

Naganuma (Road-side cutting at Naganuma, Tostuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Lower Musashino=Pliocene (Pleistocene)

(Synonymus with *Calliostoma (Tristichotrochus) consors* (Lischke) by Hatai and Nisiyama (1952) and Oyama (1973))

***Calliostoma semigranatum* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 216, pl. 10, figs. 17a-b

Holotype: IGPS no. 53838

Wangku, station 15 (Ando), Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

***Calliostoma (Tristichotrochus) shinagawaense cipangoanum* Yokoyama, 1920** (Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 93) reported by Ikebe (1942) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture: see *Calliostoma cipangoanum* Yokoyama, 1920

***Calliostoma simane* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 8, pl. 1, figs. 5a-c

Holotype: GS no. 60005

Small road-side cutting, 150 m N of the pond and about 400 m SEE of Shinji Station, Shinji-cho, Yatsuka-gun, Shimane Prefecture; 35°24'N, 132°55'E

Kimachi Formation

Miocene

(*Calliostoma (Calotropis) simane* Nomura and Hatai by Hatai and Nisiyama (1952))

***Calliostoma subunicum* Yokoyama, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt 6, p. 238, pl. 1, fig. 11

Holotype: GT no. ?

In the Gengoro-zawa, a branch of the Urashima-gawa, Numata-mura (-machi), Uryu-gun, Ishikari Province, Hokkaido (Precise locality unknown)

Middle Okada (Okada Formation)

Miocene

(*Homalopoma subunicum* (Yokoyama) by Oyama (1961))

Calliostoma ticanonicum (A. Adams, 1851) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Calliostoma unicum (Dunker) reported by Yokoyama (1926) from the Pliocene Satsuka (Dainichi) Formation, Shizuoka Prefecture; *Trochus unicum* Dunker

Calliostoma unicum var. *shinagawensis* Tokunaga reported by Yokoyama (1922) from the Shimosa Group, Chiba Prefecture: see *Trochus (Calliostoma) shinagawensis* Tokunaga, 1906

***Calyptraea aokii* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 117, pl. 4, figs. 1, 2

Holotype: TKD no. 10184

Loc. A28, cliff along the tributary of the Kobisa-gawa, a little west of Oyamada, Hisanaohama-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

***Calyptraea (Calyptoraea ?) aramakii* Shikama, 1973**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 6 (Hatai Com. Vol.), p. 198, pl. 16, figs. 19, 20

Holotype: GIYU no. M-5

Loc. no. 6, valley bottom of Osakuyato, Taura, Yokosuka City, Kanagawa Prefecture; 35°16'40"N, 139°37'30"E

Zushi Formation

Miocene

***Calyptraea hataii* Saito, Bando and Noda, 1970**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 284, pl. 31, figs. 15, 16

Holotype: IGPS no. 86748

Loc. no. 1, (cliff about 300 m W of Abuzaki) Teshima Island, Tonosho-cho, Shodo-gun, Kagawa Prefecture

Teshima Formation

Miocene (Eocene)

***Calyptraea imadomariensis* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 3, p. 181

Holotype: IGPS no. 36154

Southern coast of Kakunoura-jima, Sakito-machi, Nishisoogi-gun, Nagasaki Prefecture

Maze Formation

Lower Oligocene

Calyptraea mammillaris Broderip reported by Yokoyama (1924) from the Miocene (Oligocene) Asagai Formation, Fukushima Prefecture (non Broderip, *Calyptraea tokunagai* Hatai and Nisiyama, 1952 n. n.)

***Calyptraea sorachiensis* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 3 (591), pl. 1, figs. 6a-b

Holotype: GSJ no. 5030

Naie-machi, Sorachi-gun, Hokkaido

Wakkanabe Formation

Oligocene

***Calyptraea striata* Kanno, 1958**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 4, no. 55, p. 212, pl. 6, figs. 18a-19

Holotype: TKD no. 5872 (fig. 18), Paratype: TKD no. 5873

Loc. No. 615, a left river side cliff, about 100 m downstream of the Arakawa bridge, Arakawa-mura, Chichibu-gun, Saitama Prefecture

Nagura Formation

Lower Miocene

***Calyptraea taiwanensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 197, pl. 9, figs. 39a-b

Holotype: IGPS no. 53802

500 m E of Sankwako, station 41, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Bed

Pliocene (Pleistocene)

***Calyptraea tokunagai* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol., no. 3, p. 181 (no description)

Holotype: GT no. ? (noted as destroyed in Oyama et al.)

(1960))

Akiyama, Uchio City, Fukushima Prefecture
Asagai Formation

Upper Oligocene

(Invalid: *Calyptraea tokunagai* Hirayama, 1955 by Masuda and Noda (1976))

***Calyptraea tokunagai* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C. vol. 4, no. 29, p. 116, pl. 4, figs. 3-5

Holotype: TK no. ?

Akiyama, Uchigo, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

(Invalid by Hatai and Nisiyama (1952; Sci. Re., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol., no. 3, p. 181) and valid by Hirayama (1955) as described by Masuda and Noda (1976; Spec. pub. Saito Ho-on Kai, no. 1, p. 13-14))

***Calyptraea tubura misatoensis* Araki, 1960**

Bull. Lib. Arts Dep., Mie Univ. Spec. Vol. no. 1, p. 108, pl. 9, figs. 3

Holotype: Mie Univ., no. ?

Near the paddy-field about 300 m E of Katsurahata, Misato-mura, Age-gun, Mie Prefecture

Furutaike Formation

Miocene

***Calyptraea yokoyamai* Kuroda** reported by Aoki and Baba (198) from the Pliocene Nobori Formation, Kochi Prefecture

***Calyptraea yokoyamai tubura* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 625, pl. 49, figs. 79, 79a, pl. 50, fig. 78b

Holotype: GT no. 1592

Southeast valley of Shiratori, about 400 m SE of the temple at Shiratori, Nisatai-mura, Nonohe-gun (Nihone City), Iwate Prefecture (40°14'05"N, 141°20'23"E)

Shiratori (Kadonosawa Formation)

Miocene

***Campanile hahajimense* Noda and Tanaka, 1996**

Prof. H. Igo Commem. Vol., p. 130, fig. 3-a ~ d

Holotype: IGUT no. 11827

Loc. No. 1, seaside cliff of Nishiura, Haha-jima, Ogasawara-mura, Tokyo Prefecture

Okimura Formation

Middle Eocene

Canarium (Labiostrombus) japonicum* (Reeve)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (Doxander japonicum* (Reeve)** by Masuda and Noda (1976))

***Cancellaria bocagena* Crosse and Debeaux** reported by Yokoyama (1926) from the Pliocene Satsuka (Dainichi) Formation, Shizuoka Prefecture (non Crosse and Debeaux; ***Trigonostoma kurodai* Makiyama** by Hatai and Nisiyama (1952))

***Cancellaria chinensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 99, pl. 14, fig. 12

Holotype: USNM no. 562965

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

Cancellaria crispate* Sowerby** reported by Yokoyama (1923) from the Pliocene Dainichi Formation, Shizuoka Prefecture (Trigonostoma kurodai* Makiyama** by Hatai and Nisiyama (1952))

***Cancellaria hukusimana* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 134, pl. 17, figs. 6a-b

Holotype: SM no. 2677

Nisigoto (Road cliff about 2 km NW of Nishigoto on road leading to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36°59'03"N, 140°22'E)

Tanagura Formation

Miocene

***Cancellaria ishijimae* Hirayama, 1975**

St. Paul's Rev. Sci., vol. 3, no. 4, p. 184, text-figs. 1a-b

Holotype: GLR no. 1671 (text-figs. 1a-b), Paratype: GLR no. 1672

Roadside cliff, a little west of Numanouchi, Iwaki City, Fukushima Prefecture

Shimizu Sandstone Member of the Takaku Formation

Middle Miocene

***Cancellaria kimikoe* Hatai, 1940**

Bull. Biogeogr. Soc. Japan, vol. 10, no. 8, p. 115, figs. 1, 2

Holotype: GS no. 61391

Kozai-mura, Igu-gun, Miyagi Prefecture (Path-side cutting, a short distance S of the two ponds about 700 m E of Yamaguchi, Kozai-mura (Marumori-machi), Igu-gun, Miyagi Prefecture; 37°54'16"N, 140°50'05"E)

Kozai (Hazama Formation)

Miocene

Cancellaria kobayashii* (Yokoyama)** reported by Hatai and Nisiyama (1940) from the Pliocene (Pleistocene) Umegase Formation, Chiba Prefecture (Cancellaria (Merica) kobayashii* (Yokoyama)**); see ***Mitra kobayashii* Yokoyama, 1927)**

***Cancellaria kochiensis* Katto, 1960**

Res. Rep., Kochi Univ., vol. 9, no. 9, p. 110, pl. 1, fig. 5

Holotype: Kochi Univ., no. ?

Ueno, Misaki, Tosashimizu City, Kochi Prefecture

Misaki Formation

Oligocene

Cancellaria kurodai* (Makiyama)** reported by Hatai and Nisiyama (1940) from the Pliocene Konomine (Nobori) Formation, Kochi Prefecture (Trigonostoma* (*Scalpta*) *kurodai* (Makiyama)** by Hatai and Nisiyama (1952))

***Cancellaria limata* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 342, pl. 66, fig. 12

Holotype: GT no. ?

River floor of the Komaru-gawa, near the bridge S of Takajomachi, Kiho-mura, Koyu-gun, Miyazaki Prefecture (32°09'33"N, 131°28'33"E)

Tagajo Formation

Pliocene (Miocene)

(***Trigonostoma* (*Scalpta*) *limatum* (Yokoyama)** by Hatai and Nisiyama (1952))***Cancellaria lischkei* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 264, pl. 32, fig. 17

Lectotype: GT no. (designated by Hatai and Nisiyama (1952))

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(Synonymus with ***Admete japonica* (Smith)** by Hatai and Nisiyama (1952): ***Cancellaria japonica lischkei* (Yokoyama)** by Makiyama (1958))***Cancellaria longispirata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 265, pl. 32, fig. 10

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

Cancellaria* (*Cancellaria*) *macrospira* Adams and Reeve, 1850** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (Trigonostoma macrospira* (Adams and Reeve)** by Masuda and Haung

(1990))

***Cancellaria muratana* Nomura and Onishi, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 185, pl. 17, fig. 4

Holotype: SM no. 21695

Vicinity of Adachi, Murata-machi, Shibata-gun, Miyagi Prefecture (River cliff, 150 m W of bridge 500 m W of Adachi, Murata-machi, Shibata-gun, Miyagi Prefecture; 38°07'01"N, 140°42'04"E)

(Murata Formation)

Miocene

***Cancellaria murayamai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 384, pl. 44, fig. 3

Holotype: GT no. ?

Manganji (Small cliff behind Manganji, Otomo-mura, Yuri-gun (Honjo City), Akita Prefecture; 39°20'N, 140°05'05"E)

Wakimoto (Sasaoka Formation)

Pliocene

(***Admete murayamai* (Yokoyama)** by Hatai and Nisiyama (1952))***Cancellaria mutsuana* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 29, pl. 4, figs. 1a-3

Holotype: IGPS no. 90457 (figs. 1a-b)

Loc. no. 6, left cliff of Chikagawa River, about 200 m from the sea shore, Chikagawa, Mutsu City, Aomori Prefecture

Hamada Formation

Pliocene (early Pleistocene)

***Cancellaria* (*Habesolatia*) *nodulifera* Sowerby, 1925**

reported by Ogasawara (1977) from the Pliocene (Pleistocene) Omma Formation, Ishiakwa Prefecture

Cancellaria pristina* (Yokoyama)** reported by Hatai and Nisiyama (1940) from the Pliocene Konomine (Nobori) Formation, Kochi Prefecture (Cancellaria* (*Merica*) *pristinea* (Yokoyama)** by Hatai and Nisiyama (1952): see ***Mitra pristinea* Yokoyama, 1923**)

***Cancellaria* (*Sydaphera*) *pristina acutiplicata* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 74, pl. 10, fig. 6, pl. 13, figs. 4, 5

Holotype: GKL no. 6197 (pl. 13, fig. 4), Paratype: GK-L no. 6198, 6232

Cutting along the high-way on the south slope of the hill, at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Formation

Pliocene

***Cancellaria rara* Aoki, 1954**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 3, no. 17, p. 38, pl. 2, fig. 17

Holotype: TKD no. 5925

Cliff of small valley, Donosaku, Kamikatayose, Kabeya (Iwaki City), Fukushima Prefecture

Kabeya Formation (Mizunoya Formation)

Miocene (Early Miocene)

***Cancellaria (Cancellaria) reeveana* Crosse, 1861** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture; and also reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Cancellaria (Merica) reevei laticostata* (Lobbecke)** reported by Shuto (1962) from the Mio-Pliocene (Plio-Pleistocene) Takanabe Member of the Miyazaki Group, Miyazaki Prefecture

***Cancellaria spengleriana* Deshayes, 1843** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture

***Cancellaria (Narona) splengleriana koreanica* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 83, pl. 7, figs. 3, 5

Holotype: IGPS no. 74314

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Hei roku Formation

Lower Miocene

***Cancellaria tabatai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 265, pl. 32, fig. 2

Holotype: UT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Admete tabatai* (Yokoyama) by Hatai and Nisiyama (1952))

***Cancellaria (Trigonostoma) taiwanensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 132, pl. 6, figs. 60a-b

Holotype: IGPS no. 48985

Siko, Kosyun-syo, Kosun-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

(*Trigonostoma taiwanensis* (Nomura) by Masuda and Huang (1990))

***Cancellaria yonabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 98, pl. 5, fig. 4

Holotype: USNM no. 562741

Loc. no. 17445, fossiliferous bed at base of low hill on south side of Highway 40 about 1.0 Mi W of the junction of Highways 13 and 137 in Yonabaru, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Cancelrana lischkei pauciplicata* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 12, no. 1, p. 77, pl. 9, figs. 2, 6, pl. 11, figs. 5, 9, text-fig. 14

Holotype: GK-L no. 6206 (Hagenoshita), Paratype: GK-L no. 6200, 6201 (Nihonmatsu), 6202, 6203 (Hagenoshita)

Cutting along the high-way on the south slope of the hill at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture; Paratype, cutting along the high-way at the foot of the hill, Nihonmatsu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Miocene to Pliocene

***Cancelrana yokoyamai pauciplicata* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, pl. 11, figs. 5, 9

Holotype: GKL no. 6205

Miyazaki Prefecture

Takanabe Formation

Pliocene

(Misprint of specific name: *Cancelrana lischkei pauciplicata* Shuto by Masuda and Noda (1976): see above)

***Cancilla abyssicola* (Schepman)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture:

***Mitra abyssicola* Schepman, 1911**

***Cancilla yokoyamai* (Nomura)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture:

***Mitra (Scabricola) yokoyamai* Nomura, 1935**

***Cantharidus (Thalotia) japonicus* (A. Adams)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Zyzyphinus japonicus* A. Adams, 1851**

***Cantharidus mizunamiensis* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 8, pl. 2, figs. 7a-9b

Holotype: MFM no. 10059 (fig. 7), Paratype: MFM no. 10060 (fig. 8)

Dan, Toki-cho, Mizunami City, Gifu Prefecture

Nataki Conglomerate

Middle Miocene

***Cantharus (Hanetia) bucklandi* (d'Archiac, 1850)** reported

by Shuto (1962) from the Upper Miocene Tonogori Member of the Miyazaki Group, Miyazaki Prefecture

***Cantharus cecillei* (Philippi)** reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Cantharus okinawa* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 77, pl. 8, fig. 20

Holotype: USNM no. 562828

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Cantharus totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 114, pl. 5, figs. 21, 22

Holotype: GK no. 236

Honohashi (About 500 m W of Honohashi, Kakegawa City, and 2.5 km N of Kakegawa railway station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'05"E)

Dainichi Formation

Pliocene

***Cantharus totomiensis balani* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 115, pl. 5, figs. 19, 20

Holotype: GK no. 243

Honohashi (About 150 m W of Honohashi, Kakegawa City, and 2.5 km N of the Kakegawa railway station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainich Formation

Pliocene

***Cantharus wangwaensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 2, p. 150, pl. 8, figs. 18a-b

Holotype: IGPS no. 53581

Wangwa, station 19 (Ando), Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Haung (1990))

***Cantharus yatsuoensis* (Tsuda)** reported by Nakagawa (1998) from the Miocene Kunimi Formation, Fukui Prefecture: see ***Fusitriton yatsuoensis* Tsuda, 1959**

***Capulus dilatatus* Adams** reported by Aoki and Baba (1984) from the Pleistocene Narita Formation, Chiba Prefecture

***Capulus natorianus* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 21, no. 1,

p. 36, pl. 3, fig. 18

Holotype: SM no. 19933

Road-side cutting near the Akyu electric car station at Kita-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture (38°13'N, 140°45'E)

Moniwa Formation

Miocene

***Capulus oyamai* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 15. as designated type of Yokoyama, 1922 (Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 44, art. 1, p. 82, pl. 4, fig. 9)

Holotype: CM, no. 20982

Kamenari, Inzai-cho, Imba-gun (Inzai City), Chiba Prefecture

Imba Group

Pleistocene

(New. n. by Oyama (1954; In Taki and Oyama, Spec. Pap., Palaeont. Soc. Japan, no. 2, p. 16, pl. 24, fig. 9 (reproduced from Yokoyama's original figure)) was invalid name)

***Capulus takanabeensis* Otuka, 1939**

Venus, vol. 9, no. 2, p. 92 and 95, pl. 4, figs. 19-21

Holotype: GT no. 4217, Paratype: GT no. 4217

Northern cliff of the Komaru-gawa, a short distance W of the main road near Hagenoshita, Uwae-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture (32°08'27"N, 131°31'04"E) (Kounji Formation, Miyazaki Group)

Pliocene

***Capulus tosaensis* Otuka, 1939**

Venus, vol. 9, no. 2, p. 93 and 96, figs. 1-3

Holotype: Wakayama Pref. Mus., no. ?

Tosa Bay, Kochi Prefecture

Living specimen 250 fathoms in depth

Recent

***Capulus yokoyamai* Oyama, 1954**

In Taki and Oyama (1954), p. 16, pl. 24, fig. 9

Holotype: UT no.?, Type; *Capulus badius*, Yokoyama (1922: p. 82, pl. 4, fig. 9)

Kamenari, Omori-mura, Imba-gun (Inzai City), Chiba Prefecture

Imba Formation

Pleistocene

(***Capulus oyamai* Masuda and Noda, 1976** by Masuda and Noda (1976))

***Caricella fosteri* MacNeil, 1964**

U. S. Geol Surv., Prof. Pap. 339-B, p. B6, pl. 2, figs. 7-11, 13-16

Holotype: USNM no. 638668 (figs. 15, 16)

Seacoast west of the village of Ibaruma, Ishigaki-shima, Ryukyu Islands (Ishigaki City), Okinawa Prefecture

Miyara Formation
Eocene

“*Carinacca*” *mitsuganoensis* (Shibata) reported by Oyama et al. (1993) from the late Early Miocene Oi Formation, Mie Prefecture as a comb. name for *Euspira mitsuganoensis* Shibata, 1970

***Cassis gracilenta* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 46, pl. 3, fig. 4
Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Intoshi, Shinchik Province, Taiwan

Lower Byoritz Beds

Pliocene

(*Semicassis gracilenta* (Yokoyama) by Makiyama (1960):
Casmaria gracilenta (Yokoyama) by Masuda and Huang (1990))

Cassis japonica Reeve reported by Yokoyama (1925) from the Pliocene Shirado Formation (Miocene Taga Formation), Ibaraki Prefecture (*Semicassis japonica* (Reeve) by Hatai and Nisiyama (1952))

Cassis pila Reeve reported by Kochibe (1882) from the Miocene Tsurushihama (Taga) Formation, Ibaraki Prefecture (*Semicassis pila* (Reeve) by Hatai and Nisiyama (1952))

***Cellana depressa* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 6, pl. 2, figs. 10, 11a-b
Holotype: MFM no. 10052 (fig. 11), Paratype: MFM no. 10053 (fig. 10)

Oginoshima, Toki-cho, Mizunami City, Gifu Prefecture

Shukunohora faicies, Akeyo Formation

Middle Mioene

Cellana grata (Gould) reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

Cellana toreuma (Reeve, 1855) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Ceratostoma aduncum (Sowerby) reported by Iwai and Shiobara (1969) from the Pleistocene Noheji Formation, Aomori Prefecture (*Ceratostoma (Ocenebra) aduncum* (Sowerby) by Masuda and Noda (1976))

Ceratostoma burnetti (Adams and Reeve) reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

Ceratostoma endermonis (Smith) reported by Iwai and Shiobara (1969) from the Pleistocene Noheji Formation,

Aomori Prefecture (*Ceratostoma (Ocenebra) endermonis* (Smith) by Masuda and Noda (1976))

Ceratostoma fournieri (Crosse) reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

Ceratostoma japonicum (Dunker) reported by Iwai and Shiobara (1969) from the Pleistocene Noheji Formation, Aomri Prefecture (*Ceratostoma (Ocenebra) japonica* (Dunker) by Masuda and Noda (1976))

Ceratostoma makiyamai (Hatai and Kotaka) reported by Amano (1998) from the Miocene Heiroku Formation, North Korea: *Tritonalia (Pterorhytis) makiyamai* Hatai and Kotaka, 1952

***Ceratostoma ozawai* Tomida and Tanaka, 1998**

In Ozawa, Tanaka and Tomida, 1998; Nagoya Univ., Furukawa Mus., Spec. Rep., no. 7, p. 45, pl. 8, figs. 9a-b

Holotype: ESN no. 2821, Paratype: ESN nos. 2822-2925

North facing road-cut at Gomyo, Kakegawa City, Shizuoka Prefecture; 34°37'25"N, 138°00'26"E

Dainichi Formatio, Kakegawa Group

Pliocene

Cerithidea (Cerithideopsilla?) babylonica (Martin) reported by Shuto (1978) from the Upper Miocene of Sela hill, Java, Indonesia: *Potamides babylonicus* Martin, 1887

Cerithidea (Cerithideopsilla) bandongensis (Martin) reported by Shuto (1978) from the Upper Miocene of Tjilintoenf, Preanger, Java, Indonesia: *Cerithium bandongense* Martin, 1879

Cerithidea (Cerithideopsilla?) cheribonensis (Martin) reported by Shuto (1978) from the Pliocene of Tji Djadjar, Semarang, Java, Indonesia: *Potamides cheribonensis* Martin, 1906

Cerithidea cingulata (Gmelin) reported by Nomura (1935) from the Miocene Chiganoura Formation, Miyagi Prefecture (*Cerithidea (Cerithideopsilla) cingulata* (Gmelin) by Hatai and Nisiyama (1952))

Cerithidea (Cerithideopsilla) djadjariensis (k. Martens) reported by Hayasaka (1960) from the Pleistocene Kutatsubo Formation, Kanagawa Prefecture: *Potamides (Cerithidea) djadjariensis* Martin, 1899

***Cerithidea gravallosa* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 183, pl. 15, figs. 35a-38

Holotype: SM no. 6187

Southern end of the Park at Yanagawa-machi, Fukushima

Prefecture (River cliff of the Hirose-gawa River at the southeastern end of the Yanagawa Park, a tributary of the Abukuma-gawa River, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)
Yanagawa
Miocene

***Cerithidea ishikariensis* Yokoyama, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt 6, p. 236, pl. 1, fig. 5

Holotype: GT no. ? (designated by Hatai and Nisyama (1952)), Paratype: GT no. ? (pl. 1, figs. 4, 6, 7)

In the upper course of the Okada-gawa, Numata-mura (-machi), Uryu-gun, Ishikari Province, Hokkaido (Precise locality unknown); Paratype (fig. 7), In the Tsumeta-zawa, a branch of the Urashima-gawa, Numata-mura (-machi), Uryu-gun, Ishikari Province, Hokkaido (Precise locality unknown)

Lower Okada Formation, Uryu Group
Miocene (Lower Oligocene)

***Cerithidea (Cerithideopsilla) jenkinsi* (Martin)** reported by Shuto (1978) from the Pliocene of Sonde, Java, Indonesia:
***Cerithium jenkinsi* Martin, 1880**

***Cerithidea (Cerithideopsilla) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 279, pl. 3, figs. 13a-14

Holotype: ESN no. 20046 (figs. 13a-b), Paratype: ESN no. 20047

Loc. No. S24-1, Tsukiyoshi (Akeyo-cho), Mizunami City, Gifu Prefecture
Tsukiyoshi Facies of the Akeyo Formation
Miocene

***Cerithidea morchii* A. Adams, 1855** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Cerithidea ohiroi* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 1, pl. 1, figs. 5a-6b

Holotype: DGS no. 4577 transferred to IGPS no. 90811 (figs. 6a-b)

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E
Higashi-Innai Formation
Miocene

***Cerithidea ozakii* Nomura, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 229, pl. 17, fig. 22
Holotype: SM no. 6224

Railway-side cutting at the south entrance of the second tunnel from the Higashi-Shiogama Station of the Senseki Line, Shiogama City, Miyagi Prefecture (38°19'44"N, 142°

02'22"E)

Chiganoura Formation

Miocene

(***Cerithium ozakii* (Nomura)** by Oyama (1961))

***Cerithidea (Cerithideopsilla) prenagerensis* (Martin)**

reported by Shuto (1978) from the Middle Miocene Njalindoeng beds, south of Njalingoeng, Java, Indonesia:
***Potamides (Cerithidea) preangerensis* Martin, 1899**

***Cerithidea (Cerithideopsilla?) puruensis* (Martin)**

reported by Shuto (1978) from the Middle Eocene Nanggolean bed at Kali Poeroe, Java, Indonesia: ***Rhinoelavis (Pseudovertagus) puruensis* Martin, 1914**

***Cerithidea rhizophorarum* A. Adams**

reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (***Cerithidea rhizophorarum* A. Adams** by Masuda and Noda (1976))

***Cerithidea sinanonis* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 71, pl. 9, figs. 66, 67

Holotype: GK no. ?, Paratype: GK no. ?

River cliff of the Sai-kawa, about 500 m E of Jinda, Minochi-mura (Shinshushin-machi), Kamiminochi-gun, Nagano Prefecture (36°35'N, 138°03'E)

Ogawa Formation

Miocene

(***Cerithidea sinanoensis*** in original explanation)

***Cerithidea (Cerithideopsilla) sirakii* Makiyama, 1936**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 11, no. 4, art. 8, p. 221-222, pl. 5, figs. 10, 15

Holotype: GK no. ?

Kinsei, North Korea

Lower Banko Sandstone

Miocene

***Cerithidea (Cerithideopsilla) sucabumiana* (Martin)**

reported by Shuto (1978) from the Middle Miocene of Njalindoeng, Java, Indonesia: ***Potamides (Cerithidea) sucabumianus* Martin, 1899**

***Cerithidea sugaii* Mizuno and Fujii, 1957**

Venus, vol. 19, nos. 3-4, p. 255, text-figs. 3a-5

Holotype: GSJ no. 5015 (figs. 3a-d), Paratype: GSJ nos. 5016, 5017 (figs., 4, 5)

Loc. no. 6, (river side cliff) east of Taki, Kadono village (Iwaki City), Fukushima Prefecture

Taki Formation (Kunugidaira Formation)

Miocene (early Miocene)

***Cerithidea (Cerithideopsira) tokunagai* Otuka, 1938**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 2, p. 39, pl. 3, fig. 29

Holotype: GT no. 10021

Several meters below dam of the Saijo-gawa, about 200 m NEE of the Shobara railway station and about 500 m NEE of the bridge at Suketo, Shobara-machi (City), Hiba-gun, Hiroshima Prefecture (34°51'43"N, 133°01'05"E)

(Shobara Formation)

Miocene

***Cerithidea tokunariensis* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 162, pl. 26, figs. 6a-7b

Holotype: DGS no. 1536 transferred to IGPS no. 90406 (figs. 6a-b), Paratype: DGS no. 1536 (figs. 7a-b)

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture Higashi-Innai Formation

Miocene

***Cerithidea (Cerithideopsilla) yatsuoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 84, pl. 4, figs. 2a-4

Holotype: JC no. 1400037 (figs. 2a-b), Paratype: JC no. 1400038 (from Do)

Do, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture Kurosedani Formation

Miocene

***Cerithideopsilla minoensis* (Itoigawa)** reported by Matsubara (1996) from the early Miocene Yotsuyaku Formation, Iwate Prefecture

***Cerithideopsilla yatsuoensis* (Tsuda)** reported by Nakagawa (1998) from the Miocene Kunimi Formation, Fukui Prefecture: see ***Cerithidea (Cerithideopsilla) yatsuoensis* Tsuda, 1959**

***Cerithiopsis crassincincta* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 271, pl. 32, fig. 11

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(***Seila crassincincta* (Yokoyama)** by Hatai and Nisiyama (1952))

***Cerithiopsis hataii* Aoki, 1957**

Venus, vol. 19, nos. 3-4, p. 248, text-fig. 1a-c

Holotype: TKD no. 5930 (fig. 1-a), Paratype: TKD no. 5931

(fig. 1-b-c)

A river-side exposure of the Shiratori valley, E of Kadonosawa, Nisatai-mura, Ninohe-gun (Nonohe City), Iwate Prefecture

Kadonosawa Formation

Miocene

***Cerithiopsis hilaris* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 8

Holotype: UT no. ? (CM no. 21838)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(***Bittium (Bittium) alutaceum naganumanum* Yokoyama** by Oyama (1973))

***Cerithiopsis nodosocostatus* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 73, pl. 3, fig. 14

Holotype: UT no. ? (CM no. 20782)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(Synonymus with ***Noditerebra (Noditerebra) evoluta latisulcata* (Yokoyama)** by Oyama (1973))

***Cerithiopsis pontilis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 450, pl. 51, figs. 7

Holotype: UT no. ? (CM no. 24282)

Ichikawa, Higashikatsushika-gun (Ichikawa City, Chiba Prefecture)

(Raised Beach Deposits)

Pleistocene (Holocene ?)

(Synonymus with ***Rhinoclavis (Ochetoclava) kochi (Philippi)*** by Oyama (1973))

***Cerithiopsis (Alipta) premelvilli* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 43, pl. 7, fig. 31

Holotype: USNM no. 562809

Loc. no. 17452, fossiliferous beds above pumice quarry above Okinawa Central Prison, about 0.4 Mi E-SE of Shinzato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Cerithiopsis pulviformis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 15

Holotype: UT no. ? (CM no. 21840)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(*Cyrbasia (Joculator) pulviformis* (Yokoyama) by Oyama (1973))

***Cerithiopsis satomii* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 23

Holotype: UT no. ? (CM no. 21841)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(Synonymus with *Bittium (Bittium) glareosum* Gould by Oyama (1973))

***Cerithiopsis (?) shikoensis* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 55, pl. 4, fig. 10

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Shiko, Koshun, Takao Province, Taiwan

Upper Byoritz Beds

Pliocene (Pleistocene)

(*Trochocerithium shikoense* (Yokoyama) by Nomura (1935) and also Makiyama (1960))

Cerithiopsis (Mendax) spiniger (Martin) reported by Shuto (1974) from the Pliocene at Blakan Kebon, Semarang, Java Islands, Indonesia: *Potamides spiniger* Martin, 1884

Cerithiopsis subreticulata (Dunker, 1860) reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Cerithiopsis (Seila) trisulcatus* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 73, pl. 3, fig. 15

Holotype: UT no. ? (Lectotype: CM no. 20957)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimoso Group (Semata Formation)

Pleistocene

(*Seila yokoyamai* Cossman by Oyama (1973))

Cerithium (Proclava) ancisum (Yokoyama) reported by Otuka (1938) from the Miocene Shobara Formation, Hiroshima Prefecture: see *Potamides ancisus* Yokoyama, 1929

Cerithium asperum (Linné) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Rhinoclavis asperum* (Linné) by Masuda and Noda (1976))

***Cerithium baculum* Yokoyama, 1923 (1924)**

Japan. Jour. Geol. Geogr., vol. 2, no. 3, p. 52, pl. 7 (pl. 6), fig. 12

Holotype: UT no. ?

Wave cut bench on the southeastworn side of Fujishima,

Nishitonga-mura (Shirahama-cho), Nishimuro-gun, Wakayama Prefecture (33°41'03"N, 135°22'31"E)

Fujishima (Shirahama Formation)

Lower Pliocene (Miocene; Blow's N8–N9 Zone by Tanabe Dantai Kenkyu Group (1984))

(*Vicaryella bacula* (Yokoyama, 1924) by Hatai and Nisiyama (1952))

Cerithium (Thericium) echinatum Lamarck reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Cerithium (Thericium) everwijni (Martin) reported by Shuto (1978) from the Middle Miocene of Tji Taon, Java, Indonesia: *Cerithium everwijni* Martin, 1883

***Cerithium excelsum* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 346, pl. 67, fig. 8

Holotype: UT no. ?

Road-side cutting at the northern foot of the hill, a short distance W of the bridge at Kounji, Takanabe-machi, Koyu-gun, Miyazaki Prefecture (32°07'11"N, 131°30'10"E) (Kounji Formation)

Pliocene

(*Trochocerithium excelsum* (Yokoyama) by Hatai and Nisiyama (1952): *Orectospira excelsa* (Yokoyama) by Makiyama (1959))

Cerithium (Thericium) dollfusi (Martin) reported by Shuto (1978) from the Middle Miocene of West Progo Mountain, Java, Indonesia: *Potamides (Terebralia) dollfusi* Martin, 1917

***Cerithium hanzawai* Kotaka, 1955**

Saito Ho-on Kai Mus., Res. Bull., no. 24, p. 28, pl. 2, fig. 8

Holotype: IGPS no. 74008

Loc. no. Ao-017, Near Osoreishi, Kodomari-mura, Kitatsugaru-gun, Aomori Prefecture

Isomatsu Formation

Oligocene (early Miocene)

***Cerithium ishiianum* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 7, p. 218, pl. 28, fig. 11

Holotype: GT no. ? (designated by Hatai and Nisiyama (1952)), Paratype: GT no. ?

Small cliff along the east side of the southern valley, about 450 m W of the bench-mark (187 m) at Tsukiyoshi, Akiyo-mura, Toki-gun, Gifu Prefecture (35°22'35"N, 137°15'31"E)

Tsukiyoshi Formation

Pliocene (Miocene)

(*Vicaryella ishiiana* (Yokoyama) by Hatai and Nisiyama

(1952))

Cerithium ishiranum Yokoyama reported by Shikama (1943) was misspelled for *ishiiiana* (Hatai and Nisiyama (1952))

Cerithium kobelti Dunker reported by Matsushima (1967) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

Cerithium kochi Philippi, 1848 reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture : and also reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (*Rhinoclavis kochi* (Philippi) by Masuda and Noda (1976))

Cerithium (Proclava) meisensis Makiyama, 1936

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 11, no. 4, art. 8, p. 220-221, pl. 5, fig. 20.

Holotype: GK no. ?

Nanseki, North Korea

Heiroke stage (Heiroke Formation)

Miocene

Cerithium (Ptychocerithium) nanggulanense Vignal reported by Shuto (1978) from the Middle Eocene of Nanggoelan, Java, Indonesia

Cerithium nipporiensis Tokunaga, 1906

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 24, pl. 1, fig. 50.

Holotype: UT no. ?

Cutting along the railway at Tabata (Tabata-machi, Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata Shell bed (Tokyo Formation)

Pleistocene

Cerithium (Proclava) otukai Nomura, 1935 n. n.

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 227, pl. 17, fig. 17 (Type; *Proclava ishiiiana* Otuka, 1934, not of Yokoyama (1926)) (*Proclava otukai* (Nomura) by Hatai and Nisiyama (1952))

(1952))

Cerithium (Gourmya) parungponternense Martin, 1905

reported by Shuto (1978) from the Upper Miocene of Selatjau, Java, Indonesia

Cerithium pfeifferi (Dunker) reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture: *Vertagus pfeifferi* Dunker, 1882

Cerithium proavitum Yokoyama, 1929

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 8, p. 336, pl. 70, fig. 3

Holotype: GT no. ?

Eastern foot of the hill, about 250 m W of the contact point of the path and the road at Hatagi, Noji-mura, Atetsu-gun,

Okayama Prefecture (34 °54'39"N, 133 °19'E)

(Tojo Formation)

Miocene

(Synonymus with *Batillaria (Tateiwaia) yamanarii* Makiyama by Hatai and Nisiyama (1952))

Cerithium (Thericium?) progoense (Martin) reported by Shuto (1978) from the Middle Miocene of West Progo Mountain, Java, Indonesia: *Potamides (Cerithidea) progoensis* Martin, 1917

Cerithium (Ptychocerithium) rude Sowerby, 1840

reported by Shuto (1978) from the Middle Miocene of Rembang bed, Sedan, Rembang, Java, Indonesia

Cerithium (Thericium) sucaradjianum (Martin) reported by Shuto (1978) from the Pliocene of Selatjau, Preanger, Java, Indonesia: *Cerithium sucaradjianum* Martin, 1899

Cerithium sakamotoi Yokoyama, 1929

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 8, p. 367, pl. 70, fig. 4

Holotype: GT no. ?

Stream-side of brook at the southern foot of the Obara hill, about 250 m SEE of the crossing at Obara, Kami-mura,

Kume-gun, Okayama Prefecture (34 °57'46"N, 133 °57'56"E)

(Obara Formation)

Miocene

(Synonymus with *Batillaria (Tateiwaia) tateiwai* Makiyama by Hatai and Nisiyama (1952))

Cerithium satoi Yokoyama, 1928

Rep., Imp. Geol. Surv., no. 101, p. 51, pl. 3, fig. 7

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Shiko, Koshun, Takao Province, Taiwan

Upper Byoritz Beds

Pliocene (Pleistocene)

(*Cerithideopsilla satoi* (Yokoyama) by Masuda and Huang (1990))

Cerithium sinense (Gmelin, 1792) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

(*Proclava sinensis* (Gmelin) by Masuda and Huang (1990))

Cerithium (Cerithopsis) tabatensis Tokunaga, 1906

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 25, pl. 1, fig. 51

Holotype: UT no. ?
 Tabata (Tabata-machi, Kita-ku, Tokyo Prefecture)
 Tabata Shell Beds (Tokyo Formation)
 Pleistocene

***Cerithium tokudai* Yokoyama, 1930**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, part 10, p. 414, pl. 77, fig. 3

Holotype: UT no. ?

Nairo, Naikawa Coalfield, Naikawa, Tomarigeshi-mura, Shiska-gun, Karafuto (Sakhalin, Russia)

Naikawa Beds of the Nairo

Miocene ?

(*Bittium tokudai* (Yokoyama) by Makiyama (1959):

Nannoturritella tokudai (Yokoyama) by Oyama (1962):

Mesalina ? tokudai (Yokoyama))

***Cerithium* (*Cerithium*) *teschi* (Martin)** reported by Shuto (1978) from the Middle Miocene of West Progo Mountain, Java, Indonesia: ***Potamides* (*Terebralia*) *teschi* Martin, 1917**

***Cerithium yanagawaensis* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 343, pl. 20, figs. 9a-b

Holotype: SM no. 7954

Yanagawa-machi (River cliff of the Hirose-gawa River, at the southern end of the Yanagawa Park, a tributary of the Abukuma River, Yanagawa-machi, Date-gun, Fukushima Prefecture (37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

***Cerithium* (*Contumax*) *verbeeki* (Woodward)** reported by Shuto (1978) from the Middle Miocene Njandoeng bed, Njjalindoeng, Java, Indonesia: ***Cerithium verbeeki* Woodward, 1879**

***Cerithium* (*Theridium*?) *volzi* (Martin)** reported by Shuto (1978) from the Middle Miocene of West Progo Mountain, Java, Indonesia: ***Potamides* (*Terebralia*) *volzi* Martin, 1917**

***Cernina fluctuata nakamurai* (Otuka)** reported by Majima (1989) from the Miocene Takinosawa Formation, Yamagata Prefecture: see ***Globularia* (*Vernina*) *nakamurai* Otuka, 1938**

***Chamalycaeus okinawaensis* Uozumi, Yamamoto and Habe, 1979**

Venus, vol. 38, no. 3, p. 167, figs. 1-2

Holotype: NSMT-Mo no. 57766

Sueyoshi-gu-ato (Site of the Sueyoshi-palace), Naha City, Okinawa Prefecture

Occurred from the raised coral reef

Pleistocene, before 18,480 yr. B. P.

***Charonia sauliae* (Reeve)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

***Cheilea equestris* (Linnaeus, 1758)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Cheilea yanagawaensis* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 189, pl. 15, fig. 7

Holotype: SM no. 6202

Yanagawa-machi (River cliff of the Hirose-gawa River, at the southern end of the Yanagawa Park, a tributary of the Abukuma River, Yanagawa-machi, Date-gun, Fukushima Prefecture (37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

***Chelenassa* Shuto, 1969, n. subgen.**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, 142, Type-species; *Nassarius* (*Chelenassa*) *elegantissimus* Shuto, 1969 described from the Pliocene Santa Barbara Silt of the Cabutuan Formation

***Chelyconus fulmen* (Reeve)** reported by Tomida (1996) from the late Miocene Misaki Formation, Kanagawa Prefecture: ***Conus fulmen* Reeve, 1843**

***Chemnitzia multigyra* (Dunker)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Turbonilla multigyra* Dunker, 1882**

***Chicoreus asanoi* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 163, pl. 26, figs. 10a-11c

Holotype: DGS no. 2500 transferred to IGPS no. 90200 (figs. 10a-c), Paratype: DGS no. 2500 (figs. 11a-c)

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture Higashi-Innai Formation

Miocene

(*Chicoreus* (*Rhizophorimurex*) *asanoi* Masuda)

***Chicoreus* (*Rhizophorimurex*) *capuchinus nagiensis* Taguchi, Osafune and Obayashi, 1981**

Bull. Mizunami Fossil Mus., no. 8, p. 5, pl. 1, figs. 11-15

Holotype: IGSH-ET no. 10014 (fig. 14a-b), Paratype: IGSH-ET nos. 10015-10018 (figs. 11-13, 15)

Small cliff on the mountainside of Kaki, Nagi-cho, Okayama Prefecture; 35°05'54"N, 134°11'21"E

Yoshino Formation

Middle Miocene

***Chicoreus junghuhni* (Martin, 1895)** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Chicoreus notoensis* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 163, pl. 26, figs. 12a-c

Holotype: DGS no. 2503, transferred in IGPS no. 90401

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture Higashi-Innai Formation

Miocene (early middle Miocene)

(*Pseudoneptunea notoensis* (Masuda) by Oyama (1961))

***Chicoreus saulii* (Sowerby, 1840)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Chicoreus tateiwai* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 78, pl. 7, figs. 13, 14

Holotype: IGPS no. 74352

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Hei roku Formation

Lower Miocene

***Chicoreus (Triplex) totomiensis* (Makiyama)** reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***“Chlanidota” mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 76, pl. 1, fig. 4, figs. 2a-3

Holotype: ESN no. 30022 (figs. 2a-b), Paratype: ESN no. ? (fig. 3)

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

***Chlorostoma miyatense* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 87, pl. 5, fig. 33

Holotype: GT no. ? (CM no. 20266)

Shimo-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Upper Musashino=Pleistocene

(*Enida japonica* A. Adams by Oyama (1973))

Chlorostoma narusei* Shibata** reported by Tomida (1996) from the Ochiai Formation, Kanagawa Prefecture: see ***Tegula (Chlorostoma) narusei* Shibata, 1957** (Chlorostoma narusei* (Shibata, 1957)**)

***Chlorostoma quantoanum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 88, pl. 5, fig. 24

Holotype: GT no. ? (CM no. 20267)

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise

locality unknown)

Yokosuka Zone

Upper Musashino=Pleistocene

(***Tegula (Chlorostoma) pfeifferi* (Philippi)** by Oyama (1973))

***Chlorostoma tokunagai* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 88, pl. 5, fig. 25

Holotype: GT no. ? (CM no. 20268)

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)

Yokosuka Zone

Upper Musashino=Pleistocene

(***Tugula (Chlorostoma) rustica* (Gmelin)** by Oyama (1973))

Chlorostoma xanthostigma* (A. Adams)** reported by Yokoyama (1931) from the Pliocene (Miocene) Tanagura Formation, Fukushima Prefecture; ***Trochus xanthostigma* A. Adams** (Chlorostoma yokoyamai* Nomura and Zinbo, 1936**)

***Chrysallida (Miralda) affectuosa* (Yokoyama, 1922)**

reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

***Chrysallida (Pyrgulina) amanda* (Garrett)? reported**

by Nomura (1938) from the Holocene

Numa Formation, Chiba Prefecture

***Chrysallida (Trabecula) awaensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 65, pl. 4, figs. 102a-b

Holotype: SM no. 8247, Paratype: SM no. 8259

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

(Although the specific name *awaensis* is may be misprinted, it is valid as *awaensis*)

***Chrysallida (Odostomella) awatabu* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 822, pl. 22, fig. 10

Holotype: IGPS no. 57364

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Chrysallida (Pyrgulina) bokotoensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 147, pl. 9, fig. 8

Holotype and Paratype: IGPS no. 48016

Gyo-o-to, Boko-to, Taiwan

Living specimen

Recent

***Chrysallida (Besla) curiosa* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 823, pl. 22, fig. 12

Holotype: IGPS no. 57365

Taryo, Hsinchu, Taiwan

Byoritu Formation

Pliocene

***Chrysallida (Miralda) diadema* (A. Adams)** reported by Nomura (1938) from the Pleistocene Semata Formation, Chiba Prefecture

***Chrysallida (Miralda) gemma* A. Adams** reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

***Chrysallida (Numaegilina) gloria* Nomura, 1938** n. subgen. and n. sp.

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 65, pl. 4, figs. 102a-b

Holotype: SM no. 8319; Type-species of subgenus *Numaegilina* (originally designated)

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Chrysallida (s. s.) gratior* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 821, pl. 22, fig. 7

Holotype: IGPS no. 57394

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Chrysallida (Trabecula) hossakuensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no.16, p. 31, pl. 4, figs. 30a-b

Holotype: SM no. 3826

Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture

Pleistocene stratum

Pleistocene

***Chrysallida (Pyrgulina) itikawensis* Nomura, 1938**

Saito Ho-no Kai Mus., Res. Bull., no. 16,p.65, pl. 14, figs. 117a-b

Holotype: SM no. 9127

Itikawa (Ichikawa), along Edogawa, Higasi-Katsusika-gun (Ichikawa City), Tiba (Chiba) Prefecture

Post-Pleistocene stratum

Post-Pleistocene (Holocene)

***Chrysallida (s. s.) kazusana* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 146, pl. 9, fig. 47

Holotype and Paratype: IGPS no. 27444

Kaisuka, Onziku-machi, Isumi-gun, Tiba (Chiba) Prefecture

Semifossil (formation unknown)

Pleistocene

***Chrysallida (Pyrgulina) keinosukeana* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 823, pl. 22, fig. 20

Holotype: IGPS no. 57392

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Chrysallida (Miralda) mariellaeformis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 67, pl. 15, figs. 126a-b

Holotype: SM no. 8302

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Chrysallida (Trabecula) numaensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no.16, p. 65, pl. 14, figs. 117a-b

Syntype: SM no. 9127

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Chrysallida (Trabecula) perpupoidea* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 66, pl. 12, figs. 103a-b

Syntype: SM no. 8336 (three specimens registered)

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Chrysallida (Pyrgulina) simokitana* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 147, pl. 9, fig. 9

Holotype: IGPS no. 26609

About 5 miles E of the Simokita Peninsula, Shimokita-gun, Aomori Prefecture

Living specimen

Recent

***Chrysallida (Odostomella) taiwanensis* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 822, pl. 22, fig. 19

Holotype: IGPS no. 57366

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Chrysallida (s. s.) tubutubus* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 146, pl. 9, fig. 32

Holotype and Paratype: IGPS no. 27002

Hossaku, Omori-machi, Inba-gun, Tiba (Chiba) Prefecture (Shimoso Group)

Pleistocene

***Chrysallida (Odostomella) y-tomitai* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 823, pl. 22, fig. 5

Holotype: IGPS no. 57360

Tairyo, Hsinchu, Taiwan

Byoritu Formation

Pliocene

(Odostomella ytomidai)* (Nomura)**Chrysodomus altispiratus* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 108, pl. 17, fig. 13, 13b

Holotype: GS no. 36193

The Hosyuyama Mine (about 200 m S of the bridge at E of Kawamagari and about 600 m W of the village-office at Daigyoji, Hosuyama-mura, Asakura-gun, Fukuoka Prefecture (33°23'26"N, 130°52'14"E)

Doshi Formation

Upper Eocene

***(Neptunea altispirata)* (Nagao)** by Hatai and Nisiyama (1952))

***Chrysodomus asakuraensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 110, pl. 17, figs. 16, 16a

Holotype: GS no. 36187, Paratype: GS nos. 36187, 36195 (pl. 17, fig. 17)

The Hosyuyama Mine (about 200 m S of the bridge at E of Kawamagari and about 600 m W of the village-office at Daigyoji, Hosuyama-mura, Asakura-gun, Fukuoka Prefecture (33°23'26"N, 130°52'14"E): Paratype; River cliff along the small river, a short distance S of the large bridge about 500 m NW of Kawamagari, Hosyuyama-mura, Asakura-gun, Fukuoka Prefecture (33°23'46"N, 130°51'51"E)

Doshi and Kawamagari (Paratype) Formations

Upper Eocene (Holotype) to Middle Eocene (Paratype)

***(Neptunea asakuraensis)* (Nagao)** by Hatai and Nisiyama (1952): ***Siphonalia asakuraensis* (Nagao)** by Oyama et al. (1960))

***Chrysodomus chikuzenensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 108, pl. 17, figs. 10, 10b

Holotype: GS no. 36172, Paratype: GS no. 36172

Beach rocks along the sea-coast (about 800 m NE of Taya, Ashiya-machi, Onga-gun, Fukuoka Prefecture; 33°54'36"N, 130°40'18"E)

Yamaga Formation

Oligocene

***(Neptunea chikuzenensis)* (Nagao)** by Hatai and Nisiyama (1952): ***Ancistrolepis chikuzenensis* (Nagao)** by Oyama et al. (1960))

***Chrysodomus despectus* (Linné)** reported by Yokoyama (1925) from the Pliocene Shigarami Formation, Nagano Prefecture; ***Murex despectus* Linné** (Yokoyama's specimen was identified to ***Neptunea modesta* (Kuroda)** by Hatai and Nisiyama (1952))

***Chrysodomus despectus* var. *tuberculata* Yokoyama, 1929**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 2, part 9, p. 382, pl. 71, fig. 1

Holotype: UT no. ?

Sannosawa, Chitose, Odomari-gun, South Karafuto (Sakhalin), Russia

"Pleistocene with fossil"

Pleistocene

***(Neptunea despectus tuberculata)* (Yokoyama)** by Makiyama (1959))

***Chrysodomus eos* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 80, pl. 10, fig. 80

Holotype: GK no. ?

Sakae (100 m W of the primary school at Ikari, Sakae-mura (Togakuchi-mura), Kamiminochi-gun, Nagano Prefecture; 36°36'N, 138°03'E

Ogawa Formation

Miocene

***(Neptunea eos)* (Kuroda)** by Hatai and Nisiyama (1952))

***Chrysodomus modestus* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 78, pl. 13, fig. 109

Holotype: GK no. ?, Paratype: GK no. ?

200 m W of Kashiwazawa, Kamikawate-mura, Higashichikuma-gun, Nagano Prefecture (36°19'N, 137°57'E): Paratype; Valley of Nakanosawa, 500 m SE of Senmi, Miasa-mura, Kitaazumi-gun, Nagano Prefecture (38°36'N, 137°56'E)

Lower Aoki (Holotype) and Ogawa (Paratype) Formations

Miocene

***(Neptunea modesuta)* (Kuroda)** by Hatai and Nisiyama (1952))

***Chrysodomus paucicostatus* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 79, pl. 13, fig. 110

Holotype: GK no. ?

Bank of the Sai-kawa (200 m W of Myoga, Higashi-kawate-mura, Higashichikuma-gun, Nagano Prefecture; 36°23'N,

137 °55'E)

Bessho Formation

Miocene

(*Neptunea paucicostata* (Kuroda) by Hatai and Nisiyama (1952))

Chrysodomus perichlion Schrenck reported by Yokoyama (1925) from the Pliocene Shirado (Miocene Taga) Formation, Ibaraki Prefecture (*Japelon hirasei* (Pilsbry) by Hatai and Nisiyama (1952))

Chrysodomus phoneiceus Dall reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture (*Neptunea phonienseus* (Dall) by Hatai and Nisiyama (1952)) (ibid., reported by Yokoyama (1925, p.10, pl. 1, fig. 1) from the Pliocene Shirado (Miocene, Taga) Formation, Ibaraki Prefecture: *Neptunea yokoyamai* Hatai and Nisiyama, 1952 n. n.)

***Chrysodomus schrencki* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 51, pl. 3, fig.1

Holotype: GT no. ? (CM no. 20116)

Koshiba (Sea cliff of Koshiba, Kanazawa-machi, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35 °20'05"N, 139 °38'06"E)

Koshiba Formation

Lower Musashino=Pliocene (Pleistocene)

(Synonymus with *Japelonadelphicus* (Dall) by Hatai and Nisiyama (1952) and Oyama (1973))

***Chrysodomus uwasoensis* Otuka, 1935**

Jour. Geol. Soc. Japan, vol. 42, no. 503, p. 510, text-fig. 3g on p. 492

Holotype: GT no. ?

Stream side of the river about 350 m N of the shrine at Uwaso, Higashiminato-mura, Kashima-gun (Nanao City), Ishikawa Prefecture; 37 °02'30"N, 137 °01'23"E)

Nozaki Formation

Pliocene

(*Neptunea uwasoensis* (Otuka) by Hatai and Nisiyama (1952))

***Cinctiscala ryukyuensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 56, pl. 9, fig. 14, pl. 10, fig. 16

Holotype: IGUT no.10563

Loc. No. 15, cliff about 500 m SE of Shinzato, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Cingula plebeja (Yokoyama) reported by Nomura and Hatai (1935) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture; see *Rissoa plebeja* Yokoyama, 1922

***Cingula (Setia) subangulata* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 65, pl. 3, fig. 6

Holotype: GK no. 46

Dainichi (Valley about 350 m NW of Dainichi, Furuoi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation

Pliocene

Cingulina cingulata (Dunker) reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture (*Cingulina (Polyspirella) cingulata* (Dunker) by Masdua and Noda (1976))

Cingulina (s. s.) triarata (Pilsbry) reported by Nomura (1938) from the Pleistocene Kioroshi Formation (Ozakura), Chiba Prefecture

Cinguloterebra amabilis (Makiyama) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see *Terebra amabilis* Makiyama, 1927

Cinguloterebra osawanoensis (Tsuda) reported by Itoigawa et al. (1974) from the Miocene Akeyo Formation, Gifu Prefecture: see *Teerebra (Triplotephanus) osawanoensis* Tsuda, 1959

Cipangopaludina isikariensis (Suzuki, 1941) reported by Oyama et al. (1960) from the Lower Oligocene Ashibetsu Formation, Hokkaido

***Cipangopaludina soratiensis* Oyama, 1950**

Jour. Geol. Soc. Japan, vol. 56, no. 652, p. 36, text-fig. 1

Holotype: RINT no. ? (noted as no registration by Oyama et al. (1960))

Left shore of Sorachi River, Ashibetsu City, Hokkaido

Corbicula bed of Hiragishi Formation

Paleogene (lower Oligocene)

***Cirsochilus ryukyuensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 30, pl. 11, figs. 13, 14, 15

Holotype: USNM no. 562897

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

Cirsotrema (Circuloscala) hospitum (Nagao) reported by Oyama et al. (1960) from the Oligocene Maze Formation, Nagasaki Prefecture: see *Epitonium hospitum* Nagao, 1928

***Cirsotrema (Cirsotremopsis ?) nagoi* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 591, Type-species; *Epitonium* sp., by Nagao (1929: p. 93 (83), pl. 15, fig. 7)

Holotype: IGPS no. 36183

Beach rocks, west of Hachiman-zaki, Wakita, Wakamatsu City (Kitakyushu City), Fukuoka Prefecture

Wakita Formation

Oligocene (Upper Oligocene by Oyama et al. (1960))

(*Epitonium ? nagoi* (Oyama and Mizuno) by Masuda and Noda (1976))

***Citharella naganumaensis* (Otuka)** reported by Itoigawa (1964) Pleistocene Kozaki Formation, Aichi Prefecture

***Clanculus clanguloides* (Wood)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Trochus clanguloides* Wood, 1828**

***Clanculus margaritarius* (Philippi)** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

***Clathrodrillia moeshimaensis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 158, pl. 31, figs. 8-10

Holotype: GKM no. 6655

Northeast cliff at Moeshima, Kagoshima City (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Clathrofenella asperulata* (Adams)** reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

***Clathrofenella reticulata longa* Oyama, n. n., 1954** (invalid) Proposed in Taki and Oyama, 1954 as a type of Yokoyama's (1924; Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art 1, p. 28, pl. 1, fig. 26) in Spec. Pap., Palaeont. Soc. Japan, no. 2, p. 10, pl. 38, fig. 26 (reproduced from Yokoyama's original figure). It was identified as *Clathrofenella* sp. by Masuda and Noda (1976; Spec. Pub., Saito Ho-on Kai, no. 1, p. 15).

***Clathurina foraminata* (Reeve)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Pleurotoma foraminata* Reeve, 1845**

***Clava (Proclava) carlosensis* Shuto, 1982**

Geol. Paleont. Southeast Asia, vol. 23, p. 122, pl. 19, figs. 14-18, 26, text-fig. 5c-d

Holotype: GK-L no. 7642 (fig. 18), Paratype: GK-L nos.

7643-7649, 7681-7689

Loc. no. SAM54, Talve-Toboso area of Negros Island, Philippines

Macasilao Formation

Middle Miocene

***Clava (Clava) djunggranganensis* (Martin)** reported by Shuto (1978) from the Gnong Spolong, West Progo Mountain, Java, Indonesia: ***Potamides (Terebralia) djunggranganensis* Martin, 1917**

***Clava (Clava) erecta* (Martin)** reported by Shuto (1978) from the Upper Miocene of Jakarta, Java, Indonesia: ***Cerithium (Vertagus) erectum* Martin, 1887**

***Clava (Proclava) gendinganensis* (Martin)** reported by Shuto (1978) from the Pliocene Sonde, Java, Indonesia: ***Cerithium (Vertagus) gendinganense* Martin, 1906**

***Clava (Proclava) jonkeri* (Martin)** reported by Shuto (1978) from the Pliocene of Padas Malang, Java, Indonesia: ***Cerithium (Vertagus) jonkeri* Martin, 1883**

***Clava (Proclava) karangensis* (Martin)** reported by Shuto (1978) from the Upper Miocene Tjilintoeng, Java, Indonesia: ***Cerithium (Vertagus) karangense* Martin, 1906**

***Clava (Proclava?) merangiana* (Martin)** reported by Shuto (1978) from the Middle Miocene Njalindoeng bed, Java, Indonesia: ***Cerithium (Vertagus) merangianus* Martin, 1922**

***Clava (Clava) noetlingi* (Martin)** reported by Shuto (1978) from the Middle Miocene Njandoeng bed, Java, Indonesia: ***Potamides (Terebralia) noetlingi* Martin, 1899**

***Clava (Clavocerithium?) sucaradjana* (Martin)** reported by Shuto (1978) from the Upper Miocene of Selatiau, Java, Indonesia: ***Potamides (Terebralia) sucaradjanus* Martin, 1899**

***Clavatula (Paradrillia) minoensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ. Ser. D, vol. 11, no. 2, p. 108, pl. 4, fig. 15, pl. 6, figs. 16, 17, text-figs. 9, 10

Holotype: GK-L no. 4958, Paratype: GK-L nos. 4949, 4960, 6061

Immediate south of tunnel, north of Yamaji, Miho-mura, Koyu-gun (Saito City), Miyazaki Prefecture Kawabaru Member of the Miyazaki Group

Lower upper Miocene

(Miss-spell of genus name: see ***Clavatula (Paradrillia) minoensis* Shuto, 1961**)

***Clavatula (Paradrillia) astute* (Yokoyama)** reported by Shuto (1961) from the Pliocene Takane Member of the

Miyazaki Group, Miyazaki Prefecture: see *Drillia astute* Yokoyama, 1928

***Clavatula (Paradrillia) astutoidea* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 107, pl. 5, figs. 2, 3

Holotype: GKL no. 4962

Road side cutting at Nihonmatsu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

Clavatula (Paradrillia) consimilis (Smith) reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: *Pleurotoma consimilis* Smith, 1879

Clavatula (Paradrillia) convexiuscula Shuto reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Clavatula (Paradrillia) elachystoma convexiuscula* Shuto, 1961

Clavatula dainichiensis (Yokoyama) reported by Kanehara (1940) from the Pliocene Wakimoto Formation, Akita Prefecture; see *Drillia dainichiensis* Yokoyama (*Clavatula (Paradrillia) dainichiensis* (Yokoyama) by Hatai and Nisiyama (1952): see *Drillia dainichiensis* Yokoyama, 1923)

Clavatula (Paradrillia) djocjocartae seana (Fischer) reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture (*Clavatula (Paradrillia) djocjocartae serrana* Fischer, 1927)

***Clavatula (Paradrillia) elachystoma convexiuscula* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 108, pl. 6, fig. 15, pl. 10, fig. 18

Holotype: GKL no. 4915 (pl. 10, fig. 18)

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Clavatula (Clavatula) granulissima* Shuto and Ueda, 1963**

Japan. Jour. Geol. Geogr., vol. 34, no. 1, p. 10, pl. 1, figs. 4, 12, 13

Holotype: GKL no. 6260 (figs. 12,13), Paratype: GKL no. 6601, 6605 (fig. 4)

Obo, Arita-machi, Nishimatsuura-gun, Saga Prefecture; Paratype, 700 m N of Matsuo, Nagayo-mura, Nishisonogi-gun, Nagasaki Prefecture

Kishima Formation and Yamaguchi Formation (Paratype)

Oligocene

***Clavatula himae* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 101, pl. 5, fig. 3

Holotype: GK no. 257

Dainichi (About 150 m W of Honohashi, Saigo-mura and 2.5 km N of the Kakegawa railway station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 139°00'06"E)

Dainichi Formation

Pliocene

***Clavatula kakegawaensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 100, pl. 4, fig. 5

Holotype: GK no. ?

Tennoyama (East side of Tenno-yama, 1.75 km N of the Kakegawa railway station, Kakegawa City, Shizuoka Prefecture; 34°46'09"N, 138°00'08"E)

Tenno Formation

Pliocene

***Clavatula (Paradrillia) minoensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ. Ser. D, vol. 11, no. 2, p. 108, pl. 4, fig. 15, pl. 6, figs. 16, 17, text-figs. 9, 10

Holotype: GKL no. 4958 (no figure), Paratype: GK-L nos. 4959 (pl. 6, figs. 16, 17), 4960 (pl. 4, fig. 15), 6061

Immediate south of tunnel, north of Yamaji, Miho-mura, Koyu-gun (Saito City), Miyazaki Prefecture Kawabaru Member of the Miyazaki Group

Lower upper Miocene

(Originally described as *Clavatul (Paradrillia) minoensis* Shuto, 1961 was miss print: Paratype no. 4949 in original description may miss for 4959)

Clavatula parruelis dainichiensis (Yokoyama) reported by Makiyama (1927) from the Pliocene Dainichi Formation, Shizuoka Prefecture; see *Drillia dainichiensis* Yokoyama, 1923

Clavatula serata Fischer, 1927 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Clavatula (Surcula) sobrina (Yokoyama) reported by Shikama (1943) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Clavatula taiwanensis* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, no. 2, p. 116, pl. 6, figs. 59a-b (60a-b)

Holotype: IGPS no. 51597

1450 m W of Hokko, station 14 (Aando), Oboko, Siko-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

- Clavus (Clavus ?) braunsi (Yokoyama)*** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: see ***Pleurotoma (Drillia) braunsi Yokoyama, 1920***
- Clavus (Brachytoma) crassitestulatus Nomura, 1935***
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 125, pl. 6, figs. 49a-c
 Holotype: IGPS no. 53739
 400 m SE of Zyo-tusyowan, station 13, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan
 Byoritu Beds
 Pliocene
- Clavus (Brachytoma) flavidulus (Lamarck, 1822)*** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan
- Clavus (Plagiostropha) flexus Shuto, 1983***
 Venus, vol. 42, no. 4, p. 293, figs. 1, 2
 Holotype: AM no. C134665
 Approximately 100 mile N of Croker Island, Northern Territory, Australia; 9°30'S, 132°34'E
 Depth 124 m (P. H. Colman coll Nov. 9, 1969)
 Recent
- Clavus (Brachytoma) jefferysii (Smith)*** reported by Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture: ***Drillia jefferysii Smith, 1875***
- Clavus (Cymatosyrinx) hanzawai Nomura, 1935***
 Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, no. 2, p. 121, pl. 6, figs. 57a-b
 Holotype: IGPS no. 52244
 Wangwa station 18, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan
 Byoritu Beds
 Pliocene (Pleistocene by Masuda and Huang (1990))
- Clavus kurodae Tsuda, 1959***
 Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 98, pl. 6, figs. 6a-b
 Holotype: JC no. 1400069
 Oharajima, Yatsuo-machi, Nei-gun, Toyama Prefecture
 Kurosedani Formation
 Miocene (early Miocene)
- Clavus longispira (Smith, 1879)*** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture
- Clavus (Brachytoma) nodiliratus (Smith, 1875)*** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan
- Clavus osawanoensis Tsuda, 1959***
 Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 97, pl. 6, figs. 4a-5b
 Holotype: JC no. 1400067, Paratype: JC no. 1400068
 Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
 Kurosedani Formation
 Miocene (early Miocene)
- Clavus (Brachytoma) pernodiliratus Nomura, 1935***
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 123, pl. 6, figs. 41a-42b
 Holotype: IGPS no. 52217 (figs. 41a-b), Paratype: IGPS no. 52218 (figs. 42a-b)
 1520 m E of Sinpo station 16 (Ando coll.), Tusyo-syo, Byoritu-gun, Tainan-syu, Taiwan: Paratype, Wangwa, station 6 (Aando), Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan
 Byoritu Beds
 Pliocene (Paratype loc. is Pleistocene by Masuda and Huang (1990))
- Clavus pica (Reeve, 1843)*** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture
- Clavus (Cymatosyrinx) pseudohumilis Nomura, 1935***
 Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 120, pl. 6, figs. 46a-48
 Holotype: IGPS no. 52234, Paratype: IGPS no. 52236 (fig. 48)
 Wangwa station 35, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan: Paratype, 700 m E of Naikoto, station 31 (Aando), Tusyo-syo, Byoritu-gun, Shintiku-syu, Taiwan
 Byoritu Beds
 Pliocene (Holotype loc. is Pleistocene by Masuda and Huang (1990))
- Clavus (Brachytoma) pseudoprincipalis (Yokoyama)*** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: see ***Pleurotoma (Drillia) pseudoprincipalis Yokoyama, 1920***
- Clavus (Clavus ?) rinsuikawaensis Nomura, 1935***
 Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 120, pl. 6, figs. 45a-b
 Holotype: IGPS no. 52253
 900 m NW of Rinsuikwa, station 6, Oboko, Byoritu-gun, Sintiku-syu, Taiwan
 Byoritu Beds
 Pliocene (Pleistocene)
 (***Clavus (Clavus ?) rinsuikawaensis Nomura*** by Masuda and Huang (1990))
- Clavus (Brachytoma) simazirianus Nomura and Zinbo, 1936***
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), 18, no. 3, p. 252 (24), pl. 11 (1), figs. 20a-b

Holotype: IGPS no. 51393

Gabusoga, Haneji-mura, Kunigami-gun (Nago City),
Okinawa Prefecture
Shimajiri Group
Pliocene

Clavus (Brachytoma) suturalis (Gray, 1838) reported by
Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds,
Taiwan

***Clavus (Clathrodrillia) sutura-nodulosus Nomura and
Zinbo, 1935***

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 171, pl. 15, figs.
28a-b

Holotype: SM no. 6158

Southern end of Yanagawa Park of Yanagawa-machi (River
cliff of the Hirose-gawa at southeastern end of Yanagawa
Park, a tributary of the Abukuma-gawa, Yanagawa-machi,
Date-gun, Fukushima Prefecture; 35°51'05"N, 140°36'05"E)
Yanagawa Formation

Miocene

(***Paradrillia suturanodulosus (Nomura and Zinbo)*** by
Oyama (1961))

Clavus (Clavus ?) tjibaliungensis (Martin, 1906) reported
by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Clavus (Elarocyma) tjibaliungensis turuhikoi Otuka, 1939

Venus, vol. 7, no. 3, p. 141, fig. 63

Holotype: UT no. 3269

Hakusyatou, Taiwan

(Byoritsu Formation?)

Pliocene

Clavus (Brachytoma) turriculoides Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2,
p. 126, pl. 6, figs. 34a-b

Holotype: IGPS no. 53460

1200 m E of Zyo-tusyowan, station 36, Tusyo-syo,
Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

Cleobula betulina (Linnaeus) reported by Tanaka et al.
(1995) from the Pliocene Kakegawa Formation, Shizuoka
Prefecture: ***Conus betulinus Linnaeus, 1758***

Cleobula figulina (Linnaeus) reported by Nobuhara and
Tanaka (1999) from the upper Pliocene Dainichi Formation,
Shizuoka Prefecture: ***Conus figulinus Linnaeus, 1758***

Cleobula quercina (Lightfoot, 1786) reported by Okumura
and Takei (1993) from the Pliocene Tonohama Formation,
Kochi Prefecture

Clinacopoma lineata Noda, 1988

Sci. Rep., Inst. Geosci. Ser. B, vol. 9, p. 36, pl. 6, figs. 1a-c

Holotype: IGUT no. 10749

Loc. no. 87-33-2 (precise locality unknown), Okinawa
Prefecture

Shinzato Formation

Pliocene

Climacopoma serratomarginata MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 37, pl. 7, figs. 17, 23,
27

Holotype: USNM no. 562801

Loc. no. 17454, shallow dug hole on west side of road and at
north foot of spur around which the road makes a shallow
bend, about 0.6 Mi N of junction of road with Highway 64 at
Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Climacopoma ziczac Noda, 1988

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 36,
pl. 6, figs. 4a-c

Holotype: IGUT no. 10752

Loc. no. 87-33-2 (precise locality unknown), Okinawa
Prefecture

Shinzato Formation

Pliocene

Clinopegma borealis Tiba, 1969 reported by Amano (1984)
from the Pliocene Rumoi Formation, Hokkaido

Clinopegma unicus (Pilsbry) reported by Noda and Amano
(1985) from the Pliocene Yuchi Formation, Hokkaido

Clithon retropictus (von Martens, 1879) reported by Ozawa
et al. (1998) from the Pliocene Aburayama Formation,
Shizuoka Prefecture

Clithon sowerbyanus (Reculz) reported by Yamada (1963)
from the Pleistocene Sakishima Formation, Mie Prefecture

Clypeomorus coralius (Dufresne) reported by Shuto (1978)
from the Miocene of Ngembak, Java, Indonesia: ***Cerithium
coralium Dufresne, 1842***

Clypeomorus deningeri (Martin) reported by Shuto (1978)
from the Middle Miocene of West Progo Mountain, Java,
Indonesia: ***Potamides (Terebralia) deningeri Martin, 1916***

Clypeomorus fennemai (Martin) reported by Shuto (1978) from
the Middle Miocene Njalindoeng bed of Tji Talahab, Java,
Indonesia: ***Cerithium (Cerithium) fennemari Martin, 1899***

Clypeomorus? kelirensis (Martin) reported by Shuto (1978)

from the Middle Miocene of West Progo Mountain, Java, Indonesia: *Potamides (Terabralia) kelirensis* Martin, 1917

Clypeomorus? preangerensis (Martin) reported by Shuto (1978) from the Middle Miocene Njalindoeng bed, Java, Indonesia: *Cerithium (Cerithium) preangerensis* Martin, 1899

Clypeomorus tuberculatus (Linnaeus) reported by Shuto (1978) from the Pliocene of Sonde, Java, Indonesia: *Cerithium tuberculatum* Linnaeus, 1759

Clypeomorus wanneri (Martin) reported by Shuto (1978) from the Middle Miocene of Kembang Sokkoh, Java, Indonesia: *Cerithium (Vulgocerithium) wanneri* Martin, 1916

Clypeomorus? woodwardi (Martin) reported by Shuto (1978) from the Miocene of Ngembak, Java, Indonesia: *Potamides woodwardi* Martin, 1884

Clypersomorus coralium (Kiener) reported by Matsushima (1974) from the Shell Mound of Kanagawa Prefecture

Cocculina japonica Dall, 1907 reported by Iwai (1959) from the Pliocene (Pleistocene) Higashimeya Formation, Aomori Prefecture

Cocculina loochooensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 35, pl. 1, figs. 6, 11, 16
Holotype: USNM no. 562649

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

Cochlespira kotakai Noda, 1988

Sci. Rep., Inst. Geosc. Univ. Tsukuba, Ser. B, vol. 9, p. 54, pl. 13, figs. 16a-b

Holotype: IGUT no. 1089855

Loc. No. 87-23L, cliff near Kaniku, Hamahika-shima, Katsuren-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Cochlioconus gradates Yokoyama, 1928 (n. gen. et n. sp.)

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 338, pl. 66, fig. 3

Holotype: GT no. ? (designated by Hatai and Nisiyama (1952)), Paratype: GT no. ? (fig. 4)

Takajo Formation

Pliocene (Miocene)

(Synonymus with *Thatcheria mirabilis* Angas by Hatai and

Nisiyama (1952))

Coelophysis shukuborensis (Itoigawa) reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Retusa (Coelophysis) shukuborensis* Itoigawa, 1958

Coleophysis (Sulcoretusa) minimus (Yokoyama) reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Retusa (Coleophysis) minima* (Yokoyama) by Masuda and Noda (1976))

Coleophysis succinctus (A. Adams) reported by Matsushima (1969) from the Holocene Sakuragich Formation, Kanagawa Prefecture (*Retusa (Coleophysis) succincta* (A. Adams) by Masuda and Noda (1976))

Colina (Ishnocerithium?) hilegondae (Martin) reported by Shuto (1978) from the Middle Miocene of Tji Angsana, Java, Indonesia: *Cerithium (Hemicerithium) hilegondae* Martin, 1922

Collisella heroldi (Dunker) reported by Hase (1967) from the Holocene "Nakatsuyama" Formation, Miyagi Prefecture (*Collisella (Conoidacmea) heroldi* (Dunker) by Masuda and Noda (1976))

Collonista globula (Philippi, 1848) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Collonista laeta (Montrouzier, 1863) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (*Collonista costulosa* (Sowerby) by Masuda and Huang (1990))

Collonista pilula (Dunker, 1860) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Colpospira (Acutospira) tashiroi Kotaka, 1959

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 103, pl. 13, figs. 1-10

Holotype, IGPS no. 77718 (fig. 1), Paratype: IGPS nos. 77719, 77748 (figs. 2-8)

Loc. no. Ka-3, Fukami (Eastern slope of the Miroku-dake, Himedo-machi, Amakusa-gun), Kumamoto Prefecture

Fukami Formation

Eocene

Colpospira (Acutospira) yabei Kotaka, 1959

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 104, pl. 13, figs. 11-17

Holotype: IGPS, no. 36182 (figs. 13, 15), Paratype: IGPS nos.

36182-2 – 4 (figs. 14, 16, 17)

Loc. no. NS-8, south coast of Okinoshima, Iojima-machi, Nishisonohi-gun, Nagasaki Prefecture
Okinoshima Formation
Oligocene (Eocene)

***Columbarium habeii* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 26, pl. 6, figs. 21-23b, pl. 11, figs. 1, 13
Holotype: IGUT no. 10192

Loc. no. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Columbella (Anachis) awana* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, fig. 6

Holotype: UT no. ? (CM no. 21814)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(Synonymus with *Zafra sinensis* (Sowerby) by Oyama (1973))

***Columbella (Atilia) bicinctella* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 345, pl. 67, fig. 6

Holotype: GT no. ?

Small side cliff of the main road near the benchmark (10.54 m), about 600 m E of Nihonmatsu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture (32°06'45"N, 131°31'46"E)

Heki Formation

Pliocene

(*Mitrella bicinctella* (Yokoyama) by Hatai and Nisiyama (1952): *Pyrene bicinctella* (Yokoyama) by Makiyama (1959))

***Columbella (Mitrella) dunkeri* Tryon** reported by Yokoyama (1922) from the Shimosa Group, Chiba Prefecture

***Columbella (Anachis) fratercula* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 9, p. 373, pl. 43, fig. 3

Holotype: UT no. ?

Tonami, Takatoyo-mura, Atsumi-gun (Toyohashi City), Aichi Prefecture

Upper Clay (Toyohashi Formation)

Pleistocene (middle Pleistocene)

(*Pyrene fratercula* (Yokoyama) by Makiyama (1958))

***Columbella (Atilia) masakadoi* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 62, pl. 2, fig. 23

Holotype: UT no. ? (CM no. 20907)

Otake, (Otake, Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

(Synonymus with *Mitrella (Mitrella) bicincta* (Gould) by Oyama (1973))

***Columbella (Atilia) praecursor* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 61, pl. 2, fig. 22

Holotype: UT no. ? (CM no. 20903)

Shito, Tega and Otake (Shito, Ichihara City; Tega, Shonan-machi, Higashikatsushika-gun; Otake, Narita City, Chiba Prefecture)

Shimosa Group (Semata, Inba and Kioroshi Formations)

Pleistocene

(Synonymus with *Mitrella (Indomitrella) lischkei* (Smith) by Oyama (1973))

***Columbella (Atilia) smithi* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 60, pl. 2, fig. 24

Holotype: UT no. ? (CM no. 20148)

Otake, Kamenari and Tega (Otake, Narita City; Kamenari, Inzai City; Tega, Shonan-machi, Higashikatsushika-gun; all in Chiba Prefecture)

Shimosa Group (Kioroshi and Inba Formations)

Pleistocene

(non *C. smithi* Angas, 1877: Synonymus with *Mitrella (Indomitrella) yabei* (Nomura, 1935) by Oyama (1973))

***Columbella (Atilia) turriculata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 61, pl. 2, fig. 22

Holotype: UT no. ? (CM no. 20902)

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

(*Mitrella (Indomitrella) turriculata* (Yokoyama) by Oyama (1973))

***Columbella (Euplica) versicolor* Sowerby, 1832** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Colus (Aulocofusus) asagaiensis* Makiyama, 1934**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 10, no. 2, art. 6, p. 164, pl. 7, figs. 63-64

Holotype: GK no. ?

Yotsukura cliff (Sea cliff of Yotsukura-machi, Iwaki City, Fukushima Prefecture; 37°07'N, 141°E)

Asagai Formation

Oligocene

***Colus calameus hiranoi* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 43, pl. 2, figs. 4a-b

Holotype: GIYU no. ?

Off Choshi, Chiba Prefecture (precise locality unknown)

Recent

***Colus (Aulacofusus) fujimotoi* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 122, pl. 5, figs. 1-7

Holotype: TKD, no. 10234 (figs. 1, 2)

Loc. A15, road-side cliff at about 1 km N of Yotsukura Fishing Port, Yotsukura-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

***Colus (Aulacofusus) sinanoensis* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 80, pl. 13, figs. 107, 108

Holotype: GK no. ?, Paratype: GK no. ?

Small valley at foot of Daimyojin-dake (800 m SW of the summit, Nishiuchimura, Chiisagata-gun, Nagano Prefecture; 36°19'N, 138°07'E)

Upper Uchimura Formation

Miocene

***Cominella (Cominula) okinavensis* MacNeil, 1960** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Comitas (Fusiturricula) habei* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 95, pl. 7, figs. 15, 19, pl. 9, fig. 1

Holotype: GKL, no. 4990 (pl. 7, figs. 15, 19)

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

Comitas (Fusiturricula) kaderleyi* (Lischke)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture (Comitas (Fusiturricula) kadelyi* (Lischke)**): ***Pleurotoma kaderleyi* Lischke, 1872**

***Comitas kirai* Powell, 1969** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Comitas (Fusiturricula) miyazakiensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 96, pl. 5, figs. 1, 4, pl. 10, fig. 16

Holotype: GKL no. 6055 (pl. 5, figs. 1, 4), Paratype: GKL no. 6080

Road side small cutting at Nihonmantsu, Takanabe-cho;

Paratype, southeast cliff of Kizukune Hill, Tonda-machi, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Comitas oyamai* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 16, as a type identified by Yokoyama (1920; Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 35, pl. 1, figs. 17a-b) as *Pleurotoma kamakurana* Pilsbry

Holotype: CM no. 20062

Koshiba, Kanazawa-Shiba-machi, Yokohama City, Kanagawa Prefecture

Koshiba Formation

Pliocene

(Invalid both of "*Cryptogemma*" *yokoyamai* Oyama n. n., 1954 and (Oyama, 1954; In Taki and Oyama, Spec. Pap., Palaeont. Soc. Japan, no. 2, p. 24, pl. 2, figs. 17a-b (reproduced from original figures) and *Comitas yokoyamai* (Oyama) (Powell, 1969; Indo-Pacific Mollusca, vol. 2, p. 277, pl. 222, figs. 1, 2 (reproduced from original figures))

***Compsodrillia nakamurai* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 49, pl. 2, fi. 18

Holotype: GK no. ?

Loc. no. 522 (Left road-side cutting about 150 m S of the tunnel at Shimoiida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34°48'N, 137°55'E)

Hosoya Formation

Pliocene

***Compsodrillia ? torvita* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 113, pl. 9, fig. 25

Holotype: USNM no. 562863

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Conasprella cancellatus* (Hwass)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture:

***Conus cancellatus* Hwass in Bruiguiere, 1792**

***Conasprella precancellatus* (MacNeil)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Conus precancellatus* MacNeil, 1960**

***Conocerithium (Cocerithium) ermelingianum* (Martin)** reported by Shuto (1978) from the Middle Miocene Djokjokarta, Java, Indonesia: ***Potamides ermelingianus* Martin, 1887**

***Conolithus kanayai* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 214, pl. 22, figs. 15-18

Holotype: GK-L no. 6909 (figs. 15, 18), Paratype: GK-L no. 6908 (figs. 16, 17)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Conradia perclathrata* Sakurai** reported by Baba (1992) from the Plio-Pleistocene Nakatsu Group, Kanagawa Prefecture

***Conus aculeiformis* Reeve, 1844** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan (*Asprella* (*Conasprella*) *orbigny* (Audouin) by Masuda and Huang (1990))

***Conus bonus* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 110, pl. 7, figs. 7a-b

Holotype: IGPS no. 52393

Wangwa station 24, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan

Byoritsu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

(*Asprella* (*Endemoconus*) *bonus* (Nomura) by Masuda and Huang (1990))

***Conus capitaneus* Linné** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Conus* (*Phizoconus*) *capitaneus* Linné by Masuda and Noda (1976))

***Conus* (*Rhizoconus* ?) *chinoi* Shikama, 1970**

Venus, vol. 29, no. 4, p. 115, text-figs. 1-4

Holotype: Chino Coll., Paratype: Chino Coll. and GYNU no. ?

Ogokuda beach, Shiono-misaki, Wakayama Prefecture

Living specimen

Recent

***Conus comatosa* Pilsbry** reported by Yokoyama (1928) from the Pliocene (Kounji Formation), Miyazaki Prefecture (*Conus* (*Asprella*) *comatosa* var. *Pilsbry* by Hatai and Nisiyama (1952): *Conus comatosa* Pilsbry, 1904)

***Conus comatosaeformis* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 29, pl. 1, fi. 10

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

South of Kwan-in San, Taikei Gai, Shinchik-syu, Taiwan

Lower Byoritsu Beds

Pliocene

(*Asprella australis comatosaeformis* (Yokoyama) by Makiyama (1960))

***Conus coronatus* Gmelin, 1792** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan (*Conus* (*Virroconus*) *coronatus* (Gmelin) by Masuda and Huang (1990))

***Conus djarianensis* Martin, 1906** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan (*Asprella* (*Endemoconus*) *djarianensis* (Martin) by Masuda and Huang (1990))

***Conus d'orbigny* (Audouin, 1831)** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan (*Conus* (*Sadorbigny*) (*Audouin*): *Asprella* (*Conasprella*) *orbigny* (Audouin) by Masuda and Huang (1990))

***Conus flavidus* Lamarck, 1810** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan

***Conus geographus* Linné** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Conus* (*Gastridium*) *geographus* Linné by Masuda and Noda (1976))

***Conus glanus* Hwass** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Conus* (*Hermes* ?) *glans* Hwass by Masuda and Noda (1976))

***Conus gratacapi* Pilsbry, 1904** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Conus hardi* Martin, 1895** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Conus ichimurai* Tan, 1971**

Paleogene Strat. Paleont. Taiwan (Posthumous Pap.), p. 41, pl. 7, figs. 8-11

Holotype: GITNU no. ? (fig. 8), Paratype: GITUN no. ? (figs. 9-11)

Hokkoeki, near Kokusei, Kokusei-syo, Noko-gun, Taityu Prefecture, Taiwan

Dotitan Shale

Eocene (Oligocene by Masuda and Huang (1990))

(*Conus* (*Virgiconus*) *ichimurai* Tan by Masuda and Huang (1990))

***Conus* (*Conasprella*) *ichinoseana* (Kuroda)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

Conus kikaiensis* Pilsbry, 1904** reported by Yokoyama (1928) from the Pliocene Lower Byoritz Beds, Taiwan (Asprella (Conasprella) cancellata* Bruguiere, 1792** by Makiyama (1960))

***Conus lignarius* Reeve, 1843** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Conus (Lithoconus) litteratus* (Linnaeus)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

Conus lividus* Hwass** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (Conus (Virgiconus) lividus* Hwass** by Masuda and Noda (1976))

***Conus loochoensis* MaNeil, 1960**

U. S. Geol. Surv. Prof. Pap., 339, p. 124, pl. 7, fig. 24, pl. 10, fig. 12

Holotype: USNM no. 562877

Loc. no. 17633, low cliff at canyon head just east of trail pass through ridge about 0.4 miles SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

(***Conus (Chelyconus) loochoensis* MacNeil** by Masuda and Noda (1976))

***Conus macneili* Kanno, O'Hara and Caagusan, 1982**

Geol. Geogr. Southeast Asia, vol. 24 p. 120, pl. 19, figs. 8a-b

Holotype: JUE no. 10061, Paratype: JUE no. 10062

River floor and the river side bank of the Madlum River, near the Tartaro Bridge, San Miguel, Bulacan, central Luzon, Philippines

Tartari Formation

Upper Miocene

***Conus moniwaensis* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol), vol. 21, no. 1, p. 44, pl. 2, fig. 16

Holotype: GS no. 23950

Small valley, N of the electric power-house on the bank of the Natori-gawa, Moniwa, Oide-mura, Natori-gun (Taihaku-ku, Seandai City), Miyagi Prefecture (38 °13'N, 140 °47'E)

Moniwa Formation

Miocene

Conus mucronatus* Reeve** reported by MacNeil (1960) from the Miocene Yobanaru Formation, Okinawa Prefecture (Conus ("Endemoconus") mucronatus* Reeve** by Masuda and Noda (1976))

Conus musatella* Linné** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (Conus (Hermes) mussatella* Linné** by Masuda and Noda (1976))

Conus ngavianus* Martin, 1906** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan (Asprella (Endemoconus) ngavianus* (Martin)** by Masuda and Huang (1990))

Conus odengensis* Martin, 1906** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan (Asprella (Endemoconus) odengensis* (Martin)** by Masuda and Huang (1990))

***Conus oinouyei* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 30, pl. 1, fig. 16

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

South of Kwan-in San, Taikei Gai, Shinchik, Taiwan

Lower Byoritz Beds

Pliocene

Conus ornatissimus* Martin, 1906** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan (Asprella (Conasprella) ornatissimus* (Martin)** by Masuda and Huang (1990))

***Conus (Endemoconus) oyamai* Tomida, 1989**

Bull. Mizunami Fossil Mus., no. 16, p. 96, pl. 14, figs. 5a-c

Holotype: MFM no. 110106

Loc. No. 5, the east side of the Okumotona Quarry, Kyonan-cho, Awa-gun, Chiba Prefecture; 139 °51'20"E, 35 °09'20"N

Senhata Formation

Mio-Pliocene

***Conus precancellatus* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 122, pl. 10, fig. 11

Holotype: USNM no. 562876

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Conus pseudosulcatus* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 108, pl. 7, figs. 3a-b

Holotype: IGPS no. 52334

Wangwa station 34, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

(Asprella (Conasprella) pseudosulcatus (Nomura) by Masuda and Huang (1990))

***Conus shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 122, pl. 6, figs. 5, 11
Holotype: USNM no. 562771

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(Conus (Asprella) shimajiriensis MacNeil by Masuda and Noda (1976))

Conus sieboldi Reeve reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture

***Conus sieboldianus* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 92, pl. 4, figs. 16, 17

Syntype: GK no. 401

East side of Nito (about 100 m E of the shrine, NE of Kakegawa City, Shizuoka Prefecture; 34°46'05"N, 138°01'05"E)

Tenno Formation

Pliocene

***Conus significatus* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 111, pl. 7, figs. 2a-b

Holotype: IGPS no. 52394

Wangwa station 24, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

(Asprella (Conasprella) significatus (Nomura) by Masuda and Huang (1990))

Conus sinensis Sowerby reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Beds, Taiwan

(Asprella (Conasprella) cancellata Bruguière, 1792 by Makiyama (1960))

Conus tessellatus Born, 1778 reported by Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture

Conus textile Linné reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Conus (Darioconus) textile* Linné by Masuda and Noda (1976))

***Conus tokunagai* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 632, pl. 50, figs. 83-84

Holotype: GT no. 1593

Stream-side of the Nisatai valley (About 200 m SE of the bridge S of Nisatai, Nisatai-mura, Ninoge-gun (Ninohe City), Iwate Prefecture; 40°17'53"N, 141°19'24"E)

Shiratori Formation (Kadonosawa Formation)

Miocene

***Conus (Asprella) toyamaensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 95, pl. 5, figs. 11a-12

Holotype: JC no. 1400086 (figs. 11a-b), Paratype: JC no. 1400087 (from Iwakishin)

Iwakishin, Osawano-machi, Kaniikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

***Conus tuberculatus* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 34, pl. 1, figs. 15, 16

Holotype: GT no. ? (CM nos. 20058), (Paralectotype: CM20059 by Oyama (1973))

Koshiba (Sea cliff of Shiba, Kanazawa-machi, Tosuka-ku, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Lower Musashino=Pliocene (Pleistocene)

(Preoccupied by Dujardin (1837): Synonymus with *Conus tuberculatus* Tomlin, 1937 by Hatai and Nisiyama (1852))

Conus tuberculosa Tomlin reported by Ozaki (1954) from the Pliocene strata in Chuba Prefecture (*Conus (Parviconus) tuberculosa* Tomlin by Masuda and Noda (1976))

Conus (Parviconus) tuberculatus Tomlin reported by Aoki and Baba (1984) from the Pleistocene Jizodo Formation, Chiba Prefecture (*Conus (Parviconus) tuberculosa* Tomlin)

Conus vexillum Gmelin, 1792 reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan

Conus vitulinus Hwass reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Conus (Dauciconus) vitulinus* Hwass by Masuda and Noda (1976))

Conus voluminalis Hinds, 1844 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Conus (Asprella) wakayamaensis Kuroda reported by Shikama and Masujima (1969) from the Pliocene Imaizumi Formation, Kanagawa Prefecture (*Conus (Conasprella) wakayamaensis* Kuroda by Masuda and Noda (1976))

***Conus yabei* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 18, n. 2, p. 107, pl. 7, figs. 5a-6b

Holotype: IGPS no. 52367 (fig. 5a-b), Paratype: IGPS no. 52367 (figs. 6a-b)

400 m SE of Zyo-tusyowan, station 13, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(*Asprella (Endemoconus) yabei* (Nomura) by Masuda and Huang (1990))

***Conus yoshidensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 220, pl. 7, figs. 11, 12

Holotype: TKD no. 5841 (fig. 11), Paratype: TKD nos. 5842, 2843

Loc. No. 207, a river side cliff, near a fall, Nenokami in Hikokubo, Yoshida-machi, Chichibu-gun, Saitama Prefecture; Paratype, loc. No. 206, a mountain side cliff, about 300 m E of the watwr fall at Nenokami, Yoshida-machi, Chchibu-gun, Saitama Prefecture; Paratype, loc. 205, a right river side cliff of the Akahira River, between Tomita and Fukuta, Chichubu City, Saitama Prefecture; all of the Nenokami, Yoshida-machi, Chichibu-gun, Saitama Prefecture, mountain side cliff, about 300 m E of the f

Nenokami Formation

Oligocene (Miocene)

(*Conus (Conasprella) yoshidensis* Kanno by Masuda and Noda (1976))

***Convexia* Noda, 1975 n. subgen.**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 45, no. 2, p. 76, Type-species; *Turcricula (Convexia) convexiuscula*

(Yokoyama) described from the Pliocene Kamakura Formation, Kanagawa Prefecture

***Coraeophos meisensis ninohesis* Chinzei, 1959**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt. 1, p. 114, pl. 9, figs. 18-22

Holotype: CM no. 8532 (figs. 18-20), Paratype: CM no. 8533 (figs. 21-22)

Loc. no. 1, a small cliff, 100 m W of Ochiai, Kintaichi-mura, Ninohe-gun (Ninoge City), Iwate Prefecture

Kubo Formation

Pliocene

(*Phos (Coraeophos) ninohensis* (Chinzei) by Masuda and Noda (1976))

Coralliophila costularia* (Lamarck)** reported by Kanno and Ogawa (1964) from the Miocene Takinoue Formation, Hokaido (Coralliophila costularis* (Lamarck)** by Masuda and Noda (1976))

***Coralliophila hataii* Hayasaka, 1961**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), vol. no. p. 81, pl. 10, figs. 11a-b

Holotype: IGPS no. 78725, Paratype: IGPS nos. 78724 (from the "Tonna Bed"), 78726a-b (from "Shell Sands")

Loc. No. SC132-144, "Tonna Beds" at Takamastu coast, Akabane-cho, Atsumi-gun, Aichi Prefecture: Paratype, "Mya Bed" at Takamastu coast, Akabane-cho, Atsumi-gun, Aichi Prefecture, and "Shell Sands" at Ura, Tahara-cho, Atsumi-gun, Aichi Prefecture

Toshima Formation

Pleistocene

***Coralliophila (Hirtomurex) iwaensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 64, pl. 3, fig. 8

Holotype: USNM no. 562689

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

Coralliophila nakamurai* (Otuka)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see "Trophon***" ***nakamurai* Otuka, 1934**

***Coralliophila pilsbryi* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), vol. 18, no. 2, p. 164, pl. 8, figs. 13a-b

Holotype: IGPS no. 53453

Bosiho, station 12, Siko-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritz Beds

Pliocene

***Coralliophila (Fusomurex) shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 65, pl. 3, figs. 6, 12

Holotype: USNM no. 562687

Loc. no. 17458, blue gray silty sand exposed at base of seacliff that forms a headland about 0.8 Mi S of Gushichan, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Coralliophila shutoi* Noda, 1991**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 46, figs. 15-9a-b

Holotype: IGUT no. 11543

Loc. No. 293, small exposure ot W of Kohagura, Naha City, Okinawa Prefecture

Yonabaru Formatiojn

Pliocene

***Coralliophila tokudai* Yokoyama, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt 6, p. 235, pl. 2, fig. 1

Holotype: GT no. ?

In the Gengoro-zawa, a branch of the Urashima-gawa, Numata-mura (-cho), Uryu-gun, Ishikari Province, Hokkaido (Precise locality unknown)

Middle Okada (Okada Formation)

Miocene

***Coralliophila (Genkaimurex) varicose* Kuroda** reported by Shikama and Masujima (1969) from the Oligocene Imaizumi Formation, Kanagawa Prefecture

***Coralliophila yabei* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 85, pl. 6, figs. 10a-b

Holotype: IGPS no. 55143

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (Ananai Formation)

Pliocene

***Coronacomitas* Shuto, 1983** n. subgen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 25, no. 1, p. 1, Type-species; *Paradrillia (Coronacomitas) gemmata* Shuto, 1983 described from off the Croker Island, Australia

***Paradrillia (Coronacomitas) gemmata* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 25, no. 1, p. 3, pl. 2, fig. 7, text-figs. 1, 2

Holotype: AM no. C134694a, Paratype: AM no. C134469b

Approximately 100 miles N of Croker Island, Northern Territory, Australia; 9°30'S, 132°34'E

Depth ? P. H. Colman coll., Nov. 9, 1969

Recent

***Coronasyrinx molengraffi* (Tesch)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Pleurotoma (s. s.) molengraffi* Tesch, 1925**

***Coronasyrinx omuensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 44, pl. 9, figs. 24a-b

Holotype: IGUT no. 10292, Paratype: IGUT nos. 10485-1, ~-5

Loc. No. 435, road side cliff, about 500 m NW of Shikenbaru, Tamagusuku-mura, Shimajiri-gun, Okinawa Prefecture Shinzato Formation

Pliocene

***Coronasyrinx takabanarensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 109, pl. 5, fig. 21

Holotype: USNM no. 562756

Loc. no. 17476, blue gray silty clay underlying tuffaceous beds in road cut near top of steep slope about 0.6 Mi S of

Miyagusuku, Takabanare-shima, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Cosmasyrinx makiyamai* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 98, pl. 7, figs. 6, 10, 16

Holotype: GKL no. 4935 (figs. 10, 16), Paratype: GKL nos. 4935, 4936

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Costalynia costulata* (Dunker)** reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

***Crassispira (Birmadrillia) constricta* Vredenburg** reported by Shuto (1984) from the Miocene of Myaukmigon, Burma: ***Drillia (Crassispira) constricta* Vredenburg, 1921**

***Crassispira (Crassispira) gautama* (Vredenburg)** reported by Shuto (1984) from the Miocene of Thanga, Burma: ***Drillia (Brachytoma) gautama* Vredenburg, 1921**

***Crassispira hataii* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 112, pl. 5, fig. 30, pl. 6, fig. 1

Holotype: USNM no. 562764

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

Crassispira (Crassispira) iravadica* Vredenburg** reported by Shuto (1984) from the Miocene of Myaukmigon, Burma (Crassispira iravadica* (Vredenburg): *Drillia (Crassispira) iravadica* Vredenburg, 1921**

***Crassispira noharai* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 46, pl. 4, figs. 11, 20, pl. 11, fig. 5

Holotype: IGUT no. 10503, Paratype: IGUT nos. 10486-1, ~-6

Loc. No. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Crassispira ? subpromensis* Vredenburg** reported by Shuto (1984) from the Miocene of Kyudawon, Burma (Crassispira subpromensis* (Vredenburg): *Drillia (Crassispira) subpromensis* Vredenburg, 1921**

***Crassispira pseudoprincipalis* (Yokoyama)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Crassopleura brevis* (Yokoyama)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Crepidula aculeatea* Gmelin** reported by Yokoyama (1925) from the Pliocene (Miocene) Minato Formation, Ibaraki Prefecture

***Crepidula auricula* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 7, P. 11, pl. 1, fig. 5

Holotype: GT no. ?

Kobisa (Kobisa, Obisa-mura, Futaba-gun, Fukushima Prefecture; 37°08'05"N, 141°E)

Asagai Formation

Miocene (Oligocene)

(Species name is preoccupied by Blainville (1824);

***Crepidula matajiroi* Makiyama** by Makiyama (1957))

***Crepidula convexa* Yokoyama, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 3, P. 14, pl. 3, fig. 3

Holotype: GT no. ?

Ushikubo (Sea coast of Ushikubo, Minato-machi, Oka-gun, Ibaraki Prefecture; 36°20'N, 140°36'07"E)

Minato Formation

Pliocene (Miocene)

(Specific name *convexa* preoccupied by Say, 1822;

***Crepidula zyobanica* Nomura and Hatai, 1936)**

***Crepidula costifera* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 144, pl. 17, fig. 2

Holotype: SM no. 6894

Nishigoto (Road cliff about 2 km NW of Nishigoto on road leading to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36°59'03"N, 140°22'E)

Tanagura Formation

Miocene

***Crepidula grandis* Middendorf** reported by Kuroda (1931) from the Miocene Ogawa Formation, Nagano Prefecture

***Crepidula gravispinosa* Kuroda and Habe** reported by Hayashi and Miura (1973) from the Miocene Okazaki Formation, Aichi Prefecture

***Crepidula hataiana* Kotaka, 1955**

Saito Ho-on Kai Mus., Res. Bull., no. 24, p. 29, pl. 2, fig. 7

Holotype: IGPS no. 74007

Loc. no. Ao-015, upper course of the Isomatsu-gawa,

Wakimoto-mura, Kitatsugaru-gun, Aomori Prefecture
Isomatsu Formation
Oligocene (early Miocene)

***Crepidula isimotoi* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 626, pl. 48, figs. 56-61, pl. 51, fig. 59b

Syntype: GT no. 1550

Shiratori (About 400 m SE of the temple at Shiratori, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°14'05"N, 141°20'23"E)

Shiratori (Kadonosawa Formation)

Miocene

***Crepidula jimboana* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 194, pl. 11, figs. 1a-b

Holotype: GT no. ?

Makumbets, Tokachi (Probably, Makunbetsu caol-mine, N of Noya, Shizunai-machi, Shizunai-gun, Hidaka Prevince, Hokkaido; 42°25'48"N, 142°30'12"E)

(Noya Formation)

Miocene

***Crepidula matajiroi* Makiyama, 1957**

Makiyama, Palaeont. Soc. Japan, Spec. Pap., no. 3, pl. 11, figs. 5a-c (reproduced from *Crepidula auricula* Yokoyama, 1924; p. 11, pl. 1, figs. 5a-c)

Holotype: TU no. ?

Kobisa (Kobisa, Obisa-mura, Futaba-gun, Fukushima Prefecture; 37°08'05"N, 141°E)

Asagai Formation

Oligocene

***Crepidula minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 283, pl. 4, figs. 8a-b

Holotype: ESN no. 20058, Paratype: ESN no. 20059

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Oidawara Formation

Miocene

(***Crepidula (Bosrycaplus) minoensis* Itoigawa** by Masuda and Noda (1976))

***Crepidula navia* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 1, p. 7, pl. 1, figs. 4, 5

Syntype: GK no. ?

Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36°40'N, 138°07'E)

Shigarami Formation

Pliocene

***Crepidula nitadoriensis* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 626, pl. 48, figs. 63a-b

Holotype: GT no. 1548

West side of S river of the Appi-gawa (about 700 m SW of the bridge at Asaishi near Nitadori, Gogenji-mura, Nihohe-gun, Iwate Prefecture; 40°13'48"N, 141°14'35"E)

Kadonosawa Formation

Miocene

***Crepidula nitadoriensis sogabei* Kamada, 1962**

Palaont. Soc. Japan, Spec. Pap., no. 8, p. 156, pl. 18, figs. 18-20

Holotype: IGPS no. 79391 (figs. 18a-c, 20)

Numanouchi habor, Toyoma-machi, Taira City (Iwaki City), Fukushima Prefecture

Numanouchi Formation

Miocene

***Crepidula orbella* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 76, pl. 4, figs. 22, 23

Holotype: GT no. ? (CM nos. 20215, 20214: 20215 is noted as missing by Oyama (1973))

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Lower Musashino=Pliocene (Pleistocene)

(Synonymus with *Crepidula (Siphopatella) walshii* Reeve by Hatai and Nisiyama (1952) and Oyama (1973))

***Crepidula symmetrica* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 145, pl. 17, figs. 1a-b

Holotype: SM no. 2671

Odaka (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Hihashishirakawa-gun, Fukushima Prefecture: 37°10'N, 140°26'03"E)

Tanagura Formation

Miocene

(Synonymus with *Crepidula costifera* Nomura and Hatai, 1936 by Oyama (1961))

***Crepidula turugasakana* Nomura and Hatai, 1935**

Saito Ho-on Kai, Mus., Res. Bull., no. 6, p. 127, pl. 9, fig. 1a-b

Holotype: SM no. 6151

Daishaka (Near the foot of the northern slope bordering a creek about 200 m SE of the bench-mark (35.57 m) on the Ushu highway, and about 2.1 km SW of the shrine at Tsurugasaka, Shinjo-mura, Higashisugaru-gun, Aomori Prefecture; 40°46'32"N, 140°37'21"E)

Daishaka Formation

Pliocene (Pleistocene)

***Crepidula (Siphopatella) walshi* Reeve, 1859** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Siphopatella walshi* (Reeve) by Masuda and Huang (1990))

***Crepidula yokoyamai* Matsumoto, 1930**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), no. 3, p. 108, pl. 2, fig. 6

Holotype: unknown

Northern foot of the Takadate hill (a short distance W of the Kumanodo Shrine, Kumanodo, Takadate-mura, Natori-gun (Natori City), Miyagi Prefecture; 38°12'N, 140°51'E)

Moniwa Formation

Miocene

***Crepidula zyobanica* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 145, Type; *Crepidula convexa* Yokoyama, 1925

Holotype: GT no. ?

Ushikubo (Sea coast of Ushikubo, Minato-machi, Oka-gun, Ibaraki Prefecture; 36°20'N, 140°36'07"E)

Minato Formation

Pliocene (Miocene)

(Specific name *convexa* was preoccupied by Say: see *Crepidula convexa* Yokoyama)

***Crepidatella lingulata* (Gould)** reported by Kanehara (1942) from the Plio-Pleistocene Setana Formation, Hokkaido

***Creseis acicula* (Rang)** reported by Noda (1972) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Cribraria (Thalostolida) cincta* (Marten)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Cribraria (Thalostolida) teres* (Gmelin)** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

***Crucibulum tubura* (Otuka)** reported by Hirayama (1954) from the Miocene Kobana Formation, Tochigi Prefecture

***Cryptogemma yokoyamai* Oyama, 1954 n. n.**

In Taki and Oyama, 1954, p. 24, pl. 2, fig. 17, Type; *Pleurotoma kamakurana* Yokoyama, 1920; Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 35, pl. 1, fig. 17

Holotype: UT no. ?

Koshiba, Kanazawa-Shiba-machi, Kanazawa-ku, Yokohama City, Kanagawa Prefecture

Koshiba Formation

Pliocene (early Pleistocene)

(*Comitas oyamai* Masuda and Noda (1976))

Cryptonatica adamsiana (Dunker) reported by Majima (1984) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture: *Natica adamsiana* Dunker, 1859

Cryptonatica andoi (Nomura) reported by Majima (1989) from the Pleistocene Sawane Formation, Niigata Prefecture: see *Natica* (*Tectonatica* ?) *andoi* Nomura, 1935

Cryptonatica clausa (Broderip and Sowerby) reported by Noda et al. (1984) from the Pliocene Yuchi Formation, Hokkaido: *Natica clausa* Broderip and Sowerby, 1829

Cryptonatica ichishiana (Shibata) reported by Majima (1984) from the Miocene Jyoyama Mudstone, Yatsuo Formation, Toyama Prefecture: see *Tectonatica ichishiana* Shibata, 1970

Cryptonatica janthostoma (Deshayes) reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture: *Natica janthostoma* Deshayes, 1839

Cryptonatica janthostomoides (Kuroda and Habe, 1949) reported by Majima (1984) from the Pliocene (Pleistocene) Shibikawa Formation, Akita Prefecture

***Cuma pseudodiadema* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 122, pl. 19, fi. 5

Holotype: GSJ no. ?

The upper sand-layer, west shore of Nanao Port, Nanao City, Ishikawa Prefecture

Upper Sand-Layer (Marine Terrace Deposits ?)

Pleistocene

(*Purpura* (*Thais*) *pseudodiadema* (Yokoyama) by Makiyama (1960))

Cuspeulima ozawai (Yokoyama) reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

***Cyatharella hiradoensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 110, pl. 5, fig. 12

Holotype: GK no. ?

Dainichi (Valley about 350 m NW of Dainichi, Ugari-mura, Suchi-gun, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

***Cyatharella totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 111, pl. 5, fig. 6

Holotype: GK no. 95

Dainichi (Valley about 350 m NW of Dainichi, Ugari-mura, Suchi-gun, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Cyatharella* (*Etremella*) *totomiensis* Makiyama by Hatai and Nisiyama (1952))

***Cyatharella totomiensis tachymorpha* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 111, pl. 5, fig. 10

Syntype: GK no. 262

Honohashi (about 150 m W of Honohashi, Saigo-mura and 2.5 km N of the Kakegawa railway station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

(*Cyatharella* (*Etremella*) *totomiensis tachymorpha* Makiyama by Hatai and Nisiyama (1952): *Philbertia* (*Pseudodapnella*) *tachymorpha* (Makiyama) by Ozawa et al. (1998))

"*Cyclostrema*" *cinguliferum* A. Adams, 1850 reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

Cyclostrema duplicatum Lischke reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture (*Pygmaerota duplicatum* (Lischke) by Hatai and Nisiyama (1952))

"*Cyclostrema*" *eburneforme* Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Serrt. (Geol.), vol. 18, no. 2, p. 210, pl. 10, figs. 38a-c

Holotype: IGPS no. 53861

700 m NE of Nanseizan, station 19, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(*Pygmaerota eburneforme* (Nomura) by Masuda and Huang (1990))

***Cyclostrema lamellate* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 426, pl. 48, fig. 5

Holotype: UT no. ? (CM no. 23889)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Chamalycaeus melanopoma* (Pilsbry) by Oyama (1973))

"*Cyclostrema*" *miicans* A. Adams, 1850 reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

Cyclostrema pulchellum Dunker reported by Yokoyama, 1926 (Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8.)

from the Pliocene Sawane Formation, Niigata Prefecture (Re-identified with *Pseudoliotia micans* (A. Adams) by Hatai and Nisiyama (1952))

***Cyclostrema stillicidiatum* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 114, pl. 5, fig. 26

Holotype: UT no. ? (CM no. 21128)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pleistocene

(*Moerchiella stillicidiata* (Yokoyama) by Oyama (1973))

***Cyclostrema sulcatum* A. Adams, 1859** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Cylichna acuta* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 32, pl. 2, fig. 13

Holotype: UT, no. ?

Cutting along the railway at Oji (Kita-ku), environs of Tokyo (Tokyo Prefecture)

Oji Shell bed (Tokyo Prefecture)

Pleistocene

***Cylichna affabilis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 7, p. 216, pl. 28, figs. 1, 1a

Holotype: GT no. ? , Paratype: GT no. ? (designated by Hatai and Nisiyama (1952))

Shimo-Oda (Southern valley between Wango and Shimooda, about 450 m S of Wango and about 350 m SW of the contact point of the two roads W of Shimooda, Mizunami-machi, Toki-gun (Mizunami City), Gifu Prefecture; 35 °21'26"N, 137 °13'30"E)

Togari Formation

Pliocene (Miocene)

***Cylichna andenica* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, P. 383, pl. 44, fig. 1

Holotype: GT no. ?

Anden (Sea cliff near Anden, Iriai-mura, Minamiakita-gun (Oga City), Aakita Prefecture; 39 °58'05"N, 139 °51'05"E)

Shibikawa Formation

Pliocene (Pleistocene)

(*Adamnestia andenica* (Yokoyama))

***Cylichna arachis* (Quoy and Gaimard)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture; and also reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

***Cylichna braubsi* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 28, pl. 1, fig. 5

Holotype: GT no. ? (CM no. 20037)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35 °22'03"N, 139 °32'05"E)

Naganuma Beds

Pliocene (Pleistocene)

(*Eocylichna braubsi* (Yokoyama) by Hatai and Nisiyama (1952))

***Cylichna corpulenta* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 7, p. 217, pl. 28, figs. 3, 3a

Holotype: GT no. ?

