Studies on Cardiidae. 5.1
The taxa introduced by E. Fischer-Piette in 1977 in his ‘‘Révision des Cardiidae’’

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As part of our study concerning the recent Cardiidae we discuss the taxa introduced by E. Fischer-Piette in his ‘‘Révision des Cardiidae’’. We here comment upon all newly introduced taxa and on some of the species illustrated.

Key words: Bivalvia, Cardiidae, Fischer-Piette, systematics.

PREFACE

In 1977 Edouard Fischer-Piette (1899-1988) published his ‘‘Révision des Cardiidae’’. The paper treated 160 species, of which nine were proposed as new. One new genus was proposed, Decussicardium. It later proved to be one of his last publications, with only a few to follow. Fischer-Piette left, after his death in 1988, a total of more than 300 published papers on various subjects (Backhuys, 1990). His major field of interest was that of the marine Bivalvia, on which he published several papers.

As stated by Fischer-Piette himself, the family Cardiidae was largely neglected in the literature for a long time, the latest publication dealing with the family as a whole being that of Tryon (1872). Fischer-Piette’s revision, although clearly meant to be the ‘final’ work on the subject, is neither complete nor perfect enough to serve that purpose. The author had no extensive knowledge of Cardiidae systematics and no overall insight on intra-generic relationships. The systematics used by Fischer-Piette, neither being conform any generally accepted system nor showing any sign of consistency, can only euphemistically be called unorthodox.

To make Fischer-Piette’s work more useful, we decided to comment upon all newly introduced taxa, of which we were able to study the types during our visit to the Muséum National d’Histoire Naturelle, Paris, in 1988, and to comment upon some specimens illustrated under an incorrect name.

We hereunder treat the taxa in numerical sequence, using Fischer-Piette’s original reference numbers. We decided only to figure those species which were illustrated by Fischer-Piette as rather poor quality drawings and some others when comparison with related taxa proved to be necessary. All other species were illustrated well enough in the original diagnosis.

The following abbreviations are used: BM(NH) - British Museum (Natural History), London, Great Britain; MHNP - Muséum National d’Histoire Naturelle,

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SYSTEMATIC PART

6. Microcardium william Fischer-Piette

Microcardium william Fischer-Piette, 1977, was unnecessarily introduced as a nomen novum for Protocardia panamensis Dall, 1908. Protocardia panamensis is neither a primary homonym of Cardium panamensis Sowerby in Broderip & Sowerby (1833: 85) nor a secondary homonym, as the former must be considered a Microcardium and the latter a Trachycardium. Microcardium william should thus be considered a junior synonym of Microcardium panamense (Dall, 1908)

22. Laevicardium soyeri Fischer-Piette

Laevicardium soyeri was based by Fischer-Piette (1977: 19-20, pl. 1 figs. 4-7) upon a series of four specimens: the holotype, from Corsica, and three paratypes without provenance. The type-material of Cardium unicolor Sowerby, 1834, is very similar to that of Laevicardium soyeri, as we could verify during our stay in the BM(NH) and we are convinced that it is the same species. We figure both the holotype of Laevicardium soyeri (fig. 1) and a syntype of Cardium unicolor (fig. 2), the latter shell which we hereby select as lectotype, measuring 45 × 37.5 × 28 mm and having 49 ribs.

24. Laevicardium interrogatorium Fischer-Piette

Described by Fischer-Piette (1977: 21, pl. 2 fig. 1) on a specimen from the Jousseaume collection. The type locality is California, but Fischer-Piette already expressed his doubts about this locality. As indicated by Kafanov (1980: 309), Laevicardium interrogatorium Fischer-Piette, 1977, is a junior synonym of Cardium californiense Deshayes, 1839, and should be placed in Keenocardium Kafanov, 1974, a subgenus of Clinocardiium Keen, 1936. Cardium californiense, despite its name, is a northern species and does not occur in California, which casts doubt upon the type locality of Laevicardium interrogatorium.