Western slope of the Shiroyama hill (a short distance N of Kamigiri, Hongo-mura, Enga-gun, Gifu Prefecture; 35 °22'36"N, 137 °24'38"E)

(Kubohara: Iwamura Formation)

Pliocene (Miocene)

***Cylichna incisula* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 122, pl. 19, fi. 1

Holotype: GSJ no. ?

The upper sand-layer, west shore of Nanao Port, Nanao City, Ishikawa Prefecture

The Upper Sand Layer (Marine Terrace Deposits ?)

Pleistocene

(*Liloe incisula* (Yokoyama) by Makiyama (1960))

***Cylichna kantoensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 222, pl. 7, figs. 14a-b

Holotype: TKD no. 5884, Paratype: TKD no. 5885

Loc. No. 112, a right river side cliff at the north of Tomita, Chichibu City, Saitama Prefecture

Ushikubitoge Formation

Oligocene (early Miocene)

(*Eocylichna kantoensis* (Kanno) by Masuda and Noda (1976))

***Cylichna koryusyoensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no.2, p. 96, pl. 6, figs. 4a-b

Holotype: IGPS no. 53878

Wangwa, Hsinchu, Taiwan

Byoritu Beds

Pliocene

***Cylichna kozukensis* Oinomikado, 1938**

Jour. Geol. Soc. Japan, vol. 45, no. 539, p. 675, pl. 20, figs. 4-6

Holotype: GSJ no. ? (noted as destroyed in Hatai and

Nisiyama (1952))

Cliff and floor of the small river at Nameri-sawa, a short distance W of Komata, Annaka-machi, Ushi-gun (Annaka City), Gunma Prefecture; 36°20'N, 138°51.5'E)

Itahana Formation

Miocene

***Cylichna multistriata* Takeda, 1953**

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 61, pl. 2, figs. 7, 10, 11, 16

Holotype: UH no. 11118, Paratype: UH no. 11119-11120, 11124

Loc. No. T47-K, Koikatahorokatyaro creek, upper tributary of Tyaro River Kushiro Province, Hokkaido; 142°52'E, 43°12'45"N; Paratype: TK12, along Kuomanai creek 1250 m W from the junction with Syoro River, Siranuka-gun, Kusiro Province, Hokkaido; H375, along the south branch, 350 m upstream from the junction near Hutamata, middle course of Tyaro River, Kusiro Province, Hokkaido

Poronai Formation

Oligocene (upper Eocene)

(*Eocylichna multistriata* (Takeda) by Oyama et al. (1960))

***Cylichna musashiensis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 32, pl. 2, fig. 12

Holotype: UT no. ?

Cutting along the railway at Shinagawa (Minato-ku), Oji (Kita-ku) and Tabata (Kita-ku), environs of Tokyo (Tokyo Prefecture)

Shinagawa, Oji and Tabata Shell bed (Tokyo Formation)

Pleistocene

(*Eocylichna musashiensis* (Tokunaga) by Masuda and Noda (1976))

***Cyclina obtusa* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 33, pl. 2, fig. 14

Holotype: UT no. ?

Cutting along the railway at Tabata (Tabata-machi, Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata Shell bed (Tokyo Formation)

Pleistocene

***Cylichna orientalis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 30, pl. 1, fig. 9

Holotype: GT no. ? (CM no. 20045)

Koshiba (Sea cliff of Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(Synonymus with *Adamnestia japonica* (A. Adams) by Oyama (1973))

***Cylichna paupercula* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no.3, p. 127, pl. 22, figs. 12, 12a-b

Holotype (Lectotype) : GS no. 35692, Paratype: GS no. 35692 (designated by Hatai and Nisiyama (1952))

Road-side cutting on the eastern slope of the Miroku-dake, about 550 m NE of the summit of the Jiromarudake (397 m), Imazu-mura, Amakusa-Kamishima, Amakusa-gun, Kumamoto Prefecture; 32°28'45"N, 130°24'50"E)

Shiratake Formation

Lower Eocene

(*Liloea ? paupercula* (Nagao) by Oyama et al. (1960))

***Cylichna sibaensis* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 213, pl. 11, figs. 25-29

Syntype: UT no. ? (CM no. 20039)

Oji and Kuruma-cho, Musashi (Oji, Kita-ku and Takanawa 2-chome, Minato-ku, Tokyo Prefecture

(Tokyo Formation)

Pleistocene

(Synonymus with *Pyrunculus phialus* (A. Adams) by Oyama (1973))

***Cylichna (Acrotrema) shibatae* Hirayama, 1967**

Prof. H. Shibata Mem. Vol., p. 394, pl. 1, figs. 1-3

Holotype: GLR no. 1043 (figs. 1, 2), Paratype: GLR no. 1044

Nanatsuishi, Oyamada-shimogo, Bato-machi, Nasu-gun,

Tochigi Prefecture

Arakawa Group

Miocene

(*Eocylichna shibatae* (Hirayama) by Masuda and Noda (1976))

***Cylichna stolidia* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 125, pl. 5, figs. 11-13

Holotype: TKD no. 10202

Loc. A15, road-side cliff at about 1 km N of the Yotsukura Fishing Port, Yotsukura-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

(*Eocylichna stolidia* (Hirayama) by Masuda and Noda (1976))

***Cylichna takashimaensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 124, pl. 17, figs. 6, 6a

Holotype: GS no. 36065, Paratype: GS no. 36065

Western sea cliff about 350 m SW of the shrine on the hill, Iojima, Iojima-mura, Nishisonogi-gun, Nagasaki Prefecture;

32°42'N, 129°46'21"E)

Funatsu Formation

Upper Eocene

(*Adamnestia takashimaensis* (Nagao) by Oyama et al. (1960))

***Cylichna yamakawai* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 39, art. 6, p. 29, pl. 1, fig. 7

Holotype: UT no. ? (CM no. 20043)

Yokosuka between Shioiri and Sakamoto

Yokosuka Zone

Upper Musashino=Pleistocene

(Synonymus with *Cylichnatys angusta* (Gould) by Oyama (1973))

Cylichnatys angusta (Gould) reported by Itoigawa (1964) from the Pleistocene Koakai Formation, Aichi Prefecture

***Cylichnella (Bullinella) totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 143, pl. 6, figs. 15-19

Syntype: GK no. 269

Honohashi (about 150 m W of Honohashi, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Cylichnatys minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 293, pl. 6, figs. 11a-b

Holotype: ESN no. 20087

Loc. No. I111, Kamigiri, Iwamuro-cho, Ena-gun, Gifu Prefecture

Akeyo Formation

Miocene (early Miocene)

Cylichysis striata (Yamakawa) reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Cylichnatys angusta* (Gould) by Masuda and Noda (1976)): see *Bullinella striata* Yamakawa, 1911

Cylindromitra undulosa (Reeve) reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

Cyllene concinna Solander, 1850 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Cyllene gracilentia (Yokoyama) reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

Cyllene lugubris Adams and Reeve, 1850 reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Cyllene pulchella Adams and Reeve, 1850 reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: and also reported by Amano et al. (2000) from the Tentokuji Formation, Akita Prefecture

***Cymatiella variegata* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 13, pl. 3, figs. 11a-14

Holotype: MFM no. 10074 (fig. 12), Paratype: MFM no. 10075 (fig. 11)

Yamanouchi, Akeyo-cho and Matsugase (Paratype), Mizunami City, Gifu Prefecture

Akeyo Formation

Middle Miocene

***Cymatium andoi* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 167, pl. 8, figs. 21a-b

Holotype: IGPS no. 53973

Wangwa, station 14, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

Cymatium (Lampusia) bayeri Altena, 1943 reported by Kanno (1982) from the Upper Miocene Tartaro Formation, Philippines

Cymatium (Linatella) cingulatum (Lamarck) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Cymatium dunkeri (Lischke) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture: *Triton dunkeri* Lischke, 1868

Cymatium echo Kuroda and Habe reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

***Cymatium kaneharai* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.) Spec. Vol., no. 3, p. 169, Type; *Ancistrolepis yamanei* Kanehara, 1937 (p. 13, pl. 3, fig. 7)

Holotype: GSJ no. ? (noted as destroyed in Oyama et al. (1960))

Nagakura coal-mine, W of Yumoto-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture (37°00'02"N, 140°50'02"E)

Mizunoya Formation

Miocene

(*Cymatium* sp. By Masuda and Noda (1976))

***Cymatium nagasakiensis* Kamada, 1973**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol. No. 6 (Hatai Commem. Vol.), p. 239, pl. 23, figs. 7a-b

Holotype: GEN no. 1007

In the prospecting level of the 3rd slope, Iojima Coal-mine, Iojima-machi, Nishisonogi-gun, Nagasaki Prefecture
Okinoshima Formation
Eocene

***Cymatium parthenopeum* (Salis, 1773)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Cymatium (Lampusia) pileare* (Linné)** reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

***Cymatium sinensis* (Reeve)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: ***Triton sinensis* Reeve, 1844 (*Nassaria sinensis* (Reeve)** by Masuda and Huang (1990))

***Cymatium testudinarium* (Adams and Reeve, 1848)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Cymatium (Sepeta) tenuiliratum* (Lischke)** reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture

***Cymatium vespaceum* (Lamarck)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: ***Triton vespaceus* Lamarck, 1822 (*Nassaria vespaceum* (Lamarck)** by Masuda and Huang (1990))

***Cymatosyrinx (Splendrillia) constricta* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 166, pl. 35, figs. 10-12

Holotype: GKM no. 6672, Paratype: GKL nos. 6673, 6674, 8123, 8134

Northeast and N sea-cliff at Moeshima (Nii-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima City, Kagoshima Prefecture; 31°37'E, 130°43'N
Moeshima Shell Bed (Moeshima Formation)
Pleistocene

***Cymatosyrinx (Splendrillia) cristata* Powell, 1942** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Cymatosyrinx hosonaga* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 305, pl. 13, fig. 6

Holotype: GT no. Y-0012

Sea-cliff at Tomiya, Minato-machi (Sea cliff about 1 km SW of Kazusaminato railway Station, Minato-machi, Kimitsu-gun, Chiba Prefecture; 33°12'08"N, 139°51'05"E)

Tomita Taffaceous Sandstone

Pliocene

***Cymatosyrinx (Cymatosyrinx) laevis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 164, pl. 29, fig. 9, pl. 33, figs. 6, 7, 11, text-figs. 8, 9

Holotype: GKM no. 6315 (pl. 29, fig. 9), Paratype: GKL no. 8101

Northeast sea-cliff at Moeshima (Shin-jima, Sakura -jima-cho, Kagoshima-gun), Kagoshima City, Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Cymatosyrinx (Splendrillia) lincta hagenoshitaensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 121, pl. 7, fig. 11, text-figs. 14, 15

Holotype: GKL no. 4992

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu -gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Cymatosyrinx minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 290, pl. 6, figs. 5, 6

Holotype: ESN no. 20081 (fig. 5), Paratype: ESN no. 20082

Loc. No. S11-1, Kujiri (Izumi-cho, Kujiri), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene (early Miocene)

***Cymatosyrinx osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 98, pl. 5, figs. 13a-b

Holotype: JC no. 1400070

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(***Inquisitor osawanoensis* (Tsuda)** by Oyama (1961))

***Cymatosyrinx (Splendrillia) osawanoensis pulchella* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 120, pl. 3, fig. 18

Holotype: GKL no. 4993, Paratype: GKL no. 4996, 4997, 4998

Road side cutting at Hagenoshita Uwaye-mura, Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Cymatosyrinx praegracilis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 107, pl. 5, fig. 5

Holotype: GK no. 264

Honohashi (about 150 m W of Honohashi, Kakegwa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Cymatosyrinx (Splendrillia) rinsuikawaensis* (Nomura) reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: *Drillia sollicitata* Sowerby, 1913**

***Cymatosyrinx (Splendrillia) sollicitata* (Sowerby) reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture**

***Cymatosyrinx (Splendrillia) rinsuikawaensis* (Nomura) reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture: see *Clavus (Clavus ?) rinsuikawaensis* Nomura, 1935**

***Cymbium indicum* (Gmelin, 1798) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan**

***Cymia sekii* Mizuno, 1954**

Venus, vol. 18, no. 2, p. 106, text-figs. 2a-c

Holotype: GSJ no. 1700

Depth 130 m of the boring-well of the Mitsubishi Mining Company near Ashibetsu, Sorachi-gun (Ashibetsu City), Hokkaido

Probably middle horizon of the Ishikari Group (Akabira ? Formation)

Oligocene

(*Nekewis sekii* (Mizuno) by Oyama et al. (1960))

***Cypraea annulus* Linnaeus, 1758 reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture**

***Cypraea arabica* Linnaeus, 1758 reported by Nomura (1935) from the Pleistocene Raised Coal Reef Beds, Taiwan (*Cypraea (Mauritia) arabica* Linnaeus by Masuda and Huang (1990))**

***Cypraea (Lyncina) arenosa* Gray reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture**

***Cypraea asellus* Linné reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture**

***Cypraea beberkiriana* Martin, 1895 reported by Kanno et**

al., 1982 from the Upper Miocene Tartaro Formation, Philippines

***Cypraea caputserpentis* Linnaeus, 1758 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: *Cypraea caputserpentis* Linnaeus**

***Cypraea (Lyncina) carneola* Linnaeus reported by Yokoyama (1928) from the Pliocene Byoritz Formation, Taiwan (*Cypraea (Lyncina) vitellus* Linnaeus, 1758 by Makiyama (1960): *Cypraea (Ponda) carneola* Linnaeus by Masuda and Huang (1990)); and also reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture**

***Cypraea caurica* Linnaeus, 1758 reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan (*Cypraea (Erosaria) caurica* Linnaeus by Masuda and Huang (1990))**

***Cypraea cincta* Martin, 1906 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Cypraea (Erosaria) cincta* Linnaeus by Masuda and Huang (1990))**

***Cypraea cinctoides* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 48, pl. 3, fig. 10

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Babukutz, Taito, Taiwan

Upper Arisan Beds

Miocene

(*Erronea cinctoides* (Yokoyama) by Makiyama (1960))

***Cypraea felina* Gmelin, 1792 reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan**

***Cypraea fimbriata* Gmelin, 1792 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture**

***Cypraea helvola* Linnaeus, 1758 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture**

***Cypraea (Mauritia) histrio* Gmelin reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture**

***Cypraea hokkoana* Tan, 1971**

Paleogene Strat. Paleont. Taiwan (Posthumous Pap.), p. 39, pl. 7, fig. 2

Holotype: GITNU no. ?

Hokko-Kei, near Kokusei, Kokusei-syo, Nako-gun, Taityu

Prefecture, Taiwan
Dotitan Shale
Eocene (Oligocene by Masuda and Huang (1990))

***Cypraea (Zoila) itoigawai* Tomida, 1989**

Bull. Mizunami Fossil Mus., no. 16, p. 93, pl. 11, figs. 3a-4b
Holotype: MFM no. 110104, Paratype: MFM no. 110105
Loc. No. 5, the east side of the Okumotona Quarry,
Kyonan-cho, Awa-gun, Chiba Prefecture; 139°51'20"E, 35°
09'20"N
Senhata Formation
Mio-Pliocene

***Cypraea mappa* Linnaeus, 1758** reported by Nomura (1935)
from the Pliocene Byoritu Beds, Taiwan (***Cypraea***
(*Leporicyprea*) *mappa* Linnaeus by Masuda and Huang
(1990))

***Cypraea miliaris* Gmelin, 1792** reported by Nomura (1935)
from the Pliocene Byoritu Beds, Taiwan (***Cypraea*** (***Erosaria***)
***miliaris* Gmelin** by Masuda and Huang (1990))

***Cypraea nomurai* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 3, p.
197, Type; *Cypraea* sp., Nomura (1940; p. 38, pl. 3, figs. 4-6)
Holotype: SHM no. 19892
Junction of small tributary and the Natori-gawa at
Minami-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai
City), Miyagi Prefecture; 38° 13'N, 140° 45'E
Moriwa Formation
Miocene
(***Cypraea*** (***Cypraea***) ***nomurai* Hatai and Nisiyama** by
Masuda and Noda (1976))

***Cypraea ohiroi* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 6, pl.
1, figs. 28a-29
Holotype: DGS no. 4598 transferred to IGPS no. 90815
Loc. No. 30, Road side cutting near Koeiji Temple, Otani,
Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E
Higashi-Innai Formation
Miocene

***Cypraea onyx* Linnaeus** reported by Nomura (1935) from
the Pliocene (Pleistocene) Byoritu Beds, Taiwan (***Cypraea***
(*Adusta*) *onyx* Linnaeus, 1758 by Masuda and Huang
(1990))

***Cypraea talpa* Linnaeus** reported by Nomura (1935) from the
Pleistocene Raised Coral Reef Beds, Taiwan (***Cypraea***
(*Talparia*) *talpa* Linnaeus, 1758 by Masuda and Huang
(1990))

***Cypraea testudinaria* Linnaeus** reported by Nomura (1935)

from the Pleistocene Ryukyu Limestone Beds, Taiwan
(***Cypraea*** (***Chelycypraea***) ***testudinaria* Linnaeus, 1758** by
Masuda and Huang (1990))

***Cypraea vitellus* Linné** reported by Ozaki (1958) from the
Pliocene Naarai Formation, Chiba Prefecture

***Cypraeolina cotamago* (Yokoyama)** reported by Kaseno and
Matsuura (1965) from the Pliocene (Pleistocene) Omma
Formation, Ishikawa Prefecture (***Granulina tantilla* (Gould)**
by Masuda and Noda (1976))

***Cypraeolina solida* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p. 83, pl. 4, fig. 1
Holotype: GK no. 246
Honohashi (about 150 m W of Honohashi, Kakegawa City,
Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)
Dainichi Formation
Pliocene

***Cythara hidoensis* (Makiyama)** reported by Nomura
(1935) from the Pliocene (Pleistocene) Byoritu Beds,
Taiwan: see ***Cytharella hidoensis* Makiyama, 1927**

***Cythara (Cytharella) robustricostata magna* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 187,
pl. 29, figs. 7, 8, 10
Holotype: GKM no. 8083 (not figured), Paratype: GKL nos.
6323-6326, 6639-6641, 8084-8086
Northeast, N and NW sea-cliffs at Moeshima (Shin-jima,
Sakurajima-cho, Kagoshima-gun), Kagoshima City,
Kagoshima Prefecture; 31°37'E, 130°43'N
Moeshima Shell Bed (Moeshima Formation)
Late Pleistocene

***Cytharella ? birmanica* (Vredenburg)** reported by Shuto
(1984) from the Miocene of Dalabe, Burma: ***Daphnella***
(*Raphitoma*) *birmanica* Vredenburg, 1921

***Cytharella semicarinata* (Pilsbry, 1904)** reported by Nomura
and Zinbo (1934) from the Pleistocene Ryukyu Limestone
(Wan Formation), Kikai-jima, Kagoshima Prefecture

***Daphnella lymneiformis* (Kiener)** reported by Nomura and
Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan
Formation), Kikai-jima, Kagoshima Prefecture: ***Pleurotoma***
***lymneiformis* Kiener, 1845**

***Daphnella ryukyuensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 118, pl. 10, fig. 1, pl. 15,
fig. 4
Holotype: USNM no. 562984 (pl. 15, fig. 4)
Loc. no. 17481, roadside exposure near top of hill on

Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Daphnella subzonataeformis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 130, pl. 6, figs. 50a-c

Holotype: IGPS no. 52202

Siko, Kosyu-syo, Kosyun-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

(*Mangilia (Guraleus) subzonataeformis* (Nomura) by Masuda and Huang (1990))

***Daronia oyamai* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 17-18, as a type Yokoyama's (1922; Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 109, pl. 5, fig. 19) as identified and reported as

Minolia tasmanica Tenison-Woods

Holotype: CM, 21105

Otake, Narita City, Chiba Prefecture

Imba Group

Pleistocene

(Invalid *Daronia yokoyamai* Oyama, 1973, n. n. as type of above cited specimen by Oyama; Spec. Pap. Palaeont. Soc. Japan, no. 17, p. 21, pl. 3, figs. 2a-b (reproduced from the Yokoyama's original figure))

***Daronia yokoyamai* Oyama, 1973**

Palaeont. Soc. Japan, Spec. Vol. no. 17, p. 21, Type; *Minolia tasmanica* Yokoyama, 1922 (p. 109, pl. 5, fig. 19), pl. 3, fig. 2

Holotype: UT no. ? (CM no. 21105)

Otake (Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(*Daronia oyamai* Masuda and Noda, 1976 n. n.)

***Decorifer ena* Itoigawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 181, pl. 26, figs. 19a-b

Holotype: JC no. 1300163, Paratype: JC no. 1300164

Loc. No. I246, Nakanishi, Yamaoka-cho, Ena-gun, Gifu Prefecture

Kubohara Sandstone of the Mizunami Group

Miocene

(*Acteocina (Decorifer) ena* (Itoigawa) by Masuda and Noda (1976))

Decorifer globosus (Yamakawa) reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture (*Acteocina (Decorifer) globosus* (Yamakawa) by Masuda and Noda (1976)): see *Retusa globosa* Yamakawa, 1911

Decorifer insignis (Pilsbry) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Acteocina (Decorifer)* sp. by Masuda and Noda (1976))

Decorifer matusimana (Nomura) reported by Matsushima (1969) from the Pleistocene Sakuragicho Formation, Kanagawa Prefecture (*Acteocina (Decorifer) matusimana* (Nomura) by Masuda and Noda (1976))

Diacria bisulcata Gabb reported by Noda (1972) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Diala angustifera* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 193, pl. 9, figs. 49a-b

Holotype: IGPS no. 37414

South of Bosiho, station 7 (Hanzawa), Siko-syo, Byoritu-gun, Sintiku-syo, Taiwan

Byoritu Beds

Pliocene

Diala stricta Habe reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

Diala varia A. Adams reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

Diodora humilis (Yokoyama) reported by Otuka (1937) from the Pliocene (Miocene) Minato Formation, Chiba Prefecture; see *Fissuridea humilis* Yokoyama, 1920

***Diodora minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 274, pl. 3, figs. 4a-c

Holotype: ESN no. 20033, Paratype: ESN no. 20034

Loc. No. S7-3, Hida (Hida-cho, Hida), Toki City, Gifu Prefecture

Shukunohora Sandstone of the Akeyo Formation

Miocene

Diodora mus (Reeve) reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture

Diodora quadriradiata (Reev) reported by Kanno (1960) from the Miocene Hiranita Formation, Saitama Prefecture

Diodora sieboldii (Reeve) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: *Fissurella sieboldii* Reeve

***Diodora suchiensis* Tomida, 1998**

In Ozawa, Tanaka and Tomida, 1998; Nagoya Univ., Furukawa Mus., Spec. Rep., no. 7, p. 18, pl. 1, figs. 1a-b

Holotype: ESN no. 2767

Exposure at Kami-iida, Iida-cho, Mori-machi, Suchi-gun, Shizuoka Prefecture; 34°48'23"N, 137°55'41"E

Dainichi Formation

Pliocene

***Diodora suprapunicea* Otuka** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture

***Diodora yokoyamai kosibensis* Otuka, 1937**

Jour. Geol. Soc. Japan, vol. 44, no. 529, p. 944, pl. 30, figs. 5a-b; Type; *Fissuridea* cf. *tanneri* (Verrill) Yokoyama (1920; p. 96, pl. 6, fig. 18)

Holotype: Gt no. Kf 501

Sea cliff of Shiba (Kanazawa-machi, Totsuku-ku, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

***Diplomeriza osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 102, pl. 6, figs. 14a-b

Holotype: JC no. 1400079, Paratype: JC no. 1400078 (from Iwakishin)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

***Diplomeriza yokoyamai* (Makiyama)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see ***Terebra yokoyamai* Makiyama, 1927**

***Distorsio cancellinus* (Roissy)** reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Beds, Taiwan:

***Murex cancellinus* Roissy (*Distorsio reticulata* (Roding) by Makiyama (1960))**

***Distorsio (Rhysema) kotakai* Ogasawara and Morita, 1990**

Saito Ho-on Kai Mus. Nat. Hist., Res. Bull., no. 58, p. 26, pl. 1, figs. 1a-2d

Holotype: IGPS no. 100052, Paratype: IGPS no. 100053

River bed of the Hirose River, about 150 m upper stream from the railway bridge, Yanagwa-machi, Date-gun, Fukushima Prefecture

Yanagawa Formation

Meddle Miocene

***Distorsio reticulata* (Link, 1807)** reported by Nomura and Zinbo (1935) from the Miocene Yanagawa Formation,

Fukushima Prefecture (non Link: ***Distorsio kotakae* Ogasawara and Morita**)

***Distorsio (Rhysema) yagenaensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 16, pl. 7, figs. 14a-b

Holotype: IGUT no. 10470

Loc. No. 334U, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Dolicholaturus acus* (Adams and Reeve)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Dolichupis (Trivellona) shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 49, pl. 2, figs. 10, 13-15

Holotype: USNM no. 562667 (figs. 10, 15)

Loc. no. 17448, low cut at edge of potato patch in higher dissected area about 0.2 Mi SW of Majikin, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

Dolilocassis japonica* (Yokoyama)** reported by Kamada (1962) from the Miocene Kokozura Formation, Fukushima Prefecture (Liracassis japonica* (Yokoyama)** by Masuda and Noda (1976))

Dolium costatum* Menke** reported by Yokoyama (1929) from the Pliocene Tonohama Formation, Kochi Prefecture (Tonna allium* (Dillwyn) var.** by Hatai and Nisiyama (1952))

Dolium olearium* Bruguière** reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Beds, Taiwan (Tonna olearium* (Linnaeus, 1758)** by Makiyama (1960): ***Tonna canaliculata* (Linnaeus)** by Masuda and Huang (1990))

***Dolomena marginata robusta* (Sowerby, 1874)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Domenginella elberti* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Asthenotoma elberti* Martin, 1914**

***Doxander japonicus* (Reeve, 1851)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Drillia asukana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 331,

pl. 38, fig. 18

Holotype: GT no. ?

Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34 °47'01"N, 138 °E)

Satsuka Formation

Pliocene

(*Clavatula asukana* (Yokoyama) by Hatai and Nisiyama (1952))

***Drillia astuta* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 341, pl. 66, fig. 15

Holotype: GT no. ?, Paratype: GT no. ? (pl. 66, fig. 14) (designated by Hatai and Nisiyama (1952))

Northern cliff of the Komaru-gawa (a short distance W of the main road near Hagenoshita, Uwae-mura, Koyu-gun, Miyazaki Prefecture; 32 °08'27"N, 131 °31'04"E)

(Kounji Formation)

Pliocene

(*Cryptogemma astutea* (Yokoyama) by Hatai and Nisiyama (1952): *Clavatula (Paradrillia) astute* (Yokoyama) by Makiyama (1959))

***Drillia dainichiensis* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 6, pl. 1, fig. 2

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation

Pliocene

(*Clavatula dainichiensis* (Yokoyama) by Hatai and Nisiyama (1952))

***Drillia glabriuscula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 40, pl. 1, fig. 31, 32

Holotype: UT no. ? (CM no. 20801, 20803)

Shito (Ichihara City, Chiba Prefecture)

Kazusa Group (Kioroshi Formation)

Pleistocene

(*Elaeocyma (Elaeocyma) glabriuscula* (Yokoyama) by Oyama (1973))

***Drillia hyugana* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 341, pl. 66, fig. 9

Holotype: GT no. ?

Northern cliff of the Komaru-gawa (a short distance W of the main road near Hagenoshita, Uwae-mura, Koyu-gun, Miyazaki Prefecture; 32 °08'27"N, 131 °31'04"E)

(Kounji Formation)

Pliocene

(*Surcula hyugana* (Yokoyama) by Hatai and Nisiyama (1952): *Clathrodrillia hyugana* (Yokoyama) by Makiyama (1959))

***Drillia (?) kobayashii* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 341, pl. 66, fig. 17

Holotype: GT no. ?

River flor of the Komaru-gawa (near the bridge S of Takajo-machi, Kijo-mura, Koyu-gun, Miyazaki Prefecture; 32 °09'33"N, 131 °28'33"E)

(Takajo Formation)

Pliocene (Miocene)

(*Clavatula kobayashii* (Yokoyama) by Hatai and Nisiyama (1952): *Clavatula (Paradrillia) kobayashii* (Yokoyama) by Makiyama (1959))

Drillia principalis Pilsbry reported by Kanehara (1942) from the Plio-Pleistocene (Pleistocene) Shibikawa Formation, Akita Prefecture (*Clavus jeffreysii* Smith by Hatai and Nisiyama (1952))

Drillia reticulata Vredenburg, 1921 reported by Shuto (1984) from the Miocene of Thanga, Burma

Drillia saraswati Vredenburg, 1921 reported by Shuto (1984) from the Miocene of Thanga, Burma

***Drillia sobrina* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 5, pl. 1, fig. 1

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation

Pliocene

(*Tuurricula (Surcula) sobrina* (Yokoyama) by Hatai and Nisiyama (1952))

Dulcerana granularis (Roding) reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

Duplicaria hiradoensis (Pilsbry, 1921) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Eburna elata* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 9, pl. 1, figs. 16, 17

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation
Pliocene

(*Babylonia elata* (Yokoyama) by Hatai and Nisiyama (1952))

Echinophoria (*Shichiheia*) *etchuensis* (Hatai and Nisiyama) reported by Kanno (1973) from the Miocene Susahara Formation, Toyama Prefecture

Echinophoria ogawarensis (Nomura and Onishi) reported by Kanno (1973) from the Miocene Fukuda Formation, Miyagi Prefecture

Echinophoriaia tohokuensis (Nomura and Zinbo) reported by Kanno (1973) from the Miocene Yanagawa Formation, Fukushima Prefecture

Echiophoria trituberculoides (Kanno) reported by Kano (1973) from the Miocene Nenokami Formation, Saitama Prefecture

Eglisia tricarinata Adams and Reeve, 1845 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Ellobium yatsuoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 107, pl. 7, figs. 4a-b.

Holotype: JC no. 1400092

Do, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
Kurosedani Formation

Miocene (early Miocene)

***Emarginula amyda* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 36, pl. 1, figs. 8a-b

Holotype: GIYU no.

About 72 miles SE of Choshi, Chiba Prefecture

Living specimen 250 fathoms in depth

Recent

Emarginula crassicostata Sowerby, 1866 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Emarginula fragilis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 98, pl. 6, fig. 10

Holotype: GT no. ? (CM no. 20292)

Harashita in Shimo-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Upper Musashino=Pleistocene

Emarginula fujitai Habe reported by Noda (1980) from the Pliocene Shizato Formation, Okinawa Prefecture

Emarginula galericulata A. Adams, 1851 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Emarginula hiranoae* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 138, pl. 8, figs. 19, 20

Holotype: NSM no. 4401

Cape Inukawa, Tyosi (Choshi City), Chiba Prefecture

Na-arai Formation

Pliocene

Emarginula imaizumi Dall reported by Habe (1955) from the Pleistocene Moeshima Formation, Kagoshima Prefecture

Emarginula japonica A. Adams, 1866 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Emarginula kashimaensis* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 36, pl. 1, figs. 8a-b

Holotype: GIYU no.

About 72 miles SE of Choshi, Chiba Prefecture

Living specimen, 250 fathoms in depth

Recent

Emarginula maculata A. Adams, 1866 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Emarginula retecosa A. Adams, 1851 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Emarginula tokuyamai* Iwasaki and Ono, 1977**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 106, p. 112, pl. 16, figs. 3-5, Text-figs. 4, 5

Holotype: CM no. 8448, Paratype: CM nos. 8446, 8447

Ashikubo, Shizuoka City, Shizuoka Prefecture

Setogawa Group

Paleogene

***Emarginula vadososinuata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 117, pl. 6, fig. 5

Holotype: UT no. ? (CM no. 21041)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pleistocene

(*Tugali vadososinuata* (Yokoyama) by Oyama (1973))

Endemoconus loochoensis (MacNeil) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Conus loochoensis* MacNeil, 1960

Endemoconus nakagawai Noda, 1980

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 54, pl. 8, figs. 5a-b

Holotype: IGUT no. 10552

Loc. No. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Entemnotrochus shikamai Kanie, 1973

Sci. Rep., Yokosuka City Mus., no. 20, p. 43, pl. 21, figs. 1-4

Holotype: YCM-GP no. 529-1

South of Nokogiri-yama (about 500 m ENE of Nemoto), Kyonan-cho, Awa-gun, Chiba Prefecture

Senhata Formation

Miocene

Entemnotrochus siuyingae Lin, 1975 described from the Miocene Nankang Formation, Taiwan

Eocylichna Kuroda and Habe new genus; Type species; *Cylichna braunsi* Yokoyama, 1920 (Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6) reported from the Pliocene Naganuma Formation, Kanagawa Prefecture

Eocylichna affabilis (Yokoyama) reported by Itoigawa (1958) from the Miocene Maki Formation Gifu Prefecture: see *Cylichna affabilis* Yokoyama, 1926

Eocylichna braunsi (Yokoyama) reported by Takayasu (1961) from the Pliocene Sasaoka Formation, Akita Prefecture

Eocylichna ezoana (Matsui) reported by Honda (1989) from the Oligocene Nuibetsu Formation, Hokkaido: *Scaphander ezoana* Matsui, 1959

Eocylichna fukushimaensis Hirayama, 1975

St. Paul's Rev. Sci., vol. 3, no. 4, p. 188, text-figs. 5a-6b

Holotype: GLR no. 1676 (text-figs. 5a-b), Paratype: GLR no. 1677

Road-side cliff between Usuiso and Toyoma, Iwaki City, Fukushima Prefecture

Shimizu Sandstone Member of the Takaku Formation

Middle Miocene

Eocylichna habe Itoigawa, 1958

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 179, pl. 26, figs. 15a-b

Holotype: JC no. 500008, Paratype: JC no. 1500009

Loc. No. M20, river-side cliff of Shukubora valley about 100 m SW of the bridge at S of Sukubora, Hiyoshi-cho,

Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

Eocylichna multistriata (Takeda) reported by Honda (1989) from the Oligocene Omagari Formation, Hokkaido: see

Cylichna multistriata Takeda, 1953

Eocylichna musashiensis (Tokunaga) reported by Sawada (1962) from the Pliocene (Pleistocene) Nakanokawa

Formation, Hokkaido

Eocylichna tokiensis Itoigawa, 1958

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 180, pl. 26, figs. 16a-b

Holotype: JC no. 1500010, Paratype: JC no. 1500011

Loc. No. M20, river-side cliff of Shukubora valley about 100 m SW of the bridge at S of Shukubora, Hiyoshi-cho,

Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

Eocylichna yonabaruensis (MacNeil) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Scaphander yonabaruensis* MacNeil, 1960

Eoscaplander corpulenta (Yokoyama) reported by Itoigawa (1958) from the Miocene Kubohara Formation, Gifu Prefecture: see *Cylichna corpulenta* Yokoyama, 1926

Eosurcula arntzenii (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: *Surcula* (*Apiotoma*) *arntzenii* Martin, 1914

Eosurcula birmanica (Vredenburg) reported by Shuto (1984) from the Miocene? Yaw Stage of Kyaukkwet Chaung, Burma: *Genotia birmanica* Vredenburg, 1921

Eosurcula deningeri (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: *Surcula* (*Apiotoma*) *deningeri* Martin, 1914

Eosurcula garrowi (Vredenburg) reported by Shuto (1984) from the Miocene? Yaw Stage of Thetkegyin, Burma: *Genotia garrowi* Vredenburg, 1921

Eosurcula irradadica (Noetling) reported by Shuto (1984) from the Upper Oligocene Sitsaya Stage, Mindegyi, Burma:

***Pleurotoma (Cryptocnus) irradadica* Noetling, 1895**

***Epilaxis singuensis* (Vredenburg)** reported by Shuto (1984) from the Lower Miocene of Singu, Burma: ***Plerotoma (Hemipleurotoma) singuensis* Vredenburg, 1921**

***Epitonium (Boreoscala) angulatosimile* Otuka, 1935**

Jour. Geol. Soc. Japan, vol. 42, no. 503, p. 509, text-fig. 3d on p. 492, 3f, 3e

Holotype: GT no. 1924 (text-fig. 3d), Paratype: GT no. 2141 (text-fig. 3f), GT no. 1925 (text-fig. 3e)

Tobeyachi in Higashiminato-mura (West side of the shrine a short distance W of Tobeyachi, Higashiminato-mura, Kashima-gun, Ishikawa Prefecture; 37°02'48"N, 137°00'16"E), Paratype (GT no. 1925); East side of the hill, about 400 m N of Iwaya, Nishiminato-mura, Kashima-gun, Ishikawa Prefecture; 37°02'35"N, 136°57'24"E)

Nozaki and Kojima (Paratype) Formations
Pliocene

***Epitonium (Boreoscala) aomoriensis* Iwai, 1959**

Bull. Educ. Fac., Hirosaki Univ., no. 5, p. 48, pl. 1, figs. 14a-15b

Syntype: HU no. ?

Loc. no. 1, Left side cliff of the Iwaki River near bridge at Yonegafukuro, Hirosaki City, Aomori Prefecture

Higashiyama Formation

Pliocene

***(Epitonium (Acirsa) aomoriensis* Iwai)**

***Epitonium (Depressiscula) auritum* (Sowerby)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Epitonium azumana* (Yokoyama)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: see ***Scalaria azumana* Yokoyama, 1922**

***Epitonium datense* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 344, pl. 20, figs. 7a-b
Holotype: SM no. 7956

Yanagawa-machi (River cliff of the Hirosegawa at the southeastern end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 36°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

***Epitonium (Boreoscala) echigonum* Kanehara, 1940** reported by Chinzei (1959) from the Pliocene Kubo Formation, Iwate Prefecture: see ***Epitonium (Boreoscala) yabei echigonum* Kanehara**

***Epitonium (Cinctiscala) eusculpta* (Sowerby)** reported by Shikama and Masujima (1969) from the Pliocene Imaizumi Formation, Kanagawa Prefecture

***Epitonium (Cirsotrema) ezoensis* Matsui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 292, pl. 1, figs. 3-5

Holotype: UH no. 13315 (fig. 3), Paratype: UH nos. 13313, 13316 (figs. 4, 5)

Shitakara-gawa, 2 km upstream from the Yubetsu caol mine; Kamishoro, Shiranuka-machi, Kushiro Province; all in Hokkaido

Shitakara Formation

Oligocene (Eocene)

***(Cirsotrema ezoensis* Matsui by Masuda and Noda (1976))**

***Epitonium (Boreoscala) groenlandicum japonicum* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 42, pl. 1, figs. 17a-b, 18

Holotype: GIYU no.

East to SE of Choshi, Chiba Prefecture

Living species

Recent

***Epitonium halimensis* Makiyama, 1923**

Japan Jour. Geol. Geogr., vol. 2, no. 2, p. 21, pl. 4, figs. 2, 3.

Holotype: Maiko Conchol. Cabinet and GK no. ?

Beneth of the Maiko Hotel, near Kobe, Hyogo Prefecture (Unknown, marine terrace deposits ?)

Pliocene (Pleistocene ?)

***Epitonium hospitum* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 93, pl. 15, fig. 8

Holotype: GS no. 36152

(A point S of the large tree on the Imoshima, a short distance S of Kakiinoura-shima, Sakito-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°59'32"N, 129°33'29"E)

Itanoura (Mase Formation)

Oligocene (Lower Oligocene)

***(Cirsotrema (Circuloscala) hospitum* (Nagao) by Oyama et al. (1960))**

***Epitonium (Boreoscala) matugisiensis* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 142, pl. 15, fig. 25

Holotype: NSM no. 4498

Cliff, 500 m S of Matugisi (Matsugishi) railway station, Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

Epitonium (Boreoscala) mituokai Ozaki, 1958

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 142, pl. 15, fig. 24

Holotype: NSM no. 4497

Cliff, 500 m S of Matugisi (Matsugishi) railway station, Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

Epitonium (Boreoscala) nagaminensis Otuka, 1934

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 625, pl. 51, figs. 11a-b

Holotype: GT no. 1546

West side of river cliff of the Mabechi-gawa (Foot of the bridge about 150 m SE of the village-office at Mainosawa, Tomai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°17'N, 141°17'48"E)

Suenomatsuyama Formation

Pliocene-Miocene (Miocene)

Epitonium neglectum (Adams and Reeve, 1850) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Epitonium niigishiense Makiyama, 1957*, n. n.**

Palaeont. Soc. Japan, Spec. Pap., no. 3, explanation of pl. 7, fig. 8; Type-species; *Scala amoena* Yokoyama, 1923 (non *Scalaria amoena* Philippi, 1844; see *Scala amoena* Yokoyama, 1923)

Epitonium (Crisposcala) okinavensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 44, pl. 2, fig. 5, pl. 11, figs. 18, 20

Holotype: USNM no. 562899

Loc. no. 17480, high road cut along Highway 64 about 0.1 Mi W of sharp bend in road about 0.3 miles E of Yashitomi, Okinawa Prefecture

Chinen Formation, Miocene Yonaburu Formation

Pliocene and Miocene (Pliocene)

***Epitonium (Boreoscala) oyamadensis Hirayama, 1958*, n. n.**

Venus, vol. 20, p. 97, Type; *Epitonium (Boreoscala) tenerum* Hirayama, 1955 (Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 4, no. 29, p. 115, pl. 4, figs. 17-19: non Smith, 1847)

Holotype: TKD no. 10211

Loc. A28, cliff along the tributary of Kobisa-gawa, Oyamada, Hisanohama-machi (Iwaki City), Fukushima Prefecture

Asagai Formation

Oligocene

(Boreoscala oyamadensis (Hirayama) by Oyama et al. (1960))

Epitonium (Boreoscala) oyasioensis Ozaki, 1958

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 142, pl. 15, fig. 23

Holotype: NSM no. 4461

Cliff, 1 km N of the Iioka-mati (-machi), Unakami-gun, road-side cutting 1.5 km N of Takano-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

Epitonium (Gyroskala ?) poronaiensis Matsui, 1959

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 291, pl. 1, figs. 1, 2

Holotype: UH no. 13311 (fig. 1), Paratype: UH no. 13312

Middle course of Pankemaya-zawa, Yubari City, Ishikari Province; Kamishoro, Shiranuka-machi, Kushiro Province; all in Hokkaido

Poronai Formation and Onbetsu Formation (? Paratype)

Oligocene (Eocene)

Epitonium pulcherrimum (Sowerby) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Epitonium replicatum (Sowerby, 1844) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Epitonium (Crisposcala) ryukyuensis Noda, 1988

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 38, pl. 8, figs. 19a-b

Holotype: IGUT no. 10799

Loc. no. 87-26L, cliff about 500 m E of Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Epitonium scalare (Linné) reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

Epitonium (Boreoscala) simile (Sowerby) reported by Kuroda (1931) from the Miocene Ogawa (Pliocene Shigarami) Formation, Nagano Prefecture (***Epitonium (Boreoscala) angulosimile Otuka*** by Hatai and Nisiyama (1952))

Epitonium submaculosum Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no. 1, p. 91, pl. 15, figs. 5, 5a

Holotype: GS no. 36146, Paratype: GS no. 36143 (pl. 15, fig. 4), 36162 (pl. 15, figs. 6, 6a)

(A point S of the large tree on the Imoshima, a short distance S of) Kaminoura-shima, Sakito-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°59'32"N, 129°33'29"E), Paratype: Road-side cliff at Hanjo. About 1.2 km NW of the temple at Kawakami, Asahi-mura, Kishima-gun, Saga Prefecture; 33°13'45"N, 130°00'57"E); Western cliff of the Tomidake,

about 100 m N of the contact point of the two paths W of Kurose, NE coast of Oshima, Kurose-mura, Nishisonogi-gun, Nagasaki Prefecture; 33°03'24"N, 129°37'43"E)
Itanoura, Kishima (Paratype) and Oshima (Paratype) Formations
Oligocene
(*Clathrus submaculosus* (Nagao) by Oyama et al. (1960))

***Epitonium (Glabriscala) submaculosum* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 45 pl. 16, fig. 31
Holotype: USNM no. 563019
Loc. no. 17600, half way up the seacliff above trail about 0.3 Mi W of Kunjabaru, Okinawa Prefecture
Nakoshi Sandstone
Pliocene
(Species name was preoccupied by Nagao (1928):
Epitonium macneili Ogasawara n. n.)

***Epitonium (Cirsotrema) suboptima* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 159, pl. 5, fig. 41
Holotype: IGPS no. 50655
Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture
Ryukyu Limestone (Wan Formation),
Pleistocene

***Epitonium (Cirsotrema) taiwanense* Kanno and Chung, 1973**

Geol. Palaeont. Southeast Asia, vol. 13, p. 124, pl. 12, figs. 13a-b
Holotype: TUE no. 10189, Paratype: TUE no. 10190
Loc. No. 81404, east of Peishang, along the Nanchiang-chi, Nantou Prefecture, about 25 km SE of Taichung City, Taiwan
Black Shale and Slaty black shale of the Kayahara Slate of the Gaogan Group
Lower Miocene (Oligocene by Masud and Huang (1990))

***Epitonium (Boreoscala) tenerum* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. pl. 3, figs. 17-19
Holotype: TKD no. 10211
Loc. A28, cliff along the tributary of the Kobisa-gawa, a little west of Oyamada, Hisanohama-machi, Iwaki City, Fukushima Prefecture
Asagai Formation
Oligocene
(*Epitonium (Boreoscala) oyamadensis* Hirayama by Hirayama (1958))

Epitonium tokyoense Kuroda reported by Aoki and Baba (1983) from the Peistocene Narita Formation, Chiba Prefecture

***Epitonium (Boreoscala) yabei* Nomura, 1937**

Saito Ho-on Kai, Mus., Res. Bull., no. 13, p. 169, pl. 23, fig. 4
Holotype: SM no. 12648, Paratype: SM no. 12648 (pl. 23, fig. 3)
Riveri-side cliff of Koromogawa (About 300 m N of the Izumigatake site, Hiraizumi-mura, Nishiiwai-gun, Iwate Prefecture; 39°00'14"N, 141°05'37"E)
Mashiba (Kurosawa Formation)
Miocene

***Epitonium (Boreoscala) yabei* var. *echigonum* Kanehara, 1940**

Bull. Imp. Geol. Surv. Japan, vol. 27, no. 2, p. 14, pl. 4, figs. 6a-b
Holotype: GS no. ? (noted as destroyed in Hatai and Nisiyama (1952))
Stream-side of the small valley (Hiyakko-zawa) (about 1 km SEE of the small bridge at Kogomo and 700 m NNE of the primary school at Komatsukura, Hgashitakezawa-mura, Koshi-gun, Niigata Prefecture; 37°18'24"N, 138°55'47"E)
Ota Formation
Pliocene

***Epitonium (Boreoscala) yamamotoi* Matsui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 239, pl. 1, figs. 6a-7b
Holotype: UH no. 13318 (figs. 6a-b)
Shoro coal mine, Shiranuka-machi, Kushiro Province, Hokkaido
Shitakara Formation
Oligocene (Eocene)

***Epitonium (Boreoscala) yakozunai* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 143, pl. 15, fig. 26
Holotype: NSM no. 4499
Cliff, 500 m S of the Matugisi (Matsugishi) railway station, Tyosi (Choshi) City, Chiba Prefecture
Iioka Formation
Pliocene

Erosaria boivini amoena Schilder reported by Aoki and Baba (1984) from the Pleistocene Narita Formation, Chiba Prefecture

Erosaria (Ravitronea) caputserpentis (Linné) reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

Erosaria (Ravitronea) helvola (Linné) reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

Erato callosa Adams and Reeve, 1850 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Erato gallinacea **Hinds, 1844** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Erato (Eratopsis) nana **Reeve, 1865** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Erato novemprovincialis* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 346, pl. 67, fig. 7

Holotype: GT no. ?

Road-side cutting at the northern foot of the hill (a short distance W of the bridge at Kounji, Takababe-machi, Koyu-gun, Miyazaki Prefecture; 32°07'11"N, 131°30'10"E) (Kounji Formation)

Pliocene

(*Hyalina (Cystiscus) novemprovincialis* (**Yokoyama**) by Hatai and Nisiyama (1952))

Erosaria (Erosaria) erosa (**Linne**) var. *phragedaina* (**Melville**) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Erosaria (Erosaria) erosa phragedaina* (**Melville**) by Masuda and Noda (1976))

***Erosaria (Ravitrana) subrostrata* Hatai and Nisiyama, 1949**

Nautilus, vol. 62, no. 2, p. 64, pl. 4, fig. 8

Holotype: GS no. 25294

Cliff of the Koito-gawa, about 250 m E of the temple at Nishihigasa, Akimoto-mura, Kimitsu-gun (Kimitsu City), Chiba Prefecture; (35°13'29"N, 140°00'16.4"E)

Sakahata Formation

Pliocene

Ethalia guamensis selenomphala **Pilsbry** reported by Iwai and Siobara (1969) from the Pleistocene Noheji Formation, Aomori Prefecture (*Ethalia guamensis selenomphala* **Pilsbry** by Masuda and Noda (1976))

Ethalia maxima (**Shuto**) reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

Ethalia pulchella (**A. Adams, 1853**) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Ethalia subpulchella* **MacNeil** by Masuda and Huang (1990))

***Ethalia subpulchella* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 28, pl. 11, figs. 16, 17

Holotype: USNM no. 562898

Loc. no. 17442, fine gray sand exposed on east side of narrow ridge north of Highway 8 about 0.2 Mi E of the junction of Highways 8 and 16, Okinawa Prefecture

Chinen Formation

Pliocene

Ethaliopsis iridescens **Habe, 1961** (n. sp.; Col. Illust. Shell. Japan, 12, pl. 6, fig. 16, append. p. 4) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

Etrema hayasakai (**Nomura**) reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see *Lienardia (Lienardia) hayasakai* **Nomura, 1935**

***Etrema hyugaensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 134, pl. 8, fig. 5, pl. 10, fig. 10

Holotype: GKL no. 4973 (pl. 8, fig. 5)

Road side cutting at Hagenoshita, Uwaye-mura, (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Etrema saigoensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 107, pl. 5, fig. 4

Syntype: GK no. 261

Honohashi (about 150 m W of Honohashi, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Etrema saplisi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 116, pl. 15, fig. 10

Holotype: USNM no. 562988

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

Etremopa subauriformis (**Smith**) reported by Takayasu (1961) from the Pliocene Sasaoka Formation, Akita Prefecture (*Clathurella (Etremopa) subauriformis* (**Smith**) by Masuda and Noda (1976): *Drillia subauriformis* **Smith, 1879**)

***Euchelus fenestratus* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 94, pl. 6, fig. 2

Holotype: GT no. ? (CM no. 20284)

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)

Yokosuka Zone

Upper Musashino=Pleistocene

(*Euchelus pauperculus* (**Lischke**) by Oyama (1973))

***Euchelus minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 275, pl. 3, fig. 10

Holotype: ESN no. 20036, Paratype: ESN no. 20037

Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

***Euchelus notoensis* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 330, pl. 36, figs. 4a-6c

Holotype: DGS no. 4554 transferred to IGPS no. 90091

Loc. No. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37°27'59"N, 137°07'40"E

Hihashi-Innai Formation

Miocene (late early Miocene)

***Euchelus ornatissimus* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 1, part 9, p. 374, pl. 43, figs. 7, 8

Holotype: UT no. ?

Tonami, Takatoyo-mura, Atsumi-gun (Toyohashi City), Aichi Prefecture

Upper Clay (Toyohashi Formation)

Pleistocene (middle Pleistocene)

(*Tallorbis ornatissima* (Yokoyama) by Makiyama (1958))

***Euclathurella (Miraclathurella) bagacayensis* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 202, pl. 21, figs. 3, 8, 9 text-figs. 37, 38

Holotype: GK-L no. 6886 (figs. 8, 9), Paratype: GK-L no. 6887 (fig. 3)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Euclathurella (Miraclathurella) dalabeensis* (Vredenburg)**

reported by Shuto (1984) from the Miocene of Dalabe, Burma: *Drillia (Crassispira) dalabeensis* Vredenburg, 1921

***Euclathurella (Miraclathurella) decemcostata* (Vredenburg)**

reported by Shuto (1984) from the Miocene of Thanga Burma: *Drillia (Crassispira) cotteri* var. *decemcostata* Vredenburg, 1921

***Euclathurella (Miraclathurella) elegantissima* (Vredenburg)**

reported by Shuto (1984) from the Miocene of Dalabe, Burma: *Mangilia elegantissima* Vredenburg, 1921

***Euclathurella fimbria* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 117, pl. 15, fig. 2

Holotype: UNM no. 562982

Loc. no. 17442, fine gray sand exposed on east side of

narrow ridge north of Highway 8 about 0.2 Mi E of the junction of Highways 8 and 16, Okinawa Prefecture Chinen Formation

Pliocene

***Euclathurella (Thelecythara) franciscoana* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 204, pl. 20, fig. 6, pl. 21, figs. 4-6, text-figs. 37, 38

Holotype: GK-L no. 6888 (pl. 21, figs. 4-6), Paratype: GK-L no. 6889 (pl. 20, fig. 6)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Euclathurella (Miraclathurella) tittabweensis* (Vredenburg)**

reported by Shuto (1984) from the Miocene of Tittabwe, Burma: *Drillia (Crassispira) tittabweensis* Vredenburg, 1921

Euclio balantum* (Rang) reported by Shibata (1970) from the Miocene Oi Formation, Mie Prefecture: *Cleodora balantum* Rang, 1834**Eudolium nipponicum* Akutsu, 1960**

Bull. Utsunomiya Univ., no. 10, p. 52, pl. 1, figs. 7a-b

Holotype: UN no. ?

Shokonsha, Baba-cho, Utsunomiya City, Tochigi Prefecture Ozo Formation

Miocene

***Eudolium oyamai* Shuto, 1957**

Jour. Geol. Soc. Japan, vol. 63, no. 745, p. 572, text-figs. 11-1, -2

Holotype: GKL no. 4710, Paratype: GK-L no. 4719

Yamaji, Mino-mura, Koyu-gun (Saito City), Miyazaki Prefecture; Paratype, Kariyabaru, Tano-cho, Miyazaki-gun, Miyazaki Prefecture

Kawabaru Formation

Miocene

Eufenella pupoides* (A. Adams) reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture**Eufenella rufocincta* (A. Adams) reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture*****Euhadra takarajimana* Azuma and Azuma, 1985**

Venus, vol. 44, no. 2, p. 93, figs. 1, 2

Holotype: Azuma collection no. 17147, Paratype: Azuma collection no. 17147a-b, NSMT Mo no. 6274a, 62748b

Takara-jima, Takara-retto (Islands), Toshima-son, Kagoshima-gun, Kagoshima Prefecture

Raised sand-hill (dune)

Pleistocene

***Eulima (Leiostraca) glabroides* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 49, pl. 2, fig. 6

Holotype: UT no. ? (CM no. 21024)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Balcis glabroides* (Yokoyama) by Oyama (1973))

***Eulima hataii* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 5, pl. 1, figs. 21a-b

Holotype: DGS no. 4590 transferred to IGPS no. 90090

Loc. No. 35, sea coast, about 500 m N of the outlet of the Fushimi-gawa, Konami, Suzu City, Ishikawa Prefecture; 37 ° 27'48"E, 137 ° 21'25"E

Higashi-Innai Formation

Miocene

***Eulima (Leiostraca) hojoensis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 29, pl. 1, fig. 21

Holotype: UT no. ? (CM no. 21873)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coal Bed (Numa Formation)

Pleistocene (Holocene)

***Eulima (Leiostraca) hosoyana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 345, pl. 41, fig. 12

Holotype: GT no. ?

Hosoya (Road-side exposure about 200 m N of Hosoya, Haragaya-mura, Ogasawara-gun, Shizuoka Prefecture; 34 ° 47'06"N, 137 ° 57'07"E)

Hijikata Formation

Pliocene

***Eulima (Leiostraca) krishna* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 91, pl. 4, fig. 22

Holotype: UT no. ? (CM no. 21026)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Balcis krishna* (Yokoyama) by Oyama (1973))

Eulima maria (A. Adams) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Eulima musta* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 347, pl. 67, fig. 5

Holotype: GT no. ?

Northern foot of the Komaru-gawa (A short distance W of the main road near Hagensoshita, Uwae-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture; 32 ° 08'27"N, 131 ° 31'04"E) (Kounji Formation)

Pliocene

(*Melanella (Balcis) musta* (Yokoyama) by Hatai and Nisiyama (1952): *Balcis musta* (Yokoyama) by Makiyama (1959))

***Eulima osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 85, pl. 4, fig. 5

Holotype: JC no. 1400039

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

***Eulima ovalis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 21, pl. 1, fig. 40

Holotype: UT, no. ?

Cutting along the railway at Tabata (Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata Shell Bed

Pleistocene

***Eulima (Subularia) ozawai* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 452, pl. 51, fig. 15

Holotype: UT no. ? (CM no. 24320)

Ichikawa, Higashikatsushika-gun (Ichikawa City, Chiba Prefecture)

(Raised Beach Deposits)

Holocene

***Eulima (Leiostraca) sagamiana* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 80, pl. 5, fig. 8

Holotype: GT no. ? (CM no. 21240)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35 ° 22'03"N, 139 ° 32'05"E)

Naganuma Formation

Pliocene (early Pleistocene)

(*Balcis sagamiana* (Yokoyama) by Oyama (1973))

***Eulima (Leiostraca) shibana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 418, pl. 47, fig. 8

Holotype: UT no. ? (CM no. 23802)

Kuromon-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Balcis shibana* (Yokoyama) by Oyama (1973))

***Eulima (Leiostraca) tokunagai* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 90, pl. 4, fig. 22

Holotype: UT no. ? (CM no. 21021)

Otake (Narita City, Chiba Prefecture)

Shimoso Group (Kioroshi Formation)

Pleistocene

(*Balcis tokunagai* Yokoyama by Oyama (1973): *Balcis tokunagai* (Yokoyama))

***Eulima (Leiostraca) uncinata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 89, pl. 4, fig. 21

Holotype: UT no. ? (CM no. 21018)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimoso Group (Semata Formation)

Pleistocene

***Eulima (Leiostraca) yokoskensis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 79, pl. 5, fig. 7

Holotype: GT no. ? (CM no. 21239)

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)

Yokosuka Zone

Lower Musashino= Pleistocene

(*Balcis yokosukensis* (Yokoyama) by Oyama (1973))

***Eulimella (Evalina) formosana* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 826, pl. 22, fig. 2

Holotype: IGPS no. 62610

Taikwa, Hsinchu, Taiwan

Byoritu

Pliocene

***Eulimella nomurai* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 167, pl. 15, figs. 18, 19

Holotype: NSM no. 4477

Road-side cutting 500 m SW of Tokoyoda-mati (-machi),

Tyosi (Chosi) City, Chiba Prefecture

Iioka Formation

Pliocene

Eunaticina linnaeana (Recluz) reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture: *Sigaretus linnaeanus* Recluz, 1843

***Eunaticina majimai* Noda, 1991**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 41, fig. 14-4a-c

Holotype: IGUT no. 11609

Loc. No. 265, small river side cliff, about 300 m W of Onaga, Togigusuku-son, Shimajiri-gun, Okinawa Prefecture

Yonabaru Formation

Pliocene

Eunaticina papilla (Gmelin, 1791) reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture: *Natica pallida* Gmelin, 1791 (*Sinum papilla* (Gmelin) by Masuda and Huang (1990))

***Euryentema australiana* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 13, text-figs. 1, 3

Holotype: AM no. C134678

HMAS "Gascoyne" Stn. G2/55-57/62, east of Sydney, New South Wales, Australia

Depth 75-150 m, CSIRO coll., July 18, 1962

Recent

***Euspira aritensis* Shuto and Ueda, 1967**

Japan. Jour. Geol. Geogr., vol. 38, no. 1, p. 34, pl. 2, figs. 4-7

Holotype: GKL no. 7961 (fig. 7), Paratyp: GKL nos. 7961, 7969, 7985, 7970-7984

Roadside cutting north of Obo, Arita-machi, Nishi-matsuura-gun, Saga Prefecture

Kishima Formation

Oligocene

Euspira ashियाensis (Nagao) reported by Hirayama (1956) from the Oligocene "Hikoshima" Formation, Yamaguchi Prefecture: see *Policices (Euspira) ashियाensis* Nagao, 1928

***Euspira isensis* Araki, 1960**

Bull. Lib. Arts Dep., Mie Univ. Spec. Vol. no. 1, p. 109, pl. 9, figs. 4-7

Holotype: MU no. ? (figs. 4-5)

Roadcut about 300 m upstream from the entrance of the valley in the west of Yanagidani, Misato-mura, Age-gun, Mie Prefecture

Kaisekizan Formation

Middle Miocene

***Euspira kazusensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 147, pl. 7, figs. 12a-c

Holotype: Keio Yochisya no. ?

Road-side cut at Kose, 1.1 km SE of Sanukimachi Station (Uchibo Line), Futtsu City, Chiba Prefecture

Mandano Formation; upper part

Pleistocene

***Euspira marincovich* Majima, 1989**

Bull. American Paleont., vol. 96, no. 331, p. 35, pl. 3, figs.

1-4, text-figs. 10.2, 10.3, Tab. 6

Holotype: IGUT no. 15724 (pl. 3, fig. 1), Paratype: IGUT nos. 15725-1 – 43 (pl. 3, fig. 2), 15728-1 – 4 (pl. 3, figs. 3, 4) Small outcrop in a tributary of the Shiratori River, about 400 m upstream of the mouth of the tributary, Shiratori, Fukuoka-machi, Ninohe City, Iwate Prefecture; Paratype, exposure on the left bank of the Kubusu River at Kashio, Yatsuo-machi, Nei-gun, Toyama Prefecture Kadonosawa Formation (Holotype) and Joyama Member of the Yatsuo Formation (Paratype) Middle Miocene

***Euspira meisensis* (Makiyama)** reported by Shikama (1954) from the Miocene Nukuta Formation, Nagano Prefecture: see ***Polinices (Euspira) meisensis* Makiyama, 1926**

***Euspira meisensis elata* Noda, 1992**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 62, nos. 1-2, p. 98, pl. 9, figs. 17a-b
Holotype: IGPS no. 100909
Loc. No. CH30, middle stream of Haboro River, Haboro-cho, Tomamae-gun, Hokkaido
Chikubetsu Formation
Middle Miocene

***Euspira mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 74, pl. 3, figs. 10a-b
Holotype: ESN no. 30019, Paratype: ESN no. ?
Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture
Oi Formation
Miocene

***Euspira pallida* (Broderip and Sowerby)** reported by MacNeil from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Natica pallida* Broderip and Sowerby, 1829**

***Euspira pila* (Pilsbry)** reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori prefecture: ***Polinices pila* Pilsbry, 1911**

***Euspira pila ovata* (Sowerby)** reported by Kanehara (1942) from the Plio-Pleistocene (Pleistocene) Shibikawa Formation, Akita Prefecture

***Euspira pila shimokitaensis* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 27, pl. 4, figs. 8a-b
Holotype: IGPS no. 90442
Loc. no. 6, left cliff of Chikagawa River, about 200 m from the sea shore, Chikagawa, Mutsu City, Aomori Prefecture
Hamada Formation

Pliocene (early Pleistocene)

***Euspira yokoyamai* (Kuroda and Habe)** reported by Noda (1991) from the Pliocene Yonabaru Formation, Okinawa Prefecture: ***Gennaeosinum yokoyamai* Kuroda and Habe, 1952**

***Fasciolaria iizukai* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 37, pl. 2, fig. 3
Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990)
Shiko, Koshun, Takao Province, Taiwan
Upper Byoritz Beds
Pliocene
(Synonymus with ***Tudicla cumingii* (Reeve, 1848)** by Makiyama (1960): ***Pleuroploca ? iizukai* (Yokoyama)** by Masuda and Huang (1990))

***Faunus (Melanatria) kahoensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 103, pl. 15, figs. 2, 2a-b
Holotype: GS no. ?
In the shaft of the coalery in the Kamiyamada Mine (At the end of the railway, on the boundary between Chikuzen and Buzen Provinces, about 300 m E of the crossing N of Inohana, Yamada-machi, Kaho-gun, Fukuoka Prefecture; 33 ° 34'02"N, 130 ° 46'35"E)
Takeya (Uwaishi Formation)
Middle Eocene
(***Melanatria ? kahoensis* (Nagao)** by Oyama et al. (1960))

***Faunus (s. s.) nipponicus* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 123, pl. 21, figs. 5, 5a-b
Holotype: GS no. 35719
Road-side cutting along the sea shore (about 550 m W of the Akase railway station of the Misumi Line, Oda-mura, Uto-gun, Kumamoto Prefecture; 32 ° 39'N, 130 ° 30'20"E)
Shiratake Formation
Lower Eocene

***Fenella kenonis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 26, pl. 1, fig. 27
Holotype: UT no. ? (CM no. 21869)
Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
Numa Coal Bed (Numa Formation)
Pleistocene (Holocene)
(***Clathrofenella kenonis* (Yokoyama)** by Oyama (1973))

***Fenella orientalis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 74, pl. 4, fig. 12
Holotype: GT no. ? (CM no. 20209)

Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)

Yokosuka Bed

Lower Musashino=Pleistocene

(Synonymus with *Clathrofenella reticulata* (A. Adams) by Oyama (1973))

***Fenella perpupoides* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 452, pl. 51, figs. 11, 12

Holotype: UT no. ? (CM no. 24302), (Paralectotype: CM no. 24301)

Shimosueyoshi and Koyasu, Tachibana-gun, Musashi (Koyasu, Kohoku-ku, Yokohama City and Shimosueyoshi, Tsurumi-ku, Yokohama City, Kanagawa Prefecture)

(Shimosueyoshi Formation)

Upper Musashino=Pleistocene

(Synonymus with *Eufenella pupoides* (A. Adams) by Oyama (1973))

***Fenella septentrionalis* Tokunaga** reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture (*Eufenella rufocincta* (A. Adams) by Oyama (1973))

***Fenella shinonis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 26, pl. 1, fig. 25

Holotype: UT no. ? (CM no. 21866)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coarl Bed (Numa Formation)

Pleistocene (Holocene)

(*Clathrofenella shinonis* (Yokoyama) by Oyama (1973))

***Fenella tokunagai* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 416, pl. 46, fig. 25

Holotype: UT no. ? (CM no. 23774, noted as missing by Oyama (1983))

Tabata (Tabata-machi, Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Merelina tokunagai* (Yokoyama) by Oyama (1973))

***Fenella yamakawai* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 26, pl. 1, fig. 4

Holotype: UT no. ? (CM no. 21864)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coarl Bed (Numa Formation)

Pleistocene (Holocene)

(*Clathrofenella yamakawai* (Yokoyama) by Oyama (1973))

***Ficus ficoides* (Lamarck, 1822)** reported by Nomura (1935)

from the Pliocene Byoritu Beds, Taiwan

***Ficus filosa* (Sowerby)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

***Ficus hosonoi* Tan, 1971**

Paleogene Strat. Paleont. Taiwan (Posthumous Pap.), p. 41, pl. 7, figs. 5-7

Holotype: GITNU (Geological Institute, Taiwan National Univ.), no. ? (fig. 5), Paratype: GITNU no. ? (figs. 6, 7)

Exposure along the Hokkokei, near Kokusei, Kokusei-syo, Noko-gun, Taihoku Prefecture, Taiwan: Paratype, Kanko,

Sekitei-syo, Bunzan-gun, Taihoku Prefecture, Taiwan

Dotitan Shale of the Kanko Group and Sokutu Formation (Paratype, fig. 7)

Eocene

***Ficus subintermedia* (d'Orbigny)** reported by MacNeli (1960) from the Pliocene Shinzato Formation, Okinawa Prefecture

"*Ficus*" taiwanica (Yokoyama, 1928) reported by Oyama et al. (1960) from the Eocene of Taiwan: see *Pyrura taiwanica* Yokoyama

***Ficus takahashii* Tan, 1971**

Paleogene Strat. Paleont. Taiwan (Posthumous Pap.), p. 40, pl. 7, figs. 3-4

Holotype: GITNU no. ? (fig. 3), Paratype: GITNU no. ? (fig. 4)

Hokkokei near Kokusei, Kokusei-syo, Noko-gun, Taiyuu Prefecture, Taiwan: Paratype, Nunseikei near Urai Hot Spring, Bunzan-gun, Taihoku Prefecture, Taiwan

Dotitan Shale

Eocene (Oligocene by Masuda and Huang (1990))

***Filodrillia oyamai* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 135, pl. 8, fig. 1, pl. 10, fig. 11

Holotype: GKL no. 4974

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu -gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Fissuridea crucifera* (Pilsbry)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: *Glyphis crucifera*

Pilsbry, 1890 (*Diodora crucifera* (Pilsbry) by Masuda and Huang (1990))

***Fissuridea humilis* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, vol. 45, art. 7, p. 15, pl. 3, fig. 7

Holotype: GT no. ?

Hiraiso (Sea coast of Hiraiso-machi, Oka-gun, Ibaraki

Prefecture; 36°20'07"N, 140°37'E)

Minato Formation

Pliocene (Miocene)

(*Diadora humilis* (Yokoyama) by Hatai and Nisiyama (1952))

Fissuridea tanneri (Verill) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture (*Diadora yokoyamai kosibensis* Otuka, 1937)

Flexopteron Shuto, 1969 n. gen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 111, Type species; *Flexopteron philippinensis* Shuto, 1969 described from the Upper Miocene Dingle Formation, Philippines

Flexopteron philippinensis Shuto, 1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 112, pl. 8, figs. 1, 2, text-fig. 24

Holotype: GK-L no. 6943

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

Fossarus mitsuganoensis Shibata, 1970

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 72, pl. 3, figs. 3a-b

Holotype: ESN no. 30017, Paratype: ESN no. ?

Loc. no. K8 (Bungo), Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

Fulgoraria (Psephaea ?) ashियाensis Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 88, pl. 17, figs. 1-3

Holotype: IGPS no. 36085 (figs. 1-2)

Wakita and Iwaya, Shimago-mura, Onga-gun, Fukuoka Prefecture

Wakita Formation

Oligocene

Fulgoraria (Psephaea) cancellata cancellata Kuroda and Habe, 1950 reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazaki Prefecture

Fulgoraria (Psephaea) cancellata koyuensis Shuto, 1962

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 66, pl. 11, figs. 3, 6

Holotype: GKL no. 6182 (fig. 6), Paratype: GK-L no. 6181

Cutting at the approach to Tsuma bridge, Yamasumi, Saito City, Miyazaki Prefecture

Tsuma Formation

Miocene

(Synonymus with *Fulgoraria (Msashia) hirasei* (Sowerby) by Masuda and Noda (1976))

Fulgoraria (Psephaea) concinna (Broderip) reported by Shikama (1967) from the recent sea off Wakayama Prefecture: *Voluta concinna* Broderip, 1836

Fulgoraria (Psephaea) concinna corrugata Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 55, pl. 7, figs. 7-12, pl. 12, figs. 3, 4, 23, 24

Holotype: GIYU no. ?

Enshunada, off Shizuoka Prefecture

Recent

(Fossils recognized from the Pleistocene Yabu bed at Nishikuniyoshi, Nanso-machi, Ichihara-gun, Chiba Prefecture, and Miocene bed at Kushimoto, Kushimoto-machi, Minamimuro-gun, Wakayama Prefecture)

Fulgoraria (Psephaea) concinna rosea Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 85, pl. 12, figs. 21, 22

Holotype: UTCM no. ?, Paratype: UTCM no. 0069

Off Atami on the west coast of Sagami Bay, Shizuoka Prefecture

Recent

(Fossils recognized from the Pleistocene Sasage bed at Sanuki, Osawa-machi, Kimitsu-gun, Chiba Prefecture)

Fulgoraria (Psephaea) daviesi Fulton reported by Shuto,

1962 (Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1) from the Miocene Kawabaru Formation, Miyazaki Prefecture

Fulgoraria (Saotomea) delicata (Fulton) reported by

MacNeil (1960) from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture

Fulgoraria (Psephaea) elongata Shikama, 1962

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 8, p. 48, pl. 2, figs. 10a-11b

Syntype: GIYU no. ?

East of Choshi, Chiba Prefecture

Living specimen, 250-400 fathoms in depth

Recent

(*Musashia (Nipponomelon) elongata* (Shikama) by Shikama (1967))

Fulgoraria (Psephaea) excelsa Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 90, pl. 11, figs. 9, 10

Holotype: GIYU no. ?

Iriya, Kamakura City, Kanagawa Prefecture

Imaizumi Sandstone Bed of the Nojima Formation

Pliocene

***Fulgoraria (Fulgoraria ?) exoptanda* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 53, pl. 5, figs. 3, 4

Holotype: GYNU no. ?

Off northwest of Formosa (Taiwan)

Recent

***Fulgoraria (Psaphaea) fujimotoi* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 219, pl. 7, figs. 9-10b

Holotype: TKD no. 5671 (figs. 10a-b), Paratype: TKD no. 5672

Loc. No. 112, a right river side cliff of the Akahira River at Tomita, Chichibu City, Saitama Prefecture

Ushikubitoge Formation

Oligocene (early Miocene)

(*Fulgoraria (Musashia) fujimotoi* Kanno by Masuda and Noda (1976))

Fulgoraria (Fulgoraria) hamillei (Crosse) reported by Shikama (1967) from the recent sea off Formosa (Taiwan):

***Voluta hamillei* Crosse, 1869**

***Fulgoraria (Fulgoraria) hamillei nipponkaiensis* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 51, pl. 9, figs. 1, 2

Holotype: GYNU no. ?

Off Tajima, Japan Sea

Living specimen

Recent

***Fulgoraria (Fulgoraria) hamillei sinica* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 50, pl. 8, figs. 7, 8

Holotype: GYNU no. ?

East China Sea

Living specimen

Recent

***Fulgoraria (Fulgoraria) hamillei tosaensis* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 52, pl. 8, figs. 9, 10

Holotype: GYNU no. ?

Off southern coast of Miyazaki Prefecture

Living specimen

Recent

Fulgoraria hirasei (Sowerby) reported by Tsuchi (1955) from the Pliocene Hijikata Formation, Shizuoka Prefecture

***Fulgoraria hirasei yanagidaniensis* Araki, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 36, p. 165, p. 18, fig. 6

Holotype: MU no. ?

Small cliff near the temple of Yanagidani, Misato-mura, Sge-gun, Mie Prefecture

Kaisekizan Formation

Miocene

(*Fulgoraria (Musashia) yanagidaniensis* Araki by Masuda and Noda (1976))

***Fulgoraria (Volutipysma) humerosa* Rehder, 1969**

reported by Shikama and Ogose (1970) from the recent South China Sea

***Fulgoraria (Psaphaea) hyugaensis* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 68, pl. 12, figs. 3, 4, 6, pl. 13, fig. 2

Holotype: GKL no. 6183 (pl. 12, fig. 6, pl. 13, fig. 2), Paratype: GK-L no. 6184, 4652

Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture; Paratype, road side, 300 m N of Kushiki bridge, Kushiki, Kamihokita, Saito City, Miyazaki Prefecture

Kawabaru Formation and Takanabe Formation

Miocene

***Fulgoraria (Psephaea) kamakurensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 304, pl. 13, fig. 7

Holotype: GK Kf no. 349a

(Sea cliff at Shiba, Kanazawa-machi, Totsuku-ku, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

***Fulgoraria (Psephaea) kaneko* (Hirase), Kuroda and Habe, 1950**

reported by Shikama (1967) from the recent sea of Tsushima Strait: ***Fulgoraria kaneko* Kuroda and Habe, 1950**

***Fulgoraria (Psephaea) kaneko hayashii* Habe, 1965**

reported by Shikama (1967) from the recent sea off Tajima, Hyogo Prefecture

Fulgoraria (Psephaea) kaneko hayashii forma itoi* Shikama, 1967** reported from the recent sea off Tajima, Hyogo Prefecture (Fulgoraria (Psephaea) kaneko hayashii* Habe**)

***Fulgoraria (Psephaea) kosibensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 304, fig. 8

Holotype: UT no. Kf-321

(Sea cliff at Shiba, Kanazawa-machi, Totsuku-ku, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Fulgoraria prevostiana* ? by Masudand Noda (1976))

***Fulgoraia masudae* Hayasaka, 1958**

Saito Ho-on Kai Mus. Res. Bull., no. 27, p. 24, pl. 3, figs. 1a-3

Holotype: DGS no. 3647 transferred to IGPS no. 90468 (figs. 1a-b), Paratype: DGS no. 3648 (figs. 2, 3)

Left cliff of Chikagawa River, about 200 m from the sea shore, at Chikagawa, Tanabe-machi, Shimokita-gun, Aomori Prefecture

Hamada Formation

Pliocene (Pleistocene)

(*Fulgoraria (Psephaea) Masudae* Hayasaka by Shikama (1957))

***Fulgoraria (Psephaea) matsuirensis* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 88, pl. 17, fi. 4

Holotype: IGPS no. 36106

Obo, Arita-machi, Nishimatsuura-gun, Saga Prefecture

Kishima Formation

Oligocene

Fulgoraria (Psephaea) megaspira (Sowerby) reported by Nagao (1928) from the Oligocene Wakita Formation, Fukuoka Prefecture: *Voluta megaspira* Sowerby, 1844

Fulgoraria megaspira striata (Yokoyama) reported by Shikama (1943) from the Miocene Kaisekiyama Formation, Mie Prefecture (*Fulgoraria (Psephaea) striata* (Yokoyama) by Hatai and Nisiyama (1952))

Fulgoraria (Psephaea) mentions (Fulton) reported by Shikama (1967) from the recent sea of Shuganada, Miyazaki Prefecture: *Voluta mentions* Fulton, 1940

***Fulgoraria miensis* Araki, 1960**

Bull. Lib. Arts Dep., Mie Univ. Spec. Vol. no. 1, p. 105, pl. 9, figs. 1, 2

Holotype: MU no. ?

Road cliff 300 m upstream from the entrance of the valley in the west of Yanagidani, Misato-mura, Age-gun, Mie Prefecture

Kaisekizan Formation

Miocene

Fulgoraria (Psephaea) prevostiana (Crosse) reported by Nomura and Zinbo (1935) from the Miocene Furukuchi Formation, Yamagata Prefecture (*Fulgoraria (Musashia) tokunagai* by Masuda and Noda (1976))

Fulgoraria (Musashia) prevostiana magna Kuroda and Habe reported by Ozaki (1957) from the Pliocene Iioka Formation Chiba Prefecture

Fulgoraria rupestris (Gmelin, 1791) reported by Nomura

(1935) from the Pliocene Byoritu Beds, Taiwan

***Fulgoraria (Fulgoraria) rupestri forma aurantia* Shikama and Kosuge, 1979**

Venus, vol. 29, no. 1, p. 5, pl. 1, figs. 2-6

Holotype: NSMT no. MO-38540, Paratype: Shikama Coll., ?

Off Hsuanteh Islands, South China Sea; 18°N, 115°E

Living specimen, 180 m depth

Recent

***Fulgoraria (Fulgoraria) rupestris politohumerosa* Shikama, 1968**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 14, p. 18, text-figs. 1, 2

Holotype: GIYU no. ?

Southwest of Penghu Island, western Formosa

Living specimen

Recent

***Fulgoraria (Fulgoraria ?) shutoi* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 84, pl. 17, figs. 5, 6, Text-fig. 7

Holotype: GK-L no. 6276

Coast between Iwaya and Sakamizu, Wakamatsu-ku, Kitakyushu City, Fukuoka Prefecture

Ashiya Formation

Oligocene

Fulgoraria (Fulgoraria) sikoensis (Nomura) reported by Shikama (1976) from the Pliocene Miaoli Beds, Formosa (Taiwan): see *Voluta sikoensis* Nomura, 1935

***Fulgoraria (Psephaea) siniziensis* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 6, pl. 1, figs. 4a-b

Holotype: GS no. 51890

(Small road-side cutting 150 m N of the pond and about 400 m SEE of) Shinji Station, Shinji-machi, Yatsuka-gun, Simane Prefecture; 35°24'N, 132°55'E)

Kimachi Formation

Miocene

Fulgoraria (Musashia ?) smithi (Sowerby, 1901) reported by Shikama (1962) from the recent sea off Choshi, Chiba Prefecture

Fulgoraria (Psephaea) striata (Yokoyama) reported by Nomura (1935) from the Miocene Chiganoura Formation, Miyagi Prefecture; see *Voluta striata* Yokoyama: also reported by Kanno (1960) from the Oligocene (Miocene) Nanokami Formation, Saitama Prefecture (*Fulgoraria (Musashia) kannoi* (Shikama) by Masuda and Noda (1976))

***Fulgoraria (Musashia) takedai* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 8-9

Syntype: UH, nos. 343, 3750, 6591-6598

Tokowake, Niikappu-machi, Hidaka Province, Hokkaido, Piu (Noya) Formation; Hofu Coal Mine, Kitami Province, Hokkaido, Soya Formation, Miocene; Upstream of Chikubetsu River, Rumoi, Teshio Province, Hokkaido, Chikubetsu Formation, Miocene

Piu (Noya), Soya and Chikubetsu Formations

Miocene

(New name for *Psephaea (Neopsephaea) magna* Takeda, 1950. Cenoz. Res., no. 4, p. 13, pl. 4, figs. 18a-19; preoccupied by Kuroda and Habe (1950))***Fulgoraria (Psephaea ?) tessellata* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 91, pl. 16, figs. 7-10

Holotype: NSMT-P no. 5451 (figs. 7, 8)

Sea coast of Kushimoto-machi, Nishimuro-gun, Wakayama Prefecture

Oguchi Bed of the lower Kumano Group

Lower Miocene

Fulgoraria tokunagai (Kanehara)* reported by Kamada (1962) from the Miocene Honya Formation, Fukushima Prefecture (*Fulgoraria (Musashia) densicosata (Shikama)* by Masuda and Noda (1976))**Fulgoraria (Psephaea) totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 77, pl. 3, figs. 17, 18

Holotype: GK no. 303

Tennoyama (East side of Tennoyama, 1.75 km N of the Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34° 46'09"N, 138° 00'08"E)

Tenno Formation

Pliocene

(*Fulgoraria (Musashia) totomiensis* Makiyama by Masuda and Noda (1976))***Fulgoraria (Psephaea) yamamotoi* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 50, pl. 8, figs. 7, 8

Holotype: GYNU no. ?

Off south coast of Saishu (Cheju) Island, South Korea

Living specimen

Recent

Fusiclathurella Shuto, 1980* n. gen.**Prof. S. Kanno Com. Mem. Vol., p. 47, Type-species; *Mangilia (Clathurella) thersites* Martin described from the Eocene Nangulan Formation, Indonesia; see belowFusiclathurella thersites (Martin)* reported by Shuto (1980)**from the Eocene Nangulan Formation, Indonesia: ***Mangilia (Clathurella) thersites* Martin, 1914*****Fusiclavus Shuto, 1980* n. gen**Prof. S. Kanno Com. Mem. Vol., p. 46, Type-species; *Pleurotoma (Surcula) bawangana* Boettger; see below***Fusiclavus bawanganus (Boettger)* reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: *Pleurotoma (Surcula) bawangana* Boettger, 1883*****Fusinus colus (Linnaeus)* reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: *Fusinus colus* Linnaeus, 1758*****Fusinus gracillinus (Adams and Reeve, 1850)* reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan*****Fusinus hosonoi* Tan, 1971**

Paleogene strat. Paleont. Taiwan, p. 41, pl. 7, figs. 5-7

Holotype: TNU no. ?, Paratype: TNU no. ? (figs. 6, 7)

An exposure along the Hokkokei, Taichung Prefecture, Taiwan; Kanko, Sekitei-syo, Bunzan-gun, Taihoku Prefecture, Taiwan

Dotitan and Sokutu Formations

Eocene (Oligocene)

***Fusinus laticanaliculatus* Nomura, 1935**Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 143, pl. 8, figs. 3a-b (figs. 2a-b)

Holotype: IGPS no. 49404

Siko, Kosyun-syo, Kosyun-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

Fusinus longicaudus (Lamarck, 1816)* reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture**Fusinus nicobaricus (Lamarck)* reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture: *Fusinus nicobaricus* Lamarck, 1822*****Fusinus nodosoplicatus (Dunker, 1871)* reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture*****"Fusinus" peikanensis* Kanno and Chung, 1973**

Geol. Palaeont. Southeast Asia, vol. 13, p. 123, pl. 12, figs. 9-10

Holotype: TUE no. 10187, Paratype: TUE no. 10188

Loc. Nos. 81306, north of Peichiang, Nantou Prefecture, about 25 km SE of Taichung City, Taiwan

Black Shale or Slaty black shale of the Kayahara Slate of the Gaogan Group
Early Miocene (Oligocene by Masuda and Huang (1990))

Fusinus perplexus (A. Adams) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture: *Fusus perplexus* A. Adams, 1864

Fusinus pyrulatus (Reeve) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture: *Fusus pyrulatus* Reeve, 1847

Fusinus shiobarensis Akutsu, 1964

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), vol. 35, no. 3, p. 289, pl. 60, fig. 9

Holotype: IGPS no. 85515

Along the Hoki River, Sekiya, Shiobara-machi, Shiobara-gun, Tochigi Prefecture

Kanomatazawa Formation

Miocene

Fusinus simplex (Smith) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture: *Fusus simplex* Smith, 1879

Fusinus (Fusinus) spectrum (Adams and Reeve) reported by Shuto (1962) from the Miocene Tano Formation, Miyazaki Prefecture

Fusinus tuberosus (Reeve) reported by Baba (1990) from the Pleistocene Shimosa Group, Chiba Prefecture: *Fusus tuberosus* Reeve, 1847

Fusitriton galea Kuroda and Habe reported by Shikama and Masujima (1969) from the Pliocene Imaizumi Formation, Kanagawa Prefecture

Fusitriton izumozakiensis Amano, 1997

Venus, vol. 56, no. 2, p. 124, pl. 1, figs. 1a-d, 2, 5

Holotype: JUE no. 15607

Road-side cliff near Ichinotsubo, Izumozaki-cho, Santo-gun, Niigata Prefecture

Haizume Formation

Early Pleistocene

Fusitriton oregonensis (Redfield) reported by Kuroda (1931) from the Pliocene Shigarami Formation, Nagano Prefecture: *Triton oregonensis* Redfield, 1848

Fusitriton oregonensis galea Kuroda and Habe reported by Tomida (1996) from the Miocene Shimoda Formation, Kanagawa Prefecture

Fusitriton yatsuoensis Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 86, pl. 4, figs. 7a-8

Holotype: JC no. 1400042 (figs. 7a-b), Paratype: JC no. 1400043

Shimizu, Yatsuo-machi, Nei-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late Early Miocene)

Fusiturricula (Crenaturricula) lepidota (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: *Surccula lepidota* Martin, 1914

Fusus dualis Yokoyama, 1928

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 344, pl. 67, fig. 3

Holotype: GT no. ?

Road-side cutting at the northern foot of the hill, a short distance W of the bridge at Kounji, Takanabe-machi, Koyu-gun, Miyazaki Prefecture; 32°07'11"N, 131°30'10"E (Kounji Formation)

Pliocene

(*Fusinus dualis* (Yokoyama) by Hatai and Nisiyama (1952); *Purpura dualis* (Yokoyama) by Makiyama (1959))

Fusus perplexus A. Adams reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture (*Fusinus perplexus* (A. Adams) by Hatai and Nisiyama (1952))

Fusus simplex Smith reported by Yokoyama (1928) from the Pliocene (Shiraiwa) Formation, Niigata Prefecture (*Searlesia fuscolabiata* (Smith) by Hatai and Nisiyama (1952))

Fusus uyemurai Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 7, p. 238, pl. 30, fig. 4

Embets, Teshio-gun (River-side of the Uttsu-gawa, about 3 km E of the contact point of the Uttsu-gawa and the Bishkshuinai-gawa, Embets-mura, Teshio-gun, Teshio Province, Hokkaido; 44°44'50"N, 141°55'24"E)

Yuchi Formation

Pliocene

(*Trophonopsis uyemurai* (Yokoyama) by Makiyama (1958))

Galeodea apta Tegland reported by Kanno (1960) from the Oligocene (early Miocene) Nenokami Formation, Saitama Prefecture (*Liracassis apta* (Tegland) by Masuda and Noda (1976))

Galeodea (Sconsia) japonica Yokoyama, 1923

Japan. Jour. Geol., vol. 2, no. 1, p. 3, pl. 1, figs. 4a-b

Holotype: GT no. ?

Lake coast, about 200 m W of the contact point of the two roads at N of Kagami, Kimachi-mura, Yaysuka-gun, Shimane Prefecture; 35°25'N, 132°58'E)

Fujina (Shirahama Formation)

Miocene (Blow's N8–N9 Zone by Tanabe Dantai Kenkyu Group (1984))

(Synonymus with *Shichiheia yokoyamai* (Nomura and Hatai) by Hatai and Nisiyama (1952): *Daliocassis japonica* (Yokoyama) by Makiyama (1957))

***Galeodea noharai* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 17, pl. 6, figs. 17a-b, pl. 11, fig. 19

Holotype: IGUT no. 10156

Loc. No. 415, southern cliff of Shue Golf Links, about 1 km NW of Kuteken, Chinen-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Galeodea ogawarensis* Nomura and Onisi, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 188, pl. 19, figs. 5a-b

Holotype: SSM no. 21685

(Road cutting at) Fukuda, Ogawara-machi, Shibata-gun, Miyagi Prefecture (38°02'09"N, 140°43'01"E)

(Fukuda Formation)

Miocene

***Galeodea tohokuensis* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 342, pl. 20, fig. 11a-b

Holotype: SM no. 8426

Yanagawama-machi (River cliff of the Hirosegawa at the SE end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

(*Eudolium tohokuense* (Nomura and Zinbo) by Oyama (1961))

***Galeodea trituberculoides* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 214, pl. 6, fig. 20

Holotype: TKD no. 5847

Loc. No. 207, a river side exposure near a fall in Nenokami in Hikokubo, Yoshida-machi, Chichibu-gun, Saitama Prefecture

Nenokami Formation

Oligocene (early Miocene)

(*Echinophoria trituberculoides* (Kanno) by Masuda and Noda (1976))

Galeostraea (*Harisozaea*) *modesta* (Reeve) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Trochus modesta* Reeve, 1843

Gemmula asukana (Yokoyama) reported by MacNeil (1960) from the Miocenen Yonabaru Formation, Okinawa Prefecture: *Drillia asukana* Yokoyama, 1926

Gemmula (*Unedogemmula*) *butonensis asanoi* Shuto, 1969
Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 181, pl. 18, figs. 1-8, 11, 14, 15, 19, text-figs. 32, 33

Holotype: GK-L no. 6828 (fig. 14), Paratype: GK-L nos. 6829-6837 (figs. 1-6), 6838-6843, 7299-7301 (figs. 7, 8, 19), 7118-7120 (fig. 11; loc. no. SKGS-75)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines; Paratype, loc. no. SKGS-75, 500 m N of Loc. no. SKGS-74, Panay Island, the Philippines

Dingle Formation

Late Miocene

Gemmula carinata (Gray) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

Gemmula (*Gemmula*) *granosa* (Helbling) reported by Shuto (1961) from the Pliocene Takanahe Formation, Miyazaki Prefecture: *Murex* (*Fusus*) *granosa* Helbling, 1799

***Gemmula* (*Gemmula*) *granosa pulchella* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, P. 80, pl. 10, figs. 1, 2

Holotype: GKL no. 4945, Paratype: GKL nos. 6078, 6079

Road side small cliff at Nihonmastu, Takanahe-cho, Koyu-gun, Miyazaki Prefecture

Takanahe Member of the Miyazaki Group

Pliocene

(*Gemmula* (*Gemmula*) *pulchella* Shuto by Masuda and Noda (1976))

***Gemmula granosa ryukyensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 103, pl. 14, fig. 24

Holotype: USNM no. 562975

Loc. no. 17458, blue gray silty sand exposed at base of seacliff that forms a headland about 0.8 Mi S of Gushichan, Okinawa Prefecture

Shinzato Formation

Pliocene or Miocene (Pliocene)

(*Gemmula kieneri ryukyensis* MacNeil by Masuda and Noda (1976))

***Gemmula hamahikashimana* Noda, 1988**

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, no. 51, pl. 13, figs. 20a-b, pl. 14, figs. 1a-b

Holotype: IGUT no.10903

Loc. No. 82-25, cliff near Toubaru, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Gemmula (Kuroshioturris) hyugaensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 83, pl. 3, figs. 2-4
Holotype: GKL no. 4939 (fig. 2), Paratype: GKL no. 4938
Road side cutting at Hagenoshita, Uae-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture
Takanabe Member of the Miyazaki Group
Pliocene

***Gemmula kieneri ryukyuensis* MacNeil, 1960** reported by Powell (1964) from the Miocene to Pliocene (Pliocene)
Shinzato Formation, Okinawa Prefecture

***Gemmula kieneri* (Doumet)** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture

***Gemmula (Hemipleurotoma) kishimaensis* Shuto and Ueda, 1963**

Japan. Jour. Geo. Geogr., vol. 34, no. 1, p. 4, pl. 1, figs. 6-11
Holotype: GKL no. 6254 (fig. 6), Paratype: GKL nos. 6246-6247
Obo, Arita-machi, Nishimatsuura-gun, Saga Prefecture
Kishima Formation
Oligocene

***Gemmula (Ptychosyrinx) nipponicus* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 81, pl. 3, figs. 7, 8, 13, 19, pl. 8, fig. 14
Holotype: GKL no. 4921 (figs. 7, 8), Paratype: GKL nos. 4920, 4922-4927
Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture
Takanabe Member of the Miyazaki Group
Lower Pliocene

***Gemmula osawanoensis* (Tsuda)** reported by Itoigawa and Nishimoto (1974) from the Miocene Shukunohora Formation, Gifu Prefecture

***Gemmula (Gemmula) pulchella* Shuto, 1961**

Mem. Coll. Fac. Sci., Kyushu Univ., Ser. D, vol. 11, no. 2, p. 80, pl. 10, figs. 1-2, text-figs. 3-4
Holotype: GKL no. 4945, Paratype: GKL nos. 6078, 6079
Road side small cliff at Nihonmastu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture
Takanabe Member of the Miyazaki Group
Pliocene
(See *Gemmula (Gemmula) granosa pulchella* Shuto, 1961)

***Gemmula shokonshaensis* Akutsu, 1960**

Bull. Utsunomiya Univ., no. 10, p. 53, pl. 1, figs. 5, 6
Holotype: UN no. ?
Shokonsha, Baba-cho, Utsunomiya City, Tochigi Prefecture
Ozo Formation
Miocene

***Gemmula (Paragemmula) thyrus* Vredenburg** reported by Shuto (1984) from the Miocene of Kyaungon, Burma:
***Pleurotoma (Gemmula) thyrus* Vredenburg, 1921**

***Gemmula (Kuroshioturris) totomiensis* (Makiyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see ***Turris (Gemmula) totomiensis* Makiyama, 1931**

***Gemmula (Unedogemmula) unedo* (Kiener)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Pleurotoma unedo* Kiener, 1840**

***Gemmuloborsonia* Shuto, 1989** n. gen.

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 153, p. 48, Type; *Gemmuloborsonia fiertinei* Shuto, 1989 described from the Plio-Pleistocene Cabatuan Formation, Northwest Luzon, Philippines; see below

***Gemmuloborsonia fierstinei* Shuto, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 153, p. 49-52, figs. 1-1 - 3, 2-1 - 3
Holotype: no. 6449, Paratype: no. 6450 (Los Angeles County Museum of Natural History)
Loc. no. 5905 Tambac Islands in Tambac Bay, the Bolinao district, Northwest Luzon, the Philippines Cabatuan Formation
Plio-Pleistocene

***Gennaesium* (?) *yokoyamai* Kuroda and Habe, 1952** n. n.
Check List and Biblio. Recent. Mar. Moll. Japan, p. 59, Holotype: UT no. ?; Type-specimen; *Polinices pallidus* Broderip and Sowerby, reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture
Koshiba, Kanagawa-ku, Yokohama City, Kanagawa Prefecture
Koshiba Formation
Pleistocene
(***Uberella* ? *yokoyamai* (Kuroda and Habe)** by Masuda and Noda (1976))

***Genota cryptoconoides* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, p. 146, pl. 12, fig. 1
Holotype: Geol. Surv., Chosen, no. 78.
Kinshodo, North Korea

Mankodo Formation

Miocene

(*Megasurculites cryptoconoides* (Makiyama))

***Genota (Paragenota) gonzalesi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 212, pl. 21, figs. 19-22, text-fig. 39

Holotype: GK-L no. 7303 (figs. 19, 20), Paratype: GK-L no. 7304 (figs. 21, 22)

Loc. no. SKGS-74, Barrio Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Genota jogjacartensis* (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: *Genotia jogjacartensis* Martin, 1914**

***Genotia ogurana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 38, pl. 1, figs. 29, 29a

Holotype: UT no. ? (CM no. 20796)

Otake (Narita City, Chiba Prefecture

(Kioroshi Formation)

Pleistocene

(*Ophiodermella ogurana* (Yokoyama) by Oyama (1973))

***Genota ogurana* var. *gracilis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 260, pl. 32, fig. 7

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene

(*Pseudomelatoma* ? *ogurana gracilis* (Yokoyama) by Hatai and Nisiyama (1952): *Ophiodermella ogurana gracilis* (Yokoyama))

***Genota* ? *singuensis* (Vredenburg) reported by Shuto (1984) from the Miocene Singu Stage of Singu, Burma *Genotia singuensis* Vredenburg, 1921**

***Genotia pseudopannus* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 37, pl. 1, figs. 27, 28?

Holotype: UT no. ? (CM no. 20794)

Otake and Shito (Otake, Narita City, and Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Kioroshi and Semata Formations)

Pleistocene

(Fig. 27, *Ophiodermella pseudopannus* (Yokoyama); fig. 28,

***Ophiodermella miyatensis* (Yokoyama) by Oyama (1973))**

***Genotia pseudopannus* var. *sematensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 37, pl. 1, fig. 28

Holotype: UT no. ? (CM no. 20795)

Shito (Ichikawa City, Chiba Prefecture)

(Semata Formation)

Pleistocene

(*Ophiodermella miyatensis* (Yokoyama) by Oyama (1973))

***Gibberula (Kogomea) novemprovincialis* (Yokoyama)**

reported by Shuto (1962) from the Miocene of Pliocene (Pliocene) Takanabe Formation, Miyazaki Prefecture: ***Erato novemprovincialis* Yokoyama, 1928**

***Gibberulina (Gibberulina) pisum yokoyamai* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 81, pl. 13, fig. 3

Holotype: GKL no. 6229 (fig. 3), Paratype: GKL no. 6230, 6231, 6239

Cutting along the high-way at the foot of the hill, at Nihonmatsu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture; Paratype, cutting along the high-way on the south slope of the hill, at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Formation

Miocene to Pliocene (Pliocene)

***Gibbula inornata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 385, pl. 44, figs. 6, 10

Holotype: GT no. ?

Anden (Sea cliff near Anden, Oga City, Akita Prefecture: 39° 58'05"N, 139° 51'05"E)

Shibikawa Formation

Pliocene (Pleistocene)

***Gibbula orientalis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 283, pl. 35, fig. 9

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene

***Gibbula saitamensis* Hatai and Masuda, 1962**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 46, p. 260, pl. 40, figs. 23a-c

Holotype: DGS no. 4247 transferred to IGPS no. 90193

Loc. no. 5, riverside small cliff, western end of Godo,

Higashimatsuyama City, Saitama Prefecture; 36°04'50"N,
139°19'34"E
Tokigawa Formation
Miocene

***Gibbula* (?) *tainanica* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 66, pl. 6, fig. 3
Holotype: GSJ no. ? (noted as destroyed in Masuda and
Huang (1990))

Nijukei, Sobun-gun, Tainan Province, Taiwan

Lower Byoritz Beds

Pliocene

(*Gibbula tainanica* Yokoyama by Makiyama (1960):
Clamculus ? *taiwania* (Yokoyama) by Masuda and Huang
(1990))

***Ginebis* Otuka, 1943 n. subgen.**

Conch. Asiat., vol. 1, pars 3, p. 96, footnote, Type-species;
Turricula argenteonites (Lischke) described based on recent
specimen from Southeastern Japan

***Ginebis argenteonitens* (Lischke)** reported by Shikama and
Masujima (1969) from the Pliocene Nojima Formation,
Kanagawa Prefecture

***Ginebis osawanoensis* (Tsuda)** reported by Shibata (1974)
from the Miocene Yamanouchi Formation, Gifu Prefecture:
see *Lischkeia* (*Turricula*) *osawanoensis* Tsuda, 1959:
(*Turricula* (*Turricula*) *osawanoensis* (Tsuda) by Masuda
and Noda (1976))

***Gisortia taiwneensis* Schilder, 1930** reported by Oyama et al.
(1960) from the Eocene stratum of Taiwan

***Glabinassa* Shuto, 1969 n. gen.**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p.
145, Type-species; *Glabinassa amycliforma* Shuto, 1969
described from the Upper Miocene Ulian Formation,
Philippines

***Glabinassa amycliforma* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p.
146, pl. 13, fig. 22, pl. 14, figs. 6, 8, 10, text-figs. 27

Holotype: GK-L no. 7511 (pl. 14, figs. 6, 8, 10), Paratype:
GK-L no. 7410 (pl. 13, fig. 22; loc. no. SKGS-73)

Loc. no. SKGS-72, 1500 m SE of Lambunao along the
Sibacongan Creek, Panay Island, the Philippines; Paratype,
Loc. no. SKGS-73, 2500 m N of Lambunao along the main
road leading the Calinog via Ulian River-bridge, Panay
Island, the Philippines

Ulian Formation

Late Miocene

***Glabriscala stigmaotica* (Pilsbry, 1911)** reported by Ozawa

et al. (1998) from the Pliocene Dainichi Formation, Shizuoka
Prefecture

***Globularia* (?) *monstrousa* Hatai, 1956**

Saito Ho-on Kai Mus., Res. Bull., no. 25, p. 1, text-figs. 1-3

Holotype: IGPS no. 90493

Okura-mura, Mogami-gun, Yamagata Prefecture

Takinosawa Formation

Miocene

***Globularia* (*Globularia*) *nakamurai* Otuka, 1938**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 2, p. 37,
pl. 3, figs. 19-21

Holotype: GT no. 10001

Several meters below dam of the Saijo-gawa (About 200 m
NNE of the Shobara railway station and about 500 m NEE of
the bridge at Suketo, Shobara-machi, Hiba-gun, Hyogo
Prefecture; 34°51'43"N, 133°01'05"E)

(Shobara Formation)

Miocene

***Glossaulax bicolor* (Philippi)** reported by Majima (1987)
from the recent sea off Torihama, Miyazaki Prefecture:
***Natica bicolor* Philippi, 1848**

***Glossaulax didyma* (Roding)** reported by Majima (1987)
from the early middle Miocene Higashi-Innai Formation,
Ishikawa Prefecture: ***Albula dudyma* Roding, 1798**

***Glossaulax didyma coticae* (Makiyama)** reported by
Majima (1989) from the middle Miocene Mankodo
Formation, North Korea: see ***Polinices* (*Neverita*) *coticae*
Makiyama, 1926**

***Glossaulax didyma dainichiensis* Majima, 1989**

Bull. American Paleont., Vol., 96, no. 331, p. 58, pl. 7, figs.
6-16, text-figs. 5.5, 9.2, Tab. 20

Holotype: IGUT no. 15825 (pl. 7, fig. 15), Paratype: IGUT
nos. 15826-1 – 106 (pl. 7, figs. 6-11, 14, 16), 15827-1 – 56
(pl. 7, fig. 13), 15828-1 – 47

Dainichi, Fukuroi City, Shizuoka Prefecture; Paratype
(15828-1 - 47) Kami-Iida, Mori-machi, Suchi-gun, Shizuoka
Prefecture

Dainichi Member of the Lower Kakegawa Formation

Upper Pliocene

***Glossaulax hagenoshitensis* (Shuto)** reported by Majima
(1985) from the late Pliocene to early Pleistocene Takanabe
Member of the Koyu Formation, Miyazaki Prefecture: see
***Polinices* (*Glossaurax*) *hagenoshitensis* Shuto, 1964**

***Glossaulax hyugensis* (Shuto)** reported by Majima (1985)
from the Plio-Pleistocene Takanabe Member of the Koyu
Formation, Miyazaki Prefecture: see ***Polinices* (*Glossaulax*)**

hyugensis Shuto, 1964**Glossaulax nodai Majima, 1985**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 138, p. 131, pl. 18, figs. La-Ob

Holotype: IGUT no. 15695 (pl. 18, figs. La-b), Paratype: IGUT nos. 15698 (figs. Ma-b), 15696-1 – 2, 15697-1 – 6 (figs. Na-b), GIYU nos. 562, 563 (figs. Oa-b), 564

Loc. no. K-13, small tunnel cut, about 300 m E from Tonoya Village, Kakegawa City, Shizuoka Prefecture; 34 °47.7'N, 137 °58.3'E, Paratypes: Loc. no. M-5, construction excavation at Torihama fishing port, Kawaminami-machi, Koyu-gun, Miyazaki Prefecture; 32 °10.1'N, 131 °33.1'E, Takanabe; Loc. no. N-1, large sand quarry, about 900 m NE from Kitakamakura National Railway Station, Kamamukra City, Kanagawa Prefecture

Dainichi Member of the Lower Kakegawa Formation: Paratypes; Takanabe Member of the Koyu Formation, and Nojima Formation

Late Pliocene (Holotype) to early Pleistocene (Paratypes)

Glossaulax reiniana (Dunker) reported by Majima (1987) from the recent sea off Miura City, Kanagawa Prefecture: **Neverita reiniana Dunker, 1877**

Glossaulax vesicalis (Philippi) reported by Amano et al. (1988) from the Pliocene Nadachi Formation, Niigata Prefecture: **Natica vesicalis Philippi, 1848**

Glyphostoma costicrenata (Cossmann) reported by MacNeil (1960) from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture

Glyphostoma (Glyphostoma) granulifera japonica Shuto, 1965

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 175, pl. 35, figs. 3, 4, 9, text-fig. 13

Holotype: GKM no. 6659 (text-fig. 13), Paratype: GKL nos. 6656, 6657, 6660, 6661, 8079, 8082

Northeast, N and NW sea-cliff at Moeshima, Kagashima City (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31 °37'E, 130 °43'N

Moeshima Shell Bed (Moeshima Formation)

Pleistocene

Glyphostomoides Shuto, 1983 n. subgen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 16, Type-species; *Philbertia (Glyphostomoides) queenslandica* Shuto, 1983 described from the recent sea off Pockhamton, Australia

Glyptotoma volzi (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: **Borsonia (Cordieria) volzi Martin, 1914**

Golikovia Habe and Sato, 1972 n. subgen.

Proc. Japan Soc. System. Zool., no. 8, p. 1-8, pls. 1-2, Type-species; *Neptunea fukueae* Kira, 1959

Gourmya carbonaria (Philippi) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: **Cerithium carbonarium Philippi, 1848 (Cerithium carbonaria (Philippi)** by Masuda and Haung (1990))

Gourmya corallia (Kiener) reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan: **Cerithium corallium Kiener, 1842 (Cerithidea corallia (Philippi)** by Masuda and Haung (1990))

Gourmya satoi (Yokoyama) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: see **Cerithium satoi Yokoyama, 1928**

Graciliclava Shuto, 1983 n. gen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 25, no. 1, p. 11, Type-species; *Graciliclava mackayensis* Shuto, 1983 described from the off east of Mackay, Queensland, Australia

Graciliclava mackayensis Shuto, 1983

Mem. Fac. Sci., Kyushu Univ., Ser. D. Geil., vol. 25, no. 1, p. 11, pl. 1, figs. 2-5, text-fig. 6

Holotype: AM no. C134685, Paratype: AM no. C134680 HMAS "Kimbla" Tsn.8, east of Mackay, Queensland, Australia; 20 °52'S, 149 °29'E; Paratype, BMR Stn. 1254, northeast of Rockhampton, Queensland, Australia; 22 °40'S, 151 °16'

Depth 35 m, P. H. Colman and F. Rowe coll., Nov. 19, 1977; Paratype, depth 58 m, P. H. Colman and F. Rowe coll.

Recent

Granotoma dissolutea (Yokoyama) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Granotoma dissolutea gosenensis Itoigawa, 1958

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 24, no. 4, p. 262, pl. 2, figs. 16, 17

Holotype: JC no. 600103

Loc. no. SG 1, valley about 800 m E of the large pond, S of Hashida, Gosen City, Niigata Prefecture

Nishiyama Formation

Pliocene

Granotoma kotakae Sawada, 1962

Mem. Muroran Inst. Tech., vol. 4, no. 1, p. 57, pl. 1, figs. 21, 22.

Holotype: IGPS no. 60005

Loc. no. 39, roadside cliff, 1200 m NNW of Kitatoyotsu railway station, Oshamanbe-cho, Yamakoshi-gun, Hokkaido;

42°25'30"N, 140°18'23"E
Chinkope Formation
Pliocene (Pleistocene)

***Granulifusus dualis* (Yokoyama)** reported by Shuto (1958) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Granulifusus koyuanus* Shuto, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 31, p. 256, pl. 38, figs. 9, 13
Holotype: GKL no. 15091 (fig. 9), Paratype: GK-L no. 15095 (fig. 13)
Azukino, Sanzai-mura, Koyu-gun (Saito City), Miyazaki Prefecture
Kawabaru Formation
Miocene

***Granulifusus matsumotoi* Shuto, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 31, p. 257, pl. 38, figs. 3, 4, 7, 8, text-figs. c-d
Holotype: GKL no. 15101 (figs. 3, 7)
Cliff at the entrance of the gorge 600 m S of Toriyama, Kawaminami-machi, Koyu-gun, Miyazaki Prefecture
Takanabe Formation
Pliocene

***Granulifusus nipponicus* (Smith)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Fusus nipponicus* Smith, 1879**

***Granulifusus simplex pauciliratus* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 12, no. 1, p. 60, pl. 8, fig. 9
Holotype: GK-L no. 6172
Cliff at the entrance of the gorge 600 m S of Toriyama, Kawaminami-machi, Koyu-gun, Miyazaki Prefecture
Takanabe Member of the Miyazaki Group
Pliocene

***Granuliterebra bathyraphe* (Smith)** reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

***Guraleus (Euguraleus) colmani* Shuto, 1983**

Venus, vol. 42, no. 4, p. 296, figs. 3, 4
Holotype: AM no. C134668, Paratype: AM nos. C134668b, 134668c-e
About 100 miles N of Croker Island, Northern Territory, Australia; 9°30'S, 132°34'E
Depth 124 m, P. H. Colman coll. Nov. 9, 1969
Recent

***Guraleus hiradoensis* (Makiyama)** reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi

Prefecture (***Mangelia (Guraleus) hiradoensis* (Makiyama)** by Masuda and Noda (1976))

Guraleus tabatensis* (Tokunaga)** reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture (Mangelia (Guraleus) tabatensis* (Tokunaga)** by Masuda and Noda (1976))

***Guildfordia yoca* Jousseume** reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

***Guraleus tabatensis* (Tokunaga)** reported by Kasena and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Gyrineum cuspidatum* (Reeve, 1844)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Gyrineum makiyamanum* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 77, pl. 10, fig. 76
Holotype: GK no. ?
Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36°40'N, 138°07'E)
Shigarami Formation
Pliocene
(***Apollon makiyamanus* (Kuroda)** by Hatai and Nsiyama (1952))

***Gyrinium (Biplex) perca prisca* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 71, pl. 3, fig. 6
Holotype: GK no. 301 (JC no. 200301 by Ozawa et al. (1998))
Tennoyama (East side of Tennoyama, about 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°46'09"N, 138°00'08"E)
Tenno Formation
Pliocene

***Gyrineum scelestum* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 44, pl. 3, figs. 5, 6
Syntype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))
Nankwa and Goko, Shiko-sho, Byoritz-gun, Shinchiku Province, Taiwan
Upper Byoritz Beds
Pliocene (Pleistocene)
(Synonymus with ***Bursa rana subgranosa* (Beck, 1841)** by Makiyama (1960))

***Habesolatia nodulifera* (Sowerby)** reported by Okumura

and Koyanagi (1989) from the Pliocene Ashigara Group, Kanagawa Prefecture: *Cancellaria nodulifera* Sowerby, 1885

***Hahazimania hahazimensis* Yabe and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 3-4, p. 210, pl. 12, figs. 1-4

Holotype: IGPS no. 63362

Sea cliff at Nishiura, Oki-mura, Haha-jima, Ogasawara Islands

Hahajima Limestone

Eocene

***Haliotis (Nordotis) discus* Reeve** reported by Noda (1973) from the Pliocene Gobanshopyama Formation, Miyagi Prefecture

***Haliotis diversicolor* Reeve** reported by MacNeil from the Pliocene Naha Formation, Okinawa Prefecture

***Haliotis fujiokai* Hatai, Kotaka and Noda, 1970**

Saito Ho-on Kai Mus., Res. Bull., no. 39, p. 21, text-fig. 1

Holotype: IGPS no. 94661

Cliff of the Shiroishi River at the sharp bend southwest of Azuma, Obara, Katta-gun, Miyagi Prefecture

(Precise formation unknown)

Natorian (Miocene)

Haliotis gigantean* Chemnitz** reported by Kochibe (1882) from the Tsurushihama (Miocene Taga Formation), Ibaraki Prefecture (Haliotis kochibe* Hatai and Nisiyama (1952)**)

***Haliotis (Euhaliotis) gigantean* Gmelin** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Haliotis gigantean* var. *kamtschatkana* Jonas** reported by Yokoyama (1925) from the Pliocene Shigarami Formation, Nagano Prefecture (Haliotis kamtschatkana koyamai* Makiyama** by Hatai and Nisiyama (1952))

Haliotis japonica* Reeve** reported by Nomura (1940) from the Miocene Moniwa Formation, Miyagi Prefecture (Haliotis (Sanhaliotis) japonica* Reeve** by Hatai and Nisiyama (1952))

***Haliotis kamtschatkana glabrosa* Nomura and Niino, 1932**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 15, no. 3, p. 189, pl. 12, fig. 12

Holotype: GS no. 44586

Southern slope of the mountain (186 m high) at Nawachi gold Mine (boundary between Shimokawazu-mura and Shirahama-mura, Kamo-gun, Shizuoka Prefecture; 34°43'N, 138°59'E)

Yugashima Formation

Miocene

(***Haliotis (Euhaliotis) duscus glabrosa* Nomura and Niino** by Oyama (1961: Bull. Geol. Surv. Jap., vol. 12, no. 5))

***Haliotis kamtschatkana koyamai* Makiyama, 1927**

Chikyū (Globe), vol. 8, no. 2, p. 188, pl. 3, fig. 4

Holotype: GK no. ?

Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36°40'N, 138°07'E)

Shigarami Formation

Pliocene

***Haliotis kochibe* Hatai and Nisiyama, 1952**

Sci. Re., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol. no. 3, p. 206, Type; *Haliotis gigantean*, Kochibe, 1882, pl. 8, fig. 4

Holotype: JSG no. ?

(Sea cliff at Tsurushihama, about 1 km NE of the Hitachi railway station, below the Hamamiya Park, Hitachi City, Ibaraki Prefecture; 36°35'05"N, 140°40'03"E)

Taga Formation

Miocene

***Haliotis (Euhaliotis) koikei* Shibata, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 25, p. 22, pl. 4, figs. 3a-b

Holotype: TKD no. 5280

Ochiai, Miyagase, Kiyokawa-mura, Aiko-gun, Kanagawa Prefecture

Ochiai Formation

Middle Miocene

***Haliotis (Nordotis) koyamai* Makiyama** reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Haliotis kurosakiensis* Kotaka and Ogasawara, 1974**

Venus, vol. 33, no. 3, p. 119, text-figs. 1-3

Holotype: IGPS no. 93641 (figs. 1-2), Paratype: IGPS no. 93642

Abrasion platform, 310 m W of Kurosaki railway station, Iwasaki-mura, Nishitsugaru-gun, Aomori Prefecture

Kurosaki Formation

Late Miocene

***Haliotis moniwaensis* Hatai, Kotaka and Noda, 1970**

Saito Ho-on Kai Mus., Nat. His., Res. Bull., no. 39, p. 20, Type; *Haliotis japonica*, Nomura (1940, p. 32, pl. 3, fig. 26)

Holotype: SM no. 19893

Junction of the small tributary and the Natori-gawa at Minami-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture (38°13'N, 140°45'E)

Moniwa Formation

Miocene

***Haliotis notoensis* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 329, pl. 36, fig. 1

Holotype: DGS no. 4551 transferred to IGPS no. 90778

Loc. No. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37°27'59"N, 137°07'40"E

Higashi-Innai Formation

Miocene (late early Miocene)

***Hamolopoma hidaensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 277, pl. 3, figs. 12a-b

Holotype: ESN no. 20042, Paratype: ESN no. 20043

Loc. No. S7-3, Hida (Hida-cho), Toki City, Gifu Prefecture

Shukunohora Sandstone of the Oidawara Formation

Miocene

(*Homalopoma hidaensis* Itoigawa)

***Harpa tosa* Aoki, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 62, p. 257, pl. 31, figs. 12a-b

Holotype: SUP no. 11245 (Saitama Univ., Paleont. Coll.)

Hill side cliff at Minami-habuki, Nishinohama, Hane-machi, Muroto City, Kochi Prefecture

Nobori Formation

Upper Miocene or Lower Pliocene (Pliocene)

***Harrisianella hochstetteri* (Martin)** reported by Shuto (1978) from the Upper Miocene at Preanger, Java, Indonesia: ***Cerithium hochstetteri* Martin, 1879**

***Hartungia chavani* Ludbrook, 1978** reported by Tomida and Itoigawa (1982) from the Pliocene of Western Australia

***Hartungia japonica* (Tomida and Itoigawa)** reported by Noda et al. (1995) from the Pliocene Hitachi Formation, Ibaraki Prefecture: see ***Parajanthina japonica* Tomida and Itoigawa, 1982**

***Hartungia typical* Bronn** reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

***Hastula dainichiensis* (Yokoyama, 1926)** reported by Hatai and Nisiyama (1952) from the Pliocene Kakegawa Group, Shizuoka Prefecture

***Hastulina casta* (Hinds)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Hataiella* Kotaka, 1959** n. subgen.

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 88, Type-species; *Turritella shataii* Nomura, 1935, described from the Miocene Ajiri Formation, Miyagi Prefecture

***Haurakia convexa* Itoigawa and Nishimoto, 1984**

Bull. Mizunami Fossil Mus., no. 11, p. 23, pl. 6, figs. 1a-2d
Holotype: MFM no. 11001, Paratype: MFM nos. 10084, 10085

Higashi-hora, Yamaoka-cho, Ena-gun, Gifu Prefecture

Higashihora sandstone member, Toyama Formation

Early Miocene

***Haustator (Kurosoia) boettgeri* (Martin)** reported by Shuto (1974) from the Miocene at Djokdjokarta, Java Islands, Indonesia: ***Turritella (Haustator) boettgeri* Martin, 1887**

***Haustator (Kurosoia) sedanensis* (Martin)** reported by Shuto (1974) from the Miocene at West Progo beds, Java Islands, Indonesia: ***Turritella sedanensis* Martin, 1905**

***Haustator (Kurosoia) subulata* (Martin)** reported by Shuto (1974) from the Pliocene or Quaternary at Blakan Kebon, Semarang, Java Islands, Indonesia: ***Turritella subulata* Martin, 1884**

***Haustator (Kurosoia) teschi* (Martin)** reported by Shuto (1974) from the Lower Miocene at Kembang Sokkoh, West Progo Mountain, Java Islands, Indonesia: ***Turritella teschi* Martin, 1916**

***Haustellum haustellum* (Linnaeus)** reported by Tomida (1996) from the Pliocene Nishikatsura Formation, Yamanashi Prefecture

***Hazuregyra* Shikama, 1962** n. gen.

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 41, Type-species; *Hazuregyra watanabei* Shikama, 1962 described from the stomach of living species *Lycodes caudimaculatus* in recent sea (precise locality unknown)

***Hazuregyra watanabei* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 41, pl. 1, figs. 22a-d, 23a-b, Text-figs. (p. 41)

Holotype: GIYU no. ?

Off Choshi, Chiba Prefecture (Precise locality unknown)

Living specimen 200-250 fathoms in depth

Recent

***Helicofusus robustus* (Dall)** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

Helcioniscus pallidus* (Gould)** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture (Tectura pallidus* (Gould)** by Hatai and Nisiyama (1952); ***Patella pallidus* Gould**

***Heliacus angularis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 138, pl. 6, figs. 22, 23

Holotype: GK no. 312

Tannoyama (East side of Tennoyama, about 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°46'09"N, 138°00'08"E)

Tenno Formation (Kakegawa Group)

Pliocene

***Heliacus asperus* (Hinds, 1844)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Heliacus dilectus* (Deshayes)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Solarium dilectum* Deshayes, 1863**

***Heliacus Sadorsuosus* (Hinds, 1844)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Heliacus taiwanicus* (Yokoyama)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: see ***Gibbula* (?) *taiwanicus* Yokoyama, 1928**

***Hemifusus colosseum* (Lamarck, 1822)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Hemifusus osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 93, pl. 5, figs. 7a-b

Holotype: JC no. 1400060, Paratype: JC no. 1400061 (from Tsuzara)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture; Paratype; Tsuzara, Osawano-machi, Kamiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late early Miocene)

***Hemifusus pastinaca* (Reeve, 1848 ?)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Hemifusus protolacteus* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 2, p. 145, pl. 7, figs. 39a-b

Holotype: IGPS no. 53422

900 m SE of Naikoto, station 66 (Ando), Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Hemifusus ternatanus* (Gmelin)** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (Probably ***Hemifusus tuba* (Gmelin)** by Makiyama (1960))

***Hemifusus tuba* (Gmelin)** reported by Hayasaka (1961) from the Pleistocene Toshima Prefecture, Aichi Prefecture

***Heterocithara habeii* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 184, pl. 2, figs. 13, 14, 16

Holotype: GKM no. 8115

East sea-cliff at Moeshima, Kagoshima City (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31°37'E, 130°43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Hindsia acuminata* (Reeve) var.** reported by Kuroda (1961) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Triton acuminata* Reeve, 1844**

***Hindsia aspera* Kuroda, 1961**

Prof. J. Makiyama Mem. Vol., p. 184, pl. 1, fig. 8

Holotype: ? (S. Hayashi and A. Teramachi Coll.)

Living specimen, entrance of Ise Bay, Pacific side of Honshu Island

Living specimen

Recent

***Hindsia (Nihonophos) magnifica* (Lischke)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Hindsia (Nihonophos) magnifica okinavia* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 72, pl. 13, fig. 26

Holotype: USNM no. 562948

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

***Hindsia (Nihonophos) magnifica shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 72, pl. 3, figs. 22, 23

Holotype: USNM no. 562699

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Hindsia (Nihonophos) solida* Kuroda and Habe** (1961, n. sp.; Makiyama, J. Mem. Vol., p. 178, 183-189, pl. 1, fig. 9) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Hindsia (Nihonophos) takabanarensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 74, pl. 13, fig. 19

Holotype: USNM no. 562943

Loc. no. 17476, blue gray silty clay underlying tuffaceous beds in road cut near top of steep slope about 0.6 Mi S of Miyagusuku, Takabanare-shima, Okinawa Prefecture

Chinen Formation

Pliocene

***Hindsia turbinata* Makiyama, 1961**

Prof. J. Makiyama Mem. Vol., p. 183, pl. 1, fig. 4

Holotype: ? (A. Teramachi Coll.)

Recent, off Tosa, Shikoku

Living specimen

Recent

***Hindsia (Nihonophos) whitmorei* NacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 73, pl. 3, fig. 19

Holotype: USNM no. 562696

Loc. no. 17445, base of low hill on south side of Highway 40 about 1.0 Mi W of the junction of Highways 13 and 137 in Yonabaru, Okinawa Prefecture

Yonabaru Clay Member

Miocene

Hinia (Reticunassa) balteata* (Gould)** reported by Hase (1967) from the Holocene "Inai" Formation, Miyagi Prefecture (Nassarius (Alectrion) balteatus* (Gould)** by Masuda and Noda (1976))***Hinia festiva* (Powys)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (***Nassarius (Hinia) festivus* (Powys)** by Masuda and Noda (1976))***Hinia festivar* (Powys)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (***Nassarius (Hinia) festivus* (Powys)** by Masuda and Noda (1976))***Hinia (Tritonella) japonica* (A. Adams)** reported by Sawada (1962) from the Pliocene (Pleistocene) Nakanokawa Formation, Hokkaido***Hipponyx (Antisabia) foliaceus* Quoy and Gaimard** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture***Hipponyx (Malluvium) lissus* (E. A. Smith)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Capulus lissus* Smith, 1894*****Hipponyx tarudaensis* Noda, 1962**Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), vol. 34, no. 3, p. 229, pl. 16, fig. 10

Holotype: IGPS no. 79063

Loc. no. 617, roadside cliff, about 400 m E from Taruda, Yasuzuka-machi, Higashikubiku-gun, Niigata Prefecture

Kubiki Formation

Miocene

Hipponyx conicus* (Schumacher)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture: ***Amalthea conica* Schumacher, 1817**Hipponyx danieli* Crosse, 1858** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (***Amalthea danieli* (Crosse)** by Masuda and Huang (1990))***Hirasea (Fametesta) katoi* Habe, 1973**Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol. no. 6, p. 53, pl. 4, fig. 15-17

Holotype: NSMT no. 42239

Sand dune, Minami-jima, Ogasawara-mura, Tokyo Prefecture "Minami-jima" Formation

Pleistocene

***Hirasea minamijimana* Habe, 1973**Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol. no. 6, p. 52, pl. 4, figs. 12-14

Holotype: NSMT no. 42236

Sand dune, Minami-jima, Ogasawara-mura, Tokyo Prefecture "Minamijima" Formation

Pleistocene

(Pleuropoma minamijimanum)* (Habe)** by Masuda and Noda (1976))Hiraseadusta hirasei* (Roberts)** reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture***Homalopoma amussitatum* (Gould)** reported by Otuka (1935) from the Pliocene Himi Formation, Toyama Prefecture; ***Turbo amussitata* Gould*****Homalopoma ena* (Itoigawa)** reported by Itoigawa (1974) from the Miocene Yamanouchi Formation, Gifu Prefecture: see ***Leptothra ena* Itoigawa, 1955*****Homalopoma hidaensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, p. 277, pl. 3, figs. 12a-b

Holotype: ESN no. 20042, Paratype: ESN no. 20043

Loc. no. S7-3, Hida (Hida-cho, Hida), Toki City, Gifu Prefecture

Shukunohora Sandstone

Miocene

***Homalopoma hidensis* Itoigawa, 1960** reported by Itoigawa in Itoigawa, Shibata and Nishimoto (1974; p. 127, pl. 39, figs. 9-10b) from the Miocene Nataka Facies, Mizunami Group, Gifu Prefecture (Miss-spell of specific name: ***Homalopoma hidaensis* Itoigawa, 1960** by Masuda and Noda (1976))

***Homalopoma sangarensis* (Schrenck)** reported by Nomura and Hatai (1936) from the Miocene Tanagura Formation, Fukushima Prefecture; ***Turbo sangarensis* Schrenck**

***Homalopoma soliudus* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 9, pl. 2, figs. 12a-14b
Holotype: MFM no. 10063 (fig. 13), Paratype. MFM nos. 10064, 10065 (fig. 12)

Yamanouchi, (Holotype) and Togari (Paratype), Akeyo-cho, Mizunami City, Gifu Prefecture
Akeyo Formation
Middle Miocene

***Homalopoma (Phanerolepida) transenna* (Weston)** reported by Otuka (1949) from the Pliocene Tomiya Sandstone, Chiba Prefecture; ***Turbo transenna* Weston**

***Homalopoma tukiysiensis* Oyama and Saka, 1944**

Bull. Shigenkagaku Kenkyusho (Underseous. Inst.), vol. 1 no. 2, p. 138, pl. 14, figs. 1a-c

Holotype: SKK no. ?

In the tunnel of Mr. Ushida at Tsukiyoshi, Akeyo-mura, Toki-gun (Mizunami City), Gifu Prefecture
Tsukuyoshi Formation
Miocene

***Horaiclavus* Oyama, 1951** n. gen.

Misc. Rep., Res. Inst. Nat. Resour., no. 24, p. 52, Type species; *Mangilia splendida* A. Adams, 1867 of the living species in Japan

***Horailavus (Angulclavus) multicostatus* (Schepmen)** reported by Shuto (1983) from the off Cobourg Peninsula, Northern Territory, Australia: ***Mangilia multicostata* Schepmen, 1913**

***Horaiclavus oyamai* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 17 as a type Yokoyama's (1922) specimens identified and reported as *Mangilia ojiensis* (Tokunaga) (Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 41, pl. 1, fig. 33)

Holotype: CM, no. 20807

Shito, Ichihara City, Chiba Prefecture
Semata Formation
Pleistocene

(Invalid name ***Horaiclavus shitoensis* Oyama n. n. ,1954** (In Taki and Oyama, Spec. Pap., Palaeont. Soc. Japan, no. 2, p. 25, pl. 21, fig. 33)

***Horaiclavus shitoensis* Oyama, 1954**

Venus, vol. 18, no. 3, p. 25, n. n. for Type; *Mangilia ojiensis* Tokunaga, Yokoyama (1922; p. 41, pl. 1, fig. 33)

Holotype: TU no. ?

Sjito (Ichihara City), Chiba Prefecture
Semata Formatio
Pleistocene

(***Horaiclavus oyamai* Masuda and Noda, 1976** by Masuda and Noda (1976))

***Horaiclavus splendidus* (A. Adams)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Mangilia splendida* A. Adams, 1867**

***Hyalocylix striata* (Rang)** reported by Noda (1972) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Hydatina physis* (Linnaeus)** reported by Nomura (1935) from the Pliocene Byoritu Formation, Taiwan

Idaella Kotaka, 1959 n. subgen., p. 97, Type; *Turritella tanaguraensis* Kotaka reported from the Miocene Tanagura Formation, Fukushima Prefecture

Igpaludina Matsuoka, 1985 n. gen.

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 139, p. 184, Type-species; *Viviparus stricta* Araki, 1960 described from the Pliocene Wakebe Formation, Mie Prefecture

***Igpaludina stricta* (Araki)** reported by Matsuoka (1985) from the Pliocene Iga Formation, Mie Prefecture (see: ***Viviparus strictus* Araki, 1960**)

***Indomitrella kobayashii* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 114, pl. 9, figs. 1, 2, text-fig. 26

Holotype: GK-L no. 6984

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines
Dingle Formation
Late Miocene

Indomitrella lischkei* Smith** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (Mitrella (Indomitrella) lischkei* (Smith)** by Masuda and Noda (1976))

***Indomitrella mizunamiensis* Itoigawa, 1974** reported by Itoigawa, Shibata and Nishimoto (1974, p. 156, pl. 47, fig. 13) from the Miocene Shukunohora Formation, Gifu Prefecture: see ***Pyrene (Indomitrella) mizunamiensis* Itoigawa (*Mitrella (Indomitrella) mizunamiensis* (Itoigawa)** by Masuda and Noda (1976))

Indomitrella tokyoensis (Yokoyama) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Mitrella* (*Indomitrella*) *tokyoensis* (Yokoyama) by Masuda and Noda (1976))

Indomitrella yabei (Nomura) reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture (*Mitrella* (*Indomitrella*) *yabei* Nomura by Masuda and Noda (1976))

Inquisitor (*Ptychobela*) *annandalei* (Vredenburg) reported by Shuto (1984) from the Miocene of Myaukmigon, Burma: *Drillia* (*Brachytoma*) *annandalei* Vredenburg, 1921

Inquisitor ? *ea* Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 103, pl. 5, figs. 1, 2

Holotype: GK no. 310

Tennoyama (East side of Tennoyama, about 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'09"N, 138°00'08"E)

Tenno Formation

Pliocene

(*Clathrodrillia ea* (Makiyama) by Hatai and Nisiyama (1952))

Inquisitor japonicus (Lischke) reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: *Drillia japonica* Lischke, 1869

Inquisitor jeffreysi (Smith) reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (*Inquisitor jeffreysii* (Smith): *Drillia jeffreysi* Smith, 1855)

Inquisitor mizunamiensis Itoigawa, 1960

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 291, pl. 6, figs. 8a-b

Holotype: ESN no. 20083

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukubora sandstone of the Oidawara Formation

Miocene

Inquisitor (*Inquisitor*) *molengraafi dinglensis* Shuto, 1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 196, pl. 20, figs. 3, 4, 17, text-fig. 36

Holotype: GK-L no. 6973 (fig. 17), Paratype: GK-L no. 6874 (figs. 3, 4)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

Inquisitor molengraffi pulcherrimus (Vredenburg) reported by Shuto (1984) from the Miocene of Tittabwe, Burma: *Drillia pulcherrima* Vredenburg, 1921

Inquisitor myaukmigonensis (Vredenburg) reported by Shuto (1984) from the Miocene of Myaukmigon, Burma: *Drillia* (*Crassispira*) *myaukmigonensis* Vredenburg, 1921

Inquisitor neglecta (Martin) reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines: *Pleurotoma* (*Drillia*) *neglecta* Martin, 1985

Inquisitor pinfoldi (Vredenburg) reported by Shuto (1984) from the Miocene of Mindeygyi, Burma: *Drillia* (*Brachytoma*) *pinfoldi* Vredenburg, 1921

Inquisitor pseudoprincipalis Yokoyama reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture (*Crassispira pseudoprincipalis* (Yokoyama) by Masuda and Noda (1976))

Inquisitor shibanoi Masuda, 1967

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 10, pl. 2, figs. 23a-26b

Holotype: DGS no. 4619 transferred to IGPS no. 90092 (figs. 23a-b)

Loc. No. 30, Road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E
Higashi-Innai Formation
Miocene (early Miocene)

Inquisitor subbatavianus (Vredenburg) reported by Shuto (1984) from the Miocene of Tittabwe, Burma: *Drillia* (*Crassispira*) *subbataviana* Vredenburg, 1921

Inquisitor totomiensis Makiyama, 1931

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 48, pl. 1, fig. 6

Holotype: GK no. ?

Loc. no. 522 (Left road-side cutting about 150 m S of the tunnel at Shimoiida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34°48'N, 137°55'E)

Hosoya Formation (Kakegawa Group)

Pliocene

Inquisitor totomiensis takamatsuensis Hayasaka, 1961

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), vol. p. 91, pl. 12, figs. 6a-b

Holotype: IGPS no. 78755, Paratype: IGPS no. 78756

Loc. No. SC132-144, Takamastu coast, Akabane-cho, Atsumi-gun, Aichi Prefecture

Toshima Formation

Pleistocene

(*Pseudoinquisitor totomiensis takamatsuensis* (Hayasaka)

by Masuda and Noda (1976))

***Inquisitor totomiensis ugariensis* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 48, pl. 1, fig. 5

Holotype: GK no. ?

Loc. 523 (West side of the hill about 200 m SE of the tunnel at Shimoida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34 ° 48'N, 138 ° 55'E)

Hosoya Formation (Kakegawa Group)

Pliocene

(*Drillia (Clathrodrillia) totomiensis ugariensis* (Makiyama) by Hatai and Nisiyama (1952))

***Iphinoe unicarinatus* (Broderip and Sowerby)** reported by Shibata (1974) from the Miocene Yamanouchi Formation, Gifu Prefecture (*Trichotropis (Iphinoe) unicarinatus* (Broderip and Sowerby, 1829))

***Ithythara oywana* (Yokoyama)** reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture (*Ithythara oywana* (Yokoyama) by Masuda and Noda (1976))

***Janiopsis hirasei* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 77, pl. 13, figs. 20, 21

Holotype: USNM no. 562944

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

***Japelson adelphicus* (Dall)** reported by Okutani (1968) from the Pliocene Tomiya Formation, Chiba Prefecture

***Japelson hirasei* Pilsbry** reported by Noda et al. (1995) from the Pliocene Hitachi Formation, Ibaraki Prefecture: (*Japelson hirasei* (Pilsbry)): ***Buccinum hirasei* Pilsbry, 1901**

***Japelson yabei* Kamada, 1955**

Venus, vol. 18, no. 3, p. 186, pl. 3, figs. 1-2

Holotype: IGPS no. 74005

Small valley, west of Kozawa, Kamioka-kami, Sekinami-mura, Taga-gun (Kitaibaraki City), Ibaraki Prefecture

Mizunoya Formation

Miocene

***Japelson pericochlion* (Schrenck)** reported by Noda (1992) from the Miocene (Eocene ?) Sankebetsu Formation, Hokkaido: ***Tritonium (Buccinum) pericochlion* Schrenck, 1862**

***Japelson pericochlion* var. *tokunagai* Kanehara, 1937**

Jour. Geol. Soc. Japan, vol. 44, no. 526, p. 161, pl. 15, fig. 15

Holotype: GSJ no. ?, Paratype: GSJ no. ? ; noted as destroyed in Hatai and Nisiyama (1952))

Near Morai, Aatsuga-gun, Ishikari (Sea cliff about 800 m S of Morai, Astuga-mura, Aatsuga-gun, Ishikari Province; 43 ° 18'05"N, 141 ° 24'06"E)

Oiwake Formation

Miocene

***Japeuthria minoensis* (Itoigawa)** reported by Itoigawa et al. (1988) from the early Miocene Akeyo Formation, Gifu Prefecture

***Javaclavus Shuto, 1980* n. gen.**

Prof. Kanno S. Com. Mem. Vol., p. 45, Type-species.; *Javaclavus martini* Shuto, 1980; see below

***Javaclavus martini* Shuto, 1980**

Prof. S. Kanno Com. Mem. Vol., p. 46, text-figs. 2, 1-3

Holotype: St no. N7931 (GMML) Martin's figured specimen (fig. 48)

Indonesia (see Martin, 1914)

Nanglan Formation

Eocene

***Kaweka kyushuensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 10, no. 2, p. 146, pl. 10, figs. 9, 15

Holotype: GKL no. 6072 (fig. 15), Paratype: GKL no. 6073, 6074

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Kelletia brevis* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 13, pl. 4, figs. 5-8

Holotype: NSM no. 4303 (figs. 5, 6), Paratype: NSM no. 4304

Beach on the western end of Tokawa village, Choshi City, Chiba Prefecture

Basal Conglomerate of the Pliocene (Naarai Formation)

Pliocene

***Kelletia lischkei* Kuroda, 1938** reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture

***Kermia moeshimaensis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 195, pl. 35, figs. 5, 8

Holotype: GKM no. 6671

Northeast sea-cliff at Moeshima (Shin-jima, Sakurajima -cho, Kagoshima-gun), Kagoshima City, Kagoshima Prefecture; 31 ° 37'E, 130 ° 43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

***Kermia tincta* (Reeve)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Pleurotoma tincta* Reeve, 1846**

***Kleinella amicalis* (Yokoyama)** reported by Nomura (1938) from the Pleistocene Kioroshi Formation (Kamiiwahashi), Chiba Prefecture

***Kleinella neofelix* (Yokoyama)** reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

Kogomea Habe, 1951 n. gen., p. 103, Type, *Erato novemprovincialis* Yokoyama, 1928 (Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7) reported from the Pliocene Kounji Formation, Miyazaki Prefecture

***Kombologion onagaensis* Noda, 1991**
Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 35, figs. 13-9a-b
Holotype: IGUT no. 11510
Loc. No. 265, small river side cliff, about 300 m W of Onaga, Tomigusuku-son, Shimajiri-gun, Okinawa Prefecture
Yonabaru Formation
Pliocene

***Kotakaia* Beu, 1988** n. gen.
Saito Ho-on Kia Spec. Pub., no. 2 (Prof. T. Kotaka Commem. Vol.), p. 91, Type-species; *Kotakaia simplex* Beu, 1988 described from the Middle to Late Paleocene strata in New Zealand: see below

***Kotakaia simplex* Beu, 1988**
Saito Ho-on Kia Spec. Pub., no. 2 (Prof. T. Kotaka Commem. Vol.), p. 92, pl. 3, figs. 14-17
Holotype: TM no. 6785, Paratype: TM nos. 6786-6789
NZGS no. 12173, Natinoal Fossil Record no. CH-f478, calcareous Red Bluff Tuff beneath Matanginui Limestone in northern cliff of Tarawhenua Peninsula, Pitt Island, Chathan Islands, New Zealand
Red Bluff Tuff
Middle-Late Paleocene

***Kotakasyrinx* Noda, 1980** n. gen.
Sci. Re., Inst. Geo. Sci. Univ. Tsukuba, Ser. B, vol. 1, p. 42, Type-species; *Kotakasyrix serratiformis* Noda, 1980 described from the Pliocene Shinzato Formation, Okinawa Prefecture

***Kotakasyrinx okinawaensis* Noda, 1988**
Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 54
Holotype: IGUT no. 10897
Loc. No. 87-16-1, cliff, north of Toubaru Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Kotakasyrinx serratiformis* Noda, 1980**
Sci. Rep. Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 43, pl. 7, figs. 7a-b
Holotype: IGUT no. 10285
Loc. No. 1206, small road side cliff, about 200 m N of Miyagusuku, Takabanare-jima, Yonagusuku-mura, Nakagomi-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Kuroshiodaphne* Shuto, 1965** n. gen.
Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 192, Type-species; *Daphnella? fuscobalteata* Smith, 1879 described based on living species in Japan

***Kuroshioturris* Shuto, 1961** n. subgen.,
Mem. Fac. Sci., Kushu Univ., Ser. D, vol. 9, no. 2, p. 82, Type-species; *Gemmula (Kuroshioturris) hyugaensis* Shuto, 1961 reported from the Pliocene Takanabe Formation, Miyazaki Prefecture

Kuroshioturris tigrinaeformis* (Nomura)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture (Gemmula (Kuroshioturris) tigrinaeformis* (Nomura)** by Masuda and Noda (1976): see ***Turris (Turris) tigrinaeformis* Nomura, 1936**)

***Kurosoia* Ida, 1952**, n. subgen.
Rep. Geol. Surv. Japan, no. 150, p. 43, Type-species; *Turritella kurosio* Ida, 1952 described from the Pleistocene Mine Formation, Shizuoka Prefecture

***Lachryma minoensis* (Itoigawa)** reported by Itoigawa et al. (1982) from the Miocene Shukunohora Facies of the Mizunami Group, Gifu Prefecture: ***Proterato (Sulcerato) callosa minoensis* Itoigawa, 1960**

***Lacuna i-hayasakai* Nomura, 1938**
Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 272, pl. 33, figs. 4a-b
Holotype: SM no. 2436
Goroku cliff along the right bank of the Hirosegawa, Aoba-ku, Sendai City, Miyagi Prefecture; 38°16'N, 140°49'E)
Tatsunokuchi Formation
Pliocene
(***Lacuna (Epheria) ihayasakai* Nomura** by Hatai and Nisiyama (1952))

***Lacuna intermedia* Makiyama, 1927**
Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 64, pl. 3, fig. 5
Holotype: GK no. 42
Dainichi (Valley about 350 m NW of Dainichi, Ugari-mura,

Suchi-gun, Shizuoka Prefecture; 34°48'07"N, 137°56'E)
Dainichi Formation
Pliocene

***Lacuna japonica* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 336, pl. 36,
figs. 26a-27b

Holotype: DGS no. 4566 transferred to IGPS no. 90717 (figs.
26a-b)

Loc. No. 30, Road side cutting near Koeiji Temple, Otani,
Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (late early Miocene)

(*Stenotis japonica* (Masuda) by Masuda and Noda (1976))

***Laguncula pulchella* Benson, 1842** reported by Oyama et al.
(1993) recent sea off Ootoshima, Kurashiki City, Okayama
Prefecture

***Lancea bella* (Dall and Bartsch)** reported by Itoigawa and
Nishimoto (1974) from the Miocene Nataka Formation, Gifu
Prefecture (*Turbonilla (Lancea) bella* (Dall and Bartsch,
1906) by Masuda and Noda (1976))

***Lataxiensia contracta* (Reeve)** reported by Nomura and
Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds
(Nakoshi Formation), Okinawa Prefecture, Okinawa
Prefecture: ***Buccinum contractum* Reeve, 1846**

***Lataxiensia fimbriata* (Hinds, 1844)** reported by Nomura
(1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Lataxiensia luliana* (Martin)** reported by Nomura (1935)
from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: ***Pollia***
***luliana* Martin, 1887** (*Bedevina birileffi* (Lischke) by
Masuda and Huang (1990))

***Latiaxis deburghiae* (Reeve, 1857)** reported by Nomura and
Zinbo (1934) from the Pleistocene Ryukyu Limestone,
Kikai-jima, Kagoshima Prefecture

***Latiaxis kiranus* Kuroda, 1959** reported by Noda (1988)
from the Pliocene Shinzato Formation, Okinawa Prefecture

***Latiaxis mawae* (Gray)** reported by Nomura and Zinbo
(1934) from the Pleistocene Ryukyu Limestone (Wan
Formation), Kikai-jima, Kagoshima Prefecture

***Latiaxis tosanus* Hirase, 1908** reported by Nomura and
Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan
Formation), Kikai-jima, Kagoshima Prefecture

***Latiaxis yabei* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2,

p. 164, pl. 8, figs. 30a-31b

Holotype: IGPS no. 37383 ? (fig. 30a-b), Paratype: IGPS
no. 37370 ? (figs. 31a-b)

E of Goko, station 8 (Hanzawa), Dora-syo, Byoritu-gun,
Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Latirulus cracticulatus* (Linné)** reported by MacNeil (1960)
from the Pliocene Naha Formation, Okinawa Prefecture

***Latirus (Persternia) coreanicus* (Smith, 1879)** reported by
Nomura and Zinbo (1934) from the Pleistocene Ryukyu
Limestone Limestone (Wan Formation), Kikai-jima,
Kagoshima Prefecture

***Latirus (?) minutisquamosus* (Reeve, 1848)** reported by
Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Latirus polygonus* (Gmelin, 1792)** reported by Nomura and
Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri
Formation, Okinawa Prefecture

***Latirus polygonuloides* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 136, pl. 17, figs.
7a-b

Holotype: SM no. 2669

Okada (Cliff bordering stream immediately NW of Okada,
Yamaoka-mura, Higashishirakawa-gun, Fukushima
Prefecture; 37°01'N, 140°26'03"E)

Tanagura Formation

Miocene

(***Kelletia polygonuloides* (Nomura and Hatai)** by Oyama
(1961))

***Latrunculus canaliculatus* (Schmacher, 1817)** reported by
Nomura (1935) from the Pliocene Byoritu beds, Taiwan
(***Babylonia* sp.** by Masuda and Huang (1990))

***Latrunculus formosus* (Sowerby, 1866)** reported by Nomura
(1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Latrunculus lamarcki* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 2, p.
149, pl. 8, fig. 28

Holotype: IGPS no. 53584

Wangwa, station 10 (Ando) (station 24?), Koryu-syo,
Tikunan-gun Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

(***Babylonia lamarcki* (Nomura)** by Masuda and Huang
(1990))

***Lemintina javana* (Martin, 1880)** reported by Nomura

(1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (*Serpulorbis javana* (Martin) by Masuda and Huang (1990))

***Lemintina mуроnoensis* Otuka, 1938**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 1, p. 16, pl. 2, figs. 12, 17, 26

Holotype: GT no. 3997

River floor of the Yuigawa (About 600 m S of the bridge S of Muroно and about 150 m N of the temple at Aso, Yui-machi, Ihara-gun, Shizuoka Prefecture; 35°06'58"N, 138°33'33"E) Hamaishidake

Pliocene

(*Serpulorbis mуроnoensis* (Otuka) by Hatai and Nisiyama (1952))

***Lemintina shinanoensis* (Yokoyama)** reported by Kuroda (1931) from the Pliocene Shigarami Formation, Nagano Prefecture (*Serpulorbis shinanoensis* (Yokoyama) by Hatai and Nisiyama (1952))

***Leptothyra amussitata* (Gould)** reported by Shikama and Masujima (1969) from the Pliocene Imaizumi Formation, Kanagawa Prefecture (*Homalopoma amussitata* (Gould) by Masuda and Noda (1976))

***Leptothyra crassilirata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 108, pl. 5, fig. 22

Holotype: UT no. ? (CM no. 21102, noted as missing by Oyama (1973))

Tega (Shonam-machi, Imba-gun, Chiba Prefecture)

Kazusa Group (Imba Formation)

Pleistocene

(*Turbo "crassilirata* (Yokoyama)" by Oyama (1973))

***Leptothyra ena* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, P. 140, pl. 6, fig. 8

Holotype: JC no. 1300033

Kamigiri (111, 112, 113), Iwamura-cho, Ena-gun, Gifu Prefecture

Kubohara Sandstone, Mizunami Group

Miocene

(*Homalopoma ena* (Itoigawa) by Masuda and Noda (1976))

***Leptothyra (Phanerolepida) expansilabum* (Kuroda)** reported by Watanabe, Arai and Hayashi (1950) from the Miocene Chichibu Formation, Saitama Prefecture (*Phanerolepida expansilabum* (Kuroda) by Masuda and Noda (1976))

***Leptothyra pygmaea* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 108, pl. 5, fig. 17

Holotype: UT no. ? (CM no. 21100)

Tega (Shonam-machi, Higashikatsushika-gun, Chiba Prefecture)

Kazusa Group (Imba Formation)

Pleistocene

(*Lirularia (Lirularia) pygmaea* (Yokoyama) by Oyama (1973))

***Leptothyra rubra* (Dunker)** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (*Homalopoma rubra* (Dunker) by Masuda and Noda (1976))

***Leptothyra sakaensis*, Yokoyama, 1925**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 1, pt. 1, p. 8, pl. 1, fig. 8

Holotype: UT no. ?

Sakae (Shimosoyama, Shigarami-mura, Nagano Prefecture; 36°40'N, 139°07'E)

Sakae (Ogawa Formation)

(Late Miocene)

(*Littorina sakaensis* (Yokoyama) by Makiyama (1957))

***Leptothyra sangarensis* Schrenck** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (*Homalopoma sangarensis* (Schrenck) by Masuda and Noda (1976))

***Leucosyrinx (Aforia) circinata minatoensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 305, pl. 13, fig. 11

Holotype: GT no. Y-0014

Minato-machi (Sea cliff at Tomiya, about 1 km SW of Kazusaminato railway station, Minato-machi, Kimitsu -gun, Chiba Prefecture; 35°12'08"N, 139°51'05"E)

Tomiya Tuffaceous Sandstone

Pliocene

(*Aforia circinata* Dall by Masuda and Noda (1976))

***Leucosyrinx coreanica* (Adams and Reeve)** reported by Tsuchi (1955) from the Pliocene Hijikata Formation, Shizuoka Prefecture (*Aforia coreanica* (Adams and Reeve) by Masuda and Noda (1976))

***Leucosyrinx iwaensis* MacNeil, 1961** reported by MacNeil, 1961, pl. 12, figs. 2a-c, pl. 13, figs. 5a-b, 11a-c from the Shinzato Formation, Okinawa Prefecture

***Leucosyrinx (Afria) otohime* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 156, pl. 16, figs. 2, 3

Holotype: NSM no. 4459

Road-side cutting 500 m SW of Tokoyoda-machi (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

(*Afora circinata* (Dall) by Hatai and Nisiyama (1952))

Leucosyrinx shimomatana (Yokoyama) reported by Tsuchi (1955) from the Pliocene Hijikata Formation, Shizuoka Prefecture (*Afora shimomatana* (Yokoyama) by Masuda and Noda (1976))

Leucosyrinx yonegafukuroensis Iwai, 1959

Bull. Educ. Fac., Hirosaki Univ., no. 5, p. 52, pl. 1, figs. 11a-12b

Holotype HU no. ?

Cliff of the Iwaki River near bridge at Yonegafukuro, Hirosaki City, Aomori Prefecture

Higashimeya Formation

Pliocene (Pleistocene)

(*Afora yonegafukuroensis* (Iwai) by Masuda and Noda (1976))

Leucotina diana (A. Adams) reported by Yokoyama (1927) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture; *Acteon danae* A. Adams, 1855

Leucotina gigantean (Dunker) reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

Leucotina diana (A. Adams) reported by Itoigawa (1974) from the Miocene Nataki Formation, Gifu Prefecture

Lienardia (*Etrema*) *fortilirata* (Smith, 1879) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Lienardia (*Lienardia*) *gainesi* (Pilsbry, 1895) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Lienardia (*Lienardia*) *hayasakai* Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 128, pl. 6, figs. 52a-b

Holotype: IGPS no. 52366

400 m SE of Zyo-tusyowan, station 13, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(*Etrema* (*Lienardia*) *hayasakai* (Nomura) by Masuda and Huang (1990))

Lienardia (*Lienardia* ?) *keiyukwana* Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 129, pl. 6, figs. 54a-b

Holotype: IGPS no. 52247

Keiyukwa, station 52, Tusyo-syo, Byoritu-gun, Tikunan-gun,

Taiwan

Byoritu Beds

Pliocene

(*Etrema* (*Lienardia*) *keiyukwana* (Nomura) by Masuda and Huang (1990))

Lienardia (*Etrema*) *sintikuensis* Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 130, pl. 6, figs. 36a-b

Holotype: IGPS no. 52254

1100 m E of Hakusyatou, station 3, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(*Etrema* *sintikuensis* (Nomura) by Masuda and Huang (1990))

Lienardia subauriformis (Smith) reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (*Clathurella* (*Etrema*) *subauriformis* (Smith) by Masuda and Noda (1976))

Limulatus habeii Noda, 1991

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 57, figs. 18-19a-b

Holotype: IGUT no. 11603

Loc. No. 63, road side cliff at south of small bridge at Tomoyori, Kochinda-son, Shimajiri-gun, Okinawa Prefecture

Yonabaru Formation

Pliocene

Liocene (*Leucosyrinx*) *iwaensis* MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 109, pl. 9, fig. 24

Holotype: USNM no. 562862

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Pliocene

Lioglyphostoma chinensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 117, pl. 15, fig. 3

Holotype: USNM no. 562981

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

Lioglyphostoma martini (Vredenburg) reported by Shuto (1984) from the Miocene of Dalabe, Burma: *Mangilia* (*Clathurella*) *martini* Vredenburg, 1921

***Lioglyphostoma tenuata* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 116, pl. 15, fig. 1
Holotype: USNM no. 562981

Loc. no. 17458, blue gray silty sand exposed at base of seacliff that forms a headland about 0.8 Mi S of Gushichan, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Lioglyphostoma tobaruensis* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 57, pl. 8, figs. 22a-23

Holotype: IGUT no. 10802 (fig. 22a-b), Paratype: IGUT no. 10803 (fig. 23)

Loc. No. 83-09, about 500 m SW of Yakena, Katsuren Peninsula, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Liomesus ooides* Middendorff** reported by Amano et al. (1988) from the Pliocene Nadachi Formation, Niigata Prefecture

***Liotia hanzawai* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 209, pl. 10, figs. 43a-44b

Holotype: IGPS no. 37416 (figs. 43a-c), Paratype: IGPS no. ? (figs. 44a-b)

South of Bosiho, station 7 (Hanzawa), Siko-syo, Byoritu-gun, Sintiku-syu, Taiwan
Byoritu Beds
Pliocene

***Liotina (Dentarena) chinensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 29, pl. 11, figs. 29-31
Holotype: USNM no. 562909

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture
Chinen Formation
Pliocene

***Liotina discoidea* (Reeve, 1843)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Liotina minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 277, pl. 3, figs. 11a-c

Holotype: ESN no. 20040, Paratype: ESN no. 20041
Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Paratype, Loc. No. S11-2, Kujiri (Izumi-cho), Toki City, Gifu Prefecture
Kujiri Facies of the Akeyo Formation
Miocene

***Liotina pseudodiscoidea* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 161, pl. 5, fig. 21

Holotype: IGPS no. 50454

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture
Ryukyu Limestone (Wan Formation),
Pleistocene

***Liotinaria minoensis* (Itoigawa)** reported by Itoigawa et al. (1982) from the Miocene Kujiri Facies of the Mizunami Group: ***Liotina minoensis* Itoigawa, 1960**

***Lirabuccinum fuscolabiatum* (Smith)** reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Liracassis durhami* Kanno, 1971**

Palaeont. Soc. Japan, Spec. Pap., no. 16, p. 112, pl. 13, figs. 14a-b

Holotype: TUE no. 10041, Paratype: TUE no. 10042

Loc. no. 80906, south of the Yagataga Glacier, Alaska, USA
Poul Creek Formation
Oligocene

***Liracassis formosa* Kanno and Chung, 1975**

Geol. Geogr. Southeast Asia, vol. 15, p. 387, pl. 3, figs. 1-2

Holotype: TUE no. 10202, Paratype: TUE no. 10203

Loc. no. 370508, see cliff, about 2 km SE of Wanli, along the beach between Wanli and Keelung, Taiwan

Wuchihshan Formation

Early Miocene (Oligocene by Masuda and Huang (1990))

***Liracassis japonica* (Yokoyama)** reported by Kanno (1973) from the Miocene Fujina Formation, Shimane Prefecture: see ***Galeodea (Sconsia) japonica* Yokoyama, 1923**

***Lirularia takahashii* Noda, Kikuchi and Nikaido, 1993**

Sci. Rep., Inst. Geo. Sci., Univ. Tsukuba, Sec. B, vol. 14, p. 172, figs. 23-8a-c

Holotype: IGUT no. 13066, Paratype: IGUT no. 13152

Loc. A, Satake Minamidai New Town, Hitachiohta City, Ibaraki Prefecture

Kume Formation

Pliocene

***Lischkeia alwinae* (Lischke)** reported by Noda (1988) from the Shinzato Formation, Okinawa Prefecture: ***Trochus alwinae* Lischke, 1871**

Lischkeia argenteonitens* (Lischke)** reported by Tsuchi (1955) from the Pliocene Hijikata Formation, Shizuka Prefecture (Turricula (Ginebsi) argenteonites* (Lischke)** by Masuda and Noda (1976))

***Lischkeia convexiuscula tosana* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 36, pl. 1, figs. 8a-b

Holotype: GIYU no. ?

About 75 miles E of Choshi, Chiba Prefecture

Living specimen 150-200 fathoms in depth

Recent

Lischkeia crumpi* (Pilsbry)** reported by Hatai and Masuda (1962) from the Miocene Tokigawa Formation, Saitama Prefecture (Trucicula* (*Turcicula*)** n. sp. by Masuda and Noda (1976))

***Lischkeia monilifera* (Lamarck)** reported by MacNeil (1960) from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture

***Lischkeia* (*Trucicula*) *osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 80, pl. 3, figs. 12a-14

Holotype: JC no. 1400032 (figs. 12a-b), Paratype: JC no. 1400032

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(***Turcicula osawanoensis* (Tsuda)** by Masuda and Noda (1976))

***Litiopa simplex* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 414, pl. 46, fig. 26

Holotype: UT no. ? (CM no. 23762, noted as missing by Oyama (1973))

Dokwanyama (a hill at Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Synonymus with ***Diffalaba vitrea* (Sowerby)** by Oyama (1973))

***Littoraria strigata* (Lischke)** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture:

***Littorina strigata* Lischke, 1871**

***Littorivaga brevicula* (Philippi)** reported by Kuroda (1931) from the Miocene Ogawa Formation, Nagano Prefecture;

***Turbo brevicula* Philippi**

***Littorina* (*Littoria*) *adonis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 451, pl. 51, figs. 8

Holotype: UT no. ? (CM no. 24287)

Koyasu, Tachibana-gun, Musashi (Kohoku-ku, Yokohama City, Kanagawa Prefecture)

(Shimosueyoshi Formation)

Upper Musashino=Pleistocene

(Identified with ***Littorina* (*Littorinopsis*) *strigata* (Lischke)** by Oyama (1973) and Masuda and Noda (1976))

Littorina* (*Littorivaga*) *brevicula* Philippi** reported by Nomura (1938) from the Pliocene Tatsunokuchi Formation, Miyagi Prefecture (Littorivaga brevicula* (Philippi)** by Hatai and Nisiyama (1952))

***Littorina incisa* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 175, pl. 47, fig. 8

Holotype: GT no. ?

Nagaya (Road-side cliff about 150 m E of the bridge and about 30 m NW of the shrine at Nagaya, Kosaka-mura, Kahoku-gun, Ishikawa Prefecture; 36 ° 34'23"N, 136 ° 41'51"E)

Onma Formation

Pliocene (Pleistocene)

(***Algaroda incisa* (Yokoyama)** by Hatai and Nisiyama (1952))

***Littorina iwakiana* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 144, pl. 16, figs. 16a-b

Holotype: SM no. 6895

Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashishirakawa-gun, Fukushima Prefecture; 37 ° 01'N, 140 ° 26'03"E)

Tanagura Formation

Miocene

(***Nodilittorina iwakiana* (Nomura and Hatai)** by Oyama (1961))

***Littorina* (*Granulilittorina*) *iwakiana* (Nomura and Hatai)** reported by Rosewater (1970) from the Miocene Tanagura Formation, Fukushima Prefecture

***Littorina kozaiensis* Nomura and Onisi, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 191, pl. 19, figs. 6a-b

Holotype: SM no. 21762

Yosuibori, Shimizu, Kozai-mura, Igu-gun (S bank of largest pond about 900 m E of the temple at Shimizu, Kozai-mura, Igu-gun, Miyagi Prefecture; 37 ° 55'N, 140 ° 50'02"E)

Kozai (Hazama Formation)

Miocene (early Miocene)

(***Planaxis kozaiensis* (Nomura and Onisi)** by Oyama (1961))

***Littorina* (*Littoraria*) *lucida* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 451, pl. 51, figs. 9

Holotype: UT no. ? (CM no. 24288)
 Koyasu, Tachibana-gun, Musashi (Kohoku-ku, Yokohama City, Kanagawa Prefecture)
 (Shimosueyoshi Formation)
 Upper Musashino=Pleistocene
 (Identified with *Assimineia japonica* v. *Martens* by Oyama (1973) and Masuda and Noda (1976))

Littorina sitkana Philippi reported by Amano and Sato (1995) from the Pliocene Joshita Formation, Nagano Prefecture

Littorinopsis (Littorinopsis) miocelicutula Oyama, 1950

Rep. Geol. Surv. Japan, no. 132, p. 8, pl. 1, figs. 2a-3c
 Holotype: GSJ no. ? (figs. 3a-c), Paratype: GSJ no. ? (figs. 2a-b)
 Kakebata, Unohana-mura (Yatsuo-machi), Nei-gun, Toyama Prefecture
 Kakebata (Kakehata) Formation
 (*Littorina (Littorinopsis) miodelicutula (Oyama)* by Masuda and Noda (1976))

Loochooia MacNeil, 1960 n. gen.

U. S. Geol. Surv., Prof. Paper 339, Type-species; *Loochooia hanzawai MacNeil* (1960) reported from the Pliocene Shizato Formation, Okinawa Prefecture

Loochooia hanzawai MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 68, pl. 12, fig. 12
 Holotype: USNM no. 562819
 Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture
 Shinzato Formation
 Pliocene

Lophiotoma carthausi (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia:
Pleurotoma carthausi Martin, 1914

Lophiotoma leucotropis (Adams and Reeve) reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Pleurotoma leucotropis Adams and Reeve, 1849***

Lophiotoma marmorata (Lamarck) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Lora candida (Yokoyama) reported by Nomura (1937) from the Pliocene Masuda Formation, Yamagata Prefecture; ***Bela candida Yokoyama, 1926***

Lora crosio Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 109, pl. 5, fig. 7
 Holotype: GK no. 311
 Tennoyama (East side of Tennoyama, 1.75 km N of JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34° 46'09"N, 138° 00'08"E)
 Tenno Formation
 Pliocene
 (*Propebela (Propebela) crosio (Makiyama)* by Hatai and Nisiyama (1952))

Lora (?) hommai Kuroda, 1931

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 87, pl. 5, fig. 33
 Holotype: GK no. ?
 Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36° 40'N, 138° 07'E)
 Shigarami Formation
 Pliocene
 (Noted as Genus ? by Hatai and Nisiyama (1952))

Lora kakumensis Onoyama, 1938

Venus, vol. 8, no. 2, p. 74, text-fig. 4 on p. 78
 Holotype: GK no. ?
 Stream side of the small river about 200 m NW of the bridge N of Kakuma, Asakawa-mura, Kahoku-gun, Ishikawa Prefecture; 35° 32'54"N, 136° 42'20"E)
 Onma Formation
 Pliocene (Pleistocene)
 (Figures very poor and Genus ? by Hatai and Nisiyama (1952))

Lora ? komakahida Otuka, 1949

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 3308, pl. 13, fig. 15
 Holotype: GT no. Y-0019
 Sea cliff at Tomiya, Minato-machi (Sea cliff at Tomoya, about 1 km SW of Kazusaminato Station, Minato-machi, Kimitsu-gun Chiba Prefecture
 Tomiya tuffaceous Sandstone
 Pliocene
 (*Propebela komakahida (Otuka)* by Hatai and Nisiyama (1952))

Lora komakahida Otuka reported by Okutani (1968) from the Pliocene Tomiya Formation (*Nematoma komakahida (Otuka)* by Masuda and Noda (1976))

Lora miyatensis (Yokoyama) reported by Kanahara (1940) from the Pliocene Ota Formation, Niigata Prefecture; ***Pleurotoma miyatensis Yokoyama, 1920***

Lora miyatensis pseudopannus (Yokoyama) reported by Onoyama (1938) from the Pliocene Sawane Formation Niigata Prefecture; *Genotia miyatensis pseudopannus* Yokoyama

***Lora nakamurai* Onoyama, 1938**

Venus, vol. 8, no. 2, p. 75, text-fig.2 (p. 78)

Holotype: GK no. ?

Southwestern slope of the hill about 500 m NEE of the shrine and about 200 m NW of the contact point of the road and the small road E of Tagawa, Konade-mura, Nishitonami-gun (Oyabe City), Toyama Prefecture: 36 °41'48"N, 136 °53'24"E

Tagawa Formation

Pliocene (Pleistocene)

(Noted as "genus ?" by Hatai and Nisiyama (1952))

***Lora nipponensis* Onoyama, 1938**

Venus, vol. 8, no. 2, p. 73, text-fig 1 (p. 78)

Southwestern slope of the hill about 500 m NEE of the shrine and about 200 m NW of the contact point of the road and the small road E of Tagawa, Konade-mura, Nishitonami-gun (Oyabe City), Toyama Prefecture: 36 °41'48"N, 136 °53'24"E

Tagawa Formation

Pliocene (Pleistocene)

(*Propebela nipponensis* (Onoyama) by Hatai and Nisiyama (1952))

***Lora tayaensis* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-6, p. 60, text-figs. 3a-b

Holotype: SM no. ?

Cliff of the Sannai-gawa, opposite Taya, Iwamisannai-mura, Kawabe-gun Akita Prefecture; 39 °42'N, 140 °17'E

Taya Formation

Miocene

(*Oenopota tayaensis* (Nomura and Hatai) by Hatai and Nisiyama (1952))

***Lora ? tomiyaensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 308, pl. 13, fig. 17

Holotype: GT no. Y-0020

Sea-cliff at Tomiya, Minato-machi (Sea cliff at Tomoya, about 1 km SW of Kazusaminato Station, Minato-machi, Kimitsu-gun, Chiba Prefecture

Tomiya tuffaceous Sandstone

Pliocene

(*Nematoma tomiyaensis* (Otuka) by Hatai and Nisiyama (1952))

Lora tomiyaensis Otuka reported by Okutani (1968) from the Pliocene Tomiya Formation, Chiba Prefecture

(*Nematoma tomiyaensis* (Otuka) by Masuda and Noda (1976))

***Lora totomiensis* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 8, pl. 2, figs. 17, 19

Holotype: GK no. ?, Paratype: GK no. ?

Loc. no. 901 (Small road-side cutting about 200 m NE from the triangle point (83.4 m), Awamoto-mura, Ogasa-gun, Shizuoka Prefecture; 34 °47.5'N, 138 °02'E)

Tamari Formation

Miocene (Pliocene)

Lora turricula candida (Yokoyama) reported by Onoyama (1938) from the Pliocene Tagawa Formation, Toyama Prefecture; *Bela turricula candida* Yokoyama (*Propebela turricula candida* (Yokoyama) by Hatai and Nisiyama (1952))

***Lora viridula kurodai* Onoyama, 1938**

Venus, vol. 8, no. 2, p. 72, text-fig. 3 (p. 78)

Holotype: GK no. ?

Road-side cliff about 150 m E of the bridge and about 300 m NW of the shrine at Nagaya, Kosaka-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36 °34'23"N, 136 °41'51"E

Onma Formation

Pliocene (Pleistocene)

(*Curittoma ? viridula kurodai* (Onoyama) by Hatai and Nisiyama (1952))

Lora yanamii (Yokoyama) reported by Nomura and Hatai (1935) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture; *Bela yanamii* Yokoyama

***Lora yanamii tenuis* Hatai and Nisiyama, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 152, pl. 9, figs. 15, 16

Holotype: GS no. 62423

Road-side cutting about 70 m W of the bridge NW of Nagaya, Kosaka-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36 °34'22"N 137 °41'42"E

Onma Formation

Pliocene (Pleistocene)

(*Plicifusus yanamii tenuis* (Hatai and Nisiyama) by Hatai and Nisiyama (1952))

Lunatia pallida (Broderip and Sowerby) reported by Shuto (1964) from the Pliocene Miyazaki Group, Miyazaki Prefecture (*Euspira pallida* (Broderip and Sowerby) by Masuda and Noda (1976): ? *Natica pallida* Broderip and Sowerby, 1829)

Lunatia pila (Pilsbry) reported by Kaseno and Matsuura

(1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Euspira pila* (Pilsbry) by Masuda and Noda (1976))

***Lunatia marmorata* (Linne)** reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

***Lunatica pila* (Pilsbry)** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tokikawa Formation, Hokkaido (*Euspira pila* (Pilsbry) by Masuda and Noda (1976))

***Lunella coronata* (Gmelin)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

***Lunella coronata coreensis* (Reculz)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

Lunella coronatus granulatus* (Gmelin)** reported by Noda (1971) from the Pliocene (Pleistocene) Haneji Formation, Okinawa Prefecture (Lunella coronatus granulata* (Gmelin)** by Masuda and Noda (1976))

***Lunella kurodai* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, p.140, pl. 6, figs. 9-13

Holotype: JC no.1300069 (fig. 10)

Kamigiri, Iwamura-cho, Ena-gun, Gifu Prefecture

Kubohara sandstone, Mizunami Group

Miocene

***Lunella miyarensis* MacNeil, 1964**

U. S. Geol. Surv., Prof. Pap. 399-b, p. B. 2, pl. 1, figs. 1-3

Holotype: USNM no. 638646

Seacoast west of the village of Ibaruma, Ishigaki-shima, Ryukyu Islands, Okinawa Prefecture

Miyara Formation

Eocene

***Lydiphnopsis* Shuto, 1969** n. subgen.

Mam. Faci. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1,

p. 54, Type-species; *Pygmaeorota* (*Lydiphnopsis*) *philippinensis* Shuto, 1969 described from the Upper

Miocene Ulian Formation, Panay Island, the Philippines

***Lyria hanzawai* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 98, pl. 9, fig. 7

Holotype: USNM no. 562845

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Lyria hirugaensis* (Yokoyama)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Lyria mizuhonica* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 76, pl. 3, figs. 12, 13

Holotype: GK no. 302

Tennoyama (East side of Tennoyama, 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 ° 46'09"N, 138 °00'E)

Tenno Formation

Pliocene

Lyria mizuhonica* Makiyama** reported by Aoki (1966) from the Pliocene Nobori Formation, Kochi Prefecture (Lyria mizuhonica* (Makiyama)** by Masuda and Noda (1976))

***Lyria (Paralyria) mizuhonica mizuhonica* (Makiyama)**

reported by Shuto (1962) from the Pliocene Takane Formation, Miyazaki Prefecture

***Lyria (Paralyria) mizuhonica koyuana* (Yokoyama)**

reported by Shuto (1962) from the Miocene-Pliocene (Pliocene) Takane Formation, Miyazaki Prefecture: ***Voluta koyuana* Yokoyama, 1928**

***Lyria planicostata* (Sowerby)** reported by Tomida (1989)

from the Mio-Pliocene Senhata Formation, Chiba Prefecture

***Lyria rex* Hirase** reported by MacNeil (1960) from the

Pliocene Naha Formation, Okinawa Prefecture

***Lyrosurcula buxtorfi* (Martin)** reported by Shuto (1980)

from the Eocene Nanglan Formation, Indonesia: ***Surcula (Apiotoma) buxtorfi* Martin**

***Machaeroplax* (?) *hayamensis* Shikama, 1973**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 6 (Hatai Com. Vol.), p. 195, pl. 16, figs. 7, 8

Syntype: GIYU no. M-4

Loc. no. 5, ravine head of the Morito River, northeast of Futago Mountain, Nagane, Hayama-cho, Kanagawa Prefecture; 35 °16'50"N, 139 °36'30"E

Zushi Formation

Miocene

***Machaeroplax nyssona* (Dall)** reported by Noda (1980) from

the Pliocene Shinzato Formation, Okinawa Prefecture: ***Solariella nyssona* Dall, 1919**

***Machaeroplax takamiyaensis* (Shibata)** reported by

Itoigawa et al. (1982) from the Miocene Ashisaka Formation,

Gifu Prefecture: see *Minolia takamiyaensis* Shibata, 1970

"Macron" nipponensis Chinzei, 1959

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt. 1, p. 115, pl. 9, figs. 10, 11

Holotype: CM no. 8534

Loc. no. 2, a river-side cliff, 150 m S of Ochiiai, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture
Kubo Formation
Pliocene

Macrophragma tokyoensis (Pilsbry) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Onma Formation, Ishikawa Prefecture

Macroschisma sinensis A. Adams var. brevis Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 115, pl. 6, fig. 3

Holotype: UT no. ?

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pleistocene

Macteola (Kurtzella) ugali Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 113, pl. 5, fig. 9

Holotype: GK no. 96

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Mangelia ugali* (Makiyama) by Ozawa et al. (1998))

Macteola (Kurtzella) ugali hobasiensis Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 113, pl. 5, fig. 8

Holotype: GK no. 263

Honohashi (About 150 m W of Honohashi, Saigo-mura, and 2.5 km N of the JR Kakegawa Station, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

Magilus antiquus Montfort reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Makiyamaia aritaensis Shuto and Ueda, 1963

Japan. Jour. Geol. Geogr., vol. 34, no. 1, p. 8, pl. 1, figs. 7-9

Holotype: GKL no. 6243 (figs. 7, 8), Paratype: GKL nos. 6244, 6245, 6603

Obo, Arita-machi, Nishimatsura-gun, Saga Prefecture

Kishima Formation

Oligocene

Makiyamaia coreanica (Adams and Reeve) reported by MacNeil (1960) from the Miocene Yoabaru Formation, Okinawa Prefecture: *Pleurotoma coreanica* Adams and Reeve, 1850

Makiyamaia coreanica okinavensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 108, pl. 14, fig. 22

Holotype: USNM no. 562973

Loc. no. 17458, blue gray silty sand exposed at base of seacliff that forms a headland about 0.8 Mi S of Gushichan, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Makiyamaia coreanica subdeclivis (Yokoyama) reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

Makiyamaia cornulabrum Kuroda, 1961

Prof. J. Makiyama Mem. Vol., p. 188, pl. 2, figs. 20, 22, 23

Holotype: Kyoto Univ., no. ?

Dredge sediments off Kochi, Kochi Prefecture

Precise locality and formation unknown

(Semifossil)

Makiyamaia kurodae Shuto and Ueda, 1963

Japan. Jour. Geol. Geogr., vol. 34, no. 1, p. 6, pl. 1, figs. 10, 14

Holotype: GKL no. 6252 (fig. 10), Paratype: GKL nos. 6253, 6599, 6604, 6606

Obo, Arita-machi, Nishimatsura-gun, Saga Prefecture

Kishima Formation

Oligocene

Makiyamaia macneili Noda, 1980

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 41, pl. 8, figs. 12a-b, pl. 11, fig. 3

Holotype: IGUT no. 10281, Paratype, IGUT nos. 10481-2, -3, -4

Loc. No. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Makiyamaia mammillata Kuroda, 1961

Prof. J. Makiyama Mem. Vol., p. 187, pl. 2, fig. 19

Holotype: Kyoto Univ., no. ?

Dredge sediments off Kochi, Kochi Prefecture

Precise locality and formation unknown

Semifossil

Makiyamaia nodosa Noda, 1980

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 41, pl. 9, figs. 2a-b

Holotype: IGUT no. 10284, Paratype: IGUT no. 19594-1
 Loc. No. 435, road side cliff, about 500 m NW of Shikenbaru,
 Tamagusuku-mura, Shimajiri-gun, Okinawa Prefecture
 Shinzato Formation
 Pliocene

***Makiyamaia subdeclivis* (Yokoyama, 1926)** reported by
 Katto and Masuda (1993) from the Pliocene Tonohama
 Formation, Kochi Prefecture

***Makiyamaia subdeclivis acuticarinata* (Shuto)** reported by
 Powell (1969) from the Miocene Kawabaru Formation,
 Miyazaki Prefecture

***Malluvium otohimeae* Habe** reported by Kaseno and
 Matsuura (1965) from the Pliocene (Pleistocene) Omma
 Formation, Ishikawa Prefecture (***Hipponix* (*Malluvium*)
otohimeae (Habe)** by Masuda and Noda (1976))

***Mammilla insignis* (Nagao)** reported by Majima (1989) from
 the Oligocene Kishima Formation, Saga Prefecture: see
***Polinices* (*Neverita*) *insignis* Nagao, 1928**

***Mammilla kurodai* Taki** reported by Hayasaka (1961) from
 the Pleistocene Toshima Formation, Aichi Prefecture

***Mammilla maura* (Bruguire)** reported by Shuto (1964) from
 the Miocene or Pliocene Miyazaki Group, Miyazaki
 Prefecture (***Mammilla maura* (Bruguire)** by Masuda and
 Noda (1976): ***Natica maura* Bruguire, 1792**)

***Mammilla melanostoma* (Gmelin)** reported by MacNeil
 (1960) from the Miocene or Pliocene (Pliocene) Shinzato
 Formation, Okinawa Prefecture: ***Nerita melanostoma*
 Gmelin, 1791**

***Mammilla yokoyamai* Makino** (MS) reported by Kaseno and
 Matsuura (1965) from the Pliocene (Pleistocene) Omma
 Formation, Ishikawa Prefecture

***Mancinella minoensis* Itoigawa, 1974** reported by Itoigawa,
 Shibata and Nishimoto (1974) from the Miocene Shukunohora
 Formation, Gifu Prefecture (***Mancinella minoensis*
 (Itoigawa)** by Masuda and Noda (1976)): see ***Purpura*
 (*Mancinella*) *minoensis* Itoigawa, 1960**

***Mandarina aureola* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 237, figs.
 9-5, 15-10
 Holotype: RM 18448-a, Paratype: RM 18444, 18446,
 18448-18450, 18419, CM 18445, 18447, 18451, 18452
 Nankinhama and Minamizaki, Hahajima; Hirashima, Tokyo
 Prefecture
 Dune deposits

Holocene

***Mandarina chichijimana* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 231, figs.
 5-1-2, 6a-1-2, 8-5 15-2
 Holotype: RM 18415-a, Paratype: RM 18406, 18408-18415,
 18419, CM 18407, 18416-18418
 Chichijima, Tokyo Prefecture
 Pleistocene deposits, before 25,000-40,000 yr. B.P.
 Pleistocene

***Mandarina hayamii* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., No. 155, p.243, figs.
 11-12, 15-18
 Holotype: CM 18468-a, Paratype: CM 18468
 Minamizaki (John Beach), Chichijima, Tokyo Prefecture
 Fissure deposits (Loc. 14), before 33,000 yr. B.P.
 Pleistocene

***Mandarina hirasei* Pilsbry** reported by Habe (1973) from
 the Pleistocene "Minamijima" Formation, Tokyo Prefecture

***Mandarina io* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 235, figs.
 8-4 15-7
 Holotype: CM 18426-a, Paratype: CM 18426
 Minamizaki (John Beach), Chichijima, Tokyo Prefecture
 Fissure deposits (Loc. 14), before 22, 000-32,000 yr. B.P.
 Pleistocene

***Mandarina luhua* (Sowerby)** reported by Iwasaki and
 Aoshima (1970) from the Pleistocene "Chichijima"
 Formation, Tokyo Prefecture

***Mandarina mandarina* (Sowerby)** reported by Habe (1973)
 from the Pleistocene "Chichi-jima" Formation, Tokyo
 Prefecture

***Mandarina nola* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 231, figs.
 8-2, 15-2
 Holotype: CM 18405-a, Paratype: CM 18405
 Minamizaki (John Beach), Chichijima, Tokyo Prefecture
 Fissure deposits (Loc. 14), before 33,000 yr. B.P.
 Pleistocene

***Mandarina polita* Chiba, 1989**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 240, figs.
 5-7, 6b-3, 11-4-5, 15-12
 Holotype: RM 18457-a, Paratype: RM 18453-18457, CM
 18458
 Okimura, Hahajima, Tokyo Prefecture
 Cave deposits
 Pleistocene

***Mandarina titan* Chiba, 1989**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 237, figs. 9-5 15-10

Holotype: CM 18432-a, Paratype: CM 18432

Minamijima, Tokyo Prefecture

Fissure deposits (Loc. 15), before 8,000-13,000 yr. B.P.

Pleistocene to Holocene

***"Mangelia" bosihoensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 127, pl. 6, figs. 55a-b

Holotype: IGPS no. 37385

Bosihō, station 7 (Hanzawa), Siko-syō, Byoritu-gun,

Sintiku-syū, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

***"Mangelia" china* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 115, pl. 9, fig. 26

Holotype: USNM no. 562864

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Mangelia kurodai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 108, pl. 5, fig. 13

Holotype: GK no. 94

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

***Mangelia minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 292, pl. 6, figs. 9a-b

Holotype: ESN no. 20084, Paratype: ESN no. 20085

Loc. No. S41, Shukunohora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukunohora sandstone of the Oidawara Formation

Miocene

(*Philbertia (Pseudodaphnella) minoensis* (Itoigawa) by Masuda and Noda (1976))

Mangelia ojiensis (Tokunaga) reported by Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture: *Pleurotoma ojiensis* Tokunaga, 1906

***Mangelia pregracilentata* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 192, pl. 15, figs. 12a-b

Holotype: SM no. 6176

Southern end of the Park of Yanagawa-machi, Fukushima Prefecture (River cliff of the Hirosegawa at the southeastern end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Fukushima Prefecture; 37°51'05"N, 143°036'05"E)

Yanagawa Formation

Miocene

Mangelia (Mangelia) perparva (Yokoyama) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan; see *Mangilia perparva* Yokoyama, 1927

Mangelia (Mangelia) pyramis (Hinds, 1843) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Pseudoraphitoma ? pyramis* (Hinds) by Masuda and Huang (1990))

Mangelia ugali (Makiyama, 1927) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see *Macteola (Kurtziella) ugali* Makiyama, 1927

***Mangella (Etrema) hokusimensis* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 173, pl. 15, figs. 11a-b

Holotype: SM no. 6177

Southern end of the Park of Yanagawa-machi, Fukushima Prefecture (River cliff of the Hirosegawa at the southeastern end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Fukushima Prefecture; 37°51'05"N, 143°036'05"E)

Yanagawa Formation

Miocene

(*Nannoidella hokusimensis* (Nomura and Zinbo) by Oyama (1961))

Mangilia deshayesii Dunker reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture

***Mangilia fukuchiana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 42, pl. 1, fig. 34

Holotype: UT no. ? (CM no. 20809)

Otake (Narita City, Chiba Prefecture)

Kazusa Group (Kioroshi Formation)

Pleistocene

(*Haedrepleura fukuchiana* (Yokoyama) by Oyama (1973))

***Mangilia ishiiana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 1, part 9, p. 372, pl. 43, fig. 2

Holotype: UT no. ?

Tonami, Takatoyo-mura, Atsumi-gun (Toyohashi City), Aichi Prefecture

Upper Clay (Toyohashi Formation)
Pleistocene (middle Pleistocene)
(Pseudorhaphitoma ishiiiana (Yokoyama) by Makiyama (1958))

Mangilia ojiensis (Tokunaga) reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture: see *Pleurotoma ojiensis Tokunaga, 1906 (Horaiclavus shitoensis Oyama by Oyama (1973))*

Mangilia (Cythara) oywana Yokoyama, 1922
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 43, pl. 1, fig. 43
Holotype: UT no. ? (CM no. 20812)
Otake (Narita City, Chiba Prefecture)
Kazusa Group (Kioroshi Formation)
Pleistocene
(Ithycythara oywana (Yokoyama) by Oyama (1973))

Mangilia parva Tokunaga var. reported by Takayasu (1962) from the Pliocene Wakimoto Formation, Akita Prefecture (Reidentified with *Mangilia (Guraleus) tokunagae (Finley)* by Oyama (1973) and Masuda and Noda (1976))

Mangilia perparva Yokoyama, 1928
Rep., Imp. Geol. Surv. Japan, no. 101, p. 33, pl. 2, fig. 2
Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))
Shiko, Koshun, Takao Province, Taiwan
Upper Byoritz Beds
Pliocene (Pleistocene)
(Etremella perparva (Yokoyama) by Makiyama (1960): Mangilia perparva (Yokoyama) by Masuda and Huang (1990))

Mangilia (Cythara) rugosolabiata Yokoyama, 1922
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 42, pl. 1, fig. 35
Holotype: UT no. ? (CM no. 20810)
Shisui (Shisui-machi, Imba-gun, Chiba Prefecture)
Kazusa Group (Kioroshi Formation)
Pleistocene
(Synonymus with *Rubellatoma longispira (Smith)* by Oyama (1973))

Mangilia sawanensis Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 263, pl. 32, fig. 6
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
Sawane Formation

Pliocene
(Lienardia gainesi (Pilsbry) by Hatai and Nisiyama (1952))

Maoridaphne (Kuroshiodaphne) fuscobalteata (Smith) reported by Shuto (1965) from the Pleistocene Moeshima Formatio, Kagoshima Prefecture

Margarita funiculate Yokoyama, 1890
Palaeontogr., vol. 36, nos. 3-6, p. 197, pl. 20, figs. 13a-d
Holotype: Munich Mus. no. ?
Poronai, Sorachi-gun (Probably near the Poronai coal-mine, a short distance SE of the Poronai Sation, Mikasa City, Hokkaido; 43°13'19"N, 141°54'52"E)
Poronai Formation
Cretaceous (Eocene)
(Margarites funiculate (Yokoyama) by Hatai and Nisiyama (1952): "Minolia" funiculate (Yokoyama) by Oyama et al. (1960))

Margarita hilarula Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 284, pl. 34, fig. 9
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
Sawane Formation
Pliocene
(Margarites (Margaritopsis) hilarula Yokoyama by Hatai and Nisiyama (1952))

Margarita kaigasawaensis Yokoyama, 1928
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 359, pl. 69, fig. 2
Holotype: GT no. ?
Kaigasawa (Valley W of Tochio-machi, Koshi-gun, Niigata Prefecture; 37°28'30"N, 139°59"E)
Shiraiwa Formation
Pliocene
(Margarites kaigasawaensis (Yokoyama) by Hatai and Nisiyama (1952))

Margarita laudata Yokoyama, 1926
Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 284, pl. 34, fig. 8
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
Sawane Formation
Pliocene
(Margarites laudata (Yokoyama) by Hatai and Nisiyama

(1952))

***Margarita lautiuscula* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 359, pl. 68, fig. 7

Holotype: GT no. ?

Kaigasawa (Valley W of Tochio-machi, Koshi-gun, Niigata Prefecture; 37°28'30"N, 139°59'E)

(Shiraiwa Formation)

Pliocene

(*Margarites lautiuscula* (Yokoyama) by Hatai and Nisiyama (1952))

***Margarita vahlioides* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 283, pl. 37, fig. 8

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Margarites* (*Margaritopsis* ?) *vahlioides* (Yokoyama))

***Margarites aiyoshiensis* Tanaka, 1960**

Jour. Shinshu Univ., Fac. Educ., no. 9, p. 110, pl. 1, figs. 1a-5
Holotype: SU no. 447 (figs. 1a-b), Paratype: SU nos. 445a-d, 607a-b

Loc. No. E3, road-side cliff along the Nisenro, Aiyoshi, Shiga-mura: Paratype (SU no. 445); loc. No. E2, small cliff along the Ike-zawa, Ikusaka-mura, Higashichikuma-gun, Nagano Prefecture

Sashikiri Sandston and Conglomerate Member of the Omi Formation

Middle Miocene

***Margarites eos* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 111, pl. 5, figs. 23-32

Holotype: TKD no. 10204 (figs. 23, 31), Paratype: TKD no. 10205

Loc. A15, road-side cliff at 1 km N of the Yotsukura Fishing Port, Yotsukura-machi, Iwaki-City, Fukushima Prefecture; Paratype, cliff along the tributary of the Kobisa-gawa, a little west of Oyamada, Hisanohama-machi, Taira City, Fukushima Prefecture

Asagai Formation

Oligocene

(*Machaeroplax eos* (Hirayama) by Oyama et al. (1960))

***Margarites makiyamai* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), Spec. Vol., no. 3, p. 279, Type, *Umbonium* sp. reported by Yokoyama (1924, p. 12, pl. 1, figs. 18, 19)

Holotype: GT no. ?

Tatsuta caol mine, Naraha-machi, Futaba-gun, Fukushima Prefecture

Asagai Formation

Oligocene

(Invalid and valid *Margarites makiyamai* Hirayama, 1954 by Makiyama (1957))

***Margarites sinzi* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 7, pl. 1, figs. 1a-b

Holotype: GS no. 51899

Small roadside cutting 150 m N of the pond and about 400 m SEE of Shinji railway station, Shinji-machi, Yatsuka-gun, Shimane Prefecture; 35°24'N, 132°55'E)

Kimachi Formation

Miocene

Margarites tukiyoensis (Oyama and Saka) reported by Kubota (1952) from the Miocene Tsukiyoshi Formation, Gifu Prefecture (*Minolia tukiyoensis* (Oyama and Saka) by Masuda and Noda (1976))

***Marginella cotamago* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 49, pl. 2, fig. 6

Holotype: UT no. ? (CM no. 20842)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Crithe cotamago* (Yokoyama) by Oyama (1973))

Marginella (*Stazzania*) *flaccida* (Yokoyama) reported by Shuto (1962) from the Miocene to Pliocene Takanabe Formation, Miyazaki Prefecture: *Mitra flaccida* Yokoyama, 1928 (*Dentimargo flaccida* (Yokoyama) by Masuda and Noda (1976))

***Marginella perovulum* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 49, pl. 2, fig. 7

Holotype: UT no. ? (CM no. 20842)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pliocene (Pleistocene)

(Synonymus with *Crithe cotamago* (Yokoyama) by Oyama (1973))

Marginella sandwicensis Pease, 1860 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Marginella tomuiensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 99, pl. 9, figs. 8, 9

Holotype: USNM no. 562846

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Marginella (Cysticus) tokaiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 82, pl. 4, fig. 2

Holotype: GK no. 306

Tennoyama (East side of Tennoyama, 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 ° 46'09"N, 138 °00'08"E)

Tenno Formation

Pliocene

***Marginella (Stazzania) totomiensis* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 50, pl. 2, fi. 13

Holotype: UK no. ?

Ugari (Left road-side cutting about 150 m S of the tunnel at Shimoiiida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34 ° 48'N, 137 °55'E)

Hosoya Formation

Pliocene

(Synonymus with *Marginella (Stazzania) flaccida* (Yokoyama) by Hatai and Nisiyama (1952))

***Maridaphne (Kuroshiodaphne) fuscobalteata* Smith** reported by Shuto (1965) from the Late Pleistocene Moeshima Shell Bed, Kagoshima Prefecture (*Maridaphne (Kuroshiodaphne) fulcobalteana* (Smith): *Daphnella fuscobalteana* Smith, 1879

***Marmorostoma argyrostoma* (Linné)** reported by MacNeil (1960) from the Pleistocene Yomitana Formation, Okinawa Prefecture (*Turbo (Marmorostoma) argyrostoma* (Linné) by Masuda and Noda (1976))

***Marmorostoma (Batillus) cornuta* (Humphrey)** reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture (*Turbo (Batillus) gemmata* Lightfoof by Masuda and Noda (1976))

***Marmorostoma (Batillus) gemmata* (Reeve)** reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture (*Turbo (Marmorostoma) yabei* Nomura and Zinbo by Masuda and Noda (1976))

***Mathilda kannoi* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 59, pl. 5, fig. 11

Holotype: IGUT no. 10571

Loc. No. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Mathilda lochooensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 37, pl. 7, fig. 18

Holotype: USNM no. 562802

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Mathilda (Mathilda) njalindungensis* Martin, 1921**

reported by Shuto (1980) from the Lower Miocene at Tji Talahab, Java Islands, Indonesia

***Mathilda okinawa* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 59, pl. 4, figs. 13a-b, pl. 9, figs. 23a-b

Holotype: IGUT no. 10568, Paratype: IGUT no. 10569

Loc. No. 15, cliff about 500 m SE of Shinzato, Sakishima-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Mathilda sinensis* Fischer, 1867** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Mathilda totomiensis* (Makiyama)** reported by Ida (1952) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Mauidrillia granulose* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 124, pl. 4, figs. 10, 11

Holotype: GKL no. 4961

Road side cutting 300 m N of Yamaji, Mino-mura, Koyu-gun (Saito City), Miyazaki Prefecture

Kawabaru Member of the Miyazaki Group

Miocene

***Mauidrillia ? kachabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 110, pl. 9, figs. 27, 30

Holotype USNM no. 562865

Loc. no. 17456, thin tuffaceous bed in low road cut east side of Highway 64 about 0.6 Mi (airline) W of the junction of Highways 137 and 64 at Hiyakuna, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Mauidrillia sphaerogemmata* Shuto and Ueda, 1963**

Japan. Jour. Geol. Geogr., vol. 34, no. 1, p. 13, pl. 1, figs. 3, 5
Holotype: GKL no. 6250, Paratype: GKL nos. 6251, 6597,
6600

Obo, Arita-machi, Nishimatsuura-gun, Saga Prefecture
Kishima Formation
Oligocene

***Mazzalina ? miikensis* (Nagao)** reported by Oyama et al.
(1960) from the Eocene Kachidani Formation, Fukuoka
Prefecture: see *Sycum (Bulbifusus ?) miikebse* Nagao, 1928

***Mediargo mathewsonii* (Gabb)** reported by Smith (1970)
from the Miocene Tanagura Formation, Fukushima
Prefecture (figs. 1, 2, 8, 9) and Miocene Ginzan Formation,
Yamagata Prefecture (figs. 4, 5, 6, 7) (*Apollon sazanami*
Hatai and Kotaka and *Apollon yabei* (Nomura and Hatai)
by Masuda and Noda (1976))

***Megalocypraea sakoi* Masuda and Katto, 1978**

In Katto and Masuda, 1978, Res. Rep., Kochi Univ., Vol. 27,
Nat. Sci., p. 105, pl. 4, figs. 6a-b, 7a-b

Holotype: IGPS no. 96076, Paratype: IGPS no. 96077

Loc. No. 9, sea coast of Uematsu, Kushimoto-cho,
Nishimura-gun, Wakayama Prefecture
Uematsu Formation
Early Miocene

***"Megasurcula" kurodai* (Otuka)** reported by Itoigawa and
Nishimoto (1974) from the Miocene Shukunohora Formation,
Gifu Prefecture (*Surculites (Megasurcula) kurodai* (Otuka)
by Masuda and Noda (1976): *Surculites kurodai* Otuka,
1934)

***Megasurcula remondii* (Gabb)** reported by Itoigawa et al.
(1982) from the Miocene Mizunami Group, Gifu Prefecture:
"? Metula" remondii Gabb, 1866

***Megasurcula yokoyamai* (Otuka)** reported by Kamada
(1962) from the Miocene Kokozura Formation, Fukushima
Prefecture; see *Surculites yokoyamai*, Otuka 1934
(*Surculites (Megasurcula) yokoyamai* Otuka by Masuda
and Noda (1976))

***Melanatria kahoensis* (Nagao)** reported by MacNeil (1964)
from the Eocene Miyara Formation, Okinawa Prefecture

***Melanella candida* (Marratt, 1880)** reported by Nomura
(1935) from the Pliocene Byoritu Beds, Taiwan (*Balcis*
candida (Marratt) by Masuda and Huang (1990))

***Melanella thaanumi* Pilsbry, 1917** reported by Nomura and
Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan
Formation), Kikai-jima, Kagoshima Prefecture

***Melanella tortuosa* (Adams and Reeve, 1850)** reported by
Nomura (1935) from the Pliocene Byoritu Beds, Taiwan
(*Balcis tortuosa* (Adama and Reeve) by Masuda and Huang
(1990))

***Melania glabelliuscula* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 61, pl. 5, fig. 9

Holotype: GSJ no. ? (noted as destroyed in Masuda and
Huang (1990))

Shiko, Koshun, Takao Province, Taiwan

Upper Byoritz Beds

Pliocene (Pleistocene)

(*Melanoides glabelliusculus* (Yokoyama) by Makiyama
(1960))

***Melania grossula* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 61, pl. 5, fig. 8

Holotype: GSJ no. ? (noted as destroyed in Masuda and
Huang (1990))

The upper course of the Nairin, Tainan Province, Taiwan

Lower Byoritz Beds

Pliocene (Pleistocene)

(*Melanoides grossula* (Yokoyama) by Makiyama (1960))

***Melania (?) miikensis* Naga, 1928**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 9, no. 3, p.
122 (26), pl. 18 (1), figs. 11-13, pl. 21 (4), fig. 13

Holotype: IGPS no. ? (pl. 18, figs. 13: designated by Oyama
et al. (1960: p. 42, pl. 4, figs. 5a-b))

Koyaki-jima, Koyaki-mura, Nishisonogi-gun, Nagasaki
Prefecture

Futagojima Formation

Eocene

(*Faunus ? miikensis* (Nagao) by Oyama et al. (1960))

***Melania saigo* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 60, pl. 5, fig. 10

Holotype: GSJ no. ? (noted as destroyed in Masuda and
Huang (1990))

Shiko Koshun, Takao Province, Taiwan

Upper Byoritz Beds

Pliocene

(*Melanoides saigo* (Yokoyama) by Makiyama (1960))

***Melania scabroides* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 58, pl. 5, fig. 1

Holotype: GSJ no. ? (noted as destroyed in Masuda and
Huang (1990))

Shiko, Koshun, Takao Province, Taiwan

Upper Byoritz Beds

Pliocene

(*Melanoides scabra* (Müller, 1774) by Makiyama (1960))

***Melania submadiunensis* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 59, pl. 5, figs. 2-5

Syntype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Between Rokjukei and Sekibyō, Hakasha-shō, Shinei-gun, Tainan Province, Taiwan; the upper course of the Nairin, Tainan Province, Taiwan

Lower Byoritz Beds

Pliocene

(*Melanoides obliquigranosus* (Smith, 1878) by Makiyama (1960))***Melanoides grossula* (Yokoyama, 1928)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritz Beds, Taiwan: see ***Melania grossula* Yokoyama*****Melanoides obliquegranosa* (Smith, 1878)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritz Beds, Taiwan***Melanoides otatumei* Suzuki, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 606, p. 101 (no figured)

Holotype: UH no. ?

Ashibetsu City, Hokkaido (precise locality unknown)

Hiragishi Formation

Lower Oligocene

Melanoides tuberculata* (Müller, 1774)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritz Beds, Taiwan (Truncatella ? tuberculata* (Müller)** by Masuda and Huang (1990))***Melongena angasiana* Yokoyama, 1932**

Rep. Imp. Geol. Survey Japan, no. 111, p.

Holotype: GSJ no. ?

Near the junction with the seventh tributary counted from the mouth, west coast of Karafuto, River Onnai, South Karafuto (Russia)

Nodules of a River bed (May be Tertiary strata)

(Paleogene ?)

(*Buccinum graciale morchianum* (Dunker, 1858) by Makiyama (1960): *Trominina angasiana* (Yokoyama) by Oyama et al. (1960))***Melongena angasiana* Yokoyama var. *yubariensis* Hayasaka and Matsui, 1951**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, Geol. and Mineral., vol. 7, no. 4, p. 337, pl. 1, figs. 6a-b

Holotype: UH no. ?

Momijiyama, Yubari River, Yubari City, Ishikari Province, Hokkaido

Momijiyama Formation

Oligocene

(*Trominina angasiana yubariensis* (Hayasaka and Matsui)

by Oyama et al. (1960))

***Melongena coniformis* Hayasaka and Hayasaka, 1960**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 272, pl. 31, figs. 20a-c

Holotype: IGPS no. 77599

Sand bed in the Tungyuping in the Penghu Island, Taiwan

Sandstone bed

Pleistocene

Melongena galeodes* (Lamarck)** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines: ***Pyrula galeodes* Lamarck**Melongena kochiensis* Katto, 1960**

Res. Rep., Kochi Univ., vol. 9, no. 9, p. 110, pl. 1, figs. 6, 7

Holotype: KU no. ?

Ueno, Misaki, Tosashimizu City, Kochi Prefecture

Misaki Formation

Oligocene

***Melongena miranda* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 342, pl. 41, fig. 15

Holotype: GT no. ?

Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34°47'01"N, 138°E)

Satsuka Formation

Pliocene

(*Cancellaria* cf. *nodulifera* Sowerby, 1855 by Makiyama (1958))***Melongena onnaica* Yokoyama, 1932**

Bull. Imp. Geol. Surv. Japan, no. 111, p. 11, pl. 4, fig. 1

Holotype: GSJ no. ? (noted as destroyed in Oyama et al. (1960))

Near the junction with the seventh tributary counted from the mouth, west coast of Karafuto, Near River Onnai, South Karafuto (Russia)

(Formation, unknown)

(Upper Oligocene by Oyama et al. (1960))

(*Trominina onnaica* (Yokoyama) by Oyama et al. (1960))***Melongena pugilina* (Born)** reported by Yokoyama (1924) from the Pliocene (Miocene) of Wakayama Prefecture***Melongena sazanami* Kanehara, 1937**

Jour. Geol. Soc. Japan, vol. 44, no. 527, p. 781, pl. 23, figs. 10-13

Holotype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Yoshikawa-mura, Maniwa-gun, Okayama Prefecture 'Road cutting NW of Oite, Mikawa-mura, Mariwa-gun, Okayama Prefecture; 34°59'04"N, 133°41'02"E

Uetsuki Formation

Miocene

(*Pugilina (Hemifusus) sazanami* (Kanehara) by Ozawa et al. (1986))

***Menestho (s. s.) acteoniformis* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 824, pl. 22, fig. 16

Holotype: IGPS no. 57391

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Menestho araii* (Otuka)** reported by Chinzei (1959) from the Pliocene Kubo Formation, Iwate Prefecture

***Menestho (Kleinella) awaziensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 144, pl. 9, fig. 40

Holotype and Paratype: IGPS no. 11081

Awazi-shima, Hyogo Prefecture

Recent

Recent

***Menestho (Oscilla) bosyuensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 69, pl. 15, figs. 124a-b

Syntype: SM no. 8267

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Menestho (Oscilla) circinata* (A. Adams)** reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

***Menestho (Oscilla) felix* (Dall and Bartsch)** reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

***Menestho (Oscilla) hudo* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 70, pl. 12, figs. 100a-b

Holotype: SM no. 8770

Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture

Pleistocene stratum

Pleistocene

***Menestho incisa* (Yokoyama)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Menestho iwatensis* Chinzei, 1959**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt. 1, p. 121, pl. 10, figs. 21, 22

Holotype: CM no. 8555

Loc. no. 1, a small cliff, 100 m W of Ochiai, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture

Kubo Formation

Pliocene

***Menestho (Oscilla) niitakayamana* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 824, pl. 22, fig. 22

Holotype: IGPS no. 57398

Tairyō, Hsinchu, Taiwan

Byoritu Formation

Pliocene

***Menestho nomurai* Chinzei, 1959**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt. 1, p. 121, pl. 10, figs. 9, 10

Holotype: CM no. 8556

Loc. no. 2, a river-side cliff, 150 m S of Ochiai, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture

Kubo Formation

Pliocene

***Menestho (Oscilla) ogasaensis* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 143, pl. 9, fig. 44

Holotype: GS no. 29354

Tonbe, Taruki-mura, Ogasa-gun, Shizuoka-ken (Entrance of the tunnel about 400 m NW of the crossing point of the two roads at Tonbe, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34°46'52"N, 139°58'20"E)

Nango Formation

Pliocene

***Menestho (Menestho) sadoensis* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 142, pl. 9, fig. 38

Holotype: GS no. 27921

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

***Menestho (Leucotina) sizuokaensis* Nomura, 1939**

Jub. Pub., Commem. Prof. H. Yabe, 60th Birthday, p. 145, pl. 9, fig. 20

Holotype: GS no. 18263

Dainichi, Ugari-mura, Suchi-gun, Shizuoka Prefecture (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

***Menestho (Leucotina) sizuokaensis dainiti* Nomura, 1939**

Jub. Pub., Commem. Prof. H. Yabe, 60th Birthday, p. 145, pl. 9, fig. 20

Holotype: IGPS no. 27416, Paratype: IGPS no. 29391

Dainichi, Ugari-mura, Suchi-gun, Shizuoka Prefecture (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation

Pliocene

***Menestho (Oscilla) takasago* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 825, pl. 22, fig. 9

Holotype: IGPS no. 57395

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene)

***Menestho (Menesthella) tarukiensis* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 144, pl. 9, fig. 39

Holotype: GS no. 29358

Tonbe, Taruki-mura, Ogasa-gun shizuoka Prefecture (Entrance of the tunnel about 400 m NW of the crossing point of the two roads at Tobne, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34 °46'52"N, 139 °58'20"E)

Nango Formation

Pliocene

***Menestho (Oscilla) tricordata* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 68, pl. 13, figs. 111a-b

Holotype: SM no. 10143

Wada, Hatuse-mura (Hatsuse), Miura-gun (Miura City), Kanagawa Prefecture

Pleistocene stratum

Pleistocene

***Menestho (Oscilla) yokohamensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 143, pl. 9, fig. 45

Holotype and Paratype: IGPS no. 46407

Aoki-tyo (-cho), Tokohama City, Kanagawa Prefecture

(Not described, formation unknown)

Pleistocene

***Merica asprella okinawana* Noda, 1980**

Sci. Rep. Insty. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 37, pl. 5, figs. 5a-b

Holotype: IGUT no. 10254

Loc. no. 66, road side cliff, about 150 m N of Kochinda, Kochinda-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Merica asperella varicose* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 172, pl. 11, figs. 4, 5, 15, 16, text-figs. 29, 31

Holotype: GK-L no. 6960 (figs. 4, 5), Paratype: GK-L no. 6983 (figs. 15, 16)

Loc. no. SKGS-74, Barrio Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Merisca margaritana* (Lamarck) reported by Amano et al.**

(2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Mesalia akitana* Kotaka, 1959**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 109, pl. 11, fig. 5

Holotype: IGPS no. 7845

Small valley, NW of Soto-warita-mura, Yamamoto-gun (Noshiro City), Akita Prefecture

Shibikawa Formation

Pliocene (Pleistocene)

***Mesalia ommaensis* Ogasawara, 1977**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.) vol. 47, no. 2, p. 132, pl. 18, figs. 13a-b, 18

Holotype: IGPS no. 95074, Paratype: IGPS no. 95075

Loc. No. KO-22: Cliff, distant from the road, 300 m W of Kaminaka-machi, Kanazawa City, Ishikawa Prefecture; 136 ° 42'25"N, 136 ° 40'57"E

Omma Formation

Pliocene (early Pliocene)

***Mesalia yessoensis* Kotaka, 1959**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 108, pl. 10, figs. 1-4, 7, pl. 11, fig. 10

Holotype: IGPS no. 77769-1 (figs. 1), Paratype: IGPS nos. 77769-2 – 5, 77775-1 (figs. 2-4, 7)

TK loc. 56, Piu Hokkaido

Piu and Onishibetsu Formations

Miocene

***Metaclathurella* Shuto, 1983 n. subgen.**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 15, Type-species, *Austropusilla (Metaclathurella) crokerensis*

Shuto, 1983 described from the recent sea of Arafra Sea, Australia

***Metula mitrella* (Adams and Reeve, 1850) reported by**

Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Micantapex matsumotoi* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 89, pl. 4, figs. 6, 9

Holotype: GKL no. 6047

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Micantapex oyamai* Makino and Ogose, 1959**

Venus, vol. 20, no. 4, p. 345, figs. 1-8

Holotype: Univ. Tokyo no. ? (figs. 7-8), Paratype: UT no. ?

A cliff W of Motoyashiki, Hatsuse-machi, Miura City, Kanagawa Prefecture; 35°11'05"N, 139°38'27"E: Paratype, a cliff bordering the stream SW of Atebi, Fukuta-machi, Kimitsu-gun, Tiba (Chiba) Prefecture; 35°21'27"N, 140°02'10"E

Miyata Formation and Zizodo Formation (Paratype)

Pleistocene

***Micantapex shinzatoensis* Noda, 1980**

Sci. Rep. Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 39, pl. 5, figs. 17a-b

Holotype: IGUT no. 10267

Loc. no. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Micantapex striato-tuberculata* (Yokoyama)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Pleurotoma subdelclivis* var. *striato-tuberculata* Yokoyama, 1928** (*Micantapex striatotuberculata* (Yokoyama) by Masuda and Noda (1976))

***Micantapex ? tomuiensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 105, pl. 9, fig. 16

Holotype: USNM no. 562855

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Microfusus acutispiratus* (Sowerby, 1913)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Microfusus asperus* (Kurda)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

***Microglyphis japonica* (Habe)** reported by Baba (1992) from the Plio-Pleistocene Nakatsu Group, Kanagawa Prefecture

***Microglyphis mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 81, pl. 4, figs. 9, 10

Holotype: ESN no. 30029 (fig. 9), Paratype: ESN no. ?

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

***Micropleurotoma ashियाensis* Shuto and Ueda 1963**

Japan. Jour. Geol. Geogr., vol. 34, no. 1, p. 2, pl. 1, figs. 1, 2

Holotype: GKL no. 6608

Small cliff along the coast, north of Taya, Ashiya-machi, Onga-gun, Fukuoka Prefecture

Yamaga Formation

Oligocene

***Mikadotrochus yosiwarai* (Ozaki)** reported by Shikama (1973) from the Miocene Zushi Formation, Kanagawa Prefecture

"*Minolia*" *ikebei* (Ozaki, 1958) reported by Iwasaki and Ono (1977) from the Paleogene Setogawa Group, Shizuoka Prefecture: see ***Calliostoma ikebei* Ozaki, 1958**

***Minolia matsuo* Ogasawara, 1976**

Sci. Rep., Tohoku Univ. 2nd Ser (Geol.) vol. 46, no. 2, p. 59, pl. 15, figs. 1a-c

Holotype: IGPS no. 95041

Loc. No. Tk-3: River floor of Sai-kawa at about 1300 m upstream from Omma Bridge, Omma, Kanazawa City, Ishikawa Prefecture

Saikawa Formation

Miocene

"*Minolia*" *mitsuganoensis* Shibata, 1970

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 69, pl. 2, figs. 13a-b

Holotype: ESN no. 30013, Paratype: ESN no. ?

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

"*Minolia*" *pseudoboscura* (Yokoyama) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Minolia sakya* (Yokoyama)** reported by Sakagami et al (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

"*Minolia*" *sasai* Otuka, 1934

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 622, pl. 49, figs. 82a,

82c, pl. 51, fig. 82b

Syntype: GT no. 1527

Stream-side of the Nisatai valley (About 200 m SE of the bridge at S of Nisatai, Nisatai-mura, Nihohe-gun (Ninohe City), Iwate Prefecture; 40°17'53"N, 141°19'24"E)

Shiratori Formation

Miocene

***Minolia takamiyaensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 68, pl. 2, fig. 11a-b

Holotype ESN no. 30012, Paratype: ESN no. ?

Loc. no. K35, Sakashita, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

***Minolia tasmanica* Tenison-Woods** reported by Yokoyama (1922) from the Pleistocene Kazausa Group, Chiba Prefecture

***Minolia tsuchii* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 590, pl. 1, figs. 1a-c

Holotype: GSJ no. 5008

Vicinity of Ashikubo, Miwa-mura, Abe-gun, Shizuoka Prefecture

Setogawa Group

Oligocene

***Minolia tukiysiensis* (Oyama and Saka)** reported by Itoigawa (1974) from the Miocene Togari Formation, Gifu Prefecture: see ***Homalopoma tukiysiensis* Oyama and Saka, 1944**

***Miocenehadra* Habe and Itoigawa, 1976** n. gen.

Bull. Mizunami Fossil Mus., no. 3, p. 1, Type species;

Miocenehadra mizunamiensis Habe and Itoigawa: see below

***Miocenehadra mizunamiensis* Habe and Itoigawa, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 2, pl. 1, figs. 1a-2c

Holotype: MFM no. 10050, Paratype: MFM no. 10051

The well of Mr. Fumio Hayase's house, near the eastern end of the tunnel from Tsukiyoshi to Shobasamahora, Tsukiyoshi, Akeyo-cho, Mizunami City, Gifu Prefecture

Tsukiyoshi Member

lower Middle Miocene

***Miocenehadra nakamurai* Habe and Itoigawa, 1978**

Bull. Mizunami Fossil Mus., no. 5, p. 111, pl. 4, figs. 1-3

Holotype: MFM no. 10079

Near Matsugase-bashi of the Toki River, Yamanouchi, Akeyo-cho, Mizunami City, Gifu Prefecture

Togari Member, Akeyo Formation, Mizunami Group

Early Miocene

***Miohaliotis* Itoigawa and Tomida, 1982** n. gen.

Bull. Mizunami Fossil Mus., no. 9, p. 2, Type-species, *Miohaliotis amabilis* Itoigawa and Tomida, 1982 described from the Miocene Akiyo Formation, Gifu Prefecture: see below

***Miohaliotis amabilis* Itoigawa and Tomida, 1982**

Bull. Mizunami Fossil Mus., no. 9, p. 4, pl. 1, figs. 1a-e, 2, 3

Holotype: MFM no. 10081, Paratype: MFM no. 10082

Oginoshima, Kamado-cho, Mizunami City, Gifu Prefecture

Shukunohora facies of the Akeyo Formation

Early Miocene

***Mitra* (*Cancilla*) *abyssicola* Scepman, 1911** reported by

Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Mitra* (*Cancilla* ?) *astenostomoides* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 140, pl. 7, figs. 22a-23b

Holotype: IGPS no. 53556 (figs. 22a-b), Paratype: IGPS no. 53557 (figs. 23a-b)

940 m NE of Keiyukwa, station 55 (Ando), Tusu-yo, Byoritu-gun, Sintiku-syu, Taiwan; Paratype, 510 m SE of

Zyo-tusyowan, station 15 (Aando), Tusu-yo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Mitra* (*Nebularia*) *chrysostoma* Broderip** reported by

MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

***Mitra* (*Tiara*) *circula kannegieteri* Icke and Martin, 1907**

reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Mitra cosibensis* Otuka** reported by Sakagami et al (1966)

from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

***Mitra ebenus* Lamarck** reported by Yokoyama (1920) from the

Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture (***Mitra cosibensis* Otuka** by Hatai and Nisiyama (1952))

***Mitra* (*Costellaria*) *emmae* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 49, pl. 4, fig. 4

Holotype: GT no. ? (CM no. 20107)

Shimo-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Pliocene (early Pleistocene)

(***Pusia emmae* (Yokoyama)** by Oyama (1973))

Mitra (Cancilla) filaris (Linne) reported by Nomura (1935) from the Pleistocene Raised Coral Reef Bed in Taiwan: and also reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Mitra flaccida Yokoyama, 1928

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 344, pl. 67, fig. 1

Holotype: GT no. ?

Northern cliff of the Komaru-gawa (A short distance W of the main road near Hagenoshita, Urae-mura, Koyu-gun, Miyazaki Prefecture; 32°08'27"N, 131°31'04"E)

(Kounji Formation)

Pliocene

(***Marginella (Stazzania) flaccida (Yokoyama)*** by Hatai and Nisiyama (1952))

Mitra (Cancilla) flammea Quoy and Gaimard reported by Nomura (1935) from the Pliocene Byoritu Beds, in Taiwan (***Mitra (Tiara) flammea Quoy and Gaimard*** by Masuda and Huang (1990)): and also reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Mitra fusiformis (Brocchi) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiha Formation Kanagawa Prefecture; ***Voluta fusiformis Brocchi (Mitra kurakiensis*** n. sp. by Hatai and Nisiyama (1952))

Mitra gembacana Martin reported by Yokoyama (1928) from the Pliocene Lower Byoritz Beds, Taiwan (***Pusia gembacana (Martin)*** by Makiyama (1960): ***Vexillum gembacana (Martin)*** by Masuda and Haung (1990))

Mitra (Cancilla) granatinaeformis Martin reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

Mitra (Nebularia) hanlayana (Dunker) reported by Shuto (1962) from the Miocene to Pliocene Takanabe Formation, Miyazaki Prefecture: ***Mitra hanlayana Dunker, 1877***

Mitra hondana Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 50, pl. 2, fig. 8

Holotype: UT no. ? (CM no. 20846)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimoso Group (Semata Formation)

Pleistocene

(***Microvoluta hondana (Yokoyama)*** by Oyama (1973))

Mitra (Strigatella) hokusimana Nomura and Zinbo, 1935

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 174, pl. 15, figs. 29a-b

Holotype: SM no. 6169

Southern end of the Park of Yanagwa-machi (River cliff of the Hirosegawa, at the SE end of the Yanagwa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

Mitra hokusimana Nomura and Zinbo reported by Masuda (1967) from the Miocene Higashi-Innai Formation, Ishikawa Prefecture (***Mitra (Vicimitra) hokusimana Nomura and Zinbo*** by Masuda and Noda (1976))

Mitra (Tiara) isabella Swainson reported by Yokoyama (1935) from the Pliocene (Pleistocene) Byoritz Formationm Taiwan (***Mitra (Scabricola) yokoyamai Nomura, 1935*** by Makiyama (1960)); and also reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture

Mitra ishidae Masuda, 1967

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 8, pl. 2, figs. 11-12b

Holotype: DGS no. 4609 transferred to IGPS no. 90793

Loc. No. 30, Road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (early Miocene)

Mitra kobayashii Yokoyama, 1927

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 173, pl. 47, fig. 5

Holotype: GT no. ?

Kami-Tsuye (Road-side cutting along the Asano-gawa, about 500 m SE of the contact point of the two small roads at Kami-Tagami, Asakawa-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36°31'30"N, 136°42'18"E)

Onna Formation

Pliocene (Pleistocene)

(***Cancellaria (Merica) kobayashii (Yokoyama)*** by Hatai and Nisiyama (1952))

Mitra kurakiensis Hatai and Nisiyama, 1952

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Sec. Vol., no. 3, p. 215

Holotype: CM no. 20101

Koshiha, Kanazawa-Shiba-machi, Yokohama City,

Kanagawa Prefecture

Koshiha Formation

Pliocene (Pleistocene)

(Checked by Masuda and Noda (1976) to be ***Vexillum (Waimatea) kurakiensis*** (Hatai and Nisiyama, 1952))

Mitra kurakiensis Hatai and Nisiyama, 1952

Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), Spec. Vol., no. 3, p.

215, Type, *Mitra fusiformis* Yokoyama, 1920 (Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 47, pl. 2, fig. 6) reported from the Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture (*Vexillum (Waimatea) kurakiensis* (Hatai and Nisiyama) by Masuda and Noda (1976))

***Mitra (Fusimitra) loochoensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 95, pl. 4, figs. 26, 27, 32, 33

Holotype: USNM no. 562730 (fig. 26)

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Mitra (Cancilla) menkrawitensis* Beets** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Mitra miyasakai* Masada and Sasaki, 1987**

Saito Ho-on Kai Mus. Nat. Hist., Res. Bull., no. 55, p. 7, pl. 1, figs. 10a-b

Holotype: SHM no. 22600

River floor of Natori-gawa, about 100 m upstream of Akaishi-bashi (bridge), Kita-Akaishi (Taihaku-ku), Sendai City, Miyagi Prefecture

Middle Miocene

***Mitra pacifera* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 48, pl. 2, fig. 16

Holotype: GT no. ? (CM no. 20103)

Koshiha (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiha Formation

Pliocene (Pleistocene)

(*Benthovoluta hilgendorfi* (v. Martens) by Oyama (1973))

***Mitra pauciplicata* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 344, pl. 67, fig. 2

Holotype: GT no. ?

Kounji (Road-side cutting at the northern foot of the hill, a short distance W of the bridge at Kounji, Takanabe-cho, Koyu-gun, Miyazaki Prefecture; 32°07'11"N, 131°30'10"E) (Kounji Formation)

Pliocene

(*Phenocoptygma pauciplicatum* (Yokoyama) by Hatai and Nisiyama (1952); *Benthovoluta pauciplicata* (Yokoyama) by Makiyama (1959))

***Mitra pirula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 51, pl. 2,

fig. 9

Holotype: UT no. ? (CM no. 20848)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(Synonymus with *Microvoluta hondana* (Yokoyama) by Oyama (1973))

***Mitra plicifera* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 48, pl. 2, fig. 16

Holotype: GT no. ?

Koshiha (Sea liff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiha Formation

Pliocene (Pleistocene)

***Mitra pristina* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 8, pl. 1, figs. 8-12

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Cancellaria pristina* (Yokoyama) by Hatai and Nisiyama (1952))

***Mitra (Cancilla) pruinosa* Reeve, 1844** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Mitra (Cancilla) chinensis* Gray by Masuda and Huang (1990))

***Mitra (Chrysame) rutila* A. Adams, 1851** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Mitra sphaerulata* Martin** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (*Mitra (Scabricora) papilio* (Link, 1807) by Makiyama (1960))

***Mitra takii* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 154, pl. 15, figs. 9, 10

Holotype: NSM no. 4471

Road-side cutting 500 m SW of Tokoyoda-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

***Mitra (Cancilla) yokoyamai* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 138, pl. 7, figs. 25a-b

Holotype: IGPS no. 53514

Wangwa, station 33, Koryu-syo, Tikunan-gun, Sintiku-syu,

Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

***Mitra yokoyamai* Otuka, 1949**, n. n.

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 303, Type species; *Mitra ebenus* Yokoyama, 1920 (Jour. Coll. Sci.

Tokyo Imp. Univ., vol. 39, art. 6, p. 47, pl. 2, fi. 4)

Holotype: UT no. Y-0007

Minato-machi, Chiba Prefecture

Kiyosumi Group

Miocene

(Homonym: *Mitra otukai* Ogasawara n. n.)