29. Laevicardium nemo Fischer-Piette

A name introduced by Fischer-Piette (1977: 24, pl. 2 fig. 2) for a poorly preserved right valve without provenance. It was compared with Laevicardium clarionense (Hertlein & Strong, 1947), with which it is, in our opinion, not closely related, because it is smaller, has a more oblique shell and a much finer crenulated inner margin. The state of preservation of the shell suggests that it is a fossil. The comparatively conspicuous rib sculpture and rounded outline of the shell suggest a closer relationship with the European Laevicardium species, viz. L. oblongum (Gmelin, 1791) and L. crassum (Gmelin, 1791). We consider Laevicardium nemo Fischer-Piette, 1977, a nomen dubium.
35. *Laevicardium tertium* Fischer-Piette

Validy proposed as a nomen novum for *Cardium fragile* Sowerby (1840: fig. 68) (non Forskål, 1775; nec Röding, 1798; nec Brocchi, 1814; nec Melville, 1843; nec Reeve, 1845; nec Haren-Noman, 1881; nec Goen, 1917). The type illustration suggests that it belongs in the genus *Fusia* Gray, 1853. During our visit to the BM(NH) we were not able to trace the type of *Cardium fragile*. Ms K. Way [BM(NH)] told us that the whereabouts of the Stainforth collection, from which the species was described, are unknown and that it is highly probable that the type is lost. *Cardium fragile* Sowerby, 1841, must therefore be considered a nomen dubium.

49. *Laevicardium (Vepricardium) rudentis* Fischer-Piette

Proposed by Fischer-Piette (1977: 41, pl. 3 figs. 1-2) on material (holotype and a paratype) collected off West Africa, most probably Mauritania. As we discussed before (Voskuil & Onverwagt. 1989: 52), the type material appears fossil, and clearly belongs to *Orthocardium* Tremlett, 1950, an extinct subgenus of *Vepricardium* Iredale, 1929. As we do not have sufficient knowledge of this fossil group, it is impossible for us to judge the validity of *Vepricardium (Orthocardium) rudentis* (Fischer-Piette, 1977) at the moment.

58. *Laevicardium (Trachycardium) philippinense* (Deshayes) Shirley

The specimen illustrated under this name by Fischer-Piette (1977: pl. 3 fig. 4 and pl. 4 fig. 1) clearly belongs to *Trachycardium orbita* (Broderip & Sowerby, 1833), which he also described under no. 38 on page 34. Deshayes never described a *Cardium philippinense* and the name should be attributed to Shirley (1912: 95), as done correctly by Fischer-Piette. Although this species is more common in the central Pacific Ocean, it is distributed also in the Central Indo-West Pacific, which might be the reason for recognizing *C. philippinense* as a distinct species.

63. *Laevicardium (Trachycardium) senticosum* Sowerby

Although Fischer-Piette indicated to be quite certain about his identification of the species in his description of *Laevicardium senticosum*, he clearly made an incorrect identification. The specimen illustrated under this name (pl. 4 fig. 3 and pl. 5 fig. 1) belongs to *Trachycardium quadragenarium* (Conrad, 1837), the type species of *Dallocardia* Stewart, 1930. This species is more northern in origin and can attain much larger dimensions than *Cardium senticosum* Sowerby in Broderip & Sowerby, 1833, a species which can also be assigned to *Dallocardia*.

64. *Laevicardium (Trachycardium) thielei* Fischer-Piette

Fischer-Piette (1977: 55) correctly proposed this name as a nomen novum for *Cardium radula* Thiele & Jaeckel, 1931 (non Deshayes in Bory de St. Vincent, 1832; nec Broderip & Sowerby, 1829). Although he was correct about *Cardium radula* Thiele & Jaeckel (1931: 227, pl. 9 fig. 99) not being available, he overlooked the fact that both *Cardium exochum* Melvill, 1906, and *Cardium infantile* Nomura & Zinbo, 1934, are senior
synonyms of the same species. Its correct generic placement is in the genus *Afrocardium* Tomlin, 1931. Thus *Laevicardium thielei* Fischer-Piette, 1977, is a junior synonym of *Afrocardium exochum* (Melvill, 1906).

69. *Laevicardium* (Trachycardium) courrili Fischer-Piette

Fischer-Piette (1977: 57, pl. 5 fig. 2) introduced this species on a single specimen, dredged at a depth of 20 m off Gabon in 1964. As indicated before (Voskuil & Onverwagt, 1989: 52), we doubt this provenance. *Laevicardium courrili* is very close to the Indo-Pacific *Trachycardium impolitum* (Sowerby, 1833), which has about the same number of ribs and the peculiar wedge-shaped shell, which is also found in *Laevicardium courrili* Fischer-Piette and in *Trachycardium dampierrese* (Wilson & Stevenson, 1977), from Western Australia. An additional argument for *L. courrili* being of Indo-Pacific origin is that there are no other records known from off Gabon, of which country the marine molluscan fauna is reasonably well known. *Laevicardium courrili* Fischer-Piette, 1977, should also be assigned to the genus *Trachycardium* Mörch, 1853. We figure the holotype of *Laevicardium courrili* (fig. 3), a syntype of *Cardium impolitum* (fig. 4) (measuring 48 x 38 x 29.5 mm, with 38 ribs, which we hereby select as lectotype), and a specimen of *Trachycardium dampierrese* (fig. 5).