***Mitra (Cancilla) yonabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 94, pl. 4, fig. 29

Holotype: USNM no. 562735

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Mitraeturricula* Shuto, 1980** n. gen

Prof. Kanno S. Com. Mem. Vol., p. 37, Type-species, *Drillia continuocostata* Martin described from the Eocene Nangulan Formation, Indonesia; see below

***Mitraeturricula continuocostata* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia:

***Drillia continuocostata* Martin, 1914**

***Mitrella bicincta* (Gould)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Mitrella (Zemitrella) bicinctella* (Yokoyama)** reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazai Prefecture: ***Columbella bicincta* Gould, 1860**

***Mitrella (Mitrella) burchardi* (Dunker)** reported by Sawada (1962) from the Pliocene Nakanokawa Formation, Hokkaido

***Mitrella gonzabuensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 67, pl. 3, fig. 13

Holotype: USNM no. 562691

Loc. no. 17449, cut along side of trail to Kakazu from Highway 11, near top of hill at south edge of village, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Mitrella (Indomitrella) lischkei* (Smith)** reported by Shuto (1962) from the Miocene to Pliocene Takanabe Formation, Miyazaki Prefecture: ***Mitrella lischkei* Smith, 1879**

***Mitrella minoensis* (Itoigawa)** reported by Itoigawa (1974) from the Miocene Kujiri Formation, Gifu Prefecture

***Mitrella notoensis* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 7, pl. 2, figs. 3a-5b

Holotype: DGS no. 4603 transferred to IGPS no. 90809 (figs. 3a-b)

Loc. No. 30, Road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (early Miocene)

***Mitrella (Indomitrella) smithi* (Yokoyama)** reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see ***Columbella (Atilia) smithi* Yokoyama, 1922**

***Mitrella variansu* (Dunker)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture; and also reported by Nomura and Hatai (1936) from the Miocene Tanagura Formation, Fukushima Prefecture; ***Amycla variatus* Dunker (Pyrene varianus) (Dunker)** by Hatai and Nisiyama (1952))

***Mitropifex collinsoni* (A. Adams)** reported by Hayasaka and Oki (1971) from the Pleistocene Kogashira Formation, Kagoshima Prefecture

***Mohnia yanamii* (Yokoyama)** reported by Hatai, Masuda and Suzuki (1961) from the Pliocene Hamada Formation, Aomori Prefecture

***Mohnia yanamii tenuis* (Hatai and Nisiyama)** reported by Takayasu (1962) from the Pliocene Wakimoto Formation, Akita Prefecture

***Molopopholus rara* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 119, pl. 4, figs. 8-10

Holotype: TKD no. 10229

Loc. A30, a cliff behind Mr. Takagi's house, Oyamada, Hisanohama-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

(***Molopophorus rara* Hirayama** by Masuda and Noda (1976))

***Molopopholus watanabei* Otuka, 1937**

Japan. Jour. Geol. Geogr., vol. 14, nos. 2-3, p. 170, figs. 5-7

Holotype: UT no. ? (fig. 5), Syntype: UT no. ? (figs. 6, 7)

Osaruda, Ono-mura, Joban coal-field, Fukushima Prefecture

(Misspell of genus name: ***Molopophorus watanabei* Otuka**

by Hatai and Nisiyama (1952))

***Molopophorus kusiroensis* Takeda, 1953**

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 57, pl. 4, figs. 5, 9, pl. 5, figs. 4, 14

Holotype: UH no. 11125 (pl. 4, figs. 5, 9)

Loc. No. T45-K, Shiranuka River, Shiranuka-gun, Kushiro Province, Hokkaido; 144 °05'30"E, 42 °57'30"N

Poronai Formation

Oligocene (late Eocene)

***Molopophorus nipponicus* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 218, pl. 7, figs. 6-8b

Holotype: TKD no. 5865 (figs. 8a-b), Paratype: TKD no. 5866

Loc. No. 144, a small exposure at the river side of Hashizume, Minano-machi, Chichibu-gun, Saitama Prefecture

Ushikubitoge Formation

Oligocene (early Miocene)

***Molopophorus rara* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 119, pl. 5, figs. 8-10

Holotype: TKD no. 10229

Oyamada, Hisanohama-machi, Futaba-gun, Fukushima Prefecture

Asagai Formation

Oligocene

(*Molopophorus rarus* Hirayama by Oyama et al. (1960))

***Molopophorus shitakarensis* Matsui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 296, pl. 1, figs. 14a-15, pl. 2, figs. 1a-3b

Holotype: UH no. 13331 (pl. 1, figs. 14a-b), Paratype: UH no. nos. 13332-13334

A river cliff of the Shoro-gawa, near Shoro coal mine, Shitakara-machi, Kushiro Province, Hokkaido

Shitakara Formation

Oligocene (Eocene)

***Molopophorus watanabei* Otuka, 1937**

Japan. Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 170, pl. 16, fig. 5

Holotype: GSJ no. ?, Paratype: GSJ no. ? (noted as destroyed in Hatai and Nisiyama (1952))

Osaruda, Ono-mura, Iwaki-gun, Fukushima Prefecture (Precise locality unknown)

Iwaki Formation

Oligocene

***Momoebora elegans sinensis* (Reeve)** reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba

Prefecture

***Monilea cingulata* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 60, pl. 3, figs. 3, 4

Holotype: GK no. 30

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 137 °56'E)

Dainichi Formation

Pliocene

***Monilea haebaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 27, pl. 11, figs. 1, 2

Holotype: USNM no. 562889

Loc. no. 17442, fine gray sand exposed on east side of narrow ridge north of Highway 8 about 0.2 Mi E of the junction of Highways 8 and 16, Okinawa Prefecture

Chinen Formation

Pliocene

***Monilea kamadae* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 332, pl. 36, figs. 11a-14c

Holotype: DGS no. 4558 transferred to IGPS no. 90078 (figs. 11a-c)

Loc. No. 23, river cliff, about 1 km SES of Mukaiyama, Suzu City, Ishikawa Prefecture; 37 °28'05"N, 137 °06'39"E

Higashi-Innai Formation

Miocene (early Miocene)

***Monilea lentiginosa* A. Adams, 1851** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Monilea (Rossiteria) nuclea* (Philippi)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Monilea ojiensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 424, pl. 47, fig. 27

Holotype: UT no. ? (CM no. 23877)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Suchium costatum* (Kiener) by Oyama (1973))

***Monilea (Rossiteria) osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 81, pl. 3, figs. 15a-b

Holotype: JC no. 1400033

Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

Monilea pygmea (Yokoyama) reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture (*Lirularia pygmea* (Yokoyama) by Masuda and Noda (1976))

Monilea smithi (Dunker) reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture

***Monilea tungyupingensis* Hayasaka and Hayasaka, 1960**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 268, pl. 31, figs. 17a-c
Holotype: IGPS no. 77517
Sand bed in the Tungyuping in the Penghu Island, Taiwan
Sandstone bed
Pleistocene

***Monilea yoshioi* Masuda, 1966**
Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 331, pl. 36, figs. 8a-10b
Holotype: DGS no. 4556 transferred to IGPS no. 90083 (figs. 8a-c)
Loc. No. 39, small river cliff, about 700 m SWS of Kobunayama, Suzu City, Ishikawa Prefecture; 37°28'12"N, 137°10'45"E
Higashi-Innai Formation
Miocene (early Miocene)

***Monodonta labio* (Linnaeus, 1758)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Monodonta* (s. s.) *minuta* Itoigawa and Nishikawa, 1976**
Bull. Mizunami Fossil Mus., no. 3, p. 146, pl. 35, figs. 3a-b
Holotype: MFM no. 20006
Imobara, Kawakami-cho, Kawakami-gun, Okayama Prefecture
Lower member of the Bihoku Group
Miocene (late early Miocene)

***Morum cancellatum* (Sowerby, 1824)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Morum macandrewi* (Sowerby)** reported by Nomura (1940) from the Miocene Moniwa Formation, Miyagi Prefecture

***Morum subcancellatum* Nomura, 1935**
Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 170, pl. 8, figs. 23a-b
Holotype: IGPS no. 48972
Siko, Kosyun-syo, Kosyun-gun, Takao-syu, Taiwan
Byoritu Beds
Pliocene

***Morum uchiyamai* Kuroda and Habe** reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba

Prefecture

***Murex* (*Chicoreus*) *asianus* Kuroda** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (*Chicoreus asianus* (Kuroda) by Masuda and Noda (1976))

***Murex bonneti* Cossman** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Murex brevisiphonatus* Ozawa, 1998**
In Ozawa, Tanaka and Tomida, 1998; Nagaoya Univ., Furukawa Museum, Spec. Rep., no. 7, p. 42, pl. 8, figs. 11a-b
Holotype: ESN no. 2811, Paratype: ESN nos. 2812-2814
Road side exposure at Kami-iida, Mori-machi, Suchu-gun, Shizuoka Prefecture; 34°48'44"N, 137°55'42"E
Dainichi Formation
Pliocene

***Murex* (*Phyllonotus*) *bullocki* Yokoyama, 1923 (1924)**
Japan. Jour. Geol. Geogr., vol. 2, no. 3, p. 51, pl. 7, fig. 51 (pl. 6)

Holotype: GT no. ? Paratype: GT no. ? (designated by Hatai and Nisyama (1952))

Road-side cutting, a short distance S of the contact point of the road and the path at Takinai, Shinjo-mura, Nishimuro-gun, Wakayama Prefecture; 33°42'05"N, 135°25'28"E

Atonoura (Shirahama Formation)

Pliocene (Miocene; Blow's N8 Zone by Tanabe Dantai Kenkyu Group (1984))

(*Ocenebra bullocki* (Yokoyama) by Makiyama (1957))

***Murex longicanalis* Tokunaga, 1906**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 4, pl. 1, fig. 2.

Holotype: TU, no. ?

Cutting along the railway at Shinagawa (Minato-ku), environs of Tokyo (Tokyo Prefecture)

Shinagawa shell bed

Pleistocene

***Murex noboriensis* Aoki and Baba, 1984**
Ann. Rep., Inst. Geosci., Univ. Tsukuba, no. 10, p. 76, figs. 34a-35b

Holotype: IGUT no. ? (fig. 34)

Nobori, Hane-machi, Muroto City, Kochi Prefecture

Nobori Formation

Pliocene

***Murex penghuensis* Hayasaka and Hayasaka, 1960**
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 38, p. 272, pl. 31, figs. 19a-c

Holotype: IGPS no. 77527

Sand bed in the Tungyuping in the Penghu Island, Taiwan

Sandstone bed
Pleistocene

***Murex polygonalus* Lamarck** reported by Yokoyama (1931) from the Pliocene (Miocene) Tanagura Formation, Fukushima Prefecture (Synonymus with *Tritonalia inornata* (Recluz) by Hatai and Nisiyama (1952))

***Murex protocirrosus* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 85, pl. 6, figs. 11a-b

Holotype: IGPS, no. 55180

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture

(Ananai Formation)

Pliocene

***Murex (Chicoreus) ramosus* Linnaeus, 1758** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture, Okinawa Prefecture

***Murex (Murex) rarispina* Lamarck, 1822** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Murex saplisi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 63, pl. 8, figs. 14, 15, pl. 13, fig. 13 (?)

Holotype: USNM no. 562821 (pl. 8, fig. 14)

Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture

Shinzato Miocene or Pliocene (Pliocene)

***Murex (Chicoreus) sinensis* Reeve, 1845** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (*Chicoreus asianus* Kuroda by Masuda and Huang (1990))

***Murex sobrinus* A. Adams 1862** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture

***Murex spinicosta* Brown (Bronn)** reported by Yokoyama (1926) from the Pliocene Satsuka Formation, Shizuoka Prefecture (*Murex yokoyamai* n. sp. by Hatai and Nisiyama (1952))

***Murex ternispina* Lamarck** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (*Murex tribulus* Linnaeus, 1758 by Makiyama (1960): *Murex trapa* Röding by Masuda and Huang (1990))

***Murex tiganourana* Nomura, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 225, pl. 17, fig. 18

Holotype: SM no. 2528

Western side cliff of the Ajiri hill, about 500 m N of Ajiri and about 300 m E of the crossing point of the two roads in Nakanosshima, Shiogama City, Miyagi Prefecture; 38° 18'47"N, 141° 02'17"E)

Chiganoura Formation

Miocene

***Murex (Chicoreus) totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 126, pl. 6, figs. 20, 21

Holotype: GT no. 64

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34° 48'07"N, 133° 37'56"E)

Dainichi Formation

Pliocene

(*Chicoreus totomiensis* (Makiyama) by Ozawa et al. (1998))

***Murex (Murex) tribulus* Linnaeus, 1758** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Murex (Murex) yasunoi* Nakagawa, 1998**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B=Geol. Sci., vol. 19, p.163, figs. 34-5a-c

Holotype: FMNHGF no. 4197

Loc. No. KM028, roadside cliff leading the shrine of north hill (84 m high) of Ayukawamachi downtown, Ayukawa-machi, Fukui City, Fukui Prefecture; 36° 05'28"N, 136° 02'09"E

Kunimi Formation

Middle Miocene

***Murex (s. s.) verebeeki* Martin, 1895** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Murex (s. s.) verebeeki bentarsariensis* Oöstingh, 1940** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Musashia (Nipponomelon) angulosa* Shikama, 1967**

Sci. Rep., Yokohama Nat. Univ. Sec. 2, no. 13, p. 71, pl. 3, figs. 3-6, pl. 9, fig. 10

Holotype: Specimen no. 6

Off Choshi, Chiba Prefecture

Living specimen, 80-100 fathoms in depth

Recent

***Musashia (Neopsephaea) antiquior* (Takeda)** reported by Shikama (1967) from the Miocene Ochiai Formation, Kanagawa Prefecture: see *Psephaea (Neopsephaea) antiquior* Takeda, 1953 (*Fulgoraria (Musashia) qntiquior* (Takeda) by Masuda and Noda (1976))

Musashia (Musashia) cancellata (Kuroda and Habe) reported by Shikama (1967) from the Pliocene Takanabe Formation, Miyazaki Prefecture: *Fulgoraria cancellata* Kuroda and Habe, 1950

Musashia (Musashia) clara (Sowerby) reported by Shikama (1967) from the recent sea off Wakayama Prefecture, Japan: *Voluta prevostiana* var. *clara* Sowerby, 1838

Musashia (Nipponomelon ?) densicostata Shikama, 1967
Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 103, pl. 14, figs. 2, 3
Holotype: TUG-G-KM no. 1260 (coll. by Kanno)
River cliff of Kotanbetsu, Tomamae-gun, Rumoi Province, Hokkaido
Sankebetsu Formation; lower horizon
Miocene (Eocene ?)
(*Fulgoraria (Musashia) densicostata* (Shikama) by Masuda and Noda (1976))

Musashia (Nipponomelon) elongata (Shikama, 1962) reported by Shikama (1967) from the recent sea of Sagami Bay, Japan

Musashia (Nipponomelon) elegantula Shikama, 1967
Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 97, pl. 14, figs. 5, 6
Holotype: GIYU no. ?
Shiishiba, Choshi City, Chiba Prefecture
Iioka Formation
Pliocene
(*Fulgoraria (Musashia) elegantula* (Shikama) by Masuda and Noda (1976))

Musashia (Nipponomelon) elongata (Shikama) reported by Shikama (1967) from the Pliocene (Pleistocene) Koshihara Formation, Kanagawa Prefecture (*Fulgoraria (Musashia) elongata* Shikama by Masuda and Noda (1976))

Musashia (Nipponomelon) fujimotoi (Kanno) reported by Shikama (1967) from the Oligocene-Miocene Ushikubitoge Formation, Saitama Prefecture (see *Fulgoraria (Musashia) fujimotoi* Kanno, 1958 by Masuda and Noda (1976))

Musashia (Musashia) hirasei (Sowerby) reported by Shikama (1967) from the Miocene Kokozura Formation, Fukushima Prefecture: *Voluta hirasei* Sowerby, 1912 (*Fulgoraria (Musashia) hirasei* (Sowerby) by Masuda and Noda (1976))

Musashia (Musashia) hyugaensis (Shuto) reported by Shikama (1967) from the Miocene to Pliocene Kawabaru and Takanabe Members of the Miyazaki Group, Miyazaki Prefecture: see *Fulgoraria hyugaensis* Shuto, 1962

Musashia (Miopleiona) indurate (Conrad, 1849) reported by Shikama (1967) from the Miocene Astoria Formation, USA

Musashia (Nipponomelon) kamakurensis (Otuka) reported by Shikama (1967) from the Pliocene Sakahata Formation, Chiba Prefecture (*Fulgoraria (Musashia) kamakurensis* Otuka, 1949 by Masuda and Noda (1976))

Musashia (Musashia ?) kannoi Shikama, 1967
Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 112, pl. 14, figs. 7, 8
Holotype: TUEG no. 5670 (fig. 7)
Loc. no. 206, a mountainside cliff, about 300 m E of the waterfall at Nenokami, Hikokubo, Yoshida-machi, Chichibu-gun, Saitama Prefecture
Nenokami Formations
Early Miocene
(*Fulgoraria (Musashia) kannoi* (Shikama) by Masuda and Noda (1976))

Musashia (nipponomelon) miensis (Araki) reported by Shikama (1967) from the Miocene Kaisekizan Formation, Mie Prefecture (*Fulgoraria (Musashia) miensis* Araki, 1960 by Masuda and Noda (1976))

Musashia (Musashia) nagaoui (Hatai MS) reported by Shikama (1967) from the Oligocene (Eocene) Poronai Formation, Hokkaido (*Fulgoraria (Musashia) nagaoui* (Shikama) by Masuda and Noda (1976))

Musashia (Musashia) noguchii (Hayashi) reported by Shikama (1967) from the Pliocene Sakahata Formation, Chiba Prefecture (*Fulgoraria (Musashia) noguchii* Hayashi, 1960 by Masuda and Noda (1976))

Musashia (Miopleiona) oregonensis (Dall, 1909) reported by Shikama (1967) from the late Miocene to Early Pliocene Empire Formation, USA

Musashia (Nipponomelon) otukai Shikama, 1967
Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 97, pl. 12, figs. 9, 10
Holotype: UTCM-Kf no. ? collected by Otuka
(Precise locality unknown)
(Precise formation unknown)
(Pliocene ?)
(*Fulgoraria (Musashia) otukai* (Shikama) by Masuda and Noda (1976))

Musashia (Nipponomelon) prevostiana (Crosse) reported by Shikama (1967) from the Miocene Kaisekizan Formation, Mie Prefecture: *Voluta prevostiana* Crosse, 1878 (*Fulgoraria (Musashia) prevostiana* (Crosse) by Masuda

and Noda (1976))

Musashia (Nipponomelon) prevostiana magna (Kuroda and Habe) reported by Shikama (1967) from the Miocene Kurosawa Formation, Akita Prefecture (***Fulgoraria (Musashia) prevostiana magna Kuroda and Habe, 1950*** by Masuda and Noda (1976))

Musashia (Nipponomelon) prevostiana salebrosa Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Sec. 2, no. 13, p. 94, pl. 10, figs. 6, 7

Holotype: GIYU no. ?

Off Urakawa, Hokkaido

Living specimen

Recent

(Fossils were recognized from the Pleistocene Anden Formation at Anden, Koriai, Oga City, Akita Prefecture ***Fulgoraria (Musashia) prevostiana salebrosa (Shikama)*** by Masuda and Noda (1976))

Musashia (Miopleiona) scowensis (Durhum, 1944) reported by Shikama (1967) from the Oligocene Lincoln Formation, USA

Musashia (Musashia) smithi (Sowerby) reported by Shikama and Masujima (1969) from the Pliocene Asahina Formation, Kanagawa Prefecture: ***Voluta smithi Sowerby, 1901 (Fulgoraria (Musashia) smithi Sowerby)*** by Masuda and Noda (1976))

Musashia (Nipponomelon) striata (Yokoyama) reported by Shikama (1967) from the Miocene Kawai Formation, Saitama Prefecture: see ***Voluta megaspira var. striata Yokoyama, 1925 (Fulgoraria (Mushashia) striata Yokoyama)*** by Masuda and Noda (1976))

Musashia (Neopsephaea) tenuis Shikama, 1967

Sci. Rep., Yokohama Nat. Univ., Ser. 2, no. 13, p. 116, pl. 13, figs. 3, 4

Holotype: GK-L no. 6274

Akagohama, Hario Island, Nagasaki Prefecture

Zoshuku Sandstone of the Kishima Group

Oligocene

(***Fulgoraria (Musashia) tenuis (Shikama)*** by Masuda and Noda (1976))

Musashia (Nipponomelon) tokunagai (Kanehara) reported by Shikama (1967) from the Miocene Nukuta Formation, Nagano Prefecture: see ***Psephaea tokunagai Kanehara, 1937 (Fulgoraria (Musashia) tokunagai Kanehara)*** by Masuda and Noda (1976))

Musashia (Musashia) totomiensis (Makiyama) reported by

Shikama (1967) from the Pliocene Tamari Formation, Shizuoka Prefecture (***Fulgoraria (Musashia) totomiensis Makiyama, 1927*** by Masuda and Noda (1976))

Musashia (Miopleiona) weaveri (Tegland, 1933) reported by Shikama (1967) from the upper Oligocene Blakely Formation, USA

Musashia (Neopsephaea) yanagidaniensis (Araki) reported by Shikama (1967) from the Miocene Kaisekizan Formation, Mie Prefecture (***Fulgoraria (Musashia) yanagidaniensis Araki, 1959*** by Masuda and Noda (1976))

Myonchonia Hatai and Kotaka, 1952 n. gen.

Short Pap., IGPS no. 4, p. 76, Type-species, *Batillaria (Myonchonia) myonchonensis* Hatai and Kotaka, 1952

described from the early Miocene Heiroku Formation, North Korea

Myurella fenestrata (Hinds, 1844) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

Myurella (Punctoterebra) makiyamae (Tsuda) reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (***Terebra makiyamae (Tsuda)*** by Masuda and Noda (1976): ***Strioterebrum (Punctoterebra) makiyamai Tsuda, 1959***)

Myurella (Triplostephanus) naumanii (Yokoyama) reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (***Terebra naumanii (Yokoyama)*** by Masuda and Noda (1976): see ***Terebra naumanii Yokoyama, 1920***)

Myurella (Punctoterebra) orthocostulata (Nomura) reported by Shuto (1961) from the Pliocene Takanabe Member of the Miyazaki Group, Miyazaki Prefecture (***Terebra orthocostulata (Nomura)*** by Masuda and Noda (1976): see ***Terebra orthocostulata Nomura, 1935***)

Myurella torquata (Adams and Reeve) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Terebra torquata Adams and Reeve, 1850***

Nangulanica Shuto, 1980 n. subgen.

Prof. S. Kanno, Mem. Vol., p. 30, Type-species; *Surcula hillegondae* Martin described from the Eocene Nangulan Formation, Java, Indonesia

Nannoturritella Oyama, 1962 n. gen.

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 46, p. 272, Type-species; *Cerithium tokudai* Yokoyama (1930) described from the Miocene ? Naikawa Beds in Karafuto (Russia)

Narona (Solatia) nodulifera (Sowerby) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Nassa (Zeuxis) canaliculata (Lamarck) reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Beds, Taiawn (*Nassarius Sadorsatus* (Roding) by Makiyama (1960))

***Nassa (Niotha) congrua* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, P. 339, pl. 41, fig. 18

Holotype: GT no. ?

Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34 °47'01"N, 138 °E)

Satsuka Formation

Pliocene

(*Nassarius congruus* (Yokoyama) by Makiyama (1958))

***Nassa (Hima) demissa* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 10, pl. 2, figs. 8, 9

Holotype: UT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 °48'07"N, 133 °37'56"E)

Dainichi Formation

Pliocene

(*Nassarius (Caesia) demissus* (Yokoyama) by Hatai and Nisiyama (1952))

***Nassa (Hinia) denselineata* Nagao, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 12, no. 1, p. 111 (101), pl. 27, figs. 14, 14a

Holotype: GS no. 36093

Quarry on the southern slope of the hill, about 400 m NE of the contact point of the two roads at Asakawa, Shimago-mura, Onga-gun, Fukuoka Prefecture; 33 °53'51"N, 130 °42'25"E)

Yamaga Formation

Oligocene

(*Molopophorus denselineatus* (Nagao) by Oyama et al. (1960))

Nassa (Niotha) gemmulata (Lamarck) reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Bed, Taiwan: *Buccinum gemmulata* Lamarck (*Nassarius clathratus* (Lamarck, 1822) by Makiyama (1960))

***Nassa iwakiana* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt. 4, p. 200, pl. 12, figs. 7, 8

Holotype: GT no. ?

Hattomaki (Road cutting near Hattomaki, Tsunetoyo-mura,

Higashishirakawa-gun, Fukushima Prefecture; 36 °58'07"N, 140 °25'05"E)

Tanagura Formation

Pliocene (Miocene)

(Synonymus with *Nassarius nakamurai* Kuroda by Hatai and Nisiyama (1952): *Phos (Coraeophos) iwakianus* (Yokoyama) by Makiyama (1959): *Antillophos (Coraeophos) nakamurai* (Kuroda) by Oyama (1961))

Nassa sarta (Bruguiere) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Nassa (Hima) verbeeki Martin reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (*Nassarius caelatus* (Adams) by Makiyama (1960))

Nassaria (Nassaria) acuminata gendinganensis (Martin) reported by Shuto (1962) Miocene to Pliocene Tonogori and Takanabe Formations, Miyazaki Prefecture (*Nassarius acuminata gendinganensis* (Martin) by Masuda and Noda (1976))

***Nassaria campyloformis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 21, pl. 10, figs. 27a-b

Holotype: IGUT no. 10166

Loc. No. 130, small farm-road side cliff, about 150 m SW of

Loc. 129 (road side cliff, about 300 m NW of Hanagusuku), Gushikami-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Nassaria magnifica Lischke reported by Yokoyama (1926) from the Pliocene Hijikata Formation, Shizuoka Prefecture (*Nassarius magnifica* (Lischke) by Masuda and Noda (1976))

Nassaria magnifica yokoyamai Tsuchi (MS) reported by Tsuchi (1955) from Pliocene Hijikata Formation, Shizuoka Prefecture (*Nassarius yokoyamai* Shuto by Masuda and Noda (1976))

***Nassaria monospina* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 2, p. 148, pl. 7, figs. 37a-b

Holotype: IGPS no. 53459

400 m SE of Zyo-tusyowan, station 13 (Ando), Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Nassaria (Nassaria) sanzaiana* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 47, pl. 7, fig. 8, pl. 9, figs. 3, 9

Holotype: GKL no. 6146, Paratype: GK-L no. 6147, 6152
Brook side 350 m south of Kakoi village, 100 m E of the
high-way, Sanzai-mura, Koyu-gun (Saito City), Miyazaki
Prefecture

Kawabaru Formation

Miocene

(*Nassarius sanzaiana* (Shuto) by Masuda and Noda (1976))

Nassaria (*Nassaria*) *yokoyamai* Tsuchi, 1955 reported by
Shuto (1962) from the Miocene to Pliocene Takanabe
Formation, Miyazaki Prefecture (*Nassarius yokoyamai*
(Shuto) by Masuda and Noda (1976))

Nassarius (? *Niotha*) *action* MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 81, pl. 3, fig. 30

Holotype: USNM no. 562705

Loc. no. 17449, cut along side of trail to Kakazu from
Highway 11, near top of hill at south edge of village,
Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

Nassarius (*Tritonella*) *acutidentatus* (Smith) reported by
Ozaki et al (1954) from the Pleistocene Tokumaru Formation,
Tokyo Prefecture (*Nassarius* (*Reticunassa*) *acutidentatus*
(Smith) by Masuda and Noda (1976))

Nassarius (*Alectrion*) *balteatus* (Lischke) reported by Iwai
(1965) from the Pliocene (Pleistocene) Daishaka Formation,
Aomori Prefecture

Nassarius caelatus (A. Adams) reported by Itoigawa (1958)
from the Pliocene Nishiyama Formation, Niigata Prefecture:
Nassa caelatus A. Adams (*Nassarius* (*Zeuxis*) *caelatus* (A.
Adams) by Masuda and Noda (1976))

Nassarius (*Alectrion*) *caelatus* (A. Adams) reported by
Nomura and Zinbo (1936) from the Pliocene (Pleistocene)
Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture
(*Nassarius* (*Zeuxis*) *caelatus* (A. Adams, 1851))

Nassarius (*Niotha*) *caelatus* (A. Adams) reported by
MacNeil (1960) from the Pliocene Chinen Formation,
Okinawa Prefecture (*Nassarius* (*Zeuxis*) *caelatus* (A.
Adams) by Masuda and Noda (1976))

Nassarius (*Zeuxis*) *caelatus* (A. Adams) reported by Kaseno
and Matsuura (1965) from the Pliocene (Pleistocene) Omma
Formation, Ishikawa Prefecture

Nassarius (*Hinia*) *caelatus dainitiensis* Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p. 122, pl. 5, figs. 17, 18

Holotype: GK no. ?

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City,

Shizuoka Prefecture; 34°48'07"N, 133°37'56"E)

Dainichi Formation

Pliocene

Nassarius (*Zeuxis*) *caelatus dainitiensis* (Makiyama)
reported by Shuto (1962) from the Pliocene Takanabe
Formation, Miyazaki Prefecture

Nassarius caelatus verbeeki (Martin) reported by Kanno et
al. (1982) from the Upper Miocene Tartaro Formation,
Philippines: *Nassa* (*Himia*) *verbeeki* Martin, 1985

Nassarius (*Zeuxis*) *canaliculata* (Lamarck, 1822) reported
by Nomura and Zinbo (1936) from the Pliocene (Pleistocene)
Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture:
Nassa canaliculata Lamarck, 1799

Nassarius (*Niotha*) *clathratus* (Lamarck) reported by
Hayasaka (1961) from the Pleistocene Toshima Formation,
Aichi Prefecture

Nassarius (*Hinia*) *concinus* (Powis, 1835) reported by
Nomura and Zinbo (1936) from the Pliocene (Pleistocene)
Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

Nassarius (? *Niotha*) *concinus* (Powys) reported by
MacNeil (1960) from the Miocene to Pliocene Shinzato
Formation, Okinawa Prefecture: *Nassa concinna* Powyn,
1835

Nassarius (*Nassarius*) *coronatus philippinensis* Shuto,
1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p.
120, pl. 9, figs. 11, 16, text-figs. 26, 29

Holotype: GK-L no. 7409 (figs. 11, 16), Paratype: GK-L nos.
6540, 6541, 7508, 7509, 7510

Loc. no. SKGS-71, cliff along the left bank of the Tigum
River between Santa Barbara and Cabatuan, Panay Island,
the Philippines

Santa Barbara Silt of the Cabatuan Formation

Pliocene

Nassarius (*Zeuxis*) *crebricostata* (Schepman) reported by
Shuto (1962) from the Miocene Kawabaru Formation,
Miyazaki Prefecture: *Nassa crebricostata* Schepman, 1911

Nassarius (*Hinia*) *dealbata* (A. Adams) reported by Shuto
(1962) from the Miocene Kawabaru Formation, Miyazaki
Prefecture: *Nassa dealbata* A. Adams, 1851

Nassarius denselineata (Nagao) reported by Hrayama
(1956) from the Oligocene Hikoshima Formation,
Yamaguchi Prefecture : see *Nassa* (*Hinia* ?) *denselineata*
Nagao, 1928 (*Molopophorus denselineata* (Nagao) by

Masuda and Noda (1976))

***Nassarius (Chelenassa) elegantissima* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 142, pl. 13, figs. 1-10, 13, 14, 19-21, text-figs. 27, 28

Holotype: GK-L no. 6565 (figs. 2, 3), Paratype: GK-L nos. 6521-6538 (figs. 1, 4-10, 13, 14, 19-21)

Loc. no. SKGS-71, cliff along the left bank of the Tigum River between Santa Barbara and Cabatuan, Panay Island, the Philippines

Santa Barbara Siltstone of the Cabatuan Formation

Pliocene

(Reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture)

***Nassarius (Hinia) eximius* (H. and A. Adams, 1872)**

reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Nassarius (Hinia) festiva* (Powys)** reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazaki Prefecture:

***Nassa festiva* Powys, 1835**

***Nassarius (Niotha) fulleri* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 80, pl. 13, fig. 27, 28

Holotype: USNM no. 562949 (fig. 27)

Loc. no. 17495, blue gray silty clay underlying oyster-bearing gravels in road cut on west side of Highway 5, 200 yards S of a creek and about 0.5 Mi S of Yamashiro, Okinawa Prefecture

Chinen Formation

Pliocene

Nassarius (Niotha) gemmulatus* (Lamarck, 1882)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture, Okinawa Prefecture (Nassarius gemmulatus* (Lamarck, 1822)**)

***Nassarius (Hinia) hemipolitus* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 17, pl. 15, figs. 19, 20

Syntype: SM no. 6184

Southern end of the Park of Yanagawa-machi (River cliff of the Hirose-gawa at the SE end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

***Nassarius (Zeuxis) hirasei* Kuroda and Habe, 1961**

reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Nassarius hongoensis* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, p. 142, pl. 6, fig. 19

Holotype: JC no. 1300072, Paratype: JC no. 300073 (Kamigiri 111)

Kamigiri, Iwamura-cho, Ena-gun, Gifu Prefecture

Higashihora sandstone, Mizunami Group

Miocene

(***Tritia hongoensis* (Itoigawa)** by Oyama (1961))

***Nassarius (Hima) incongruous* (Yokoyama MS)** reported

by Otuka (1937) from the Miocene Togane Formation, Saitama Prefecture; ***Nassa incongruous* Yokoyama (*Hinia***

***(Tritonella) incongrua* (Otuka)** by Hatai and Nisiyama (1952))

***Nassarius iwakianus* (Yokoyama)** reported by Nomura

(1935) from the Miocene Nurusawa Formation, Iwate Prefecture; see ***Nassa iwakiana* Yokoyama, 1931**

(Synonymus with ***Nassarius nakamurai* Kuroda** by Hatai and Nisiyama (1952))

***Nassarius (Hima) japonicus* (A. Adams)** reported by

Kanehara (1930) from the Pliocene Ota Formation, Niigata Prefecture (Re-identified ***Hinia (Tritonella) japonica* (A.**

Adams) by Hatai and Nisiyama (1952))

***Nassarius (Reticunassa) kannoi* Amano, 1983**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 4, p. 35, pl. 8, figs. 8-9

Holotype: IGUT no. 15177 (fig. 9), Paratype: IGUT no. 15178-1 (fig. 8)

Loc. no. T21, about 50 m up of loc. T20 (stream floor at about 700 m upstream of the Jugosen-hidari-sawa, Rumoi City, Hokkaido

Togeshita Formation

Late Miocene

***Nassarius (Zeuxis) kiiensis* Kira** reported by Hayasaka and

Oki (1971) from the Pleistocene Kosashira Formation, Kagoshima Prefecture

***Nassarius kikaizimanum* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 16, no. 2, p. 160 (52), pl. 5 (1), fig. 27

Holotype: 50676

Kikai-jima, Kagoshima Prefecture

Rhykyu Limestone (Wan Formation)

Pleistocene

(***Phos kikaizimanum* (Nomura and Zinbo)** by Oyama (1961))

***Nassarius kometsubus* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, part 3, p. 631, pl. 51, figs.

110a-b, 109

Syntype: UT nos. 1588 (Siratori), 1577 (Nisatai)
 Loc. no. 7, Shiratori (Ninohe City, Iwate Prefecture): Loc. no. 3, Nisatai (Ninohe City, Iwate Prefecture)
 Lower Kadonosawa Series (Kadonosawa Formation)
 Miocene (late early Miocene)
 (*Nassarius (Zeuxis) kometsubus* Otuka by Masuda and Noda 1976))

***Nassarius (Hinia) kurodai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 121, pl. 6, figs. 3, 4
 Holotype: GK no. 57
 Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 133°37'56"E)
 Dainichi Formation
 Pliocene

Nassarius (Niotha) livescens (Philippi) reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Nassarius (Zeuxis) macrocephalus greyanus* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 134, pl. 14, figs. 1-5, text-figs. 27, 28
 Holotype: GK-L no. 7405 (figs. 1, 3, 4), Paratype: GK-L no. 7406 (figs. 2, 5)
 Loc. no. SKGS-73, 2500 m N of Lambunao along the main road to Calinog via Ulian River-bridge, Panay Island, the Philippines
 Ulian Formation
 Late Miocene

***Nassarius (? Niotha) metuliformis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 80, pl. 3, fig. 29
 Holotype: USNM no. 562704
 Loc. no. 17632, road cut about 0.1 Mi below road fork at top of hill on road from Okuma to Arakaki, Okinawa Prefecture
 Yonabaru Formation
 Miocene (Pliocene)

Nassarius micans (A. Adams, 1851) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Nassarius (Zeuxis) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 289, pl. 6, figs. 1a-c
 Holotype: ESN no. 20079, Paratype: ESN no. 20080
 Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture
 Shukunohora Sandstone of the Oidawara Formation
 Miocene

***Nassarius (Zeuxis) miyazakiensis* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 54, pl. 8, fig. 10
 Holotype: GKL no. 6161, Paratype: GK-L no. 6162
 Cutting along the high way at the foot of the hill, Nihonmatsu, Takanabe-cho, Koyu-gun, Miyazaki Prefecture
 Takanabe Membr of the Miyazaki Group
 Pliocene

***Nassarius moriyensis* Tanaka, 1961**

Bull. Fac. Educ., Shinshu Univ., no. 12, p. 86, pl. 2, figs. 1-3
 Holotype: MSSU no. 679 (fig. 1), Paratype: SU nos. 680, 681
 Loc. No.A3, small cliff at SE foot of Karasu-yama, Katakura, Fujisawa-mura, Kamiina-gun, Nagano Prefecture; 35°56'14"N, 138°06'12"E
 Moriya Formation
 Miocene
 (*Nassarius (Zeuxis) moriyensis* Tanaka by Masuda and Noda (1976))

***Nassarius nakamurai* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 83, pl. 12, figs. 97, 98
 Holotype: GK no. ?
 300 m W of Kashiwazawa, Kamikawate-mura, Higashichikuma-gun, Nagano Prefecture; 36°19'N, 137°57'E
 Lower Aoki Formation
 Miocene
 (*Antillophos (Coraeophos) nakamurai* (Kuroda) by Oyama (1961))

***Nassarius notoensis* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 164, pl. 26, figs. 13-14b
 Holotype: DGS no. 1538 transferred to IGPS no. 90407 (figs. 13a-b), Paratype: DGS no. 1538 (figs. 14a-b)
 Tokunari, Machino-machi, Fygeshi-gun, Ishikawa Prefecture
 Hiahashi-Innai Formation
 Miocene (early Miocene)

***Nassarius (Hinia) perdominulus* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 179, pl. 15, figs. 33a-b
 Syntype: SM no. 6186
 Southern end of the Park og Yanagwa-machi (River cliff of the Hirosegawa at the SE end of the Yanagawa Park, a tributary of the Abukumagawa, Yanagawa-mchi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)
 Yanagawa Formation
 Miocene

Nassarius (Zeuxis) picta (Dunker, 1846) reported by MacNeil (1969) from the Pliocene Naha Formation, Okinawa Prefecture

Nassarius (Alectrion) pictus (Dunker) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Nassarius reeveanus* (Dunker) by Masuda and Haubng (1990))

***Nassarius (Hinia) prefestivus* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 81, pl. 13, fig. 31

Holotype: USNM no. 562953

Loc. no. 17495, blue gray silty clay underlying oyster-bearing gravels in road cut on west side of Highway 5, 200 yards S of a creek and about 0.5 Mi S of Yamashiro, Okinawa Prefecture
Chinen Formation
Pliocene

***Nassarius (Caesia) pseudodemissus* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 179, pl. 15, figs. 33a-b

Holotype: SM no. 6183

Southern end of the Park og Yanagwa-machi (River cliff of the Hirosegawa at the SE end of the Yanagawa Park, a tributary of the Abukumagawa, Yanagawa-mchi, Date-gun, Fukushima Prefecture; 37 °51'05"N, 140 °36'05"E)
Yanagawa Formation
Miocene

***Nassarius (Zeuxis) ryukyuensis* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 45, pl. 8, figs. 11a-b

Holotype: IGUT no. 10792

Loc. No. 83-09, cliff about 500 m S of Yakena, Yonashiro-cho, Nakagai-gun (Katsuren Peninsula) Okinawa Prefecture
Shinzato Formation
Pliocene

***Nassarius (Hinia) simizui* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 630, pl. 50, figs. 85-87

Syntype: GT no. 1576

SE valley of Shiratori (About 400 m SE of the temple at Shiratori, Nisatai-mura, Nihone-gun (Ninohe City), Iwate Prefecture; 40 °14'05"N, 141 °20'23"E)
Shiratori Formation (Kadonosawa Formation)
Miocene

Nassarius (Zeuxis) siquijorensis (A. Adams) reported by Matsui (1985) from the Plio-Pleistocene Sasaoka Formation, Akita Prefecture

***Nassarius (Zeuxis) subbalteatus* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 82, pl. 8, fig. 22

Holotype: USNM no. 562830

Loc. no. 17456, thin tuffaceous bed in low road cut east side of Highway 64 about 0.6 Mi (airline) W of the junction of Highways 137 and 64 at Hiyakuna, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Nassarius (Alectrion) tunetoyoensis* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 138, pl. 19, figs. 12a-b

Holotype: SM no. 2703

Nishigoto (Road cliff about 2 km NW of Nishigoto on road leading to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36 °59'03"N, 140 °22'E)
Tanagura Formation
Miocene

Nassarius (Zeuxis) verbeeki (Martin) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Nassa (Hinia) verbeeki* Martin, 1895

Natica adamsiana Dunker reported by Yokoyama (1928) from the Pliocene (Miocene) (Takajo) formation, Miyazaki Prefecture (*Natica (Natica) adamsiana* Dunker by Hatai and Nisiyama (1952))

Natica (Natica) alapapilionis (Bolten, 1788) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Natica (Tectonatica ?) andoi* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 201, pl. 9, figs. 35a-36c

Holotype: IGPS no. 52295

Wangwa, station 24, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan
Byoritu Beds
Pliocene (Pleistocene)

(*Naticarius andoi* (Nomura) by Masuda and Huang (1990))

Natica (Euspira) ashियाensis (Nagao) reported by Kuroda (1939) from the Oligocene Meinohama Formation, Fukuoka Prefecture (*Euspira ashियाensis* (Nagao) by Hatai and Nisiyama (1952))

Natica (Cryptonatica) clausa tugaruana Nomura and Hatai reported by Otuka (1939) from the Pliocene (Pleistocene) Tanabu Formation, Aomori Prefecture

***Natica (Tectgonatica) ezoana* Kanno and Matsuno, 1960**

Jour. Geol. Soc. Japan, vol. 66, no. 772, p. 43, pl. 4, figs. 12, 13

Holotype: TKD no. 5511 (fig. 12), Paratype: TKD no. 5512 (fig. 13)

Type locality unknown; Loc. Nos. 082301, 080104, the side of the Chikubetsu River; loc. 645, the side of the Kotanbetsu River, Hokkaido (Sankemetsu Formation); Loc. No. 21, the side of the Haboro River, loc. 1081, the side of the Shosanbetsu River, loc. 651, the upper stream of the Sankebetsu River, a tributary of the Haboro River (Chikubetsu Formation)

Sankebetsu or Chikubetsu Formations

Miocene

(*Cryptonatica ezoana* (Kanno and Matsuno) by Masuda and Noda (1976))

Natica (Tectonatica) janthostoma* Deshayes** reported by Nomura (1935) from the Pliocene (Miocene) Hitosao Formation, Fukushima Prefecture (Tectonatica janthostomoides* Kuroda and Habe** by Hatai and Nisiyama (1952))

Natica janthostomoides* Kuroda and Habe** reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture (Cryptonatica janthostomoides* (Kuroda and Habe)** by Masuda and Noda (1976))

***Natica kirtaniana* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt. 4, p. 201, pl. 12, fig. 2

Holotype: GT no. ?

Nishigoto (Road cliff about 2 km NW of Nishigoto on road leading to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36°59'03"N, 140°22'E)

Tanagura Formation

Pliocene (Miocene)

(***Polinices kirtaniana* (Yokoyama)** by Hatai and Nisiyama (1952); ***Neverita kirtaniana* (Yokoyama)** by Makiyama (1959))

***Natica mammlata* Shuto, 1982**

Geol. Paleont. Southeast Asia, vol.23, p. 123, pl. 19, figs. 1-3

Holotype: GK-L no. 7651, Paratype: GK-L no. 7652

Loc. no. SAM54, Talve-Toboso area of Negros Island, Philippines

Macasilao Formation

Middle Miocene

***Natica (Euspira) meisensis* (Makiyama)** reported by Otuka (1938) from the Miocene (Shobara) Formation, Hyogo Prefecture

***Natica (Naticarius) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 284, pl. 4, figs. 11a-b

Holotype: ESN no. 20061

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukunohora sandstone of the Oidawara Formation

Miocene

(***Naticarius minoensis* (Itoigawa)** by Masuda and Noda (1976))

Natica (Natica) rufa* (Born, 1778)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Natica vitellus* (Linnaeus)** by Masuda and Huang (1990))

Natica (Tectonatica) russa* Gould** reported by Chinzei (1959) from the Pliocene Kubo Formation, Iwate Prefecture (Cryptonatica russa* (Gould)** by Masuda and Noda (1976))

***Natica (Tectonatica) severa* Gould** reported by Iwai (1959) from the Pliocene Higashimeya Formation, Aomori Prefecture (Reidentified with ***Cryptonatica janthostomoides* (Kuroda and Habe)** by Masuda and Noda (1976))

***Natica (Natica) solida* Blainville, 1827** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Natica stellatus* Hedley** reported by MacNeil, 1960 from the Miocene or Pliocene Shinzato Formation, Okinawa Prefecture (Natica stellatus* (Hedley)** by Masuda and Noda (1976))

***Natica (Tectonatica) tugaruana* Nomura and Hatai, 1935**

Saito Ho-on Kai, Mus., Res. Bull., no. 6, p. 128, pl. 9, fig. 9

Holotype: SM no. 6151

Turugasaka (Near the foot of the northern slope bordering a creek, about 200 m SE of the bench-mark (35.57 m) on the Ushu highway, and about 2.1 km SE of the shrine at Tsurugasaka, Shinjo-mura, Higashisugaru-gun, Aomori Prefecture; 40°46'32"N, 140°37'21"E)

Daishaka Formation

Pliocene (Pleistocene)

***Natica vitellus* (Linné, 1758)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan; and also reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture: ***Nerita vitellus* Linnaeus, 1758**

***Natica vitellus spadicea* (Gmelin)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

Natica (Natica) zebra* Lamarck, 1822** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Natica***

alapaillonis (Röding) by Masuda and Huang (1990))

Naticarius andoi (Nomura) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Naticarinus okinawaensis Noda, 1980

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 16, pl. 7, figs. 19a-20

Holotype: IGUT no. 10499, Paratype: IGUT nos. 10500-1, -2, -3

Loc. No. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture or loc. No. 414-4, southern cliff of Shure Golf Links, about 1 km NW of Kuteken, Chinen-mura, Shimajiri-gun, Okinawa Prefecture Shinzato Formation

Pliocene

(*Naticarius okinawaensis* Noda: Synonymus with *Uberella plicispira* (Kuroda, 1961) by Oyama et al. (1993))

Naticarius andoi (Nomura) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Naticarius concinus (Dunker) reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture:

Natica coninna Dunker, 1859

Naticarius macrochiensis (Gmelin) reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

Naticarius niasensis Wissema reported by MacNeil (1960) from the Miocene or Pliocene Shinzato Formation, Okinawa Prefecture

Nebularia inquinata (Reeve) reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

Nebularia sigilata (Azuma) reported by Aoki and Baba (1984) from the Pleistocene Semata Formation, Chiba Prefecture: *Mtra sigilata* Azuma, 1965

Nebularia yatsuoensis (Tsuda) reported by Nakagawa (1998) from the Miocene Kunimi Formation, Fukui Prefecture: see *Ellobium yatsuoensis* Tsuda, 1959

Neia schencki Hatai and Nisiyama, 1949 (n. gen and n. sp.)

Jour. Paleont., vol. 23, no. 1, p. 92, pl. 24, figs. 12, 13

Holotype: GS no. 62517

West cliff about 50 m S of the bridge at Kakehata, Unohana-mura (Yatsuo-machi), Nei-gun, Toyama Prefecture; 36°32'50"N, 137°09'35"E

Susahara (Kurosedani Formation)

Miocene (early Miocene)

Nematoma tomiyaensis iiokaensis Ozaki, 1958

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 163, pl. 15, fig. 5

Holotype: NSM no. 4450

Road-side cutting, 500 m SW of Tokoyoda-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

Neoguraleus kutekinensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 115, pl. 14, fig. 27

Holotype: USNM no. 562978

Loc. no. 17482b, section in both abandoned road cut and new road cut at Chinen-misaki, Okinawa Prefecture

Chinen Formation

Pliocene

Neoguraleus loochooensis MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 115, pl. 9, fig. 23

Holotype: USNM no. 562861

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Neohaustator Ida, 1952 n. subgen.

Rep. Geol. Surv. Japan, no. 150, p. 47, Type-species; *Turritella nipponica* Yokoyama reported from the Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture

Neophinoe unicarinatus (Broderip and Sowerby) reported by Itoigawa (1982) from the Miocene Mizunami Group, Gifu Prefecture: *Trichotropis unicarinata* Broderip and Sowerby, 1829

Neopleurofusua Shuto, 1984 n. subgen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, vol. 25, no. 2, p. 122, Type-species; *Plurofusua* (*Neopleurofusua*) *scala* Vredenburg, 1921 described from the Miocene ? at Tittabwe, Burma

Neopsephaea Takeda, 1950 n. subgen.

Cenozoic Res., no. 4, p. 12 (60), (Invalid because of no indication of type-species by Masuda and Noda (1976))

Neopsephaea antiquior Takeda, 1950

Cenozoic Res., no. 4, p. 12, pl. 4, figs. 20, 21

Syntype: UH no. 343, 2750, 3767, 6591-6598

Ikushunbetsu, Yayoigai; branch of the Kutsucharashibetsu River, branch of Charo River, Kushiro; east of Magaribuchi Station, Yoya, Kitami; all in Hokkaido: Minami-Karafuto (South Sakhalin: precise locality unknown)

Poronai and Charo Formations, and Nishisakutan and Aragai

Formation in Sakhalin

Oligocene

(*Fulgoraria (Musashia) antiquior (Takeda)* by Oyama et al. (1960))

Neophsephaea magna Takeda, 1950

Cenozoic Res., no. 4, p. 14 (61), pl. 4, figs. 18a-19

Syntype: UH nos. 249, 253, 368, 7471, 8173, 5860

Futamata-gawa River, Hidaka-Mitsuishi; Tokowaka, Niikappu, Hidaka-Mitsuishi; Toyotomi Mine, Kitami-Soya, Upstream of Chikubetsu River, Teshio-Rumoi; all in Hokkaido

Noya, Souya Coal Seam and Chikubetsu Formations

Miocene

(*Fulgoraria (Musashia) takedai Masuda and Noda, 1976* n. n.)

Neptunea araii Kanno, 1958

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 217, pl. 6, figs. 22a-b

Holotype: TKD no. 6178, Paratype: TKD no. 6179

Loc. No. 615, a left river side cliff, about 100 m downstream of the Arakawa bridge, Arakawa-mura, Saitama Prefecture

Nagura Formation

Miocene

Neptunea arthritica (Bernardi) reported by Iwai (1965) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture (*Neptunea (Barbitonia) arthritica (Bernardi)* by Masuda and Noda (1976))

Neptunea arthritica asamusi Nomura and Hatai reported by Noda et al. (1984) from the Pliocene Yuchi Formation, Hokkaido

Neptunea arthritica hirosakiensis Iwai, 1959

Bull. Educ. Fac., Hirosaki Univ., no. 5, p. 50, pl. 1, figs. 17a-b

Holotype: HU no. ?

Cliff of the Iwaki River near the bridge at Yonegafukuro, Hirosaki City, Aomori Prefecture

Higashimeya Formation

Pliocene (Pleistocene)

(*Neptunea (Barbitonia) arthritica hirosakiensis Iwai* by Masuda and Noda (1976))

Neptunea (Neptunea) bulbacea (Bernardi) reported by Amano (1997) from the Pleistocene Setana Formation, Hokkaido

Neptunea (Tritonopsis) chikumana Kuroda, 1931

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 85, text-fig. 8

Holotype: GK no. ?

200 m W of Kashiwa-zawa, Kamikawate-mura, Higashichikura-gun, Nagano Prefecture; 36 °19'N, 137 °57'E

Lower Aoki Formation

Miocene

(*Trophonopsis (Trophonopsis) chikumana (Kuroda)* by Hatai and Nisiyama (1952))

Neptunea (Neptunea) constricta (Dall) reported by Amano (1997) from the Pleistocene Hamada Formation, Aomori Prefecture

Neptunea disper Takeda, 1953

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 55, pl. 1, figs. 2, 4, 9-11, 8, 12

Holotype: UH no. 11107 (figs. 2, 4, 9-11: designated by Oyama et al. (1960)), Paratype: UH no. 11108

Aragai River, Maoka-gun, South Sakhalin (exact locality unknown); Paratype, T37-K, Hokkaido

Poronai Formation, Maoka Group

Oligocene (late Eocene)

Neptunea elegantissima Kuroda, 1931

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 84, pl. 13, figs. 115, 116

Holotype: GK no. ?

Small valley at foot of Daimyojin-dake, 800 m SW of the summit, Nishiuchi-mura, Chiisahata-gun, Nagano Prefecture; 36 °19'N, 138 °07'E

Upper Uchimura

Miocene

(*Trophonopsis (Boreotrophon) elegantissima (Kuroda)* by Hatai and Nisiyama (1952))

Neptunea eos (Kuroda) reported by Nomura and Zinbo (1937) from the Pliocene Hanezawa Formation, Yamagata Prefecture; see *Chrysodomus eos Kuroda*

Neptunea ezoana Takeda, 1953

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 52, pl. 2, figs. 1, 3, 6

Holotype: UH no. 10883 (fig. 6), Paratype: UH nos. 10882, 10881, 10887-9, 10891

Loc. No. T76-K, Tikupenninai creek, Kusiro Province, Hokkaido; 143 °54'E, 43 °15'N, Paratype: T76-I; Paratype, T19-K, near Horokasyoro creek (Yunosawa), upper tributary of Syoro River, Kusiro Province, Hokkaido

Poronai Formation

Oligocene (late Eocene)

(*Trominina ? ezoana (Takeda)* by Oyama et al. (1960))

Neptunea (Neptunea) fukueae Kira, 1959 reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture

***Neptunea (Sulcosipho) hataii* Noda, 1962**

Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), vol. 34, no. 3, p. 230, pl. 16, fig. 16

Holotype: IGPS no. 79055

Loc. no. 883, bed of tributary of the Higashi River, about 100 m S of Nakano, Matsunoyama-machi, Higashikubiku-gun, Niigata Prefecture

Higashigawa Formation
Pliocene

***Neptunea hobetsuensis* Matsui, 1950**

Cenozoic Res., no. 2, p. 6, pl. 6, fig. 9

Holotype: UH no. ?

Hobetsu River, Hobetsu-mura (-cho), Yufutsu-gun, Iburi Province, Hokkaido

Momijiyama Formation

Oligocene

(*Beringius hobetsuensis* (Matsui) by Oyama et al. (1960))

***Neptunea hukushimensis* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 137, pl. 17, figs. 18-20

Holotype: SM no. 2683

Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashishirakawa-gun Fukushima Prefecture; 37°01'N, 140°26'03"E)

Tanagura Formation
Miocene

***Neptunea hukushimensis anomakia* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 137, pl. 17, fig. 21

Holotype: SM no. 2683

Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashishirakawa-gun Fukushima Prefecture; 37°01'N, 140°26'03"E)

Tanagura Formation
Miocene

***Neptunea hukushimensis matumori* Nomura and Hatai, 1937**

Saito Ho-on Kai Mus., Res. Bull., no. 13, p. 139, pl. 20, figs. 6, 7

Holotype: SM no. 2638

Southern cliff of a large pond (immediately E of the contact point of the two paths, about 1.1 km NE of the shrine at Matsumori, Nanakita-mura, Miyagi Prefecture; 28°19'07"N, 140°55'47"E)

Nanakita Formation
Miocene

***Neptunea hurutahai* Matsui, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 30, p. 205, pl. 29,

figs. 7q-8b

Syntype: UH no. 12670, 12671, 12691, 12692

Ponshitakara-gawa, Akan-mura, Kushiro Province; Shitakara-gawa, Akan-mura, Kushiro Province; Shoro Coal Mine, Shoro-mura, Kushiro Province; all in Hokkaido

Shitakara Formation

Plaeogene (Eocene)

Neptunea (Neptunea) insularis (Dall) reported by Amano (1997) from the Pleistocene Tomikawa Formation, Hokkaido

Neptunea intersculpta (Sowerby) reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture

***Neptunea intersculpta urataensis* Noda, 1962**

Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), vol. 34, no. 3, p. 230, pl. 16, fig. 13

Holotype: IGPS no. 78053

Loc. no. 1174, small river bed about 400 m W of Muro, Nunagawa-mura (Matsunoyama-machi), Niigata Prefecture

Iwakura Formation
Upper Miocene

***Neptunea iwaii* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 29, pl. 3, figs. 15a-b

Holotype: IGPS no. 93224

Loc. no. 2, right cliff of Chikagawa River, about 150 m W from the bridge of Ominato Railway Line, Chikagawa, Mutsu City, Aomori Prefecture

Hamada Formation

Pliocene (early Pleistocene)

(Synonymus with *Neptunea (Neptunea) constricta* (Dall) by Amano (1997))

***Neptunea kanagawaensis* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 15-16 as the type of identified by Yokoyama (1920) as *Chrysodomus phoenices* Dall (Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 50, pl. 2, figs. 8-10)

Holotype: CM, no. 20113

Koshiha, Kanazawa-Shiba-machi, Yokohama City, Kanagawa Prefecture

Koshiha Formation

Pliocene (Pleistocene)

(Invalid by *Neptunea yokoyamai* Oyama (1954; In Taki and Oyama, Spec. Pap., Palaeont. Soc. Japan, no. 2, p. 21, pl. 3, figs. 8-10: reproduced from Yokoyama's original figures) n. n. for the above cited species and specimen)

***Neptunea koromogawana* Nomura, 1937**

Saito Ho-on Kai, Mus., Res. Bull., no. 13, p. 170, pl. 23, figs. 5a-b

Holotype: SM no. 12645

River side cliff along the Koromogawa (About 300 m N of the Izumigatake site, Hiraizumi-mura, Nishiiwai-gun, Iwate Prefecture; 39 °00'14"N, 141 °05'37"E)

Mashiba (Kurosawa Formation)

Miocene

***Neptunea kotakae* Noda, 1962**

Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), vol. 34, no. 3, p. 231, pl. 16, figs. 14a-b

Holotype: IGPS no. 79054

Loc. no. 1174, small river bed about 400 m W of Murono, Nunagawa-mura (Matsunoyama-machi), Niigata Prefecture Iwakura Formation

Upper Miocene

***Neptunea kuroshio* Oyama, 1958** reported by Okumura and Koyanagi (1989) from the Pliocene Ashigara Group, Kanagawa Prefecture

***Neptunea (Neptunea) lamellosa* Golikov** reported by Amano (1997) from the Pleistocene Hamada Formation, Aomori Prefecture

***Neptunea lyrata* Martyn** reported by Noda et al. (1984) from the Pliocene Yuchi Formation, Hokkaido

***Neptunea (Neptunea) lyrata* (Gmelin)** reported by Amano (1997) from the Pliocene Yuchi Formation, Hokkaido

***Neptunea migimataensis* Noda, 1992**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 62, nos. 1-2, p. 101, pl. 10, figs. 6a-b

Holotype: IGPS no. 100924, Paratype: IGPS no. 100925

Loc. No. CH35, middle stream of the Migimatazawa, a tributary of the Haboro River

Chikubetsu Formation

Middle Miocene

***Neptunea modesta* (Kuroda)** reported by Tagami (1941) from the Oligocene Oiwake Formation, Hokkaido; see ***Chrysodomus modesta* Kuroda**

***Neptunea modestoidea* Takeda, 1953**

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 53, pl. 3, fig. 2, pl. 5, fig. 8

Holotype: UH no. 10885 (Oligocene, Sakhalin), Paratype: UH nos. 10884, 10886, 10903-4, 10895, 10931, 11189

Loc. No. T278, upper tributary of Oko River, Honto-gun, South Sakhalin; 142 °03'E, 46 °45'N ; Paratype: U47 (not described), T280, 950 m E from T278, South Sakhalin, U7, upstream from T2-I (600 m downstream from the railroad bridge on Ikusyunbetu River, near Yayoi coal-mine, Isikari Province, Hokkaido)

Poronai Formation

Oligocene (Late Eocene)

***(Ancistrolepis modestoides)* (Takeda)** by Oyama et al. (1960))

***Neptunea nikkoensis* Nomura, 1937**

Saito Ho-on Kai, Mus., Res. Bull., no. 13, p. 176, pl. 24, figs. 13a-b

Holotype: SM no. 12635

Northern side cliff W of the bridge on the tributary of the Nikko-gawa (about 1.1 km SW of the temple at Masuda, and about 300 m SE of the electric power-house, Nikko-mura, Akumi-gun, Yamagata Prefecture; 32 °59'29"N, 140 °02'02"E)

Masuda Formation

Pliocene

***Neptunea (Golikovia) nikkoensis* Nomura** reported by Amano (1997) from the Pliocene Kannonji Formation, Yamagata Prefecture

***Neptunea noboriensis* Ozaki, 1956**

Bull. Nat. Sci. Mus., vol. 3, no. 1, p. 2, pl. 1, fig. 6

Holotype: NSM no. 4373

Nisinotani, Nobori, Hane Twon, Aki County (Nishinotani, Hane-cho, Aki-gun), Kochi Prefecture

Nobori Formation

Miocene (Pliocene)

***Neptunea nomurai* Otuka, 1943**

Jour. Geol. Soc. Japan, vol. 50, no. 593, p. 62, pl. 3, fig. 12

Holotype: GT no. ?

West side cliff of the Kurosawa-gawa below the railway (about 300 m W of the shrine at Komatsu-gawa, Sannai-mura, Hiraga-gun Akita Prefecture; 39 °17'17"N, 140 °39'25"E)

Kurosawa Formation

Miocene

***Neptunea ogasawarai* Honda, 1989**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), vol. 60, nop. 1, p. 102, pl. 9, figs. 16a-b

Holotype: IGPS no. 99298

Loc. no. CH-25, riverside cliff along the Koikatamuri-gawa, Kushiro Province, Hokkaido; 42 °59'26"N, 143 °46'49"E

Charo Formation

Oligocene

***Neptunea omurai* Otuka, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 1-2, p. 98, text-fig. D, pl. 11, figs. 5, 6

Holotype: GT no. 4283

Valley floor of the On-ushunai-zawa at northern foot of the Kawajiri-gawam Nakagawa-mura, Nakagawa-gun, Teshio Province, Hokkaido; 43 °59'05"N, 142 °02'02"E)

Wakkauenbetsu Formation

Miocene

Neptunea oomurai **Otuka** reported by Kanno and Matsuno (1960) from the Miocene Sankebetsu Formation, Hokkaido

***Neptunea onbetsuensis* Matsui, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 30, p. 208, pl. 30, figs. 5-6b

Syntype: UH no. 12695-12699

Kamiatsunai, Otsu-mura, Tokachi Province; Takinoue, Shoro-mura, Kushiro Province; Teshibetsu-gawa, Teshibetsu-mura, Kushiro Province; Kamishoro, Shoro-mura, Kushiro Province; all in Hokkaido

Omagari and Charo Formations

Paleogene (Oligocene)

Neptunea onnaica (**Yokoyama**) reported by Matsui (1951) from the Oligocene Momijiyama Formation, Hokkaido: see *Melongena onnaica* **Yokoyama, 1932**

***Neptunea otukai* Chinzei, 1959**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, pt. 1, p. 112, pl. 9, figs. 12, 13

Holotype: CM no. 8531 (figs. 12, 13), Paratype: CM no. 8585

Loc. no. 1, a small cliff, 100 m W of Ochiai, Kintaichi-mura, Ninoge-gun (Ninohe City), Iwate Prefecture

Kubo Formation

Pliocene

***Neptunea (Neptunea) plafkeri* Kanno, 1971**

Palaeont. Soc. Japan, Spec. Pap., no. 16, p. 115, pl. 14, figs. 1-3

Holotype: TUE no. 10045, Paratype: TUE no. 10046

Loc. no. 81104, Paul Creek, Alaska, USA

Yagataga Formation

Oligocene

Neptunea (Neptunea) rugosa **Golikov** reported by Amano (1997) from the Seguchi Formation, Nagano Prefecture

Neptunea sakurai **Ozaki** reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture (*Neptunea sakurai* (**Ozaki**) by Masuda and Noda (1976))

Neptunea (Neptunea) satura (**Martyn**) reported by Amano (1997) from the Pliocene Kawaguchi Formation, Niigata Prefecture

***Neptunea shoroensis* Matsui, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 30, p. 204, pl. 29, figs. 5a-b

Syntype: UH no. 12673, 122675-12678

Senposhi, Oboro-mura, Kushiro Province; Ponshitakara-gawa, Akan-mura, Kushiro Province; Shoro Coal Mine, Sjoro-mura, Kushiro Province; Kamishoro, Shoro-mura, Kushiro Province; all in Hokkaido
Tenneru and Shitakara Formations
Paleogene (Oligocene)

***Neptunea sitakarensis* Matsui, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 30, p. 203, pl. 29, figs. 2a-4

Syntype: UH no. 12674, 12679, 12701

Senposhi, Oboro-mura, Kushiro Province; Ponshitakara-gawa, Akan-mura, Kushiro Province; Takinoue, Shoro-mura, Kushiro Province; Kamishoro, Shoro-mura, Kushiro Province; all in Hokkaido
Tenneru and Shitakara Formations

Paleogene

Neptunea solitaryia (**Yokoyama**) reported by Kuroda (1931) from the Pliocene shigarami Formation, Nagano Prefecture; see *Trophon solitaryia* **Yokoyama (Trophonopsis (Boreotrophon) solitaryia (Yokoyama))** by Hatai and Nisiyama (1952))

Neptunea ? soluta (**Hermann**) reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

***Neptunea subcarinata* Matsui, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 30, p. 207, pl. 30, figs. 2-3b

Syntype: UH nos. 12681, 122683-12686

Kamiatsunai, Otsu-mura, Tokachi Province; Kamishoro, Shoro-mura, Kushiro Province; Teshibetsu-gawa, Teshibetsu-mura, Kushiro Province; all in Hokkaido

Omagari and Charo Formations

Paleogene (Oligocene)

(*Trominina umbelliformis* (**Hayasaka and Uozumi**) by Masuda and Noda (1976))

***Neptunea umbelliformis* Hayasaka and Uozumi, 1954**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, Geol. and Mineral., vol. 8, no. 4, p. 403, pl. 25, fig. 10, pl. 26, fig. 1

Holotype: UH no. 11267 (Lectotype was designated by Oyama et al. (1960))

Loc. no. 5012, Sekiyusawa, Hobetsu-mura (-cho), Iburi-gun, Hokkaido

“Momijiyama” Formation

Oligocene

(*Trominina umbelliformis* (**Hayasaka and Uozumi**) by Oyama et al. (1960))

Neptunea uwasoensis (**Otuka**) reported by Otuka (1935) from the Pliocene Yabuta Formation, Toyama Prefecture; see

***Chrysodomus uwasoensis* Otuka**

Neptunea vinosa (Dall) reported by Kanahara (1937) from the Pliocene Yuchi Formation, Hokkaido; ***Chrysodomus vinosa* Dall, 1911**

***Neptunea yokoyamai* Hatai and Nisiyama, 1952**

Sci. Rep., Tohoku Univ., 2nd Ser. Spec. Vol., no. 3, p. 190, Type; *Chrysodomus phoenicerus* Dall reported by Yokoyama (1925; p. 10, pl. 1, fig. 1) from the Miocene Taga Formation, Ibaraki Prefecture (***Neptunea* sp.** by Masuda and Noda (1976))

***Neptunea (Neptunea) yokoyamai* Oyama, 1954 n. n.**

In Taki and Oyama, 1954, p. 21, Type; *Chrysodomus phoenicerus* Yokoyama, 1920 Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 50, pl. 2, figs. 8-19

Holotype: CM no. 20113, Paratype: CM nos. 20111, 20112

Koshiba (Kanazawa-Shiba-machi, Kanazawa-ku, Yokohama City, Kanagawa Prefecture)

Koshiba Pliocene (Pleistocene)

(***Neptunea kanagawaensis* Masuda and Noda, 1976 n. sp.** because of homonymy; see above)

***Nerita chanaeleon* Linne, 1758** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan; and also reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Nerita ishidae* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 335, pl. 36, figs. 23a-25

Holotype: DGS no. 4564 transferred to IGPS no. 90084 (figs. 23a-b)

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (early Miocene)

***Nerita kamigiriensis* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, p. 140, pl. 6, figs. 14, 15

Holotype: JC no. 1300083

Kamigiri, Iwamura-cho, Ena-gun, Gifu Prefecture

Kubohara Sandstone, Mizunami Group

Miocene

***Nerita planospira* Anton, 1839** reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan

***Nerita plicata* Linnaeus, 1758** reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan

***Nerita polita* Linné** reported by MacNeil (1960) from the

Pliocene Naha Formation, Okinawa Prefecture

***Nerita (s. s.) subgranulosa* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 117, pl. 12, figs. 4, 4a

Lectotype: GS no. 35665 (designated by Hatai and Nisiyama (1952))

Road-side cutting along the sea-shore (about 550 m W of the Akase railway station of the Misumi Line, Oda-mura, Uto-gun, Kumamoto Prefecture; 32°39'N, 130°30'21"E)

Shiratake Formation

Eocene

***Nerita undata* Linne, 1758** reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan; and also reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

***"Neritaeformis (Neverita)" eodidyma* Kuroda, 1932**

reported by Majima (1989) from the Miocene Uchimura Formation, Nagano Prefecture

***Neritaeformis (Neverita) fissuratus* Kuroda, 1931**

Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 75, pl. 10, fig. 75

Holotype: GK no. ?, Paratype: GK no. ?

Bank of the Sai-kawa (about 300 m S of Taira, Ooka-mura, Sarashina-gun, Nagano Prefecture; 36°28.5'N, 137°57'E); Paratype, A short distance N of Takenokawa (Miasa-mura, Kita-Azumi-gun, Nagano Prefecture; 36°35'N, 137°56'E)

Aoki and Ogawa (Paratype) Formations

Miocene

***Neritilia fernandezii* Kanno, O'Hara and Caagusan, 1982**

Geol. Geogr. Southeast Asia, vol. 24 p. 94, pl. 17, figs. 12a-b

Holotype: JUE no. 10039, Paratype: JUE no. 10040

River floor and the river side bank of the Madlum River, near the Tartaro Bridge, San Miguel, Bulacan, central Luzon, Philippines

Tartari Formation

Upper Miocene

(***Globularia fernandezii* (Kanno, O'Hara and Caagusan)**)

***Neritina (Vittina) coromandeliana* Sowerby, 1841**

reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Neritina (Vittina) paralella* (Roding)**

reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Nesiocypraea midwayensis* Azuma and Kuroda**

reported by Tomida (1996) from the late Miocene Misaki Formation, Kanagawa Prefecture

***Nesiohelix irrediviva yoronjimaensis* Azuma and Azuma, 1990**

Venus, vol. 49, no. 3, p. 200, fig. 2

Holotype: Azuma collection no. 17188, Paratype: NSMT-Mo no. 64920, Azuma collection nos. 17188a-d

Nishi-ku, Yoron-jima (Island), Yoron-cho, Oshima-gun, Kagoshima Prefecture

Raised coral reef

Pleistocene

***Nesiohelix oshiroi* Habe and Chinen, 1980**

Bull. Mizunami Fossil Mus., no. 7, p. 90, pl. 6, figs. 1a-c

Holotype: NSMT no. Mo 58454, Paratype: MFM no. 10003

Shiokawa, Tarama Island between Miyako Island and Ishigaki Island, the southern Ryukyu Islands

Dune Deposits ? (not described)

Pleistocene

***Nesiohelix oshiroi nobaruensis* Azuma and Azuma, 1987**

Venus, vol. 46, no. 3, p. 161, figs. 13-15

Holotype: Azuma collection no. 17152, Paratype: Azuma collection no. 17152a

Nobaru-dake, Miyako-jima Island, Okinawa Prefecture

Pleistocene

Pleistocene

***Nesiohelix palaeomphalina* Azuma and Azuma, 1983**

Venus, vol. 42, no. 3, p. 224, fig. 1

Holotype: Azuma collection no. 17146, Paratype: NSMT Mo. no. 61305a-b, Azuma collection nos. 17146c-d

Nishiko, Minami-Daitojima, Kitadaito-son, Shimajiri-gun, Okinawa Prefecture

Fossil bed overlies the raised coral reef

Pleistocene

***Nesiohelix palaeophalina kitadaitoensis* Azuma and Azuma, 1991**

Venus, vol. 50, no. 3, p. 181, fig. 1

Holotype: Azuma collection no. 17250, Paratype: NSMT-Mo no. 69563, Azuma collection nos. 17250a-d

Nagahagi, Kitadaito-jima, Eastern Okinawa, Okinawa Prefecture

Fossil occurred from the raised coral reef

Fossil (Holocene ?)

***Neverita (Neverita) albula bagacayensis* Shuto, 1969**

Mem. Fac. Sci., Kyusyu Univ., Ser. D, vol. 19, no. 1, p. 85, pl. 4, figs. 1, 4, 5, text-fig. 21

Holotype: GK-L no. 7445 (figs. 1, 4, 5), Paratype: GK-L no. 7446-7449

Loc. no. SKGS-74, Bario Bagacay along the Mitiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Upper Miocene

Neverita coticaeze (Makiyama) reported by Kamada (1962) from the Miocene Kokozura Formation, Fukushima Prefecture; see *Polinices coticaeze* Makiyama

Neverita didyma (Roding) reported by Tanaka (196 from the Miocene Uchimura Formation, Nagano Prefecture (*Neverita* (*Glossaulax*) *didyma* (Röding) by Masuda and Noda (1976))

Neverita eocenica (Nagao) reported by Majima (1989) from the Eocene Futagojima Formation, Nagasaki Prefecture: see *Polynices* (*Neverita*) *eocenica* Nagao, 1928

Neverita hosoyai Kuroda reported by Shikama (1973) from the Miocene Zushi Formation, Kanagawa Prefecture

Neverita insignis (Nagao) reported by Kanno (1955) from the Oligocene (Miocene) Taishu Group, Nagasaki Prefecture; see *Polinices insignis* Nagao, 1928 (? *Mammilla insignis* (Nagao) by Masuda and Noda (1976))

Neverita kiritaniana (Yokoyama) reported by Tanaka (1960) from the Miocene Uchigimura Formation, Nagano Prefecture; *Natica kiritaniana* Yokoyama, 1931

***Neverita (Glossaulax) petiveriana compressa* Shuto, 1969**

Mem. Fac. Sci., Kyusyu Univ., Ser. D, vol. 19, no. 1, p. 85, pl. 4, figs. 1, 4, 5, text-fig. 21

Holotype: GK-L no. 7474 (figs. 1, 4, 5), Paratype: GK-L no. 7475

Loc. no. SKGS-71, river side cliff of the Tigum River, NE of Santa Barbara, Panay Island, the Philippines

Santa Barbara Siltstone of the Cabatuan Formation

Pliocene

Neverita (Glossaulax) reiniana (Dunker) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Nihonia* MacNeil, 1960 n. gen.**

U. S. Geol. Surv., Prof. Paper 339, p. 105, Type-species;

Nihonia shimajiriensis MacNeil, 1960 described from the Miocene Yonabaru Formation, Okinawa Prefecture

Nihonia? birmanica (Vredenburg) reported by Shuto (1984) from the Miocene of Tetma, Burma: *Surcula birmanica* Vredenburg, 1921

Nihonia pervirgo (Yokoyama) reported by Powell (1969) from the Pliocene Takanabe Formation, Miyazaki Prefecture that reported as *Turricula (Orthossurcula) pervirgo* (Yokoyama) by Otuka (1959)

***Nihonia santosi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1,

p.186, pl. 19, figs. 18, 19, text-fig.34

Holotype: GK-L no. 6847 (fig. 21), Paratype: GK-K nos. 6848 (figs. 18, 19), 7512

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Nihonia shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 105, pl. 5, fig. 15

Holotype: USNM no. 562751

Loc. no. 17445, fossiliferous bed at base of low hill on south side of Highway 40 about 1.0 Mi W of the junction of Highways 13 and 137 in Yonabaru, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Nihonia soyomaruuae takanabensis* (Otuka)** reported by Powell (1969) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Niotha congrua* (Yokoyama, 1926)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture

***Niotha kurodai* (Makiyama, 1927)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture: see *Nassarius (Hinia) kurodai* Makiyama

Niotha livescens* (Philippi)** reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture (Nassarius (Niotha) livescens* (Philippi)** by Masuda and Noda (1976))

***Niso brunnea* (Sowerby, 1834)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Niso dorcas* (Kuroda and Habe)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Niso interrupta* (Sowerby)** reported by Yokoyama (1926) from the Pliocene Tonohama Formation, Kochi Prefecture; ***Eulima interrupta* Sowerby**

***Niso obtusocarinata* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 137, pl. 6, fig. 13

Holotype: GK no. 229

Honohashi (about 150 m W of Honohashi, and 2.5 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Niso yokoyamai* Kuroda and Habe** reported by Makiyama (1958) from the Pliocene Tonohama Formation, Kochi Prefecture; and also reported by MacNeil (1960) from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture

***Nodiscala suzuensis* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 4, pl. 1, figs. 19a-b

Holotype: DGS no. 4588 transferred to IGPS no. 90789

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (early Miocene)

***Noditerebra kirai* Oyama** reported by Aoki and Baba (1984) from the Pleistocene Narita Formation, Chiba Prefecture

***Noditerebra osawanoensis* (Tsuda)** reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture (see ***Diplomeriza osawanoensis* Tsuda, 1959: *Terebra (Noditewrebra) osawanoensis* Tsuda** by Masuda and Noda (1976))

Noditerebra reticostata* (Yokoyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (Terebra (Noditerebra) reticostata* Yokoyama** by Masuda and Noda (1976): see ***Terebra reticostata* Yokoyama, 1920**)

***Notoacmaea concinna* (Lischke)** reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture

***Notocochlis gualteriana* (Recluz)** reported by Majima (1989) from the Holocene Sagami Bay, Kanagawa Prefecture: ***Natica gualteriana* Recluz, 1844**

***Nucella freycineti* (Deshayes)** reported by Sawada (1962) from the Pliocene (Pleistocene) Nakanokawa Formation, Hokkaido

***Nucella freycineti saitoi* Hatai and Kotaka, 1959**

Saito Ho-on Kai Mus., Rs. Bull., no. 28, p. 9, figs. 2, 5

Holotype: IGPS no. 7797

Upperstream of the Okamami-zawa, Tamano area, Obanzawa-machi, Kitamura-gun, Yamagata Prefecture Kaminohata Sandstone Member of the Ginzan Formation Miocene (middle Miocene)

***Nucella ishii* Uozumi (MS)** reported by Mizuno et al. (1969) from the Miocene Atsunai Formation, Hokkaido

***Nucella lima freycineti* (Deshayes)** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki

Prefecture

***Nucella takishiensis* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 13, pl. 3, figs. 6a-8b
 Holotype: MFM no. 10076 (fig. 6), Paratype: MFM nos. 10077, 10078 (figs. 7, 8)
 Nakahida, Hida-cho, Toki City, Gifu Prefecture
 Nataki Conglomerate
 Middle Miocene

***Nucella tokudai* (Yokoyama) reported by Amano et al. (1993) from the Miocene Togeshita Formation, Hokkaido: *Coralliophila tokudai* Yokoyama, 1932**

***Nystiella hiranoi* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 43, pl. 1, figs. 21a-22b
 Holotype: GIYU no.
 East of Choshi, Chiba Prefecture
 Living specimen, 250-260 fathoms in depth
 Recent

***Obestoma oyashio* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 51, pl. 2, figs. 15a-b
 Holotype: GIYU no. ?
 East of Choshi, Chiba Prefecture
 Living specimen, 200-350 fathoms in depth
 Recent

***Obrussena moeshimaensis* Habe, 1952**

Venus, vol. 17, no. 2, p. 71, text-fig. 6
 Holotype: NSMT no. Mo-38570
 Shi-jima, Kagoshima-cho, Kagoshima-gun, Kagoshima Prefecture; 31°37'E, 130°43'N
 Moeshima Formation
 Pleistocene (Holocene)

***Ocenebra adunca protoadunca* Hatai and Kotaka, 1959**

Saito Ho-on Kai Mus., Res. Bull., no. 28, p. 10, text-figs. 1, 3
 Holotype: IGPS no. 77798
 Upperstream of the Okamami-zawa, Tamano area, Obanazawa-machi, Kitamurayama-gun, Yanagata Prefecture
 Kaminohata Sandstone Member of the Ginzan Formation
 Miocene
 (*Ceratostoma* (*Ocenebra*) *adunca protoadunca* (Hatai and Kotaka) by Masuda and Noda (1976))

***Ocenebra japonica* (Dunker) reported by Iwasaki (1970) from the Miocene Kubota Formation, Fukushima Prefecture (*Ceratostoma* (*Ocenebra*) *japonica* (Dunker) by Masuda and Noda (1976))**

“*Ocenebra*” *katayamai* Matsubara, 1996

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 181, p. 367, figs. 2-10a-b, 13a-14
 Holotype: IGPS no. 102629, Paratype: IGPS no. 102630
 Upper reaches of the Nesori River about 3 km E of Nosokei, Ichinohe-machi, Ninoge-gun, Iwate Prefecture
 Yotsuyaku Formation
 Early Miocene

***Ocenebra nodosa* Noda, Kikuchi and Nikaido, 1993**

Sci. Rep., Inst. Geo. Sci., Univ. Tsukuba, Sec. B, vol. 14, p. 178, figs. 26-4a-b, 10a-b
 Holotype: IGUT no. 13090, Paratype: IGUT no. 13091
 Loc. A, Satake Minamidai New Town, Hitachiohta City, Ibaraki Prefecture
 Kume Formation
 Pliocene

***Ocenebra tsururensis* Yokoyama reported by Kamada (1962) from the Oligocene Iwaki Formation, Fukushima Prefecture (*Ceratostoma* (*Ocenebra*) *tsururensis* (Yokoyama) by Masuda and Noda (1976))**

***Ocenebra ashियाensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 113, pl. 16, figs. 33, 33a
 Holotype: GS no. 36096, Paratype: GS no. 36127
 Beach rocks along the sea coast (about 800 m SW of the contact point of the two roads at Iwaya, Shimago-mura, Onga-gun, Fukushima Prefecture; 33°55'32"N, 130°41'06"E), Paratype, Hachiman-zaki (about 300 m N of Waita, Shimago-mura, Onga-gun, Fukuoka Prefecture; 33°55'52"N, 130°43'38"E)
 Wakita (Sakamizu) Formation
 Oligocene
 (*Ocenebra ashियाensis* (Nagao) by Hatai and Nisiyama (1952): *Phyllonotus ashियाensis* (Nagao) by Oyama et al. (1960))

***Ocenebra falcate* (Sowerby) reported by Yokoyama (1922) from the Shimosa Group, Chiba Prefecture: *Murex falcatus* Sowerby**

***Ocenebra lumaria* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 270, pl. 32, fig. 21
 Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
 Sawane Formation
 Pliocene
 (*Ocenebra inornata lumaria* (Yokoyama) by Hatai and Nisiyama (1952))

***Ocenebra spectata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 65, pl. 3, fig. 4

Holotype: UT no. ? (CM no. 20926)

Otake (Narita City, Chiba Prefecture)

Shimoso Group (Kioroshi Formation)

Pleistocene

(Synonymus with *Ceratostoma* (*Ocenebra*) *aduncum* (Sowerby) by Oyama (1973))

***Ocenebra tsuzurensis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 3, p. 10, pl. 1, figs. 1-3

Holotype: GT no. ?

In an eastward shaft of the tsuzura coal Mine, Uchigo-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture; 37°02'N, 140°52'E)

Iwaki Formation

Miocene (Oligocene)

(*Ocenebra tsuzurensis* (Yokoyama) by Hatai and Nisiyama (1952))

Ocenebrellus aduncus (Sowerby) reported by Amano and Vermij (1998) from the Pliocene Tentokuji Formation, Akita Prefecture

Ocenebrellus inornatus (Recluz) reported by Amano and Vermeji (1998) from the Miocene Kubota Formation, Fukushima Prefecture

Ocenebrellus lumarius (Yokoyama) reported by Amano and Vermeji (1998) from the Pleistocene Setana Formation, Hokkaido: see *Ocenebra lumaria* Yokoyama, 1926

***Ocenebrellus nagaokai* Matsubara and Amano, 2000**

Venus vol. 59, no. 3, p. 201, figs. 2a-b, pl. 1, figs. 1-10c

Holotype: MNHAH no. D1-018620, Paratype: MNHAH no. D1-018606-018616

A roadside cliff about 750 m SE of Kaseo, Yoka-machi, Yabu-gun, Hyogo Prefecture; 35°24'27.5"N, 134°41'13.4"E Muraoka Formation of the Hokutan Group

Late early to early middle Miocene

***Ocenebrellus ogasawarai* Amano and Vermeij, 1998**

Paleont. Res., vol. 2, no. 3, p. 204, fig. 3-12-14, 4-1-4-6, 9, 13

Holotype: JUE no. 15635, Paratype: JUE nos. 15636-15638

Bank of Sai River, Kanazawa City, Ishikawa Prefecture

Omura Formation

Pleistocene

Ocenebrellus protoaduncus (Hatai and Kotaka) reported by Amano and Vermeij (1998) from the Miocene Ginzan Formation, Yamagata Prefecture: see *Ocenebra adunca*

protoadunca* Hatai and Kotaka, 1959**Odostomia* (*Odostomia*) *affectuosa* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 420, pl. 47, fig. 10

Holotype: UT no. ? (CM no. 23836)

Kuruma-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Turbonilla* (*Asmunda*) *affectuosa* (Yokoyama) by Oyama (1973))

Odostomia (*Evalea*) *aleutica* Dall and Bartsch reported by Chinzei (1959) from the Pliocene Kubo Formation, Iwate Prefecture

***Odostomia* (*Iolaea*) *amicalis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 421, pl. 47, fig. 18

Holotype: UT no. ?

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Kleinella amicalis* (Yokoyama) by Oyama (1973))

***Odostomia anegasakiensis* Ikeba, 1936**

Venus, vol. 6, no. 4, p. 201, fig. 2

Holotype: KU no. Ind761

Iriyamazu Loc. 3, Anegasaki-mati (-machi), Tiba (Chiba) Prefecture

Toyonari Beds

Pleistocene

***Odostomia* (*Siniatodostomia*) *angustitestulata* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 151, pl. 9, fig. 24

Holotype: IGPS no. 26990

Hossaku, Omori-machi, Inba-gun, Tiba (Chiba) Prefecture (Shimoso Group)

Pleistocene

***Odostomia* (*Evalea*) *ariai* Otuka, 1939**

P. 29, pl. 2, figs. 13, 14

Holotype: GT no. 4269

SW foot of the hill (117.2 m) bordering a creek, (About 100 m NE of the bank at NE of Omura-daira, Tanabu-machi (Mutsu City), Aomori Prefecture; 41°14'39"N, 141°16'14"E)

Tanabu (Hamada) Formation

Pliocene (Pleistocene)

(*Amaura* (*Evalea*) *ariai* (Otuka) by Hatai and Nisiyama (1952))

***Odostomia (Besla) bicinctella* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 422, pl. 47, fig. 17

Holotype: UT no. ?

Dokwanyama (Dokanyama, a hill at Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

***Odostomia (Ondina) calypso* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 279, pl. 32, fig. 4

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Menestho calypso* (Yokoyama) by Hatai and Nisiyama (1952))

***Odostomia (Miralda) clandestina* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 345, pl. 38, figs. 23, 24

Holotype: GT no. ?

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Satuka Formation

Pliocene

(*Siogamaia clandestina* (Yokoyama) by Hatai and Nisiyama (1952))

***Odostomia (Odostomia) desimana* Dall and Bartsch**

reported by Yokoyama (1922) from the Shimosa Group, Chiba Prefecture

***Odostomia (s. s.) edogawana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 71, pl. 13, figs. 113a-b

Holotype: SM no. 9163

Itikawa (Ichikawa), along Edogawa, Higasi-Katsusika-gun (Ichikawa City), Tiba (Chiba) Prefecture

Post-Pleistocene stratum

Post-Pleistocene (Holocene)

***Odostomia (Menestho) exaratisima* Dall and Bartsch**

reported by Yokoyama (1928) from the Pliocene (Koujiji Formation), Miyazaki Prefecture (Reidentified *Menestho (Menestho) exarata* A. Adams by Hatai and Nisiyama)

***Odostomia (Odostomia) fordonis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 95, pl. 4, fig. 27

Holotype: UT no. ?

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

***Odostomia (Odostomia) fujitanii* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 419, pl. 47, fig. 15

Holotype: UT no. ?

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

***Odostomia (s. s.) gordonis* Yokoyama**

reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Odostomia (s. s.) harukoe* Nomura**

reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Odostomia (s. s.) hatuensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 76, pl. 13, figs. 107a-b

Holotype: SM no. 10126

Wada, Hatuse-mura (Hatsuse), Miura-gun (Miura City), Kanagawa Prefecture

Pleistocene stratum

Pleistocene

***Odostomia (Odostomia) hilgendorfi* Clessin**

reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture

***Odostomia hilgendorfi abnormal* Nomura**

reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture

***Odostomia (Sinuatodostomia) inbana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 70, pl. 12, figs. 95a-b

Holotype: SM no. 11879

Nakagawa, Sisui-mati (Shisui-machi), Tiba (Chiba) Prefecture

Pleistocene stratum ?

Pleistocene

***Odostomia (s. s.) kamiwahasiensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 75, pl. 13, figs. 106a-b

Holotype: SM no. 11881

Kami-Iwahasi, Sisui-mati (Kamiiwahashi, Inzai City), Tiba (Chiba) Prefecture

(Kioroshi Formation)

Pleistocene

***Odostomia (s. s.) katusikana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 74, pl. 12, figs. 98a-b

Holotype: SM no. 9162

Itikawa (Ichikawa), along Edogawa, Higasi-Katsusika-gun (Ichikawa City), Tiba (Chiba) Prefecture

Post-Pleistocene stratum

Post-Pleistocene (Holocene)

***Odostomia (Odostomia) kizakiensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 97, pl. 4, fig. 29

Holotype: UT no. ?

Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

Shimosa Group (Imba Formation)

Pleistocene

***Odostomia (s. s.) kurosiwo* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 148, pl. 9, fig. 33

Holotype and Paratype: IGPS no. 19837

Susaki, Titizima (Chichi-jima), Ogasawara-gun (Ogasawara-mura), Tokyo Prefecture

Recent

Recent

***Odostomia (Odetta) lectissimoides* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 421, pl. 47, fig. 12

Holotype: UT no. ? (CM no. 23839)

Kuruma-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Actaeopyramis lectissimoides* (Yokoyama) by Oyama (1973))

***Odostomia (Odostomia) limpida* Dall and Bartsch, 1906**

reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Odostomia (Egilina) marielloides* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 100, pl. 4, fig. 34

Holotype: UT no. ?

Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

Shimosa Group (Imba Formation)

Pleistocene

(Synonymus with *Miralda (Egilina) gracilis* Yokoyama by Makiyama (1958))

***Odostomia (Egilina) marielloides* Yokoyama var. *gracilis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 279, pl. 32, fig. 19

Holotype: UT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Miralda (Egilina) gracilis* (Yokoyama) by Hatai and Nisiyama (1952))

***Odostomia (Marginodostomia) misakiensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 151, pl. 9, fig. 41

Holotype: IGPS no. 16950

Misaki, Miura-gun, Kanagawa Prefecture

Living specimen

Recent

***Odostomia (s. s.) naritana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 68, pl. 13, figs. 111a-b

Holotype: SM no. 3769

Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture

Pleistocene stratum

Pleistocene

***Odostomia (s. s.) neoexigua* Nomura** reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Odostomia (Odetta) neofelix* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 99, pl. 4, fig. 33

Holotype: UT no. ?

Shisui (Shisui-machi, Imba-gun, Ichihara City, Chiba Prefecture)

Shimosa Group (Imba Formation)

Pleistocene

***Odostomia nishiana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 421, pl. 47, fig. 14

Holotype: UT no. ?

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

***Odostomia (Odostomia) optata* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p.

420, pl. 47, fig. 11
 Holotype: UT no. ?
 Oji (Kita-ku, Tokyo Prefecture)
 (Tokyo Formation)
 Upper Musashino=Pleistocene

Odostomia (Amaura) oyasiwo Nomura, 1939

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 151, pl. 9, fig. 24
 Holotype and Paratype: IGPS no. 19663
 Off Kinkwasan, Osika-gun, Miyagi Prefecture
 Living specimen in depth 52 fathoms
 Recent
 (Reported by Nomura (1939) from the Pleistocene in Chiba Prefecture)

Odostomia perforata Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 135, pl. 6, fig. 25
 Holotype: GK no. 38
 Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)
 Dainichi Formation
 Pliocene
 (*Odostomia (Odostomia) perforata Makiyama* by Hatai and Nisiyama (1952))

Odostomia perplexissima Nomura reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture

Odostomia (s. s.) placidaeformis Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 73, p. 68, pl. 12, figs. 96a-b
 Holotype: SM no. 8768
 Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture
 Pleistocene stratum
 Pleistocene

Odostomia (Odostomia) pseudoperforata Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 149, pl. 9, fig. 46
 Holotype: GS no. 23969
 Tonbe, Taruki-mura, Ogasa-gun (Entrance of the tunnel about 400 m NW of the crossing point of the two roads at Tobne, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34°46'52"N, 139°58'20"E)
 Nango Formation
 Pliocene

Odostomia (Heida) rusticella Yokoyama, 1927

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 453, pl. 51, fig. 10
 Holotype: UT no. ?

Ichikawa, Higashikatsushika-gun (Ichikawa City, Chiba Prefecture)
 (Raised Beach Deposits)
 Holocene

Odostomia (s. s.) rusticelloides Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 71, pl. 13, figs. 108a-b
 Holotype: SM no. 9142
 Itikawa (Ichikawa), along Edogawa, Higashi-Katsushika-gun (Ichikawa City), Tiba (Chiba) Prefecture
 Post-Pleistocene stratum
 Post-Pleistocene (Holocene)

Odostomia (Amaura) sasagensis Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 150, pl. 9, fig. 29
 Holotype: GS no. 46504
 Sasage, sanuki-machi (A small cliff bordering a creek, a short distance NE of the N entrance of the tunnel, about 500 m S of the crossing at Sasage, Sanuki-machi, Kimitsu City, Chiba Prefecture; 35°13'52"N, 139°52'46"E)
 "Umegase" Formation
 Pliocene (Pleistocene)

Odostomia (s. s.) setoutiensis Nomura, 1939

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 148, pl. 9, fig. 36
 Holotype and Paratype: IGPS no. 11077
 Iyo in Sikoku along the Seto-naikai (Seto Inland-Sea)
 Living specimen
 Recent

Odostomia (Besla) shibana Yokoyama, 1927

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 422, pl. 47, fig. 13
 Holotype: UT no. ?
 Kuromon-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)
 (Tokyo Formation)
 Upper Musashino=Pleistocene

Odostomia (Odostomia) shimosensis Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 96, pl. 4, fig. 28
 Holotype: UT no. ?
 Otake (Narita City, Chiba Prefecture)
 Shimosa Group (Kioroshi Formation)
 Pleistocene

Odostomia (s. s.) shimosensis itakurai Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 73, pl. 12, figs. 94a-b
 Holotype: SM no. 3864
 Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba

(Chiba) Prefecture
Pleistocene stratum
Pleistocene

***Odostomia (Amaura) sikisimana* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 149, pl. 9, fig. 46
Holotype: IGPS no. 28458
Narita-machi, Inba-gun (Narita City), Chiba Prefecture (Shimoso Group)
Pleistocene

***Odostomia (Odostomia) sublimpida* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 49, art. 6, p. 82, pl. 5, fig. 13
Holotype: UT no. ?
Okine in Nagai (Okine, Hatsuse-machi, Yokosuka City, Kanagawa Prefecture Miyata Zone
Pliocene (early Pleistocene)

***Odostomia (Odostomia) suboxia* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 98, pl. 4, fig. 32
Holotype: UT no. ?
Otake (Narita City, Chiba Prefecture)
Shimoso Group (Kioroshi Formation)
Pleistocene

***Odostomia takinogawensis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 23, pl. 1, fig. 45
Holotype: UT no. ?
Cutting along the railway at Oji, environs of Tokyo (Oji, Kita-ku, Tokyo City, Tokyo Prefecture)
Oji Shell bed (Tokyo Formation)
Pleistocene
(*Chrysallida (Pyrgulina) takinogawaensis* (Tokunaga) by Hatai and Nisiyama (1952))

***Odostomia (s. s.) tanegasimana* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 148, pl. 9, fig. 34
Holotype: IGPS no. 56386
About 500 m N of Sumiyosi, Tanegashima, Osima-gun, Kgosshima Prefecture
(Formation not described, unknown)
Pleistocene

***Odostomia (Odostomia) tokiwana* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 149, pl. 9, fig. 37
Holotype: IGPS no. 27110, Paratype: IGPS no. 27110
Sukegawa-machi, Taga-gun (Sea cliff at Tsurushima, about 1

km NE of the Hitachi railway station, below the Hamamiya Park, Hitachi City, Ibaraki Prefecture; 36°35'05"N, 140°40'03"E)
(Taga Formation)
Pliocene (Miocene)

***Odostomia (Odostomia) toneana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 98, pl. 4, fig. 31
Holotype: UT no. ?
Otake (Narita City, Chiba Prefecture)
Shimoso Group (Kioroshi Formation)
Pleistocene

***Odostomia tonohamana* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 84, pl. 6, figs. 18a-b
Holotype: IGPS, no. 55049
Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (Ananai Formation)
Pliocene

***Odostomia totomiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 133, pl. 6, fig. 24
Holotype: GK no. 37
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)
Dainichi Formation
Pliocene

***Odostomia toyonariensis* Ikebe, 1936**

Venus, vol. 6, no. 4, p. 200, fig. 1
Holotype: KU no. INd648
Toyonari, Anegasaki-mati (-machi), Tiba (Chiba) Prefecture
Toyonari Beds
Pleistocene

***Odostomia (s. s.) uedai* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, P. 74, pl. 12, figs. 98a-b
Holotype: SM no. 12052
Itikawa (Ichikawa), along Edogawa, Higasi-Katsusika-gun (Ichikawa City), Tiba (Chiba) Prefecture
Post-Pleistocene stratum
Post-Pleistocene (Holocene)

***Odostomia unica* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 135, pl. 6, fig. 10
Holotype: GK no. 39
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)
Dainichi Formation

Pliocene

(*Odostomia (Odostomia) unica* Makiyama by Hatai and Nisiyama (1952))

***Odostomia (Marginodostomia) unicordata* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 826, pl. 22, fig. 17

Holotype: IGPS no. 57399

Wangwa, Hsinchu, Taiwan

Byoritu Formation

Pliocene (Pleistocene by Masuda and Huang (1990))

***Odostomia (Odostomia) venusta* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 97, pl. 4, fig. 30

Holotype: UT no. ? (CM no. 21063)

Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(Synonymus with *Agatha brevis* (Yokoyama) by Oyama (1973))

***Odostomia (Odostomia) venustaeformis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 225, pl. 10, figs. 49a-b

Holotype: IGPS no. 53983

950 m SW of Taikwa, station 10 Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Odostomia (s. s.) wadaensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 75, pl. 13, figs. 105a-b

Holotype: SM no. 11911

Wada, Hatuse-mura (Hatsuse), Miura-gun (Miura City), Kanagawa Prefecture

Pleistocene stratum

Pleistocene

***Odostomia (Sinuatodostomia) watarui* Nomura**

reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Odostomia yokoyamai* Nomura** reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture

***Oenopota kagana* (Yokoyama)** reported by Hatai et al (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture

***Oenopota kagana toyotsuensis* Sawada, 1962**

Mem. Muroran Inst. Tech., vol. 4, no. 1, p. 59, pl. 2, fig. 6

Holotype: MEMIT no. 60006

Loc. no. 39, roadside cliff, 1200 m NNW of Kitatoyotsu

railway station, Oshimanbe-cho, Yamakoshi-gun, Hokkaido; 42°25'30"N, 140°18'23"E

Chinkope Formation

Pliocene (Pleistocene)

***Oenopota kuromatsunaiensis* Sawada, 1962**

Mem. Muroran Inst. Tech., vol. 4, no. 1, p. 60, pl. 3, fig. 7 (Paratype), pl. 4, figs. 19, 21 (Holotype)

Holotype: MEMIT no. 60007, Paratype: MEMIT nos. 60008-60010

Loc. no. 7, river cliff of the Byakuttan-gawa, 1500 m E of Byakutan, Kuromastunai-cho, Suttu-gun, Hokkaido; 42°42'25"N, 140°18'55"E

Nakanokawa

Pliocene

***Okinawavoluta* Noda, 1980** n. gen.

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 33, Type-species; *Okinawavoluta okinavensis* (MacNeil, 1960) described from the Pliocene Shinzato Formation, Okinawa Prefecture

***Okinawavoluta okinavensis* (MacNeil)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: see ***Benthovoluta okinavensis* MacNeil, 1960**

***Oliva australia* Duclos** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Oliva irisans* Lamarck** reported by Yokoyama (1926) from the Pliocene Satsuka Formation (Kagegawa Group), Shizuoka Prefecture

***Oliva (Oliva) ispidula* (Linne)** reported by Shuto (1959) from the Miocene Kawabaru Formation, Miyazaki Prefecture: ***Voluta ispidula* Linnaeus, 1758**

***Oliva mustelina* Lamarck, 1844** reported by Makiyama (1927) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Oliva mustellina paucicallosa* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 88, pl. 4, figs. 8, 13

Holotype: USNM no. 562714

Loc. no. 17449, cut along side of trail to Kakazu from Highway 11, near top of hill at south edge of village, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Oliva oliva* (Linnaeus)** reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

***Oliva osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 94, pl. 5, figs. 8a-10

Holotype: JC no. 1400062 (figs. 8a-b), Paratype: JC no. 1400063 (from Iwakisin)
Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture
Kurosedani Formation
Miocene (early Miocene)

***Olivella baetica* (Carpenter)** reported by Yokoyama (1928) from the Pliocene Kouniji Formation (Miyazaki Group), Miyazaki Prefecture; ***Oliva baetica* Carpenter, 1863**

***Olivella consobrina* (Lischke)** reported by Otuka (19349) from the Miocene Shiratori Formation, Iwate Prefecture; ***Oliva consobrina* Lischke**

***Olivella ezoana* Matsui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 295, pl. 1, figs. 9a-13b
Holotype; UH no. 13323 (figs. 9a-b), Paratype: UH nos. 13324-13326 (figs. 10-13)
Berutsunai-gawa, Akan-mura; Shakubetsu Coal Mine, Onbetsu-mura; Kamishoro, Shiranuka-machi, Kushiro Province; Momijiyama, Yubari City; all in Hokkaido
Onbetsu Formation and Poronai Formation (? Paratype)
Oligocene (Eocene)

***Olivella fulgurata* (Adams and Reeve)** reported by Nomura and Zinbo (1935) from the Miocene Yanagawa Formation, Fukushima Prefecture: ***Oliva flugurata* Adams and Reeve, 1850**

***Olivella (Dactylidia) gonzalesi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 158, pl. 15, figs. 7, 8, 16
Holotype: GK-L no. 6398 (figs. 7, 8) Paratype: GK-L no. 6399-6402 (Loc. nos. SKGS-73, 71), 6495 (fig. 16; loc. SKGS-71)
Loc. no. SKGS-73, 2500 m N of Lambunao along the main road leading to Calinog via Ulian River-bridge, Panay Island, the Philippines; Paratype, loc. SKGS-71, cliff along the left bank of the Tigum River between Santa Barbara and Cabatuan, Panay Island, the Phillipines
Ulian and Cabatuan Formations
Late Miocene and Pliocene (Paratype)

***Olivella iwakiensis* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 135, pl. 16, figs. 3-5
Holotype: SM no. 2643
Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashishirakawa-gun, Fukushima Prefecture; 37°01'N, 140°26'03"E)
Tanagura Formation
Miocene

***Olivella koishii* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 1, p. 38, pl. 4, figs. 5a-b
Holotype: GS no. 56390
At the junction of the Ponrumoppe-gawa and the Rumoi-gawa, Rumoi-gun, Teshio Province, Hokkaido (River cliff about 650 m NE of Oiwada Station at the junction of the Porurumoppe-gawa and the Rumoi-gawa, Rumoi-machi, Rumoi-gun, Hokkaido; 43°54'09"N, 141°42'02"E)
Takikawa (Kawabata) Formation
Pliocene (Miocene)

***Olivella omurai* Ogasawara, 1976**

Sci. Rep., Tohoku Univ. 2nd Ser (Geol.) vol. 46, no. 2, p. 69, pl. 15, figs. 2, 3a-b, 4
Holotype: IGPS no. 95061, Paratype: IGPS nos. 95062-1, -5
Loc. No. Tk-03: River floor of Sai-kawa, about 1300 m upstream from Omma Brdige, Kanazawa City, Ishikawa Prefecture
Saikawa Formation
Miocene

***Olivella pulicaria* (Marratt, 1871)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Olivella spretoides*, Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 47, pl. 2, fig. 4
Holotype: UT no. ? (CM no. 20838)
Shito (Ichihara City, Chiba Prefecture)
Shimosa Group (Semata Formation)
Pleistocene

***Olivella spretoides* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 334, pl. 38, figs. 14, 15
Holotype: GT no. ?
Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34°47'01"N, 138°E)
Satsuka Formation
Pliocene
(***Olivella spretoides* Yokoyama, 1922** by Hatai and Nisiyama (1952): see above)

***Omphalius rustica* (Gmelin)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

***Oniscidia cancellata* (Sowerby)** reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

***Oniscidia subcancellata* (Nomura)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

Onustus exutus (Reeve) reported by Hayasaka (1961) from the Pleistocene Toshoma Formation, Aichi Prefecture (*Tugurium exutum* (Reeve) by Masuda and Noda (1976))

Onustus matsuoii (Ogasawara) reported by Nakagawa (1998) from the Miocene Kunimi Formation, Fukui Prefecture: see *Tugalium matsuoii* Ogasawara, 1977

***Orthaulax japonicus* Nagao, 1924**

Japan. Jour. Geol. Geogr., vol. 3, no. 1, p. 15, pl. 1, figs. 4, 4a-c

Holotype: GS no. 8105, Paratype: GS nos. 8069, 8068, 8106, 8105 (designated by Hatai and Nisiyama (1952))

Road-side cutting along the sea shore (about 550 m W of Akase railway station of the Misumi Line, Oda-mura, Uto-gun, Kumamoto Prefecture; 32°39'N, 130°30'20"E): Paratypes, The Hashima Mine on the SE side of Hashima, Takahama-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°37'47"N, 129°44'24"E (GS no. 8069): The Koyagi Mine, a short distance S of Abo, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°40'50"N, 129°48'10"E (GS no. 8068): Sea cliff W of the hill (48 m), about 250 m N of Takesaki, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°40'34"N, 129°48'16"E (GS no. 8106)

Shiratake, Hashima and Futagojima (Paratype) Formations
Eocene

***Orthosurcula pervirgo* (Yokoyama)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture (*Nihonia pervirgo* (Yokoyama) by Masuda and Noda (1976): see *Pleurotoma pervirgo* Yokoyama, 1928)

***Ophidermella bella* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 162, pl. 16, fig. 4

Holotype: NSM no. 4473

Road-side cutting, 500 m SW of Tokoyoda-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

***Ophidermella gracilis* (Yokoyama)** reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture

***Ophidermella maekawaensis* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 30, pl. 3, figs. 8a-b

Holotype: IGPS no. 90454

Loc. no. M-1, left cliff of Maekawa River, near the outlet of Maekawa, Chikagawa, Mutsu City, Aomori Prefecture

Hamada Formation

Pliocene (early Pleistocene)

***Ophidermella miyatensis* (Yokoyama)** reported by Itoigawa (1958) from the Pliocene Nishiyama Formation, Niigata Prefecture: see *Pleurotoma (Mangellina) miyataensis* Yokoyama, 1920

***Ophidermella miyatensis gracilis* (Yokoyama)** reported by Iwai (1960) from the Pliocene (Pleistocene) Narusawa Formation, Aomori Prefecture

***Ophidermella nipponensis* (Onoyama)** reported by Itoigawa (1958) from the Pliocene Nishiyama Formation, Niigata Prefecture

***Ophidermella ogurana* (Yokoyama)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Ophidermella owadaensis* Amano, 1983**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 4, p. 37, pl. 8, figs. 12a-b

Holotype: IGUT no. 15190 (fig 12a-b), Paratype: IGUT no. 15191-1

Loc. no. T24, river floor of the Rumoi River, just east of the Owada Crematory ("Rumoi-shinkawa of Hashimoto (1950)", Rumoi City, Hokkaido

Togeshita Formation

Late Miocene

***Ophidermella pseudopanus* (Yokoyama)** reported by Takayasu (1961) from the Pliocene Sasaoka Formation, Akita Prefecture

***Optoturris kyushuensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 75, pl. 4, fig. 12

Holotype: GKL no. 4933

Road side cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Formation

Pliocene

***Orectospira babelica* (Dall)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture (*Orectospira ? babelica* (Dall) by Masuda and Noda (1976))

***Orectospira excelsa* (Yokoyama)** reported by Urata (1961) from the Pliocene Kounji Formation, Miyazaki Prefecture

***Orectospira gemma* (Nagao, 1928)** reported by Oyama et al. (1960) from the Eocene Shiratake Formation, Kumamoto Prefecture: see *Rissoina (?) gemma* Nagao

***Orectospira ichishiensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 71, pl. 3, figs. 6, 7

Holotype: ESN no. 30016 (fig. 6), Paratype: ESN no. ? (fig. 7)

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

***Orectospira nenokamiensis* Kanno** reported by Urata (1961) from the Oligocene (early Miocene) Nanokami Formation, Saitama Prefecture: see ***Basilissa* (*Orectospira*) *nenokamiensis* Kanno, 1958**

***Orectospira shimokawarai* Urata, 1961**

Rep. Earth Sci., Dep. Gener. Educ., Kyushu Univ., vol. 7, p. 13, pl. 4, fig. 2a-b

Holotype: GKL no. 5152

Boring core, depth of 72 m (Boring No. Hobetsu-5), Hobetsu caol-mine, Iburi Province, Hokkaido

Poronai Formation

Oligocene (Eocene)

***Orectospira takayamai* Urata, 1961**

Rep. Earth Sci., Dep. Gener. Educ., Kyushu Univ., vol. 7, p. 12, pl. 4, figs. 1a-c

Holotype: GKL no. 5151

Wave-cut plain, 750 m SSE of Arima-Yoshikawa Station, Minamo-Arima-cho, Minamitakaki-gun, Nagasaki Prefecture

Sakasegawa Formation

Upper Eocene

***Orectospira wadana* (Yokoyama)** reported by Oyama et al. (1960) from the Oligocene Poronai Formation, Hokkaido: see ***Turritella Wadana* Yokoyama, 1890**

Orthosurcula pervirgo* (Yokoyama)** reported by Shuto (1961 from the Pliocene Takanabe Formation, Miyazaki Prefecture (Nihonia pervirgo* (Yokoyama)** by Masuda and Noda (1976))

Orthosurcula soyomaruuae takanaabensis* Otuka** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (Nihonia soyomaruuae takanabensis* (Otuka)** by Masuda and Noda (1976))

***Pachycrommium harissi* (Panneckoek)** reported by Noda et al (1994) from the Miocene Tamagawa Formation, Ibaraki Prefecture: ***Ampullina* (*Ampullospira*) *harrisi* Panneckoek, 1936**

***Pachycrommium japonicum* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 213, pl. 7,

figs. 1a-b

Holotype: TKD no. 6165 (figs. 1a-b), Paratype: TKD no. 6167

Loc. No. 803, a river side cliff, about 300 m downstream of the Shimizu bridge, Tochiya, Chichibu City, Saitama Prefecture: Paratype, loc. No. 812, a right river side cliff of the rakawa River at Tanumahara, Arakawa-mura, Chichibu-gun, Saitama Prefecture

Hiranita Formation

Miocene

***“Pachycrommium” nagoi* (Hatai and Nisiyama)** reported by Majima (1989) from the Oligocene Kiuragi Formation, Nagasaki Prefecture: see ***Ampullina nagoi* Hatai and Nisiyama, 1952**

***Pachypoma nisyamai* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 74, pl. 7, figs. 10-12

Holotype: IGPS no. 64312

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

***Pachypoma takitai* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 12, text-figs. 1, 2

Holotype: NSM no. 4259

Sea shore at the western end of Tokawa village, Choshi City, Chiba Prefecture (precise locality unknown)

Basal Conglomerate of the Pliocene (Naarai Formation)

Pliocene

***Pagodasyrinx* Shuto, 1969** n. subgen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, 190, Type-species; *Pleurotoma* (*Ancistrosyrinx*) *travancoria granulata* Smith described from the Upper Miocene Dingle Formation, the Philippines

***Pagodidaphne* Shuto, 1983** n. gen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 21, Type-species; *Pagodidaphne colmani* Shuto, 1983 described from the recent sea off Croker Island, Australia

***Pagodidaphne colmani* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 21, pl. 2, figs. 3, 4, text-fig. 7

Holotype: AM no. C134667

Approximately 100 miles N of Croker Island, Northern Territory, Australia; 9° 30'S, 132° 34'E

Living specimen, depth 124 m, P. H. Colman coll., Nov. 9, 1969

Recent

***Palmadusta (Purpuradusta ?) fusana* Hatai and Nisiyama, 1949**

Nautilus, vol. 62, no. 2, p. 62, pl. 4, fig. 7

Holotype: GS no. 72646

Small cliff just below the road, about 1.1 km NE of the junction of the two roads at Tsujimori, Mishima-mura, Kimistu-gun, Chiba Prefecture; 35°13'30"N, 140°01'59"E)

Sakahata Formation

Pliocene

***Palmadusta (Purpuradusta) oligodon* Hatai and Nisiyama, 1949**

Nautilus, vol. 62, no. 2, p. 63, pl. 4, figs. 11-12

Holotype: GS no. 25296

Cliff of the Koito-gawa, about 250 m E of the temple at Nishihigasa, Akimoto-mura, Kimitsu-gun, Chiba Prefecture; 35°13'29"N, 140°00'16.4"E)

Sakahata Formation

Pliocene

***Pandalosia mizunamiensis* Itoigawa and Shibata, 1984**

Bull. Mizunami Fossil Mus., no. 11, p. 31, pl. 9, fig. 3, pl. 11, figs. 1a-2f

Holotype: MFM no. 10092, Paratype: MFM nos. 10093, 10094

Akatsuki-bora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora facies, Akeyo Formation

Early Miocene

***Parabathytoma* Shuto, 1961 n. subgen.**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 87, Type-species; *Pleurotoma striatuberculata* Yokoyama, 1928 reported from the Pliocene Kounji Formation, Miyazaki Prefecture

***Parabathytoma luedorfi* (Lischke)** reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

***Paracingulina triarata* (Pilsbry)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Paraclathurella gracilentia* (Reeve)** reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture

***Paracomites rogersi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 106, pl. 9, fig. 17

Holotype: USNM no. 562856

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Paradrillia astula* (Yokoyama)** reported by Powell (1969) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Paradrillia astutoida* (Shuto)** reported by Powell (1969) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Paradrillia boehmi* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Surcula boehmi* Martin, 1914**

***Paradrillia convexiuscula* (Shuto)** reported by Powell (1969) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Paradrillia (Paradrillia) darnleyensis* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ., Ser. D. Geil., vol. 25, no. 1, p. 3, pl. 2, fig. 7, text-figs. 1, 2

Holotype: AM no. C61502

Darnley Island, Torres Strait, Queensland, Australia

Living specimen, depth 40-55 m, P. H. Colman coll., Nov. 9, 1969

Recent

***Paradrillia dainichiensis* (Yokoyama)** reported by Powell (1969) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see ***Drillia dainichiensis* Yokoyama, 1923**

***Paradrillia himea* (Makiyama)** reported by Powell (1969) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Paradrillia inconstans* (Smith)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture: ***Pleurotoma inconstans* Smith, 1875**

***Paradrillia? Iravadica* (Vredenburg)** reported by Shuto (1984) from the Miocene of Payagyigon, Burma: ***Pleurotoma (Hemipleurotoma) humilis* Beyrich var. *iravadica* Vredenburg, 1921**

***Paradrillia kegekawaensis* (Makiyama)** reported by Powell (1969) from the Pliocene Tanno Formation, Shizuoka Prefecture

***Paradrillia minoensis* (Shuto)** reported by Powell (1969) from the Miocene Kawabaru Formation, Miyazaki Prefecture

***Paradrillia nivalioides* (Yokoyama)** reported by Powell (1969) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture

***Paragemmula Shuto, 1984* n. subgen.**

Mem. Fac. Sci., Kyushu Univ. Ser. D, vol. 25, no. 2, p. 130, Type-species; *Pleurotoa (Gemmula) thyrsus* Vredenburg, 1921 described from the Miocene of Kyaungon, Burma

***Paragenota Shuto, 1969* n. subgen.**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 211, Typ-species; *Genota (Paragenota) gonzalesi* Shuto, 1969 described from the Upper Miocene Dingle Formation, the Philippines

***Parajanthina Tomida and Itoigawa, 1982* n. gen.**

Bull. Mizunami Fossil Mus., no. 9, p. 60, Type-species; *Parajanthia japonica* Tomida and Itoigawa, 1982 described from the Pliocene Kakegawa Group, Shizuoka Prefecture: see below

(Invalid by Tomida and Itoigawa (1984); synonymus with genus *Hartungia* Bronn, 1861)

Parajanthia japonica Tomida and Itoigawa, 1982

Bull. Mizunami Fossil Mus., no. 9, p. 60, pl. 19, figs. 1a-c

Holotype: MFM no. 110004

Higashigumi, Iida, Mori-machi, Suchi-gun, Shizuoka Prefecture; 137°55'58"E, 34°48'22"N

Dainichi Sandstone, Kakegawa Group

Pliocene (upper part of the Blow's N21)

(*Hartungia japonica* (Tomida and Itoigawa) by Tomida and Itoigawa (1984))

***Paralyria Shuto, 1962* n. subgen.**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 69, Type-species; *Lyria mizuhonica* Makiyama (1927) reported from the Pliocene Tenno Formation, Shizuoka Prefecture

***Parancistrolepis striatus* (Kanno)** reported by Noda (1992) from the Miocene (Eocene ?) Sankebetsu Formation, Hokkaido: ***Ancistrolepis striatus* Kanno, 1958**

***Parviconus tuberculosus* (Tomlin)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture: ***Conus tuberculotus* Tomlin, 1937**

Parviterebra raritans Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 36, pl. 1, fig. 25

Holotype: UT no. ? (CM no. 20789)

Otake (Narita City, Chiba Prefecture)

Kazusa Group (Kioroshi Formation)

Pleistocene

(Synonymus with *Aesopus japonicus* Gould, 1860 by Oyama (1973))

***Patella lamanoii* Schrenck** reported by Kochibe (1882) from the Miocene Hatsuzaki (Taga) Formation, Ibaraki Prefecture (Re-identified ***Tectura pallida* (Gould)** by Hatai and

Nisiyama (1952))

***Penepatella stellaeformis* (Reeve)** reported by Shibata (1974) from the Miocene Shukunohora Formation, Gifu Prefecture: ***Patella stellaeformis* Reeve, 1842**

***Pentagoniturrricula Shuto, 1980* n. gen.**

Prof. Kanno S. Com. Mem. Vol., p. 38, Type-species; *Surcula permodesta* Martin, 1914 reported from the Eocene Nangulan Formation, Indonesia; see below

***Pentagoniturrricula permodesta* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia; see above

Perissolax lymani Yokoyama, 1932

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt 6, p. 235, pl. 1, fig. 1

Holotype: GT no. ?

Along the stream Nanka-zawa, a branch of the Urashima-gawa, Numata-mura, Uryu-gun, Ishikari Province, Hokkaido (precise locality unknown)

Okada Formation

Miocene

Peristernia preluchuana MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 86, pl. 8, fig. 25

Holotype: USNM no. 562832

Loc. no. 17456, thin tuffaceous bed in low road cut east side of Highway 64 about 0.6 Mi (airline) W of the junction of Highways 137 and 64 at Hiyakuna, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Peretrochus africanus teramachii* Kuroda** reported by Tomida (1996) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

Peretrochus aosimai Ozaki, 1958

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 137, pl. 9, figs. 1-4

Holotype: NSM no. 4403

Cape Inuwaka, Tyosi (Choshi) City, Chiba Prefecture

Na-arai Formation

Pliocene

***Peretrochus chiasienus* Lai, 1984** (described in Bull. Malacol. R. O. China: vol. 5, p. 1-5, 3 figs) reported by Masuda and Haung (1990) from the Miocene Kuantoshan Formation, Taiwan

***Peretrochus eocenica* Kuroda and Urata, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 55, p. 267, pl. 38, figs. 1a-5

Holotype: GKL no. 5163 (figs. 1a-c), Paratype: GK-L no. 5164
Roadside, 1 km ENE from the Kattachi mne, Shimo-takata, Omuta City, Fukuoka Prefecture
Kattachi Formation; lower Nagata fossil bed, Mandano Group
Eocene

***Petrochus otoensis* Kanno, 1961**

Japan. Jour. Geol. Geogr., vol. 32, no. 1, p. 116, pl. 6, figs. 8a-b
Holotype: TKD no. 5517
Ota, Iono-mura (Kurobane-machi), Nasu-gun, Tochigi Prefecture
Kobana Formation
Miocene

Perrona birmanica* Vredenburg** reported by Shuto (1984) from the Miocene of Thanga, Burma (Perrona birmanica* (Vredenburg): *Clavatula (Perrona) birmanica* Vredenburg, 1921**)

Persicula (Persicula) bernardii* (Largillier)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Marginella bernardii* (Largillier, 1845)** by Masuda and Huang (1990))

Phalium (Phalium) areolum* (Linnaeus)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Phalium (Bezoardicella) areola* (Linnaeus, 1758)** by Masuda and Haung (1990))

***Phalium (Phalium) cancellianum* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 169, pl. 8, figs. 25a-b
Holotype: IGPS no. 53146
Wangwa, station 15 (Aando), Koryu-syo, Tikuna-gun, Sintiku-syu, Taiwan
Byoritu Beds
Pliocene (Pleistocene by Masuda and Huang (1990))

Phalium (Phalium) decussatum* (Linnaeus)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (Phalium (Bezoardicella) decussatum* (Linnaeus, 1758)** by Masuda and Huang (1990))

***Phalium (Echinophoria) etchuensis* (Hatai and Nisiyama)** reported by Abbott (1968) from the Miocene Susahara (Kurosedani) Formation, Toyama Prefecture

***Phalium (Bezoardicella) flammiferum* (Röding)** reported by Amano et al. (2000) from the Pliocene Tentokuji Formation, Akita Prefecture

***Phalium glaucum* (Linnaeus, 1758)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Phalium (Semicassis) japonicum* (Reeve, 1848)** reported by Kanno (1973) from the Miocene Taga Formation, Ibaraki Prefecture

***Phalium kammonensis* Hirayama, 1956**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 5, nos. 41-45, p. 121, pl. 8, figs. 10, 11
Holotype: TKD no. 10402
Loc. B, sea cliff, a little south of Watase, Hikoshima, Yamaguchi Prefecture
“Hikoshima” Formation (Ashiya Group)
Oligocene
(***Semicassis kammonensis* (Hirayama)** by Oyama et al. (1960): ***Phalium (Semicassis) kammonensis* Hirayama** by Masuda and Noda (1976))

***Phalium (Doliocassis) onishpetensis* Otuka, 1937**

Japan. Jour. Geol. Geogr., vol. 14, no.s 3. 4, p. 170, pl. 16, fig. 4
Holotype: GT no. ?
On the upper course of the Toyamakubetsu-gawa, Wakkanai-machi, Soya-gun, Ki, Hokkaido; 45 °13'18"N, 141 °55'30"E)
Onishpets Formation (Onishibetsu Formation)
Miocene (early middle Miocene)

Phalium strigatum* (Gmelin, 1792)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture (Phalium (Bozoardicella) variegatum* (Perry)** by Masuda and Noda (1976))

***Phalium torquatum* (Reeve, 1847)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Phalium yabei* Nomura and Hatai, 1933**

Japan. Jour. Geol. Geogr., vol. 11, nos. 1-2, p. 52, pl. 8, fig. 4
Holotype: GS no. 49913, Paratype: GS no. 49913 (pl. 8, figs. 5, 8, 8a)
250 m W of Kamayashiki-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40 °17'05"N, 141 °16'E)
Suenomatsuyama Formation
Pliocene (Miocene)
(***Shichiheia yabei* (Nomura and Hatai)** by Hatai and Nisiyama (1952))

***Phalium yokoyamai* Nomura and Hatai, 1933**

Japan. Jour. Geol. Geogr., vol. 11, nos. 1-2, p. 50, pl. 8, figs. 1. 1a

Holotype: GS no. 7763, Paratype: GS no. 7763
Higashi-Kimachi, Kimachi-mura (Road cutting about 700 m E of Kimachi, Kimachi-cho, Yatsuka-gun, Shimane Prefecture; 32°24'N, 132°57'03"E)
Fujina Formation
Miocene
(*Shichiheia yokoyamai* (Nomura and Hatai) by Hatai and Nisiyama (1952))

Phanelolepida transenna (Watson) reported by Okutani (1956) from the Pliocene Tomiya Formation, Chiba Prefecture (miss spell of genus name: *Phanerolepida transenna* (Watson) by Masuda and Noda (1976))

Phanerolepida expansilabrum Kuroda, 1931
Fossil Mollusca in F. Homma, Shinano Chubu Chishitsushi (Geology of Central Shinano), part 4, p. 70, pl. 12, fig. 100
Holotype: GK no. ?
Small valley at foot of Daimyojin-dake, 800 m SW of the summit, Nishiuchi-mura, Chiisagata-gun, Nagano Prefecture; 36°19'N, 138°07'E)
Upper Uchimura Formation
Miocene

Phanerolepida okinawana Noda, 1988
Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 34, pl. 5, figs. 4a-c
Holotype: IGUT no. 10734
Loc. no. 87-26L (cliff about 500 m E of Toubaru, Miyagi-shima, Yonashiro-cho, Nakagusuku-gun), Okinawa Prefecture
Shinzato Formation
Pliocene

Phanerolepida pseudotransenna Ozaki, 1956
Bull. Nat. Sci. Mus., vol. 3, no. 1, p. 1, pl. 1, fig. 1
Holotype: NSM no. 4368
Nisinotani, Nobori, Hane Twon, Aki County (Nishinotani, Hane-cho, Aki-gun), Kochi Prefecture
Nobori Formation
Miocene (Pliocene)

Phanerolepida rehderi MacNeil, 1960
U. S. Geol. Surv., Prof. Paper 339, p. 30, pl. 7, figs. 6-8, 11-13
Holotype: SUNM no. 562794 (figs. 6, 11)
Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene

Phanerolepida transenna (Watson) reported by Ozaki

(1956) from the Pliocene Tomiya Formation, Chiba Prefecture

Phasianella tristis Pilsbry reported by Yokoyama (1926) from the Pliocene Sawane Formation, Niigata Prefecture (*Tricula tristis* (Pilsbry) by Hatai and Nisiyama (1952))

Phasmaconus martini Shuto, 1969 n. n.
Mem. Coll. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 222, new name for *Conus jenkinsi* Martin, 1921 described from the Upper Miocene Njalindoeng bed, in Java, Indonesia as not *Conus jenkinsi* Martin, 1880

Phenacovolva Oyama, 1954 n. gen.
In Taki and Oyama (1954; Palaeont. Soc. Japan, Spec. Pap., no. 2), p. 29, Type-species; *Volva artiaperta* Yamakawa, 1911 reported from the Pliocene Tokyo Formation, Tokyo Prefecture (Invalid by Masudand Noda (1976))

Phenacovolva macneili Noda, 1980
Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 15, pl. 7, figs. 12a-b
Holotype: IGUT no. 10154
Loc. No. 315, cliffat north of Chinen Primary School, Chinen-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

Phenacovolva sowerbyana (Weinkauff) reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

Philbertia (*Pseudodaphnella*) *minoensis* (Itoigawa) reported by Itoigawa and Nishimoto (1974) from the Miocene Shukunohora Formation, Gifu Prefecture: see *Mangelia minoensis* Itoigawa, 1960

Philbertia (*Glyphostomoides*) *queenslandica* Shuto, 1983
Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 17, pl. 1, fig. 6, text-fig. 2
Holotype: AM no. C134681
BMR Stn. 1253, northeast of Rockhampton, Queensland, Australia; 22°42'S, 151°37'E
Living specimen, 68 m in depth
Recent

Philbertia (*Pseudodaphnella*) *tachymorpha* (Makiyama, 1927) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see *Cythereella totomiensis tachymorpha* Makiyama

Philindophos Shuto, 1969 n. subgen.
Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 118, Type-species; *Phos dijki* Martin, 1887 described from

the Miocene and Pliocene strata in Indonesia

***Philine argentata* Gould** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Philine ornatissima* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 408, pl. 46, figs. 6

Holotype: UT no. ? (CM no. 23626)

Kurama-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(***Yokoyamaia (Yokoyamaia) ornatissima (Yokoyama)*** by Oyama (1973))

***Philine pygmae* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 26, pl. 1, fig. 9

Holotype: UT no. ? (CM no. 20760)

Shisui (Shisui-machi, Imba-gun, Chiba Prefecture)

Shimosa Group (Inba Group)

Pleistocene

(***Yokoyamaia (Choshiphiline) pygmaea (Yokoyama)*** by Oyama (1973))

***Philine takatensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 28, pl. 5, fig. 4

Holotype: UT no. ? (CM no. 20762)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pliocene (Pleistocene)

(***Velutina (Velutella) takatensis (Yokoyama)*** by Oyama (1973))

***Phos (Philindophos) dijki* Martin, 1883-87** reported by Shuto (1969) from the Upper Miocene Dingle Formation, the Philippines

***Phos (Tritiaria) dingsi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 74, pl. 3, fig. 21

Holotype: USNM no. 562698

Loc. no. 17447, low cut on side of small promontory on top of a narrow erosional spur, about 0.5 Mi N-NW of the north junction of Highways 13 and 46 at Iwa, Okinawa Prefecture
Yonabaru Formation

Miocene (Pliocene)

***Phos fusiformis* Hirayama, 1956**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 5, nos. 41-45, p. 125, pl. 8, figs. 5-7

Holotype: TKD no. 10435 (figs. 5-6)

Loc. B, sea cliff, a little south of Watase, Hikoshima,

Yamaguchi Prefecture

“Hikoshima” Formation (Ashiya Group)

Oligocene

(***Antillophos fusiforme (Hirayama)*** by Oyama et al. (1960))

Phos iwakianus (Yokoyama) reported by Iwasaki (1970) from the Miocene Kubota Formation, Fukushima Prefecture: see ***Nassa iwakiana Yokoyama, 1931***

***Phos iwakianus fujinaensis* Ogasawara and Nomura, 1980**

Prof. Kanno, S. Mem. Vol., p. 92, pl. 12, figs. 5a-b

Holotype: IGPS no. 96051, Paratype: IGPS nos. 96052

Loc. Fj-01: Small road side cliff at Sugawara, Kamiya-cho, Izumo City, Shimane Prefecture; 132°46'30"N, 35°20'55"E

Fujina Formation

Miocene (middle Miocene)

***Phos (Coraephos) iwakianus tsukiyoshianus* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 288, pl. 5, figs. 13a-14

Holotype: ESN no. 20075, Paratype: ESN no. 20076

Loc. No. S24-1, Tsukiyoshi (Akeyo-cho), Mizunami City, Gifu Prefecture

Tsukiyoshi Facies of the Akeyo Formation

Miocene

***Phos makiyamai* Kuroda, 1961**

Prof. J. Makiyama Mem. Vol., p. 185, pl. 2, fig. 11

Holotype: ? (A. Teramachi Coll.)

Recent, off Tosa, Shikoku Island

Living specimen

Recent

***Phos (Coraephos) meisensis* Makiyama, 1936**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 11, no. 4, art. 8, p. 225, pl. 5, figs. 18, 19

Holotype: GK, no. ?

Kinsei, North Korea

Lower banko Sandstone

Miocene

***Phos minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 289, pl. 6, figs. 2a-3

Holotype: ESN no. 20077 (figs. 2a-b), Paratype: ESN no. 20078

Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

***Phos miyagiensis* Masuda and Takegawa, 1965**

Saito Ho-on Kai Mus., Res. Bull., no. 34, p. 13, pl. 2, figs.

22a-b

Holotype: DGS no. 4700 transferred to IGPS no. 90792
 Loc. no. 12, river cliff under the bridge, about 150 m W of the junction of two roads, northwest of Ashidate, Murata-machi, Shibata-gun, Miyagi Prefecture; 38°08'25"N, 140°42'10"E
 Fukuda Member of the Kanagase Formation
 Miocene

***Phos (Coraeophos) multicosatus* Noda, 1992**

Sci. Rep. Tohoku Univ., 2nd Se. (Geol.), vol. 62, nos. 1-2, p. 107, pl. 11, figs. 2, 3, 6, 7
 Holotype: IGPS no. 100943, Paratype: IGPS no. 100944-100946
 Loc. CS3, middle stream of the Shosambetsu River; Paratype, Loc. CS4, middle stream of the Shosambetsu River; Haboro-cho, Tomamae-gun, Hokkaido
 Chikubetsu Formation
 Middle Miocene

***Phos nipponicus* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 86, pl. 6, figs. 13a-b
 Holotype: IGPS, no. 55190
 Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture; 33°26'43"N, 133°58'21"E
 (Ananai Formation)
 Pliocene

***Phos notoensis* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 7, pl. 2, figs. 6a-b
 Holotype: DGS no. 4605 transferred to IGPS no. 90798
 Loc. No. 23, river cliff, about 1 km SES of Mukaiyama, Suzu City, Ishikawa Prefecture; 37°28'05"N, 137°06'39"E
 Higashi-Innai Formation
 Miocene (early Miocene)

***Phos (Coraeophos) reticosus* Hinds** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Phos (Coraeophos) tsukiyoshianus* Itoigawa, 1960** reported by Itoigawa et al. (1974) from the Tsukiyoshi, Mizunami Group; see ***Phos (Coraeophos) iwakianus tsukiyoshianus* Itoigawa, 1960**

***Phos varicosus* Gould** reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

***Pictoneritina kibiensis* Itoigawa and Nishikawa, 1976**

Bull., Mizunami Fossil Mus., no. 3, p. 147, pl. 35, figs. 4a-5b
 Holotype: MFM no. 20007, Paratype: MFM no. 20008
 Imobara, Kawakami-cho, Kawakami-gun, Okayama

Prefecture
 Lower Member of the Bihoku Group
 Miocene

***Pinguiggemula* MacNeil, 1960 n. gen.**

U. S. Geol. Surv., Prof. Paper 339, p. 103, Type-species; *Pinguiggemula okinavensis* MacNeil, 1960 described from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture

***Pinguiggemula okinavensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 104, pl. 9, figs. 12-14
 Holotype: USNM no. 562851 (fig. 13)
 Loc. no. 17454a, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture
 Shinzato Formation
 Miocene or Pliocene (Pliocene)

***Pinguiggemula philippinensis* (Martin, 1884)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Pinotoma teramachii* Kuroda, 1952** (Venus, vol. 17, no. 2, p. 65-69, text-figs. 2-3: Off Kochi Prefecture (Tosa Bay) described based on Living species) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Pisulina maxima* Kano and Kase, 2000**

Paleont. Res., vol. 4, no. 2, p. 124, figs. 2c, 5c, 9, 17B, 18
 Holotype: NSMT-Mo. no. 71624, Paratype: NSMT Mo. no. 71625, 71626, 71627
 A huge cave near the "Grotto" diving site, on the northern side of Saipan Island, northern Mariana Islands; 15°15.3'N, 145°49.5' (Paratype localities are Okinawa, Malaysia, Philippines, Palau and so on: see original description, p.125)
 Living specimen, 20-23.6 m in depth
 Recent

***Pisulina tenuis* Kano and Kase, 2000**

Paleont. Res., vol. 4, no. 2, p. 125, figs. 2D, 5D, E, 17C, 20
 Holotype: NSMT-Mo no. 71628, Paratype: NSMT Mo. no. 71629 (registered 100 specimens)
 "Sabachi Cave" southwest of Yanaguni Island, Yaeyama Islands, Okinawa Prefecture; 24°26.1'N, 122°57.5'E
 Living specimen, 24-30 m in depth
 Recent

***Pisulinella* Kano and Kase, 2000 n. gen.**

Paleont. Res., vol. 4, no. 1, p. 70, Type-species; *Pisulinella miocenica* Kano and Kase, 2000 described from the Miocene deposits of the Marshal Islands: see below

***Pisulinella miocenica* Kano and Kase, 2000**

Paleont. Res., vol. 4, no. 1, p. 71, figs. 1-3

Holotype: USNM no. 648333, Paratype: USNM ? (8 specimens)

Drill hole F-1 at depth of 930-940 feet (283-287 m), Elugelab Island, Eniwetok Atoll, Marshal Islands: Paratype; from three drill holes F-1, K-1B, E-1, on Elugelab Island, Engebi Island, and Parry Island, Eniwetok Atoll, at a depth of 830-978 (253-298 m)

Miocene deposits

Lower Miocene and lower to upper Miocene (Paratypes)

***Plesiocirsa chitaniana* (Yokoyama)** reported by Kanehara (1942) from the Plio-Pleistocene (Pleistocene) Shibilkawa Formation, Akita Prefecture; ***Turbonilla* (*Mormula*) *chitaniana* Yokoyama (*Mormula* (*Mormurella*) *chitaniana* (Yokoyama)** by Hatai and Nisiyama (1952))

***Plesiotriton tobaruensis* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 40, pl. 8, figs. 14a-b

Holotype: IGUT no. 10794

Loc. no. 82-20-1, cliff about 250 m NE of Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Plesiotrochus scalatus* (Dunker, 1882)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Pleurofusua* (*Pseudofusua*) *dinglensis* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 189, pl. 14, figs. 7, 9, 11, pl. 21, figs. 11, 18, text-figs. 34, 37

Holotype: GK-L no. 6902

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Pleurofusua feddeni feddeni* (Noetling)** reported by Shuto (1984) from the Miocene, Burma: ***Fasciolaria feddeni* Noetling, 1895**

***Pleurofusua feddeni iravadica* Vredenburg** reported by Shuto (1984) from the Upper Miocene of Dalabe, Kyaungon district, Burma: ***Surcula* (*Pleurofusua*) *iravadica* Vredenburg, 1921**

Pleurofusua fusus* Vredenburg** reported by Shuto (1984) from the Miocene of Payagyigon, Burma (Pleurofusua fusus* (Vredenburg): *Surcula* (*Pleurofusua*) *fusus* Vredenburg, 1921**

***Pleurofusua mertomi* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Surcula mertoni* Martin, 1914**

***Pleurofusua mordax* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Surcula nordax* Martin, 1914**

***Pleurofusua phasma* Vredenburg** reported by Shuto (1984) from the Upper Miocene of Dalabe, Kyaungon district, Burma: ***Pleurofusua phasma* (Vredenburg): *Surcula* (*Pleurofusua*) *phasma* Vredenburg, 1921**

***Pleurofusua* (*Neopleurofusua*) *scala* Vredenburg** reported by Shuto (1984) from the Tittabwe, Burma: ***Surcula* (*Pleurofusua*) *scala* Vredenburg, 1921**

***Pleurofusua* (*Pseudofusua*) *yabei* (Vredenburg)** reported by Shuto (1984) from the Miocene of Thanga, Burma: ***Drillia* (*Brachytoma*) *yabei* Vredenburg, 1921**

***Pleuroploca trapezium* (Linnaeus)** reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

***Pleuropyramis quinquangularis* (Vredenburg)** reported by Shuto (1984) from the Miocene of Kyudawon, Burma: ***Mangelia* (*Clathurella*) *quinquangularis* Vredenburg, 1921**

***Pleurotoma asukana* (Yokoyama)** reported by Yokoyama (1928) from the Pliocene (Kounji) Formation, Miyazaki Prefecture; see ***Drillia asukana* Yokoyama, 1926 (*Gemmula asukana* (Yokoyama)** by Hatai and Nisiyama (1952))

***Pleurotoma* (*Drillia*) *benten* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 40, pl. 1, fig. 23

Holotype: GT no. ? (CM no. 2007)

Naganuma (Roadside cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(Identified ***Clavus candens* (Smith)** by Hatai and Nisiyama (1952): ***Elaeocyma* (*Elaeocyma*) *benten* (Yokoyama)** by Oyama (1973))

***Pleurotoma* (*Drillia*) *braunsi* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 40, pl. 1, fig. 25

Holotype: GT no. ? (CM no. 20078)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Clavus braunsi* (Yokoyama) by Hatai and Nisiyama (1952): *Elaeocyma (Splendrillia) braunsi* (Yokoyama) by Oyama (1973))

Pleurotoma carinata Gray, var. *woodwardi* Martin reported by Yokoyama (1929) from the Pliocene (Konomine) Formation, Kochi Prefecture (*Gemmula granosa woodwardi* (Martin) by Hatai and Nisiyama (1952): *Turris (Gemmula) granosa* (Helbling, 1779) by Makiyama (1960))

Pleurotoma contraria Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 383, pl. 44, figs. 2a-b

Holotype: GT no. ?

Manganji (Small cliff behind Manganji, Otomo-mura, Yuri-gun, Akita Prefecture; 39°20'N, 140°05'05"E)

(Wakimoto Formation)

Pliocene (Pleistocene)

(*Antiplanes contraria* (Yokoyama) by Hatai and Nisiyama (1952): *Antiplanes kamchatica* Dall, 1919 by Makiyama (1958))

Pleurotoma (Drillia) cosibensis Yokoyama, 1920

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 38, pl. 1, fig. 26

Holotype: GT no. ? (CM no. 20074, noted as missing by Oyama (1973))

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Brachytoma cosibensis* (Yokoyama) by Hatai and Nisiyama (1952): *Inquisitor cosibensis* (Yokoyama) by Oyama (1973))

Pleurotoma (Mangilia) deshayesii Dunker reported by Yokoyama (1920) from the Koshiba Formation, Kanagawa Prefecture (*Mangilia deshayesii* (Dunker) by Hatai and Nisiyama (1952))

Pleurotoma (Bela ?) glabra Yokoyama, 1920

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 43, pl. 2, fig. 1

Holotype: GT no. ? (CM no. 20086)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Admete glabra* (Yokoyama) by Hatai and Nisiyama (1952): *Belaturricula glabra* (Yokoyama) by Oyama (1973))

Pleurotoma kamakurana Pilsbry reported by Yokoyama (1920) from the Koshiba Formation, Kanagawa Prefecture (*Turricula (Surcula) kamakurana* (Pilsbry) by Hatai and

Nisiyama (1952): "*Comites*" *yokoyamai* (Oyama) by Oyama (1973))

Pleurotoma mediocarinata Yokoyama, 1920

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 36, pl. 1, fig. 18

Holotype: GT no. ? (CM no. 20066)

Nojima (Sea cliff of NE coast of Nojima, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°19'05"N, 139°38'02"E)

Nojima Formation

Pliocene (Pleistocene)

(Identified *Suavodrillia engoina* (Watson) by Hatai and Nisiyama (1952): *Riuguhdrillia engonia ? mediocarinata* (Yokoyama) by Oyama (1973))

Pleurotoma (Mangilia) miyatensis Yokoyama, 1920

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 42, pl. 5, fig. 2

Holotype: GT no. ? (CM no. 20082)

Shimo-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Pliocene (Pleistocene)

(*Ophiodermella miyatensis* (Yokoyama) by Oyama (1973))

Pleurotoma (Drillia) nivalioides Yokoyama, 1920

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 39, pl. 1, fig. 27

Holotype: GT no. ? (CM no. 20075)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Clavatula nivalioides* (Yokoyama) by Hatai and Nisiyama (1952): *Paradrillia nivalioides* (Yokoyama) by Oyama (1973))

Pleurotoma (Surcula) nojimensis Yokoyama, 1920

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 42, pl. 1, fig. 19

Holotype: UT no. ? (CM no. 20085)

Nojima (Sea cliff of NE coast of Nojima, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°19'05"N, 139°38'02"E)

Nojima Formation

Pliocene (early Pleistocene)

(*Brachytoma nojimensis* (Yokoyama) by Hatai and Nisiyama (1952): *Aforia nojimensis* (Yokoyama) by Oyama (1973))

Pleurotoma ojiensis Tokunaga, 1906

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 15, pl. 1, fig. 28

Holotype: UT no. ?

Cutting along the railway at Oji (Kita-ku), environs of Tokyo (Tokyo Prefecture)
Oji shell bed
Pleistocene

Pleurotoma oxytropis* Sowerby** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (Stenotis oxytropis* (Sowerby)** by Masuda and Huang (1990): ***Lophiotoma (Lophioturris) leucotropis* (Adams and Reeve)**)

***Pleurotoma (Mangelia) parva* Tokonaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 16
Holotype: UT no. ?
Cutting along the railway at Oji (Kita-ku), environs of Tokyo (Tokyo Prefecture)
Oji Shell bed (Tokyo Formation)
Pleistocene
(Invalid because of no designation as figure and plate)

***Pleurotoma pervirgo* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 340, pl. 66, fig. 8
Holotype: GT no. ? , Paratype: GT no. ? (pl. 66, fig. 7) (designated by Hatai and Nisiyama (1952))
Road-side cutting at the N foot of the hill, a short distance W off the bridge at Kounji, Takanabe-cho, Koyu-gun, Miyazaki Prefecture; 32°07'11"N, 131°30'10"E)
(Kounji Formation)
Pliocene
(***Orthosurcula mirabilis pervirgo* (Yokoyama)** by Hatai and Nisiyama (1952): ***Turricula pervirgo* (Yokoyama)** by Makiyama (1959))

***Pleurotoma (Drillia) principalis* (Pilsbry)** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture (Reidentified ***Clavus (Brachytoma) flavidulus* (Lamarck)** by Hatai and Nisiyama (1952): ***Inquisitor jeffreysii* (Smith)** by Oyama (1973))

***Pleurotoma (Drillia) pseudo-principalis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 37, pl. 1, fig. 21
Holotype: GT no. ? (CM 20070)
Naganuma (Road-side cutting at Naganuma, Tostuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)
Pliocene (Pleistocene)
(Reidentified ***Clavus (Brachytoma) tuberosus* (Smith)** by Hatai and Nisiyama (1952): ***Crassispira pseudoprincipalis* (Yokoyama)** by Oyama (1973))

***Pleurotoma (Drillia) quantoana* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 38, pl. 1,

fig. 22

Holotype: GT no. ? (CM no. 20073, noted as missing by Oyama (1973))
Naganuma (Road-side cutting at Naganuma, Tostuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)
Naganuma Formation
Pliocene (Pleistocene)
(***Tomopleura quantoana* (Yokoyama)** by Hatai and Nisiyama (1952): ***Tomopleura quantoana* (Yokoyama)** by Oyama (1973))

***Pleurotoma sadoensis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 259, pl. 32, fig. 3
Holotype: GT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)
Sawane Formation
Pliocene
(Reidentified ***Rectiplanis sanctiioannis* (Smith)** by Hatai and Nisiyama (1952): ***Antiplanes (Rectiplanes) sanctiioannis* (Smith, 1875)** by Makiyama (1958))

***Pleurotoma sagamiensis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 16, pl. 1, figs. 29a-b
Holotype: UT no. ?
Cutting along the railway at Shinagawa (Konan-ku), environs of Tokyo (Tokyo Prefecture)
Shinagawa Shell bed (Tokyo Formation)
Pleistocene
(Originally described ***P. sagamiensis***, however noted as ***P. sagamiensis*** in explanation of plate: Reidentified with ***Leucosyrinx coreanica* (Adams and Reeve)** by Hatai and Nisiyama (1952))

***Pleurotoma shimomatana* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 330, pl. 38, fig. 7
Holotype: GT no. ?
Shimomata (Road-side exposure about 500 m SW of Shimomata, Nishinango-mura, Ogasa-gun, Shizuoka Prefecture; 34°45'05"N, 138°00'01"E)
Hijikata Formation
Pliocene

***Pleurotoma sondaiana* Martin, 1894** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Pleurotoma subdeclivis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 329, pl. 38, fig. 8

Holotype: GT no. ?

Mitare (Exposure of road-side, about 300 m SW of Mitare, Awamoto-mura, Ogasa-gun, Shizuoka Prefecture; 34 ° 47'62"N, 138 °1'08"E)

Uchida Formation

Pliocene

(*Spirotropis subdeclivis* (Yokoyama) by Hatai and Nisiyama (1952))

***Pleurotoma subdeclivis* var. *glabra* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 339, pl. 66, fig. 5

Holotype: GT no. ?

Northern cliff of the Komaru-gawa, a short distance W of the main road near Hagenoshita, Uwae-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture; 32 °8'27"N, 131 °31'04"E) (Kounji Formation; Miyazaki Group)

Pliocene

(Reidentified with *Luecosyrinx coreanica* (Adams and Reeve) by Hatai and Nisiyama (1952))

***Pleurotoma subdeclivis* var. *striato-tuberculata* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 340, pl. 66, fig. 6

Holotype: GT no. ?

Northern cliff of the Komaru-gawa, a short distance W of the main road near Hagenoshita, Uwae-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture; 32 °8'27"N, 131 °31'04"E) (Kounji Formation; Miyazaki Group)

Pliocene

(*Truicula ? subdeclivis striatotuberculata* (Yokoyama) by Hatai and Nisiyama (1952))

***Pleurotoma (Drillia) tabatensis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 15, pl. 1, fig. 27

Holotype: UT no. ?

Cutting along the railway at Tabata (Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata shell bed

Pleistocene

***Pleurotomaria prope-hirasei* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 9, pl. 7, figs. 1-3

Holotype: NSM no. 4297

Cape Inuwaka and the beach on the western end of Tokawa village, Choshi City, Chiba Prefecture (Precise locality and formation unknown)

Pliocene

(*Mikadortochus propehirasei* (Ozaki) by Masuda and Noda (1976))

***Pleurotomaria yosiwarai* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1 (no. 34), p. 9, pls. 1-2

Holotype: NSM no. 4258

Cape Inuwaka, Choshi City, Chiba Prefecture (Precise locality and formation unknown)

Basal Conglomerate of the Pliocene (Naarai Formation)

Pliocene

(*Mikadortochus yosiwarai* (Ozaki) by Masuda and Noda (1976))

***Pleurotomaria yabei* Nomura and Niino, 1932**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 15, no. 3, p. 189, pl. 12, figs. 6, 6a-9

Syntype: GS no. 16010

Behind the temple, a short distance N of the primary school at Mera, Mihama-mura, Koma-gun, Shizuoka Prefecture; 34 ° 39.5'N, 138 °47.5'E)

Shirahama Formation

Miocene

(*Pleurotomaria (Mikadortochus) yabei* Nomura and Niino by Haii and Nisiyama (1952))

***Pleuroromella (?) akitana* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-6, p. 60, fig. 4

Holotype: SM no. ?

Cliff of the Sannai-gawa opposite Taya, Iwami-Sanna—mura, Kawabe-gun, Akita Prefecture; 39 °42'N, 140 °17'E)

Taya Formation

Miocene

***Pleurotomella ? ryukyensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 117, pl. 9, fig. 22

Holotype: USNM no. 562860

Loc. no. 17456, thin tuffaceous bed in low road cut east side of Highway 64 about 0.6 Mi (airline) W of the junction of Highways 137 and 64 at Hiyakuna, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

Pleurotomoides ? convexus (Vredenburg) reported by Shuto (1984) from the Miocene of Kyaukmigon, Burma:

***Drillia (Brachytoma) convez* Vredenburg, 1921**

***Pliarcularia bellula* (A. Adams)** reported by Matsushima (1974) from the Shell Mound in Kanagawa Prefecture

***Plicifusus agumensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 215, pl. 76, figs. 3-5

Holotype: TKD no. 6163, Paratype: TKD no. 6164

Loc. No. 207, a river side exposure near a fall in Nanokami,

and mountain side cliff, about 70 m E of of the fall in Nanokami, Hikokubo, Yoshida-machi, Chichibu-gun, Saitama Prefecture
Nenokami Formation
Oligocene (early Miocene)

Plicifusus aurantius (Dall) reported by Noda et al. (1993) from the Pliocene Yuchi Formation, Hokkaido

***Plicifusus hayasakae* Noda, 1962**

Sci. Rep., Tohoku Univ., 2nd ser. (Geol.), vol. 34, no. 3, p. 230, pl. 16, fig. 11

Holotype: IGPS no. 79064

Loc. no. 918, fall cliff near the road facing Toge, Oshima-mura, Higashikubiki-gun, Niigata Prefecture

Kubiki Formation

Miocene

(*Mohnia hayasakae* (Noda) by Masuda and Noda (1976))

Plicifusus ozawai (Yokoyama) reported by Kaeno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Plicifusus rhyssus (Dall) reported by Noda et al (1983) from the Pliocene Yuchi Formation, Hokkaido

***Plicifusus sugiyamai* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 149, pl. 15, figs. 13, 20, 21

Holotype: NSM no. 4462 (figs. 20, 21), Paratype: NSM no. ? (fig. 13)

Road-side cutting at 1.5 km SW of Siisiba (Shiishiba), railway station, Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

(*Mohnia sugiyamai* (Ozaki) by Masuda and Noda (1976))

Plicifusus yanamii (Yokoyama) var. *tenuis* (Hatai and Nisiyama) reported by Kanahara (1940) from the Pliocene Ota Formation, Niigata Prefecture

Pliconacca atricapilla (Martin) reported by Noda (1991) from the Pliocene Yonabaru Formation, Okinawa Prefecture: *Natica* (*Lunatia*) *artricapilla* Martin, 1884

Pliconacca nomii (Nagao) reported by Majima (1989) from the Eocene Okinoshima Formation, Nagasaki Prefecture: see *Polinices* (*Neverita*) *nomii* Nagao, 1928

***Pogodula okinawaensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 18, pl. 7, figs. 8a-9b, pl. 11, fig. 6

Holotype: IGUT no. 10159, Paratype: IGUT no. 10160

Loc. No. 347, cliff about 500 m SE of Shinzato,

Sashiki-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

Polinices albumen (Linne) reported by MacNeil (1960) from the Miocene Yobanaru Formation, Okinawa Prefecture

Polinices (*Neverita*) *ampla* (Philippi) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture; *Natica ampla* Philippi (*Neverita didymus* (Bolten) by Hatai and Nisiyama (1952))

***Polinices* (*Euspira*) *ashiyaensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 95, pl. 15, fig. 19

Holotype: GS no. 36135, Paratype: GS no. 36135, 36149 (figs. 1, 1a)

Beach rocks along the sea coast about 800 m NE of Ashiya-machi, Onga-gun, Fukuoka Prefecture; 33°54'36"N, 130°40'18"E); Paratype, Beach rocks along the sea coast, about 500 m N of Sakamizu, Shimano-mura, Onga-gun, Fukuoka Prefecture; 33°56'07"N, 130°42'18"E)

Yamaga Formation

Oligocene

(*Euspira ashियाensis* (Nagao) by Hatai and Nisiyama (1952))

Polinices candidissimus (Le Guillou) reported by Majima (1989) from the lower Pleistocene Nojima Formation, Kanagawa Prefecture: *Natica candidissima* Le Guillou, 1842

Polinices (*Polinices*) *columnaris* (Recluz, 1850) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Polinicea* (*Neverita*) *coticazae* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, p. 150, pl. 12, fig. 8

Holotype: Geol Surv. Chosen, no. 75

Kinshodo, North Korea

Mankodo Formation

Miocene

(*Neverita coticaeze* (Makiyama) by Hatai and Nisiyama (1952))

Polinices cumingianus madioensis Altena reported by Noda (1971) from the Pliocene (Pleistocene) Haneji Formation, Okinawa Prefecture

Polinices didyma (Röding) reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture (*Neverita* (*Glossaulax*) *didyma* (Röding) by Masuda and

Noda (1976))

***Polinices didymoides* Kanno and Matsuno, 1960**

Jour. Geol. Soc. Japan, vol. 66, no. 772, p. 43, pl. 5, figs. 7a-b

Holotype: TKD no. 5510

Loc. No. 732, the upper stream of the Chikubetsu River, a tributary of the Kotanbetsu River, Hokkaido

Sankebetsu Formation

Miocene (Eocene ?)

Polinices (Neverita) didymus* (Bolten)** reported by Nomura and Hatai (1936) from the Miocene Tanagura Formation, Fukushima Prefecture (Neverita didyma* (Bolten)** by Hatai and Nisiyama (1952))

***Polinices (Neverita) eocenica* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 9, no. 3, p. 118 (22), pl. 18 (1), figs. 22, 23

Holotype: IGPS no. 35699 (designated by Hatai and Nisiyama (1952))

Takesaki, Koyaki-jima, Koyaki-mura, Nishisonogi-gun, Nagasaki Prefecture

Futagojima Formation

Eocene

(***Polinices (Glossaulax) eocenica* Nagao** by Oyama et al. (1960))

Polinices (Polinices ?) filusus* (Reeve, 1855)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Polinices mammata* (Röding)** by Masuda and Huang (1990))

***Polinices flemingianus* (Recluz, 1844)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Natica flemingiana* Recluz**

***Polinices (Glossaulax) hagenoshitaensis* Shuto, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 55, p. 284, pl. 42, fig. 10

Holotype: GKL no. 8003, Paratype: GKL nos. 7993, 8004, 8007

Cutting along the national highway no. 10 at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Miyazaki Group

Pliocene

(***Neverita (Glossaulax) hagenoshitaensis* (Shuto)** by Masuda and Noda (1976))

***Polinices (Glossaulax) hyugensis* Shuto, 1964**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 55, p. 282, pl. 42, figs. 3, 5, 15, pl. 43, figs. 9, 10, 12

Holotype: GKL no. 8008 (pl. 42, fig. 5), Paratype: GKL nos. 8001, 8002, 8008, 8010, 8005 and 8006 (Loc. Nihonmatsu), 80011 (loc. Kugino), 8012 (loc. Nakabyu) 8035 (loc. Yamaji) Small cutting along the national highway no. 10 at Hagenoshita, Uwaye-mura; small cutting along the national highway No. 10 at Nihonmatsu, Takanabe-cho; road side small cliff north of Yamaji, Mino-mura, Koyu-gun (Saito City); river shore at Nakabyu, Yatsushiro-mura; 300 m S of Kugino, Aya-machi; Higashimorokata-gun, Miyazaki Prefecture

Miyazaki Group

Miocene to Pliocene

(***Neverita (Glossaulax) hyugensis* (Shuto)** by Masuda and Noda (1976))

***Polinices (Neverita) insignis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 97, pl. 15, figs. 17-17b

Holotype: GS no. 36155, Paratype: GS no. 36155

Pass-side cutting on the boundary between Oyamaa-mura and Arita-machi, about 500 m NW of the shrine at Obo, Arita-machi, Nishihimatsura-gun, Saga Prefecture

Kishima Formation

Oligocene

(***Neverita insignis* (Nagao)** by Hatai and Nisiyama (1952);

***Mammilla insignis* (Nagao)** by Oyama et al. (1960))

***Polinices (Neverita) kiritaniana* (Yokoyama)** reported by Nomura and Zinbo (1935) from the Miocene Yanagawa Prefecture; see ***Natica kiritaniana* Yokoyama (*Neverita kiritaniana* (Yokoyama)** by Hatai and Nisiyama (1952))

***Polinices (Neverita) kiritaniana gorokuensis* Nomura, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 274, pl. 36, figs. 8a-9b

Holotype: SM no. 2261, Paratype: GS no. 15967

Goroku cliff along the right bank of the Hirose-gawa, Aoba-ku, Sendai City, Miyagi Prefecture; 38°16'N, 140°49'E

Tatsunokuchi Formation

Pliocene

(***Neverita kiritaniana gorokuensis* (Nomura)** by Hatai and Nisiyama (1952))

***Polinices mammilla* (Linné)** reported by Nomura (1935)

from the Pleistocene Raised Coral Reef Beds, Taiwan (***Polinices pyriformis* (Recluz)** by Masuda and Huang (1990)), and also reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

***Polinices (Euspira) meisensis* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, p. 150-151, pl. 12, fig. 7.

Holotype: Geol Surv., Chosen, no. 45

Daitokudo, North Korea
Heirokudo Formation
Miocene

(*Euspira meisensis* (Makiyama) by Masuda and Noda (1976))

Polinices (Polinices) melanostoma (Gmelin, 1792) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture (*Polinices opacus* (Recluz))

Polinices mizunamiensis Itoigawa, 1960

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 283, pl. 4, figs. 10a-c

Holotype: ESN no. 20059, Paratype: ESN no. 20060

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Oidawara Formation

Miocene

Polinices (Neverita) nomii Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 96, pl. 15, figs. 16-16c

Holotype: GS no. 36151

Near the top of the hill (92 m) about 300 m W of Abo, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°40'54"N, 129°48'E)

Okinoshima Formation

Upper Eocene

(*Neverita nomii* (Nagao) by Hatai and Nisiyama (1952):

Polinices (Pliconacca) nomii Nagao by Oyama et al. (1960))

Polinices (Euspira) otukai Masuda, 1956

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 162, pl. 26, figs. 9a-b

Holotype: DGS no. 1408 transferred to IGPS no. 90421

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture Higashi-Innai Formation

Miocene (early Miocene)

(*Euspira otukai* (Masuda) by Masuda and Noda (1976))

Polinices pallidus (Broderip and Sowerby) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture; *Natica pallidus* Broderip and Sowerby (*Gennaesosinum pallidus* (Broderip and Sowerby) by Hatai and Nisiyama (1952))

Polinices peselephanti (Link) reported by Majima (1989) from the Upper Pleistocene Ryukyu Limestone of Kikai Island, Kagoshima Prefecture: *Natica peselephanti* Link, 1807

Polimices recluziana vancouverensis Clark and Arnold reported by Hatai and Koike (1957) from the Oligocene

(Miocene) Hota Formation, Chiba Prefecture

Polinices (Glossaulax) reiniana Dunker var. reported by Sakagami et al (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (*Neverita (Glossaulax) reiniana* (Dunker) by Masuda and Noda (1976))

Polinices (Neverita) sagamiensis Pilsbry, 1904 reported by Shuto (1964) from the Pliocene Miyazaki Group, Miyazaki Prefecture (*Neverita (Glossaulax) sagamiensis* (Pilsbry) by Masuda and Noda (1976); *Polinices sagamiensis* Pilsbry by Majima (1989))

Polinices tumidus (Swainson) reported by Tomida (1996) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

Polinices (Lunatia) utoensis Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no.3, p. 119, pl. 22, figs. 22, 22a

Holotype: GS no. ?, Paratype: GS no. ?

Road-side cutting along the sea-shore about 550 m W of the Akase railway station of the Misumi Line, Oda-mura, Uto-gun, Kumamoto Prefecture; 32°39'N, 130°30'20"E)

Shiratake Formation

Lower Eocene

(*Euspira utoensis* (Nagao) by Hatai and Nisiyama (1952):

Lunatia ? otoensis (Nagao) by Oyama et al. (1960))

Pollia mollis (Gould, 1860) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture:

Pisania mollis Gould

Pollia obliquicostata (Reeve) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan:

Buccinum obliquicostatum Reeve, 1846 (*Cantharus ? obliquicosta* (Reeve) by Masuda and Huang (1990))

Polinices (Euspira) ashियाensis Nagao, 1928, p. 95, pl. 15, figs. 1, 1a; see *Polinices (Euspira) ashियाensis* Nagao, 1928 (*Euspira ashियाensis* (Nagao) by Hatai and Nisiyama (1952))

Polinices (Neverita) eocenica Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no.3, p. 118, pl. 18, figs. 2-2b

Holotype (Lectotype): GS no. 35699, Paratype: GS no. 35699 (pl. 18, fig. 3) (designated by Hatai and Nisiyama (1952))

Sea cliff W off the hill (48 m), about 250 m N of Takesaki, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; 32°40'34"N, 129°48'16"E)

Futagojima Formation

Lower Eocene

(*Neverita eocenica* (Nagao) by Hatai and Nisiyama (1952))

Polinices ovata pila* Pilsbry** reported by Otuka (1939) from the Pliocene (Pleistocene) Tanabu Formation, Aomori Prefecture (Euspora ovata pila* (Pilsbry)** by Hatai and Nisiyama (1952))

***Pollia martini* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 120, pl. 9, figs. 11, 16, text-figs. 26, 29

Holotype: GK-L no. 6985

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

Polytropa heyseana* (Dunker)** reported by Hase (1965) from the Holocene "Yamashita Formation", Miyagi Prefecture (Nucella heyseana* (Dunker)** by Masuda and Noda (1976))

***Polystira kurodai* (Makiyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see ***Turris kurodai* Makiyama, 1927**

Polytropa freycinetii* (Deshayes)** reported by Chinzei (1961) from the Pliocene Togawa Formation, Aomori Prefecture (Nucella freycinetii* (Deshayes)** by Masuda and Noda (1976))

***Polytropa lamellose* (Gmelin)** reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture

***Polytropa shiwa* Chinzei, 1961**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 13, pt. 1, p. 102, pl. 2, figs. 3, 7, 8

Holotype: CM no. 8626 (figs. 3, 7, 8), Paratype: CM no. 8628

Loc. no. 9, a cliff in the southern bank of the Asaamizu River, about 1.2 km W of Dogamae, Nozawa-mura (Gonohe-machi), Sannohe-gun, Aomori Prefecture

Togawa Formation

Pliocene

"*Polytropa*" *yatsuoensis* Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 89, pl. 4, figs. 16a-17b

Holotype: JC no. 1400050 (figs. 16a-b), Paratype: JC no. 1400051

Kakehata, Yatsuo-machi, Nei-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late early Miocene)

(***Acanthinucella yatsuoensis* (Tsuda)** by Oyama (1961))

***Potamides ancisus* Yokoyama, 1929**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 8, p. 367,

pl. 70, fig. 2

Holotype: GT no. 4859 (k. f.)

Platform near (the sea-shore of Senjojiki, about 600 m NW off) Togane-ura, Kokubu-mura, Naga-gun, Saitama Prefecture; 34°56'33"N, 132°06'35"E)

(Togane Formation)

Pliocene (Miocene)

(***Proclava ancisa* (Yokoyama)** by Hatai and Nisiyama (1952))

***Potamides (Exechestoma) pakistanicus* Mizuno, 1969**

Bull. Geol. Surv. Japan, vol. 20, no.4, p. 9 (233), pl. 1, figs. 5-8

Holotype: GSJ no. 5303 (figs. 5, 5a), Paratype: GSJ nos. 5304, 5303, 5306 (figs. 6-8)

Station 63-3S-ALL (Adit no. 3), Adit, Degari Colliery, about 17 miles SE of Ouetta (30°05'N, 67°13'E), West Pakistan (Pakistan)

Degari coal-bearing sandstone

Eocene

***Potamides (Tympantomus) fluviatilis* Potiez and Michelin**

reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan

***Potamides (Cerithidea) kanpokuensis* Makiyama, 1926**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 2, no. 3, art. 8, p. 149, pl. 12, figs. 2, 3

Syntype: Geol. Surv. Chosen and Geol. Inst. Kyoto Imp. Univ., no. ?

Nanseki, North Korea

Heirokudo Formation

Miocene

***Potamides (Batillaria) murayamai* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 53, pl. 4, figs. 5, 6

Syntype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Jowan, Shiko Sho, Shinchik Province, Taiwan; Kwan-in San, Taikei-gun, Shinchik Province, Taiwan

Upper Byoritz Beds and Lower Byoritz Beds

Pliocene (Pleistocene)

(***Batillaria murayamai* (Yokoyama)** by Makiyama (1960))

***Potamides muritus* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 54, pl. 4, fig. 11

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Between Sekibyo and Rokjukei, Tainan Province, Taiwan

Lower Byoritz Beds

Pliocene (Pleistocene)

(***Contumax lifuensis muritus* (Yokoyama)** by Makiyama (1960): ***Cerithidea muritus* (Yokoyama)** by Masuda and Huang (1990))

***Potomides uyemurai* Yokoyama, 1929**

Jour. Fac. Sci., Imp. Univ. Yokyo, sec. 2, vol. 2, part 9, p. 383, pl. 71, fig. 3

Holotype: UT no. ?

Seashore south of the river Kongas, North Sakhalin (Russia)
Beds II: in the "Sandy Shale"

Pliocene ?

(*Clinopegma* ? *uyemurai* (Yokoyama))

***Prepobella yokoyamai* Ozaki** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (*Propebela yokoyamai* Ozaki by Masuda and Noda (1976))

***Primovula (Primovula) atriactina* Hatai and Nisiyama, 1949**

Nautilus, vol. 62, no. 2, p. 58, pl. 4, figs. 3, 4

Holotype: GS no. 72641

East cliff of the Yoro-gawa, E of Iwaibara, Oikawa-mura, Isumi-gun, Chiba Prefecture; 35°13'41"N, 140°10'37"E)

Kiwada Formation

Pliocene (early Pleistocene)

***Primovula rhodia* (A. Adams)** reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

***Priscofusus clarki* Kanno, 1971**

Palaeont. Soc. Japan, Spec. Pap., no. 16, p. 122, pl. 13, fig. 8, pl. 14, figs. 8, 9, 15

Holotype: TUE no. 10054 (pl. 13, fig. 8), Paratype: TUE no. 10055

Loc. no. 81002, Paul Creek, Alaska, USA, Paratype: Loc. No. 80905, south of the Yagataga Glacier, Alaska, USA

Poul Creek Formation

Oligocene

***Priscofusus ishijimai* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 121, pl. 5, figs. 14-19

Holotype: TKD no. 10185 (figs. 14, 15), Paratype: TKD nos. 10186

Loc. A15, road-side cliff at about 1 km N of Yotsukura Fining Port, Yotsukura-machi, Iwaki City, Fukushima Prefecture; Paratype, A29, cliff along the tributary of the Kobisa-gawa, Oyamada, Hisanohama-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

***Pristiterebra bifrons* (Hinds)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: *Terebra bifrons* Hinds, 1843

***Pristiterebra tsuboiana* (Yokoyama)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see *Terebra tsuboiana* Yokoyama, 1922

***Proclava ancisa* (Yokoyama)** reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture (*Cerithium ancisa* (Yokoyama) by Masuda and Noda (1976))

***Proclava kaneharai* (Huzita and Ogose)** reported by Itoigawa (1974) from the Miocene Tsukiyoshi Formation, Gifu Prefecture (*Cerithium kaneharai* Huzita and Ogose, 1950 by Masuda and Noda (1976))

***Proclava kochi* (Philippi)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Rhinoclavis kochi* (Philippi) by Masuda and Noda (1976))

"*Proclava*" *ishiiianum* (Yokoyama) reported by Otuka (1934) from the Miocene Shiratori Formation, Iwate Prefecture; see *Cerithium ishiiianum* Yokoyama (*Proclava otukai* Nomura by Hatai and Nisiyama (1952))

***Proclava minoensis* (Itoigawa)** reported by Itoigawa (1974) from the Miocene Kujiri Formation, Gifu Prefecture (*Rhinoclavis minoensis* (Itoigawa) by Masuda and Noda (1976))

***Proclava otukai* (Nomura)** reported by Itoigawa (1974) from the Miocene Yamanouchi Formation, Gifu Prefecture (*Cerithium otukai* Nomura, 1935 by Masuda and Noda (1976))

***Proclava pfefferi* (Dunker)** reported by Hayasaka and Oki (1971) from the Pleistocene Kogashira Formation, Kagoshima Prefecture (*Rhinoclavis pfefferi* (Dunker) by Masuda and Noda (1976))

***Proclava tokiensis* Itoigawa** reported by Itoigawa et al. (1974), from the Miocene Kujiriri Facies of the Mizunami Group, Gifu Prefecture: see *Rhinoclavis (Proclava) tokiensis* Itoigawa, 1960

***Profundinassa babylonica* (Watson)** reported by Otuka from the Pliocene Tomiya Formation, Chiba Prefecture; *Nassa babylonica* Watson

***Profundinassa kazusensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 171, pl. 12, figs. 5a-b

Holotype: Keio Yochisha no. ?

Road cutting at Tsuruoka, 0.8 km SE of Sanuki Station (Uchibo Line), Fusstu City, Chiba Prefecture

Mandano Formation; upper part
Pleistocene

***Profundinassa omuensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 23,
pl. 10, figs. 1, 24

Holotype: IGUT no. 10183

Loc. No. 435, road side cliff, about 500 m NW of Shikenbaru,
Tamagusuku-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Propebel candida* (Yokoyama)** reported by Ozaki (1958)
from the Pliocene Iioka Formation, Chiba Prefecture: see ***Bela***
***candida* Yokoyama, 1926**

***Propebela kurodai* (Onoyama)** reported by Chinzei (1959)
from the Pliocene Kubo Formation, Iwate Prefecture

***Propebela (Turritoma) mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 78, pl. 4,
figs. 6a-b

Holotype: ESN no. 30025, Paratype: ESN no. ?

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie
Prefecture

Oi Formation

Miocene

***Propebela nakamurai* (Onoyama)** reported by Chinzei
(1959) from the Pliocene Kubo Formation, Iwate Prefecture

“*Propebela*” *takamiyaensis* Shibata, 1970

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 79, pl. 4,
figs. 7a-b

Holotype: ESN no. 30026, Paratype: ESN no. ?

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie
Prefecture

Oi Formation

Miocene

***Propebela turricula* (Montague)** reported by Chinzei (1959)
from the Pliocene Kubo Formation, Iwate Prefecture
(***Propebela turricula candida* (Yokoyama)** by Masuda and
Noda (1976))

***Propebela turricula candida* (Yokoyama)** reported by
Itoigawa (1958) from the Pliocene Nishiyama Formation,
Niigata

***Propebela yokoyamai* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 164, pl.
15, figs. 1, 2

Syntype: NSM no. 4457, 4467

Road-side cutting, 500 m SW of Tokoyoda-mati (-machi),
and 1.5 km N of Takano-mati (-machi), Tyosi (Choshi) City,

Chiba Prefecture

Iioka Formation

Pliocene

***Propebela (Turritoma) yokoyamai* Onoyama** reported by
Kasenoa and Matsuura (1965) from the Pliocene
(Pleistocene) Omma Formation, Isikawa Prefecture
(***Propebela turricula candida* (Yokoyama)** by Masuda and
Noda (1976))

***Proterato (Sulcerato) callosa* (Adams and Reeve)** reported
by Noda et al (1993) from the Pliocene Kume Formation,
Ibaraki Prefecture: ***Erato callosa* Adams and Reeve, 1858**

***Protorato (Sulcerato) callosa minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 284, pl. 5,
figs. 5a-b

Holotype: ESN no. 20062

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City,
Gifu Prefecture

Shukunohoea sandstone of the Oidawara Formation

Miocene

(***Protorato (Sulcerato) minoensis* Itoigawa** by Masuda and
Noda (1976))

***Proterato (Sulcerato) callosa nomurai* Hatai and Nisiyama,
1949**

Nautilus, vol. 62, no. 2, p. 61, pl. 4, fig. 1

Holotype: GS no. 72644

East cliff of the Yorogawa, E of Iwaibara, Oikawa-mura,
Isumi-gun, Chiba Prefecture; 35 °13'41"N, 140 °10'37"E)

Kiwada Formation

Pliocene (Pleistocene)

***Proterato (Sulcerato) callosa uedai* Hatai and Nisiyama,
1949**

Nautilus, vol. 62, no. 2, p. 61, pl. 4, fig. 2

Holotype: GS no. 72645

Road-side cutting immediately NE of the post-office at
Kotadai, Oikawa-mura, Isumi-gun, Chiba Prefecture; 35 °
14'16"N, 140 °10'20"E)

Otadai Formation

Pliocene (Pleistocene)

***Proterato (Sulcerato) minoensis* Itoigawa** reported by
Itoigawa (1974) from the Miocene Nataki Formation, Gifu
Prefecture

***Proterotella depresssa* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 127, pl. 20, fig. 2

Syntype: GK no. ?

Togari, Toki-gori, Mino Province (Small cliff along the
southern side of the NE-SW valley (Hazama-bora), about
400 m N of the contact point of the small road and the main

road at W of Togari, Akiyo-mura, Toki-gun, Gifu Prefecture;
35°22'05"N, 137°14'27"E)
Togari Formation
Miocene

***Protrotella hayashii* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 205, pl. 5,
figs. 15a-16b
Holotype: TKD no. 5861 (figs. 16a-b), Paratype: TKD no.
5862
Loc. No. 606, a large cliff, so-called "Yobake", about 600 m
downstream of the Akahira bridge, Nagura, Ogano-machi,
Satiama Prefecture
Nagura Formation
Lower Miocene

***Protrotella shukuborensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 276, pl. 3,
figs. 9a-c
Holotype: ESN no. 20038, Paratype: ESN no. 20039
Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City,
Gifu Prefecture
Shukunohora Sandstone of the Oidawara Formation
Miocene

***Protrotella togariensis* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 128, pl. 20, fig.
3
Holotype: GK no. ?
Togari, Toki-gori, Mino Province (Small cliff along the
southern side of the NE-SW valley (Hazama-bora), about
400 m N of the contact point of the small road and the main
road at W of Togari, Akiyo-mura, Toki-gun, Gifu Prefecture;
35°22'05"N, 137°14'27"E)
Togari Formation
Miocene

***Protrotella yuantaniensis* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 127, pl. 20, fig.
1
Holotype: GK no. ?
Yuanotani, Tsuzuki-gori, Yamashiro Province (Road-side
cutting about 130 m NW of the contact point of the two roads
at Yunotani, Yuantani, Ujitabora-gun, Kyoto Prefecture; 34°
50'40"N, 135°54'07"E)
Tsuzuki Formation
Miocene

***Prunum tomuiensis* (MacNeil)** reported by Noda (1980)
from the Pliocene Shinzato Formation, Okinawa Prefecture:
see ***Marginella tomuiensis* MacNeil, 1960**

***Psephaea (Neopsephaea) antiquior* Takeda, 1953**

Stud. Coal Geol., no. 3, p. 59, pl. 4, figs. 1-4, 10, pl. 5, fig. 7

Holotype: UH no. 1110 (pl. 4, fig. 1), Paratype: UH nos. 343,
3750 (pl. 4, fig. 2), 3767, 6596 (pl. 4, fig. 3, pl. 5, fig. 7),
6592 (pl. 4, fig. 10), 6591-6598

Loc. no. T3-I, southern cliff of the Ikusyunbetsu-gawa River,
about 300 m S of the Kamiage railway bridge, Ishikari
Province, Hokkaido: Paratype, Loc. no. T290 and T291, 200
m downstream from T291 (along the main stream 2,260 m
E from the junction of 1st tributary with Oko River,
Honto-gun, South Sakhalin)
Poronai Formation
Oligocene (late Eocene)
(*Fulgoraria (Musashia) antiquior* (Takeda) by Masuda and
Noda (1976))

***Psephaea (Neopsephaea) magna* Takeda, 1950**

Cenoz. Res., no. 4, p. 13, pl. 4, figs. 18a-b, 19
Holotype: UH ? (fig. 18a-b: designated by Oyama et al.
(1960: p. 79, pl. 17, figs. 2b-d)), Paratype: UH ? (fig. 19:
designated by Oyama et al. (1960: pl. 17, fig. 2d))
Futamata river, Mitsuishi-mura, Hidaka-gun, Hokkaido
Noya Formation
Miocene
(*Fulgoraria (Musashia) takedai* Masuda and Noda, 1976 n.
n. by Masuda and Noda (1976))

***Psephaea tokunagai* Kanehara, 1937**

Bull. Imp. Geol. Surv. Japan, vol. 27, no. 1, p. 16, pl. 2, figs.
4, 5
Holotype: GS no. ?, Paratype: GS no. ? (noted as destroyed
in Hatai and Nisiyama (1952))
Nagakura coal-mine, W of Yumoto-machi, Iwaki-gun,
Fukushima Prefecture; 37°00'02"N, 140°50'02"E
Mizunoya Formation
Miocene
(*Fulgoraria tokunagai* (Kanehara) by Hatai and Nisiyama
(1952))

***Psephaea ? yanagidaniensis* (Arai)** reported by Shibata
(1974) from the Miocene Yamanochi Formation, Gifu
Prefecture (see ***Fulgoraria (Musashia) yanagidaniensis***
Arai, 1959 by Masuda and Noda (1976))

***Pseudastraliium henicus* (Watson)** reported by MacNeil
(1960) from the Pliocene Chinen Formation, Okinawa
Prefecture: ***Turbo (Calcar) henicus* Watson, 1878**

***Pseudastraliium okinawanum* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 35,
pl. 5, figs. 13a-b, 20
Holotype: IGUT no. 10743 (fig. 13a-b), Paratype: IGUT
no. ? (fig. 20)
Loc. no. N-4 (not described the precise location) Okinawa
Prefecture
Shinzato Formation

Pliocene

***Pseudexomilus bicarinatus* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 24, pl. 2, fig. 6, text-fig. 7

Holotype: AM no. C134679

BMR Stn. P69-872, off Bowen, Queensland, Australia; 19° 48'S, 148° 53'E

Living specimen, 62 m in depth

Recent

***Pseudodaphnella leuckarti* (Dunker)** reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture

***Pseudoetrema fortilirata* (E. A. Smith)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture: ***Drillia fortilirata* Smith, 1879**

***Pseudofusia* Shuto, 1969** n. subgen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, 188, Type-species; *Pleurofusua* (*Pseudofusia*) *dinglensis* Shuto, 1969 described from the Upper Miocene Dingle Formation, Philippines

***Pseudoinquisitor hyuganus yamajiensis* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 114, pl. 7, figs. 11, 2, pl. 8, fig. 18

Holotype: GKL no. 4932 (pl. 7, figs. 1, 2)

Road side cutting north of Yamaji, Mino-mura, Koyu-gun, Miyazaki Prefecture

Kawabaru Member of the Miyazaki Group

Miocene

Pseudoinquisitor pseudoprincipalis* (Yokoyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture (Crassispira pseudoprincipalis* (Yokoyama)** by Masuda and Noda (1876): see ***Pleurotoma* (*Drillia*) *pseudoprincipalis* Yokoyama, 1920**)

***Pseudoinquisitor pulchra* (Schepman)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Pseudoinquisitor totomiensis* (Makiyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see ***Inquisitor totomiensis* Makiyama, 1931**

***Pseudoinquisitor totomiensis ugariensis* (Makiyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture; see ***Inquisitor totomiensis ugariensis* Makiyama, 1931**

***Pseudolatirus yonabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 83, pl. 4, figs. 1-4

Holotype: USNM no. 562708 (fig. 1)

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(***Granulifusus nipponicus* (Smith)** by Masuda and Noda (1976))

***Pseudoliotia micans* (Recluz)** reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture

***Pseudoliotia motobuensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 35, pl. 10, figs. 26-28

Holotype: USNM no. 562888

Loc. no. 17483, very fossiliferous sand exposed in road cut and ditch on road to landing on Untenko, about 0.2 Mi from the landing, Okinawa Prefecture

Nakoshi Formation

Pliocene (Pleistocene)

***Pseudomurex ? tukiyoensis* Oyama and Saka, 1944**

Bull. Shigenkagaku Kenkyusho (Underesous. Inst.), vol. 1 no. 2, p. 140, pl. 15, fig. 9

Holotype: SKK no. ?

In the tunnel of Mr. Ushida at Tsukiyoshi, Akeyo-mura, Toki-gun (Mizunami City), Gifu Prefecture

Tsukuyoshi Formation

Miocene

***Pseudoperissolax blakei* (Conrad)** reported by Nagao (1938) from the Upper Eocene Okinoshima Formation, Nagasaki Prefecture; ***Busycon blakei* Conrad**

***Pseudoperissolax isesaki* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 594, pl. 1, figs. 4-5b

Holotype: GSJ no. 5037 (figs. 5a-b), Paratype: GSJ no. 5038 (fig. 4)

Near Shirahama, about 700 m N to Nakado, Oshima-machi, Nishisonogi-gun, Nagasaki Prefecture: Paratype, Okuura, Sakito-machi, Nishisonogi-gun, Nagasaki Prefecture

Shioda Formation (Holotype) and Tokuman Formation (Paratype)

Oligocene

***Pseudoperissolax yokoyamai* Suzuki and Ito, 1946**

Jour. Geol. Soc. Japan, vol. 52, nos. 610-612, p. 19 (no figure)

Holotype: GT no. CM 20023

Manda, Arao City, Kumamoto Prefecture

Manda Group

Eocene

***Pseudoraphitoma nakosiensis* Nomura and Zinbo, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 3, p. 253 (25), pl. 11(1), fig. 21

Holotype: IGPS no. 15148

Nakoshi, Haneji-mura, Kunigami-gun (Nago City), Okinawa Prefecture

Shimajiri Group (Nakoshi Formation)

Pliocene (Pleistocene)

(Miss-spell of generic name: *Pseudoraphitoma nakosiensis* Nomura and Zinbo; *Paraclathurella nakosiensis* (Nomura and Zinbo))

***Pseudoraphitoma (Paraclathurella) gracilenta* (Reeve)**

reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (*Paraclathurella gracilenta* (Reeve) by Masuda and Noda (1976))

***Pseudoraphitoma nakosiensis* Nomura and Zinbo, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 3, p. 253 (25), pl. 11(1), fig. 21

Holotype: IGPS no. 15148

Nakoshi, Haneji-mura, Kunigami-gun (Nago City), Okinawa Prefecture

Shimajiri Group (Nakoshi Formation)

Pliocene (Pleistocene)

(Miss-spell of generic name *Pseudoraphitoma nakosiensis* Nomura and Zinbo; see *Pseudoraphitoma nakosiensis* Nomura and Zinbo; *Paraclathurella nakosiensis* (Nomura and Zinbo))

***Pseudotrivia eos* (Roberts)** reported by Tomida (1996) from the Pliocene Hayakawa Formation, Kanagawa Prefecture

***Pseudotrivia pleres* Hatai and Nisiyama, 1949**

Nautilus, vo. 62, no. 2, p. 60, pl. 4, figs. 5, 6

Holotype: GS no. 72643

East cliff of the Yoro-gawa, E of Iwaibara, Oikawa-mura, Isumi-gun, Chiba Prefecture; 35°13'41"N, 140°10'37"E

Kiwada Formation

Pliocene (early Pleistocene)

***Pseudotrivia sakoi* Masuda and Katto, 1978**

In Katto and Masuda, 1978, Res. Rep., Kochi Univ., vol. 27, Nat. Sci., p. 105, pl. 4, figs. 8a-b, 9

Holotype: IGPS no. 96074, Paratype: IGPS no. 96075

Loc. No. 9, sea coast of Uematsu, Kushimoto-cho, Nishimuro-gun, Wakayama Prefecture

Uematsu Formation

Ealy Miocene

***Pseudovertagus clava* (Gmelin)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Pterigia kakioensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 178, pl. 13, figs. 10a-b

Holotype: Keio Yochisya no. ?

Road-side cut at Manpukuji, .4 km W of Shin-Yurigaoka station (Odakyu Line), Kawasaki City, Kanagawa Prefecture

Kakio Formation; middle part

Pleistocene

***Pteropurpura plorator* (Adams and Reeve)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Murex plorator* Adams and Reeve, 1849

***Pteropurpura stimpsoni* (A. Adams)** reported by Amano et al. (2000) from the Pliocene Kuwae Formation, Niigata Prefecture

***Pterynotus (Naquetia) sondeianus solidus* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 105, pl. 8, figs. 5, 9

Holotype: GK-L no. 4950

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

***Ptychosyrinx (Kuroshioturris) hyugaensis* (Shuto)** reported by Powell (19164) from the Pliocene Takanabe Formation, Miyazaki Prefecture (*Gemmula hyugaensis* (Shuto) by Masuda and Noda (1976))

***Ptychosyrinx birmanicus* (Vredenburg)** reported by Shuto (1984) from the Miocene of Myauktin, Burma: *Pleurotoma (Gemmula) birmanicus* Vredenburg, 1921

***Ptychosyrinx nipponicus* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, pl. 3, figs. 7, 8, 13, 19, pl. 8, fig. 14

Holotype: GKL no. 4921 (pl. 3, figs. 7-8), Paratype: GKL no.

Kawabaru and Takanabe Formations

Miocene and Pliocene

(Miss print for *Gammula (Ptychosyrinx) nipponicus* Shuto by Masuda and Noda (1976))

***Ptychosyrinx (Kuroshioturris) nipponica* (Shuto)** reported by Powell (1964) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Pugilina mimasakensis* (Yokoyama, 1929)** reported by Fujimoto (1999) from the Miocene Yoshino Formation, Okayama Prefecture

Pugilina osawanoensis (Tsuda) reported by Nakagawa (1998) from the Miocene Kunimi Formation Fukui Prefecture: see *Volema osawanoensis* Tsuda, 1959

Pugilina (Hemifusus) sazanami (Kanehara) reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Melongena sazanami* Kanehara, 1937

Pugilina (Hemifusus) ternatanus (Gmelin) reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazaki Prefecture: *Murex ternatanus* Gmelin, 1791

Pugilina (Hemifusus) tuba (Gmelin) reported by Shuto (1962) from the middle Miocene Tano Member of the Miyazaki Group, Miyazaki Prefecture: *Murex tuba* Gmelin, 1791

***Puha japonica* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 138, pl. 5, fig. 10

Holotype: GKL no. 6051

Roadside cutting at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture Takanabe Member of the Miyazaki Group Pliocene

***Punctoterebra cabatuanensis* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 232, pl. 23, figs. 6, 7, text-fig. 43

Holotype: GK-L no. 6456

Loc. no. SKGS-71, cliff along the left bank of the Tigum River between Santa Barbara and Cabatuan, Panay Island, the Philippines

Santa Barbara Siltstone of Cabatuan Formation

Pliocene

Puncturella fastigata A. Adams reported by Takayasu (1962) from the Miocene (Pliocene) Kitaura Formation, Akita Prefecture (*Puncturella fastigata* A. Adams by Masuda and Noda (1976))

***Puncturella hirasei* Otuka, 1935**

Bull. Earthq. Res. Inst., vol. 13, pt. 4, p. 847, pl. 53, figs. 22a-c

Holotype: GT no. 2026

Shimazaki (on the middle part of the cliff wall, back of Shimazaki, Jyunicho-mura, Himi-gun, Toyama Prefecture; 36°50'06"N, 139°58'07"E)

Himi Formation

Pliocene

***Puncturella kazusensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 109, pl. 1, figs. 8a-b

Holotype: Keio Yochisha no. ?

Sand quarry at Tanobori, 2.1 km ENE of Ohnuki Station (Uchibo Line), Fusstu City, Chiba Prefecture

Nagahama Formation; lower part

Pleistocene

***Puncturella minoensis* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 6, pl. 2, figs. 1a-3c

Holotype: MFM no. 10054 (fig. 1), Paratype: MFM nos. 10055, 10056 (figs. 2, 3)

Dan, Toki-cho, Mizunami City, Gifu Prefecture

Nataki Conglomerate, Oidawara Formation

Middle Miocene

***Puncturella (Cranopsis) mitsuyanoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 68, pl. 2, figs. 12a-b

Holotype: ESN no. 30011, Paratype: ESN no. ?

Loc. no. K76, Sada, Hakusan-machi, Ichishi-gun, Mie Prefecture

Oi Formation

Miocene

Puncturella nobilis (A. Adams) reported by Otuka (1935) from the Pliocene Himi Formation, Toyama Prefecture

***Puncturella regia* Shikama and Habe, 1961** (Habe; Coll. III.

Shell Jap., no. 11, p. 1, pl. 2, fig. 20) reported by Shikama (1962) from the recent sea, off Choshi, Chiba Prefecture

***Puncturella subconica* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 97, pl. 6, fig. 7

Holotype: UT no. ? (CM no. 20292)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Puncturella (Puncturella) fastigiata* A. Adams by Oyma (1973): *Strigopupa hiyoshiensis* (Itoigawa) by Masuda and Noda (1976))

***Pupa hiyoshiensis* Itoigawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 176, pl. 26, figs. 2a-b

Holotype: JC no. 1500012, Paratype: JC no. 1500013

Loc. No. M20, river-side cliff of Shukubora valley about 100 m SW of the bridge at S of Shukubora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

Pupa reussi Martin, 1880 reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

- Pupa solidula* (Linnaeus)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: ***Voluta solidula* Linnaeus, 1758**
- Pupa strigosa* (Gould)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture; and also reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture: ***Buccinulum strigosum* Gould (*Solidula* (*Strigopupa*) *strigosa* (Gould, 1859)** by Masuda and Noda (1976))
- Purpura alveoliata* Reeve** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture
- Purpura* (*Mancinella*) *clavigera* Küster** reported by Hayasaka and Oki (1971) from the Pleistocene Kogashima Formation, Kagoshima Prefecture (***Thais* (*Reishia*) *clavigera* (Küster)** by Masuda and Noda (1976))
- Purpura* (*Mancinella*) *luteostoma* (Holten)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (***Thais* (*Reishia*) *luteostoma* (Holten)** by Masuda and Noda (1976))
- Purpura* (*Mancinella*) *minoensis* Itoigawa, 1960**
 Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 286, pl. 5, figs. 1, 2
 Holotype: ESN no. 20065 (fig. 2), Paratype: ESN no. 20066
 Loc. no. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture
 Shukunohora Sandstone of the Oidawara Formation
 Miocene
- Pusia consanguinea* (Reeve, 1845)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture
- Pusia emmae* (Yokoyama)** reported by MacNeil (1960) from the Pliocene (Pleistocene) Nakoshi Formation, Okinawa Prefecture
- Pusia Meganodosa* MacNeil, 1960**
 U. S. Geol. Surv., Prof. Pap. 339, p. 89, pl. 19, fi. 19
 Holotype: USNM no. 563078
 Loc. no. 17652, quarry at foot of hill near Navy dock, about 0.6 Mi NE of village of Tengan, Okinawa Prefecture
 Tontan Formation
 Pleistocene
- Pustularia circercula* (Linnaeus, 1758)** reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan; and also reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture
- Pygmaerota cingulifera* (A. Adams)** reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Aichi Prefecture
- Pygmaerota* (*Lydiplnopsis*) *philippinensis* Shuto, 1969**
 Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 19, no. 1, p. 55, pl. 1, figs. 9-11, text-fig. 16
 Holotype: GK-L no. 7103
 Loc. no. SKGS-72, 1500 m SE of main road leading to Calinog via Ulian River-bridge, south of Lambunao, Panay Island, the Philippines
 Ulian Formation
 Late Miocene
- Pyramidella* (*Syrnola*) *cinnamomea* (A. Adams)** reported by Yokoyama (1922) from the Pleistocene Shimos Group, Chiba Prefecture: ***Elusa cinnamomea* A. Adams, 1862 (*Syrnola* (*Syrnola* ?) *cinnamomea* Adams** by Oyama (1973))
- Pyramidella* (*Tiberia*) *ebarana* Yokoyama, 1927**
 Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 418, pl. 47, fig. 6
 Holotype: UT no. ? (CM no. 23813)
 Shinagawa (Minato-ku, Tokyo Prefecture)
 (Tokyo Formation)
 Upper Musashino=Pleistocene
 (***Tiberia* (*Orinella*) *ebarana* (Yokoyama)** by Oyama (1973))
- Pyramidella* (*Actaeopyramis*) *eximia* (Lischke)** reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture: ***Monoptygma eximium* Lischke**
- Pyramidella hataii* Masuda, 1956**
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 164, pl. 26, figs. 15a-b
 Holotype: DGS no. 1540 transferred to IGPS no. 90450
 Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture
 Higashi-Innai Formation
 Mioene (early Miocene)
- Pyramidella* (*Syrnola* ?) *inturbida* Yokoyama, 1927**
 Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 419, pl. 47, fig. 7
 Holotype: UT no. ? (CM no. 23818)
 Oji (Kita-ku, Tokyo Prefecture)
 (Tokyo Formation)
 Upper Musashino=Pleistocene
 (***Syrnola* (*Hoonsyrnola*) *inturbida* (Yokoyama)** by Oyama (1973))
- Pyramidella* (*Tiberia*) *japonica* Dall and Bartsch, 1906** reported by Nomura (1938) from the Pleistocene Semata

Formation, Chiba Prefecture

***Pyramidella (Eulimotiberia) kamenariensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 131, pl. 9, fig. 32

Holotype: IGPS no. 14976

Kamenari, Omori-mati (-machi), Inba-gun, Tiba-ken (Chiba Prefecture)

(Imba Group)

Pleistocene

“*Pyramidella*” *longicostifera* Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 223, pl. 10, figs. 41a-b

Holotype: IGPS no. 53986

1200 m E of Zyo-tusyowan, station 36, Tysyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Pyramidella (Iphiana) mira* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 93, pl. 4, fig. 25

Holotype: UT no. ? (CM no. 21038)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Syrnola (Iphiana) mira* (Yokoyama) by Oyama (1973))

***Pyramidella (s. s.) ogasawarazimana* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 131, pl. 9, fig. 35

Holotype and Paratype: IGPS no. 19853

Susaki, Titizima, Ogasawara-gunto, Tokyo Prefecture

Living specimen

Recent

***Pyramidella (Tiberia) pseudo-pulchella* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 80, pl. 11, fig. 11

Holotype: GT no. ? (CM no. 20241)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(*Tiberia (Orinella) pseudopulchella* (Yokoyama) by Oyama (1973))

***Pyramidella (Tiberia) pulchella* (A. Adams)** reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Pyramidella (Iphiana) siva* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 94, pl. 4, fig. 26

Holotype: UT no. ? (CM no. 21040)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Syrnola (Iphiana) siva* (Yokoyama) by Oyama (1973))

***Pyramidella (Pyramidella) teres* (A. Adams)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

(*Pyramidella (Longchaeus) teres* (A. Adams, 1855) by Masuda and Huang (1990))

***Pyramidella (Syrnola) toshimana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 407, pl. 46, fig. 27

Holotype: UT no. ? (CM no. 23816)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Syrnola (Colsyrnola) toshimana* (Yokoyama) by Oyama (1973))

***Pyramidella (Agatha) virgo* var. *brevis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 92, pl. 5, fig. 3

Holotype: UT no. ?

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

***Pyramidella (Tiberia) yabei* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 131, pl. 9, fig. 31

Holotype : IGPS no. 19509, Paratype: IGPS no. ?

Nojima (Kanazawa-machi, Yokohama City, Kanagawa Prefecture (Sea cliff of NE coast of Nojima,

Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°19'05"N, 139°38'02"E)

Nojima Formation

Pliocene

***Pyramidoma puruensis* Martin, 1914** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia

Pyrene (Mitrella) baculus* (Reeve)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: ***Columbella baculus* Reeve, 1859** (Mitrella baculus* (Reve)** by Masuda and Huang (1990))

***Pyrene (s. s.) bandongensis* (Martin, 1883)** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

Pyrene burchardi (Dunker) reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture (*Mitrella burchardi* (Dunker) by Masuda and Noda (1976))

Pyrene flava (Bruguiere, 1789) reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture, Okinawa Prefecture

Pyrene ligula (Dulcos) reported by MacNeil (1960) from the Pliocene Naha Formation, Okinawa Prefecture

Pyrene (Columbella) liocyma (Pilsbry, 1904) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

Pyrene (Mitrella) minoensis Itoigawa, 1960

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 286, pl. 5, figs. 9a-b

Holotype: ESN no. 20067, Paratype: ESN no. 20068

Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

(*Mitrella minoensis* (Itoigawa) by Masuda and Noda (1976))

Pyrene (Anachis) miseraeformis Namora and Zinbo, 1935

Saito Ho-on Kai, Mus., Res. Bull., no. 6, p. 180, pl. 15, fig. 15

Holotype: SM no. 6182

Southern end of the Park of Yanagawa-machi, Fukushima Prefecture (River cliff of the Hirose-gawa at the SE end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37° 51'05"N, 140° 36'05"E)

Yanagawa Formation

Miocene

Pyrene (Indomitrella) mizunamiensis Itoigawa, 1960

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 287, pl. 5, figs. 6, 7

Holotype: ESN no. 20069, Paratype: ESN no. 20070

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukunohora sandstone of the Oidawara Formation

Miocene

(*Mitrella (Indomitrella) mizunamiensis* (Itoigawa) by Masuda and Noda (1976))

Pyrene (Mitrella) niveomarginata (Smith) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: *Columbella (Atilia) niveomarginata* Smith, 1879 (*Mitrella*

lischkei (Smith) by Masuda and Huang (1990))

Pyrene punctata (Bruguière) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Pyrene (Mitrella) varianus (Dunker) reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture (*Mitrella bicincta* (Gould) by Masuda and Noda (1976))

Pyrene (Mitrella) yabei Nomura, 1935

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.) vol. 18, no. 2, p. 157, pl. 7, figs. 28a-b

Holotype: IGPS no. 53930

700 m E of Hakusyatou, station 3 (Aando), Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Bed

Pliocene

(*Mitrella yabei* (Nomura) by Masuda and Huang (1990))

Pyruka taiwanica Yokoyama, 1928

Rep., Imp. Geol. Surv. Japan, no. 101, p. 47, pl. 6, fig. 4

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Hagioka, Taiko-gun, Shinchik Province, Taiwan

Lower Arisan Beds

Miocene

(*Ficus taiwanica* (Yokoyama) by Makiyama (1960))

Pyrrunculus phialus (A. Adams) reported by Kaseno and Matura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishiakwa Prefecture

Pyrrunculus pyriformis obesus Habe, 1950 reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Pyrrunculus obesus* Habe, 1950

Pyrrunculus tokyoensis Habe reported by Hatai and Masuda (1962) from the Miocene Tokigawa Formation, Saitama Prefecture

Pythia kishimotoi Oyama and Nishimoto, 1988

Bull. Mizunami Fossil Mus., no. 15, p. 2, pl. 1, figs. 1a-d

Holotype: MFM no. 20011

Kubara, Niimi City, Okayama Prefecture

"Lower formation" of Bihoku Group

Middle Miocene

Pythina miocenica Oyama and Saka, 1944

Bull. Shigenkagaku Kenkyusho (Underesous. Inst.), vol. 1 no. 2, p. 140, pl. 15, figs. 11a-b

Holotype: SKK no. ?

In the tunnel of Mr. Ushida at Tsukiyoshi, Akeyo-mura, Toki-gun (Mizunami City), Gifu Prefecture

Tsukuyoshi Formation

Miocene

***Ranella (Priene) nipponensis* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 181, pl. 15, fig. 34
Holotype: SM no. 6200

Southern end of the Park of Yanagawa-machi, Fukushima Prefecture (River cliff of the Hirose-gawa at the SE end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37 ° 51'05"N, 140 °36'05"E)

Yanagawa Formation
Miocene

***Ranella (Priene) tugaruensis* Nomura and Hatai, 1935**

Saito Ho-on Kai, Mus., Res. Bull., no. 6, p. 126, pl. 12, fig. 4
Holotype: SM no. 6185

Turugasaka (near the foot of the northern slope boring a creek, about 200 m SE of the bench-mark (35.57 m) on the Ushu highway, and about 2.1 km SW of the shrine at Tsurugasaka, Shinjo-mura, Higashisugaru-gun, Aomori Prefecture; 40 °46'32"N, 140 °37'21"E)

Daishaka Formation
Pliocene (Pleistocene)

(*Fusitorion tugaruensis* (Nomura and Hatai) by Hatai and Nisiyama (1952))

***Ranella yasumurai* Amano, 1997**

Venus, vol. 56, no. 2, p. 123, pl. 1, figs. 3, 4, 6a-c

Holotype: JUE no. 15605, Paratype: JUE nos. 15606-1 ~ -4

Small outcrop along Koide River near Koide, Shibata City, Niigata Prefecture

Kuwa Formation
Pliocene

***Ranularia dunkeri* (Lischke, 1868)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Rapana bezoar* (Linnaeus, 1767)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Rapana bezoar* Linnaeus var. *thomasiana* Crosse** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan

***Rapana niuensis* Nakagawa, 1998**

Sci. Re., Inst. Geosci., Univ. Tsukuba, Sec. B., vol. 19, p. 167, figs. 32-21a-c

Holotype: FMNHGF no. 1931

Loc. No. KM039, roadside cliff about 500 m SW of Takasu-machi, Fukui City, Fukui Prefecture; 36 °06'18"N, 136 °06'16"E

Aratani Formation
Middle Miocene

***Rapana thomasiana* Crosse** reported by Sakagami et al (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido ("**Macron**" *nipponensis* Chinzei by Masuda and Noda (1976))

***Rapana venosa* (Valenciennes, 1846)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: ***Purpura venosa* Valenciennes**

***Raphitoma gabusogana* Nomura and Zinbo, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 3, p. 253 (25), pl. 11 (1), figs. 22a-b

Holotype: IGPS no. 51394

Gabusoga, Haneji-mura, Kunigami-gun (Nago City), Okinawa Prefecture
Shimajiri Beds (Nakoshi Formation)
Pliocene (Pleistocene)

***Raphitoma granulidecussata* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 162, pl. 5, fig. 25

Holotype: IGPS no. 50428

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture
Ryukyu Limestone (Wan Formation),
Pleistocene

***Raphitoma ozawai* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 172, pl. 47, fig. 3

Holotype: GT no. ?, Paratype: GT no. ? (designated by Hatai and Nisiyama (1952))

Nagaya (Road-side cliff about 140 m E of the bridge and about 300 m NW of the shrine at Nagaya, Kosaka-mura, Kahoku-gun, Ishikawa Prefecture; 36 °34'23"N, 136 °41'51"E)

Onma Formation
Pliocene (Pleistocene)

(Synonymus with *Plicifusus yanamii tenuis* (Hatai and Nisiyama) by Hatai and Nisiyama (1952): *Plicifusus ozawai* (Yokoyama) by Makiyama (1959))

***Rectiplanes contraria* (Yokoyama)** reported by Uozumi et al (1986) from the Pliocene Takikawa Formation, Hokkaido

***Rectiplanes isaotakii* Habe** reported by Amano et al. (2000) from the Pliocene Kuwa Formation, Niigata Prefecture

***Rectiplanes (Rectiplanes) kannoi* Amano, 1980**

Prof. Kanno S., Mem. Vol., p. 113, pl. 13, figs. 5a-b

Holotype: IGUT no. 15052, Paratype: IGUT nos. 15053-15055

Loc. no. 11b, stream floor just below Loc. 11a (2.5 km up of the Shimoyudoro-sawa) Rumoi City, Hokkaido
Yudoro Formation

Middle Miocene

***Rectiplanes kawamurai* Habe, 1958** (Venus, vol. 20, no. 2, p. 181, text-fig. 1) reported by Shikama (1962) from the recent sea off Choshi, Chiba Prefecture

Rectiplanes sadoensis* (Yokoyama)** reported by Chinzei (1973) from the Pliocene Futatsui Formation, Akita Prefecture (Antiplanes* (*Rectiplanes*) *sanctiioannis* (Smith)** by Masuda and Noda (1976))

Rectiplanes sanctaioannis* (Smith)** reported by Kaeno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Isjokawa Prefecture (Antiplanes* (*Rectiplanes*) *sanctiioannis* (Smith)** by Masuda and Noda (1976))

Rectiplanes sanctiioannis* (Smith)** reported by Hatai et al. (1965) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture (Antiplanes* (*Rectiplanes*) *sanctiioannis* (Smith)** by Masuda and Noda (1976))

***Rectiplanes* (?) *yukiae* Shikama, 1962**

Sci. Rep., Yokohama Nat. Univ., Sec 2, no. 8, p. 50, pl. 3, figs. 3a-4b

Holotype: GIYU no. ? (fig. 3)

East of Choshi, Chiba Prefecture

Living specimen, depth in 250-300 fathoms

Recent

***Reishia nakamurai* (Makiyama)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see ***Thais nakamurai* Makiyama, 1927**

***Reticuloturris* Shuto, 1984** n. subgen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, vol. 25, no. 2, p. 131, Type-species; *Pleurotoma* (*Hemipleurotoma*) *iris* Vrederburg, 1921 described from the Miocene of Kyaungon, Thanga district, Burma

***Reticunassa fratercula* (Dunker)** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture: ***Nassa fratercula* Dunker, 1860**

***Reticunassa japonica* (A. Adams)** reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture

***Reticunassa multigranosa* (Dunker, 1847)** reported by Ozawa et al. (1998) from the Pliocene Kakegawa Formation, Shizuoka Prefecture

Reticunassa simizui* (Otuka)** reported by Itoigawa (1974) from the Miocene Tsukiyoshi Formation, Gifu Prefecture (Nassarius* (*Reticunassa*) *simizui* Otuka, 1934** by Masuda

and Noda (1976))

***Reticutriton tenuiliratus* (Lischke, 1873)** reported by Baba (1990) from the Pleistocene Shimosa Group, Chiba Prefecture

***Retusa cucurbitina* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 449, pl. 51, figs. 4

Holotype: UT no. ? (CM no. 24191)

Koyasu, Tachibana-gun, Musashi (Kohoku-ku, Yokohama City, Kanagawa Prefecture)

(Shimosueyoshi Formation)

Upper Musashino=Pleistocene

(Synonymus with ***Retusa* (*Coleophysis*) *succincta* (A. Adams)** by Oyama (1973))

***Retusa globosa* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 212, p. 43, pl. 10, figs. 14-16

Syntype: UT no. ?

Otake and Shisui in Shimosa; Oji and Kuruma-cho, Musashi (Otake, Narita City, Chiba Prefecture; Shisui, Shisui-machi, Inba-gun, Chiba Prefecture; Oji, Kita-ku, Tokyo Prefecture;

Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

Kioroshi, Inba and Tokyo Formations

Pleistocene

(***Acteocina* (*Decorifer*) *globosa* (Yamakawa)** by Oyama (1973))

***Retusa gordonis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 139, pl. 6, fig. 14

Syntype: GK no. 266

Honohashi (about 150 m W of Honohashi and 2.5 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

Pliocene

***Retusa gordonis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 449, pl. 51, figs. 3

Holotype: UT no. ? (CM no. 24190)

Matsudo, Higashikatsushika-gun (Matsudo City, Chiba Prefecture)

(Imba Formation)

Upper Musashino=Pleistocene

(***Acteocina* (*Tornatina*) *gordonis* (Yokoyama)** by Oyama (1973))

***Retusa gorokuensis* Nomura, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 268, pl. 34, figs. 18a-b

Holotype: SM no. 2437
Goroku cliff along the right bank of the Hirose-gawa,
(Aoba-ku, Sendai City, Miyagi Prefecture; 38°16'N, 140°
49'E)
Tatsunokuchi Formation
Pliocene

***Retusa lineolata* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1,
fig. 6

Holotype: UT no. ? (CM no. 21806)
Numa, Awa (Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)

(*Retusa (Coleophysis) lineolata* Yokoyama by Oyama
(1973))

***Retusa minima* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 213, p. 47, pl. 11, figs.
21-24

Syntype: UT no. ?
Otake, Shimosa and Oji, Musashi (Otake, Narita City, Chiba
Prefecture; Oji, Kita-ku, Tokyo Prefecture)
(Kioroshi Formation and Tokyo Formation)
Pleistocene

(*Retusa (Coleophysis) minima* Yamakawa by Oyama
(1973))

Retusa (Pyrunculus) pyriformis (A. Adams) reported by
Nomura (1935) from the Pliocene Byoritu Beds, Taiwan
(*Pyrunculus pyriformis* (A. Adams) by Masuda and Huang
(1990))

***Retusa (Coelophysis) shukuborensis* Itoigawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 177, pl. 26,
figs. 7a-10

Holotype: JC no. 1500002 (figs. 7a-b), Paratype: JC no.
1500003

Loc. No. M20, river-side cliff of Shukubora valley about 100
m SW of the bridge at S of Shukubora, Hiyoshi-cho,
Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

(*Retusa (Coelophysis) shukuborensis* Itoigawa by Masuda
and Noda (1976))

Retusa succincta (A. Adams) reported by Hatai et al. (1961)
from the Pliocene (Pleistocene) Hamada Formation, Aomori
Prefecture (*Retusa (Coleophysis) succincta* (A. Adams) by
Masuda and Noda (1976))

***Retusa (Coelophysis) tokiensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 293, pl. 6,
figs. 10a-b, 12a-b

Holotype: ESN no. 20088, Paratype: ESN no. 20089
Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu
Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

(*Retusa (Coleophysis) tokiensis* Itoigawa by Masuda and
Noda (1976))

***Retusa truncata* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 212, p. 44, pl. 10, figs.
17-20

Holotype: UT no. ?

Otake, Shimosa (Otake, Narita City, Chiba Prefecture)
(Kioroshi Formation)

Pleistocene

(*Acteocina (Decorifer) delicatula* (A. Adams) by Oyama
(1973))

***Rhinoclavis (Proclava) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 281, pl. 4,
figs. 7a-b

Holotype: ESN no. 20052, Paratype: ESN no. 20053
Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu
Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

***Rhinoclavis (Proclava) tokiensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 281, pl. 4,
figs. 6a-b

Holotype: ESN no. 20054, Paratype: ESN no. 20055 (S20-1,
S11-1)

Loc. No. S20-1, Anabora, Toki City, Gifu Prefecture

Togari Facies of the Akeyo Miocene

(*Proclava tokiensis* (Itoigawa) by Itoigawa et al., 1974)

***Rhizoconus hyaena kakegawaensis* Nobuhara and Tanaka,
1999**

Venus, vol. 58, no. 3, p. 135, pl. 1, figs. 1-4, pl. 2, figs. 1-5, 7

Holotype: ESN no. 2887 (pl. 1, figs. 1, pl. 2, fig. 4),
Paratype: ESN nos. 2888, 2921-2940

Exposure in a north-facing roadside cliff at Gomyo,
Kakegawa City, Shizuoka City; 34° 47'25"N, 138° 00'26"E

Dainichi Formation

Upper Pliocene

***Rhizophorimurex* Oyama, 1950 n. subgen.**

Rep., Geol. Surv. Japan, no. 132, p. 10, Type-species; *Murex*
capuchinus Lamarck described from the Recent specimen
living in the western tropical Pacific

Rhizophorimurex tiganouranus (Nomura) reported by
Itoigawa et al. (1982) from the Miocene Mizunami Group,
Gifu Prefecture: see *Murex tiganourana* Nomura, 1935

Rhizorus eburneus (A. Adams) reported by Itoigawa (1964) from the Pleistocene Kozakai Formation, Aichi Prefecture

Rhizorus minoensis (Itoigawa) reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture: see *Volvulella minoensis* Itoigawa, 1958

Rhizorus tokiensis (Itoigawa) reported by Itoigawa (1974) from the Miocene Kujiri Formation, Gifu Prefecture: see *Volvulella tokiensis* Itoigawa, 1960

Rhizorus tokunagai (Makiyama) reported by Kseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Rhizorus yamaguchii (Itoigawa) reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture: see *Volvulella yamauchii* Itoigawa, 1958

***Rimella toyamaensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 85, pl. 4, figs. 6a-b

Holotype: JC no. 1400040, Paratype: JC no. 1400041 (from Iwakishin)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(*Varispira toyamaensis* (Tsuda) by Masuda and Noda (1976))

Ringicula arctata Gould reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (*Ringicula doliaris* Gould by Masuda and Huang (1990))

Ringicula caron Hinds, 1844 reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture (*Ringicula doliaris* Gould)

Ringicula (Ringiculina) doliaris Gould reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Ringicula doliaris musashinoensis Yokoyama reported by Ozaki (1958) from the Pleistocene Katori Formation, Chiba Prefecture (*Ringicula doliaris* (Gould) by Oyama (1973))

***Ringicula foveolata* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 23, pl. 1, fig. 1

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Shiko near Koshun in Takao Province, Taiwan

Upper Byoritz Beds
Pliocene (Pleistocene)

(*Ringiculospongia foveolata* (Yokoyama) by Habe (1950))

***Ringicula (Ringiculella) fragilis* Takeyama, 1935**

Venus, vol. 5, nos. 2-3, p. 85, pl. 6, figs. 42-44

Holotype: GK no. ?

Fukushiro, Tojo-machi, Hiba-gun, Bingo Province (Fukushiro, 1.7 km NE of Tojo-machi, Hiba-gun, Okayama Prefecture; 34°50'20"N, 133°15'06"E)

(Shobara Formation)

Miocene

Oligocene

***Ringicula (Ringiculella) globulifera* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 23, pl. 1, fig. 2

Holotype: GSJ no. ? (noted as destroyed by Masuda and Huang (1990))

Wankyo in Tainan Province, Taiwan

Lower Byoritz Beds

Pliocene

(*Ringicula (Ringiculina) globulifera* Yokoyama by Habe (1950))

***Ringicula makiyamai* Takeyama, 1935**

Venus, vol. 5, nos. 2-3, p. 70, pl. 5, figs. 1-4

Holotype: GK no. ?

Dainichi, Ugari-mura, Suchi-gun, Province of Totomi (Valley about 350 m NW of Dainichi, Ugari-mura (Fukuroi City), Suchi-gun, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

(Dainichi Formation)

Pliocene

***Ringicula (Ringiculella) minoensis* Takeyama, 1935**

Venus, vol. 5, p. 84, pl. 6, figs. 36-39

Holotype: GK no. ?

Shukunohora, Hiyoshi-mura, Toki-gun (Shukunohora, Hiyoshi-mura, Toki-gun, Gifu Prefecture; 35°24'06"N, 137°16'E)

Togari Formation

Vindobonia (Miocene)

***Ringicula musashinoensis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 30, pl. 1, figs. 3, 8

Syntype: GT no. ? (CM nos. 20767, 20766)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(Synonymus with *Ringicula doliaris* Gould by Hatai and Nisiyama (1952))

***Ringicula (Ringiculella) oehlertiae musashinoensis* Yokoyama** reported by Takayama (1935) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture (Reidentified with ***Ringicula arctata* Gould** by Hatai and Nisiyama (1952))

***Ringicula (Ringiculella) nakamurai* Takeyama, 1935**

Venus, vol. 5, nos. 2-3, p. 82, pl. 6, figs. 30, 31

Holotype: GK no. ?

Hagenoshita, Uwae-mura (Northern cliff of the Komaru-gawa, a short distance W off the main road near Hagenoshita, Koyu-gun, Miyazaki Prefecture; 32°08'27"N, 131°31'04"E)

Dainichian (Pliocene)

(Synonymus with ***Ringicula doliaris* Gould** by Hatai and Nisiyama (1952))

***Ringicula (Ringiculina) ninohensis* Otuka, 1933**

Venus, vol. 4, no. 1, p. 15, text-figs. a-d

Holotype: GT no. 1586

Soputheasten valley of Shiratori, about 400 m SE of the temple at Shiratori, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°14'05"N, 141°20'23"E)

Shiratori Formation

Miocene

***Ringicula (Ringiculella) ninohensis kiiensis* Takeyama, 1935**

Venus, vol. 5, nos. 2-3, p. 84, pl. 6, figs. 34, 35

Holotype: GK no. ?

Ezura, Setokanayama-mura (Shirahama-cho), Nishimuro-gun, Wakayama Prefecture; 33°41'05"N, 135°20'08"E

Fujishima Formation

Vindobonian (Miocene)

***Ringicula oehlertiae pacifica* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 142, pl. 6, fig. 12

Holotype: GK no. no

Honohashi (About 150 m W of Honohashi, Saigo-mura, and 2.5 km N of JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Ringicula (Ringiculina) ovata* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 61, pl. 6, figs. 15a-b

Holotype: IGUT no. 10762

Loc. No. 87-37, cliff near Hika, Hamahika-shima, Katsuren-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Ringicula (Ringiculella) pacifica* Makiyama** reported by Takeyama (1935) from the Pliocene Dainichi Formation, Shizuoka Prefecture (Synonymus with ***Ringicula arctata* Gould** by Hatai and Nisiyama (1952))

***Ringicula shimaensis* Takeyama** reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture

***Ringicula sikokuensis* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 89, pl. 6, figs. 2a-b

Holotype: IGPS, no. 55032

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (33°26'43"N, 133°58'21"E)

(Ananai Formation)

Pliocene

***Ringicula (Ringiculina) tosaensis* Habe, 1950** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture

***Ringicula (Ringiculina) teramachii* Habe, 1950** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Ringicula (Ringiculina) yokoyamai* Takeyama** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Ringiculaspongia itoigawai* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 80, pl. 4, figs. 11a-b

Holotype: ESN no. 30028, Paratype: ESN no. ?

Loc. no. K35, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

(***Ringiculopsis itoigawai* (Shibata)** by Masuda and Noda (1976))

Ringiculina (Ringicula) doliaris* Gould** reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture (Ringicula (Ringiculina) doliaris* (Gould)** by Masuda and Noda (1976))

***Ringiculopsis itoigawai* (Shibata)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see ***Ringiculospongia itoigawae* Shibata, 1970**

***Rissoa (Alvania) akibai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 275, pl. 34, fig. 3

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Alvania (Arsenia) akibai* (Yokoyama) by Hatai and Nisiyama (1952))

***Rissoa (Apicularia) asura* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 273, pl. 33, fig. 15

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Rissoa (Persephona) asura* Yokoyama by Hatai and Nisiyama (1952): *Alvania asura* (Yokoyama) by Makiyama (1958))

***Rissoa (Cingula) dharma* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 275, pl. 33, fig. 9

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Putilla (Pseudosetia) dharma* (Yokoyama) by Hatai and Nisiyama (1952): *Cingula dharma* (Yokoyama) by Makiyama (1958))

***Rissoa (Amphithalamus) edogawensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 452, pl. 51, fig. 13

Holotype: UT no. ?

Ichikawa, Higashikatsushika-gun (Ichikawa City, Chiba Prefecture)

(Raised Beach Deposits)

Holocene

(*Stenothyra edogawensis* (Yokoyama) by Oyama (1973))

***Rissoa (Cingula) ichikawaensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 451, pl. 51, fig. 5

Holotype: UT no. ? (CM no. 24291)

Ichikawa, Higashikatsushika-gun (Ichikawa City, Chiba Prefecture)

(Raised Beach Deposits)

Holocene

(*Eufenella ichikawensis* (Yokoyama) by Oyama (1973))

***Rissoa (Alvania) lusoria* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 273, pl. 33, fig. 18

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Alvania (Taramellina) lusoria* (Yokoyama) by Hatai and Nisiyama (1952): *Alvania ferruginea* A. Adams by Makiyama (1958))

***Rissoa magarikawaensis* Nomura and Zinbo, 1937**

Saito Ho-on Kai. Mus., Res. Bull., no. 13, p. 168, pl. 22, figs. 16a-b

Holotype: SM no. 9307

Magarikawa, Toyoda-mura (River-side cliff along the Magarikawa, about 250 m SW of the primary school at Magarikawa, Sakekawa-mura, Mogami-gun, Yamagata Prefecture; 38°49'07"N, 140°11'39"E)

Hanezawa Formation

Pliocene (Miocene)

***Rissoa (Alvania) maya* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 274, pl. 32, fig. 24

Holotype: GT no. ?, Paratype: GT no. ? (pl. 32, fig. 25)

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Alvania (Arsenia) maya* (Yokoyama) by Hatai and Nisiyama (1952))

***Rissoa meridionalis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 27, pl. 1, fig. 56

Holotype: UT, no. ?