71. *Laevicardium* (Trachycardium) gaillardi Fischer-Piette

This species was introduced by Fischer-Piette (1977: 58, pl. 6 figs. 1-2) on a specimen from 'New Zealand'. Powell (1979: 412-413) recognizes only two Recent Cardiidae from New Zealand, viz. *Nmecardium pulchellum* (Gray in Dieffenbach, 1843) and *Corculum inexpectatum* (Crozier, 1966), and two more (1958: 76-77) from the Kermadec Islands, viz. *Trachycardium soreseni* Powell, 1958, and *Nemecardium probatum* (Iredale, 1927) [= *Nemecardium bechei* (Reeve, 1847)]. For that reason, we consider the type locality of *Laevicardium gaillardi* doubtful. On the other hand, we do not know any senior name for the species under discussion. Therefore *Laevicardium gaillardi* must, for the time being, be considered a valid species in the genus *Trachycardium* Mörch, 1853.

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85. Papyridea (Papyridea) hiulca Reeve

Although Fischer-Piette correctly assigned Cardium hiulca Reeve, 1845, to Papyridea, he illustrated (pl. 9 figs. 1-2) two specimens of the Indo-Pacific Afrocardium richardi (Audouin, 1827) under this name. Papyridea hiulca is a senior synonym of Papyridea mantaensis Olsson, 1961, as we could verify while studying syntypes of the former in the collection of BM(NH). The species is distributed in the eastern Pacific.

96. Cardium (Cerastoderma) iranjanense Fischer-Piette

Fischer-Piette described Cardium iranjanense (1977: 96-97, fig. 9) on material collected in 1970 at Nosy-Iranja, Madagascar. The type material consists of a complete specimen, the holotype, and three paratypes, all loose valves. Cardium iranjanense is a junior synonym of Cardium erugatum Tate, 1889. Cardium levisulcatum E.A. Smith, 1903), described from the Maldivian Islands, is another junior synonym. We figure both the holotype of C. iranjanense (fig. 6), a syntype of C. levisulcatum (fig. 7) (a right valve with a length of 15 mm, which we hereby select as lectotype), and a specimen of Cardium erugatum Tate, 1889, from Western Australia (fig. 8). Its correct generic assignment is in the genus Parvicardium Monterosato, 1884.

99. Decussicardium Fischer-Piette

Decussicardium is the only taxon on the generic level introduced by Fischer-Piette (1977: 94), with Cardium giglchisti Sowerby, 1894, as type species by monotypy. Although validly introduced, it is rather puzzling why this taxon was proposed. Fischer-Piette gave no reasons nor even indicated that he saw specimens of the type species. Cardium giglchisti (fig. 10), is very close to several other small species currently assigned to Microcardium Thiele, 1934 (type species Cardium peramabile Dall, 1881). As there are no relevant differences between the type species of Microcardium and Decussicardium, we consider the latter a junior synonym of the former.

102. Cardium (Cerastoderma) lavrani Fischer-Piette

We cite Kilburn & Rippey (1982: 216-217): "Fischer-Piette (1977: 118) rejected Cardium turtoni Sowerby (1894: 377) as a synonym of the European Parvicardium papillosum (Poli, 1795), yet decribed the very same species under the name Cardium (Cerastoderma) lavrani (1977: 98, pl. 10, fig. 2), based on beachworn valves. P. turtoni differs from P. papillosum in the shape of the tubercles borne on the ribs; these tubercles are wider, more triangular and more flat-topped, with more constricted bases." We agree with Kilburn & Rippey but there is an additional problem. Fischer-Piette selected as holotype a composition of two loose valves. As it is impossible to select a holotype consisting of two specimens (ICZN art. 73a), we consider these two valves syntypes, at the same time selecting the right valve, of which the hinge contains the significant characters of the genus, as lectotype, leaving the left valve and the remaining former paratypes as paralectotypes.
136. Corculum (Trigoniocardia) auri Fischer-Piette

This nominal taxon was introduced by Fischer-Piette (1977: 136-137, fig. 10) after two valves collected off Ghana, 1°31' W-4°36'30"N, at 50 m, by the Calypso in 1956. When we visited the Paris museum we found that Corculum auri Fischer-Piette, 1977, was based on juveniles of Parvicardium papillosum (Poli, 1795), a very common species along the West African coasts. We figure the holotype (fig. 9).

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