Cutting along the railway at Shinagawa (Minato-ku), environs of Tokyo (Tokyo Prefecture)

Shinagawa shell bed (Tokyo Formation)

Pleistocene

***Rissoa (Cingula) mundana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 276, pl. 33, fig. 11

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Cingula mudana* (Yokoyama) by Hatai and Nisiyama (1952))

***Rissoa (Cingula) paludinoides* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 407, pl. 46, fig. 23

Holotype: UT no. ? (CM no. 23766, noted as missing by Oyama (1973))

Dokanyama (a hill at Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Putilla paludinoides* (Yokoyama) by Oyama (1973))

***Rissoa (Cingula) plebeja* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 79, pl. 4, fig. 3

Holotype: UT no. ? (CM no. 21973)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Rissoalaba plebeja* (Yokoyama) by Oyama (1983))

***Rissoa (Apicularia) sadoensis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 272, pl. 33, fig. 12

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene

(*Turboella (Apicularia) sadoensis* (Yokoyama) by Hatai and Nisiyama (1952): *Alvania (Actonia) sadoensis* (Yokoyama) by Makiyama (1958))

***Rissoa septentrionalis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 26, pl. 1, fig. 55.

Holotype: UT, no. ?

Cutting along the railway at Tabata (Tabata-machi, Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata Shell bed (Tokyo Prefecture)

Pleistocene

(*Fenella septentrionalis* (Tokunaga) by Yokoyama (1922))

***Rissoa sikokuana* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 83, pl. 6, figs.

15a-b

Holotype: IGPS, no. 55182

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (33° 26'43"N, 133°58'21"E)

(Ananai Formation)

Pliocene

***Rissoa (Alvania) sitta* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 274, pl. 33, fig. 13

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Alvania (Taramella) sitta* (Yokoyama) by Hatai and Nisiyama (1952): *Alvania (Nishiyama) sitta* (Yokoyama) by Makiyama (1958))

***Rissoa subcylindrica* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 27, pl. 1, fig. 57

Holotype: UT, no. ?

Cutting along the railway at Tabata ((Tabata-machi, Kita-ku), environs of Tokyo (Tokyo Prefecture)

Tabata Shell bed (Tokyo Formation)

Pleistocene

***Rissoina (Zebina) affinis* Garret, 1873** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Rissoina (Phosinella) cancellata* var. *awana* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 26, pl. 5, fig. 10

Holotype: UT no. ? (CM no. 21860)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coarl Bed (Numa Formation)

Pleistocene (Holocene)

***Rissoina (Rissoina) formosana* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 189, pl. 9, figs. 48a-b

Holotype: IGPS no. 53944

400 m SE of Zyo-tusyowan, station 13, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byorits Bed

Pliocene

***Rissoina fortunata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 8, p. 276,

pl. 33, fig. 10

Holotype: UT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation; upper horizon

Pliocene (early Pleistocene)

***Rissoina* (?) *gemma* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 9, no. 3, p. 119 (23), pl. 20 (3), figs. 20, 21

Holotype: IGPS no. 35701 (designated by Hatai and Nisiyama (1952))

Akase, Oda-mura, Uto-gun, Kumamoto Prefecture

Shiratake Formation

Eocene

(*Orectospira gemma* (Nagao) by Oyama et al. (1960))

***Rissoina* (*Moerchiella*) *manzakiana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 79, pl. 4, fig. 4

Holotype: UT no. ?

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

***Rissoina* (*Schwartziella*) *mirandai* Shuto, 1982**

Geol. Paleont. Southeast Asia, vol. 23, p. 120, pl. 19, figs. 22-25, text-fig. 4

Holotype: GK-L no. 7650 (fig. 25), Paratype: GK-L nos. 7690, 7692, 7693-7695

Loc. no. SAM54, Talve-Toboso area, Negros Island, Philippines

Macasilao Formation

Middle Miocene

***Rissoina* (?) *pagodula* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 415, pl. 46, fig. 28

Holotype: UT no. ? (CM no. 23769)

Dokwanyama (a hill at Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Ebala* (*Ebala*) *pagodula* (Yokoyama) by Oyama (1973))

***Rissoina* (*Rissolina*) *plicata* A. Adams, 1851** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Rissoina* *submerculialis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 73, pl. 4, fig. 15

Holotype: GT no. ? (CM no. 20207)

Yokosuka (precise locality unknown)

Yokosuka Zone

Upper Musashino=Pleistocene

(Synonymus with *Rissoina* (*Rissoina*) *laevicostulata* Pilsbry by Oyama (1973))

***Rissoina* *yendoi* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 407, pl. 46, fig. 27

Holotype: UT no. ? (CM no. 23768)

Kuromon-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Sinusicola yendoi* (Yokoyama) by Oyama (1973))

***Rissoina* *zeltnerioides* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 73, pl. 4, fig. 20

Holotype: GT no. ? (CM no. 20208)

Yokosuka (precise locality unknown)

Yokosuka Zone

Lower Musashino=Pleistocene

(*Rissoina* (*Rissoinella*) *zeltnerioides* Yokoyama by Oyama (1973))

***Risso* (*Cingula*) *subdharma* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 122, pl. 19, fi. 5

Holotype: GSJ no. ?

The upper sand-layer, west shore of Nanao Port, Nanao City, Ishikawa Prefecture

Upper Sand-Layer (Marine Terrace Deposits?)

Pleistocene

(*Cingula subdharma* (Yokoyama) by Makiyama (1928))

***Rissoalaba* Oyama, 1954, n. gen.**

In Taki and Oyama, 1954; Palaeont. Soc. Japan, Spec. Pap., no. 2), p. 52, Type-species; *Rissoa* (*Cingula*) *plebeja* Yokoyama, 1922 described from the Pleistocene Semata Formation, Chiba Prefecture

***Rissoina* *fortunata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 276, pl. 33, fig. 10

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

***Rissoina ? gemma* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 119, pl. 20, figs. 20, 20a

Holotype: GS no. 35701, Paratype: GS no. 35701 (figs. 21, 21a) (designated by Hatai and Nisiyama (1952))

Akase, Oda-mura, Uto-gun, province of Higo (Uto City, Kumamoto Prefecture)

Shiratake Formation

Lower Eocene

(*Orectospira gemma* (Nagao) by Oyama (1961))

***Rissoina naomiae* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 337, pl. 36, figs. 32a-34b

Holotype: DGS no. 4571 transferred to IGPS no. 90093 (figs. 32a-b)

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37°29'41"N, 137°10'28"E

Higashi-Innai Formation

Miocene (early Pleistocene)

(*Rissolina naomiae* (Masuda) by Itoigawa et al. (1982))

***Rissoina (Zebina ?) oculata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 277, pl. 34, fig. 12

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Zebina oculata* (Yokoyama) by Hatai and Nisiyama (1952); *Rissoina (Moerchiella) japonica* Weinkauff, 1881 by Makiyama (1958))

***Rissonia (Morchiella) sawanensis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 177, pl. 34, fig. 7

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Zebina (Moerchiella) sawanensis* (Yokoyama) by Hatai and Nisiyama (1952))

***Rissoina tabatai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 277, pl. 33, fig. 14

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the

contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

***Rissoinella Oyama*, 1954 n. subgen.**

In Taki and Oyama, 1954, p. 52, Type-species; *Rissoina zeltenerioides* Yokoyama, 1920 described from the Pleistocene Yokosuka Formation, Kanagawa Prefecture

Rissolina naomiae (Masuda) reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Rissoina naomiae* Masuda, 1966

Riuguhdrillia engonia (Watson) reported by Kamada (1962) from the Pliocene strata, Chiba Prefecture

Riuguhdrillia mediocarinata (Yokoyama) reported by Aoki (1954) from the Miocene Kabeya Formation, Fukushima Prefecture

***Riuguhdrillia oyamae* Kamada, 1962**

Palaeont. Soc. Japan, Spec. Pap., no. 8, p. 175, pl. 20, figs. 9a-11

Holotype: IGPS no. 79393 (figs. 9a-b)

Yagawase cliff, Iino, Taira City (Iwaki City), Fukushima Prefecture

Honya Formation

Miocene

Riuguhdrillia rugosa (Takeda) reported by Honda (1989) from the Oligocene Nuibetsu Formation, Hokkaido: see *Spirrotropis (Antiplanes) rugosa* Takeda, 1953

Rostellaria fusus (Linne) reported by Yokoyama (1929) from the Pliocene Konomine Formation, Kochi Prefecture (*Tibia fusus* (Linne) by Hatai and Nisiyama (1952))

***Rostellaria (Rimella) spinifera* var. *formosana* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 50, pl. 4, fig. 9

Holotype: GJSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Jowan, Shiko Sho, Shinchik Province, Taiwan

Upper Byoritz Beds

Pliocene

(*Tibia formosana* (Yokoyama) by Makiyama (1960); *Varicospira formosana* (Yokoyama) by Masuda and Huang (1990))

Royella sinon (Bayle, 1880) reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Sabatia japonica* Habe** (1952: Venus, vol. 17, no. 2, p. 74, text-figs. 9, 10) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Sabatia ovata* Habe** (1952: Venus, vol. 17, no. 2, p. 75, text-figs. 11-12) reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Sabia conica* (Schumacher)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Saotomea delicata* (Fulton)** reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture: ***Voluta (Fulgoraria) delicata* Fulton, 1940 (*Fulgoraria (Saotomea) delicata* (Fulton)** by Masuda and Noda (1976))

***Satsuma (Coniglobus) mercatoria katsurenensis* Habe and Chinen, 1985**

Venus, vol. 44, no. 2, p. 87, figs. 1-3

Holotype: NSMT Mo-no. 62635, Paratype: NSMT Mo nos. 62636a-b

Stone pit of Henna, Katsuren-cho, Nakagami-gun, Okinawa Prefecture

Pleistocene

Pleistocene

***Satsuma (Luchuhadra) yoronjimana* Azuma and Azuma, 1990**

Venus, vol. 49, no. 3, p. 198, fig. 1

Holotype: Azuma collection no. 17189, Paratype: Azuma collection no. 17189a, NSMT Mo no. 64919

Nishiku, Yoron-to Island (Yoron-cho), Oshima-gun, Kagoshima Prefecture

Raised coral reef

Pleistocene

***Scala amoena* Yokoyama, 1923 (1924)**

Japan. Jour. Geol. Geogr., vol. 2, no. 3, p. 54, pl. 7 (6), fig. 8

Holotype: GT no. ?

Wave cut beach on the SE side of Fujishima, Nishitonda-mura, Nishimuro-gun, Wakayama Prefecture; 33° 41'03"N, 135° 22'31"E

Fujishima (Shirahama Formation)

Pliocene (Miocene; Blow's N8–N9 Zone by Tanabe Dantai Kenkyu Group (1984))

***(Epitonium (Hyaloscala) amoenus* (Yokoyama)** by Hatai and Nisiyama (1952): not *S. amoena* Philippi, 1844;

***Epitonium niigishiensis* Makiyama, 1957**, n. n. (pl. 7, fig. 8))

Scala (Boreoscala) aomoriensis* (Iwai)** reported by Sawada (1962) from the Pliocene (Pleistocene) Nakanokawa Formation, Hokkaido (Epitonium (Boreoscala) aomoriensis***

Iwai by Masuda and Noda (1976))

***Scala macculosa* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 185, pl. 50, fig. 2

Holotype: GT no. ?

Sakito-jima, Sakito-mura, Nishisonogi-gun, Nagasaki Prefecture (precise locality unknown)

Nishisonogi Formation

Pliocene (Oligocene)

(Synonymus with ***Epitonium submaculosum* Nagao** by Hatai and Nisiyama (1952))

***Scala (Acrila) ojiensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 417, pl. 47, fig. 3

Holotype: UT no. ? (CM no. 23798, noted as missing by Oyama (1973))

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(***Amaea ojiensis* (Yokoyama)** by Oyama (1973))

***Scala rissoinaeformis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 418, pl. 47, fig. 4

Holotype: UT no. ? (CM no. 23800)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Invalid; not Yokoyama; non ***Scala rissoinaeformis* Melvill and Standen, 1903**; described as ***Nodiscala matajiroi* Kuroda, 1934** (Venus, vol. 18, no. 2, p. 142) by Oyama (1973))

***Scala (Boreoscala) yabei echigonum* (Kanehara)** reported

by Sawada (1962) from the Pliocene Chinkope Formation, Hokkaido (***Epitonium (Boreoscala) yabei echigonum***

Kanehara by Masuda and Noda (1976))

***Scalaria aurita* Sowerby** reported by Yokoyama (1922) from

the Pleistocene Shimosa Group, Chiba Prefecture (***Epitonium (Depressiscala) auritum* (Sowerby)** by Oyama

(1973))

***Scalaria azumana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 86, pl. 4, fig. 15

Holotype: UT no. ? (CM no. 21007)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(***Epitonium (Cinctiscala) sagamiense azumanum* (Yokoyama)** by Oyama (1973))

***Scalaria conjuncta* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 88, pl. 4, fig. 18

Holotype: UT no. ? (CM no. 20114)

Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

Shimosa Group (Inba Formation)

Pleistocene

(*Epitonium (Acutiscala) conjunctum* (Yokoyama) by Oyama (1973))

***Scalaria (Aacrilla) densicostata* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 79, pl. 5, fig. 14

Holotype: GT no. ? (CM no. 20238, noted as missing by Oyama (1973))

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Epitonium densicostata* (Yokoyama) by Hatai and Nisiyama (1952): *Amaea densicostata* (Yokoyama) by Oyama (1973))

***Scalaria kazusensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 87, pl. 4, fig. 16

Holotype: UT no. ? (CM no. 21011)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Epitonium (Cinctiscala) kazusense* (Yokoyama) by Oyama (1973))

***Scalaria maculosa* Adams and Reeve** reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture

***Scalaria picturata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 89, pl. 4, fig. 20

Holotype: UT no. ? (CM no. 20117)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Constantia picturata* (Yokoyama) by Oyama (1973))

***Scalaria subfrondicula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 88, pl. 4, fig. 19

Holotype: UT no. ? (CM no. 21016)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(*Epitonium (Mazescala) subfrondiculum* (Yokoyama) by Oyama (1973))

***Scalaria turriculoides* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 78, pl. 5, fig. 12

Holotype: GT no. ? (CM no. 20237)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°02'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(*Epitonium turriculoides* (Yokoyama) by Hatai and Nisiyama (1952): *Cirsotrema turriculoides* (Yokoyama) by Oyama (1973))

***Scalaria yamakawai* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 87, pl. 4, fig. 17

Holotype: UT no. ? (CM no. 21013)

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

(*Epitonium (Cinctiscala) yamakawai* (Yokoyama) by Oyama (1973))

***Scaliola hiyoshiensis* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 12, pl. 3, figs. 10a-b

Holotype: MFM no. 10072

Shukubora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora facies

Middle Miocene

***Scalptia crenifera* (Sowerby)** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture

***Scalptia kurodai* (Makiyama)** reported by Amano et al. (2000) from the Pliocene Tentokuji Formation, Akita Prefecture

***Scaphander ezoana* Matsui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 302, pl. 2, figs. 13a-b, 17-19

Holotype: UH no. 13351 (figs. 13a-b), Paratype: UH nos. 13352-13353 (figs. 17-19)

Miruto district, Ishikari coal field; Momijiyama, Yubari City; Kamishoro, Shiranuka-machi; Shinkushitakara-gawa, Akan-mura, Kushiro Province

Poronai Formation, and Momijitama and Onbetsu Formations (? Paratypes)

Oligocene (Eocene to Oligocene)

(*Eocylichna ezoana* (Matsui) by Masuda and Noda (1976))

***Scaphander kamadae* Hirayama, 1975**

St. Paul's Rev. Sci., vol. 3, no. 4, p. 187, text-figs. 2a-b

Holotype: GLR no. 1675

Roadside cliff, between Usuiso and Toyama, Iwaki City, Fukushima Prefecture

Shimizu Sandstone Member of the Takaku Formation

Middle Miocene

Scaphander murtistriata* (Takeda)** reported by Matsui (1959) from the Oligocene Shitakara Formation, Hokkaido (Eocylincha multistriata* (Takeda)** by Masuda and Noda (1976))

***Scaphander yonabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 128, pl. 6, fig. 20

Holotype: USNM no. 562781

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(***Haloa yonabaruensis* (MacNeil)** by Masuda and Noda (1976))

***Schizotrochus lamellatus* (A. Adams)** reported by Noda (1988) from the Shinzato Formation, Okinawa Prefecture: ***Anatonus lamellate* A. Adams, 1862**

***Scissurella staminea* (A. Adams)** reported by Itoigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Mie Prefecture

***Scobinella cossmanni* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Borsonia (Cordieria) cossmanni* Martin, 1914**

Scutus unguis* Linnaeus** reported by Yokoyama (1928) from the Pliocene (Pleistocene) Upper Byoritz Bes, Taiwan (Scutus sinensis* (Blainville, 1825)** by Makiyama (1960))

***Searlesia coreanica* (Smith)** reported by Kanahara (1942) from the Plio-Pleistocene (Pleistocene) Shibikawa Formation, Akita Prefecture

***Searlesia decessor* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 358, pl. 68, fig. 9

Holotype: GT no. ?

Kaigasawa, Higashiyama, Echigo (Valley W of Tochio-machi, Koshi-gun, Niigata Prefecture; 37°28'30"N, 139°59'E)

Shiraiwa Formation

Pliocene

***Searlesia japonica* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 269, pl. 32, fig. 22

Holotype: GT no. ?

Sawane (Kaidateno-sawa (Valley cliff, a short distance N of the path and about 150 m SW of the temple at N of Tanaka, Sawane-machi, Sado-gun, Niigata Prefecture; 38°01'N, 138°16'53"E)

Sawane Formation

Pliocene (early Pleistocene)

***Searlesia kurodai* Makiyama, 1936**

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 11, no. 4, art. 8, p. 223-224, pl. 5, figs. 13, 14

Holotype: GK, no. ?

Nanseki, North Korea

Heiroke stage (Heiroke Formation)

Miocene

***Semicassis bisulcata pila* (Reeve)** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture

***Semicassis japonica* (Reeve)** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture; and also reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture: ***Cassis japonica* Reeve, 1848**

***Semicassis japonica minor* (Kuster)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Cassis japonica minor* Kuster, 1858**

Semicassis minor* (Kuster)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (Phalium (Semicassis) minor* (Kuster)** by Masuda and Noda (1976))

Semicassis pila* (Reeve)** reported by MacNeil (1960) from the Miocene to Pliocene Shinzato Formation, Okinawa Prefecture (Phalium (Semicassis) pila* (Reeve)** by Masuda and Noda (1976))

***Semifusus crassicaudus* (Philippi)** reported by Fujimoto (1999) from the recent sea off Amami-Oshima, Kagoshima Prefecture

***Semifusus sazanami* (Kanahara, 1937)** reported by Fujimoto (1999) from the Miocene Yoshino Formation, Okayama Prefecture: see ***Melongena sazanami* Kanahara, 1937**

***Semisulcospira fiscina yokoyamai* Suzuki, 1944**

Jour. Geol. Soc. Japan, vol. 51, no. 606, p. 101

Holotype: GT no. ? (Lectotype was designated by Oyama et

al. (1960, p. 42, pl. 4, figs. 2a-c)

Katsura-zawa, a branch of Sasaki-zawa, Numata-machi, Uryu-gun, Hokkaido
Upper Numata Formation, Uryu Group
Lower Oligocene

***Semisulcospira libertina nassaeformis* Kuroda and Kanamaru** reported by Shikama and Okafuji (1958) from the Quaternary Mukoyama Formation, Yamaguchi Prefecture

***Semisulcospira (Biwamelania) praemultigranosa* Matsuoka, 1985**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 139, p. 190, pl. 27, figs. 9-18

Holotype: ESN no. 40023, Paratype: ESN nos. 40024, 40025, MFM nos. 110007, 110008

Loc. no. A (116); Hirata, Ohyamada-mura, Ayama-gun, Mie Prefecture
Iga Formation
Pliocene

***Serpulorbis dentiferus* (Sowerby)** reported by Tomida (1996) from the Pliocene Ochiai Formation, Kanagawa Prefecture

***Serpulorbis imbricatus* Dunker, 1860** reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture: ***Vermetus imbricata* Dunker, 1860**

***Serpulorbis (Cladopoma) imbricatus* (Dunker)** reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

***Serpulorbis xenophorus* Habe, 1961** reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture

***Shichiheia etchuensis* Hatai and Nisiyama, 1949**

Jour. Paleont., vol. 23, no. 1, p. 93, pl. 24, figs. 1, 2, 7

Holotype: GS no. 72518

Kami-Shin, Kurosedani-mura (Yatsuo-machi), Nei-gun, Toyama Prefecture; 36°34'02"N, 137°09'03"E

Susahara Formation (Kurodedani Formation)

Miocene

***Shichiheia yokoyamai* (Nomura and Hatai)** reported by Hatai and Nisiyama (1949) from the Miocene Suhara (Kurosedani) Formation, Toyama Prefecture

***Shoshiroia* Kamada, 1960** n. subgen.

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.) Spec. Vol., no. 4 (Prof. S. Hanzawa Mem. Vol.), p. 291, Type-species; *Vicarya callosa* Jenkins, 1864 described from the Miocene in Java, Indonesia

***Sigaretornus kujiriensis* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 10, pl. 3, figs. 3a-5

Holotype: MFM no. 10066 (fig. 3), Paratype: MFM nos. 10067, 10068 (fig. 4)

Kujiri, Izumi-cho, Toki City, Gifu Prefecture

Akeyo Formation

Middle Miocene

***Sigaretornus planus* (A. Adams)** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture: ***Adeorbis planus* A. Adams, 1850**

***Sigaretotrema inflatum* (Tesch)** reported by Oyama et al. (1993) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Sigaretus inflatus* Tesch, 1920**

***Sigaretus festivus* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 1, p. 8, pl. 1, fi. 6

Holotype: GT no. ?

Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36°40'N, 138°07'E)

(Shigarami Formation)

Pliocene

(***Eunaticina festiva* (Yokoyama)** by Hatai and Nisiyama (1952))

***Sigaretus ineptus* Yokoyama, 1923**

Japan. Jour. Geol. Geogr., vol. 2, no. 3, p. 53, pl. 7 (6), fig. 16

Holotype: GT no. ?

Wave cut bench on the SE side of Fujishima, Nishitonda-mura (Shirahama-cho), Nishimuro-gun, Wakayama Prefecture; 33°41'03"N, 135°22'31"E)

Fujishima (Shirahama Formation)

Pliocene (Miocene; Blow's N8 -N9 Zone by Tanabe Dantai Kenkyu Group (1984))

(***Sinum ineptum* (Yokoyama)** by Hatai and Nisiyama (1952))

Sigaretus undulates* Lischke, 1872** reported by Yokoyama (1928) from the Pliocene Byoritz Formation, Taiwan (Sinum undulatum* (Lischke)** by Makiyama (1960))

***Sigatica kurodai* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 12, pl. 3, figs. 9a-b

Holotype: MFM no. 10073

Shukubora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora facies of the Mizunami Group

Middle Miocene

***Sihonalia kannoi* Okumura and Takei, 1993**

Bull. Mizunami Fossil Mus., no. 20, p. 144, pl. 29, figs. 6

Holotype: NT90-28 (Naruto Univ. Educ.)

Valley side and floor of the Tonohama valley, about 500 m N of Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture.

Ananai Formation
Pliocene

***Siliquaria anguina* (Linnaeus, 1758)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture:

***Siliquaria cumingii* Morch, 1860** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Sinum anectum* (Otuka)** reported by Noda et al. (1994) from the Miocene Tamagawa Formation, Ibaraki Prefecture

“***Sinum*” *festiva* (Yokoyama)** reported by Majima (1989) from the Pliocene Shigarami Formation, Nagano Prefecture: see ***Sigaretus festiva* Yokoyama, 1925**

***Sinum ineptum* (Yokoyama)** reported by Masuda (1967) from the Miocene Higashi-Innai Formation, Ishikawa Prefecture: see ***Sigaretus ineptus* Yokoyama, 1924**

***Sinum javanicum* (Griffith and Pidgeon)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture: ***Cryptosoma javanicum* Griffith and Pidgeon, 1834**

Sinum neritoideum* (Linnaeus, 1758)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Sinum javanum* (Griffith and Pidgeon)** by Masuda and Huang (1990))

***Sinum oblongum yuguchiensis* Iwai, 1959**

Bull. Educ. Fac., Hirosaki Univ., no. 5, p. 50, pl. 1, figs. 1a-b
Holotype: HU no. ?

Lower stream of the Tochinai River at Yuguchi, Soma-mura, Nakatsugaru-gun, Aomori Prefecture
Hihashimeya Formation
Pliocene (Pleistocene)

***Sinum yabei* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 627, pl. 49, figs. 74, 75

Holotype: GT no. 1561

Shiratori (Southeast valley of Sshiratori, about 400 m SE of the temple at Shiratori, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°14'05"N, 141°20'23"E)

Shiratori Formation
Miocene

***Sinusicola yendoi* (Yokoyama)** reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture

***Siogamaia tibana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 77, pl. 11, figs. 89a-b

Holotype: SM no. 11873

Nakagawa, Sisui-mati (Shisui-machi), Tiba (Chiba) Prefecture

Pleistocene stratum ?

Pleistocene

***Siogamaia tosana* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 84, pl. 6, figs. 16a-b.

Holotype: IGPS, no. 55048

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (33° 26'43"N, 133° 58'21"E)

(Ananai Formation)

Pliocene

***Sipho (Parasipho) nipponicus* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 55, pl. 2, fig. 14

Holotype: UT no. ? (CM no. 20869)

Otake (Narita City, Chiba Prefecture)

Shimoso Group (Kioroshi Formation)

Pleistocene

(***Oenopota nipponica* (Yokoyama)** by Oyama (1973):

“***Oenopota*” *nipponicus* (Yokoyama)** by Masuda and Noda (1976))

“***Sipho*” *nipponicus* Yokoyama** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

***Sipho obesiformis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 52, pl. 2, fig. 13

Holotype: GT no. ? (CM no. 20120)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139° 32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(***Nassaria obesiformis* (Yokoyama)** by Hatai and Nisiyama (1952))

***Siphonalia asakuraensis* (Nagao)** reported by Oyama et al. (1960) from the Eocene Doshi Formation, Fukuoka Prefecture: see ***Chrysodomus asakuraensis* Nagao, 1928**

Siphonalia cassidariaeformis* (Reeve)** reported by Yokoyama (1923) from the Pliocene Dainichi Formation, Shizuoka Prefecture; ***Buccinum cassidariaeformis* Reeve, 1846** (Siphonalia cassidariaeformis declivis* (Reeve)** by Hatai and Nisiyama (1952))

***Siphonalia crassiplicata* Shuto and Ueda, 1967**

Japan Jour. Geol. Geogr., vol. 38, no. 1, p. 36, pl. 2, figs. 2, 3
Holotype: GKL no. 6262

Road-side cutting at the pass north of Obo, Arita-machi,
Nishimatsuura-gun, Saga Prefecture
Kishima Formation
Oligocene

***Siphonalia dainitiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p.117, pl. 5, fig. 11
Holotype: GK no. 61

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City,
Shizuoka Prefecture; 34 °47'07"N, 137 °56'E)
Dainichi Formation
Pliocene

***Siphonalia declivis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 337,
pl. 38, figs. 19-21
Holotype: GT no. ?

Asuka (Valley side about 200 m SE of Asuka, Taruki-mura,
Ogasa-gun, Shizuoka Prefecture; 34 °47'01"N, 138 °E)
Satsuka Formation
Pliocene

***Siphonalia declivis biconica* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art.
4, p. 85, pl. 5, figs. 23-25, 27-29
Holotype: GK no. ?, Paratype: GK no. ?

Road-side cutting at boundary between Haranoya-mura and
Taruki-mura, 300 m NW of Tonbe, Taruki-mura, Ogasa-gun,
Shizuoka Prefecture; 34 °47'N, 137 °58'E)
Nango Formation
Pliocene

***Siphonalia declivis* var. *signum* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art.
4, p. 86, pl. 6, fig. 36
Holotype: GK no. ?

Loc. 524 (West side of the hill, about 300 m W of Umagatani,
Ugari-mura, Suchi-gun, Shizuoka Prefecture; 34 °47.5'N,
137 °55'E)
Hosoyma Pliocene

***Siphonalia declivis tosensis* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art.
4, Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2,
art. 4, p. 86, pl. 4, fig. 12
Holotype: GK no. ?

Ikenotani (near the junction of the tributary and the small
river, a short distance E of the road at Todani, N of
Tonohama, Yasyuda-machi, Aki-gun, Kochi Prefecture; 33 °
26'43"N, 133 °58'21"E)

(Konomine Formation)
Pliocene

***Siphonalia fujiwarai* Taguchi, 1992**

Venus, vol. 51, no. 3, p. 170, figs. 18-21
Holotype: MFM no. 20051 (fig. 21), Paratype: MFM nos.
20052-20054 (figs. 18-20)
Niida, Tsuyama City, Okayama Prefecture; 35 °03'05"N,
134 °04'01"E
Yoshino Formation of the Katsuta Group
Middle Miocene

***Siphonalia funereal* Pilssbry, 1895** reported by Ozawa et al.
(1998) from the Pliocene Dainichi Formation, Shizuoka
Prefecture

***Siphonalia fuscolineata* Pease** reported by Yokoyama
(1920) from the Pliocene Naganuma Formation, Kanagawa
Prefecture (Reidentified with *Siphonalia spadicea* (Reeve)
by Hatai and Nisiyama (1952))

***Siphonalia fusoides* (Reeve)** reported by Yokoyama (1928)
from the Pliocene (Kounji) Formation, Miyazaki Prefecture

***Siphonalia gravitesta* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 340, pl. 20, figs.
4a-b

Holotype: SM no. 7959
Yanagawa-machi (River cliff of the Hirose-gawa at the SE
end of Yanagawa Park, a tributary of the Abukuma-gawa,
Yanagawa-machi, Date-gun, Fukushima Prefecture; 37 °
51'05"N, 140 °36'05"E)
Yanagawa Formation
Miocene

***Siphonalia hyugaensis* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 34, pl.
7, figs. 12, 13, 15

Holotype: GKL no. 6112 (figs. 12, 15), Paratype: GKL nos.
6111, 6128 (Nihonmatsu)

Cutting along the high-way on the south slope of the hill,
Hagenoshita, Uwae-mura (Takanabe-cho); Paratype, cutting
along the high-way at the foot of the hill, Nihonmatsu,
Takanabe-cho, Koyu-gun, Miyazaki Prefecture
Takanabe Formation
Miocene to Pliocene

***Siphonalia ikebei* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 91, pl. 5,
figs. 10, text-fig. 4-c

Holotype: JC no. 1400054 (figs. 1a-b), Paratype: JC no.
1400055
Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama
Prefecture

Kurosedani Formation
Miocene (early Miocene)

***Siphonalia ishikariana* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 592, pl. 1, figs. 7a-10b

Holotype: GSJ no. 5031 (figs. 10a-b), Paratype: GSJ nos. 5032 (figs. 9a-b), 5033 (figs. 7a-b), 5034 (fig. 8)

Upper stream of the Tanzawa River, Ashibetsu City, Hokkaido

Akabira Formation

Oligocene

***Siphonalia kannoi* Okumura and Takei, 1993**

Bull. Mizunami Fossil Mus., no. 20, p. 144, pl. 29, fig. 6

Holotype: NT no. 90-28 (Naruto Univ. Education)

Valley side and valley floor of the Tonohama valley, about 500 m N of Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture

Ananai Formation

Pliocene

***Siphonalia kellethioides* Yokoyama, 1928**

Rep., Imp. Geol. Surv. Japan, no. 101, p. 39, pl. 2, fig. 11

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Taiko, Takao Province, Taiwan

Lower Byoritz Beds

Pliocene

(*Hemifusus kellethioides* (Yokoyama) by Makiyama (1960))

***Siphonalia kikaigashimana* Hirase, 1908** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Siphonalia kozai* Okumura and Takei, 1993**

Bull. Mizunami Fossil Mus., no. 20, p. 144, pl. 29, figs. 5

Holotype: NT90-29 (Naruto Univ. Educ.)

Valley side and floor of the Tonohama valley, about 500 m N of Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture

Ananai Formation

Pliocene

***Siphonalia laddi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 71, pl. 8, fi. 16

Holotype: USNM no. 562823

Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

***Siphonalia longicanalis* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 159, pl. 5, fig. 26

Holotype: IGPS no. 50674

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture

Ryukyu Limestone (Wan Formation),

Pleistocene

***Siphonalia makiyamai* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, p. 141, pl. 6, figs. 16, 17

Holotype: JC no. 1300099 (fi. 16), Paratype: JC no. 1300100 (Loc. no. 446, Nakanishi)

Kamigiri, Iwamura-cho, Ena-gun, Gifu Prefecture; Paratype, Nakanishi, Yamaoka-cho, Ena-gun, Gifu Prefecture

Kubohara Sandstone, Mizunami Group

Miocene

***Siphonalia mikado* Melville** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Siphonalia mikado macneili* Masuda and Noda, 1976**

Spec. Pub., Saito Ho-on Kai, no. 1, p. 10

Holotype: USNM, no. 562824

Miyagusuku, Takabanare-shima, Okinawa Prefecture

Shinzato Tuff Member

Miocene or Pliocene

(New. n. for *Siphonalia mikado makiyamai* MacNeil, 1960, U. S. Geol. Surv., Prof. Pap. 339, p. 70, pl. 8, fig. 17 (preoccupied by Itoigawa (1955))

***Siphonalia mikado makiyamai* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 70, pl. 8, fig. 17

Holotype: USNM no. 562824

Loc. no. 17477, high roadcut near intersection of two main roads along northeast edge of Miyagusuku, Takabanare-shima, Okinawa Prefecture

Shinzato Formation

Miocene or Pliocene (Pliocene)

(*Siphonalia macneili* Masuda and Noda, 1976 n. n. by Masuda and Noda (1976))

***Siphonalia mikado sutiensis* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art. 4, p. 82, pl. 4, fig. 14

Holotype: GK no. ?

Loc. 524 (Western side of hill, about 300 m W of Umagatani, Ugari-mura, Suchi-gun, Shizuoka Prefecture; 34 °47.5'N, 137 °55'E)

Hosoya Formation

Pliocene

***Siphonalia mikado tennoensis* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art.

4, p. 81, pl. 6, fig. 31

Holotype: GK no. ?

Loc. 653 (Western side of Tennoyama in front of the Tenno shrine, Shimasai-go, Ogasawara-gun, Shizuoka Prefecture; 34 ° 36.5'N, 138 ° 01'E)

Dainichi Formation

Pliocene

***Siphonalia minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 287, pl. 5, figs. 10a-11

Holotype: ESN no. 20071 (figs. 10a-b), Paratype: ESN no. 20072

Loc. No. S20-1, Anabara, Toki City, Gifu Prefecture

Togari Facies of the Akeyo Formation, Mizunami Group

Miocene

***Siphonalia minuta* Itoigawa, 1955**

Mem. Coll. Sci., Univ. Kyoto, Ser. B, vol. 22, no. 2, p. 141, pl. 6, figs. 21, 22

Holotype: JC no. 1300113, Paratype: JC no. 1300114

Nakanishi, Yamaoka-cho, Ena-gun, Gifu Prefecture

Kubohara Sandstone, Mizunami Group

Miocene

***Siphonalia modificata* (Reeve)** reported by Makiyama (1941) from the Pliocene Hosoya Formation, Shizuoka Prefecture; ***Buccinum modificata* Reeve, 1864**

***Siphonalia nipponica* Oyama and Mizuno, 1958**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 593, pl. 1, figs. 2, 3

Holotype: GSJ no. 5035 (fig. 3), Paratype: GSJ no. 5036 (fig. 2)

In the boring core of the shaft "Kita-takejo", at the Sakito coal mine, Sakito-machi, Nishisonogi-gun, Nagasaki Prefecture: Paratype; Obo, Arita-machi, Nishimatsuura-gun, Saga Prefecture

Maze Formation (Holotype) and Kishima Formation (Paratype)

Oligocene

***Siphonalia nisiyamai* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 82, pl. 7, figs. 2, 4

Holotype: IGPS no. 74318

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

(Reported by Masuda (1967) from the Higashi-Innai Formation, Ishikawa Prefecture)

***Siphonalia osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 90, pl. 4, figs. 18a-b

Holotype: JC no. 1400052, Paratype: JC no. 1400053 (from Iwakishin)

Iwakishin, Osawano-machi, Kamiinikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

***Siphonalia praedeclivis* Itoigawa, 1953**

Venus, vol. 17, no. 4, p. 217, text-figs. 1, 2

Holotype: JC no. 300001

Tanohira, Takaoka-cho, Miyazaki Prefecture; 31 ° 57'N, 131 ° 15'E

Kubohara Formation

Upper Miocene

***Siphonalia prespadicea* Nomra and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 341, pl. 20, figs. 6a-b

Holotype: SM no. 8433

Yanagawa-machi (River cliff of the Hirose-gawa, at the SE end of Yanagawa Park, a tributary of the Aabukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37 ° 51'05"N, 140 ° 36'05"E)

Yanagawa Formation

Miocene

***Siphonalia sakakurai* Mizuno, 1954**

Venus, vol. 18, no. 2, p. 103, text-figs. 1a-c

Holotype: JSG no. 1699

Upper stream of the River Bibai, north to the Mitsubishi Coal-mine, Sorachi-gun (Bibai City), Hokkaido

Horokabetsu Formation

Paleogene (Lower Oligocene by Oyama et al. (1960))

***Siphonalia shojii* Hirayama, 1956**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 5, nos. 41-45, p. 122, pl. 8, figs. 1-3

Holotype: TKD no. 10424 (fig. 1, 2), Paratype: TKD no. 10425 (fig. 3)

Loc. A, sea cliff, a little SW of Tomari, Hikoshima, Yamaguchi Prefecture

"Hikoshima" Formation

Oligocene

(***Nassarius*" shojii** (Hirayama) by Oyama et al. (1960))

***Siphonalia shukuborensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 288, pl. 5, figs. 12a-b

Holotype: ESN no. 20072, Paratype: ESN no. 20074

Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture

Shukubora sandstone of the Oidawara Formation

Miocene

Siphonalia signum (Reeve) reported by Shuto (1962) from the Miocene Kawabaru Formation, Miyazaki Prefecture

***Siphonalia signum imai* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art. 4, p. 86, pl. 5, fi. 20

Holotype: GK no. ?

Loc. 431 (Road-side cutting at boundary between Haranoya-mura and Taruki-mura, 300 m NW of Tonbe, Taruki-mura, Ogasawara-gun, Shizuoka Prefecture; 34 °47'N, 137 °58'E)

Nango Formation

Pliocene

***Siphonalia sikokuana* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 86, pl. 6, figs. 1a-b

Holotype: IGPS, no. 55057

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture; 33 ° 26'43"N, 133 °58'21"E)

(Ananai Formation)

Pliocene

Siphonalia spadicea (Reeve, 1846) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Siphonalia spadicea fuscolineata (Pease) reported by Shuto (1962) from the Pliocene Takanabe Formation, Miyazaki Prefecture

***Siphonalia spadiceoides* Nomura, 1949**

Jour. Geol. Soc. Japan, vol. 46, no. 548, p. 256, pl. 13, figs. 11a-b

Holotype: SM no. 17368

Path-side cutting a short distance S of the two ponds about 700 m E of Yamaguchi, Kozai-mura, Igu-gun, Miyagi Prefecture; 37 °54'16"N, 140 °50'05"E)

Kozai Formation

Miocene

Siphonalia stearnsi Pilsbry, 1895 reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture

***Siphonalia subspadicea* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 69, pl. 13, figs. 15, 16

Holotype: USNM no. 562942 (fig. 16)

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

***Siphonalia supregranulata* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 110, pl. 17, figs. 19, 19a

Holotype: GS no. 36094, Paratype: GS no. 36094 (pl. 19, fig. 18)

Beach rocks W of Hachimanzaki (About 300 m N of Waita, Shimago-mura, Ogasawara-gun, Fukuoka Prefecture; 33 °55'52"N, 130 °43'38"E)

Wakita Formation

Oligocene

***Siphonalia tonohamaensis* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 87, pl. 6, figs. 3a-b

Holotype: IGPS, no. 55056

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture; 33 ° 26'43"N, 133 °58'21"E

(Ananai Formation)

Pliocene

***Siphonalia tonohamaensis delicatula* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 12, no. 1, p. 40, pl. 7, figs. 6, 7

Holotype: GKL no. 4899, Paratype: GK-L no. 4900

Cutting along the high-way on the south slope of the hill, at Hagenoshita, Uwaye-mura (Takanabe-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Member of the Miyazaki Group

Pliocene

***Siphonalia tonohamaensis totomiensis* Makiyama, 1941**

Mem. Coll. Sci., Kyoto Imp Univ., ser. B, vol. 16, no. 2, art. 4, p. 80, pl. 4, figs. 17, 18

Holotype: GK no. ?, Paratype: GK no. ? (pl. 4, figs. 15, 16)

Loc. 530 (Small valley behind a house about 500 m E of Misawa, Ugari-mura, Suchi-gun, Shizuoka Prefecture; 34 ° 47'N, 137 °55.5'E)

Hosoya Formation

Pliocene

Siphonalia tosensis Makiyama, 1941 reported by Shuto (1962) from the Miocene to Pliocene Takanabe Formation, Miyazaki Prefecture

Siphonalia trochulus (Reeve) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture

***Siphonalia wuchihshanensis* Kanno and Chung, 1975**

Geol. Geogr. Southeast Asia, vol. 15, p. 388, pl. 3, figs. 4-7

Holotype: TUE no. 10204 (fig. 7), Paratype: TUE no. 10205

Loc. no. 370507, see cliff, about 2 km SE of Wanli, along the beach between Wanli and Kelung, Taiwan

Wuchihshan Formation

Early Miocene (Oligocene by Masuda and Huang (1990))
(Described as *Siphonalia* sp. in plate 3, figs. 4-7)

***Siphonalia yabei* Nomura, 1937**

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 87, pl. 6, figs. 6a-b

Holotype: IGPS, no. 55056 (same as *S. tonohamaensis* Nomura; may be miss print)

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture; 33 ° 26'43"N, 133 ° 58'21"E

(Ananai Formation)

Pliocene

***Siphonalia yonabaruensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 69, pl. 3, figs. 14, 15

Holotype: USNM no. 562692

Loc. no. 17449, cut along side of trail to Kakazu from Highway 11, near top of hill at south edge of village, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Siphonalia walshi* (Reeve)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Siphonochelus japonicus* (A. Adams)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Typhis japonicus* A. Adams, 1863**

***Siphonochelus osawanoensis* (Tsuda)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see ***Typhis (Talityphis) osawanoensis* Tsuda, 1959**

***Siphonofusus japonicus* Shuto, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 111, p. 366, Type-specimen; *Siphonalia spadicea fuscolineata*, Shuto, 1962; Mem. Fac. Sci. Kyushu Univ., Ser. D, Geol., vol. 12, no. 1, p. 36, pl. 7, figs. 5, 9

Holotype: GK-L no. 4891 (pl. 7, figs. 5, 9)

Loc. no. MI 6351, Hagenoshita, Takanabe-cho, Koyu-gun, Miyazaki Prefecture

Takanabe Member, Miyazaki Group

Pliocene

***Siphonofusus macneili* Shuto, 1978**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 111, p. 366, Type-specimens; *Afer* aff. *A. oostinghi*, MacNeil, 1960, Prof. Pap. U. S. Geol. Surv., 329, p. 76, pl. 3, figs. 24, 25, 27, 28, 33

Holotype: USNM no. 562702 (pl. 3, fig. 33), Paratype: USNM nos. 562700, 562701

Loc. no. 17449, Kakazu, about 900 m S of Madama-bridge, Naha, Okinawa Prefecture; Paratype, loc. no. 17451; North

of Iwa, Kochinda, Okinawa, Japan
Yonabaru Clay Member, Shimajiri Group
Upper Miocene

***Skenea basilirata* Nomura, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd ser (Geol.), vol. 19, no. 2, p. 275, pl. 36, figs. 11a-b

Holotype: SM no. 2442

Goroku cliff along the right bank of the Hirose-gawa, Aoba-ku, Sendai City, Miyagi Prefecture (38 ° 16'N, 140 ° 49'E)

Tatsunokuchi Formation

Pliocene

***Skenea nipponica* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 27, art. 20, p. 75, pl. 5, fig. 1

Holotype: UT no. ? (CM no. 20211, noted as missing by Oyama (1973))

Otsu, Yokoska City, Kanagawa Prefecture

Yokosuka Zone (Otsu Formation)

Pleistocene

(***Lissotesta sobrina* (A. Adams)** by Oyama (1973))

***Skenea planorboides* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 81, pl. 4, fig. 8

Holotype: UT no. ? (CM no. 20981)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(***Miceogaza planorboides* (Yokoyama)** by Oyama (1973))

"*Solariella*" *albalitus* MacNeil, 1960

U. S. Geol. Surv., Prof. Paper 339, p. 23, pl. 10, figs. 19, 20

Holotype: USNM no. 562885

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

***Solariella formosana* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 217, pl. 10, figs. 42a-c

Holotype: IGPS no. 54214

1000 m SE of Hakusyaton, station 32, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(***Minolia formosana* (Nomura)** by Masuda and Huang (1990))

“*Solariella*” *musashiana* Hatai and Masuda, 1962

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 46, p. 260, pl. 40, figs. 14a-17b

Holotype: DGS no. 4241 transferred to IGPS no. ?, Paratype: DGS no. 4242 (figs. 15-17, Loc. no. 4)

Loc. no. 2, river cliff, about 600 m SES of Okura, Sugaya-mura (Ranzan-cho), Hiki-gun, Saitama Prefecture; 36°05'06"N, 139°19'05"E: Paratype, Loc. no. 4, river cliff about 600 m W of Godo, Higashimatsuyama City, Saitama Prefecture

Tokigawa Formation
Miocene

***Solariella nipponensis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 272, pl. 33, fig. 16

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation
Pliocene (early Pleistocene)

(*Minolia nipponensis* (Yokoyama) by Hatai and Nisiyama (1952): *Machaeroplax coreanica nipponensis* (Yokoyama) by Makiyama (1958))

***Solariella pseudobscula* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 177, pl. 47, fig. 12

Holotype: GT no. ?

Western side cliff (Kaigarabuchi) of the Sai-gawa, near the large sand bank, about 400 m SE of the contact point of the two roads at Onma, Sakiura-mura, Isikawa-gun, Ishikawa Prefecture; 36°31'24"N, 136°41'10"E)

Onma Formation
Pliocene (Pleistocene)

(*Minolia* (*Minolia*) *pseudobscura* (Yokoyama) by Hatai and Nisiyama (1952))

***Solariella sakya* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, pt. 4, p. 202, pl. 12, fi. 9

Holotype: GT no. ?

Nishigoto (Road cliff about 2 km NW of Nishigoto, on road leading to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36°59'03"N, 140°22'E)

Tanagura Formation
Pliocene (Miocene)

(*Minolia sakya* (Yokoyama) by Hatai and Nisiyama (1952))

***Solariella shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 24, pl. 1, figs. 2-4

Holotype: USNM no. 562646 (figs. 2, 3)

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation
Miocene

Solariella stearnsi Pilsbry reported by Shikama and Masujima (1969) from the Pliocene Asahina Formation, Kanagawa Prefecture

***Solariella tobaruensis* Noda, 1988**

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, v. 9, p. 33, pl. 5, figs. 5a-6b

Holotype: IGUT no. 10735, Paratype: IGUT no. 10736

Loc. no. 82-20L (cliff near Toubaru, Miyagi-shima, Yonashiro-cho, Nakagusuku-gun) Okinawa Prefecture
Shinzato Formation

Pliocene

***Solariella tomoyoriensis* Noda, 1991**

Sci. Re., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 34, figs. 13-5a-6d

Holotype: IGUT no. 11507, Paratype: IGUT no. 11508

Loc. No. 63, road side cliff at south of small bridge at Tomoyori, Kochinda-son, Shimajiri-gun, Okinawa Prefecture
Yonabaru Formation

Pliocene

***Solarium lenticulatum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 72, pl. 4, fig. 21

Holotype: GT no. ? (CM no. 20205)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation
Pliocene (Pleistocene)

(*Heliacus lenticulatum* (Yokoyama) by Hatai and Nisiyama (1952): *Architectonica* (*Solariaxis*) *lenticulata* (Yokoyama) by Oyama (1973))

Solarium perspectibum Linnaeus reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (*Architectonica perspectibum* (Linnaeus) by Masuda and Huang (1990))

***Solidula clathrata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 23, pl. 1, fig. 2

Holotype: UT no. ? (CM no. 20731)

Shito (Ichihawa City, Chiba Prefecture)
(Semata Formation)

Pleistocene

Solidula (*Strigopupa*) *strigosa* (Gould) reported by Amano

et al. (2000) from the Pliocene Tentokuji Formation, Akita Prefecture

***Solutolacuna Habe, 1965* n. gen.**

Venus, vol. 23, no. 4, p. 203, Type-species; *Solutolacuna hasegawai* Habe, 1965 described from the Pleistocene Shiriyazaki Formation, Aomori Prefecture

***Solutolacuna hasegawai* Habe, 1965** gen. et n sp.

Venus, vol. 23, no. 4, p. 203, text-fig. 1
Holotype: NSM no. ?, Paratype: NSM no. ?
Pleistocene Cave at Shiriyazaki, Higashidori-mura, Shimokita-gun, Aomori Prefecture
Alluvial Deposits
Pleistocene

***Spergo fusus* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 118, pl. 10, figs. 4, 9
Holotype: USNM no. 562871
Loc. no. 17454, shallow dug hole on west side of road and at north foot of spur around which the road makes a shallow bend, about 0.6 Mi N of junction of road with Highway 64 at Asato, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Spiroglyphus tricarinatus* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, figs. 14, 14a
Holotype: UT no. ? (CM no. 21849)
Numa, Awa (Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)
(Annelida, Polychaeta: *Spirorbis tricarinatus* (Yokoyama) by Oyama (1973))

***Spirotropis (Typhlomangelia) kazusensis* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 306, pl. 13, fig. 13
Holotype: GT no. Y-0015
Sea-cliff at Tomiya, Minato-machi (Sea cliff at Tomiya, about 1 km SW of Kazasa-minato railway station, Minato-machi, Kimitsu-gun (Futtsu City), Chiba Prefecture
Tomiya Tuffaceous Sandstone
Pliocene

***Spirotropis (Typhlomangelia) kazusensis inflatus* Otuka, 1949**

Japan. Jour. Geol. Geogr., vol. 21, nos. 1-4, p. 307, pl. 12, fig. 14
Holotype: GT no. Y-0016
Sea-cliff at Tomiya, Minato-machi (Sea cliff at Tomiya, about 1 km SW of Kazusaminato railway station, Minato-machi, Kimitsu-gun (Futtsu City), Chiba Prefecture

Tomiya Tuffaceous Sandstone
Pliocene

***Spirotropis (Antiplanes) rugosus* Takeda, 1953**

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 61, pl. 5, fig. 9
Holotype: UH no. 11130
Loc. No. W12, upper course of Syunkusitakara creek, Kusiro Province, Hokkaido; 143°59'E, 43°16'40"N
Poronai Formation
Oligocene (late Eocene)
(*Riuguhdrillia rugosa* (Takeda) by Oyama et al. (1960))

***Spirotropis (Antiplanes) sadoensis* (Yokoyama)** reported by Kanahara (1940) from the Pliocene Ota Formation, Niigata Prefecture; see *Pleurotoma sadoensis* Yokoyama (*Rectiplanis saanctioannis* (Smith) by Hatai and Nisiyama (1952))

***Spirotropis subdeclivis* (Yokoyama)** reported by Shuto (1961) from the Pliocene Takane Formation, Miyazaki Prefecture (*Makiyamaia subdeclivis* (Yokoyama) by Masuda and Noda (1976): see *Pleurotoma subdeclivis* Yokoyama, 1926)

***Spirotropis subdeclivis acuticarinata* Shuto, 1961**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 9, no. 2, p. 103, pl. 9, fig. 7
Holotype: GKL no. 6008, Paratype: GKL nos. 6006, 6007, 6009, 6010
Brook side cliff, south of Kakoi, Sanzai-mura, Koyu-gun (Saito City), Miyazaki Prefecture
Kawabaru Member of the Miyazaki Group
Miocene
(*Makiyamaia subdeclivis acuticarinata* (Shuto) by Masuda and Noda (1976))

***Spirotropis subdeclivis ichishiensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. 77, pl. 4, figs. 4, 5a-b
Holotype: ESN no. 30024
Loc. no. K73, Nananomura, Hakusan-cho, Ichishi-gun, Mie Prefecture
Oi Formation
Miocene
(*Makiyamaia subdeclivis ichishiensis* (Shibata) by Masuda and Noda (1976))

***Spirotropis subdeclivis mitsuganoensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, no. 1, p. pl. 4, figs. 4-5b
Holotype: ESN no. 30024 (figs. 5a-b), Paratype: ESN no. ? (fig. 4)
Loc. no. K73, Nakanomura, Hakusan-cho, Ichishi-gun, Mie

Prefecture
Oi Formation
Miocene

(*Makiyamaia subdeclivis ichishiensis* (Shibata) by Masuda and Noda (1976))

***Spirotropis (Aantiplanes) yubetsuensis* Mastui, 1959**

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 300, pl. 2, figs. 7, 8

Holotype: UH no. 13337

Okuyokunai zawa, near Yubetsu coal mine, Akan-mura, Kushiro Province, Hokkaido

Onbetsu Formation

Oligocene

(*Makiyamaia yubetsuensis* (Matsui) by Masuda and Noda (1976))

***Splendrillia (Syntomodrillia) atsutaensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 111, pl. 5, fig. 31

Holotype: USNM no. 562765

Loc. no. 17503, hillside outcrop at upper edge of garden plots on steep slope overlooking Nagagusuku-wan, about west of the southern edge of Atsuta, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(*Cyamatasyrix (Splendrillia) atsutaensis* (MacNeil) by Masuda and Noda (1976))

***Splendrillia incompta* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 111, pl. 5, fig. 26

Holotype: USNM no. 562760

Loc. no. 17450, road cut along steep hill leading to small group of houses on hilltop, about 0.5 Mi NW of the north junction of Highways 13 and 46 at Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(*Comotpsyrix (Splendrillia) incompta* (MacNeil) by Masuda and Noda (1976))

***Splendrillia indica* (Vredenburg) reported by Shuto (1984) from the Miocene of Tittabwe, Burma: *Drillia indica* Vredenburg, 1921**

***Splendrillia minoensis* (Itoigawa) reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Cyamatasyrix minoensis* Itoigawa, 1960**

***Splendrillia nomurai* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 111, pl. 5, fig. 25

Holotype: USNM no. 562759

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(*Cyamatasyrix (Splendrillia) nomurai* (MacNeil) by Masuda and Noda (1976))

***Splendrillia osawanoensis* (Tsuda) reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: see *Cyamatasyrix osawanoensis* Tsuda, 1959**

***Staphylaea (Nuclearia) nucleus* (Linné) reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture**

***Starkeyna sobrina* (A. Admas) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation Ishiakwa Prefecture**

***Stenothyra edogawaensis* (Yokoyama) reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture**

***Stenotis japonicus* (Masuda) reported by Itoigawa and Nishimoto (1974) from the Miocene Kujiri Formation, Gifu Prefecture: see *Lacuna jainoca* Masuda, 1966**

***Stigmaulax kushime* (Shikama) reported by Oyama et al. (1993) from recent sea off Kii-oshima, Wakayama Prefecture: *Aloconatica kushime* Shikama, 1971**

***Stomatella japonica* A. Adams reported by Yokoyama (1925) from the Pliocene Shirado (Miocene Taga) Formation, Ibaraki Prefecture**

***Stomatella lyrata* Pilsbry reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture**

***Stomatella varia* (Adams) reported by Aoki and Baba (1984) from the Pleistocene Narita Formation, Chiba Prefecture**

***Stomatia rubra* (Lamarck) reported by MacNeil (1960) from the Pliocene Naha Formation Okinawa Prefecture (*Stomatolina rubra* (Pilsbry) by Masuda and Noda (1976))**

***Stretocheus paeteliana riukiwana* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 86, pl. 4, fig. 10

Holotype: USNM no. 562715

Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

***Strigatella dainitiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 114, pl. 5, figs. 15, 16

Holotype: GK no. 72

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

***Strigatella notoensis* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, p. 9, pl. 2, figs. 20a-b

Holotype: DGS no. 4616 transferred to IGPS no. 90731

Loc. No. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37°27'59"N, 137°07'40"E

Higashi-Innai Formation

Miocene (early Miocene)

***Strigopupa hiyoshiensis* (Itoigawa)** reported by Itoigawa et al. (1982) from the Miocene Mizunami Group, Gifu Prefecture: ***Pupa hiyoshiensis* Itoigawa, 1958**

Strigopupa strigosa* (Gould)** reported by Itigawa and Ogawa (1973) from the Pleistocene Sakishima Formation, Aichi Prefecture (Solidula (Strigopupa) strigosa* (Gould)** by Masuda and Noda (1976))

Strioterebrum (Strioterebrum) bathyraphe* (Smith)** reported by Hayasaka (1961) from the Pleistocene Teshima Formation, Aichi Prefecture (Terebra (Strioterebrum) bathyraphe* (Smith)** by Masuda and Noda (1976))

***Strioterebrum (Punctoterebra) continuicosta* Cossman** reported by Shuto (1982) from the Volcanic sandstone Member of the Paghumayan Formation, Philippines

Strioterebrum (Punctoterebra) lischkeana* (Dunker)** reported by Hayasaka (1961) from the Pleistocene Teshima Formation, Aichi Prefecture (Terebra (Punctoterebra) lischkeana* (Dunker)** by Masuda and Noda (1976))

***Strioterebrum (Punctoterebra) makiyamae* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 103, pl. 6, figs. 16a-b

Holotype: JC no. 1400082

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late early Miocene)

(***Terebra (Strioterebra) makimayae* (Tsuda)** by Masuda and Noda (1976))

***Strioterebrum (Abretiella) osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 102, pl. 6, fig. 15

Holotype: JC no. 1400080, Paratype: JC no. 1400081

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama

Prefecture

Kurosedani Formation

Miocene (early Miocene)

(***Terebra (Strioterebrum) osawanoensis* (Tsuda)** by Masuda and Noda (1976))

***Strioterebrum serotium* (Adams and Reeve)** reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

Strioterebrum subtexile* (Smith)** reported by Nagasawa (1971) from the Pleistocene Tsuchiura Formation, Ibaraki Prefecture (Terebra (Granuliterebra) subtexile* (Smith)** by Masuda and Noda (1976))

***Strombiformis eoglabroides* Nomura and Zinbo, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 345, pl. 20, figs. 8a-b

Holotype: SM no. 3375

Yawata (River cliff of the Abukuma-gawa, about 2 km N of Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°52'N, 140°36'07"E)

Yanagawa Formation

Miocene

***Strombus (Euprotomus) auris-dianae* Linnaeus, 1758**

reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture (***Strombus aurisdianae* Linnaeus**)

***Strombus bivaricosus* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 178, pl. 8, figs. 14a-b

Holotype: IGPS no. 53162

1000 m E of Hakusyaton, station 32 (Ando), Koryu-syo, Tikuna-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Strombus dentatus* Linnaeus, 1758** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Strombus gibberulus* Linné** reported by MacNeil (1960) from the Pleistocene Yomitana Formation, Okinawa Prefecture

***Strombus (Labiostrombus) japonicus* Reeve, 1851** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Strombus luhuanus* Linné** reported by Nomura and Niino (1932) from the Miocene Yugashima Formation, Shizuoka Prefecture

***Strombus mimasakaensis* Yokoyama, 1929**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 8, p. 366, pl. 70, figs. 1a-b

Holotype: GT no. ?

A railway cutting in Inaokaminami (just N of the crossing, a short distance N of Kitashosatokata, Inaokaminami-mura, Kume-gun, Okayama Prefecture

(Obara Formation)

Miocene

(Not *Strombus* and *Pyrula* by Makiyama (1959): *Rapana* ? *mimasakaensis* (Yokoyama): *Pugilina mimasakaensis* (Yokoyama) by Oyama (1961))

***Strombus succinctus* Linnaeus, 1758** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Strombus taiwanicus* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 177, pl. 8, figs. 15a-16b

Holotype: IGPS no. 53163 (figs. 15a-b), Paratype: IGPS no. ? (figs. 16a-b)

1000 m E of Hakuussyatou, station 20 (Ando), Koryu-syo, Tikuna-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Strombus urceus* Linnaeus, 1758** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Suavodrellia bicarinata* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 161, pl. 16, figs. 10, 11

Holotype: NSM no. 4501

Cliff, 500 m S of Matigisi (Matsugishi) railway station, Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

(*Neptunea bicarinata* (Ozaki) by Masuda and Noda (1976))

***Suavodrellia declivis* (v. Martens)** reported by Kanehara (1940) from the Pliocene Wakimoto Formation at Manganji, Akita Prefecture; ***Pleurotoma declivis* v. Martens, 1880**

***Suavodrellia engonia* (Watson)** reported by Ozaki (1958) from the Pliocene Iioka Formation, Chiba Prefecture

***Survodrellia kurodai* (Makiyama)** reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture: see ***Turris kurodai* Makiyama, 1927**

***Suavodrellia makiyamai* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 629, pl. 50, figs. 91a, pl. 51, figs. 91b, 114

Holotype: GT no. 1589

Shiratori (Southeast valley of Shiratori, about 400 m SE of the temple at Shiratori, Nisatai-mura, Nonohe-gun (Ninohe City) Iwate Prefecture; 40°14'05"N, 141°20'23"E)

Shiratori Formation

Miocene

***Suavodrellia oyamai* Chinzei, 1959**

Jour. Fac. Sci., Univ. Tokyo, Sec. 2, vol. 12, part 1, p. 116, pl. 9, figs. 1-5

Holotype: CM no. 8537 (figs. 1-3), Paratype: CM nos. 8538 (figs. 4, 5), 8539

Loc. no. 1, a small cliff, 100 m W of Ochiai, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture

Kibo Formation

Pliocene

***Suavodrellia sakurai* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 162, pl. 16, figs. 8, 9

Holotype: NSM no. 4500

Cliff, 500 m S of Matugisi (Matsugishi) railway station, Tyosi (Choshi) City, Chiba Prefecture

Iioka Formation

Pliocene

(*Neptunea sakuraii* (Ozaki) by Masuda and Noda (1976))

***Suavodrellia yanagawaensis* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 171, pl. 15, fig. 13

Holotype: SM no. 6167

Southern end of the Park of Yanagwa-machi 'River cliff' of the Hirose-gawa at the southeastern end of Yanagwa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture

Yanagawa Formation

Miocene (middle Miocen)

***Suavodrellia yudoroensis* Amano, 1980**

Prof. Kanno, S. Mem. Vol. p. 114, pl. 13, figs. 1a-b

Holotype: IGUT no. 15047

Loc. 11a, stram side cliff at 2.5 km up of the Shimoyudoro-sawa, Rumoi City, Hokkaido

Yudoro Formation

Middle Miocene

Submarginula cicatrosa* (A. Adams)** reported by Yokoyama (1929) from the Pliocene (Konomine Formation: Tonohama Formation), Kochi Prefecture (Montfortia cicatrosa* (A. Adams)** by Hatai and Nisiyama (1952))

***Submarginula cratitoides* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 36, pl. 2, fig. 10

Holotype: UT no. ?

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
 Numa Coal Bed (Numa Formation)
 Pleistocene (Holocene)
 (Synonymus with *Chypidina (Montfortula) picta (Dunker)*
 by Oyama (1973))

***Subula osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 104, pl. 6, figs. 17a-b

Holotype: JC no. 1400083

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(*Myurella osawanoensis* (Tsuda) by Oyama (1961): *Terebra (Punctoterebra) osawanoensis* (Tsuda) by Masuda and Noda (1976))

***Suchium (Protorotella) hyugaensis* Shuto, 1956**

Japan. Jour. Geol. Geogr., vol. 27, no. 1, p. 54, pl. 4, figs. 3a-4b

Holotype: GK-L no. 15053 (figs. 3a-b), Paratype: GK-L nos. 15051, 15052 (figs. 4a-b)

Yamaji, Mino-mura, Koyu-gun (Saito City), Miyazaki Prefecture

Tsuma Formation

Miocene

(*Protorotella hyugaensis* (Shuto) by Masuda and Noda (1976))

***Suchium jyoganiense* Fujii, 1963**

Venus, vol. 22, no. 3, p. 267, text-figs. 3, 1a-8

Holotype: CM no. 8786 (figs. 1a-c), Paratype: CM nos. 8787-8792 (figs. 2-8)

100 m S of Hosuikyo, right bank of the Joganji River, Tateyama-cho, Nakaniikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(*Umbonium (Suchium) jyoganiense* (Fujii) by Masuda and Noda (1976))

***Suchium (Suchium) koyuensis* Shuto, 1956**

Japan. Jour. Geol. Geogr., vol. 27, no. 1, p. 49, pl. 4, figs. 1a-2b

Holotype: GK-L no. 15011 (figs. 1a-b), Paratype: GK-L nos. 15012-15018

Loc. no. MI-5070, Yamaji, Mino-mura, Koyu-gun (Saito City), Miyazaki Prefecture

Tsuma Formation

Miocene

(*Umbonium (Suchium) koyuensis* (Shuto) by Masuda and Noda (1976))

***Suchium (Protorotella) maxima* Shuto, 1956**

Japan. Jour. Geol. Geogr., vol. 27, no. 1, p. 53, pl. 4, fig. 7

Holotype: GK-L no. 15001

Loc. no. MI-4074, Kakoi, Sanzai-mura, Koyu-gun (Kamisanzai, Saito City), Miyazaki Prefecture

Kawabaru Formation

Miocene

Suchium mysticum (Yokoyama) reported by Makiyama from the Pliocene Dainichi Formation, Shizuoka Prefecture; see *Umbonium mysticum* Yokoyama

Suchium obsoletum (Makiyama) reported by Makiyama from the Pliocene Dainichi Formation, Shizuoka Prefecture; see *Umbonium obsoletum* Makiyama

Suchium obsoletum arenarium (Makiyama) reported by Makiyama (1930) from the Pliocene Tenno Formation, Shizuoka Prefecture; see *Umbonium obsoletum arenarium* Makiyama

Suchium obsoletum conglomeratum (Makiyama) reported by Makiyama (1930) from the Pliocene Dainichi Formation, Shizuoka Prefecture; see *Umbonium obsoletum conglomeratum* Makiyama

Suchium suchiense subsuchiense Makiyama reported by Tsuchi (1955) from the Pliocene Soga Formation, Shizuoka Prefecture (*Umbonium (Suchium) suchiense subsuchiense* Makiyama by Masuda and Noda (1976))

Sulcurites (Megasurcula) cryptoconoides Makiyama reported by Iwasaki (1970) from the Miocene Kubota Formation, Fukushima Prefecture

***Sundabittium* Shuto, 1978 n. gen.**

Geol. Geogr. Southeast Asia, vol. 19, p. 151, Type-species; *Cerithium fritschi* Boettger, 1883 described from the Eocene of Indonesia; see below

Sundaitium fritschi (Boettger) reported by Shuto (1978) from the Middle Eocene of Nanggoelan, Java, Indonesia

Surcula javana (Linnaeus) reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan (Not *S. javana*; *Turricula byorituensis* Nomura, 1935 by Makiyama (1960))

***Surculites kurodai* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 628, pl. 50, fig. 94

Holotype: GT no. 1566

Yuda, Kobayashi (East shore of the Mabechi-gawa, about 60 m SW of the ferry at N of Yazawa, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°18'44"N, 141°19'08"E)

Shiratori Formation
Miocene

Surculites (Megasurcula) osawanoensis Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 96, figs. 2a-3

Holotype: 1400065, Paratype: JC no. 1400066 (from Iwakishin)

Iwakishin, Osawano-machi, Kaminiikawa-gun, Tyama Prefecture (early Miocene)

Kurosedani Formation

Miocene (early Miocene)

Surculites rara Nomura and Onisi, 1940

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 185, pl. 17, fig. 8

Holotype: SM no. 21700

Vicinity of adachi (River cliff 150 m W of bridge 500 m W of Adachi, Murata-machi, Shibata-gun, Miyagi Prefecture; 38 °07'01"N, 140 °42'04"E)

(Murata Formation)

Miocene

(*Megasurcula rara (Nomura and Onisi)* by Hatai and Nisiyama (1952))

Surculites (Megasurculites) siogamensis Nomura, 1935

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 223, pl. 17, fig. 3

Holotype: SM no. 2526, Paratype: SM no. 2526 (pl. 17, fig. 4)

Western side cliff of the Ajiri hill, about 500 m N of Ajiri, and about 300 m E of the crossing point of the two roads in Nakanoshima, Shiogama City, Miyagi Prefecture; 38 °18'47"N, 141 °02'17"E)

(Chiganoura Formation)

Miocene

(*Megasurcula siogamensis (Nomura)* by Hatai and Nisiyama (1952))

Surculites yokoyamai Otuka, 1934

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 626, pl. 50, fig. 92

Holotype: GT no. 1551

Yuda, Kobayashi (River bank of the Mabechi-gawa, about 400 m NW of Yuda, Kintaichi-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40 °19'02"N, 141 °19'02"E)

Shiratori (Kadonosawa Formation)

Miocene

(*Megasurcula yokoyamai (Otuka)* by Hatai and Nisiyama (1952))

Surculites yokoyamai elongatus Hatai, 1940

Bull. Biogr. Soc. Japan, vol. 10, no. 8, p. 117, figs. 3, 4

Holotype: GS no. 61392

Nisigoto (Road cliff about 2 km NW of Nishigoto on road leading to Kubota), Tsunetoyo-mura, Higashi-shirakawa-gun,

Fukushima Prefecture; 36 °59'03"N, 140 °22'E)

Tanagura Formation

Miocene

(*Megasurcula yokoyamai elongatus (Hatai)* by Hatai and Nisiyama (1952))

Sycum (Bulbifusus ?) miikense Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 126, pl. 19, figs. 3, 3b

Holotype: GS no. 35767

In the shaft of the colliery in the Yitsuyama Mine (western foot of the isplated hill, about 800 m NW of the crossing point of the two roads at Oshima, Arao-machi, Tamana-gun, Kumamoto Prefecture; 32 °59'57"N, 130 °25'34"E)

Kachidachi Formation

Upper Eocene

(*Mazzalina ? miikensis (Nagao)* by Oyama et al. (1960))

Sydaphera horii Masuda, 1967

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 10, pl. 2, figs. 16a-19

Holotype: DGS no. 4613 transferred to IGPS no. 90783

Loc. No. 32, Small road side exposure, about 200 m S of the Primary School, Matsunagi, Suzu City, Ishikawa Prefecture; 37 °30'12"N, 137 °13'14"E

Higashi-Innai Formation

Miocene (early Miocene)

(*Cancellaria (Sydaphera) horii (Masuda)* by Masuda and Noda (1976))

Sydaphera spengleriana (Deshayes) reported by Kaseno and

Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Syrnola (s. s.) acusiformis Nomura, 1938

Jour. Geol. Soc. Japan, vol. 45, p. 830, pl. 22, fig. 1

Holotype: IGPS no. 62609

Wangwa, Hsinchu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

Syrnola (s. s.) cincitella A. Adams reported by Nomura

(1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

Syrnola (s. s.) cinnamomea (A. Adams) reported by

Nomura (1938) from the Pleistocene stratum, Miura City, Kanagawa Prefecture

Syrnola (s. s.) hanzawai Nomura, 1939

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 132, pl. 9, fig. 28

Holotype and Paratype: IGPS no. 16482

Okinawa-zima, Okinawa-ken (Okinawa Prefecture)

Living specimen
Recent

Syrnola (Puposyrnola) inturbida (Yokoyama, 1927) reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

Syrnola kurikomana (Yokoyama) reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi Prefecture

Syrnola (Iphiana) lischkei Dall and Bartsch reported by Nomura (1938) from the Pleistocene Semata Formation, Chiba Prefecture

Syrnola mira (Yokoyama) reported by Yamada (1963) from the Pleistocene Sakishima Formation, Mie Prefecture

Syrnola (s. s.) miyagusakensis Nomura, 1939
Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 132, pl. 9, fig. 5
Holotype: IGPS no. 23603
Miyagusuku, Higashi-mura, Kanigami-gun, Okinawa- zima (Okinawa Prefecture)
(Shimajiri Group)
Pliocene

Syrnola notoensis Masuda, 1967
Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 11, pl. 2, figs. 31a-b
Holotype: DGS no. 4627 transferred to IGPS no. 90177
Loc. No. 23, river cliff, about 1 km SES of Mukaiyama, Suzu City, Ishikawa Prefecture; 37 °28'05"N, 137 °06'39"E
Higashi-Innai Formation
Miocene (early Miocene)

Syrnola (s. s.) paramira Nomura, 1938
Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 79, pl. 11, figs. 88a-b
Holotype: SM no. 10536
Nakagawa, Sisui-mati (Shisui-machi), Tiba (Chiba) Prefecture
Pleistocene stratum ?
Pleistocene

Syrnola (Iphiana) sisuiensis Nomura, 1938
Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 78, pl. 12, figs. 99a-b
Holotype: SM no. 11877
Nakagawa, Sisui-mati (Shisui-machi), Tiba (Chiba) Prefecture
Pleistocene stratum ?
Pleistocene

Syrnola (s. s.) sogoi Nomura, 1938
Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 80, pl. 14, figs. 118a-b
Holotype: SM no. 3872
Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture
Pleistocene stratum
Pleistocene

Syrnola subsinctella Nomura reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

Syrnola (Syrnola) sukegawana Nomura, 1939
Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 134, pl. 9, fig. 7
Holotype: GS no. 27156
Sukegawa-machi, taga-gun (Sea cliff at Tsurushihama, about 1 km NE of Hitachi railway station, below the Hamamiya Park, Hitachi City, Ibaraki Prefecture; 36 °35'05"N, 140 °40'03"E)
Taga Formation
Pliocene (Miocene)

Syrnola (s. s.) susakiensis Nomura, 1939
Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 134, pl. 9, fig. 23
Holotype and Paratype: IGPS no. 19844
Susaki, Titizima (Chichi-jima), Ogasawara-gunto (Ogasawara-mura, Tokyo Prefecture)
Living specimen
Recent

Syrnola (Syrnola) tagaensis Nomura, 1939
Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 132, pl. 9, fig. 25
Holotype: GS no. 27377
Sukegawa-machi, Taga-gun (Sea cliff at Tsurushihama, about 1 km NE of Hitachi railway station, below the Hamamiya Park, Hitachi City, Ibaraki Prefecture; 36 °35'05"N, 140 °40'03"E)
Taga Pliocene (Miocene)

Syrnola (Iphiana) tenuisculpta (Lischke) reported by Nomura (1938) from the Holocene Numa Formation, Chiba Prefecture

Syrnola (s. s.) titizimana Nomura, 1939
Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 133, pl. 9, fig. 19
Holotype: IGPS no. 19825
Susaki, Titizima (Chichi-jima), Ogasawara-gunto (Ogasawara-mura, Tokyo Prefecture)
Living specimen
Recent

(Reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture)

Syrnola (*s. s.*) *toshimana* (Yokoyama, 1927) reported by Nomura (1938) from the Pleistocene stratum, Miura City, Kanagawa Prefecture

Syrnola (*Syrnola*) *toyamai* Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 133, pl. 9, fig. 6

Holotype: GS no. 16339

Okura (Small cliff about 400 m SW of Wakimoto railway station of the Funakwa Line), Wakimoto-mura, Minamiakita-gun (Wakimoto, Oga City), Akita Prefecture; 39°54'42"N, 139°54'05"E)

Shibikawa Formation

Pliocene (Pleistocene)

Syrnola (*Agatha*) *virgo* var. *brevis* Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. pl. 5, fig. 3

Holotype: UT no. ? (CM no. 21031)

Otake (Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(Reported by Oyama (1973; pl. 17, fig. 17); originally described *Pyramidella* (*Agatha*) *virgo* var. *brevis*: *Agatha brevis* (Yokoyama) by Oyama (1973))

Tachyrhynchus mitsuganoensis (Shibata) reported by Shibata (1974) from the Miocene Yamanouchi Formation, Gifu Prefecture: see *Bittium mitsuganoensis* Shibata, 1970

Tachyrhynchus tuberculosus (Yokoyama) reported by Hatai et al. (1961) from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture

Tachyrhynchus venustellus (Yokoyama) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Tachyrhynchus yamaokaensis Itoigawa and Shibata, 1976

Bull. Mizunami Fossil Mus., no. 3, p. 11, pl. 2, figs. 15a-18

Holotype: MFM no. 10069 (fig. 15), Paratype: MFM nos. 10070, 10071 (figs. 17, 18)

Higashi-hora (Holotype), Togari and Yamanouchi (paratype), Yamaoka-cho, Ena-gun, Gifu Prefecture

Yamanouchi Member

Middle Miocene

Tachyrhynchus yanamii (Yokoyama) reported by Itoigawa (1958) from the Pliocene Nishiyama Formation, Niigata Prefecture

Takia infrons (Vokes) reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: *Dermomurex* (*Takia*) *infrons* (Vokes) (*Takia* n. gen. was proposed by Kuroda (1953) based on living species)

Talahabia dentifera Martin, 1921 reported by Shuto (1982) from the Middle Miocene Macasilao Formation, Philippines

Talparia (*Arestorides*) *nahaensis* MacNeil, 1960

U. S. Geol. Surv., Prof. Pap. 339, p. 49, pl. 17, figs. 3, 7

Holotype: USNM no. 563023

Loc. no. 17541, road cut on south side of Highway 6 just E of creek between Masuya and Maeta, Okinawa Prefecture

Naha Formation

Pliocene

Tanea areolata (Recluz) reported by Majima (1989) from the Pleistocene Ryukyu Limestone, Kikai Island, Kagoshima Prefecture: *Natica areolata* Recluz, 1844

Tanea minoensis (Itoigawa) reported by Majima (1989) from the middle Miocene Tsurikake Formation, Hokkaido: *Natica* (*Naticarius*) *minoensis* Itoigawa, 1960

Tanea tabularis (Kuroda) reported by Majima (1989) from the Upper Pliocene Dainichi Member of the Lower Kakegawa Formation, Shizuoka Prefecture: *Natica* (*Naticarius*) *tabularis* Kuroda, 1961 (described based on recent species obtained from off Daioh-zaki Cape, Ise Bay, Aichi Prefecture)

Tanea undulata (Röding) reported by Majima (1989) from the lower Pleistocene Nakoshi Sandstone, Okinawa Prefecture: *Cochlis undulata* Röding, 1798

Tateiwaia beberkiriana (Martin) reported by Shuto (1978) from the Middle Miocene Njalingoeng bed in Njalingoeng, Java, Indonesia: *Potamides* (*Tympanotonus*) *berberkiriana* Martin, 1899

Tateiwaia chinzeii Matsubara, 1996

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 181, p. 363, figs. 1-12a-14b

Holotype: IGPS no. 102618, Paratype: IGPS nos. 102619-102620

Loc. no. 11, upper reaches of the Koida River, about 1.6 km E of Chayaba, Ichinohe-machi, Nonohe-gun, Iwate Prefecture

Yotsuyaku Formation

Early Miocene

Tateiwaia merangiana (Martin) reported by Shuto (1978) from the Middle Miocene Njalindoeng bed in Tji Angsan, Java, Indonesia: *Potamides* (*Tympanotonus*) *merangianus*

Martin, 1922

Tateiwaia s-itoi (**Nomura and Zinbo**) reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture (*Batillaria (Tateiwaia) sito* **Nomura and Zinbo, 1930** by Masuda and Noda (1976))

Tateiwaia tateiwai (**Makiyama**) reported by Itoigawa (1978) from the Miocene Mizunami Group, Gifu Prefecture; see *Batillaria tateiwaia* **Makiyama, 1926**

Tateiwai yamanarii (**Makiyama, 1926**) reported by Itoigawa (1974) from the Miocene Tsukiyoshi Formation, Gifu Prefecture (*Batillaria (Tateiwaia) yanamii* **Makiyama** by Masuda and Noda (1976))

Taxonia angsanana (**Martin**) reported by Shuto (1978) from the Middle Miocene of Tji Angsana, Java, Indonesia: *Cerithium (Vertagus?) angsanum* **Martin, 1922**

Taxonia djampangtengahensis (**Martin**) reported by Shuto (1978) from the Middle Miocene of Tji Talahb, Java, Indonesia: *Cerithium (Vertagus) djampangtengahense* **Martin, 1899**

Taxonia ? talahabensis (**Martin**) reported by Shuto (1978) from the Middle Miocene of Tji Angsan, Java, Indonesia: *Cerithium (Cerithium) talahabense* **Martin, 1899**

Tectonatica ezoana (**Kanno and Matsuno**) reported by Kanno et al. (1968) from the Miocene Horonui Formation, Hokkaido (*Cryptonatica ezoana* (**Kanno and Matsuno**) by Masuda and Noda (1976))

***Tectonatica ichishiana* Shibata, 1970**

Jour. Earth Sci., Nahoya Univ., vol. 18, p. 73, pl. 3, figs. 9a-b, 13

Holotype: ESN no. 30018 (figs. 9a-b), Paratype: ESN no. ? (fig. 13)

Loc. no. K36, Ashisaka, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

Tectonatica janthostoma (**Deshayes**) reported by Sawada (1962) from the Pliocene (Pleistocene) Nakanokawa Formation, Hokkaido (*Cryptonatica janthostoma* (**Deshayes**) by Masuda and Noda (1976))

Tectonatica janthostomoides **Kuroda and Habe** reported by Tanaka (1959) from the Miocene Bessho Formation, Nagano Prefecture (*Cryptonatica janthostomoides* (**Kuroda and Habe**) by Masuda and Noda (1976))

***Tectonatica janthostomoides yamatana* Zinbo, 1973**

Sci. Rep. Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 6 (Hatai Mem. Vol.), p. 160, pl. 14, figs. 9a-b

Holotype: Yamagata Pref. Mus., no. 118

Loc. No. I, left-bank of the Shirakawa River, about 300 m northwest of Nishitakamine, Iide-machi, Nishiokitama-gun, Yamagata Prefecture.

Utsutoge Formation

Miocene (late Miocene)

Tectonatica meisensis (**Makiyama**) reported by Kanno and Ogawa (1964) from the Miocene Takinoue Formation, Hokkaido (*Euspira meisensis* (**Makiyama**) by Masuda and Noda (1976))

Tectonatica russa (**Gould**) reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido

Tectonitica tugaruana **Nomura and Hatai** reported by Chinzei (1973) from the Pliocene Futtatsui Formation, Akita Prefecture

***Tectura minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 275, pl. 3, figs. 5a-b

Holotype: ESN no. 20035

Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

***Tectus (Rochia) japonica* Horikoshi, 1958**

In Kobayashi and Horikoshi, 1958, Japan. Jour. Geol. Geogr., vol. 29, nos. 1-3, p. 49, pl. 4, figs. 4a-c

Holotype: FSM no. ? (Fukui City Museum of Natural History)

Oguri, Takahama-cho, Oi-gun, Fukui Prefecture

“Uchiura” Formation

Middle Miocene

***Tectus yamadensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 205, pl. 5, figs. 14a-b

Holotype: TKD no. 6151

Loc. No. 804, a river side cliff near the Yamada-bridge, Yamada, Chichibu City, Saitama Prefecture

Hiranita Formation

Lower Miocene

Tegula (Chlorostoma) argyrostoma tubinata (**A. Adams**) reported by Shikama and Okafuji (1958) from the Quaternary Mukoyama Formation, Yamaguchi Prefecture

***Tegula (Chlorostoma) hiranitensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 204, pl. 5, figs. 17, 18

Holotype: TKD no. 6153 (fig. 17), Paratype: TKD no. 6157

Loc. No. 813, a left river side cliff of the Arakawa River at Hiranita, Chichibu City, Saitama Prefecture; Paratype, loc. No. 806, a right river side cliff at Tonumahara, Arakawa-mura, Chichibu-gun, Saitama Prefecture
Hiranita Formation
Miocene

***Tegula (Chlorostoma) microstriata* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 203, pl. 5, figs. 13a-b

Holotype: TKD no. 6152

Loc. No. 804, a river side cliff at the Yamada bridge, Yamada, Chichibu City, Saitama Prefecture
Hiranita Formation
Miocene

***Tegula (Chlorostoma) narusei* Shibata, 1957**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 25, p. 23, pl. 4, figs. 1a-c

Holotype: TKD no. 5278

Along the Hayato-gawa near Ochiai, Miyagase-mura (Aikawa-machi), Aiko-gun, Kanagawa Prefecture
Ochiai Formation
Miocene

***Tegula (Chlorostoma) pfeifferi* (Philippi, 1840)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Tegula (Chlorostoma) protonigerrima* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 21, no. 1, p. 32, pl. 3, fig. 16

Holotype: GS no. 16201 (IGPS), Paratype: SM no. 19884 (pl. 3, fig. 15)

Roadside cutting near the Akyu electric car station at Kita-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City) Miyagi Prefecture; 38°13'N, 140°45'E; Paratype, Junction of a small tributary and the Natori-gawa at Minami-Akaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture; 38°13'N, 140°45'E
Moniwa Formation
Miocene

***(Chlorostoma protonigerrima)* (Nomura)** by Hatai and Nisiyama (1952))

Tegula rustica* (Gmelin)** reported by Iwai and Shiobara (1969) from the Pleistocene Noheji Formation, Aomori Prefecture (Tegula (Chlorostoma) rustica* (Gmelin)** by Masuda and Noda (1976))

***Tegula (Chlorostoma) yabei* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 274, pl. 33, figs. 9a-b

Holotype: GS no. 50173

Goroku cliff along the right bank of the Hirose-gawa, Aoba-ku, Sendai City, Miyagi Prefecture; 38°16'N, 140°49'E)

Tatsunokuchi Formation

Pliocene

***(Chlorostoma yabei)* (Nomura)** by Hatai and Nisiyama (1952))

***Tegula (Chlorostoma) yokoyamai* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 149, pl. 17 figs. 8a-b

Holotype: SM no. 2660

Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashi-Shirakawa-gun, Fukushima Prefecture; 37°01'N, 140°26'03"E)

Tanagura Formation

Miocene

***(Chlorostoma yokoyamai)* (Nomura and Hatai)** by Hatai and Nisiyama (1952))

***Teinostoma andoi* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 217, pl. 10, figs. 45a-c

Holotype: IGPS no. 53857

700 m SW of Kokwan, station 23, Koryu-syo, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Teinostoma itoigawai* Taguchi, 1992**

Bull. Mizunami Fossil Mus., no. 19, p. 333, pl. 51, figs. 1a-4c

Holotype: MFM no. 20055 (fig. 1), Paratype: MFM nos. 20056-20058 (figs. 2-4)

Loc. no. 2, roadside cutting at Hattori, Tessei-cho, Atetsu-gun, Okayama Prefecture

Bihoku Group

Middle Miocene

***Teinostoma yabei* Masuda, 1955**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 20, p. 123, pl. 19, figs. 16a-18c

Holotype: DGS no. 1537 transferred to IGPS no. 90199 (fig. 16), Paratype: DGS no. 1537 (figs. 17-18)

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture
Higashi-Innai Formation

Miocene (early Miocene)

***Telescopium jogjacartense* (Martin)** reported by Shuto (1978) from the Nanggoelan bed of Kali Poeroe, Java,

Indonesia: *Potamides (Tympantonus) ? jagjacartensis*
Martin, 1914

***Telescopium nipponicum* Oyama, 1950**

Rep., Geol. Surv. Japan, no. 132, p. 10, pl. 2, figs. 1a-c, 4
Holotype: GSJ no. ? (fig. 1a-c), Paratype: GSJ no. ? (fig. 4)
Kakebata, (Yatsuo-machi, Nei-gun), Toyama Prefecture
Kakehata Formation (Kurosedani Formation)
Miocene (early Miocene)

***Telescopium schencki* (Hatai and Nisiyama)** reported by
Okamoto et al. (1971) from the Miocene Kawai Formation,
Shimane Prefecture: see *Neia schencki* Hatai and Nisiyama,
1949

***Telescopium telescopium* (Linnaeus, 1758)** reported by
Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Telescopium titan* Martin, 1889** reported by Shuto (1978)
from the Pliocene of Gombel Hill by Tjandi, Semarang, Java,
Indonesia

***Teramachia johnsoni* (Bartsch)** reported by Noda (1980)
from the Pliocene Shinzato Formation, Okinawa Prefecture:
***Prodallia johnsoni* Bartsch, 1942**

***Teramachia shinzatoensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 96, pl. 9, fig. 1
Holotype: USNM no. 562840
Loc. no. 17648, large road cut just below top of long hill on
Highway 137 about 0.3 Mi S of Shinzato, Okinawa
Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Terebellum pseudodelicatum* Ogasawara, 1976**

Sci. Rep., Tohoku Univ. 2nd Ser (Geol.) vol. 46, no. 2, p. 62,
pl. 13, figs. 1, 2, 6
Holotype: IGPS no. 95047, Paratype: IGPS no. 95048-1, -5
Loc. No. Su-01: River cliff of Asano-gawa at Higashi-Ichise,
Kanazawa City, Ishikawa Prefecture
Sunakozaka Formation
Miocene (middle Miocene; Blow's N8 Zone)

***Terebra abdita* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p. 86, pl. 4, fig. 9
Syntype: GK no. 80
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City,
Shizuoka Prefecture; 34 °48'07"N, 133 °756'E)
Dainichi Formation
Pliocene

***Terebra amabilis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p. 88, pl. 4, figs. 11, 12
Holotype: GK no. 82
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City,
Shizuoka Prefecture; 34 °48'07"N, 133 °756'E)
Dainichi Formation
Pliocene
(*Terebra (Dimidacus) amabilis* Makiyama by Masuda and
Noda (1976): *Cinguloterebra amabilis* (Makiyama) by
Ozawa et al. (1998))

***Terebra anomala* Gray** reported by MacNeil (1960) from the
Miocene Yonabaru Formation, Okinawa Prefecture (*Terebra*
(*Noditerebra*) *anomala* Gray by Masuda and Noda (1976))

***Terebra asukana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 327,
pl. 38, fig. 3
Holotype: GT no. ?
Asuka (Valley-side about 200 m SE of Asuka, Taruki-mura,
Ogasa-gun, Shizuoka Prefecture; 34 °47'01"N, 138 °E)
Satsuka Formation
Pliocene

***Terebra (Duplicaria) awajiensis* Pilsbry** var. reported by
Kanehara (1940) from the Pliocene Ota Formation, Niigata
Prefecture (*Strioterebrum (Punctoterebra) awajiense*
(Pilsbry) var. by Hatai and Nisiyama (1952))

***Terebra bifrons* Hinds** reported by Hase (1965) from the
Holocene Yamashita Formation, Miyagi Prefecture (*Terebra*
(*Pristiterebra*) *bifrons* Hinds by Masuda and Noda (1976))

***Terebra bifrons ugaliensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1,
p. 91, pl. 4, figs. 6, 7
Syntype: GK no. 254
Honohashi (about 150 m W of Honohashi, Saigo-mura and
2.5 km N of JR Kakegawa Station, Kakegawa City, Shizuoka
Prefecture; 34 °47'02"N, 138 °00'06"E)
Dainichi Formation
Pliocene

***Terebra chibana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 32, pl. 1,
fig. 20
Holotype: UT no. ? (CM no. 20777)
Shito (Shito, Ichihara City, Chiba Prefecture)
Kazusa Group (Semata Formation)
Pliocene (Pleistocene)
(Synonymus with *Laeviacus pustulosa* (Smith) by Oyama
(1973))

Terebra cumingii* Deshayes** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Triplostephanus cumingii* (Deshayes)** by Masuda and Huang (1990))

***Terebra dainichiana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 328, pl. 38, figs. 4, 5

Holotype: GT no. ?

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Satsuka Formation

Pliocene

(***Hastula dainichiana* (Yokoyama)** by Hatai and Nisiyama (1952))

Terebra dussumieri* Kiener** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (Diplomeriza dussumieri* (Kiener)** by Masuda and Huang (1990))

***Terebra edoensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 409, pl. 46, figs. 8

Holotype: UT no. ? (CM no. 23636)

Kurama-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Synonymus with ***Punctoterebra* (*Granuliterebra*) *bathyrhaphe* (Smith)** by Oyama (1973))

***Terebra eminula* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 3, p. 115, pl. 14, fig. 1

Holotype: GT no. ?

Obashira (Western cliff of the Aara-kawa, about 200 m SE of the temple at Obashira, Ota-mura, Chichibu-gun, Saitama Prefecture; 36°03'31"N, 139°05'40"E)

(Ogano Formation)

Pliocene (early Miocene)

(***Myurella* (*Strioterebrum*) *eminula* (Yokoyama)** by Oyama et al. (1960))

***Terebra eoa* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 88, pl. 4, fig. 13

Holotype: GK no. 251

Honohashi (About 150 m W of Honohashi, Saigo-nura, and 2.5 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Terebra evoluta* Deshayes** reported by Nomura (1935) from

the Pliocene Byoritu Beds, Taiwan (***Noditerebra evoluta* (Deshayes)** by Masuda and Huang (1990))

***Terebra formosana* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 26, pl. 1, fig. 6

Holotype: GSJ no. ? (noted as destroyed in Masuda and Huang (1990))

Shiko near Koshun in Takao Province, Taiwan

Upper Byoritz Beds

Pliocene

(Synonymus with ***Cerithium fasciatum* Bruguiere, 1792** by Kuroda (1938): ***Diplomeriza formosana* (Yokoyama)** by Masuda and Huang (1990))

***Terebra hanzawai* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 16, no. 2, p. 160, pl. 5, fig. 22

Holotype: IGPS no. 50441

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture Ryukyu Limestone (Wan Formation)

Pleistocene

***Terebra latisulcata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 34, pl. 1, fig. 23

Holotype: UT no. ? (CM no. 20782)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pliocene (Pleistocene)

(***Noditerebra* (*Noditerebra*) *evoluta latisulcata* (Yokoyama)** by Oyama (1973))

Terebra lischkeana* Dunker** reported by Kaseno and Masuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (Terebra* (*Punctoterebra*) *lischkeana* Dunker** by Masuda and Noda (1976): ***Punctoterebra* (*Brevimyurella*) *lischkeana* (Dunker)** by Oyama (1973))

***Terebra loebbeckiana* Dunker, 1859** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Terebra melanacme* Smith, 1875** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Terebra* (*Acuminea*) *minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 292, pl. 6, figs. 7a-b

Holotype: ESN no. 20086

Loc. No. S11-2, Kujiri (Izumi-cho), Toki City, Gifu Prefecture

Kujiri Facies of the Akeyo Formation

Miocene

***Terebra miyarensis* MacNeil, 1964**

U. S. Geol. Surv., Prof. Pap. 339-B, p. B7, pl. 3, figs. 2-4

Holotype: USNM no. 638675

Seacoast west of the village of Ibaruma, Ishigaki-shima, Ryukyu Island (Okinawa Prefecture)

Miyara Formation

Eocene

(*Terebra (Punctoterebra) miyaraensis* MacNeil by Masuda and Noda (1976))

***Terebra (Myarella) myuros* Linne** reported by Watanabe et al. (1950) from the Miocene Haraya Formation, Saitama Prefecture (Identified with *Terebra (Strioterebra) sinuosa* Kanno by Masuda and Noda (1976))

***Terebra naumanii* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 32, pl. 1, fig. 12

Holotype: GT no. ? (CM no. 20055)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(*Strioterebrum (Cinguloterebra) naumanni* (Yokoyama) by Oyama (1973))

***Terebra orthocostulata* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 101, pl. 6, figs. 20a-21b

Holotype: IGPS no. 53103 (fig. 20)

Zyotusyowan, Hsinchu, Taiwan

Byoritu Beds

Pliocene

(*Diplomeriza orthocostulata* (Nomura) by Masuda and Huang (1990))

***Terebra orthoplica* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 16, no. 2, p. 161, pl. 5, fig. 21

Holotype: IGPS no. 50429

Kamikatsutsu, Kikai-jima, Amami-gun, Kagoshima Prefecture

Ryukyu Limestone (Wan Formation),

Pleistocene

***Terebra (Triplostephanus) osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 104, pl. 7, figs. 1a-b

Holotype: JC no. 1400084, Paratype: JC no. 1400085

Iwakishin, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

(*Terebra (Cinguloterebra) osawanoensis* Tsuda by Masuda

and Noda (1976))

***Terebra ozawai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 328, pl. 38, fig. 9

Holotype: GT no. ?

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Satsuka Formation

Pliocene

***Terebra (Triplostephanus) pereoa* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 103, pl. 6, figs. 22a-23b

Holotype: IGPS no. 52485 (fig. 20)

Hakusyaton, Hsinchu, Taiwan

Byoritu Beds

Pliocene

(*Myurella pereoa* (Nomura) by Masuda and Huang (1990): reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture)

Terebra pretiosa* Reeve** reported by MacNeil, 1960 from the Miocene or Pliocene (Pliocene) Shinzato Formation, Okinawa Prefecture (Terebra (Myurella) retiosa* Reeve** by Masuda and Noda (1976))

***Terebra prototextilis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 103, pl. 6, figs. 24a-b

Holotype: IGPS no. 52487

Wangwa, Hsinchu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

(*Myurella prototextilis* (Nomura) by Masuda and Huang (1990))

***Terebra quadeiarata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 34, pl. 1, fig. 22

Holotype: UT no. ? (CM no. 20881)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pliocene (Pleistocene)

(*Strioterebrum (Cinguloterebra) hedleyana quadriarata* (Yokoyama) by Oyama (1973))

***Terebra reticostaeformis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 100, pl. 6, figs. 18a-19b

Holotype: IGPS no. 52498 (fig. 18)

Rinsuikwa, Hsinchu, Taiwan

Byoritu Beds

Pliocene

***Terebra recticostata* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 32, pl. 1, fi. 11

Holotype: GT no. ? (CM no. 20053)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(*Nodoterebra (Noditerebra) recticostata* (Yokoyama) by Oyama (1973))

***Terebra serotina* Adams and Reeve** reported by Yokoyama (1928) from the Pliocene Kounji Formation, Miyazaki Prefecture (*Terebra (Myurella) serotina* (Adams and Reeve)

***Terebra shimajiriensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 126, pl. 6, fig. 30

Holotype: USNM no. 562789

Loc. no. 17448, low cut at edge of potato patch in higher dissected area about 0.2 Mi SW of Majikin, Okinawa Prefecture

Yonabaru Formation

Miocene (Pliocene)

(*Terebra (Punctoterebra) shimajiriensis* MacNeil by Masuda and Noda (1976))

***Terebra (Strioterebrum) sinuosa* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 221, pl. 7, figs. 13a-b

Holotype: TKD no. 6171

Loc. No. 803, a right river side cliff, about 300 m downstream of the Shumizu bridge, Tochiya, Chichibu City, Saitama Prefecture

Hiranita Formation

Miocene

***Terebra smithi* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 33, pl. 1, fig. 21

Holotype: UT no. ?

Otake (Narita City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pliocene (Pleistocene)

***Terebra suavidica* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 35, pl. 1, fig. 24

Holotype: UT no. ? (CM no. 20784)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pliocene (Pleistocene)

(*Noditerebra (Pristiterebra) suavidica* (Yokoyama) by Oyama (1973))

***Terebra subtextilis* Smith** reported by Yokoyama (1926) from the Pliocene Satsuka Formation, Shizuoka Prefecture

***Terebra subvariegata* Yokoyama, 1928**

Imp. Geol. Surv. Japan, Rep., no. 101, p. 25, pl. 1, fig. 4

Holotype: GSJ no. ?

Hotosak, Rinkosho, Taihoku Province, Taiwan

Upper Byoritz Beds

Pliocene

***Terebra subulata* (Linnaeus, 1767)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Terebra textiles* Hinds, 1843** reported by Nomura and Zinbo (1936) from the Pliocene Shimajiri Group, Okinawa Prefecture

***Terebra t-makiyamai* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 100, pl. 6, figs. 16a-17b

Holotype: IGPS no. 53103 (fig. 16)

Hokko, Hsinchu, Taiwan

Byoritu Beds

Pliocene

(*Terebra tmakiyamai* Nomura)

***Terebra tokunagai* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 33, pl. 1, fig. 13

Holotype: GT no. ? (CM no. 20056)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)

Naganuma Formation

Pliocene (Pleistocene)

(*Punctoterebra (Granuliterebra) tokunagai* (Yokoyama) by Oyama (1973))

***Terebra torquata* Adams and Reeve** reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture (*Terebra (Myurella) torquata* Adams and Reeve by Masuda and Noda (1976))

***Terebra triseriata* Gray** reported by Yokoyama (1926) from the Pliocene Satsuka Formation, Shizuoka Prefecture

***Terebra tsuboiana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 26, pl. 1, fig. 9

Holotype: UT no. ?

Kioroshi and Shito (Kioroshi, Inzai City, and Shito, Ichihara City, Chiba Prefecture)

Shimoso Group (Kioroshi and Semata Formations)

Pleistocene

(*Noditerebra (Pristiterebra) tsuboiana (Yokoyama)* by Oyama (1973): *Pristiterebra tsuboiana (Yokoyama)* by Ozawa et al. (1998))

Terebra woodwardiana Martin, 1887 reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

Terebra yokoyamai Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 87, pl. 4, fig. 10

Syntype: GT no. 81

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Diplomeriza yokoyamai (Makiyama)* by Ozawa et al. (1998))

Terebralia caledonica (Jousseume, 1884) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Terebralia itoigawai Taguchi, Osafune and Obayashi, 1981

Bull. Mizunami Fossil Mus., no. 8, p. 3, pl. 1, figs. 6a-b, 7a-b, 8

Holotype: IGSH-ET no. 10006 (figs. 7a-b), Paratype: IGSH-ET no. 10007-10010 (figs. 6, 8)

Small cliff on the mountanside of Kaki, Nagi-cho, Okayama Prefecture; 35°05'54"N, 134°11'21"E

Yoshino Formation

Middle Miocene

Terebralia kakiensis Taguchi, Osafune and Obayashi, 1981

Bull. Mizunami Fossil Mus., no. 8, p. 4, pl. 1, figs. 9, 10

Holotype: IGSH-ET no. 10011 (fig. 10), Paratype: IGSH-ET nos. 10012-10013 (fig. 9)

Small cliff on the mountanside of Kaki, Nagi-cho, Okayama Prefecture; 35°05'54"N, 134°11'21"E

Yoshino Formation

Middle Miocene

Terebralia palustris (Linnaeus, 1767) reported by Okumura and Takei (1993) from the Pliocene Ananai Formation, Kochi Prefecture (Comparable with *Pseudovertagus cf. clava (Gmelin)* by Ozawa et al. (1998; p. 28, pl. 3, figs. 3a-b))

Terebralia semitrisulcata (Bolten, 1798) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Terebralia shibatai Taguchi, 1992

Venus, vol. 51, no. 3, p. 169, figs. 13-15

Holotype: MFM no. 20048 (fig. 13), Paratype: MFM nos.

20049-20050 (figs. 14, 15)

Niida, Tsuyama City, Okayama Prefecture; 35°03'05"N, 134°04'01"E

Yoshino Formation of the Katsuta Group

Middle Miocene

Terebralia (Terebralia) sulcata (Born, 1778) reported by Nomura (1935) from the Pleistocene Raised Coral Reef Beds, Taiwan

Thais bronni (Dunker) reported by Matsushima (1869) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (*Thais (Reishia) bronni (Dunker)* by Masuda and Noda (1976))

Thais luteostoma (Dillwyn) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan:

Purpula luteostoma Dillwyn, 1817 (Purpura leutostoma (Holten)) by Masuda and Haung (1990))

Thais (Mancinella) myonchonensis Hatai and Kotaka, 1952

Short Pap., IGPS, no. 4, p. 82, pl. 7, figs. 21, 22

Holotype: IGPS no. 74319

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

Thais nakamurai Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 128, pl. 6, figs. 5, 6

Holotype: GK no. 67

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Reishia nakamurai (Makiyama)* by Ozawa et al. (1998))

Thais problematica (Baker, 1891) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (*Purpura claviger Kuster* by Masuda and Haung (1990))

Thatcheria gradata (Yokoyama) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Thatcheria mirabilis Angas, 1877 reported by Shuto (1961) from the Miocene Kawabaru Member of the Miyazaki Group, Miyazaki Prefecture

Thelecytharella Shuto, 1969 n. subgen.

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 208, Type-species; *Agladrillia oyamai* Shuto described from

the Pleistocene (Holocene) Moeshima Formation, Kagoshima Prefecture

Theodoxus (Clithon) sowerbianus (Recluz) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: ***Neritina sowerbiana Recluz, 1842 (Clithon sowerbianus (Recluz))*** by Masuda and Haung (1990))

Theridium kobelti (Dunker) reported by Hayasaka and Oki (1971) from the Pleistocene Kogashira Formation, Kagoshima Prefecture (miss spell; ***Cerithium kobelti (Dunker)*** by Masuda and Noda (1976))

Thiara fiscina Yokoyama, 1932

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, part 6, p. 237, pl. 1, figs. 2, 3

Holotype: UT no. ? (Lectotype designated by Suzuki (1941): noted as no registration by Oyama et al. (1960))

Yorikirizawa another tributary of the Urashima, Uryu Ishikari, Hokkaido

Numata Beds (Numata Formation)

(Lower Oligocene by Oyama et al. (1960))

(***Melanoides fiscinus (Yokoyama)*** by Makiyama (1959): ***Semisulcospira fiscina (Yokoyama)*** by Oyama et al. (1960))

Thiara scabra (Muller, 1774) reported by Ozawa et al. (1998) from the Pliocene Dainichi Formation, Shizuoka Prefecture

Thiara totomiensis Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B, vol. 3, no. 1, art. 1, p. 66, pl. 3, fig. 7

Syntype: UK no. 49 (JC no. 200049 by Ozawa et al. (1998))

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

Thiarinella costifera Shuto, 1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 115, pl. 9, figs. 3-5, 10, text-fig. 26

Holotype: GK-L no. 6641 (figs. 5, 10), Paratype: GK-L no. 6640 (figs. 3, 4)

Loc. no. SKGS-73, 2500 m N of Lambunao along the main road leading to Calinog via Ulian River-bridge, Panay Island, the Philippines

Dingle Formation

Late Miocene

Tholitoma nishimotoi Tomida, 1989

Bull. Mizunami Fossil Mus., no. 16, p. 97, pl. 13, figs. 1a-b, pl. 14, fig. 10

Holotype: MFM no. 110107, Paratype: MFM no. 110108

Loc. No. 5, the east side of the Okumotona Quarry,

Kyonan-cho, Awa-gun, Chiba Prefecture; 139°51'20"E, 35°09'20"N

Senhata Formation

Mio-Pliocene

Thyphid arcuatus Hinds reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Thyphis (Talityphis) osawanoensis Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 88, pl. 4, figs. 14a-15b

Holotype: JC no. 1400048 (figs. 14a-b), Paratype: JC no. 1400049 (from Tsuzara)

Tuszara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late Early Miocene)

(***Ceratostoma (Ocenebra) osawanoensis (Tsuda)*** by Masuda and Noda (1976))

Tiara acuminata Shuto, 1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 160, pl. 16, figs. 18, 19, 23

Holotype: GK-L no. 7122 (figs. 18, 23), Paratype: GK-L no. 6968 (fig. 19; loc. SKGS-74)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines; Paratype, Loc. no. SKGS-75, 500 m N of loc. no. SKGS-74, Panay Island, the Philippines

Dingle Formation

Late Miocene

Tiara gerthi philippinensis Shuto, 1969

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 162, pl. 16, figs. 1-4, 17, text-figs. 29, 31

Holotype: GK-L no. 6969 (figs. 1, 2), Paratype: GK-L nos. 6970-6981 (figs. 3, 4, 17)

Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines

Dingle Formation

Late Miocene

Tiara oyamaorum Noda, 1980

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 30, pl. 5, fig. 18

Holotype: IGUT no. 10128

Loc. no. 1201, small road side cliff, about 200 m N of Miyagusuku, Takabanare-jima, Yonagusuku-mura, Nakagomi-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Tiberia dunkeri (Dall and Bartsch) reported by Itoigawa (1964) from the Pleistocene Kozaki Formation, Aichi

Prefecture (*Turbonilla dunkeri* (Dall and Bartsch) by Masuda and Noda (1976))

***Tiberia konamiensis* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 12, pl. 2, figs. 32a-b

Holotype: DGS no. 4630 transferred to IGPS no. 90082

Loc. No. 35, seacoast, about 500 m N of the outlet of the Fushimi-gawa, Konami, Suzu City, Ishikawa Prefecture; 37° 27'48"N, 137° 21'25"E

Higashi-Innai Formation

Miocene (early Miocene)

***Tiberia omuensis* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 60, pl. 10, fig. 10

Holotype: IGUT no. 10573

Loc. No. 435, road side cliff, about 500 m NW of Shikenbaru, Tamagusuku-mura, Shimajiri-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

***Tibia delicatula* (Merrill, 1881)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

***Tibia formosana* (Yokoyama, 1923)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan: see ***Rostellaria spinifera* var. *formosana* Yokoyama, 1923**

***Tibia fusus* (Linnaeus, 1758)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Tibia (Tibia) katoi* Noda and Watanabe, 1996**

Ann. Rep., Inst. Geosci. Univ. Tsukuba, no. 22, p. 27, figs. 2-4

Holotype: IGUT no. 11829, Paratype: IGUT nos. 11830, 11831

Riverside cliff of the river Sai-gawa, near Nozoki, Kanazawa City, Ishikawa Prefecture

Sunakozaka Formation

Middle Miocene

***Tomopleura difficilis* (Smith)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: ***Pleurotoma difficilis* Smith, 1879**

***Tomopleura osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 100, pl. 6, figs. 10a-b

Holotype: JC no. 1400075

Iwakishin, Osawano-machi, kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late Early Miocene)

(***Suavodrilgia osawanoensis* (Tsuda)** by Oyama (1961) and

Masuda and Noda (1976))

***Tomopleura quantoana* (Yokoyama)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Tomopleura subdifficilis akabanensis* Hayasaka, 1961**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), vol. no. p. 92, pl. 12, figs. 10a-11b

Holotype: IGPS no. 78759, Paratype: IGPS no. 78760

Loc. No. SC132-144, Takamatsu coast, Akabane-cho, Atsumi-gun, Aichi Prefecture

Toshima Formation

Pleistocene

***Tomopleura yokoyamai* (Makiyama)** reported by Shuto (1961) from the Pliocene Takanabe Formation, Miyazaki Prefecture: see ***Asthenotoma yokoyamai* Makiyama, 1927**

***Tonna allium* (Dillwyn)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Tonna luteostoma* (Küster)** reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture: ***Dolium leuteostoma* Küster, 1857**

***Tonna melanostoma* (Jay)** reported by Nomura (1935) from the Miocene Kaizan Beds, Taiwan: ***Dolium melanostoma* Jay, 1839**

Tonna zonata* (Green, 1830)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (Tonna olearium* (Linnaeus)** by Masuda and Haung (1990))

***Torinia elegantula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 78, pl. 4, fig. 2

Holotype: UT no. ? (CM no. 20972)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

(***Torinista elegantula* (Yokoyama)** by Oyama (1973))

***Torinista enoshimensis* (Melvill)** reported by Aoki and Baba (1984) from the Pleistocene Narita Formation, Chiba Prefecture (see below)

***Tornatina dulcis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 449, pl. 51, figs. 2

Holotype: UT no. ? (CM no. 24188)

Shimosueyoshi, Tachibana-gun, Musashi (Shimosueyoshi, Tsurumi-ku, Yokohama City, Kanagawa Prefecture)

(Shimosueyoshi Formation)

Upper Musashino=Pleistocene

(Synonymus with *Acteocina (Didontoglossa) koyasensis* (Yokoyama) by Oyama (1973))

Tornatina exilis Dunker reported by Yokoyama (1922) from the Pliocene (Pleistocene) Kazusa Group, Chiba Prefecture (*Acteocina (Tornatina) exilis* (Dunker) by Oyama (1973))

***Tornatina fontinalis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 407, pl. 46, figs. 3

Holotype: UT no. ? (CM no. 23608)

Sendagaya (5-chome, Jingumae, Shibuya-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Synonymus with *Acteocina (Decorifer) insignis* (Pilsbry) by Oyama (1973))

***Tornatina koyasensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 448, pl. 51, figs. 1

Holotype: UT no. ? (CM no. 24187)

Koyasu, Tachibana-gun, Musashi (Kohoku-ku, Yokohama City, Kanagawa Prefecture)

(Shimosueyoshi Formation)

Upper Musashino=Pleistocene

(*Acteocina (Didontoglossa) koyasuensis* (Yokoyama) by Oyama (1973))

***Tornatina longispirata* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 212, p. 41, pl. 10, figs. 8-10

Holotype: UT no. ? (CM no. 20740)

Otake in Shimosa (Otake, Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(*Acteocina (Decorifer) longispirata* (Yamakawa) by Oyama (1973))

***Tornatina longispirata* var. *otakensis* Yamakawa, 1911**

Jour. Geol. Soc. Tokyo, vol. 18, no. 212, p. 42, pl. 10, figs. 11-13

Holotype: UT no. ?

Otake in Shimosa (Otake, Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

***Tornatina yamakawai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 285, pl. 32, fig. 1

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N,

136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Decolifer yamakawai* (Yokoyama) by Hatai and Nisiyama (1952))

Tosatrochus attenuatus (Jones) reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Oknawa Prefecture

***Trichotropis chikagawaensis* Hatai, Masuda and Suzuki, 1961**

Saito Ho-on Kai Mus., Res. Bull., no. 30, p. 27, pl. 4, figs. 5a-b

Holotype: IGPS no. 90448

Loc. no. M-1, left cliff of Maekawa River, near the outlet of Maekawa, Chikagawa, Mustu City, Aomori Prefecture

Hamada Formation

Pliocene (early Pleistocene)

***Trichotropis enaensis* Kamada, 1962**

Palaeont. Soc. Japan, Spec. Pap., no. 8, p. 154, pl. 18, figs. 11, 12

Holotype: IGPS no. 79390

Northwestern end of Ena, Ena-machi, Iwaki City, Fukushima Prefecture

Honya Formation

Miocene

***Trichotropis hanzawaensis* Nomura and Zinbo, 1937**

Saito Ho-on Kai Mus., Res. Bull., no. 13, p. 167, pl. 22, fig. 12

Holotype: SM no. 9347

Road-side cutting along the small river (about 500 m SE of the bridge at Hanzawa, Sakegawa-mura, Mogami-gun, Yamagata Prefecture; 38°48'45"N, 140°10'30"E

Hanzawa Formation

Pliocene (Miocene)

(*Trichotropis (Iphione) hanzawaensis* (Nomura and Zinbo) by Hatai and Nisiyama (1952))

***Trichotropis longispirata* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 185, pl. 15, figs. 23a-b

Holotype: SM no. 6171

Southern end of the Park of Yanagwa-machi (River cliff of the Hirose-gawa at the southeastern end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagwa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

***Trichotropis planicostata* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 70, pl. 4, fig. 6

Holotype: GT no. ? (CM no. 20192)
Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°22'05"N, 139°38'06"E)
Koshiba Formation
Pliocene (Pleistocene)

Tricla corpulenta* (Yokoyama)** reported by Watanabe et al. (1950) from the Oligocene-Miocene (early Miocene) Akahira Formation, Saitama Prefecture (Eoscapander corpulenta* (Yokoyama)** by Masuda and Noda (1976))

***Triforis multigrata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 74, pl. 5, fig. 5

Holotype: UT no. ? (CM no. 20961)
Shito (Shito, Ichihara City, Chiba Prefecture)
Shimosa Group (Semata Formation)
Pleistocene

(***Triphora multigrata* (Yokoyama)** by Oyama (1973))

***Triforis otsuensis* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 69, pl. 4, fig. 11

Holotype: GT no. ? (CM no. 20191)
Otsu (Yokosuka City, Kanagawa Prefecture)
Otsu Formation
Upper Musashino=Pleistocene

(***Triphora otsuensis* (Yokoyama)** by Oyama (1973))

***Trigonostoma kurodai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 85, pl. 4, fig. 8

Holotype: GK no. 78
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)
Dainichi Formation
Pliocene

(***Trigonostoma (Scalptia) kurodai* Makiyama** by Hatai and Nisiyama (1952))

***Trigonostoma nana* Ozaki, 1956**

Bull. Nat. Sci. Mus., vol 3, no. 1, . 2, pl. 1, fig. 5

Holotype NSM no. 4374
Nisinotani, Nobori, Hane Twon, Aki County (Nishinotani, Hane-cho, Aki-gun), Kochi Prefecture
Nobori Formation
Miocene (Pliocene)

***Triphora concors* (Hinds)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis concors* Hinds, 1843**

***Triphora (Viriola) corrugata* (Hinds)** reported by Nomura

(1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: ***Triforis corrugata* Hinds, 1843**

***Triphora dolicha* (Watson)** reported by MacNeil (1960) from the Miocene or Pliocene (Pliocene) Shinzato Formation, Oknawa Prefecture: ***TriforiSadolicha* Watson**

***Triphora exilis* (Dunker, 1860)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis exilis* Dunker**

***Triphora fusca* (Dunker, 1860)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis fusca* Dunker**

***Triphora granulata* (Adams and Reeve)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis granulata* Adams and Reeve, 1848**

***Triphora (Inella) incisa* (Pease)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis (Viriola) incisus* Pease, 1860**

***Triphora limosa* (Jousseume)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture: ***Triforis limosa* Jousseume, 1884**

***Triphora micans* (Hinds)** reported by MacNeil (1960) from the Miocene or Pliocene Shinzato Formation, Okinawa Prefecture: ***Triforis micans* Hinds**

***Triphora (Triphora) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 282, pl. 4, fig. 9

Holotype: ESN no. 20056, Paratype: ESN no. 20057
Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture
Shukubora Sandstone of the Oidawara Formation
Miocene

***Triphora sematensis* Oyama, 1954**

In Taki and Oyama, 1954, p. 11, Type; *Triforis otsuensis* Yokoyama (1922: p. 74, pl. 3, fig. 16)

Holotype: UT no. ?
Shito (Ichikawa City, Chiba Prefecture) Chiba Prefecture Semata Formation
Pleistocene
(Synonymus with ***Triphora conspersa* (E. A. Smith)** by Masuda and Noda (1976))

***Triphora solitaria* Nomura and Zinbo, 1934**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser (Geol), vol. 16, no. 2, p. 158, pl. 5, fig. 33

Holotype: IGPS no. 50633

Kamikatetsu, Kikai-jima, Amami-gun, Kagoshima Prefecture
Ryukyu Limestone (Wan Formation),
Pleistocene

***Triphora (Inella) tricarinata* (Dunker, 1860)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

Triplostephanus pamotanensis* Martin** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Terebra pamotanensis* Martin, 1905** (Triplostephanus pamotanensis* (Martin)**)

***Triplostephanus santosi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 224, pl. 23, figs. 13, 19, 22, text-figs. 41, 43

Holotype: GK-L no. 6777 (fig. 22), Paratype: GK-L nos. 6752, 6753, 6758 (figs. 19, 22)

Loc. no. SKGS-74, Barrio Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines
Dingle Formation
Late Miocene

***Triplostephanus triserianus* (Gray)** reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Terebra (Triplostephanus) triserianus* Gray, 1854**

Tristichotrochus multiliratus* (Sowerby)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (Calliostoma (Trostichotrochus) multiliratus* (Sowerby)** by Masuda and Noda (1976))

***Tristichotrochus takeharai* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 7, pl. 2, figs. 4a-6
Holotype: MFM no. 10057 (fig. 4), Paratype: MFM no. 10058 (fig. 5)

West of Sakurado, Toki-cho, Mizunami City, Gifu Prefecture
Nataki Conglomerate, Oidawara Formation
Middle Miocene

***Tritia (Tritonella) crenulicostata* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 148, pl. 17, figs. 7-9, text-figs. 28

Holotype: GK-L no. 6987

Loc. no. SKGS-74, Barrio Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines
Dingle Formation
Late Miocene

“Tritia” hongoensis* (Itoigawa)** reported by Itoigawa (1974) from the Miocene Kujiri Formation, Gifu Prefecture (Nassarius (Reticunassa) hongoensis* Itoigawa, 1955** by Masuda and Noda (1976))

Tritia (Tritonella) japonica* (A. Adams)** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (Nassarius japonica* (A. Adams)** by Masuda and Noda (1976))

Tritia luteola* (Smith)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (Nassarius (Reticunassa) luteola* Smith** by Masuda and Noda (1976))

***Triton (Simpulum) costatus* (Born)** reported by Yokoyama (1928) from the Pliocene Upper Byoritz Beds, Taiwan: ***Murex costatus* Born (*Cymatium echo* Kuroda and Habe, 1950** by Makiyama (1960))

Triton (Priene) oregonensis* Redfield** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiha Formation, Kanagawa Prefecture (Fusitriton oregonensis* (Redfield)** by Hatai and Nisiyama (1952))

***Triton subpyrum* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 65, pl. 4, fig. 4

Holotype: GT no. ? (CM no. 20176), Paratype: GT no. ? (CM no. 20177)

Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E); Paratype, Ninomiya, Matsune near Ninomiya in Sagami (Road-side cutting 900 m N of Nonomiya railway station, 430 m N of main road and 80 m NE of temple at Masune near Nonomiya-maci, Naka-gun, Kanagawa Prefecture; 35°18'02"N, 139°15'06"E)

Naganuma Formation

Pliocene (early Pleistocene)

(***Cymatium subpyrum* (Yokoyama)** by Hatai and Nisiyama (1952): ***Cymatium (Ranularia) subpyrum* (Yokoyama)** by Oyama (1973))

Triton tenuliratus* Lischke** reported by Yokoyama (1926) from the Pliocene Dainichi Formation, Shizuoka Prefecture (Cymatium (Septa) tenuliratus* (Lischke)** by Hatai and Nisiyama (1952))

***Tritonalia adunca* (Sowerby)** reported by Kanehara (1942) from the Plio-Pleistocene (Pleistocene) Shibikawa Formation, Akita Prefecture; ***Murex adunca* Sowerby (*Ocenebra (Pterophytia) adunca* (Sowerby)** by Hatai and Nisiyama (1952))

***Tritonalia dainitiensis* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. p. 127, pl. 6, figs. 7, 8

Holotype: GK no. 66

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

(*Ocenebra dainitiensis* (Makiyama) by Hatai and Nisiyama (1952))

***Tritonalia inornata* (Recluz)** reported by Kuroda (1931) from the Miocene Ogawa Formation, Nagano Prefecture;

***Murex inornata* Recluz (*Ocenebra* (*Ocenebra*) *inornata* (Recluz)** by Hatai and Nisiyama (1952))

Tritonalia lumaria* (Yokoyama)** reported by Nomura and Hatai (1935) from the Pliocene (Pleistocene) Daishaka Formation, Aomori Prefecture (Ocenebra* (*Ocenebra*) *lumaria* (Yokoyama)** by Hatai and Nisiyama (1952))

***Tritonalia* (*Pterorhytis*) *makiyamai* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 79, pl. 7, figs. 26, 27

Holotype: IGPS no. 74368

Paiponchon, Shinsiruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Hei roku Formation

Lower Miocene

***Tritonimangilia varicifera* Martin** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Mangilia* (*Tritonimangilia*) *Martin*, 1914 (*Tritonimangilia varicifera* (Martin), 1914)**

***Tritonoturris buccinoides* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 18, pl. 2, figs. 12, 13, text-fig. 4

Holotype: AM no. C134673a, Paratype: AM no. C134673b

Bottle and Glass Rocks, Sydney Harbour, New South Wales, Australia

Living specimen, 3.5-7.5 m in depth, J. Voorwinde coll., July 18, 1962

Recent

***Turritriton kiiensis* (Sowerby)** reported by Aoki and Baba (1983) from the Pleistocene Narita Formation, Chiba Prefecture

***Trivia* (*Trivia*) *datensis* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 182, pl. 15, figs. 24a-b

Holotype: SM no. 6197

Southern end of the Park of Yanagawa-machi (River cliff of

the Hirose-gawa at the southern end of the Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

(***Pusulia datensis* (Nomura and Zinbo)** by Hatai and Nisiyama (1952))

***Trivia edgari* Shaw, 1909** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Trivia insecta* (Michaels, 1845)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Trivia pilula* (Kiener, 1845)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Trivirostra pellucidula* (Gaskoin and Reeve)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Cypraea pellucidula* Gaskoin and Reeve, 1846**

***Trivirostra pyrinula* Hatai and Nisiyama, 1949**

Nautilus, vol. 62, no. 2, p. 59, pl. 4, figs. 9, 10

Holotype: GS no. 72642

East cliff of the Yorogawa, east of Iwaibara, Oikawa-mura, Isumi-gun, Chiba Prefecture; 35°13'41"N, 140°10'37"E)

Kiwada Formation

Pliocene (Pleistocene)

Trochocerithium excelsum* (Yokoyama)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture (Orectospira excelsa* (Yokoyama)** by Masuda and Noda (1976))

***Trochocerithium mizunoi* Shuto and Ueda, 1967**

Japan. Jour. Geol. Geogr., vol. 38, no. 1, p. 28, pl. 2, fig. 10

Holotype: GKL no. 6607

Minami-Takochi, Nagayo-mura, Nishisonogi-gun, Nagasaki Prefecture

Yamaguchi Formation

Oligocene

Trochocerithium shikoensis* (Yokoyama)** reported by Watanabe et al. (1950) from the Oligocene–Miocene (early Miocene) Akahira Formation, Saitama Prefecture (Orectospira nenokamiensis* (Kanno)** by Masuda and Noda (1976)): ***Cerithiopsis* (?) *shikoensis* Yokoyama, 1928**

***Trochocerithium wadanum* (Yokoyama)** reported by Kanehara (1937) from the Oligocene Poronai Formation,

Hokkaido; see *Turritella wadanum* Yokoyama (*Orectospira wadana* (Yokoyama) by Masuda and Noda (1976))

***Trochus (Minolia) angulatus* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 30 pl. 2, fig. 5

Holotype: UT, no. ?

Cutting along the railway at Oji (Kita-ku), environs of Tokyo (Tokyo Prefecture)

Oji Shell bed (Tokyo Prefecture)

Pleistocene

***Trochus calcaratus* Soubervie, 1875** reported by Nomura (1935) from the Pleistocene Raised Coral Reef, Taiwan, and also reported by MacNeil (1960) from the Pleistocene Yontana Formation, Okinawa Prefecture

***Trochus goisiensis* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol), vol. 21, no. 1, p. 33, pl. 3, fig. 17

Holotype: SM no. 19907

River cliff, northeast of Goishi, Tomioka-mura (Kawasaki-cho), Shibata-gun, Miyagi Prefecture; 38°12'N, 140°43.5'E

Moniwa Formation

Miocene

***Trochus (Clanculus) gordonis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 33, pl. 2, fig. 4

Holotype: UT no. ?

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

***Trochus (Trochus) incrassatus* Lamarck, 1822** reported by Nomura (1935) from the Pleistocene Raised Coral Reef, Taiwan (*Trochus stellatus* Gmelin by Masuda and Huang (1990))

***Trochus kawakamiensis* Hatai, 1941**

Bull. Biogeogr. Soc. Japan, vol. 11, no. 13, p. 111, pl. 3, figs. 7, 8

Holotype: GS no. 64986

Road-side cutting on the boundary between Hiroshima and Okayama Prefectures, about 100 m S of the crossing point of the main and the small road, and about 800 m SE of Hanazumi, Ssenyo-mura, Jinseki-gun, Hiroshima Prefecture; 34°44'28"N, 133°22'26"E

(Murairi Formation; formation name was proposed by Hatai and Nisiyama (1952))

Miocene

***Trochus maculatus* Linné, 1758** reported by Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture

***Trochus niloticus* Linné** reported by Nomura (1935) from the Pleistocene Raised Coral Reef, Taiwan, and also reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture (*Tectus niloticus* (Linné) by Masuda and Noda (1976))

***Trochus (Trochus) oidensis* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol), vol. 21, no. 1, p. 33, pl. 3, figs. 19a-b

Holotype: SM no. 19875 (a)

Junction of the small tributary and the Natori-gawa at Minami-Aakaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture; 38°13'N, 140°45'E

Moniwa Formation

Miocene

***Trochus (Infundibulum) rota* Dunker, 1860** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Shimajiri Beds (Nakoshi Formation), Okinawa Prefecture

***Trochus (Calliostoma) shinagawaensis* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 29, pl. 2, fig. 4

Holotype: UT no. ?

Cutting along the railway at Shinagawa (Minato-ku), environs of Tokyo (Tokyo Prefecture)

Shinagawa Shell bed (Tokyo Formation)

Pleistocene

***Trochus spinigera* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 109, pl. 5, fig. 18

Holotype: UT no. ? (CM no. 21104)

Shito (Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pleistocene

(*Calliostoma (Tristichotrochus) aculeatum* Sowerby by Oyama (1973))

***Trominina Oyama and Mizuno, 1958* n. gen.**

Bull. Geol. Surv. Japan, vol. 9, no. 9, p. 4, Type-species; *Ancistrolepis japonicus* Takada (1953) described from the Oligocene (late Eocene) Poronai Formation, Hokkaido

***Trominina ? ezoana* (Takeda)** reported by Oyama et al. (1960) from the Oligocene Onbetsu Group, Hokkaido: see *Neptunea ezoana* Takeda, 1953

***Trominina hokkaidoensis* (Hayasaka and Uozumi)** reported by Kanno and Ogawa (1964) from the Oligocene Momijiyama Formation, Hokkaido: see *Ancistrolepis hokkaidoensis* Hayasaka and Uozumi, 1954

***Trominina ishikariensis* (Hayasaka and Matsui)** reported

by Honda (1989) from the Oligocene Nuibetsu Formation, Hokkaido: see *Ancistrolepis yudaensis* var. *ishikariensis* Hayasaka and Matsui, 1951

Trominina japonica (Takeda) reported by Honda (1989) from the Oligocene Nuivetsu Formation, Hokkaido: see *Ancistrolepis japonica* Takeda, 1953

Trominina onnaica (Yokoyama) reported by Kanno and Ogawa (1964) from the Oligocene Momijiyama Formation, Hokkaido

Trominina umbelliformis (Hayasaka and Uozumi) reported by Oyama et al. (1960) from the Oligocene Momijiyama Formation, Hokkaido: see *Neptunea umbelliformis* Hayasaka and Uozumi, 1954

***Trophon acharya* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 269, pl. 32, fig. 14

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Trophonopsis acharya* (Yokoyama) by Hatai and Nisiyama (1952))

Trophon berringi Dall reported by Kanehara (1937) from the Pliocene Yuchi Formation, Hokkaido

***Trophon (Boreotrophon) calidus* Aoki and Baba, 1984**

Ann. Rep., Inst. Geosci., Univ. Tsukuba, no. 10, p. 77, figs. 36, 37

Holotype: IGUT no. ? (fig. 36)

Nobori, Hane-machi, Muroto City, Kochi Prefecture

Nobori Formation

Pliocene

Trophon carduelis Watson reported by Ozaki (1958) from the Pliocene Iioka Formation, Chiba Prefecture (*Boreotrophon xesta* (Dall) by Masuda and Noda (1976))

Trophon (Bathmurex) echinus Dall reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture (*Nipponotrophon echinus* (Dall) by Masuda and Noda (1976))

***Trophon exiguus* Tokunaga, 1906**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 4, pl. 1, fig. 3

Holotype: UT no. ?

Cutting along the railway at Shinagawa, environs of Tokyo
Shinagawa shell bed
Pleistocene

***Trophon felix* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 196, pl. 52, fig. 6

Holotype: GT no. ?, Paratype: GT no. ? (pl. 52, fig. 8a) (designated by Hatai and Nisiyama (1952))

Rorenai, Haboro, Teshio (Side cliff of the Migizawa stream a tributary of the Haboro-gawa, about 1.2 km SW of Otap, Haboro-machi, Tomamae-gun, Teshio Province, Hokkaido; 44°16'58"N, 141°54'50"E)

Chikbets Formation

Pliocene (Miocene)

(*Trophonopsis (Boreotrophon) felix* (Yokoyama) by Hatai and Nisiyama (1952))

Trophon inermis (Sowerby) reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture (*Trophonopsis (Boreotrophon) inermis* (Sowerby) by Hatai and Nisiyama (1952))

***Trophon kagaensis* Hatai and Nisiyama, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-2, p. 153, pl. 9, figs. 8, 9

Holotype: GS no. 62422, Paratype: GS no. 62422 (pl. 9, figs. 13, 14) (designated by Hatai and Nisiyama (1952))

Road-side cliff on the contact point of the main road and the path, about 600 m NW of Kakuma, Asakawa-mura, Kahoku-gun, Ishikawa Prefecture; 36°33'N, 136°42'13"E)

Onma Formation

Pliocene (Pleistocene)

***Trophon makiyamai* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 358, pl. 68, fig. 8

Holotype: GT no. ?

Kaigasawa, Higashiyama, Echigo (Valley W of Tochio-machi, Koshi-gun, Niigata Prefecture; 37°28'30"N, 139°59"E)

Shiraiwa Formation

Pliocene

(*Trophonopsis (Boreotrophon) makiyamai* (Yokoyama) by Hatai and Nisiyama (1952))

***Trophon muricatoides* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 61, pl. 3, fig. 17

Holotype: GT no. ? (CM no. 20162)

Yamagayodo in Kami-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Pliocene (Pleistocene)

(*Fusinus (Trophonofusus) muricatoides* (Yokoyama) by

Oyama (1973))

***Trophon nipponicus* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 61, pl. 3, fig. 13

Holotype: GT no. ? (CM no. 20159), Paratype: GT no. ? (CM no. 20158)

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35°20'05"N, 139°38'06"E)

Koshiba Formation

Pliocene (Pleistocene)

(Synonymus with *Trophonopsis (Boreotrophon) xestra* (Dall) by Hatai and Nisiyama (1952): *Trophon (Boreotrophon) xestra nipponicus* Yokoyama by Oyama (1973))

***Trophon solitarius* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 1, p. 6, pl. 1, figs. 1, 2

Syntype: GT no. ?

Shigarami (Ashort distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36°40'N, 138°07'E)

(Shigarami Formation)

Pliocene

(*Trophonopsis (Boreotrophon) solitarius* (Yokoyama) by Hatai and Nisiyama (1952))

***Trophon subvlavatus* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 60, pl. 3, fig. 2, pl. 4, figs. 13, 14

Syntype: GT no. ? (CM nos. 20157, 20156)

Shimo-Miyata (Miura City, Kanagawa Prefecture)

Miyata Formation

Pliocene (Pleistocene)

(Synonymus with *Trophon (Boreotrophon) candelabrum* (Reeve) by Oyama (1973))

***Trophon suborpeus* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 268, pl. 32, fig. 18

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 136°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(Synonymus with *Trophon (Boreotrophon) candelabrum* (Reeve) by Oyama (1973): *Trophonopsis suborpeus* (Yokoyama) by Hatai and Nisiyama (1952): *Ocenebra japonica* Dunker by Makiyama (1958))

***Trophon toyamai* Hatai and Nisiyama, 1938**

Bull. Biogeogr. Soc. Japan, vol. 8, no. 16, p. 256, text-figs. 3, 4

Holotype: GS no. 7844

East side of the hill, a valley about 700 m NW of Sotowatta, Tokiwa-mura, Yamamoto-gun, Akita Prefecture; 40°15'N, 140°10'E)

Wakimoto Formation

Pliocene

(*Trophonopsis (Trophonopsis) toyamai* (Hatai and Nisiyama) by Hatai and Nisiyama (1952))

***Trophon (Austrophon) xesta nipponicus* Yokoyama**

reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (*Boreotrophon nipponicus* (Yokoyama) by Masuda and Noda (1976))

***Trophonopsis beringi* (Dall)**

reported by Chinzei (1959) from the Pliocene Kubo Formation, Iwate Prefecture (*Boreotrophon beringi* (Dall) by Masuda and Noda (1976))

***Trophonopsis candelabrum* (Adams and Reeve)**

reported by Kanahara (1942) from the Plio-Pleistocene (Pleistocene) Shibikawa Formation, Akita Prefecture (*Trophonopsis (Boreotrophon) candelabrum* (Adams and Reeve) by Hatai and Nisiyama (1952): *Boreotrophon candelabrum* (Reeve) by Masuda and Noda (1976))

***Trophonopsis (Boreotrophon) candelabrum* (Reeve)**

reported by Itoigawa (1958) from the Pliocene Nishiyama Formation, Niigata Prefecture (*Boreotrophon candelabrum* (Reeve) by Masuda and Noda (1976))

***Trophonopsis hondai* Zinbo, 1973**

Sci. Rep. Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 6 (Hatai Mem. Vol.), p. 160, pl. 14, figs. 11a-c

Holotype: Yamagata Pref. Mus., no. 118

Loc. No. I, left-bank of the Shirakawa River, about 300 m Northwest of Nishitakamine, Iide-machi, Nishiokitama-gun, Yamagata Prefecture

Utsutoge Formation

Miocene (late Miocene)

(*Boreotrophon hondai* (Zinbo) by Masuda and Noda (1976))

***Trophonopsis kagaensis* Hatai and Nisiyama**

reported by Kaseno and Mstuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

***Trophonopsis kotakai* Noda, 1992**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 62, nos. 1-2, p. 100, pl. 11, figs. 10a-11, 14a-b, 17a-b

Holotype: IGPS no. 100920, Paratype: IGPS nos. 100921,

100922, 100923

Loc. No. CS11, middle stream of the Shosanbetsu River; Paratype, Loc. No. CS9, middle stream of the Shosanbetsu River, CS4, middle stream of the Shosanbetsu River; Haboro-cho, Tomamae-gun, Hokkaido
Chikubetsu Formation
Middle Miocene

Trophonopsis makiyamai Yokoyama reported by Tanaka (1960) from the Miocene Uchimura Formation, Nagano Prefecture

Trophonopsis mitsuganoensis Shibata, 1970

Jour. Earth Sci., Nagoya Univ., vol. 18, p. 75, pl. 3, figs. 8a-b
Holotype: ESN no. 30020, Paratype: ESN no. ?

Loc. no. K73, Nakanomura, Hakusan-cho, Ichishi-gun, Mie Prefecture
Oi Formation
Miocene

Trophonopsis (Boreotrophon) nipponicus (Yokoyama) reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishiakwa Prefecture (***Boreotrophon nipponicus (Yokoyama)*** by Masuda and Noda (1976))

Trophonopsis okutanii Noda, 1991

Sci. Rep. Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 12, p. 44, figs. 14-17a-b

Holotype: IGUT no. 11533

Loc. No. 263, small exposure about 400 m W of Onaga, Tomigusuku-son, Shimajiri-gun, Okinawa Prefecture
Yonabaru Formation
Pliocene

Trophonopsis (Boreotrophon) osawanoensis Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2, vol. 3, no. 2, p. 87, pl. 4, figs. 11-13

Holotype: JC no. 1400046, Paratype: JC no. 1400047 (from Kashio)

Kashio, Yatsuo-machi, Nei-gun, Toyama Prefecture

Kurosedani Formation

Miocene (late Early Miocene)

(***Boreotrophon osawanoensis (Tsuda)*** by Masuda and Noda (1976))

Trophonopsis (Boreotrophon) sasae Sawada, 1962

Mem. Muroran Inst. Tech., vol. 4, no. 1, p. 50, pl. 2, figs. 12, 13

Holotype: MEMIT no. 60001, Paratype: MEMIT no. 60002

Loc. no. 39, roadside cliff, 1200 m NNW of Kitatoyotsu railway station, Oshamanbe-cho, Yamakoshi-gun, Hokkaido; 42°25'30"N, 140°18'23"E

Chinkope Formation

Pliocene (Pleistocene)

(***Boreotrophon sasae (Sawada)*** by Masuda and Noda (1976))

Trophonopsis xestra (Dall) reported by Nomura (1937) from the Pliocene Masuda Formation, Yamagata Prefecture (***Trophonopsis (Boreotrophon) xestra (Dall)*** by Hatai and Nisiyama (1952))

Tropicolpus sakitoensis (Nagao) reported by Kotaka (1959) from the Oligocene Itanoura Formation, Nagasaki Prefecture: see ***Turritella sakitoensis Nagao, 1928***

Truncaria nakamurai Otuka, 1934

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 630, pl. 51, figs. 106-108

Holotype: GT no. 1567

Shiratori (Southeast valley of shiratori, about 400 m SE off the temple at Shiratori, Nisatai-mura, Nihone-gun Iwate Prefecture; 40°14'05"N, 141°20'23"E)

Shiratori Formation

Miocene

Tubonilla tosana Nomura, 1937

Japan, Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 84, pl. 6, figs. 17a-b

Holotype: IGPS, no. 55043

Tonohama, Yasuda-cho, Aki-gun, Kochi Prefecture (Ananai Formation)

Pliocene

Tudicla cumingii (Jonas, 1848) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (***Afer cumingii (Reeve)*** by Masuda and Haung (1990))

Tudicla ishiii Matsui, 1959

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 298, pl. 2, fig. 4

Holotype: UH no. 13336

A river cliff 2 km E of Kamiatsunai railway station, Urahoro-mura, Tokachi Province, Hokkaido

Onbetsu Formation

Oligocene (Eocene ?)

(***Turricula ishiii (Matsui)*** by Masuda and Noda (1976) was miss-spell of the present genus)

Tudicla japonica Takeda, 1953

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 58, pl. 2, figs. 13-15

Holotype: UH no. 11122 (fig. 13), Paratype: UH nos. 11123, 11121

Loc. No. T16-K, near T18-K (Horokasyoro creek (Yunosawa), upper tributary of Syoro River, Kusiro Province, Hokkaido; Paratype, T73-K (not described), T42-K, 1900 m

downstream from T40-K (Kuttyarosibetu creek, upper tributary of Syoro River, Kusiro Province, Hokkaido; 143 ° 55'30"E, 43 °16'N
Poronai Formation
Oligocene (late Eocene)

***Tugali decussata* A. Adams** reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture

***Tugali decussatoides* (Nomura and Hatai)** reported by Masuda and Takegawa (1965) from the Miocene Fukuda Formation, Miyagi Prefecture

***Tugali notoensis* Masuda, 1966**

Trans. Proc. Palaeont. Soc. Japan, N. S., 64, p. 330, pl. 36, figs. 2a-b
Holotype: DGS no. 4552 transferred to IGPS no. 90081
Loc. No. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37 °27'59"N, 137 °07'40"E Ishikawa Prefecture
Higashi-Innai Formation
Miocene (early Miocene)

***Tugali vadososinuata* (Yokoyama)** reported by Ozaki (1958) from the Pliocene Naarai Formation, Chiba Prefecture:
***Emarginula vadososinuata* Yokoyama, 1922**

***Tugalia decussatoides* Nomura and Hatai, 1936**

Saito Ho-on Kai Mus., Res. Bull., no. 10, p. 148, pl. 17, fig. 11
Holotype: SM no. 2659
Okada (Cliff bordering stream immediately NW of Okada, Yamaoka-mura, Higashi-Shirakawa-gun, Fukushima Prefecture; 37 °01'N, 140 °26'03"E)
Tanagura Formation
Miocene
(***Tugali decussatoides* (Nomura and Hatai)** by Hatai and Nisiyama (1952))

***Tugalia gigas* (v. Martens)** reported by Kuroda (1931) from the Pliocene Shigarami Formation, Nagano Prefecture;
***Submarginula gigas* v. Martens (*Tugali* (*Tugali*) *gigas* (v. Martens)** by Hatai and Nisiyama (1952))

***Tugurium exutum* (Reeve)** reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

***Tugurium makiyamai* Itoigawa and Nishikawa, 1976**

Bull., Mizunami Fossil Mus., no. 3, p. 147, pl. 35, figs. 7, 8
Holotype: MFM no. 20009, Paratype: MFM no. 20010
Todani, Osa-cho, Atetsu-gun, Okayama Prefecture
Upper Member of the Bihoku Group
Miocene

***Tugurium matsuoii* Ogasawara, 1976**

Sci. Rep., Tohoku Univ. 2nd Ser (Geol.) vol. 46, no. 2, p. 61, pl. 13, figs. 11-12
Holotype: IGPS no. 95045, Paratype: IGPS no. 95046-1
Loc. No. Su-01: River-side cliff of Asano-gawa at Higashi-Ichise, Kanazawa City, Ishikawa Prefecture
Sunakozaka Formation
Miocene (middle Miocene; Blow's N8 Zone)

***Tulotomoides japonica* Habe and Tomoda, 1980**

Bull. Mizunami Fossil Mus., no. 7, p. 85, pl. 5, figs. 1-5, text-figs. 1, 2
Holotype: NSMT no. Mo 58466
In the caly mud deposit of Ko-Biwako Group at bottom of River Yasu near Mikumo Railway Station of Kusatsu Line in Kosei-cho, Shiga Prefecture
Koga Formation of the Kobiwako Group
Upper Pliocene

***Tulotomoides sanaguensis* Matsuoka, 1985**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 139, p. 188, pl. 27, figs. 1-8, text-fig. 3
Holotype: ESN no. 40074, Paratype: ESN nos. 40075, 40076, 40077, MFM no. 10016
Loc. no. D (118); Toyama, Sanagu-cho, Ueno City, Mie Prefecture
Iga Formation
Pliocene

***Turbo* (*Modelia*) *amabilis* Ozaki, 1954**

Bull. Nat. Sci. Mus., vol. 1, no. 1, (no. 34), p. 11, pl. 4, figs. 1-3
Holotype: NSM no. 4254
Sea shore at the western end of Tokawa village, Choshi City, Chiba Prefecture (Precise formation unknown)
Basal Conglomerate of the Pliocene (Naarai Formation)
Pliocene
(***Bolma amabilis* (Ozaki)** by Masuda and Noda (1976))

***Turbo* (*Turbo*) *argyrostomus* Linnaeus, 1758** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Turbo* (*Senectus*) *argyrostomus* var. *margaritacea* Linnaeus** reported by Yokoyama (1928) from the Pliocene Byoritu Beds, Taiwan (Turbo* (*Marnarostoma*) *argyrostomus* Linnaeus, 1758** by Masuda and Haung (1990))

***Turbo* (*Batillus*) *chinensis* Ozawa and Tomida, 1955**

Venus, vol. 54, no. 4, p. 269
Holotype: NSMT-Mo no. 70404, Paratype: NSMT-Mo no. 70405a-f, 70406, ESN no. 2554a-f
Shanwei, Guangdong Province, Chin; 22° 41'N, 15° 22'E;

Paratype NSMT-Mo no. 70406; Choushan Archipelago, Zhejiang Province, China
 Living specimen
 Recent
 (Fossils reported by Ozawa and Tomida (1996) from the Pliocene Nakoshi Sand, Okinawa Prefecture)

Turbo (Batillus) cornutus Solander reported by Watanabe et al. (1950) from the Oligocene-Miocene Akahira Formation, Saitama Prefecture (***Turbo (Batillus) cornutus Lightfoot, 1786*** by Masuda and Noda (1976))

Turbo (Lunella) granulatus Gmelin, 1788 reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

Turbo (Lunatica) marmoratus Linnaeus reported by Tomida (1996) from the Pliocene Osozawa Member of the Akebono Formation, Yamanashi Prefecture

Turbo marmoratus Linnaeus var. laevis Yokoyama, 1928 Rep., Imp. Geol. Surv. Japan, no. 101, p. 65, pl. 4, fig. 12
 Holotype: UT no. ?
 Kontei, Koshun-gun, Takao-syu, Taiwan
 Upper Byoritz
 Pliocene (Pleistocene)
 (***Turbo (Lunatica) marmoratus Linnaeus*** by Makiyama (1960))

Turbo mekamiensis Nishiwada, 1895
 Jour. Geol. Soc. Tokyo, vol. 2, no. 16, p. 139, pl. 5, figs. 5a-b
 Holotype: GT no. ?
 Mekamiyama, Totomi (on the eastern flank of the hill immediately W of Megami, Hagima-mura, Haibara-gun, Shizuoka Prefecture; 34°42'16"N, 138°11'05"E)
 Oigawa Formation
 Miocene

Turbo (Marmorostoma) minoensis Itoigawa, 1960
 Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 278, pl. 4, figs. 2, 3
 Holotype: ESN no. 20044 (fig. 2), Paratype: ESN no. 20045
 Loc. No. S41, Shukubora (Hiyoshi-cho), Mizunami City, Gifu Prefecture
 Shukubora Sandstone of the Oidawara Formation
 Miocene

Turbo (Lunella) ozawai Otuka, 1938
 Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 5, pt. 2, p. 36, pl. 3, figs. 22-24
 Holotype: GT no. 10018
 Several meters below dam of Saijo-gawa, about 20 m NEE of the Shobara railway station and about 500 m NEE of the bridge at Suketo, Shobara-machi (Shobara City), Hiba-gun,

Horoshima Prefecture; 34°51'43"N, 133°01'05"E)
 (Shobara Formation)
 Miocene

Turbo parvuloides Nomura, 1940
 Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol), vol. 21, no. 1, p. 35, pl. 3, figs. 12a-b
 Holotype: SM no. 19877
 Junction of the small tributary and the Natori-gawa at Minamiakaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture (38°13'N, 140°45'E)
 Moniwa Formation
 Miocene

Turbo petholatus Linne, 1758 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan, and also reported by MacNeil (1960) from the Pleistocene Yontan Formation, Okinawa Prefecture

Turbo (Batillus) priscus Ozawa and Tomida, 1996
 Venus, vol. 55, no. 4, p. 282, fig. 1, pl. 1, figs. 1-9, pl. 2, fig. 8
 Holotype: ESN no. 2570 (pl. 1, figs. 1a-c), Paratype: ESN nos. 2571, 2572, 2575, YCM-GP no. 864
 Exposure at a small cliff by the side of a sugar cane field, approximately 520 m SSE of Mt. Fusakina-san, W of Maja, Nakasato-mura, Shimajiri-gun in Kume Islands, Okinawa Prefecture; 26°20.8'N, 126°47.7'E
 Maja Formation
 Upper Miocene; Blow's N17 Zone

Turbo (Turbo) regenfussi Deshayes, 1843 reported by Nomura (1935) from the Pleistocene Raised Coral Reef, Taiwan (***Turbo (Lunatica) marmoratus Linnaeus*** by Masuda and Haung (1990))

Turbo (Marmorostoma) stenogyrus Fischer reported by Tomida (1996) from the Pliocene Katsuragawa Member of the Shimada Formation, Shizuoka Prefecture

Turbo (Marmorostoma) ticaonica Reeve, 1843 reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan, and also reported by Horikoshi (1958) from the Miocene "Uchiura" Formation, Fukui Prefecture (***Turbo (Marmorostoma) ozawai Otuka*** by Masuda and Noda (1976))

Turbo (Marmorostoma) tochiyensis Kanno, 1958
 Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 206, pl. 6, figs. 13-17
 Holotype: TKD no. 5886 (fig. 13), Paratype: 5887, 5889, 6184
 Loc. No. 801, Amago-iwa, a small exposure, about 70 m upstream of the Shimizu bridge, Tochiya, Chichibu City, Saitama Prefecture; Paratype, both river side cliff of the

Arakawa River at Kanitano, Arakawa-mura, Chichibu-gun,
Saitama Prefecture, Loc. No. 814, Hiranita
Hiranita Formation
Lower Miocene

***Turbo yabei* Nomura and Zinbo, 1936**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), vol. 18, no. 3,
p. 263 (35), pl. 11 (1), figs. 34a-b
Holotype: IGPS no. 51381
Gabusoga, Haneji-mura, Kunigami-gun (Nago City),
Okinawa Prefecture
Shimajiri Beds (Nakoshi Formation),
Pliocene (Pleistocene) Okinawa Prefecture

***Turbonilla* (s. s.) *actopora* Dall and Bartsch** reported by
Nomura (1938) from the Pleistocene Semata Formation,
Chiba Prefecture

***Turbonilla* (*Cingulina*) *adamsi* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 83, pl. 5,
fig. 17
Holotype: GT no. ? (CM no. 20248)
Naganuma (Road-side cutting at Naganuma, Tostuka-ku,
Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°
32'05"E)
Naganuma Formation
Pliocene (Pleistocene)
(*Cingulina* (*Paracingulina*) *adamsi* (Yokoyama) by Hatai
and Nisiyama (1952))

***Turbonilla* (*Careliopsis* ?) *angulifera* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 106, pl. 5,
fig. 16
Holotype: UT no. ? (CM no. 21093)
Shito (Shito, Ichihara City, Chiba Prefecture)
Shimoso Group (Semata Formation)
Pleistocene
(*Aclis* (?) *angulifera* (Yokoyama) by Oyama (1973))

***Turbonilla* (*Pyrgiscus*) *aulica* Dall and Bartsch** reported by
Nomura (1938) from the Pleistocene Semata Formation,
Chiba Prefecture

***Turbonilla* (s. s.) *awana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 87, pl. 15, figs.
132a-b
Holotype: SM no. 8311
Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama
City), Tiba (Chiba) Prefecture
Numa Formation
Post-Pleistocene (Holocene)

***Turbonilla* (*Pyrgiscus*) *boninensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p.

141, pl. 9, fig. 4

Holotype: IGPS no. 19856

Susaki, Titizima (Chichi-jima), Ogasawara-gunto
(Ogasawara-mura, Tokyo Prefecture)

Living specimen

Recent

***Turbonilla* (*Turbonilla*) *boshoensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2,
p. 224, pl. 10, figs. 37a-b

Holotype: IGPS no. 37555

South of Bosiho, station 7, Siko-syo, Byoritu-gun,
Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

***Turbonilla* (*Pyrgiscus*) *brevis* Nomura** reported by Nomura

(1938) from the Pleistocene Semata Formation, Chiba
Prefecture

***Turbonilla* (*Turbonilla*) *byorituana* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2,
p. 224, pl. 10, figs. 36a-b

Holotype: IGPS no. 37563

On road South of Bosiho, Siko-syo, Byoritu-gun, Sintiku-syu,
Taiwan

Byoritu Beds

Pliocene

***Turbonilla* (*Mormula*) *chitaniana* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 384,
pl. 44, fig. 7

Holotype: GT no. ?

Anden (Sea cliff near Anden, Iriai-mura, Minamiakita -gun
(Oga City), Akita Prefecture; 39°58'05"N, 139°51'05"E)

(Shibikawa Formation)

Pliocene (Pleistocene)

(*Plesioacira chitaniana* (Yokoyama) by Makiyama (1958))

***Turbonilla* (s. s.) *contracta* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 827, pl. 22, fig. 6

Holotype: IGPS no. 57347

Wangwa, Hsinchu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

***Turbonilla* (*Chemnitzia*) *edoensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p.
424, pl. 47, fig. 24

Holotype: UT no. ? (CM no. 23853)

Kuruma-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo
Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Turbonilla (Turbonilla) edoensis Yokoyama by Oyama (1973))

Turbonilla (Mormula) endoi Nomura, 1939

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 141, pl. 9, fig. 11

Holotype: IGPS no. 58705

Oe, Minamiarima-mura, Minamitttakaki-gun, Nagasaki Prefecture
Semifossil
Pleistocene

Turbonilla (s. s.) exilissima Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 87, pl. 15, figs. 133a-b

Holotype: 8327

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture
Numa Formation
Post-Pleistocene (Holocene)

Turbonilla (Careliopsis) filiola Yokoyama, 1927

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 453, pl. 51, fig. 16

Holotype: UT no. ? (CM no. 24336)

Koyasu, Tachibana-gun (Koyasu, Kohoku-ku, Yokohama City, Kanagawa Prefecture)
(Shimosueyoshi Formation)
Upper Musashino=Pleistocene
(Sinusicola filiola (Yokoyama) by Oyama (1973))

Turbonilla (s. s.) fulgurata Nomura, 1938

Jour. Geol. Soc. Japan, vol. 45, p. 829, pl. 22, fig. 18

Holotype: IGPS no. 57340

Tairyō, Hsinchu, Taiwan
Byoritu Beds
Pliocene

Turbonilla (Chemnitzia) fusoensis Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 280, pl. 34, fig. 6

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation
Pliocene (early Pleistocene)

Turbonilla (Pyrgisculus) hanzawai Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 223, pl. 10, figs. 32, 33

Holotype: IGPS no. 53979

The upper course of Sairyokyo, station 36, Satin-syo, Sinkwa-gun, Tainan-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene by Masuda and Huang (1990))

Turbonilla (s. s.) hayasakai Nomura, 1938

Jour. Geol. Soc. Japan, vol. 45, p. 828, pl. 22, fig. 4

Holotype: IGPS no. 57341

Wangwa, Hsinchu, Taiwan
Byoritu Beds
Pliocene (Pleistocene by Masuda and Huang (1990))

Turbonilla (Pyrgiscus) hozyoensis Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 82, pl. 11, figs. 85a-b

Holotype: SM no. 8320

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture
Numa Formation
Post-Pleistocene (Holocene)

Turbonilla humilis Yokoyama, 1924

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 30, pl. 1, fig. 16

Holotype: UT no. ? (CM no. 21877)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)

(Turbonilla (Chemnitzia) humilis Yokoyama by Oyama (1973))

Turbonilla (Chemnitzia) infantula Dall and Bartsch

reported by Yokoyama (1927) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture

Turbonilla (Chemnitzia) imbana Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 101, pl. 4, fig. 35

Holotype: UT no. ? (CM no. 21076)

Shisui (Shisui-machi, Imba-gun, Chiba Prefecture)
Shimoso Group (Semata Formation)
Pleistocene

Turbonilla (Ptycheulimella) inscitula Yokoyama, 1927

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 176, pl. 47, figs. 15, 16

Holotype: GT no. ? (fig. 16), Paratype: GT no. ? (fig. 15) (designated by Hatai and Nisiyama, 1952)

Nagaya (Road-side cliff about 150 m E of the bridge at Nagaya, Kosaka-mura, Kahoku-gun (Kanazawa City), Ishikawa Prefecture; 36°34'23"N, 136°41'51"E)
Omma Formation
Pliocene (Pleistocene)

(Noted as "fig. 15 most probably belongs to a different species" by Makiyama (1959))

***Turbonilla ishidae* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 11, pl. 2, figs. 34a-35

Holotype: DGS no. 4632 transferred to IGPS no. 90730 (figs. 34a-b)

Loc. No. 24, river cliff, about 500 m E of Fujio, Suzu City, Ishikawa Prefecture; 37°27'59"N, 137°07'40"E

Higashi-Innai Formation

Miocene (early Miocene)

(*Turbonilla (Chemnitzia) ishidae* Masuda by Masuda and Noda (1976))

***Turbonilla (s. s.) itiharana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 86, pl. 14, figs. 122a-b

Holotype: SM no. 18867

Sematanoseki, Sita-mura, Itihara-gun (Ichihara City), Tiba (Chiba) Prefecture

(Semata Formation)

Pleistocene

***Turbonilla (s. s.) itikawana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 85, pl. 13, figs. 112a-b

Holotype: SM no. 9164

Itikawa (Ichikawa), along Edogawa, Higashi-Katsusika-gun (Ichikawa City), Tiba (Chiba) Prefecture

Post-Pleistocene stratum

Post-Pleistocene (Holocene)

***Turbonilla (Pyrgiscus) kagamigaurana* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 83, pl. 11, figs. 87a-b

Holotype: SM no. 8345

Numa, Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Turbonilla (Dunkeria) kawanoensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 142, pl. 9, fig. 15

Holotype and Paratype: IGPS no. 25235

Huruya, Kwano-mura, Ogasa-gun, Shizuoka Prefecture

(Formation not described, unknown)

Pleistocene?

***Turbonilla (Chemnitzia) keiskeana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 420, pl. 47, fig. 11

Holotype: UT no. ? (CM no. 23852)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

***Turbonilla (Chemnitzia) kidoensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 103, pl. 4, fig. 39

Holotype: UT no. ?

Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

Shimosa Group (Imba Formation)

Pleistocene

***Turbonilla (Ptycheulimella ?) kurumana* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 424, pl. 47, fig. 16

Holotype: UT no. ? (CM no. 23862)

Kuruma-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Syrnola (Colsyrnola ?) kurumana* (Yokoyama) by Oyama (1973))

***Turbonilla (s. s.) kururiensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 135, pl. 9, fig. 13

Holotype: IGPS no. 23900

Yosino, Kuruei-machi, Kimitsu-gun, Tiba-ken (Chiba Prefecture)

(Shimosa Group ?)

Pleistocene ?

***Turbonilla (Ptycheulimella) misella* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 100, pl. 4, fig. 36

Holotype: UT no. ? (CM no. 20174)

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

***Turbonilla (Pyrgiscus) miyakoensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 140, pl. 9, fig. 12

Holotype and Paratype: IGPS no. 16848

Living specimen; about 2.5 miles off the coast E of Miyako-machi, Shimohei-gun, Iwate Prefecture

Recent

***Turbonilla (Ptychelimitella) mizuhonica* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 138, pl. 9, fig. 18

Holotype: GS no. 24959

North of Yamanouchi, Kozaka-mura, Kamakura-gun (Aa point near the shrine about 500 m E of the village-office, N of Yamanouchi, Kozaka-muram Kamakura City, Kanagawa Prefecture; 35°29'210"N, 139°32'39"E)

Ofuna Formation

Pliocene

Turbonilla (Cingulina) morsei Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 2281, pl. 33, fig. 17

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Turritellopsis acicula stipsoni* (Dall, 1919) by Makiyama (1958))

Turbonilla (s. s.) multigrata Dunker reported by Nomura (1938) from the Pleistocene Semata Formation, Chiba Prefecture

Turbonilla (s. s.) nisataiensis Nomura, 1939

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 31, pl. 4, figs. 30a-b

Holotype: SM no. 8553

Along the valley, SW of Siratori, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture

Lower Kadonosawa Series (Kadonosawa Formation)

Miocene

Turbonilla (Pyrgiscus) nishigasaensis Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 140, pl. 9, fig. 1

Holotype: GS no. 25189

(Cliff of the Koito-gawa, immediately E of Nishihigasa) Nishihigasa, Akimoto-mura, Kimitsu-gun, Chiba Prefecture; 33°13'20"N, 140°00'14"E)

Umegase Formation

Pliocene (Pleistocene)

Turbonilla (Pyrgiscus) nisyamai Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 82, pl. 11, figs. 85a-b

Holotype: SM no. 8349

Numa Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

Turbonilla (Pyrgiscus) nodosocostata Nomura, 1938

Jour. Geol. Soc. Japan, vol. 45, p. 829, pl. 22, fig. 27

Holotype: IGPS no. 57350

Tairyu, Hsinchu, Taiwan

Byoritu Beds

Pliocene

Turbonilla (s. s.) numamurana Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 88, pl. 15, figs.

134a-b

Holotype: SM no. 8246

Numa Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

Turbonilla obliqueitestulata Nomura and Zinbo, 1935

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 1191, pl. 15, fig. 14

Holotype: SM no. 66172

Southern end of the Park of Yanagawa-machi (River cliff of the Hirose-gawa at the SE end of Yanagawa Park, a tributary of the Abukuma-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37°51'05"N, 140°36'05"E)

Yanagawa Formation

Miocene

Turbonilla (Careliopsis ?) obscura Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 106, pl. 5, fig. 15

Holotype: UT no. ?

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

Turbonilla (Turbonilla) okadaensis Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 137, pl. 9, fig. 43

Holotype: GS no. 56034

Okada (Cliff bordering stream immediately NW of Okada), Yamaoka-mura, Higashishirakawa-gun, Fukushima Prefecture; 37°01'N, 140°26'03"E)

Tanagura Formation

Miocene

Turbonilla (Striotubonilla) pacifica Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 105, pl. 5, fig. 13

Holotype: UT no. ? (CM no. 21088)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

Turbonilla (Mormula) paucicostulata Tokunaga, 1906

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 22

Holotype: UT no. ?

Oji (Kita-ku, Tokyo Prefecture)

Oji Shell Beds (Tokyo Formation)

(Invalid because of no indication: reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture: (*Turobonilla (Patamormula) paucicostulata Tokunaga* by Oyama (1973))

***Turbonilla (Pyrgolampros) planicostata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 104, pl. 5, fig. 11

Holotype: UT no. ? (CM no. 21086)

Shisui (Shisui-machi, Imba-gun, Chiba Prefecture)

Shimosa Group (Imba Formation)

Pleistocene

***Turbonilla (Turbonilla) pseudactopora* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 136, pl. 9, fig. 17

Holotype and Paratype: GS no. 29182

Honohashi (About 150 m W of Honohashi, and 2.5 km N of JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34°47'02"N, 138°00'06"E)

Dainichi Formation

Pliocene

***Turbonilla (Cingulina) pseudocingulata* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 281, pl. 35, fig. 1

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(*Cingulina pseudocingulata* (Yokoyama) by Hatai and Nisiyama (1952))

***Turbonilla (Chemitzia) pseudocura* Nomura** reported by Oyama (1973) from the Pleistocene Tokyo Formation, Tokyo Prefecture

***Turbonilla (s. s.) pseudohumilis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 87, pl. 15, figs. 131a-b

Holotype: SM no. 8312

Numa Tateyama-Hozyo-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture

Numa Formation

Post-Pleistocene (Holocene)

***Turbonilla (Sulcoturbonilla) quantoana* Nomura** reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture

***Turbonilla (Strioturbonilla) sagamiana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 104, pl. 5, fig. 12

Holotype: UT no. ? (CM no. 21087)

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

(***Turbonilla (Pselliogyra) sagamiana* Yokoyama** by Oyama (1973))

***Turbonilla (s. s.) s-andoi* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 827, pl. 22, fig. 25

Holotype: IGPS no. 57345

Tairyo, Hsinchu, Taiwan

Byoritu Beds

Pliocene

(***Turbonilla sandoi* Nomura**)

***Turbonilla (Mormula ?) scrobiculata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 102, pl. 4, fig. 38

Holotype: UT no. ? (CM no. 21080)

Otake (Narita City, Chiba Prefecture)

Shimosa Group (Kioroshi Formation)

Pleistocene

(***Turbonilla (Paramormula) scrobiculata* Yokoyama** by Oyama (1973))

***Turbonilla (Chemnitzia) sematana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 103, pl. 4, fig. 41

Holotype: UT no. ? (CM no. 21084)

Shito (Shito, Ichihara City, Chiba Prefecture)

Shimosa Group (Semata Formation)

Pleistocene

***Turbonilla semicolorata* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 424, pl. 47, fig. 22

Holotype: UT no. ? (CM no. 23856)

Kuruma-cho (Shiba, Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(Reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture (***Turbonilla (Paramoimula) semicolorata* Yokoyama** by Oyama(1973))

***Turbonilla (Pyrgisculus) shigeyasui* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 425, pl. 47, fig. 26

Holotype: UT no. ? (CM no. 23865)

Dokwanyama (Dokanyama, a hill of Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(***Turbonilla (Dunkeria) shigeyasui* Yokoyama** by Oyama (1973))

***Turbonilla (Pyrgiscus) sintikuensis* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 830, pl. 22, fig. 8

Holotype: IGPS no. 57349
Tairyō, Hsinchu, Taiwan
Byoritu Beds
Pliocene

***Turbonilla (s. s.) soboensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 86, pl. 14, figs. 123a-b
Holotype: SM no. 8316
Numa Tateyama-Hozoyō-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture
Numa Formation
Post-Pleistocene (Holocene)

***Turbonilla (s. s.) someiensis* Nomura, 1939**

Jub. Pub. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 136, pl. 9, fig. 16
Holotype and Paratype: IGPS no. 27348
Somei, Tako-machi, Katori-gun, Chiba Prefecture (Shimosā Geoup?)
Pleistocene

***Turbonilla (Tragula) spinulosa* Yokoama, 1926**

Jour. Coll. Sci., Imp. Univ. Tokyo, sec 2, vol. 1, pt. 8, p. 281, pl. 35, fig. 5
Holotype: UT no. ?
Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)
Sawane Formation
Pliocene (early Pleistocene)
(Noted as genetic position doubtful by Hatai and Nisiyama (1952))

***Turbonilla (Chemnitzia) subaprrroximate* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 83, pl. 5, fig. 18 (16)
Holotype: GT no. ? (CM no. 20250)
Naganuma (Road-side cutting at Naganuma, Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)
Nanaguma Formation
Pliocene (Pleistocene)

***Turbonilla (Pyrgolampros) subplanicostata* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 425, pl. 47, fig. 23
Holotype: UT no. ? (CM no. 23863)
Oji (Kita-ku, Tokyo Prefecture)
(Tokyo Formation)
Upper Musashino=Pleistocene

***Turbonilla (s. s.) supra-mirabilis* Nomura** reported by Nomura (1938) from the Pleistocene Semata Formation, Chiba Prefecture (*Turbonilla supramirabilis* Nomura)

***Turbonilla (s. s.) tairyōensis* Nomura, 1938**

Jour. Geol. Soc. Japan, vol. 45, p. 827, pl. 22, fig. 26
Holotype: IGPS no. 57339
Tairyō, Hsinchu, Taiwan
Byoritu Beds
Pliocene

***Turbonilla (Pyrgiscus) tateyamaensis* Nomura, 1938**

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 84, pl. 15, figs. 127a-b
Holotype: SM no. 8245
Numa Tateyama-Hozoyō-mati, Awa-gun (Numa, Tateyama City), Tiba (Chiba) Prefecture
Numa Formation
Post-Pleistocene (Holocene)

***Turbonilla tayaensis* Nomura and Hatai, 1939**

Japan. Jour. Geol. Geogr., vol. 16, nos. 1-6, p. 61, figs. 5a-b
Holotype: SM no. ?
Cliff of the Sannai-gawa, opposite Taya, Iwamisannai-mura, Kawabe-gun, Aakita Prefecture; 39°42'N, 140°17'E)
Taya (Tentokuji) Formation
Miocene (Pliocene)

***Turbonilla (Chemnitzia) teganumana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 103, pl. 4, fig. 40
Holotype: UT no. ?
Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)
Shimosā Group (Imba Formation)
Pleistocene

***Turbonilla (Turbonilla) tokaidoensis* Nomura, 1939**

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 135, pl. 9, fig. 14
Holotype: GS no. 29370
(Entrance of the tunnel, about 400 m NW of the crossing point of the two roads at) Tonbe, Taruki-mura, Ogasa-gun, Shizuoka Prefecture; 34°46'52"N, 139°58'20"E)
Nango Formation
Pliocene

***Turbonilla (Mormula) tokunagai* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 51, pl. 3, fig. 1
Holotype: GT no. ? (CM no. 20251)
Yokosuka (Yokosuka City, Kanagawa Prefecture; precise locality unknown)
Yokosuka Zone

Lower Musashino=Pleistocene

(Turbonilla (Paramormula) tokunagai Yokoyama by Oyama (1973))

Turbonilla (s. s.) tonbensis Nomura, 1939

Jub. Publ. Commem. Prof. H. Yabe 60th Birthday, vol. 1, p. 138, pl. 9, fig. 3

Holotype: IGPS no. 29373

Tonbe, Taruki-mura, Ogasa-gun, Shizuoka Prefecture (Kakegawa Group ?)

Pliocene

Turbonilla (Pyrgiscus) tonegawana Nomura, 1938

Saito Ho-on Kai Mus., Res. Bull., no. 16, p. 83, pl. 14, figs. 115a-b

Holotype: SM no. 3772

Hossaku, Omori-mati, Inba-gun (Hossaku, Inzai City), Tiba (Chiba) Prefecture

Pleistocene stratum

Pleistocene

Turbonilla tosana Nomura, 1937

Japan. Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 84, pl. 6, figs. 17a-b

Holotype: GS no. 55043

Near the junction of the tributary and the small river, a short distance E of the road at Todani, N of Tonohama, Yasuda-machi, Aki-gun Kochi Prefecture; 33°26'43"N, 133°58'21"E)

(Konomine Formation)

Pliocene

Turbonilla (Cingulina) triarata Pilsbry, 1904 reported by Yokoyama (1922) from the Pleistocene Shimosa Group, Chiba Prefecture

Turbonilla (Turbonilla) tuberculosa Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 137, pl. 9, fig. 48

Holotype: GS no. 28750

(A small cliff immediately N of the shrine at NW of) Hosoya, Haratani-mura, Ogasa-gun, Shizuoka Prefecture; 34°47'39"N, 137°58'55"E)

Hosoya Formation

Pliocene

Turbonilla (Sulcoturbonilla) ultra-laeta Nomura reported by Nomura (1938) from the Pleistocene Kioroshi Formation, Chiba Prefecture (***Turbonilla ultralaeta Nomura***)

Turbonilla (Lancea) varicosa (A. Adams) reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture

Turbonilla (Ptycheulimella) yabei Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 139, pl. 9, fig. 42

Holotype and Paratype: GS no. 19941

(Road cliff S of Iwakura and N of Tayazawa) Wakimoto-mura, Minami-Akita-gun (Oga City), Akita Prefecture; 39°55'N, 139°53'E)

Shibikawa Formation

Pliocene (Pleistocene)

Turbonilla (Ptycheulimella) yabei natukawaensis Nomura, 1939

Jub. Publ. Comm. Prof. H. Yabe's 60th Birthday, vol. 1, p. 139, pl. 9, fig. 2

Holotype: GS no. 16399

(Road-side cutting about 4500 m NE of the contact point of the two roads at) Kutta, Nishikoshi-mura, Santo-gun, Niigata Prefecture; 37°38'46"N, 138°43'31"E)

(Nisiyama Formation)

Pliocene

Turbonilla (Pyrgiscus) yanamii Yokoyama, 1926

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 8, p. 280, pl. 35, fig. 4

Holotype: GT no. ?

Sawane (Sea cliff facing Mano Bay, about 250 m SE of the contact point of the two main roads near the primary school, Sawane-machi, Sado-gun, Niigata Prefecture; 37°59'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene)

(***Tachyrhynchus yanamii (Yokoyama)*** by Hatai and Nisiyama (1952))

Turbonilla yokoyamai Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 131, pl. 6, fi. 11

Holotype: GK no. 35

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture: 34°47'07"N, 137°56'E)

Dainichi Formation

Pliocene

(***Turbonilla (Pyrgiscus) yokoyamai (Makiyama)*** by Hatai and Nisiyama (1952))

Turcica coreensis Pease, 1960 reported by Noda et al. (1993) from the Pliocene Kume Formation, Ibaraki Prefecture

Turcica elisa (Gould) reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan: ***Trochus elisus Gould, 1849 (Turcica cf. coreensis Pease*** by Masuda and Huang (1990))

***Turcica osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 80, pl. 3, figs. 11a-b

Holotype: JC no. 1400030

Loc. No. 48, Kashio, Yatsuo-machi, Nei-gun, Toyama Prefecture

Kashio Alternation of the Kurosedani Formation

Miocene (early Miocene)

***Turcica preimperialis* Nomura, 1940**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 21, no. 1, p. 34, pl. 3, figs. 20a-b

Holotype: SM no. 19881

Junction of the small tributary and the Natori-gawa, at Minamiakaishi, Oide-mura, Natori-gun (Taihaku-ku, Sendai City), Miyagi Prefecture; 38°13'N, 140°45'E

Moniwa Formation

Miocene

***Turcica saitoi* Hatai and Kotaka, 1961**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 41, p. 41, text-figs. 1-5

Holotype: IGPS no. 77799 (figs. 1-4)

Upstream of the Okamami-zawa, Tamano area, Obanazawa-machi, Kitamurayama-gun (Obanazawa City), Yamagata Prefecture

Ginzan Formation

Miocene

***Turcica (Bathybembix) aeola* (Watson)** reported by Noda (1975) from the Late Miocene (Pliocene) Nobori Formation, Kochi Prefecture: ***Bembix aeola* Watson, 1878**

***Turcica (Ginebis) argenteonitens argenteonitens* (Lischke)** reported by Noda (1975) from the recent sea off Kochi, Japan: ***Trochus argenteonitens* Lischke, 1872**

Turcica argenteonitens convexiuscula* (Yokoyama)** reported by Shuto (1961) from the Pliocene Miyazaki Formation, Miyazaki Prefecture (Turcica (Convexia) convexiuscula* (Yokoyama)** by Masuda and Noda (1976))

***Turcica (Ginebis) argenteonitens hirasei* Taki and Otuka, 1943** reported by Noda (1975) from the recent sea off Sanriku, Japan: ***Turcica argenteonitens hirasei* Kuroda, MS, Taki and Otuka (1943: Conch. Asiatica, vol. 1, no. 3, p. 106, pl. 1, fig. 4)**

***Turcica (Bathybembix) bairdi* (Dall)** reported by Noda (1975) from the recent sea off San Clemente, USA: ***Margarita (Turcica) bairdii* Dall, 1889**

***Turcica (Convexia) convexiuscula* (Yokoyama)** reported by Noda (1975) from the Pliocene Kamakura Beds,

Kanagawa Prefecture: see ***Bembix convexiusculum* Yokoyama, 1920**

***Turcica (Ginebis) corolla* (Habe and Kosuge)** reported by Noda (1980) from the Pliocene Shinzato Formation, Okinawa Prefecture: ***Ginebis corolla* Habe and Kosuge, 1970**

Turcica crumpii* Pilsbry** reported by Ozaki (1958) from the Pliocene Naarai Formation, Chiba Prefecture (Turcica crumpii* (Pilsbry)** by Masuda and Noda (1987))

Turcica crumpii yokoyamai* Otuka** reported by Shikama and Masujima (1969) from the Pliocene Nojima Formation, Kanagawa Prefecture (Turcica (Ginebis) argenteonitens argenteonitens* (Lischke)** by Masuda and Noda (1976))

***Turcica (Ginebis) hataii* Noda, 1975**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 45, no. 2, p. 73, pl. 9, figs. 6, 9, 15, pl. 12, figs. 7, 10, 11

Holotype: IGPS no. 17149

Off Kinkasan, Miyagi Prefecture

Living specimen 52 fathoms in depth

Recent

***Turcica (Turcica) imperialis* (Dall)** reported by Noda (1975) from the recent sea off Cuba, Pourtales: ***Margarita (Turcica) imperialis* Dall, 1881**

***Turcica (Turcica) japonica* Dall, 1925** reported by Noda (1975) from the recent sea of the Uraga Strait, Japan

***Turcica (Ginebis) nagaoui* Noda, 1975**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 45, no. 2, p. 74, pl. 9, fig. 19, pl. 10, fig. 6

Holotype: IGPS no. 35773

The northern foot of the Hakamadake, Manda, Arao City, Kumamoto Prefecture

Kattachi Formation

Eocene

***Turcica (Turcica) osawanoensis* (Tsuda)** reported by Noda (1975) from the Middle Miocene Kurosedani Formation, Toyama Prefecture: see ***Lischkeia (Turcica) osawanoensis* Tsuda, 1959**

***Turcica sakhalinensis* Takeda, 1953**

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 49, pl. 2, figs. 2, 4, 5, 8, 9

Holotype: UH no. 11101 (figs. 2, 4), Paratype: UH nos. 11102-11106, 11197

Loc. No. T296, 1820 m E from T291 (along the main stream 2260 m E from the junction of 1st tributary with Oko River, Honto-gun, South Sakhalin); 142°03'E, 46°46'N; Paratype,

T-100K, river cliff of 170 m E from the bridge of Omagari, middle course of Tyaro River, Kusiro Province, Hokkaido; T-259, the last tributary of Oko River, Honto-gun, South Sakhalin (Russia)

Poronai Formation

Oligocene (late Eocene)

(*Bathybembix (Ginebis) sakhalinensis (Takeda)* by Oyama et al. (1960): *Turricula (Ginebis) sakhalinensis Takeda* by Masuda and Noda (1976))

Turricula (Ginebis) sukegawaensis Noda, 1975

Sci. Rep., Tohoku Univ., Ser. 2 (Geol.), vol. 45, no. 2, p. 75, pl. 9, figs. 22-23, pl. 10, fig. 13

Holotype: IGPS no. 26634

Sea cliff at Sukegawa, Hitachi City, Ibaraki Prefecture

Sukegawa Formation

Pliocene

Turricula (Turricula) tsudai Noda, 1975

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 45, no. 2, p. 66, pl. 9, figs. 16, 20, 21, pl. 10, fig. 23, pl. 12, fig. 2

Holotype: IGPS no. 91753, Paratype: IGPS no. 91758

River side cliff of Nishidani-gawa, about 200 m S of Hanzogane, Tochio City, Niigata Prefecture

Shiia Formation

Late Miocene

Turricula atsukoae Kamada, 1962

Palaeont. Soc. Japan, Spec. Pap., no. 8, p. 176, pl. 20, figs. 14a-17b

Holotype: IGPS no. 79394 (figs. 14a-b)

Kokozura, Nakoso City (Iwaki City), Fukushima Prefecture

Kokozura Formation

Miocene

(*Cymatosyrix (Splendrillia) atsukoae (Kamada)* by Masuda and Noda (1976))

Turricula (Nangulanica) birmanica (Vredenburg) reported by Shuto (1984) from the Miocene of Tittabwe, Burma: ***Drillia (Crassispira) birmanica Vredenburg, 1921***

Turricula byorituensis Nomura, 1935

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 114, pl. 6, figs. 28a-29b

Syntype: IGPS nos. 49408, 52155

Siko, Koshun-syo, Takao-syu, Taiwan

Byoritu Beds

Pliocene

(*Antimelatoma byorituensis (Nomura)* by Masuda and Huang (1990))

Turricula (Nangulanica) eastoni (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: ***Drillia eastoni Martin, 1914***

Turricula kaderleyi (Lischke) reported by Chinzei (1973) from the Pliocene Futatsui Formation Akita Prefecture (***Comitas kaderleyi (Lischke)*** by Masuda and Noda (1976))

“*Turricula*” *katsurenensis Noda, 1988*

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 53, pl. 14, figs. 10a-11b

Holotype: IGUT no.10912 (fig. 11a-b), Paratype: IGUT nos. 10911-1, -2 (fig. 10a-b)

Loc. No. 83-16-2, cliff near Kaniku, Hamahika-shima, Katsuren-cho, Nakagami-gun, Okinawa Prefecture: Paratype;

Loc. No. 82-20-1, cliff near Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation

Pliocene

Turricula (Nangulanica) hillgendaie (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: ***Surcula hillgendaie Martin, 1914***

Turricula (Surcula) interrupta (Lamarck) reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Pleurotoma interrupta Lamarck, 1822***

Turricula navarchus thangaensis (Vredenburg) reported by Shuto (1984) from the Upper Miocene of Thanga, Burmese: ***Surcula thangaensis Vredenburg, 1921***

Turricula osawanoensis Tsuda, 1959

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 95, pl. 6, figs. 1a-b

Holotype: JC no. 1400064

Loc. Ikeda (1), Tateyama-machi, Nakaniikawa-gun, Toyama Prefecture

Tochizu Sandstone Member of the Kurosedani Formation

Miocene (early Miocene)

(***Inquisitor osawanoensis (Tsuda)*** by Masuda and Noda (1976))

Turricula (Orthosurcula) pervirgo (Yokoyama) reported by Otuka (1959) from the Pliocene Takanebe Formation, Miyazaki Prefecture (***Nihonia pervirgo (Yokoyama)*** by Masuda and Noda (1976))

Turricula sethuramae (Vredenburg) reported by Shuto (1984) from the Upper Miocene of Dalabe, Burme: ***Surcula sethuramae Vredenburg, 1921***

Turricula shitakaraensis Matsui, 1959

Jour. Fac. Sci., Hokkaido Univ., Ser. 4, vol. 10, no. 2, p. 299, pl. 2, figs. 5a-6b, 9-12

Holotype: UH no. 13339 (figs. 5a-b), Paratype: UH nos. 13340-13343, 13345

A river cliff on the Shoro-gawa, near Shoro coal mine, Akan-machi, Kushiro Province, Hokkaido
Shitakara Formation
Oligocene (Eocene)

Turricula (Surcula) sobrina (Yokoyama) reported by Shuto (1961) from the Miocene Tonogori Formation, Miyazaki Prefecture (***Comitas ? sobrina (Yokoyama)*** by Masuda and Noda (1976): see ***Drillia sobrina Yokoyama, 1922***)

***Turricula sobrinaeformis* Nomura, 1937**

Japan. Jour. Geol. Geogr., vol. 14, nos. 3-4, p. 89, pl. 6, figs. 7a-c

Holotype: GS no. 55185

Tonohama (Near the junction of the tributary and small river, a short distance E of the road at Todani, N of Tonohama, Yasuda-machi, Aki-gun, Kochi Prefecture; 33 °26'43"N, 133 °58'21"E)

(Konomine Formation)

Pliocene

(***Surcula sobrinaeformis (Nomura)*** by Hatai and Nisiyama (1952))

***Turricula (Orthosurcula) soyomaruuae takanabensis* Otuka, 1959**

Venus, vol. 20, no. 3, p. 247, figs. 4, 5

Holotype: GITU no. ?

Hagenoshita, Takanabe-machi (-cho), Koyu-gun, Miyazaki Prefecture

Takanabe Formation of the Miyazaki Group

Pliocene

(***Nihonia soyomaruuae takanabensis (Otuka)*** by Masuda and Noda (1976))

Turricula (Nangulanic) stani (Martin) reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Drillia sultani* Martin, 1914**

Turricula tornata (Dillwyn) reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Turricula wangwana* Nomura, 1935**

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, no. 2, p. 108, pl. 6, figs. 37a-b

Holotype: IGPS no. 52221

Wangwa station 24, Koryu-sho, Tikunan-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

(***Compsodrillia wangwana (Nomura)*** by Masuda and Huang (1990))

Turricula (Turricula) wanneri (Martin) reported by Shuto (1980) from the Eocene Nanglan Formation, Indonesia: ***Surcula wanneri* Martin, 1914**

***Turridrupa kagoshimaensis* Shuto, 1965**

Mem. Fac. Sci., Kyushu Univ., Ser. D, vol. 16, no. 2, p. 156, pl. 31, figs. 4, 5, 18

Holotype: GKM no. 6666

Sea cliff, NE of Moeshima isle (Shin-jima, Sakurajima-cho, Kagoshima-gun), Kagoshima City, Kagoshima Prefecture; 31 °37'E, 130 °43'N

Moeshima Shell Bed (Moeshima Formation)

Late Pleistocene

Turris (Gemmula) granosa (Helbling, 1779) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Turris higoensis* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 126, pl. 21, figs. 14, 14a

Holotype: GS no. 35689

Road-side cutting along the sea shore (about 550 m W of the Aakase railway station of the Mistsumi Line, Oda-mura, Uto-gun, Kumamoto Prefecture; 32 °39'N, 130 °30'29"E)

Shiratake Formation

Lower Eocene

(***Eopleurotoma higoensis (Nagao)*** by Hatai and Nisiyama (1952))

***Turris (Gemmula) kotorai* Nomura and Zinbo, 1935**

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 170, pl. 15, fig. 18

Holotype: SM no. 6168

Southern end of the Park of Yanagwa-machi (River cliff of the Hirose-gawa at the SE end of Yanagawa Park, a tributary of the Abukama-gawa, Yanagawa-machi, Date-gun, Fukushima Prefecture; 37 °51'05"N, 140 °36'05"E)

Yanagawa Formation

Miocene

***Turris kurodai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 46, pl. 1, figs. 10, 11

Holotype: GK no. ?

Tennoyama (East side of Tennoyama, 1.75 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 °46'09'N, 138 °00'08"E)

Hosoya Formation

Pliocene

(***Survodrillia kurodai (Makiyama)*** by Ozawa et al. (1998))

***Turris (Gemmula) osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 100, pl. 6, figs. 9a-c

Holotype: JC no. 1400073

Iwakishin (loc. No. 18), Osawano-machi, Kaminiikawa -gun, Toyama Prefecture
Kurosedani Formation
Miocene (late early Miocene)
(*Gemmula ? osawanoensis* (Tsuda) by Masuda and Noda (1976))

***Turris (Turris) oxytropis* (Sowerby, 1833)** reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Turris (Turris) panayensis* Shuto, 1969**
Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 185, pl. 19, figs. 12-14, text-fig. 33
Holotype: GK-L no. 6844 (fig. 12), Paratype: GK-L nos. 6845 (fig. 14), 6846 (fig. 13), 7121, 6844-6846, 7121 (loc. SKGS-75)
Loc. no. SKGS-74, Bario Bagacay along the Matiao River, 5 km NW of Passi, Panay Island, the Philippines: Paratype, loc. no. SKGS-75, 500 m N of loc. no. SKGS-74, Panay Island, the Philippines
Dingle Formation
Late Miocene

***Turris (Turris) polytropia* (Helbling, 1779)** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan

***Turris (Turris) tigrinaeformis* Nomura, 1935**
Sci. Rep., Tohoku Univ. 2nd Ser. (Geol), vol. 18, n. 2, p. 113, pl. 7, fig. 32a-b
Holotype: IGPS no. 51469
300 m E of Sankwako, station 39, Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan
Byoritu Beds
Pliocene

***Turris (Gemmula) totomiensis* Makiyama, 1931**
Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 46, pl. 1, figs. 10, 11
Holotype: GK no. ?, Paratype: GK no. ?
Loc. 522 (Left road-side cutting about 150 m S of the tunnel at Shimoiiida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34° 48'N, 137° 55'E)
Hosoya Formation
Pliocene

***Turris ugaliensis* Makiyama, 1927**
Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 93, pl. 4, fig. 18
Holotype: GK no. ?
Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34° 48'07"N, 138° 56'E)
Dainichi Formation
Pliocene

***Turriscala (Claviscala) shimajiriensis* MacNeil, 1960**
U. S. Geol. Surv., Prof. Pap. 339, p. 43, pl. 2, fig. 3
Holotype: USNM no. 562661
Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture
Yobanaru Formation
Miocene (Pliocene)

***Turriscala (Clariscala) shinzatoensis* Noda, 1980**
Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 1, p. 56, pl. 9, fig. 17
Holotype: IGUT no. 10561
Loc. No. 15, cliff about 500 m SE of Shinzato, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Turritella andenensis* Otuka, 1934**
Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 622-623, pl. 51, figs. 100, 113
Syntype: GT no. ?
Sea cliff of Japan Sea, about 550 m SW of Anden, Iriai-mura, Minamiakita-gun (Oga City), Akita Prefecture; 39° 58'06"N, 139° 50'44"E)
Shibikawa Formation
Pliocene (Pleistocene)

***Turritella (Neohaustator) andenensis ogasimaensis* Otuka 1947** reported by Ida (1952, p. 53)

***Turritella andenensis tsushimaensis* Kotaka, 1951**
Short Pap., IGPS no. 3, p. 81, pl. 11, figs. 7-9
Holotype: SHM no. 15681
Tshushima Strait, Station no. 462 (Soyo-maru); 33° 59'30"N, 129° 08'30"E
Living specimen
Recent

Turritella bacillum* Kiener** reported by Yokoyama (1928) from the Pliocene Lower Byoritz Beds, Taiwan (Turritella terebra* (Linnaeus, 1758)** by Makiyama (1960))

***Turritella (Turritella) bandongensis* Martin, 1879** reported by Shuto (1974) from the Upper Miocene at Preanger, Java Islands, Indonesia

***Turritella (Turritella) bantamensis* Martin, 1905** reported by Shuto (1974) from the Pliocene at Tji Mantjeurich, Java Islands, Indonesia

Turritella (Turritella) bantamensis tjicumpaiensis* Martin, 1905** reported by Shuto (1974) from the Pliocene at Tji Kumpai, Java Islands, Indonesia: ***Turritella tjicumpaiensis

Martin, 1905

Turritella binaestriata Kuroda MS reported by Ida (1952, p. 53) from the recent sea off Tango, Kyoto Prefecture

***Turritella chichibuensis* Ida, 1952**

Rep. Geol. Surv. Japan, no. 150, p. 56, pl. 2, fig. 6
 Holotype: GSJ no. KI-95 (pl. 2, fig. 6)
 River cliff of Arakawa at Tastugase, Yorii-machi, Saitama Prefecture
 Akahira Formation
 Miocene (early Miocene)
 (*Turritella (Hataiella) chichibuensis* Ida by Masuda and Noda (1976))

Turritella (Hataiella) chichibuensis elegantula Kanno, 1960 reported by Kotaka (1959) from the Oligocene (Miocene) Ushikubitoge Formation, Saitama Prefecture

***Turritella (Haustator) coreanica* Kotaka, 1951**

Short Pap., IGPS no. 3, p. 80, pl. 12, figs. 1, 2
 Holotype: IGPS no. 47745
 Off Shimpo, Kankyo-Nando, Korea
 Living specimen
 Recent

***Turritella (Haustator) elegantula* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 210, pl. 6, figs. 5-9
 Holotype: TKD no. 5830 (fig. 8), Paratype: TKD no. 5831
 Loc. No. 142, a small exposure of the river side in Hashizume, Minano-machi, Chichibu-gun, Saitama Prefecture
 Ushikubitoge Formation; Paratype. Loc. No. 143, a small exposure on the river floor of the Odaira-zawa, about 60 m upper stream of the Hashizume bridge, Minano-machi, Chichibu-gun, Saitama Prefecture
 Shirasu sandstone of the Ushikubitoge Formation
 Oligocene (early Miocene)
 (*Turritella (Hataiella) chichibuensis elegantula* Kanno by Masuda and Noda (1976))

Turritella fascialis Menke, 1928 reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture (*Turritella (Kurosoioia) fascialis* Menke by Masuda and Noda (1976))

Turritella (Kurosoioia) fascialis gracillima Gould, 1846 reported by Ida (1952) from the recent sea off Kamakura, Kanagawa Prefecture

***Turritella (Haustator) fascialis naganumaensis* Otuka, 1938**

Venus, vol. 8, no. 1, p. 39, text-fig. 8

Holotype: GT no. ?
 (Road-side cutting at Naganuma, Tostuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'03"N, 139°32'05"E)
 Naganuma Formation
 Pliocene (Early Pleistocene)

***Turritella filiola* Yokoyama, 1928**

Rep., Imp. Geol. Surv., no. 101, p. 57, pl. 4, fig. 7
 Holotype: GSJ no. ? (noted as destroyed in Masuda and Haung (1990))
 Kizan, Byoritz Gai, Byoritsu-gun, Shinchik Province, Taiwan
 Upper Byoritz Beds
 Pliocene

Turritella (Kurosoioia) filiola Yokoyama reported by Ida (1952) from the Pliocene Nango Formation, Sshizuoka Prefecture

Turritella fortilirata Sowerby, 1914 reported by Shikama (1954) from the Miocene Oshimojyo Formation, Nagano Prefecture (*Turritella (Neohaustator) fortilirata* Sowerby by Masuda and Noda (1987))

***Turritella (Neohaustator) fortilirata chikubetsuensis* Kotaka, 1959**

Sci. Rep. Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 73, pl. 10, figs. 18-21
 Holotype: IGPS no. 7776-1 (fig. 20), Paratype: IGPS no. 7776-2, -5 (figs. 18, 21)
 IGPS loc. no. Is-11, Takinoue (Kuriyama-cho, Yubari-gun, Sorachi Province), Hokkaido
 Takinoue Formation
 Miocene (early Miocene)

***Turritella fortilirata habeii* Kotaka, 1952**

Short Pap., IGPS no. 4, p. 87, Type, *Turritella fortilirata multilirata* Kotaka, 1951 reported from the Pliocene (Pleistocene) Hamada Formation, Aomori Prefecture (*Turritella (Neohaustator) fortilirata habeii* Kotaka by Masuda and Noda (1976))

***Turritella fortilirata kadonosawaensis* Otuka, 1934**

Bull. Earthq. Res. Inst., vol. 12, pt. 3, p. 622, pl. 51, fig. 104
 Holotype: GT no. 1533
 Kadonosawa (River cliff of the Shiratori-gawa, 70 m N of the contact point of the small tributary and the Shiratori-gawa at Shikonai, Nisatai-mura, Ninohe-gun (Ninohe City), Iwate Prefecture; 40°14'24"N, 141°20'25"E)
 Kadonosawa Formation
 Miocene
 (*Turritella (Haustator) kadonosawaensis* Otuka by Hatai and Nisiyama (1952))

***Turritella fortilirata motiduki* Otuka, 1935**

Bull. Earthq. Res. Inst., vol. 13, pt. 4, p. 856, pl. 54, fig. 53

Holotype: GT no. ?

Kojima (East side of the hill, about 400 m N of Iwaya, and about 700 m S of the village-office of Kojima, Nishiminato-mura, Kashima-gun (Nanao City), Ishikawa Prefecture; 37°02'35"N, 136°57'24"E)

Kojima Formation

Pliocene

***Turritella (Haustator) fortilirata multirirata* Kotaka, 1951**

Saito Ho-on Kai Mus., Res. Bull., no. 21, p. 6, pl. 1, figs. 2, 3

Holotype: IGPS no. 72996

River cliff at the outlet of the Chikagawa River, Chikagawa, Tanabu-machi, Shimokita-gun (Mutsu City), Aomori Prefecture; 41°11'N, 141°17'10"E

Hamada Formation

Pliocene (Pleistocene)

(Synonymus with *Turritella (Haustator) fortilirata habei* Kotaka by Masuda and Noda (1976))

***Turritella fortilirata saishuensis* Yokoyama, 1926** reported by Kuroda (1931) from the Pliocene Shigarami Formation, Nagano Prefecture

Turritella fortilirata tibana* Nomura** reported by Ida (1952) from the Pliocene (Pleistocene) Shibikawa Formation, Akita Prefecture (Turritella (Naohaustator) nipponica tibana* (Nomura)** by Masuda and Noda (1976))

***Turritella (Neohaustator) hamiltonensis* Clark, 1932** reported by Noda (1992) from the Miocene (Eocene ?) Sankebetsu Formation, Hokkaido

***Turritella huziokai* Ida, 1952**

Rep., Geol. Surv. Japan, no. 150, p. 54, pl. 4, figs. 2-4

Holotype: GSJ no. KI-2624-10

Off the coast of Erimo-zaki, Hokkaido

Living specimen

Recent

***Turritella (Neohaustator) ichishiensis* Shibata, 1970**

Jour. Earth Sci., Nagoya Univ., vol. 18, p. 70, pl. 3, figs. 4, 5

Holotype: ESN no. 30014 (fig. 4), Paratype: ESN no. ? (fig. 5)

Loc. no. K62, Sakashita, Misato-mura, Age-gun, Mie Prefecture: Paratype, Loc. no. K3, Nagano, Misato-mura, Age-gun, Mie Prefecture

Oi Formation

Miocene

Turritella ikebei* (Otuka, MS)** reported by Kotaka (1951) from the Pliocene (Pleistocene) Kakinokidai Formation, Chiba Prefecture (Turritella (Neohaustator) ikebei* Kotaka**

by Masuda and Noda (1976))

***Turritella ikebei* Kotaka, 1951**

Short Pap., IGPS., no. 3, p. 86, pl. 11, figs. 12, 13, pl. 12, figs. 11, 12

Holotype: IGPS no. 18854

Road-side cutting about 1 km NW of Oyatsu, Koito-mura, Kimitsu-gun, Chiba Prefecture; 35°18'50"N, 139°59'E

Narita Formation

Pleistocene (Pleistocene)

***Turritella (Neohaustator) ikebei mitsunashii* Ida** reported by Kotaka (1959) from the Pliocene (Pleistocene) Kiwada Formation, Chiba Prefecture

***Turritella importuna* Yokoyama, 1924**

Jour. Coll. Imp. Univ. Tokyo, vol. 45, art. 3, p. 10, pl. 1, figs. 6, 7

Holotype: GT no. ? (noted as destroyed in Oyama et al. (1960))

Yotsukura (Sea cliff of Yotsukura-machi, Iwaki City, Fukushima Prefecture; 37°06'N, 141°E)

Asagai formation

Miocene (Oligocene)

***Turritella (Haustator) infralirata* Nagao, 1928** reported by Watanabe et al. (1950) from the Oligocene-Miocene (early Miocene) Akahira Formation, Saitama Prefecture: see ***Turritella nipponica* var. *infralirata* Nagao (*Turritella (Hatiella) infralirata* Nagao** by Kotaka (1959))

***Turritella itsukaichiensis* Kanno, 1967**

Prof. H. Shibata Mem. Vol., p. 403, pl. 2, figs. 7, 8

Holotype: TKD no. 7984 (fig. 8), Paratype: 7985

Loc. 20, Nendoyama (about 800 m NNE of the Musashi-Itsukaichi Station), Itsukaichi-machi, Tokyo Prefecture

Tateya Mudstone of the Itsukaichi Formation

Miocene

(***Turritella (Neohaustator) itsukaichiensis* Kanno** by Masuda and Noda (1976))

***Turritella (Haustator) iwakiensis* Kotaka, 1951**

Saito Ho-on Kai Mus. Res. Bull., no. 21, p. 11, pl. 1, figs. 19-21

Holotype: IGPS no. 72997 (fig. 19), Paratype: IGPS no. 72997

Near Onahama Ship-Yard, Onahama-machi, Iwaki-gun (Iwaki City), Fukushima Prefecture; 36°56'25"N, 140°35'E

Nakayama Formation

Miocene

(***Turritella (Neohaustator) iwakiensis* Kotaka** by Masuda and Noda (1976))

Turritella (Kurosoia) izumoyamana Tan, 1971

Paleogene Strat. Paleont. Taiwan (Posthumous Pap.), p. 42-43, pl. 6, figs. 1-5

Syntype: GITNU no. ?

Izumoyama, Tosei-gun, Taityu Prefecture, Taiwan; Sugani near Urai Hot Spring, Bunzan-gun, Taihoku Prefecture, Taiwan; Hokko in the aborigines territory, Taiko-gun, Shintiku Prefecture, Taiwan

Sokutu Formation

Eocene (Oligocene by Masuda and Huang (1990))

Turritella kadonoswaensis Otuka, 1934

Earthq. Res. Inst., vol. 12, part 3, pl. 51, fig. 104

Holotype: UT no. 1533

Kadonosawa, Nitadori Ninohe City, Iwate Prefecture

Kadonosawa Formation

Middle Miocene

(Reported by Nomura and Hatai (1936) from the Miocene Tanagura Formation, Fukushima Prefecture (*Turritella (Hataiella) kadonosawaensis Otuka* by Masuda and Noda (1976))

Turritella kadonosawaensis tsudai Ida, 1952

Rep. Geol. Surv. Japan, no. 150, p. 58, pl. 2, fig. 7, pl. 4, fig. 7

Holotype: GSJ no. KI-24511 (pl. 4, fig. 7), Paratype: GSJ no. 24511-8 (pl. 2, fig. 7)

Futamata, Asakura-mura, Kafoku-gun, Ishikawa Prefecture

Sunagosaka Formation

Middle Miocene

(*Turritella (Hataiella) yoshidai tsudai Ida* by Masuda and Noda (1976))

Turritella kadonosawaensis yoshidai Kotaka, 1951

Short Pap., IGPS no. 3, p. 87, pl. 12, fig. 10

Yatsuo Group

Middle Miocene

(Reported by Ida (1952) from the Miocene Yatsuo Formation, Toyama Prefecture (*Turritella (Hataiella) yoshidai Kotaka* by Masuda and Noda (1976))

Turritella karatsuensis Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 99, pl. 15, fig. 25

Holotype: GS no. 36170, Paratype: GS no. 36170 (pl. 15, figs. 23-24, 26)

Pass-side cutting between Oyana-mura and Arita-machi, about 500 m NW of the shrine at Obo, Aarita-machi, Nishimatsuura-gun, Saga Prefecture; 38 °12'07"N, 129 °52'36"E

Kishima Formation

Oligocene (Lower Oligocene)

(*Turritella (Haustator) karatsuensis Nagao* by Hatai and Nisiyama (1952))

Turritella kiiensis Yokoyama, 1923 (1924)

Japan. Jour. Geol. Geogr., vol. 2, no. 3, p. 52, pl. 7 (6), fig. 10

Holotype: GT no. ?, Paratype: GT no. (pl. 7 (6) fig. 9)

(designated by Hatai and Nisiyama (1952))

Wave cut benc on the SW of side of Fujishima,

Nishitonda-mura (Shirahama-machi), Nishimuro-gun,

Wakayama Prefecture; 33 °41'03"N, 135 °22'31"E)

Fujishima (Shirahama Formation)

Pliocene (Miocene; Blow's N8 -N9 Zone by Tanabe Dantai

Kenkyu Group (1984))

Turritella kityoensis Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2,

p. 190, pl. 9, figs. 45a-b

Holotype: IGPS no. 53110

North of Kityo, Ryuki-syo, Niitoyo-gun, Tainan-syu, Taiwan

Byoritu Beds

Pliocene

Turritella kotakai MacNeil, 1964

U. S. Geol. Surv., Prof. Pap. 339-B, p. B2, pl. 1, figs. 5-8

Holotype: USNM no. 638647, Paratype: USNM no. 638648

Seacoast west of the village of Ibaruma, Ishigaki-shima,

Ryukyu Islands, Okinawa Prefecture

Miyara Formation

Eocene

(*Colpospira (Acutospira) kotakai (MacNeil)* by Masuda and Noda (1976))

Turritella (Kuroshioia) kurosio Ida, 1952

Rep. Geol. Surv. Japan, no. 150, p. 43, pl. 1, figs. 7, 12-14, pl. 2, fig. 2

Holotype: GSJ no. 2412702 (not figured)

Gas well No. 15 in Iida-mura, Shizuoka Prefectures

Mine Formation

Pleistocene

Turritella miikensis Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 121, pl. 19, fig. 4

Holotype: GS no. 35663 (Lectotype: IGPS no. 35663; designated by Hatai and Nisiyama (1952), Paratype: GS no. 35663 (pl. 19, figs. 7, 8, 15)

Small cliff S of the pond, about 500 m S of the contact point

of the two roads at Takaizumi, Miike-machi, Miike-gun,

Fukuoka Prefecture; 33 °02'08"N, 139 °29'E)

Komenoyama Formation

Lower Eocene

(*Colpospira (Acutospira) okadai (Nagao)* by Masuda and Noda (1976))

Turritella millepunctata Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol., vol. 18, no. 2,

p. 191, pl. 9, figs. 43, 44

Holotype: IGPS no. 53111 (fig. 43), Paratype: IGPS no. ? (fig. 44)

1550 m E of Sinpo, station 69 (Ando), Tusyo-syo, Byoritu-gun, Sintiku-syu, Taiwan

Byoritu Beds

Pliocene

(Reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture)

Turritella mitagawaensis* Kanno** reported by Kotaka (1959) from the Oligocene (early Miocene) Ushikubitoge Formation, Saitama Prefecture (Turritella mitagawensis* Kanno** by Masuda and Noda (1976))

***Turritella mitagawensis* Kanno, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 78, p. 211, pl. 6, fig. 10

Holotype: TKD no. 5832, Paratype: TKD nos. 5883, 5834

Loc. No. 225, a small valley floor, about 100 m downstream from a pass leading from Anobe to Iida in Ogano-machi, Chichibu-gun, Saitama Prefecture; Paratype, loc. No. 140, a rifgtt river side cliff, about 150 m upstream of the Shirakawa bridge, Arakawa-mura, Chichibu-gun, Saitama Prefecture Tomita Siltstone of the Nenokami Formation Oligocene (Early Miocene)

***Turritella (Kurosoia) neiensis* Ida, 1952**

Rep. Geol. Surv. Japan, no. 150, p. 45, pl. 1, figs. 8, 9

Holotype: GSJ no. KI-149

Shimizu, Unohana-mura, Nei-gun, Toyama Prefecture Kashio (Yatsuo) Formation Middle Miocene

***Turritella nipponica* Yokoyama, 1920**

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art. 6, p. 71, pl. 4, fig. 16

Holotype: GT no. ? (CM no. 20196), Paratype: GS no. ? (pl. 4, fig. 17) (designated by Hatai and Nisiyama (1952))

Koshiba (Sea cliff at Shiba, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35 °20'05"N, 139 °38'06"E); Paratype, Nojima (Sea cliff NE coast of Nojima, Kanazawa-machi, Yokohama City, Kanagawa Prefecture; 35 °19'05"N, 139 °38'02"E)

Koshiba and Nojima (Paratype) Formations

Pliocene (ealry Pleistocene)

(***Turritella (Neohaustator) nipponica* Yokoyama** by Oyama (1973) and Masuda and Noda (1976))

***Turritella nipponica chikagawaensis* Hatai and Kotaka, 1950**

Jour. Geol. Soc. Japan, vol. 56, no. 654, p. 103, figs. 2a-b

Holotype: IGPS no. 72591

Sea cliff at the outlet of the Chikagawa at Chikagawa, Tanabu-machi, Shimokita-gun (Mutsu City), Aomori

Prefecture; 41 °11'E, 141 °17'10"N

Hamada Formation

Pliocene (Pleistocene)

***Turritella nipponica* var. *infralirata* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 102, pl. 15, figs. 33, 33a

Holotype: GS no. 36169, Paratype: GS no. 36181 (pl. 15, figs. 28, 29, 31), GS no. 36181 (pl. 15, fig. 27), GS no. 36189 (pl. 15, fig. 32)

Sea cliff facing the mouth of Onga-gawa, about 400 m NW of Yamaga, Ashiya-machi, Onga-gun, Fukuoka Prefecture; 33 °53'56"N, 130 °39'54"E), Paratype (pl. 15, fig. 27); Beach rocks W of Hachiman-zaki, about 300 m N of Waita, Shimago-mura, Onga-gun (Wakamatsu-ku, Kitakyushu City), Fukuoka Prefecture; 33 °55'52"N, 130 °43'38"E); (pl. 15, fig. 32), Beach rocks along the sea coast, about 800 m NE of Taya, Ashiya-machi, Onga-gun, Fukuoka Prefecture; 33 °54'36"N, 130 °40'18"E) (pl. 15, fig. 30), Beac rock on the Tominohana (Myoken-zaki), about 400 m NW of the contact point of the two roads at Iwaya, Shimago-mura, Onga-gun (Wakamatsu-ku, Kitakyushu City), Fukuoka Prefecture; 33 °56'N, 130 °41'E)

Yamaga and Wakita (Paratype) Formations

Oligocene

(***Turritella (Haustator) inftarirata* Nagao** by Hatai and Nisiysma (1952))

***Turritella (Neohaustator) nipponica mitsunashii* Ida, 1952**

Rep. Geol. Surv. Japan, no. 150, p. 50, pl. 6, fig. 3, pl. 7, fig. 9

Holotype: GSJ no. KI-5161220 (5161216 in explanation of plate) (pl. 6, fig. 3), Paratype: GSJ no. 516220 pl. 7, fig. 9)

River bank of Minato-gawa, Seki, Tamaki-mura, Kimitsu-gun, Chiba Prefecture

Miura Group

Pliocene

***Turritella (Neohaustator) nipponica miyata* Ida, 1952**

Rep. Geol. Surv. Japan, no. 150, p. 49, pl. 2, fig. 1, pl. 3, fig. 1, pl. 5, fig. 5

Holotype: GSJ no. KI-221022-1 (pl. 2, fig. 1, pl. 3, fig. 1), Paratype: GSJ no. 221022-4 (pl. 5, fi. 5)

Loc. No. 8 (by Suzuki, 1932), Kamimiyata, Minamishimoura-mura, Miura-gun, Kanagawa Prefecture

Miyata Formation

Pliocene (Pleistocene)

***Turritella (Neohaustator) nipponica nipponica* Yokoyama**

reported by Ida (1952) from the Pliocene (Pleistocene)

Koshiba Formation, Kanagawa Prefecture

***Turritella (Neohaustator) nipponica nojimaensis* Ida, 1952**

Rep. Geol. Surv. Japan, no. 150, p. 48, pl. 3, figs. 2-4, pl. 5,

fig. 6

Holotype: GSJ no. KI-24102002 (pl. 3, fig. 3), Paratype: GSJ no. 24102002 (fig. 2)

Muronoki, Yokohama City, Kanagawa Prefecture

Nojima Formation

Pliocene

Turritella (Haustor) nomurai Kotaka, 1951

Saito Ho-on Kai Mus., Res. Bull., no. 21, p. 10, pl. 1, figs. 1, 6, 7

Holotype: IGPS no. 16326

Sea cliff, SW of Anden, Iriai-mura, Minami-Akita-gun (Oga City), Akita Prefecture; 39° 58'06"N, 139° 50'44"E

Shibikawa Formation

Pliocene (Pleistocene)

Turritella (Hataiella) nuibetsuensis Honda, 1989

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 60, no. 1, p. 94, pl. 9, figs. 3-5, 11, 14(a)

Holotype: IGPS no. 96779

Loc. no. D-Y, riverside cliff along a southern tributary of the Kenamichippu-zawa, a tributary of the Tokomuro -gawa, Kushiro Province, Hokkaido; 42° 54'03"N, 143° 43'28"E

Charo Formation

Oligocene

Turritella okadai Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 9, no. 3, p. 120, pl. 19, figs. 13, 13a

Holotype: GS no. 35740, Paratype: GS nos. 35740 (pl. 18, fig. 14), 35774 (pl. 19, figs. 5, 12), 35740 (pl. 18, figs. 8, 15, pl. 19, figs. 6, 11, 11a, 16), 35662 (pl. 19, fig. 10) (designated by Hatai and Nisiyama (1952))

(Roadside cutting immediately S of the small pond, about 500 m S of the contact point of the two roads at Takaizumi, Miike-machi, Miike-gun, Fukuoka Prefecture; 33° 02'27"N, 130° 29'08"E Fukuoka Prefecture; Paratype (35774; pl. 19, figs. 5, 12), sea cliff W of the hill (48 m), about 250 m N of Takesaki, Koyagi-jima, Koyagi-mura, Nishisonogi-gun, Nagasaki Prefecture; 32° 40'34"N, 129° 48'16"E; Paratype (no. 35662), Northern cliff of the pond, a short distance S of the boundary between Fukuoka Prefecture and Kumamoto Prefecture, about 500 m S of Ipponmatsu, and about 1.5 km NW of the bridge at W of Seki-mura, Minamonoseki-machi, Tamana-gun, Kumamoto Prefecture; 33° 03'31"N, 130° 31'04"E)

Komenoyama and Futagojima Formations

Lower Eocene

(*Colpospira (Acutospira) okadai (Nagao)* by Masuda and Noda (1976))

Turritella omurai Kanehara, 1937

Bull. Imp. Geol. Surv., vol. 27, no. 1, p. 9, pl. 4, figs. 5, 6, 7

Holotype: GSJ no. ? (noted as destroyed by Hatai and

Nisiyama (1952))

Nagako, Nishiki-mura, Iwaki-gun, Fukushima Prefecture; 36° 54'02"N, 140° 45'06"E

Mizunoya Formation

Miocene

Turritella (Haustator) otukai Kotaka, 1951

Saito Ho-on Kai Mus., Res. Bull., no. 21, p. 7, pl. 1, figs. 8-15, 22

Holotype: IGPS no. 72885 (figs. 8, 9)

Sea cliff, SW of Anden, Iriai-mura, Minami-Akita-gun (Oga City), Akita Prefecture; 39° 40'N, 139° 51'65"E

Shibikawa Formation

Pliocene (Pleistocene)

Turritella oyasio Ida, 1952

Rep. Geol. Surv. Japan, no. 150, p. 55, pl. 7, fig. 6

Holotype: GCKU no. TK-303-JC-512065 (Kyoto Univ. Coll.)

Mokugahara, Nishitonami-gun, Toyama Prefecture

Otokawa Group

Upper Miocene

(*Turritella (Neohaustator) oyasio Ida* by Masuda and Noda (1976))

Turritella perterebra Yokoyama, 1923

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 11, pl. 2, figs. 2-5

Holotype: GT no. ?

Dainichi, 4 km S of Mori, Totomi (Valley 350 m NW of Dainichi, Fukuroi Cuty, Shizuoka Prefecture; 34° 48'07"N, 133° 07'56"E)

Dainichi Formation

Pliocene

(*Turritella (Turritella) perterebra Yokoyama* by Masuda and Noda (1976))

Turritella poronaiensis Takeda, 1953

Stud. Coal. Geol., Hokkaido Assoc., Coal Min., no. 3, p. 50, pl. 4, fig. 6, pl. 5, figs. 1-3, 5, 6

Holotype: UH no. 11180 (pl. 4, fig. 6, pl. 5, fi. 1), Paratype: UH nos. 11166, 11175, 11127-8, 11184

Loc. No. T1-1, north cliff of Ikusyunbetu River, just north of Tomatu Station, Isikari Province, Hokkaido; 43° 15'15"E, 141° 55'25"E; Paratype: U1, 2650 m N from the mouth of Penkemmay creek, middle tributary of Yubari River, Isikari Province, Hokkaido; S1, Simizusawa test well no. 2 (Hokkaido Tanko Kisen Co. Ltd. Depth unknown, Isikari Province, Hokkaido; S2, Hobetsu Test well no. 2, depth 60 m, 4350 m N from the mouth of Penkeopiraruka creek, upper tributary of Hobetsu River, Iburi Province, Hokkaido; T66-K, Tikupenninai creek, upper tributary of Tyaro River, Kusiro Province, Hokkaido

Poronai Formation

Oligocene (late Eocene)

(Turritella (Hataiella) poronaiensis Takada by Masuda and Noda (1976))

Turritella (Hataiella) poronaiensis bathysinuata Shuto and Ueda, 1967

Japan. Jour. Geol. Geogr., vol. 38, no. 1, p. 32, pl. 2, fig. 1

Holotype: GKL no. 6609

Small cliff along the coast north of Taya, Ashiya-machi, Onaga-gun, Fukuoka Prefecture

Yamaga Formation

Oligocene

Turritella (Turritella) producta Martin, 1921 reported by Shuto (1974) from the Lower Miocene at Tji Talahb, Java Islands, Indonesia

Turritella (Hataiella) sagai Kotaka, 1959

Sci. Rep., Tohoku Univ. 2nd Ser. (Geol.), vol. 31, no. 2, p. 89, pl. 9, figs. 6-8, 10, 12, 18, pl. 15, figs. 5, 6

Holotype: IGPS no. 17527-1, Paratype: IGPS nos. 17527-2 – 8, 72899-1 – 9

IGPS loc. no. Gi-2, Togari, (Akeyo-cho Togari, Mizunami City), Gifu Prefecture

Shimamori Formation (Mizunami Goup)

Miocene (early Miocene)

Turritella saishuensis Yokoyama, 1923

Jour. Coll. Sci., Tokyo Imp. Univ., vol. 44, art. 7, p. 3, pl. 1, fig. 2

Holotype: UT no. ?

Sea cliff near brook flowing at the western end of Seikiho, Saishi Island (Cheju Island), Korea

Sand bed (Sogippo Formation)

Pliocene (Pleistocene)

Turritella (Neohaustator) saishuensis etigoensis Ikebe, 1940

Ida, 1952 (Rep. Geol. Surv. Japan, no. 150), p. 51, pl. 6, figs. 2, 7, pl. 7, fig. 4

Neotype: GSJ no. KI-25092 (pl. 6, fi. 2)

Funahashi, 250 m E of JR Oginojo Station, Izumozaki-machi, Mishima-gun, Niigata Prefecture

Funahashi Formation

Pliocene (Pleistocene)

(Turritella (Naohaustator) saishuensis etigoensis Ida, 1952)

Turritella saishuensis hanzawai Hatai and Kotaka, 1950

Jour. Geol. Soc. Japan, vol. 56, no. 654, p. 104, figs. 4a-c

Holotype: IGPS no. 72593

Sea cliff at the outlet of the Chikagawa at Chikagawa, Tanabu-machi, Shimokita-gun (Mutsu City), Aomori Prefecture; 41°11'E, 141°17'10"N

Hamada Formation

Pliocene (Pleistocene)

Turritella (Neohaustator) saishuensis motidukii Otuka reported by Kotaka (1959) from the Pliocene (Pleistocene) Wakimto Formation, Akita Prefecture

Turritella sakitoensis Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser. 2 (Geol.), vol. 12, no.1, p. 101, pl. 15, figs. 38, 38b

Holotype: GS no. 36200, Paratype: GS nos. 36200 (pl. 15, figs. 34, 37, 39), 36201 (pl. 15, figs. 35, 36, 40)

Beach rocks facing the strait of Nakado (about 200 m E of the contact point of the two paths at W of Higashinakado, Kakinoura-shima, Sakito-mura, Nishisonogi-gun, Nagasaki Prefecture; 33°01'13"N, 129°35'24"E), Paratype (no. 36201), Beach rocks about 100 m SE of the crossing point of the road and the path at NE of Maze, E coast of Oshima, Kurose-mura, Nishisonogi-gun, Nagasaki Prefecture; 33°02'08"N, 129°37'31"E)

Itanoura Formation (Maze Formation, Nishisonogi Group)

Oligocene

(Turritella (Haustator) sakitoensis Nagao by Hatai and Nisiyama (1952): ***Tropicolpus sakitoensis (Nagao)*** by Masuda and Noda (1976))

Turritella s-hataii Nomura, 1935

Saito Ho-on Kai Mus., Res. Bull., no. 6, p. 231, pl. 17, fig. 19

Holotype: SM no. 2551, Paratype: SM no. 2551 (pl. 17, figs. 20, 21)

Railway-side cutting at N entrance of the first tunnel from the Higashishiogama Station of the Senseki Line, Shiogama City, Miyagi Prefecture; 38°19'28"N, 141°02'14"E)

(Chiganoura Formation)

Miocene

(Turritella (Naustator) shataii Nomura by Hatai and Nisiyama (1952))

Turritella s-hataii sagai Kotaka, 1951

Short Pap., IGPS no. 3, p. 87, pl. 12, figs. 13-17

Holotype: IGPS no. 17529 (figs. 16, 17)

Near Hazamagabora, Togari, Mizunami-machi, Toki-gun (Mizunami City), Gifu Prefecture; 35°09'22"N, 137°14'55"E

Togari Formation

Miocene (early Miocene)

(Turritella (Hataiella) sagai Kotaka by Masuda and Noda (1976))

Turritella (Haustator) tanaguraensis Kotaka, 1951

Saito Ho-on Kai Mus., Res. Bull. No. 21, p. 10, pl. 1, figs. 16, 17

Holotype: IGPS no. 28381

Road cliff about 2 km NW of Nishigoto on road to Kubota, Tsunetoyo-mura, Higashishirakawa-gun, Fukushima Prefecture; 36°59'03"N, 140°22'E

Tanagra Formation

Miocene

(*Turritella (Idaella) tanaguraensis* Kotaka by Masuda and Noda (1976))

Turritella terebra Linnaeus reported by Yokoyama (1928) from the Pliocene Lower Byoritz Beds, Taiwan

Turritella (Turritella) terebra kendengensis Alena, 1938 reported by Shuto (1974) from the Upper Miocene or Pliocene at Poetjangan Bed, Lava Islands, Indonesia

Turritella (Turritella) terebra talahabensis Martin reported by Shuto (1974) from the Lower Miocene at Tji Talahab, Java Isnalds, Indonesia: *Turritella batamensis talahabensis* Martin, 1905

Turritella tokunagai Yokoyama, 1924

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 3, p. 10, pl. 1, figs. 8-10

Holotype: GT no. ? (noted as destroyed in Oyama et al. (1960))

Tanoami in Hisanohama (Tanoami, Hisanohama-machi, Futaba-gun, Fukushima Prefecture; 37°08'N, 141°E)

Asagai Formation

Oligocene

(*Turritella "Turritella" tokunagai* Yokoyama by Masuda and Noda (1976))

Turritella totomiensis Makiyama, 1927

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 69, pl. 3, fig. 9

Holotype: GK no. 48

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°56'E)

Dainichi Formation

Pliocene

Turritella yoshidai Kotaka, 1951

Short Pap., IGPS no. 3, p. 87, pl. 12, fig. 19

Holotype: IGPS no. 72898

River-side cliff, about 400 m W of Tsutsura-hara (Tsuzara), Kurosedani-mura (Yatsuo-machi), Nei-gun, Toyama Formation; 36°33'24"N, 137°08'54"E

Yatsuo Formation

Miocene

(*Turritella (Hataiella) yoshidai* Kotaka by Masuda and Noda (1976))

Turritella (Hataiella) yoshidai tsudai Ida reported by Kotaka (1959) from the Miocene Sunagozaka Formation, Ishikawa Prefecture

Turritella wadana Yokoyama, 1890

Palaeontogr., vol. 36, no. 3-6, p. 198, pl. 25, figs. 9a-b

Holotype: Munich Mus., no. ?, Paratype (pl. 25, figs. 10, 11)

Locality unknown (Probably: the Poronai Formation of the Ishikari Coal-field where it is common)

Poronai Formation

Cretaceous (Eocene)

(*Trochocerithium wadana* (Yokoyama) by Hatai and Nisiyama (1952))

Turritella zinboi MacNeil, 1960

U. S. Geol. Surv., Prof. Pap. 339, p. 36, pl. 11, fig. 27

Holotype: USNM no. 562907, Paratype: USNM no. 563089

Loc. no. 17481, roadside exposure near top of hill on Highway 8 leading down to "White Beach", U. S. Naval Piers, Okinawa Prefecture

Chinen Formation

Pliocene

(*Turritella (Kurosoia) zinboi* MacNeil by Masuda and Noda (1976))

Tutufa (Tutufa) bufo (Röding) reported by Tomida (1996)

from the Mio-Pliocene Nishikoiso Formation, Kanagawa Prefecture

Typhis duplicatus Sowerby, 1870 reported by Nomura

(1935) from the Pliocene (Pleistocene) Byoritu Beds, Taiwan (*Typhis arcuatus* Hinds by Masuda and Huang (1990))

Typhlomangelia kazuensis Otuka reported by Okutani

(1968) from the Pliocene Tomiya Formation, Chiba Prefecture (*Spirotropis ? kazuensis* Otuka by Masuda and Noda (1976))

Typhlomangelia kazuensis inflata Otuka reported by

Okutani (1968) from the Pliocene Tomiya Formation, Chiba Prefecture

Uberella plicispira (Kuroda) reported by Oyama et al.

(1993) from the Pliocene Shinzato Formation, Okinawa Prefecture

Uberella yokoyamai (Kuroda and Habe) reported by Ozaki

(1958) from the Pliocene Iioka Formation, Chiba Prefecture (*Euspira yokoyamai* (Kuroda and Habe) by Masuda and Noda (1976))

Umbonium akitanum Suzuki, 1934

Jour. Geol. Soc. Tokyo, vol. 41, no. 485, p. 69, text-figs. 1

Holotype: GT no. ?

(A small cliff behind the village, a short distance NW of the contact point of the two roads at Manganji, Otomo-mura, Yuri-gun (Honjo City), Akita Prefecture; 39°20'58"N, 140°05'28"E)

Wakimoto Formation
Pliocene (early Pleistocene)

Umbonium costatum* (Kiener)** reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (Identified with ***Umbonium (Suchium) akitanum Suzuki by Masuda and Noda (1976))

Umbonium costatum* (Valenciennes)** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture; ***Rotella costatum Valenciennes

Umbonium (Suchium) decoratum Makiyama, 1925

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 130, pl. 20, fig. 8

Syntype: GK no. ?

Near the Totsuka railway Station, near Yokohama, Kanagawa Prefecture (Precise locality unknown)

Naganuma Formation

Pliocene (Pleistocene)

(***Suchium decoratum* (Makiyama)** by Hatai and Nisiyama (1952))

Umbonium (Suchium) equistriatum Nomura, 1935

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), vol. 18, no. 2, p. 214, pl. 10, figs. 3a-11

Holotype: IGPS no. 37415

Sinsui, Enso-syo, Okayama-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

Umbonium giganteum* (Lesson)** reported by Yokoyama (1920) from the Pliocene (Pleistocene) Naganuma Formation, Kanagawa Prefecture; ***Rotella giganteum Lesson (Umbonium giganteum naganumanum Otuka) by Hatai and Nisiyama (1952))

Umbonium giganteum naganumanum Otuka, 1930

p. 45, text-figs. 1a-c

Holotype: GT no. ?

Road-side cutting about 600 m SW of village-office at Naganuma, Toyoda-mura, Kuuraki-gun (Totsuka-ku, Yokohama City, Kanagawa Prefecture; 35°22'26"N, 139°32'38"E)

Naganuma Formation

Pliocene (Pleistocene)

(***Umbonium (Suchium) giganteum naganumanum Otuka*** by Hatai and Nisiyamam (1952))

Umbonium (Suchium) giganteum yamamotoi Sugiyama, 1935

Jour. Geol. Soc. Japan, vol. 42, no. 503, p. 461, pl. 13, figs. 1a-c

Holotype: GS no. 23374 (1), Paratype: GS nos. 23374 (2)

(pl. 13, figs. 2a-c), 23374 (4) (pl. 13, figs. 4a-b), 23374 (5) (pl. 12, figs. 3a-b), 23374 (text-fig. 25)

South cliff of the Takase-gawa (about 500 m W of the contact point of the two roads at Takakura, Obori-mura, Futaba-gun Fukushima Prefecture; 37°27'47"N, 140°56'39"E)

(Kuriha Formation)

Pliocene (early Pleistocene)

Umbonium (Suchium) giganteum Lesson var. yamamotoi Sugiyama reported by Kanehara (1925) from the Pliocene to Pleistocene Taga (Pliocene Namie) Formation, Fukushima Prefecture

Umbonium idumoensis Sugiyama, 1935

Jour. Geol. Soc. Japan, vol. 42, no. 502, p. 409, pl. 11, figs. 27a-d

Holotype: GS no. 55824, Paratype: GS no. 55824 (pl. 11, figs. 28a-b and text-fig. 2 (p. 409))

Path-side cutting about 120 m SE of the bridge S of Noshira, Nogi-mura, Yatsuka-gun, Shimane Prefecture; 35°25'23"N, 133°03'17"E)

Kimachi Formation

Miocene

(***Protototella idumoensis* (Sugiyama)** by Hatai and Nisiyama (1952))

Umbonium ishiiianum Yokoyama, 1930

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt.10, p. 402, 3 text-figs on right side

Holotype: GT no. ?, Paratype: GT no. ? (designated by Hatai and Nisiyama (1952))

Nishinotani, Ishizume (River-side below the road about 150 m SW of the crossing point of the two roads at) Nishinotani, Yuantani, Ujitabara-mura, Tsuzuki-gun, Kyoto Prefecture; 34°50'42"N, 135°53'57"E)

Tsuzuki Formation

Miocene

(Synonymus with ***Protototella yuntaniensis Makiyama, 1924*** by Hatai and Nisiyama (1952))

Umbonium isidumense Sugiyama, 1935

Jour. Geol. Soc. Japan, vol. 42, no. 503, p. 479, pl. 13, figs. 21a-b

Holotype: GS no. 55829 (1), Paratype: GS nos. 55829 (2) (figs. 22a-b), 55829 (3) (figs. 23a-b), 55829 (4) (figs. 24a-b), 55829 (5) (figs. 25a-b), 55829 (6) (figs. 26a-b), 55829 (7) (figs. 27a-b)

East off Ishizume, Yuantani, Ujitabara-mura, Tsuzuki-gun, Kyoto Prefecture (Road-side cutting about 200 m E of the contact point of the roads and the main road at Ishizume, Yuantani, Ujitabara-mura, Tsuzuki-gun, Kyoto Prefecture; 33°45'57"N, 135°54'27"E)

Tsuzuki Formation

Miocene

***Umbonium miyagiense* Nomura and Onishi, 1940**

Japan. Jour. Geol. Geogr., vol. 17, nos. 3-4, p. 184, pl. 18, figs. 13-16

Holotype: SM no. 21697

Vicinity of Adachi, Murata-machi, Shibata-gun, Miyagi Prefecture (River cliff 150 m W of bridge, 500 m W of Adachi, Murata-machi, Shibata-gun, Miyagi Prefecture; 38 ° 07'01"N, 140 ° 42'04"E)

(Murata Formation)

Miocene

(*Umbonium (Suchium) miyagiense* Nomura and Onishi by Hatai and Nisiyama (1952))

***Umbonium (Suchium) moniliferum* (Lamarck, 1822)**

reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

***Umbonium (Suchium) moniliferum decoratum* Makiyama**

reported by Noda (1971) from the Pliocene Haneji Formation, Okinawa Prefecture

***Umbonium mysticum* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 13, pl. 2, figs. 6, 7

Holotype: GT no. ?

Dainichi, 4 km S of Morii, Totomi (Valley 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34 ° 48'07"N, 137 ° 56'E)

Dainichi Formation

Pliocene

(*Umbonium (Suchium) mysticum* Yokoyama by Hatai and Nisiyama (1952))

***Umbonium (Suchium) obsoletum* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 123, pl. 20, fig. 5

Tunnel at west of Saigo near kakegawa, Totomi (Tunnel about 150 m W of Honohashi, and 2.5 km N off the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 ° 47'02"N, 138 ° 00'06"E)

Dainichi Formation

Pliocene

***Umbonium (Suchium) obsoletum conglomeratum* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 129, pl. 20, fig. 6

Holotype: GK no. ?

Saigo near Kekagawa (River-side about 100 m NE of the bridge at N of Shimosaijo and about 1.9 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 ° 46'49"N, 138 ° 00'35"E)

Dainichi Formation

Pliocene

***Umbonium suchiense* Yokoyama, 1923**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 2, p. 13, pl. 2, fig. 1

Dainichi, 4 km S of Mori, Totomi (Valley 250 m NE of Dainichi, Fukuroi City, Shizuoka Prefecture: 34 ° 48'07"N, 137 ° 56'E)

Dainichi Formation

Pliocene

(*Umbonium (Suchium) suchiense* Yokoyama by Hatai and Nisiyama (1952))

***Umbonium (Suchium) suchiense forma hanzawai* Sugiyama, 1935**

Jour. Geol. Soc. Japan, vol. 42, no. 503, p. 454, pl. 11, figs. 24a-b

Holotype: GS no. 29118 (1), Paratype: GS nos. 29118 (2) (pl. 11, figs. 25a-b), 29118 (3) (p.454, text-fig. 20)

Valleyside about 200 m SE of Asuka, Taruki-mura, Ogasa-gun (Kakegawa City), Shizuoka Prefecture; 34 ° 47'01"N, 138 ° E)

Satsuka Formation

Pliocene

***Umbonium suchiense makiyamai* Suzuki, 1934**

Jour. Geol. Soc. Tokyo, vol. 41, no. 485, p. 71, text-fig. 2

Holotype: GT no. ?

Iwashibara, NW of Kakegawa-machi, Taruki-mura, Ogasa-gun (Kakegawa City), Shizuoka Prefecture; 34 ° 47'04"N, 137 ° 59'04"E)

Dainichi Formation

Pliocene

(*Umbonium (Suchium) suchiense mamiyamai* Suzuki by Hatai and Nisiyama (1952))

***Umbonium (Suchium) suchiense obsoletum* Makiyama**

reported by Shikama (1943) from the Pliocene Dainichi Formation, Shizuoka Prefecture

***Umbonium (Suchium) suchiense obsoletum forma arenarium* Makiyama** reported by Sugiyama (1935) from the Pliocene Konomine Formation, Kochi Prefecture

***Umbonium (Suchium) suchiense subsuchiense* Makiyama, 1925**

Japan. Jour. Geol. Geogr., vol. 3, nos. 3-4, p. 129, pl. 20, fig. 10

Holotype: Many localities in Ogasayama, near Kakegawa (Road-side cutting immediately E of the pond, about 350 m SE of the contact point of the two roads at Shinden, Kakegawa-machi, Ogasa-gun (Kakegawa City), Shizuoka Prefecture; 34 ° 45'16"N, 137 ° 59'55"E)

Soga Formation
Pliocene

***Umbonium (Suchium) suchiense forma yoshii* Sugiyama, 1935**

Jour. Geol. Soc. Japan, vol. 42, p. 453, pl. 11, figs. 23a-b
Holotype: GS no. 29006, Paratype: GS no. 55827 (p. 453, text-fig. 18)

In front off the Tenno shrine, west side of Tennoyama, about 1750 m N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 °46'03"N, 138 °00'07"E); Paratype, 150 m W of Honohashi and 2.5 km N of JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 °47'02"N, 138 °00'06"E)

Tenno Formation
Pliocene

***Umbonium tenuistriatum* Sugiyama, 1935** reported by Aoki and Baba (1983) from the Pleistocene Naruto Formation, Chiba Prefecture

Umbonium (Umbonium) vestarium (Linnaeus, 1758) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan (***Umbonium vestarium (Linnaeus)*** by Masuda and Huang (1990))

***Umbonium (Suchium) yabei* Sugiyama, 1935**

Jour. Geol. Soc. Japan, vol. 42, p. 460, pl. 13, figs. 5a-b
Holotype: GS no. 28903 (1), Paratype: GS nos. 28903 (3) (pl. 13, fig. 6), 28903 (4) (pl. 13, fig. 7), 28903 (9) (pl. 13, fig. 8), 28903 (11) (pl. 13, fig. 9), 28903 (p. 460, text-fi. 24)

Exposure on road about 450 m N of Mutare, Awamoto-mura, Ogasa-gun, Shizuoka Prefecture; 34 °33'45'52"N, 138 °02'02"E)

Uchida Formation
Pliocene

Umbonium yuantaniensis (Makiyama) reported by Shikama (1943) from the Miocene Suhara Formation, Toyama Prefecture: ***Protorotella yuantaniensis Makiyama***

***Unedogemmula* MacNeil, 1960** n. gen.

U. S. Geol. Surv., Prof. Paper 339, p. 101, Type-species; *Turris unedo* (Kiener) living species around the Japanese Islands

***Unedogemmula ina* MacNeil, 1960**

U. S. Geol. Surv., Prof. Paper 339, p. 102, pl. 5, fig. 7
Loc. no. 17451, road cut on east side of Highway 46 about 0.2 Mi N of the northern junction of Highway 46 and 13 in Iwa, Okinawa Prefecture

Yonabaru Formation
Miocene (Pliocene)

(***Gemmula (Unedogemmula) ina (MacNeil)*** by Masuda and

Noda (1976))

Unedogemmula indica (Bolten) Röding reported by MacNeil (1960) from the Pliocene Chinen Formation, Okinawa Prefecture: ***Turris indica (Bolten), Röding, 1798 (Gemmula (Unedogemmula) indica (Bolten)*** by Masuda and Noda (1976))

***Unedogemmula kotakai* Noda, 1988**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser. B, vol. 9, p. 50, pl. 14, figs. 14a-16b

Holotype: IGUT no. 10914

Loc. No. 82-28, cliff near Toubaru, Miyagi-shima, Yonashiro-cho, Nakagami-gun, Okinawa Prefecture

Shinzato Formation
Pliocene

***Uromitra cophina gonzabuensis* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 90, pl. 4, figs. 18, 19

Holotype: USNM no. 562722

Loc. no. 17449, cut along side of trail to Kakazu from Highway 11, near top of hill at south edge of village, Okinawa Prefecture

Yonabaru Formation
Miocene (Pliocene)

***Uromitra fulleri* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. p. 91, pl. 8, fig. 29

Holotype: USNM no. 562836

Loc. no. 17677, roadside exposure near base of hill on Highway 8 near "White Beach", U. S. Naval Piers, Okinawa Prefecture

Shinzato Formation
Miocene or Pliocene (Pliocene)

Uromitra aff. lirocostata (Cossmann) reported by MacNeil (1960) from the Pliocene Nakoshi Formation, Okinawa Prefecture

***Uromitra makiyamai* Shuto, 1962**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 12, no. 1, p. 63, pl. 10, figs. 3, 4

Holotype: GKL no. 6233

Road side cutting 300 m N of Yamaji, Mino-mura, Koyu-gun (Saito City), Miyazaki Prefecture

Kawabaru Formation
Miocene

***Uromitra nakamurai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 78, pl. 3, fig. 10

Holotype: GK no. 304, Paratype: GK no. 305

Tennoyama (East side of Tennoyama, 1.5 km N of the JR Kakegawa Station, Kakegawa City, Shizuoka Prefecture; 34 °

46°09'N, 138°00'08"E)
Tenno Formation
Pliocene

***Uromitra nakamurai ugariensis* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 49, pl. 1, figs. 7-9
Holotype: UK no. ?
Loc. 522 (Left road-side cutting about 150 m S of the tunnel at Shimoiiida, Iida-mura, Suchi-gun, Shizuoka Prefecture; 34°48'N, 137°55'E)
Hosoyma Formation
Pliocene

***Uromitra noharai* Noda, 1980**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Sec. B, vol. 1, p. 31, pl. 4, figs. 7a-b, pl. 7, figs. 15a-b
Holotype: IGUT no. 10219
Loc. no. 334, cliff about 1 km NE of Ihara, Sashiki-mura, Shimajiri-gun, Okinawa Prefecture
Shinzato Formation
Pliocene

***Uromitra aff. obeliscus* (Reeve)** reported by MacNeil (1960) from the Miocene Yonabaru Formation, Okinawa Prefecture

***Uromitra okinawajimana* Noda, 1991**

Sci. Rep., Inst. Geosci. Univ. Tsukuba, Ser B, vol. 12, p. 50, text-figs. 17-18a-b
Holotype: IGUT no. 11584
Loc. no. 530, large exposure on the road side at about 100 m W of Kanagsuku, Osato-son, Shimajiri-gun, Okinawa Prefecture
Yonabaru Formation
Pliocene

***Uromitra teschi* MacNeil, 1960**

U. S. Geol. Surv., Prof. Pap. 339, p. 90, pl. 8, fig. 28
Holotype: USNM no. 562835
Loc. no. 17633, low cliff at canyon head just E of trail pass through ridge about 0.4 mile SW of China, Okinawa Prefecture
Shinzato Formation
Miocene or Pliocene (Pliocene)

***Urosalpinx birrileffi* (Lishcke)** reported by Yokoyama (1924) from the Pliocene (Miocene Atonoura) Formation, Wakayama Prefecture; ***Trophon birileffi* Lishcke (*Bedequina bieileffi* (Lishcke))** by Hataia and Nisiyama (1952))

***Uzumakiella habei* Itoigawa and Shibata, 1976**

Bull. Mizunami Fossil Mus., no. 3, p. 8, pl. 3, figs. 1a-2c
Holotype: MFM no. 10061 (fig. 1), Paratype: MFM no. 10062 (fig. 2)

Dan, Toki-cho, Mizunami City, Gifu Prefecture
Nataki Conglomerate
Middle Miocene

***Vaginella depressa* Daudin** reported by Shibata (1970) from the Mioce Oi Formation, Mie Prefecture

***Venustoma lacunose* (Gould)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Clathurella lacunosa* Gould, 1860**

***Vepridaphne* Shuto, 1983** n. gen.

Mem. Fac. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, p. 17, Type-species; *Daphnella cestrum* Hedley, 1922 described based on recent species from sea off Broome, Australia

***Vermetus annulatus* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 2, fig. 2
Holotype: UT no. ? (CM no. 21855)
Numa, Awa (Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)
(*Petalocochus* (*Macrophragma* ?) *annulatus* (Yokoyama)) by Oyama (1973))

***Vermetus defrenatus* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 413, pl. 46, figs. 18, 19
Holotype: UT no. ? (CM nos. 23755), (Paratype: CM no. 23754)
Oji (Kita-ku, Tokyo Prefecture)
(Tokyo Formation)
Upper Musashino=Pleistocene
(Annelida, Polychaeta: ***Hydroides defrenatus* (Yokoyama)** by Oyama (1973))

***Vermetus ebaranus* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 414, pl. 46, figs. 15-17
Syntype: UT no. ? (CM nos. 23758, 23759, 23760)
Shinagawa (Minato-ku, Tokyo Prefecture)
(Tokyo Formation)
Upper Musashino=Pleistocene
(*Eufistulana grandis* (Deshayes, 1855)) by Oyama (1973))

***Vermetus perplanorbis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 450, pl. 51, figs. 14
Holotype: UT no. ? (CM no. 24286)
Koyasu, Tachibana-gun, Musashi (Kohoku-ku, Yokohama City, Kanagawa Prefecture)
(Shimosueyoshi Formation)
Upper Musashino=Pleistocene

***Vermetus reticulatus* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 11, pl. 1, figs. 17-19

Holotype: UT no. ? (CM no. CM21852), (Paralectotype: CM no. 21850)

Numa, Awa (Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(*Hydroiddes reticulatus* (Yokoyama) by Oyama (1973))

***Vermetus shinanoensis* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 1, p. 6, pl. 1, fig. 10

Holotype: GT no. ?

Shigarami (A short distance N of Shimosoyama, Shigarami-mura, Kamiminochi-gun, Nagano Prefecture; 36° 49'N, 139° 07'E)

(Shigarami Formation)

Pliocene

(*Serpulorbis shinanoensis* (Yokoyama) by Makiyama (1958))

***Vermicularia imbricata* (Dunker, 1860)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone (Wan Formation), Kikai-jima, Kagoshima Prefecture

***Verticordia (Haliris) moeshimaensis* Habe, 1953**

Venus, vol. 17, no. 3, p. 133, figs. 10-12

Holotype: NSMT-Mo no. 53337

Moeshima in Kagoshima Bay (Shinjima, Sakurajima-cho, Kagoshima-gun), Kagoshima Prefecture; 31° 37'E, 130° 43'N
Moeshima Formation

Pleistocene

(Synonymus with *Verticordia (Haliris) multicostata* A. Adams by Inaba et al. eds., 1977)

***Vexiariella* Shuto, 1983, n. subgen.**

Mem. Coll. Sci., Kyushu Univ. Ser. D, Geol., vol. 25, no. 1, Type-species; *Ariella (Vexiariella) cancellata* Shuto, 1983 described base on recent species from off the Melville Island, Australia

***Vexiguraleus supercostata* (Smith)** reported by Shuto (1965) from the Pleistocene Moeshima Formation, Kagoshima Prefecture: ***Pleurotoma (Daphnella) supercostata* Smith, 1882**

***Vexillum (Costellaria) aokii* Shuto, 1982**

Geol. Paleont. Southeast Asia, vol. 23, p. 129, pl. 19, figs. 29, 30, text-figs. 5a, b, e

Holotype: GK-L no. 7696 (fig. 29), Paratype: GK-L nos. 7662, 7697-7705

Loc. no. SAM54, Talve-Toboso area of Negros Island, Philippines

Macasilao Formation

Middle Miocene

***Vexillum (s. s.) cruentatum* (Gmelin)** reported by Kanno et al. (1982) from the Upper Miocene Tartaro Formation, Philippines

***Vexillum (Pusia) gabusoganum* Nomura and Zinbo, 1936**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 3, p. 253 (25), pl. 11 (1), figs. 22a-b

Holotype: IGPS no. 51394

Gabusoga, Haneji-mura, Kunigami-gun (Nago City), Okinawa Prefecture

Shimajiri Beds (Nakoshi Formation)

Pliocene (Pleistocene)

***Vexillum (Pusia) gembacanum* (Martin, 1887)** reported by Nomura (1935) from the Pliocene Byorotou Beds, Taiwan

***Vexillum (Pusia) gotoense* (Smith, 1879)** reported by Nomura and Zinbo (1936) from the Pliocene (Pleistocene) Nakoshi Formation, Okinawa Prefecture

***Vexillum (Costellaria) cruentatum greyi* Shuto, 1969**

Mem. Fac. Sci., Kyushu Univ., Ser. D, Geol., vol. 19, no. 1, p. 167, pl. 16, figs. 7-11, text-figs. 29, 31

Holotype: GK-L no. 6502 (figs. 8, 9), Paratype: GK-L nos. 6496-6501, 6503-6509 (figs. 7, 10, 11)

Loc. no. SKGS-71, cliff along the left bank of the Tigum River between Santa Barbara and Cabatuan, Panay Island, the Philippines

Cabatuan Formation

Pliocene

***Vexillum (Costellaria) fuscoapicatum* (Smith, 1879)**

reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture

***Vexillum (Waimatea) kurakiensis* (Hatai and Nisiyama)**

reported by Shuto (1962) from the Pliocene Takanahe Formation, Miyazaki Prefecture: see ***Mitra kurakiensis* Hatai and Nisiyama, 1952**

***Vexillum (Pusia) obeliscum* (Reeve, 1844)**

reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture

***Vexillum setsukoae* Masuda, 1967**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 65, p. 9, pl. 2, figs. 21a-22b

Holotype: DGS no. 4617 transferred to IGPS no. 90085

Loc. No. 30, road side cutting near Koeiji Temple, Otani, Suzu City, Ishikawa Prefecture; 37° 29' 41" N, 137° 19' 28" E

Higashi-Innai Formation

Miocene (early Miocene)

***Vexillum (Costellaria) subtruncatum* (Sowerby, 1874)** reported by Nomura and Zinbo (1934) from the Pleistocene Ryukyu Limestone, Kikai-jima, Kagoshima Prefecture

***Vexithara brevicanalisis* Shuto, 1983**

Mem. Fac. Sci., Kyushu Univ., Ser. D. Geil., vol. 25, no. 1, p. 8, pl. 2, figs. 1-, 11, text-fig. 5

Holotype: AM no. C134689

Turtle Beach, west side of NW Cape, WE, Australia

Living specimen: W. F. Ponder and L. Figgis coll., July 17, 1972

Recent

***Vexithara gerthi* (Martin)** reported by Shuto (1980) from the Eocene Nangulan Formation, Indonesia: ***Surcula gerthi* Martin, 1914**

***Vicarya baculum* (Yokoyama)** reported by Yokoyama (1926) from the Pliocene (Miocene) Tsukiyoshi Formation, Gifu Prefecture (Reidentified with ***Vicarya callosa yokoyamai* Takeyama** by Hatai and Nisiyama (1952))

Vicarya callosa* Jenkins** reported by Nakamura (1920) from the Miocene Uetsuki Formation, Okayama Prefecture (Vicarya callosa japonica* Yabe and Hatai** by Hatai and Nisiyama (1952))

***Vicarya (Shoshiroia) callosa* Jenkins** reported by Kamada (1967) from the Miocene Ashiya Formation, Yamaguchi Prefecture

***Vicarya callosa japonica* (Saga MS) Yabe and Hatai, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 21, no. 2, p. 156, pl. 21, figs. 12, 13

Holotype: GS no. 62318 (designated by Hatai and Nisiyama (1952))

West side cutting of the small road (Dainichizaka), a short distance N of the contact point of the small road and the road, about 100 m N of the temple at Uetsuki-chu, Uetsuki-mura (Katsuta-cho) Katta-gun, Okayama Prefecture; 35°03'41"N, 134°07'21"E

Uetsuki Formation

Miocene

***Vicarya callosa martini* (Saga, MS) Yabe and Hatai, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 21, no. 2, p. 159, pl. 21, fig. 29

Holotype: GS no. 37120

Small cliff of the northwestern valley (Matsubora), about 300 m NW of the main road and about 500 m W of the shrine at Shimizu, Toki-machi, Toki-gun (Mizunami City), Gifu Prefecture; 35°22'35"N, 137°15'31"E

Tsukiyoshi Formation

Miocene

***Vicarya callosa yokoyamai* Takeyama** reported by Yabe and Hatai (1938) from the Miocene Tsukiyoshi Formation, Gifu Prefecture

***Vicarya ibarumensis* MacNeil, 1964**

U. S. Geol. Surv., Prof. Pap. 339-B, p. B4, pl. 2, figs. 2, 3

Holotype: USNM no. 638660, Paratype: USNM no. 638661

Seacost west of the village of Ibaruma, Ishigaki-shima, Ryukyu Islands, Okinawa Prefecture

Miyara Formation

Eocene

(***Vicaryella ibarumensis* (MacNeil)** by Masuda and Noda (1976))

Vicarya vernuili* (d' Archiac)** reported by Makiyama (1932) from the Miocene Tsukiyoshi Formation, Gifu Prefecture (Vicarya callosa yokoyamai* Takeyama** by Hatai and Nisiyama (1952))

***Vicarya verneuili yokoyamai* Takeyama, 1933**

Japan. Jour. Geol. Geogr., vol. 10, nos. 3-4, p. 134, pl. 13, fig. 4

Holotype: GK no. ?

Small cliff of the valley (Matsubora), about 300 m NW of the main road and about 500 m W of the shrine at Shimizu, Toki-mura, Toki-gun (Mizunami City), Gifu Prefecture

Tsukiyoshi Formation

Miocene

(***Vicarya yokoyamai* Takeyama** by Masuda and Noda (1976))

***Vicarya (Shoshiroia) yabei* Kamada, 1960**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 4 (Prof. S. Hanzawa Mem. Vol.), p. 292, pl. 30, figs. 4, 5

Holotype: GEN no. ? (fig. 4), Paratype: GEN no. ? (fig. 5) (GEN: Dep. Geol., Coll. Educ., Nagasaki Univ.)

In the pit of Koyagi coal-mine, Koyagi-mura, Nishi-sonogi-gun, Nagasaki Prefecture

Hashima Formation

Middle Eocene

***Vicarya yatsuoensis* Yabe and Hatai, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 19, no. 2, p. 159, pl. 21, fig. 19

Holotype: GS no. 41228

West side cliff of the Kunesugawa, about 150 m S of Kakehata, Unohana-mura, Nei-gun, Toyama Prefecture; 36°32'50"N, 137°09'35"E

Suhara Formation (Kurosedani Formation)

Miocene (early Miocene)

***Vicarya yokoyamai* Takeyama** reported by Kamada (1960) from the Miocene Mizunami Formation, Gifu Prefecture

***Vicaryella angsanana* (Martin)** reported by Shuto (1978) from the Middle Miocene Njalindoeng bed in Tji Angsan, Java, Indonesia: ***Potamides (Terebralia) angsananus* Martin, 1922**

***Vicaryella atukoae* (Otuka)** reported by Majima and Takahashi (1987) from the Miocene Kozono Formation, Saitama Prefecture: see ***Batillaria atukoae* Otuka, 1934**

***Vicaryella bacula* (Yokoyama)** reported by Yabe and Hatai (1938) from the Miocene (Fujishima) Formation, Wakayama Prefecture: see ***Cerithium baculum* Yokoyama, 1923**

***Vicaryella idai* Kubota, 1951**

Miner. and Geol., vol. 4, nos. 5-6, p. 161

Holotype: UK no. ?

Okuyamada, Ujitawara-mura, Tsuzuki-gun, Kyoto Prefecture Ujitawara Formation

Miocene

(Invalid name because of no indication and description)

***Vicaryella ishiiana* (Yokoyama)** reported by Kubota (1952) from the Miocene Tsukiyoshi Formation, Gifu Prefecture: see ***Cerithium ishiiana* Yokoyama, 1926**

***Vicaryella jabanica* Kamada, 1960**

Sci. Rep., Tohoku Univ., 2nd Ser. (Geol.), Spec. Vol., no. 4 (Prof. S. Hanzawa Mem. Vol.), p. 293, pl. 31, figs. 11-13

Holotype: IGPS no. 72957 (fig. 11), Paratype: IGPS no. ? (figs. 12, 13)

About 50 m upstream of Futatsujima mineral bath, Isohara-machi, Kitaibaragi City, Fukushima Prefecture

Kunugidaira Formation

Miocene (early Miocene)

***Vicaryella martini* Shuto, 1978**

Geol. Geogr. Southeast Asia, vol. 19, p. 129, type: *Potamides (Typanotonus) beberkiranus* Martin, 1899 (N. F. Bd. 1, Abt. 1, S. 209, Taf. 32, F. 474 and 474a) reported from the Middle

Miocene Njalindoeng of Njalindoeng, Java, Indonesia

Holotype: RGM Leiden no. St. 10460

Njaligoeng of Njanlindoeng, Java Islands, Indonesia

Middle Miocene

***Vicaryella nipponica* Yabe and Hatai, 1938**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 19, no. 2, p. 167, pl. 21, figs. 16, 17

Holotype: GS no. 62420, Paratype: GS no. 62420 (pl. 21, figs. 11, 18) (designated by Hatai and Nisiyama (1952))

Road-side cutting on the boundary between Hiroshima and Okayama Prefecture (about 100 m S of the crossing point of

the main road and the small road, and about 800 m SE of Hanzumi, Senyo-mura, Jinseki-gun, Hiroshima Prefecture; 34°44'28"N, 133°22'26"E)

(Murairi)

Miocene (early Miocene)

***Vicaryella notoensis* Masuda, 1956**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 21, p. 161, pl. 26, figs. 2a-4b

Holotype: DGS no. 1410 transferred to IGPS no. 90412 (figs. 2a-c), Paratype: DGS no. 1410 (figs. 3a-4b)

Tokunari, Machino-machi, Fugeshi-gun, Ishikawa Prefecture

Higashi-Innai Formation

Miocene (early Miocene)

***Vicaryella otukai* (Nomura)** reported by Matsubara (1996)

from the early Miocene Yotsuyaku Formation, Iwate Prefecture: see ***Cerithium (Proclava) otukai* Nomura, 1935**

***Vicaryella teshimae* Kanno and Ogawa, 1964**

Sci. Rep., Tokyo Kyoiku Daigaku, sec. C, vol. 8, no. 81, p. 288, pl. 4, figs. 6-8

Holotype: TKD no. 6591 (fig. 7), Paratype: 6765

Loc. no. 2, Sakumanosawa, Yubari City, Hokkaido; Paratype, loc. No. 1, Kumanosawa, Yubari City, Hokkaido

Takinoue Formation

Miocene

***Vicaryella tyosenica otukai* (Nomura)** reported by Kamada

(1964) from the Miocene Kadonosawa Formation, Iwate Prefecture

***Vicimitra hukusimana* (Nomura and Zinbo)** reported by

Itoigawa (1974) from the Miocene Shukunohora Formation, Gifu Prefecture (see ***Mitra (Vicimitra) hukusimana* Nomura and Zinbo, 1935** by Masuda and Noda (1976))

***Vicimitra amphora* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 177, pl. 13, figs. 7a-b

Holotype: Keio Yochgisa no. ?

River floor of the Koito-gawa, near the Miaki-hashii, S of Higashihigasa, Kimirisy City, Chiba Prefecture

Umegase Formation; lowest part

Pleistocene

***Viciniscula sakurii* (Kuroda and Habe)** reported by Noda

(1988) from the Pliocene Shinzato Formation, Okinawa Prefecture: originally described by Kuroda and Habe in Habe

(1961)

***Virgiconus virgo* (Linnaeus)** reported by Okumura and

Takei (1993) from the Pliocene Ananai Formation, Kochi Prefecture: ***Conus virgo* Linnaeus, 1758**

***Viviparus (Cipangopaludina) ishikariensis* Suzuki, 1941**

Jour. Fac. Sci., Imp. Univ. Tokyo, vol. 6. pt 1, p. 4, pl. 1, figs. 1a-c

Holotype: GT no. ? (no registration by Oyama et al. (1960))

Junction of the rivers Penkeporonai and Sorachi, Ashibetsu City, Hokkaido

Ashibetsu Formation, Ishikari Group

Lower Oligocene

(*Cipangopaludina ishikariensis* (Suzuki) by Oyama et al. (1960))

***Viviparus (Cipangopaludina) jimboi* Suzuki, 1941**

Jour. Geol. Soc. Japan, vol. 48, no. 578. p. 520, text-figs. 2, 4, 5

Holotype: GT no. ? (no registration by Oyama et al. (1960))

Unknown (probably; Sorachi-gun, Hokkaido by Oyama et al. (1960))

Ishikari Group ?

Lower Oligocene

(*Cipangopaludina jimboi* (Suzuki) by Oyama et al. (1960))

***Viviparus (Indopoma) mabutii* Suzuki, 1941**

Jour. Fac. Sci., Imp. Univ. Tokyo, vol. 6. pt 1, p. 6, pl. 1, figs. 2-9

Holotype: GT no. ? (no registration by Oyama et al. (1960))

Junction of the rivers Penkeporonai and Sorachi, Ashibetsu City, Hokkaido

Ashibetsu Formation, Ishikari Group

Lower Oligocene

(*Bellamyia (Sinotaia) mabutii* (Suzuki) by Oyama et al. (1960))

***Viviparus strictus* Araki, 1960**

Bull. Lib. Arts Dep., Mie Univ., Spec. Vol. no. 1, p. 106, pl. 9, fig. 8

Holotype: MU no. ?

Road side cliff in eastern part of Kambe, Tsu City, Mie Prefecture

Wakebe Formation

Pliocene

***Viviparus (Indopoma) uryuensis* Yokoyama, 1932**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 3, part 6, p. 236, pl. 1, figs. 8-10

Holotype: UT no. ?

Akaganezawa, a branch of the Okada-sawa, Ishikari Province, Hokkaido

Upper Tachibetsu Beds

Paleogene

(*Bellamyia (Sinotaria) uryuensis* (Yokoyama) by Oyama et al. (1960))

***Volema osawanoensis* Tsuda, 1959**

Jour. Fac. Sci., Niigata Univ., Ser. 2. vol. 3, no. 2, p. 92, pl. 5,

figs. 5, 6

Holotype: JC no. 1400058 (fi. 5). Paratype: JC no. 1400059 Tsuzara, Osawano-machi, Kaminiikawa-gun, Toyama Prefecture

Kurosedani Formation

Miocene (early Miocene)

***Voluta hirugayaensis* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 9, p. 335, pl. 38, fig. 16

Holotype: GT no. ?

Hirugaya (N side of pond in valley 500 m NW of Hirugaya, Hagima-mura, Haibara-gun, Shizuoka Prefecture; 34 ° 43'02"N, 138 °10'07"E)

Sagara Formation

Miocene

(*Fulgoraria hirugayaensis* (Yokoyama) by Hatai and Nisiyama (1952))

***Voluta koyuana* Yokoyama, 1928**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 7, p. 343, pl. 66, fig. 13

Holotype: GT no. ?

Kounji (Road-side cutting at the northern foot of the hill, a short distance W of the bridge at Kounji, Takanabe-machi, Koyu-gun, Miyazaki Prefecture; 32 °07'11"N, 131 °30'10"E) (Kounji Formation)

Pliocene

(*Volutocorbis (Ternivoluta) koyuensis* (Yokoyama) by Hatai and Nisiyama (1952); *Lyria koyuana* (Yokoyama) by Makiyama (1959))

Voluta megaspira Sowerby reported by Yokoyama (1920) from the Pliocene (Pleistocene) Koshiba Formation, Kanagawa Prefecture (Reidentified with *Fulgoraria (Psephaea) kamakurensis* Otuka by Hatai and Nisiyama (1952))

***Voluta megaspira* Sowerby var. *striata* Yokoyama, 1925**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, pt. 3, p. 115, pl. 14, fig. 2

Holotype: GT no. ?, Paratype: GT no. ? (pl. 14, fig.3)

Northern cliff of the Akahira-gawa, about 500 m SE of the temple at Maebara, Kunigami-mura, Chchibu-gun, Saitama Prefecture; 36°03'42"N, 139°04'58"E); Paratype; Southern slope of Kaisekiyama, about 300 m N of the spring at Nakamura, Sakakibara-mura, Isshi-gun, Mie Prefecture; 34 ° 42'32"N, 136 °22'12"E)

(Inugi Formation)

Pliocene (early Miocene)

(*Fulgoraria (Psephaea) striata* (Yokoyama) by Hatai and Nisiyama (1952))

***Voluta sikoensis* Nomura, 1935**

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 135, pl. 6, figs. 5a-b

Holotype: IGPS no. 48979

Siko, Kosyun-syo, Kosyn-gun, Takao-syu, Taiwan

Byoritu Beds

Pliocene

(*Fulgoraria sikoensis* (Nomura) by Masuda and Haung (1990))

Volutharpa perryi (Jay) reported by Ogasawara (197) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture: ***Bullia perryi* Jay, 1857**

Volutopsis hirasei Pilsbry reported by Yokoyama (1928) from the Pliocene Shiraiwa Formation, Niigata Prefecture

***Volutopsius iioakaensis* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 148, pl. 15, figs. 11, 12

Holotype: NSM no. 4465

Road-side cutting 1.5 km S of Hanawa, Iioaka-mati (-machi), Chiba Prefecture

Iioaka Formation

Pliocene

***Volutopsius kannoi* Hatai and Masuda, 1962**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 46, p. 260, pl. 40, figs. 19a-20

Holotype: DGS no. 4244 transferred to IGPS no. 90428 (figs. 19a-b), Paratype: DGS no. 4245 (fig. 20, Loc. 2)

Loc. no. 5, river side small cliff, western end of Godo, Higashijimastuyama City, Saitama Prefecture; 36°04'50"N, 139°19'34"E; Paratype, Loc. no. 2, river cliff, about 600 m SES of Okura, Sugaya-mura (Ranzan-cho), Hiki-gun, Saitama Prefecture; 36°05'06"N, 139°19'05"E

Tokigawa Formation

Miocene

***Volutopsius takanoensis* Ozaki, 1958**

Bull. Nat. Sci. Mus., N. S., vol. 4, no. 1 (no. 42), p. 148, pl. 15, fig. 7

Holotype: NSM no. 4472

Road-side cutting 1.5 km N of Takano-mati (-machi), Tyosi (Choshi) City, Chiba Prefecture

Iioaka Formation

Pliocene

Volutomitra alaskana Dall reported by Sakagami et al. (1966) from the Pliocene (Pleistocene) Tomikawa Formation, Hokkaido (Identified with *Volutomitra hataii* Sawada by Masuda and Noda (1976))

Volutomitra groenlandica alaskana Dall reported by Amano

(1997) from the Pleistocene Haizume Formation, Niigata Prefecture

***Volutomitra hataii* Sawada, 1962**

Mem. Muroran Inst. Tech., vol. 4, no. 1, p. 56, pl. 2, figs. 18, 19

Holotype: MEMIT no. 60003, Paratype: MEMIT no. 60004

Loc. no. 39, roadside cliff, 1200 m NNW of Kitatoyotsu railway station, Oshamanbe-cho, Yamakoshi-gun, Hokkaido; 42°25'30"N, 140°18'23"E

Chinkope Formation

Pliocene (Pleistocene)

Volva volva (Linnaeus, 1758) reported by Nomura (1935) from the Pliocene Byoritu Beds, Taiwan

Volvula acuta (Tokunaga) reported by Yamakawa (1911) from the Pleistocene Tokyo Formation, Tokyo Prefecture: see ***Cyllichna acuta* Tokunaga, 1906**

***Volvula acutaeformis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 26, pl. 1, fig. 9

Holotype: UT no. ? (CM no. 20752)

Shito (Shito, Ichihara City, Chiba Prefecture)

Kazusa Group (Semata Formation)

Pliocene (Pleistocene)

(*Rhizorus acutaeformis* (Yokoyama) by Oyama (1973))

***Volvula artiaperta* Yamakawa, 1911**

Jour. Geol. Soc. Japan, vol. 18, no. 213, p. 50, pl. 11, figs. 33-36

Holotype: UT no. ?

Kurumacho, Musashi (Takanawa 2-chome, Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Pleistocene

(*Phenacovolvula artiaperta* (Yamakawa) by Oyama (1973))

***Volvulella minoensis* Itoigawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 178, pl. 26, figs. 8a-9

Holotype: JC no. 1500004 (figs. 8a-b), Paratype: JC 1500005

Loc. No. M20, Shukubora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

(*Rhizorus minoensis* (Itoigawa) by Masuda and Noda (1976))

***Volvulella tokiensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 293, pl. 6, figs. 13a-b

Holotype: ESN no. 20090, Paratype: ESN no. 20091

Loc. No. S11-1, Kujiri (Izumi-cho), Toki City, Gifu Prefecture
Kujiri Facies of the Akeyo Formation
Miocene
(*Rhizorus tokiensis* (Itoigawa) by Masuda and Noda (1976))

Volvulella tokunagai (Makiyama) reported by Ozaki et al. (1954) from the Pleistocene Tokumaru Formation, Tokyo Prefecture (*Rhizorus tokunagai* (Makiyama, 1927) by Masuda and Noda (1976))

***Volvulella yamauchii* Itoigawa, 1958**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 29, p. 178, pl. 26, figs. 13, 14

Holotype: JC no. 1500006 (fig. 13), Paratype: JC no. 1500007

Loc. No. M20, river-side cliff of Shukubora valley about 100 m SW of the bridge at S of Shukubora, Hiyoshi-cho, Mizunami City, Gifu Prefecture

Shukunohora Sandstone of the Mizunami Group

Miocene

(*Rhizorus yamauchii* (Itoigawa) by Masuda and Noda (1976))

Xenophora chinensis (Philippi, 1841) reported by Tomida (1996) from the Pliocene Osazawa Member of the Akebono Formation, Yamanashi Prefecture

Xenophora exuta (Reeve) reported by Yokoyama (1927) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Tugurium (Tugurium) exutum* (Reeve, 1843) by Hatai and Nisiyama (1952))

Xenophora pallidula (Reeve, 1843) reported by Aoki and Baba (1983) from the Pleistocene Jizodo Formation, Chiba Prefecture; and also reported by Noda (1988) from the Pliocene Shinzato Formation, Okinawa Prefecture

Xenophora tenuis Fulton, 1938 reported by Tomida (1989) from the Mio-Pliocene Senhata Formation, Chiba Prefecture

Xenuroturris (Reticuloturris) iris (Vredenburg) reported by Shuto (1984) from the Miocene of Kyaungon, Thanga district, Burma: *Pleurotoma (Hemipleurotoma) iris* Vredenburg, 1921

Zafra pumila (Dunker) reported by Matsushima (1969) from the Holocene Sakuragicho Formation, Kanagawa Prefecture

***Zafra yokoyamai* Makiyama, 1927**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 1, no. 1, art. 1, p. 124, pl. 5, fig. 14

Holotype: GK no. 70

Dainichi (Valley about 350 m NW of Dainichi, Fukuroi City, Shizuoka Prefecture; 34°48'07"N, 137°37'56"E)

Dainichi Formation

Pliocene

Zaria acuticarinata (Dunker) reported by Shuto (1974) from the Miocene or Pliocene strata of Java Islands, Indonesia: *Turritella acuticarinata* Dunker, 1847

Zaria angulata (Sowerby) reported by Shuto (1974) from the Miocene or Pliocene Tjilanang beds, Java Islands, Indonesia: *Turritella angulata* Sowerby, 1840

Zaria cramatensis (Martin) reported by Shuto (1974) from the Upper Miocene at Kampong Kramat, Java Islands, Indonesia: *Turritella cramatensis* Martin, 1905

Zaria djadjariensis (Martin) reported by Shuto (1974) from the Upper Miocene or Pliocene at Tji Djadjar, Cheribon, Java Islands, Indonesia: *Turritella djadjariensis* Martin, 1905

Zaria javana (Martin) reported by Shuto (1974) from the Miocene or Pliocene strata at Tji Odeng, Java Islands, Indonesia: *Turritella javana* Martin, 1883

Zaria martini (Cossmann) reported by Shuto (1974) from the Upper Miocene at Preamger, Java Islands, Indonesia: *Turritella martini* Cossmann, 1913

Zebina metaltina Ladd, 1966 reported by Itoigawa and Nishimoto (1984) from the early Miocene Shukunohora facies of the Akeyo Formation, Gifu Prefecture

***Zebinella oyamai* Itoigawa and Nishimoto, 1984**

Bull. Mizunami Fossil Mus., no. 11, p. 28, pl. 8, figs. 1a-e, pl. 9, figs. 1a-2b

Holotype: MFM no. 10089, Paratype: MFM nos. 10090, 10091

Akatsuki-bora, Hiyoshi-cho, Mizunami City, Gifu Prefecture: Paratype, Dan, Toki-cho, Mizunami City, Gifu Prefecture

Shukunohora facies, Akeyo Formation (Holotype), and Nataki Conglomerate, Oidawara Formation (Paratype)

Early Miocene

Zeidora calceolina A. Adams reported by Habe (1951) from the Pleistocene Moeshima Formation, Kagoshima Prefecture (*Emarginula calceolina* (A. Adams) by Masuda and Noda (1976))

Zeidora reticulata A. Adams reported by Habe (1951) from the Pleistocene Moeshima Formation, Kagoshima Prefecture (*Emarginula reticulata* (A. Adams) by Masuda and Noda (1976))

Zeuxis castus (Gould, 1850) reported by Ozawa et al. (1998)
from the Pliocene Dainichi Formation, Shizuoka Prefecture

Zeuxis kometubus (Otuka) reported by Itoigawa (1974)
from the Miocene Kujiri Formation, Gifu Prefecture
(*Nassarius (Zeuxis) kometubus* Otuka, 1934 by Masuda
and Noda (1976))

Zeuxis minoensis Itoigawa reported by Itoigawa (1974)
from the Miocene Shukunohora Formation, Gifu Prefecture
(*Nassarius (Zeuxis) minoensis* Itoigawa, 1960 by Masuda
and Noda (1976))

Cenozoic Scaphopoda

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Antalis marukawai Otuka, 1933 recent species known from Kyushu and Shikoku, Japan (Habe, 1977)

Antalis rhabdotum (Pilsbry) reported by Kaseno and Mtsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Striodentalium rhabdotum* (Pilsbry) by Masuda and Noda (1976))

Antalis tibana (Nomura, 1940) living species known between off Boso Peninsula and Amami Islands, Kagoshima Prefecture (Habe, 1977): see *Dentalium tibana* Nomura, 1940

Antalis weinkauffi (Dunker) recorded by Habe (1977) as living between the south of Tsugaru and East China Sea (Synonym: *Antalis septentrionalis* Kuroda and Habe, 1963 by Habe (1977))

Bathoxiphus soyomaruae Okutani, 1964 known from recent sea off Hachijo Islands (Habe, 1977)

Bathoxiphus tricarinatus (Boissevain, 1906) reported by Habe (1977) as recent species known from south of Sagami Bay

Cadulus gordonis Yokoyama, 1920

Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art 6, p. 104, pl. 6, figs. 25, 26

Holotype: GT, no. ?

Naganuma (Road-side cutting at Naganuma, Tosuka-ku, Yokohama City, Kanagawa Prefecture (35°22'03"N, 139°32'05"E))

Naganuma Formation

"Lower Musashino"=Pliocene (early Pleistocene)

(Not Mollusca, belong to Annelid; *Ditrupa gordonis* (Yokoyama) by Hatai and Nisiyama (1952): *Ditrupa arietina* (Müller, 1779) by Habe (1977))

Cadulus wangwaensis Nomura 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 93, pl. 6, fig. 3

Holotype: IGPS no. 52450

Station 18 (Ando coll.), Wangwa, Kotyu-syo, Takunan-gun, Shinchiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

Calliodentalium Habe, 1964 n. gen.

Fauna Japonica, Scaphopoda, p. 30, Type-species; *Dentalium crocinum* Dall, 1907 known from south of Boso and Toyama

Calliodentalium crocinum (Dall, 1907) reported by Habe (1977) as recent species known from south of Boso and Toyama Bay

Compressidens kikuchii (Kuroda and Habe, 1952) reported by Habe (1977) as living species, north of Toyama Bay and off Sanriku to Sakhalin and Kuril

Dentalium aprinum Linnaeus, 1766 recent species known from south sea of of Amami Islands, Kagoshima Prefecture (Habe, 1977)

Dentalium ashियाensis Nagao, 1928

Sci. Rep., Tohoku Imp. Univ., ser 2 (Geol.) vol. 12, no. 1, p. 88, pl. 14, fig. 38.

Holotype: GS, no. 36129 (IGPS no. 36129)

(Beach rocks along the sea coast, about 500 m N of Sakamizu, Shimago-mura, Onga-gun (Wakamatsu-ku, Kitakyushu City), Fukuoka Prefecture (33°56'07"N, 130°42'18"E))

Sakamizu Formation

Oligocene

(*Dentalium ashियाense* (Nagao) by Oyama et al. (1960): *Dentalium ashियाense* Nagao)

Dentalium (Fissidentalium) byorituense Nomura, 1935

Sci. Rep., Tohoku Imp. Univ., 2nd Ser. (Geol.), vol. 18, no. 2, p. 90, pl. 6, figs. 1a-c

Holotype: IGPS no. 52376

Station 8 (Ando coll.), Wangwa, Kotyu-syo, Takunan-gun, Shinchiku-syu, Taiwan

Byoritu Beds

Pliocene (Pleistocene)

(*Fissidentalium byorituense* (Nomura) by Masuda and Huang (1990))

Dentalium complexum Dall: see and refer *Dentalium yokoyamai* Makiyama, 1931

Dentalium edoensis Tokunaga, 1906

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 21, art. 2, p. 34-35, pl. 2, fig. 17

Holotype: UT no. ? (CM no. 20325)

Shinagawa and Oji environs of the Tokyo (cutting along the railway at Oji, Kita-kuTokyo)

Pleistocene

(Non Mollusca; belongs to Annelid, *Ditrupa edoensis* (Tokunaga): *Ditrupa arietina* (Müller) by Habe (1977))

***Dentalium exaratum* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4. p.198, pl. 51, fig. 14

Holotype: GT, no. ?

Rorenai, Haboro, Teshio (Side cliff of the Migizawa stream, a tributary of the Haboro-gawa, about 1.2 km SW of Otap, Haboro-machi, Tomamae-gun, Teshio Province, Hokkaido ; 44°16'58"N, 141°54'50"E)

Chikubetsu Formation

Pliocene (Miocene)

***Dentalium hexagonum* Gould, 1859** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan

***Dentalium (Fissidentalium) hungerfordi* Pilsbry and Sharp, 1898** reported by Nomura (1935) from the Pliocene Byoritsu Beds, Taiwan

***Dentalium lentum* Yokoyama, 1923 (1924)**

Jap. Jour. Geol. Geogr., vol. 2, no. 3, p. 54, pl. 6, fig. 20

Holotype: GT, no. ?

End of the promontory facing the Tanabe bay, on the NE side of the channel, about 700 m SW of Takinai, Shinjo-mura, Nishimuro-gun, Wakayama Prefecture (33°41'57"N, 135°23'24"E)

Atono-ura (Shirahama Formation)

Lower Pliocene (Miocene)

(***Dentalium (Laevidentalium) lentum* (Yokoyama)** by Hatai and Nisiyama (1952): pub. year and plate number miss-printed))

***Dentalium misatoensis* Araki, 1959**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 36, p. 164, pl. 18, figs. 4a-b

Holotype: Mie Univ., no. ?

Road cutting on road leading from Funayama to Kozahara, Funayama, Misato-mura, Age-gun, Mie Prefecture

Kaisekizan Formation

Miocene

***Dentalium (Antalis) motidukii* Otuka, 1935**

Bull. Earthq. Res. Inst., Vol. 13, Part 4, p. 879, pl. 65, fig. 89

Holotype: UT no. 2400

Hiradoko (1) (Precise locality unknown)

Ishikawa Prefecture

Hiradoko Shell Bed

Pleistocene

***Dentalium (Fustriaria) nipponicum* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 119, pl. 6, fig. 7

Holotype: UT no. ? (CM no. 21050)

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

***Dentalium nunomae* Takeda, 1953**

Studies on Coal Geology, no. 3, p. 63, pl. 4, fig. 8, pl. 5, fig. 12

Holotype: UH no. 11090

South Sakhalin (Precise locality unknown) (Russia)

Maoka Group ?

Upper Oligocene

***Dentalium (Fissidentalium) nunomae* Takeda, 1953**

reported by Honda (1989) from the Oligocene Shitakara Formation, Hokkaido

***Dentalium octangulatum* Donovan, 1804** reported by Yokoyama (1928) from the Pliocene Upper Byoritsu Beds, Taiwan (Synonym of ***D. octogonum* Lamarck, 1818**; ***D. hexagonum* Gould, 1859**; ***D. sexcostatum* Sowerby, 1850**; ***D. japonicum* Dunker, 1877**; ***D. yokohamense* Watson, 1879** (Habe, 1977))

***Dentalium (Paradentalium) octangulatum hexaginum* Gould** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture

***Dentalium octogonum* Lamarck** reported by Tokunaga (1906) from the Pleistocene Shinagawa and Oji Beds, Tokyo Prefecture

***Dentalium octogonum* Lamarck** reported by Yokoyama (1920 Jour. Coll. Sci. Imp. Univ. Tokyo, vol. 39, art 6) (Synonymus with ***Dentalium octangulatum* Donovan** by Hatai and Nisiyama (1952))

Dentalium (Rhabdus) philippinarum* Sowerby, 1860** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan (Laevidentalium philippinarum* (Sowerby)** by Masuda and Huang (1990))

***Dentalium (Aantalis) pretiosum* Sowerby, 1860** reported by Nomura (1935) from the Pliocene (Pleistocene) Byoritsu Beds, Taiwan

Dentalium semipolatum* Broderip and Sowerby** reported by Yokoyama (1927) from the Pleistocene Tokyo Formation, Tokyo Prefecture (Dentalium (Graptacme) buccinulum* Gould** by Oyama (1973))

***Dentalium septentrionale* Kuroda** reported by Oyama (1973) from the Pleistocene Miyata Formation, Kanagawa Prefecture

Dentalium subrectum* Jeffreys, 1882** reported by Yokoyama (1928) from the Pliocene Byoritsu Beds, Taiwan (Episiphon***

yamakawai (Yokoyama) by Masuda and Huang (1990))

***Dentalium (Fustisria) suzukii* Yokoyama, 1929**

Imp. Geol. Surv. Japan, Rep., no. 104, p. 14, pl. 7, fig. 6.

Holotype: GSJ no. ? (designated and noted as destroyed in Hatai and Nisiyama (1952))

(Near the junction of the tributary and the small river, a short distance E of the road at Todani, N of Tonohama, Ysuda-machi, Aaki-gun, Kochi Prefecture (33 °26'43"N, 133 °58'21"E)

(Konomine Formation)

Pliocene

***Dentalium tigillum* Yokoyama, 1931**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 2, pt. 4, p. 194, pl. 11, fig. 6

Holotype: GT, no. ? (designated by Hatai and Nisiyama (1952))

Morai, near Aatsuta, Ishikari (Sea cliff about 800 m S of Morai, Aatsuta-mura, Aatsuta-gun, Ishikari Province, Hokkaido (43 °18'05"N, 141 °24'06"E)

(Kawabata Formation)

Miocene

***Dentalium (Aantalis) totomiensis* Makiyama, 1931**

Mem. Coll. Sci., Kyoto Imp. Univ., ser. B, vol. 7, no. 1, art. 1, p. 44, pl. 1, figs. 2, 3

Holotype: UK no. ?

Loc. 522 (Left road-side cutting about 150 m S of the tunnel at Shimoida, Iida-mura, Suchi-gun (Fukuroi City), Shizuoka Prefecture (34 °48'N, 137 °55'E)

Hosoya Formation

Pliocene

Dentalium (Laevidentalium) toyamaense* Kuroda and Kikuchi** reported by Hayasaka (1961) from the Pleistocene Toshima Formation, Aichi Prefecture (Laevidentalium toyamaensis* (Kuroda and Kikuchi)** by Masuda and Noda (1976))

Dentalium vernedei* Sowerby, 1860** reported by Nomura (1925) from the Pliocene Byoritsu Beds, Taiwan: see ***Dentalium (Fissidentalium) vernedei* Sowerby** (Fissidentalium vernedei* Sowerby** by Masuda and Noda (1976))

***Dentalium (Fissidentalium) watanabei* Kanno, 1958**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 6, no. 55, p. 200, pl. 5, figs. 7-9

Holotype: TKD, no. 6191 (fig. 7), Paratype: TKD no. 6192 (loc. 207)

Loc. 207, river side exposure near a fall, Nenokami in Hikokubo, Yoshida-machi, Saitama Prefecture: Paratype, loc. no. 203, a river side exposure of the Shinoha-zawa, about

100 m upstream of the junction of the Akahira River, Obashira, Chichibu City, Saitama Prefecture

Nenokami Formation

Oligocene (early Miocene)

(***Fissidentalium watanabei* (Kanno)** by Masuda and Noda (1976))

***Dentalium (Dentale) weinkauffi* Dunker** reported by Tokunaga (1906) from the Pleistocene Shinagawa Beds, Tokyo Prefecture

***Dentalium yamakawai* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, Vol. 1, Part 10, p. 427, pl. 48, fig. 6

Holotype: UT no. ? (CM no. 23906)

Shinagawa (Minato-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(***Dentalium (Laevidentalium) yamakawai* Yokoyama** by Oyama (1973))

***Dentalium yokoyamai* Makiyama, 1931**

Jap. Jour. Geol. Geogr., vol. 9, nos. 1-2, p. 44, pl. 1, fig. 1.

Holotype: GK. No. ?

Nojima near Yokosuka, Miura Peninsula (Sea cliff about 300 m E of the temple at Nojima, SE of Kanazawa, Yokohama City, Kanagawa Prefecture (35 °19'29"N, 139 °38'23"E)

Nojima Formation

Pliocene

(***Fissidentalium yokoyamai* (Makiyama)** by Masuda and Noda (1976))

***Dentalium yotsukurensis* Hirayama, 1955**

Sci. Rep., Tokyo Kyoiku Daigaku, Sec. C, vol. 4, no. 29, p. 109, pl. 4, figs. 26-28

Holotype: TKD, no. 10233 (fig. 26), Paratype: TKD no. 10208 (figs. 27, 28)

Loc. A15, roadside cliff at about 1 km N of the Yotsukura Fishing Port, Yotsukura-machi, Iwaki City, Fukushima Prefecture: Paratype, loc. A28, cliff along the tributary of the Kobisa-gawa, Oyamada, Hisanohama-machi, Iwaki City, Fukushima Prefecture

Asagai Formation

Oligocene

***Dischides belcherii* (Pilsbry and Sharp, 1897)** reported by Habe (1977) as recent species known from sea between south of Boso Peninsula to Taiwan

***Entalina quadrangularis* Boissevain, 1906** reported by Habe (1977) as recent species known from south of Sagami Bay to Indonesia

***Entalinopsis* Habe, 1957** n. gen.

Publ. Seto Mar. Biol., no. 16, p. 132, Type-species; *Dentalium nivosum* Kuroda and Kikuchi, 1933=*D. intercostatum* Boissevain, 1906 known from south of Tsugakru Strait

***Entalinopsis intercostata* (Boissevain, 1906)** reported by Habe (1977) as recent species known from south of the Tsugaru Strait to Indonesia (Synonym: *Dentalium nivosum* Kuroda and Kikuchi, 1933; *D. tugaruensis* Nomura and Hatai, 1940 by Habe (1977))

***Entalinopsis habutae* (Kuroda and Kikuchi, 1933)** reported by Aoki and Baba (1984) from the Pliocene Nobori Formation, Kochi Prefecture (This species known from sea off south of the Tsugaru Strait to East China Sea (Habe, 1977))

***Entalinopsis intercostatus* (Boissevain, 1906)** reported by Aoki and Baba (1984) from the Pliocene Nobori Formation, Kochi Prefecture

***Entalinopsis nivosum* (Kuroda and Kikuchi)** reported by Kaseno and Matsuura (1965) from the Pliocene (Pleistocene) Omma Formation, Ishikawa Prefecture (*Entalinopsis intercostatus* (Boissevain) by Masuda and Noda (1976))

***Episiphon candelatus* (Kira, 1959)** reported by Habe (1977) as recent species known from off Boso to Shikoku

***Episiphon yamakawai* (Yokoyama, 1927)** reported by Habe (1977) from the known species south of Mutsu Bay: see *Dentalium yamakawai* Yokoyama (Synonym: *Dentalium subrectum* Jeffreys, 1882; *D. makiyamai* Kuroda and Kikuchi, 1933)

Fissidentalium (Compressidentalium) Habe, 1963 n. subgen.

Bull. Nat. Sci. Mus., no. 6, p. 260, Type-species; *Dentalium hungerfordi* Pilsbry and Sharp, 1897

***Laevidentalium langfordi* Habe, 1963** recent species known from between off Boso and Okinawa (Habe, 1977)

***Laevidentalium sominium* Okutani, 1964** reported by Habe (1977) as recent species known from sea between the Sagami Bay and Kashimanada

***Laevidentalium toyamense* (Kuroda and Kikuchi, 1933)** reported by Habe (1977) as recent species known from Toyama Bay and Sagami Bay

***Fissidentalium (Pictodentalium) formosum* (Adams and Reeve)** recent species known from south of Kii by Habe

(1977) (Synonym: *Dentalium festivum* Sowerby, 1913; *D. (P.) formosum hirasei* Kira, 1959 (Habe, 1977))

***Fissidentalium horikoshii* Okutani 1982** described from off Sanriku, Northwestern Pacific (Venus, vol. 41, no. 1, p. 1, figs. 1-5)

***Fissidentalium (Compressidentalium) hungerfordi* (Pilsbry and Sharp, 1897)** recent species known from south of Choshi, Chiba Prefecture to Indonesia (Habe, 1977)

***Fissidentalium kawamaurai* Kuroda and Habe, 1961** recent species known from between the Sagami Bay and Shikoku (Habe, 1977)

***Fissidentalium laterischismum* Shikama and Habe, 1963** recent species known from off Monbetsu, Hokkaido

***Fissidentalium lima* Kuroda and Habe, 1961** recent species known off Shikoku, Japan (Habe, 1977)

***Fissidentalium (Compreidentalium) sibogae* (Boissevain, 1906)** recent species known from south of Tosa Bay, Japan (Habe, 1977)

***Fissidentalium (Pictodentalium) vernedei* (Sowerby, 1860)** recent species known from south of Boso (Habe, 1977)

***Fissidentalium yokoyamai* (Makiyama, 1931)** reported by Habe (1977) (Synonym: *Dentalium complexum* Yokoyama, 1920 non Dall, 1895)

***Fustiaria nipponica* (Yokoyama, 1922)** reported by Habe (1977) from the recent sea south of Boso Peninsula (Synonym: *Dentalium nagoense* Dall, 1927; *D. (Fustiaria) numatai* S. Hirase, 1931 by Habe (1977))

***Gadila anguidens* (Melvill and Standen, 1898)** reported by Habe (1977) as recent species known from south of Amani to Indonesia and Indian Sea

***Galila sagamiensis* Kurda and Habe** reported by Habe (1977) as recent species known from the Sagami Bay

***Gadilina corusca* (Pilsbry, 1905)** reported by Habe (1977) as recent species known from south of Enshunada to Indonesia

***Gadilia tenue* Ozaki, 1956**

Bull. Nat. Sci. Mus., vol 3, no. 1, p. 2, pl. 1, fig. 5

Holotype NSM no. 4375

Nisnotani, Nobori, Hane Twon, Aki County (Nishinotani, Hane-cho, Aki-gun), Kochi Prefecture

Nobori Formation

Miocene (Pliocene)

Graptacme acicula (Gould, 1859) reported by Habe (1977) as recent species known from south of Kii Peninsula (Synonym: *Dentalium luchuanum* Dall, 1926 by Habe (1977))

Graptacme buccinula (Gould, 1859) reported by Habe (1977) as recent species known from south of Boso and Toyama (Synonym: *Dentalium motidukii* Otuka, 1935 by Habe (1977))

***Graptacme takakoe* Tsuchida and Tachi, 1999**

Venus, vol. 58, no. 1, p. 9, figs. 1-12

Holotype: NSMT-Mo no. 714000, Paratype: NSMT-Mo no. 71401

Ise Bay, Mie Prefecture

Living specimens

Recent

Lentigodentalium variable (Deshayes, 1825) recent species known from south of Kii Peninsula, Japan (Habe, 1977)

***Megaentalina* Habe, 1963 n. gen.**

Bull. Nat. Sci. Mus., no. 6, p. 272, Type-species; *Megaentalina teramachii* Kuroda and Habe, 1963=*Entalina mediocarinata* Boissevain, 1906

Megaentalina cornucopiae (Boissevain, 1906) reported by Habe (1977) as recent species known from off south of Izu Islands to Indonesia

Megaentalina mediocarinata (Boissevain, 1906) reported by Habe (1977) as recent species known from the south of Tosa Bay to Indonesia

***Omniglypta* Kuroda and Habe in Habe, 1953 n. gen.**

Genera. Japan. Shells, no. 4, p. 296, Type-species; *Dentalium cerinum* Pilsbry, 1905 known from off Sanriku to Goto Islands, Kyushu

Omniglypta cerina (Pilsbry, 1905) reported by Habe (1977) as recent species known from off Sanriku to Goto Islands, Kyushu

Polyschides (Polyschides) faustus Kuroda and Habe, 1971 reported by Habe (1977) as recent species known from the Sagami Bay

Polyschides (Polyschides) magnus (Boissevain, 1906) reported by Habe (1977) as recent species known from sea between Sagami Bay and Indonesia

Polyschides (Platyschides) opportunus (Kuroda and Habe, 1961) reported by Habe (1977) as recent species known from sea between the Sagami Bay and Kashimanada

Polyschides (Platyschides) virginalis (Boissevain, 1906) reported by Habe (1977) as recent species known from sea between Shikoku and Indonesia (Synonym: *Gadila (Platyschides) noviluna* Kira, 1959 by Habe (1977))

Polyschides (Polyschides) sakurii (Kuroda and Habe, 1961) reported by Habe (1977) as recent species known from sea between Sagami Bay and off Sanriku

Pusellum hige Habe, 1963 reported by Habe (1977) as recent species known from sea between south of Hokkaido to Kyushu

Pusellum kurogenge Habe and Kosuge, 1964 reported by Habe (1977) as recent species off Choshi, Chiba Prefecture

Pusellum minoensis Itoigawa, 1960 reported by Itoigawa et al. (1974) from the Miocene Mizunami Group, Gifu Prefecture: see *Siphonodentalium (Pusellum) minoensis* Itoigawa, 1960

***Sagamicadulus* Sakagami and Shimizu, 1963 n. gen.**

Bull. Nat. Sci. Mus., no. 6, p. 250, Type-species; *Striocadulus (Sagamicadulus) elegantissimus* Sakurai and Shimazu, 1963 known from the Sagami Bay

Sagamicadulus elegantissimus (Sakurai and Shimizu, 1963) reported by Habe (1977) as recent species from the Sagami Bay

Siphonodentalium isaotakii Habe, 1953 reported by Habe (1977) as recent species known from bays between south of Hokkaido to Kyushu

Siphonodentalium japonicum Habe, 1960 reported by Habe (1977) as recent species known from sea between Honshu and Kyushu

***Siphonodentalium (Pusellum) minoensis* Itoigawa, 1960**

Jour. Earth Sci., Nagoya Univ., vol. 8, no. 2, p. 274, pl. 3, figs. 2, 3

Holotype: ESN, no. 20031 (fig. 2), Paratype: ESN no. 20032

Loc. no. S11-1, Kujiri, Toki City, Gifu Prefecture

Akeyo Formation

Miocene (early Miocene)

***Siphonodentalium nipponicum* Makiyama, 1927**

Mem. Coll. Sc., Kyoto Imp. Univ.p., ser. B, vol. 1, no. 1, art. 1, p. 59, pl. 2, figs. 17-19

Holotype: GT, no. 224.

Honohashi (about 150 m W of Honohashi, Saigo-mura, and 2.5 km N of the Kakegawa station, Shizuka Prefecture; 34 ° 47'02"N, 130 °00'06"E)

Dainichi Formation

Pliocene

***Siphonodentalium okudai* Habe, 1953** reported by Habe (1977) as recent species known from off Akkeshi, Hokkaido

***Siphonodentalium (Pulsellum) ozawai* Yokoyama, 1926**

Jour. Fac. Sci., Imp. Univ. Tokyo, ser. 2, vol. 1, pt. 8, p. 289, pl. 34, fig. 11

Holotype: GT, no. ?

Sawane (Sea cliff facing Mano bay, about 250 m SE of the contact point of the two main roads near the primary school at Sawane-amchi, Sado-gun, Niigata Prefecture (37°49'47"N, 138°16'43"E)

Sawane Formation

Pliocene (early Pleistocene).

***Spadentalium* Habe, 1963** n. gen.

Bull. Nat. Sci. Mus., no. 6, p. 264, Type-species; *Dentalium tubiforme* Boissevain, 1906

***Spadentalium tubiformis* (Boissevain, 1906)** recent species known from south of Shikoku, Japan to Indonesia (Habe, 1977)

***Striodentalium* Habe, 1964** n. gen.

Fauna Japonica, Scaphopoda, p. 22, Type-species; *Dentalium rhabdotum* Pilsbry, 1905 known from Honshu to East China Sea

***Striodentalium hosoi* (Habe, 1964)** reported by Habe (1977) as recent species known from off Tosa to Southern Kyushu

***Striodentalium rhabdotum* (Pilsbry, 1905)** recorded by Habe (1977) as recent species known from off Honshu to East China Sea

***Striodentalium tosaensis* (Habe, 1963)** reported by Habe (1977) as recent species known from between the Suruga Bay and Tosa Bay

Cenozoic Bivalvia (Supplement)

Kenshiro Ogasawara

**Institute of Geoscience, University of Tsukuba,
Tsukuba 305-8571, Japan**

Acila (Truncacila) gottschei (Bohm) var. osugii Nagao and Huzioka, 1941

Jour. Fac. Sci., Hokkaido Imp. Univ., ser. 4, vol. 6, no. 2, p. 125, pl. 29, figs. 18, 19

Holotype: HU no. ?, Paratype: UH no. ?

Rattan-gawa, Konotoro-mura, Maoka-gun, Karahuto (Sakhalin, Russia)

Araki Beds (probably in original descrip.)

Miocene

(Osugi collection)

Acila (Acila) praedivariata Nagao and Huzioka, 1941

Jour. Fac. Sci., Hokkaido Imp. Univ., ser. 4, vol. 6, no. 2, p. 137, pl. 31, figs. 5-8

Holotype: HU no. ?, Paratype: UH no. ?

Araki-zawa and Karumai-zawa near Maoka-mati, Karafuto (Sakhalin, Russia)

Upper Nisisakutan Beds

Upper Pliocene, Lower Miocene or Upper Oligocene

Anadara (Scapharca) omaruensis Sasaki, 1991

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 161, p. 710, figs. 11-2a-b, 12-5a-8b

Holotype: IGPS no. 101325

Iwasebashi, Matsubara, Kawaminami-machi, Koyu-gun, Miyazaki Prefecture

Koyu Formation, Miyazaki Group

Pliocene

Anadara (Scapharca) takanabensis Sasaki, 1991

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 161, p. 710, figs. 11-4a-b, 12-1a-4b

Holotype IGPS no. 101317

Toriyama, Kawaminami-machi, Koyu-gun, Miyazaki Prefecture

Koyu Formation, Miyazaki Group

Pliocene

Anomia lunula Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 177, pl. 14, figs. 22, 23

Holotype: UT no. ? (CM no. 21528)

Otake (Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(Synonymus with *Monia umbonata* (Gould) by Oyama (1973))

Anomia sematana Yokoyama, 1922

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 177, pl. 14, figs. 20, 21

Syntype: UT no. ? (CM nos. 21532, 21533)

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

(Synonymus with *Monia umbonata* (Gould) by Oyama (1973))

Arcopagia (Meerisca) tokunagai Ikebe, 1936

Venus, vol. 6, no. 4, p. 203-205, text-figs. 3a-b

Holotype: UT no. Kf559

Kamimiyata, Miura City, Kanagawa Prefecture

Miyata Formation

Pleistocene

(*Merisca tokunagai* (Ikebe) by Oyama (1973))

Bankia (s. l.) amakusensis Otsuka, 1978

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 112, p. 419, pl. 52, figs. 1-12, pl. 53, figs. 1-12, text-fig. 3

Holotype: KE no. 2800 (pl. 52, fig. 5), Paratype: KE nos. 2791, 2807, 2813 (KE; Collection of the Faculty of Education, Kumamoto Univ.)

Occurred in fossil woods, *Taxodioxyloxy matsuiwa* Watari, from nodules in a black shale, at the seaside exposures about 800 m SW of Shimodakita of Shimoda, Amakusa-machi, Amakusa-gun, Kumamoto Prefecture

Fukami Formation

Paleogene

Basterotia trapezium Yokoyama, 1920

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 108, pl. 7, figs. 8, 9

Holotype: UT no. ? (Lectotype: CM no. 20349, Paralectotype: CM no. 20350)

Otsu (Yokosuka City, Kanagawa Prefecture)

Yokosuka Zone (Otsu Formation)

Pleistocene

(Synonymus with *Anisodonta (Anisodonta) recluzi* (A. Adams) by Oyama (1973))

Cardium ebaranum Yokoyama, 1927

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 430, pl. 48, figs. 15

Holotype: UT no. ? (CM no. 24040)

Shinagawa (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Afrocardium ebaranum* (Yokoyama) by Oyama (1973))

Cardium (Ringicardium?) mansitii Otsuka, 1937

Venus, vol. 7, no. 3, p. 137, figs. 53a-b

Holotype: UT no. no. 2767

Hokoto, Taiwan
Living specimen
Recent

Pleistocene
(Synonymus with *Corbicula (Corbicula) japonica* Prime by Oyama (1973))

***Cardium tokunagai* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 156, pl. 12, figs. 4-6
Holotype: UT no. ? (CM no. 21401)
Otake (Narita City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(Synonymus with *Clinocardium (Fuscocardium) braunsi* (Tokunaga) by Oyama (1973))

***Corbula frequens* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 123, pl. 6, fig. 16, 17
Holotype: UT no. ? (Lectotype: CM nos. 21170, Paralectotype: CM no. 21171)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(Synonymus with *Potamocorbula amurensis* (Schrenck) by Oyama (1973))

***Chlamys inouei* Tomida, 1989**

Bull. Mizunami Fossil Mus., no. 16, p. 98, pl. 16, figs. 1-3
Holotype: MFM no. 110109 (fig. 1), Paratype: MFM nos. 110110 (fig. 2), 111070-111075 (fig. 3)
Loc. no. 5, the east side of the Okumoto Quarry, Kyonan-cho, Awa-gun, Chiba Prefecture; 139 °51'20"N, 35 °09'20"N;
Paratype, loc. no. 2, Shiofuki Tunnel, the east of Myoganesaki, Kyonan-cho, Awa-gun, Chiba Prefecture; 139 °49'35"E, 35 °08'58"N
Senhata Formation
Mio-Pliocene

***Corbula pustulosa* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 123, pl. 6, fig. 18
Holotype: UT no. ? (Lectotype: CM no. 21175)
Otake (Narita City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(Synonymus with *Potamocorbula amurensis* (Schrenck) by Oyama (1973))

***Clinocardium hatsusense* Okumura and Yamagishi, 1992**

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 165, p. 1020, figs. 3-2a-b
Holotype: NUH no. 87016, Paratype: NUH nos. 870171-870173
A small exposure on the east side of the public hall of Kanda region, Miura City, Kanagawa Prefecture
Hatsuse Formation
Miocene

***Corbula pygmaea* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 125, pl. 7, figs. 4, 5
Holotype: UT no. ? (Lectotype: CM no. 21185, Paralectotype: CM no. 21182)
Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)
(Imba Formation)
Pleistocene
(Synonymus with *Varicorbula yokoyamai* Habe by Oyama (1973))

***Corbicula kobelti* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 166, pl. 13, figs. 18, 19
Holotype: UT no. ? (Lectotype: CM no. 21469, Paralectotype: CM no. 21468)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(Synonymus with *Corbicula (Corbicula) japonica* Prime by Oyama (1973))

***Corbula sematensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 124, pl. 6, figs. 19, 20
Holotype: UT no. ? (CM no. 21178)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(Fig. 19 is synonymus with *Potamocorbula amurensis* (Schrenck); fig. 20, *Poromya flexuosa* Yokoyama by Oyama (1973))

***Corbicula sandaiformis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 165, pl. 13, figs. 14, 15
Holotype: UT no. ? (Lectotype: CM no. 21463, Paralectotype: CM no. 21464 by Oyama (1973))
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)

***Corbula substriata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 125, pl. 7, fig. 3
Holotype: UT no. ? (CM no. 21186)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)

Pleistocene

(Synonymus with *Varicorbula bifrons* (A. Adams) by Oyama (1973))

***Corculum (Fragum) bannoi* Otuka, 1937**

Venus, vol. 7, no. 3, p. 138, figs. 54a-b

Holotype: UT no. 3238, Paratype: UT no. ?

Hokoto, Taiwan

Shell sand

Pleistocene

***Crassostrea gravitesta eoilensis* Kim, Noda and Yoon, 1974**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 93, p. 274, pl. 38, figs. 15, pl. 39, figs. 1a-c

Holotype: IGPS no. 92938 (pl. 39, figs. 1a-c), Paratype: IGPS no. 92937 (pl. 38, fig. 15)

Loc. no. 1-1, South of Songjeno-ri, Yangbug-myeon, Weolseong-gun, Gyeongwangbug-do, Korea

Oil Formation

Miocene

***Crenella divaricata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 175, pl. 15, figs. 10, 11

Holotype: UT no. ?

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

***Cryptomya tachibanensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 454, pl. 52, fig. 5

Holotype: UT no. ? (CM no. 243367)

Ichikawa (Ichikawa City, Chiba Prefecture)

(Raised Beach Deposits)

Holocene

(Synonymus with *Cryptomya (Venatomya) truncata* Gould by Oyama (1973))

***Cucullaria orientalis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 191, pl. 17, figs. 8, 9

Holotype: UT no. ? (Lectotype: CM no. 21634, Paralectotype: CM no. 21635)

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

(Synonymus with *Pseudogrammatodon dali obliquatus* (Yokoyama) by Oyama (1973))

***Cuspidaria ligula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 169, pl. 14, figs. 3, 4

Holotype: UT no. ? (Lectotype: CM no. 21480,

Paralectotype: CM no. 21479)

Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)

Pleistocene

***Diplodonta gouldi* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 132, pl. 10, fig. 5

Holotype: UT no. ? (CM no. 20449)

Kami-Miyata (Miura City, Kanagawa Prefecture)

Miyata Zone (Miyata Formation)

Pleistocene

***Diplodonta lunaris* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 433, pl. 50, figs. 5, 6

Holotype: UT no. ? (Lectotype: CM no. 24070, Paralectotype: CM no. 24069)

Shinagawa (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Cycladicama lunaris* (Yokoyama) by Oyama (1973))

***Donax paululus* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 455, pl. 52, fig. 6

Holotype: UT no. ? (CM no. 24383)

Matsudo, Higashikatsushika-gun (Matsudo City, Chiba Prefecture)

(Imba Formation)

Pleistocene

(Synonymus with *Donax (Tendidonax) kiusiuensis* Pilsbry by Oyama (1973))

***Entodesma naviculoides* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 170, pl. 6, fig. 11

Holotype: UT no. ? (CM no. 21485)

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

***Ervilia otsuensis* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 109, pl. 7, figs. 21, 22

Syntype: UT no. ? (CM nos. 20351, 20352)

Otsu (Yokosuka City, Kanagawa Prefecture)

Yokosuka Zone (Otsu Formation)

Pleistocene

(Synonymus with *Coecella chinensis* Deshayes by Oyama (1973))

***Galeomma adamsi* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 47, pl. 4,

figs. 3, 4

Syntype: UT no. ? (Lectotype: CM no. 21935, Paralectotype: CM no. 21934)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coal Bed (Numa Formation)

Pleistocene (Holocene)

(Synonymus with *Byssobornia striatissima* (Sowerby) by Oyama (1973))

***Halicardia nipponensis* Okutani, 1957** reported by Tomida (1989) from the Pliocene Ochiai Formation, Kanagawa Prefecture

***Jouannetia japonica* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 105, pl. 7, fig. 1

Holotype: UT no. ? (Lectotype: CM no. 20333)

Otsu (Yokosuka City, Kanagawa Prefecture)

Yokosuka Zone (Otsu Formation)

Pleistocene

(*Nettastomella japonica* (Yokoyama) by Oyama (1973))

***Jouannetia yabei* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 39, pl. 2, fig. 11

Holotype: UT no. ? (CM no. 21899)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coal Bed (Numa Formation)

Pleistocene (Holocene)

(Synonymus with *Zirfaea subconstricta* (Yokoyama) by Oyama (1973))

***Katelsia (Nipponomarcia) endoi* Hatai and Kotaka, 1952**

Short Pap., IGPS, no. 4, p. 84, pl. 7, fig. 25

Holotype: IGPS no. 74341, Paratype: IGPS no. 74341

Namuchaku, Shinsoruton, San-u-nanmyon, Myonchon District, Hamukyon-pukuton, North Korea

Heiroku Formation

Lower Miocene

***Kellia fujitaniana* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 431, pl. 48, figs. 17, 18

Holotype: UT no. ? (Lectotype: CM no. 24045, Paralectotype: CM no. 24046 by Oyama (1973))

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Montacutona ? fujitaniana* (Yokoyama) by Oyama (1973))

***Kellia (?) ojiana* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 432, pl. 50, figs. 7, 8

Syntype: UT no. ? (CM no. 24050 and 24051, noted as

missing by Oyama (1973))

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Alvenius ojianus* (Yokoyama) by Oyama (1973))

***Kellia subelliptica* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 431, pl. 48, figs. 9, 10

Holotype: UT no. ? (Lectotype: CM no. 24042, noted as missing by Oyama (1973), Paralectotype: CM no. 24046)

Dokanyama (Dokanyama, a hill of Yanaka, Taito-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Montacutona subelliptica* (Yokoyama) by Oyama (1973))

***Lepton puncticulatum* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 48, pl. 4, figs. 8, 9

Holotype: UT no. ? (CM no. 21937)

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coal Bed (Numa Formation)

Pleistocene (Holocene)

(*Melliteryx puncticulata* (Yokoyama) by Oyama (1973))

***Lima amaxensis* var. *kumosoana* Nagao, 1928**

Sci. Rep., Tohoku Imp. Univ. 2nd Ser. (Geol.), vol. 9, no. 3, p. 104 (8), pl. 22 (3), figs. 31, 32

Holotype: IGPS no.

Yamaguchi, Hondo-machi (Probably; cliff behind house immediately W of the main road, about 450 m NW of the contact point of the main road and the road at Imada, Ichchoda-mura), Amakusashimo-shima, Kumamoto Prefecture (32°21'26"N, 130°05'38"E)

Itchoda Sandstone (Ichchoda Formation)

Paleogene (Eocene)

(*Lima kumosoana* Nagao by Hatai and Nisiyama (1952))

***Lima (Meotolima) ogasawarana* Oyama, 1943**

Conchologia Asiatica vol. 1, pars 1, p. 36, pl. 2, figs. 9, 10, pl. 14, fig. 7

Syntype: noted as destroyed in Oyama et al. (1960)

Hahajima, Ogasawara Islands, Tokyo Prefecture

Hahajima Limestone

Eocene

(*Spondylus (Meotolima) ogasaranus* (Oyama) by Iwasaki (1975))

***Lima vulgatula* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 179, pl. 17, figs. 18, 19

Syntype: UT no. ? (Lectotype: CM no. 21544, Parakectotype: 21545 by Oyama (1973))

Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene

***Limopsis areolata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 194, pl. 17, figs. 6, 7
Holotype: UT no. ?
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(Synonymus with *Limopsis (Empleconia) cumingii* A. Adams by Oyama (1973))

***Limopsis nipponica* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 195, pl. 17, figs. 16, 17
Syntype: UT no. ? (Lectotype: CM no. 21646, Paralectotype: CM no. 21647)
Kioroshi (Inzai City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(*Limopsis (Nipponolimopsis) nipponica* Yokoyama by Oyama (1973))

***Lucina yamakawai* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 135, pl. 10, fig. 9
Holotype: UT no. ? (CM no. 20462)
Shimo-Miyata (Miura City, Kanagawa Prefecture)
Miyata Zone (Miyata Formation)
Pleistocene
(*Pillucina (Sydlorina) yamakawai* (Yokoyama) by Oyama (1973))

***Lucinoma kamakurensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 265, pl. 30, figs. 5a-c
Holotype: Keio Yochgisa no. ?
A cliff west of Imaizumi, 0.8 km NE of Kitakamakura station (Yokosuka Line), Kamakura City, Kanagawa Prefecture
Nojima Formation; middle part
(Pliocene)

***Macoma hirayamaensis* Baba, 1990**

Moll. Fos. Assem. Kazusa Group, South Kwanto, central Japan, p. 287, pl. 35, figs. 5-7
Holotype: Keio Yochgisa no. ?
River side exposure of the Asakawa, under the Hirayama Bridge at Hirayama, 0.9 km S of Hino station (Chuo Line), Hino City, Tokyo Prefecture
Hirayama Formation; lower part
Pleistocene

***Macoma kioroshiensis* Tanji, 1980**

Venus, vol. 39, no. 1, p. 43, pl. 1, figs. 1-5, pl. 2, figs. 1-5
Holotype: NSMT Mo-no. 58021, Paratype: NSMT Mo-no. 58022, Tanji Coll. nos. 10186, 10187
Road side cliff of the National Road No. 51 at Koshinotsuka, Sakura City, Chiba Prefecture
Kioroshi Member of the Narita Formation
Pleistocene

***Mactra dunkeri* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 128, pl. 7, figs. 7, 8
Syntype: UT no. ? (CM nos. 21207, 21207)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(Synonymus with *Spisula (Pseudocardium) sachalinensis* (Schrenck) by Oyama (1973))

***Mactra sachalinensis* var. *imperialis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 129, pl. 7, figs. 9, 10
Syntype: UT no. ? (Lectotype: CM no. 21211, Paralectotype: CM no. 21212)
Shito and Otake (Shito, Ichihara City; Otake, Narita City, Chiba Prefecture)
(Semata and Kioroshi Formations)
Pleistocene
(*Spisula (Pseudocardium) sachalinensis* (Schrenck) by Oyama (1973))

***Martesia striata* var. *tokyoensis* Yokoyama, 1927**

Jour. Fac. Sci., Imp. Univ. Tokyo, sec. 2, vol. 1, part 10, p. 428, pl. 48, figs. 3, 2
Holotype: UT no. ? (Lectotype: CM no. 23910, Paralectotype: CM no. 23909)
Tabata (Tabata-machi, Kita-ku, Tokyo Prefecture)
(Tokyo Formation)
Pleistocene
(*Martesia striata cupula* (Yokoyama) by Oyama (1973))

***Meretrix deguchii* Hayasaka and Hayasaka, 1960**

Trans. Proc. Paleont. Soc. Japan, N. S., no. 38, p. 267, pl. 31, figs. 8a-b
Holotype: IGPS no. 77512, Paratype: IGPS no. 77513
Tungyuping in the Penghu Islands, Taiwan
Sandstone bed
Pleistocene

***Meretrix gordonis* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 429, pl. 48, figs. 13, 14
Syntype: UT no. ? (CM no. 24001, Lectotype: CM no. 24002)

Shinagawa (Kita-ku, Tokyo Prefecture)
(Tokyo Formation)

Upper Musashino=Pleistocene

(Fig. 13 is synonymus with *Eolepton crassa* (Yokoyama),
fig. 14 is *Microcirce gordonia* (Yokoyama) by Oyama
(1973))

***Montacuta* (?) *crassa* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p.
432, pl. 49, figs. 4, 5

Holotype: UT no. ? (CM no. 24060)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Eolepton crassa* (Yokoyama) by Oyama (1973))

***Montacuta japonica* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 157, pl. 9,
figs. 2, 3

Holotype: UT no. ? (CM no. 21407)

Otake (Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(*Mysella japonica* (Yokoyama) by Oyama (1973))

***Montacuta oblongata* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 157, pl.
13, figs. 9, 10

Holotype: UT no. ? (CM no. 21413)

Oji (Oji, Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Pleistocene

(*Nipponomysella oblongata* (Yokoyama) by Oyama (1973))

***Montacuta subtruncata* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p.
432, pl. 48, fig. 8

Holotype: UT no. ? (CM no. 24059)

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

(*Nipponomysella subtruncata* (Yokoyama) by Oyama
(1973))

***Montacuta* ? *yamakawai* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 158, pl. 9,
fig. 10

Holotype: UT no. ? (CM no. 21415)

Shisui (Shisui-machi, Imba-gun, Chiba Prefecture)

(Imba Formation)

Pleistocene

(*Scitillula yamakawai* (Yokoyama) by Oyama (1973))

Mya (*Mya*) *pseudoarenaria* Schlesch, 1931 reported by

Nakashima (1999) from the late Miocene to early Pliocene
Horokaoshirarika Formation, Hokkaido

***Myadora ikebei* Habe, 1950**

Illust. Cat. Japanese Shells, no. 4, p. 30, pl. 4, fig. 17,
Type-species; *Myadora reeveana* Yokoyama (1920; p. 143, pl.
11, figs. 12, 13 (not Smith, 1880))

Holotype: NSM no. ? Paratype: CM nos. 21493, 21494) by
Oyama (1973)

Makita-mura, Kimizu-gun (Kimitsu City), Chiba Prefecture

Narita Formation

Pleistocene

***Neilo* (*Multidentata*) *multidentata* (Khomenko, 1937)**

reported by Amano et al. (2000) from the lower middle
Miocene Ponsubetsu Formation, Hokkaido

***Neilonella tsukigawaensis* Kurhara, 1999**

Paleont. Res., vol. 3, no. 4, p. 232, figs. 6-8a-10b

Holotype: IGUT no. 11834-1, Paratype: IGUT nos. 11834-2,
-3

A river-side exposure along the down-stream of Tsuki-gawa
Bridge, Seijido, Ranzan-machi, Hiki-gun, Saitama Prefecture
Arakawa Formation

Miocene

***Nipponothracia* Kanie and Sakai, 1997 n. gen.**

Venus, vol. 56, no. 3, p. 210, Type-species; *Thracidora*
gigantean Shikama, 1968 described from the Miocene
Hayama Formation, Kanagawa Prefecture

***Nipponothracia gigantean* (Shikama, 1968)** repoted by

Kanie and Sakai (1977) from the Miocene Hayama
Formation, Kanagawa Prefecture

***Nuculana gordonis takaoensis* Otuka, 1936**

Venus, vol. 6, no. 3, p. 155, figs. 5, 6

Holotype: URCUT no. 2866 (figs. 5, 6), Paratyep: URCUT
no. ?

Hatago beach at Takao, Taiwan

Recent

***Pecten tenuicostulatus* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 184, pl.
17, fig. 15

Holotype: UT no. ?

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

(*Mizuhopecten tokyoensis* (Tokunaga))

***Pectunculus pilsbryi* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 170, pl.
18, fig. 8

Holotype: UT no. ?
Otsu (Yokosuka City, Kanagawa Prefecture)
Yokosuka Zone (Otsu Formation)
Pleistocene

***Pectunculus yamakawai* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 190, pl. 16, figs. 4, 5
Holotype: UT no. ?
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene

***Petricola awana* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 42, pl. 2, fig. 12, pl. 3, fig. 1
Syntype: UT no. ? (CM nos. 21917, 21916)
Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
Numa Coal Bed (Numa Formation)
Pleistocene (Holocene)
(Synonymus with *Hiatella orientalis* (Yokoyama) by Oyama (1973))

***Phallium peckhami* (Gabb)** reported by Ozaki (1956) from the Miocene (Pliocene) Nobori Formation, Kochi Prefecture
(***Palliolum peckhami* (Gabb)** by Masuda and Noda (1976))

***Phallium peckhamioides* Ozaki, 1956**

Bull. Nat. Sci. Mus., vol. 3, no. 1, p. 3, pl. 1, figs. 10, 11
Holotype: NSM no. 4370, Syntype (Paratype): NSM no. 4371
Nisinotani, Nobori, Hane Town, Aki County, Kochi Prefecture
Nobori Formation
Miocene (Pliocene)
(***Palliolum peckhamioides* (Ozaki)** by Masuda and Noda (1976))

***Pholadomya turunagai* Tan, 1940**

Japan. Jour. Geo. Geogr., vol. 17, nos. 1-2, p. 159, two figs on pl. 13
Holotype: GITU no. ? (2 figs, pl. 13), Paratype: GITU no. ? (Geological Institute, Taihoku Imp. Univ.)
A road cutting in the vicinity of Dojo, Kaizan district, Taihoku Prefecture, Taiwan
Kaizan Beds
Miocene

***Pholadomya japonica* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 106, pl. 6, figs. 30a-31c
Holotype: UT no. ? (Lectotype: CM no. 20337)
Naganuma (Totsuka-ku, Yokohama City, Kanagawa Prefecture)

Naganuma Formation
Pleistocene
(***Umitakea japonica* (Yokoyama)** by Oyama (1973))

***Pholas cupula* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 37, pl. 2, fig. 15
Holotype: UT no. ? (CM no. 21898)
Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)
(***Martesia striata cupula* (Yokoyama)** by Oyama (1973))

***Pholas subconstricta* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 38, pl. 2, fig. 13
Holotype: UT no. ? (CM no. 21903)
Numa, Awa (Numa, Tateyama City, Chiba Prefecture)
Numa Coral Bed (Numa Formation)
Pleistocene (Holocene)
(***Zirfaea subconstricta* (Yokoyama)** by Oyama (1973))

***Poromya flexuosa* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 173, pl. 14, figs. 15, 16
Holotype: UT no. ? (Lectotype: CM no. 21511, Paralectotype: CM no. 21510)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene

***Propeamussium fuganjiensis* Omori and Inoue**

Iwana, 1997, p. 88, pl. 20, figs. 1a-3, pl. 21, figs. 1-6
Syntype: Tottori Pref. Mus., no. ?
Ueji, Kokufu-cho, Tottori Prefecture
Fuganji Mudstone (Fuganji Formation)
Middle Miocene
(***Propeamussium fuganjiensis* Iwana, 1997** by Kurihara (2000))

***Psammobia kazusensis* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 136, pl. 9, fig. 4
Holotype: UT no. ? (CM no. 21261)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(***Gari (Gobraeus) kazusensis* (Yokoyama)** by Oyama (1973))

***Pycnodonte (Pycnodonte) taniguchii* Hayami and Kase, 1992**

Trans. Proc. Palaeont. Soc. Japan, N.S., no. 165, p. 1076, figs. 2-7

Holotype: UMUT RM no. 18908, Paratype: UMUT RM nos. 18909-18913

Living specimens from submarine caves on the western coast of Shimoji-shima, Miyako Islands, Ryukyu: 24°51'43"N, 125°09'41"E; ca. 20 m below sea level

Living specimen

Recent

***Raeta elliptica* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 131, pl. 8, fig. 7

Holotype: UT no. ? (CM no. 21229)

Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

(Imba Formation)

Pleistocene

(Synonymus with *Raeta (Raetellops) yokohamensis* Pilsbry by Oyama (1973))

***Raeta magnifica* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 132, pl. 8, figs. 12, 13

Holotype: UT no. ? (Lectotype: CM nos. 21233, Paralectotype: CM no. 21234)

Kizaki, Tega (Shonan-machi, Higashikatsushika-gun, Chiba Prefecture)

(Imba Formation)

Pleistocene

(Synonymus with *Raeta (Raetina) pellicula* (Reeve) by Oyama (1973))

***Saxicava orientalis* Yokoyama, 1920**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 39, art. 6, p. 106, pl. 7, figs. 2, 3

Holotype: UT no. ? (CM no. 20335)

Otsu (Yokosuka City, Kanagawa Prefecture)

Yokosuka Zone (Otsu Formation)

Pleistocene

(*Hiatella orientalis* (Yokoyama) by Oyama (1973))

***Scintilla nipponica* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 47, pl. 4, fig. 1

Holotype: UT no. ? (CM no. 21932)

Mukaibashi in Shimo-Miyata and Kami-Miyata (Miura City, Chiba Prefecture)

Miyata Zone (Miyata Formation)

Pleistocene

(*"Nesobornia" nipponica* (Yokoyama) by Oyama (1973))

***Scintilla trigonalis* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 47, pl. 4, fig. 2

Holotype: UT no. ? (CM no. 21860, 21933, noted as missing

by Oyama (1973))

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(*"Nesobornia" trigonalis* (Yokoyama) by Oyama (1973))

***Solemya yamakawai* Yokoyama, 1927**

Jour. Coll. Sci., Imp. Univ. Tokyo, Sec. 2, vol. 1, part 10, p. 435, pl. 50, figs. 10, 11

Holotype: UT no. ?

Oji (Kita-ku, Tokyo Prefecture)

(Tokyo Formation)

Upper Musashino=Pleistocene

Spondylus (Meotolima) ogasawaranus (Oyama) reported by Iwasaki (1975) from the Eocene of the Bonin Islands: see *Lima (Meotolima) ogasawarana* Oyama, 1943

***Tellina delta* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 141, pl. 10, fig. 8-10

Syntype: UT no. ? (Lectotype: CM no. 21297, Paralectotype, CM nos. 21298, 21299 by Oyama (1973))

Otake (Narita City, Chiba Prefecture)

(Kioroshi Formation)

Pleistocene

(*Cadella delta* (Yokoyama) by Oyama (1973))

***Tellina radiato-lineata* Yokoyama, 1924**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 45, art. 1, p. 41, pl. 2, figs. 18-19

Holotype: UT no. ? (Lectotype: CM no. 21913, Paralectotype: CM no. 21912 by Oyama (1973))

Numa, Awa (Numa, Tateyama City, Chiba Prefecture)

Numa Coral Bed (Numa Formation)

Pleistocene (Holocene)

(*Arcopagia (Punipagia) radiatolineata* (Yokoyama) by Oyama (1973))

***Thracia sematana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 173, pl. 14, fig. 17, 18

Holotype: UT no. ? (Lectotype: CM no. 21507, Paralectotype: CM no. 21508)

Shito (Ichihara City, Chiba Prefecture)

(Semata Formation)

Pleistocene

(*Parvithracia sematana* (Yokoyama) by Oyama (1973))

***Thracia transmontana* Yokoyama, 1922**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 119, pl. 6, fig. 7

Holotype: UT no. ? (Lectotype: CM no. 21501, Paralectotype: CM no. 21502)

Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(*Thraciopsis transmontata* (Yokoyama) by Oyama (1973))

***Thyasira trigonata* Yokoyama, 1922**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 158, pl. 9, figs. 11, 12
Holotype: UT no. ? (Lectotype: CM no. 21417, Paralectotype: CM no. 21418)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)
Pleistocene
(*Lyosiella* (*Simplicicordia*) *trigonata* (Yokoyama) by Oyama (1973))

***Trapezium moddiolaeforme* Oyama and Saka, 1944**
Bull. Shigenkagaku Kenkyusho (Underesous. Inst.), vol. 1 no. 2, p. 141, pl. 15, figs. 12a-13b
Holotype: SKK no. ? (figs. 12a-b), Paratype: SKK no. ? (figs. 13a-b)
In the tunnel of Mr. Ushida at Tsukiyoshi, Akeyo-mura, Toki-gun, Gifu Prefecture
Tsukuyoshi Formation
Miocene

***Trapezium nipponicum* Yokoyama, 1922**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 167, pl. 6, figs. 12, 13, pl. 13, fig. 17
Syntype: UT no. ? (CM nos. 21475, 21474, 21473)
Otake (Narita City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(Pl. 13, fig. 17 is synonymus with *Trapezium* (*Neotrapezium*) *liratum* (Reeve), and pl. 6, figs. 12, 13 are *Hiatella orientalis* (Yokoyama) by Oyama (1973))

***Trapezium ventricosum* Yokoyama, 1922**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 168, pl. 13, fig. 1
Holotype: UT no. ? (CM no. 21477)
Otake (Narita City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(Synonymus with *Trapezium* (*Neotrapezium*) *liratum* (Reeve) by Oyama (1973))

***Venericardia toneana* Yokoyama, 1922**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 163, pl. 13, figs. 6, 7
Holotype: UT no. ? (Lectotype: CM no. 21455, Paralectotype: CM no. 21454)
Shito (Ichihara City, Chiba Prefecture)
(Semata Formation)

Pleistocene
(*Carditella* (*Carditellopsis*) *toneana* (Yokoyama) by Oyama (1973))

***Venus neastartoides* Yokoyama, 1922**
Jour. Coll. Sci., Imp. Univ. Tokyo, vol. 44, art. 1, p. 149, pl. 11, figs. 9, 10
Holotype: UT no. ? (Lectotype: CM no. 21357, Paralectotype: CM no. 21358)
Kioroshi (Inzai City, Chiba Prefecture)
(Kioroshi Formation)
Pleistocene
(*Gomphina* (*Gomphina*) *neastartoides* (Yokoyama) by Oyama (1973))

***Vepricardium* (*Vepricardium*) *okamotoi* Taguchi, 1990**
Trans. Proc. Palaeont. Soc. Japan, N. S., p. 160, p. 909, figs. 6-1a-10b
Holotype: MFM no. 20015, Paratype: MFM nos. 20016-20017, 20022, 20025, 20027, 20031, 20033, 20024, 20037
Niida, Tsuyama City, Okayama Prefecture; 35°03'05"N, 134°04'01"E
Yoshino Formation
Miocene

***Veremolpa nodai* Lee, 1992**
Sci. Rep., Inst. Geosci., Univ. Tsukuba, Sec. B., vol. 13, p. 89, figs. 28-5
Holotype: IGUT no. 11679
Loc. no. A-21, a stream-side outcrop about 400 m of Jungri, Muljeon-ri, Cheonbug-myeon, Wolseong-gun, Pohang Basin, Korea
Cheongogsa Formation
Middle Miocene

***Verticordia* (*Hiliris*) *meoshimaensis* Habe, 1953**
Venus, vol. 17, no. 3, p. 133 (Japanese) and 141 (English), figs. 10-12
Holotype: NSM no. ?
Moeshima, Sakurajima-cho, Kagoshima-gun, Kagoshima Prefecture
"Moeshima Formation"
Semi-fossil (Holocene)

Cenozoic Bryozoa (Supplement)

Naotomo Kaneko

**Geological Survey of Japan/AIST,
Tsukuba 305-8567, Japan**

***Cellepora formosensis* Newton and Holland, 1902**

Jour. Coll. Sci., Imp. Univ. Tokyo, vol. XVII, Art. 6, p.6-9, pl.

II, figs. 2, 4-6; pl. III, fig. 1, pl. IV

Type specimen numbers not given

Sha-ko-ko near Roku-ryo, North of Kee-lung harbour, North Formosa (Taiwan); Rei-suiko, 10 miles S.W. of Tai-hoku, the chief town of Formosa (Taiwan); Shin-ko-gai, 10 miles due S. of Tai-hoku; Sonai, Iriomote Island, Riu-Kiu (Okinawa Prefecture)

Orbitoidal limestone (Ryukyu Group)

Miocene (Pleistocene)

Non-marine Mollusca (Supplement)

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Non-Marine Gastropoda

Euhadra takarajimana Azuma and Azuma, 1985

Venus (Jap. Jour. Malaco.), vol. 44, no. 2, p. 93, fig. 1
Holotype: No. 17147 in Azuma's coll., Paratype: No. 17147a, 17147b in Azuma's coll.; NSMT-Mo 62748 a, 62748 b
Takarajima, Tokara Islands, Kagoshima Prefecture
Dune deposits
Pleistocene or Holocene

Mandarina aureola Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 237, figs. 9-5 15-10
Holotype: RM 18448-a, Paratype: RM 18444, 18446, 18448~18450, 18419, CM 18445, 18447, 18451, 18452
Nankinhama and Minamizaki, Hahajima; Hirashima, Tokyo Prefecture
Dune deposits
Holocene

Mandarina chichijimana Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 231, figs. 5-1-2, 6a-1-2, 8-5 15-2
Holotype: RM 18415-a, Paratype: RM 18406, 18408~18415, 18419, CM 18407, 18416~18418
Chichijima, Tokyo Prefecture
Pleistocene deposits, before 25, 000~40, 000 yr. B. P.
Pleistocene

Mandarina hayamii Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 243, figs. 11-12, 15-18
Holotype: CM 18468-a, Paratype: CM 18468
Minamizaki (John Beach), Chichijima, Tokyo Prefecture
Fissure deposits (Loc. 14), before 33, 000 yr. B. P.
Pleistocene

Mandarina io Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 235, figs. 8-4 15-7
Holotype: CM 18426-a, Paratype: CM 18426
Minamizaki (John Beach), Chichijima, Tokyo Prefecture
Fissure deposits (Loc. 14), before 22, 000~32, 000 yr. B. P.
Pleistocene

Mandarina nola Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 231, figs. 8-2, 15-2
Holotype: CM 18405-a, Paratype: CM 18405
Minamizaki (John Beach), Chichijima, Tokyo Prefecture
Fissure deposits (Loc. 14), before 33, 000 yr. B. P.
Pleistocene

Mandarina polita Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 240, figs. 5-7, 6b-3, 11-4-5, 15-12
Holotype: RM 18457-a, Paratype: RM 18453~18457, CM 18458
Okimura, Hahajima, Tokyo Prefecture
Cave deposits
Pleistocene

Mandarina titan Chiba, 1989

Trans. Proc. Palaeont. Soc. Japan, N. S., no. 155, p. 237, figs. 9-5 15-10
Holotype: CM 18432-a, Paratype: CM 18432
Minamijima, Tokyo Prefecture
Fissure deposits (Loc. 15), before 8, 000~13, 000 yr. B. P.
Pleistocene to Holocene

Neiohelix irrediviva yoronjimaensis Azuma and Azuma, 1990

Venus (Jap. Jour. Malaco.), vol. 49, no. 3, p. 203, fig. 2
Holotype: No. 17188 in Azuma's coll., Paratype: No. 17188 a, 17188 b, 17188 c, 17188 d in Azuma's coll.
Nishiku, Yoron Island, Okinawa Prefecture
The fossil bed overlies the raised coral reef
Pleistocene or Holocene

Neiohelix oshiloi Habe and Chinen, 1980

Bull. Mizunami Fossil Mus., no. 7, p. 90, pl. 6, figs. 1a-c
Holotype: NSMT-Mo 58454, Paratype: NSMT-Mo 110003
Shiokawa, Tarama-jima Island, Okinawa Prefecture
Pleistocene deposits
Pleistocene

Neiohelix oshiloi nobaruensis Azuma and Azuma, 1987

Venus (Jap. Jour. Malaco.), vol. 46, no. 3, p. 164, figs. 13-15
Holotype: No. 17152 in Azuma's coll., Paratype: No. 17152a in Azuma's coll.
Mt. Nobaru-dake, Miyako-jima Island, Okinawa Prefecture
Pleistocene deposits
Pleistocene

Neiohelix palaeomphalina Azuma and Azuma, 1983

Venus (Jap. Jour. Malaco.), vol. 42, no. 3, p. 226, fig. 1
Holotype: No. 17146 in Azuma's coll., Paratype: NSMT-Mo 61305a, 61305b, No. 17146 C, 17146 D in Azuma's coll.
Nishiko, Minami-Daito-jima Island, Okinawa Prefecture

The fossil bed overlies the raised coral reef
Pleistocene or Holocene

***Neiohelix palaeomphalina kitadaitoensis* Azuma and Azuma, 1991**

Venus (Jap. Jour. Malaco.), vol. 50, no. 3, p. 183, fig. 1
Holotype: No. 17250 in Azuma's coll., Paratype: NSMT-Mo 69563, No. 17250a, 17250b, 17250c, 17250d in Azuma's coll.
Nagahagu, Kita-Daito-jima Island, Okinawa Prefecture
The fossil bed overlies the raised coral reef
Pleistocene or Holocene

***Satsuma (Coniglobus) mercatoria katsurenensis* Habe and Chinen, 1985**

Venus (Jap. Jour. Malaco.), vol. 44, no. 2, p. 87, figs. 1-3
Holotype: NSMT-Mo 62635, Paratype: NSMT-Mo 62636a, 62636b
A stone pit of Henna, Katsurencho, Okinawa Prefecture
Fissure deposits
Pleistocene or Holocene

***Viviparus (Bellamya) clavilithiformis conradiformis* Suzuki, 1943**

Bull. Sigenkagaku Kenkyusyo, vol. 1, no. 1, p. 58, figs. 4a, b
Holotype: ?
Between Seikamon (Tsingbomen) and Reitoh (Lintung), in the Husin (Fuhsin) Coal-field southwestern Manchoukuo (Liaoning Sheng), China
Kanghozan Formation in the Husin Group
Upper Jurassic
(*Bellamya clavilithiformis conradiformis* Suzuki, 1943 by Pen (1982))

***Viviparus (Bellamya) matumotoi* Suzuki, 1943**

Bull. Sigenkagaku Kenkyusyo, vol. 1, no. 1, p. 61, figs. 14-15
Holotype: ?
Tohoro (Tuhulu) in the Husin (Fuhsin) Coal-field southwestern Manchoukuo (Liaoning Sheng), China
Kanghozan Formation in the Husin Group
Upper Jurassic
(*Bellamya matumotoi* Suzuki, 1943)