



New species of Gastropoda from the Pliocene of Portugal

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New Species of Gastropoda from the Pliocene of Portugal

The two gastropods here described belong to a series of well-preserved fossil shells collected by Professor J. C. de Morais from a well-sinking at Matos (Marinha Grande), a locality situated about 8 km. from Mina, where the mollusca described in my previous paper (1936) (1) were obtained. The remaining species from Marinha Grande, about 40 in number, clearly indicate that the beds yielding the fossils are of Pliocene age and approximately contemporaneous with those at Mina.

Family NASSARIIDAE

Genus NASSARIUS Duméril, 1800

Subgenus UZITA H. and A. Adams, 1853

Nassarius (*Uzita*) *malachiasi* sp. nov. Pl. I, figs. 1 *a*, *b*.

Specific Characters. — Shell large for the genus, fairly thick-walled, with a regularly conical spire of medium acuteness (spire angle 40°); aperture occupying slightly more than one-third of the total height. Protoconch unknown. Whorls feebly convex, separated by rather sinuous sutures which are only slightly impressed ; last whorl obtusely rounded at the periphery.

(1) A list of works to which reference is made is given at the end of the present paper.

Ornamentation consisting of moderately wide, rounded axial costae which become narrow and inconspicuous on the latter third of the last whorl, and of subordinate spiral riblets. The costae, which are mostly separated by interspaces of slightly greater width, usually have a slight forward inclination with respect to the direction of growth of the whorls and present a forward-facing concavity ; on the last whorl they are seen to have a slight sigmoidal curve. The spiral riblets are narrow, subequal, and separated by slightly wider interspaces on the spire whorls, on which eight are visible ; on the last whorl twelve are visible in all, of which the three most anterior ones are rather prominent ; the lowest is separated from the siphonal fasciole by a deep groove, on the bottom of which is a weak spiral thread.

Aperture rather small, sub-orbicular, with a deep, horizontal basal notch which extends in a slightly oblique direction below the columellar lip, and an acute posterior niche contained between a narrow riblet on the parietal wall and a small denticle on the labrum. Labrum sharp-edged, but strongly thickened externally—most so towards its posterior end, where the suture is bordered by a narrow ledge; it bears five denticles along its anterior half. Columellar lip concave, with two weak anterior plications; the thick, sharply margined callosity of this lip continues across the parietal wall to the posterior corner of the aperture. Siphonal fasciole smooth and bulging.

Measurements. — Holotype : — height (allowing for missing apex) 41.5 mm., diameter 21.2 mm., height of aperture 17.3 mm.

Remarks. — This species is closely related to *Nassa eurosta* Fontannes (1879, p. 62, pi. v, fig. 6) ⁽¹⁾, originally

(1) *N. eurosta* is probably a synonym of *Buccinum carcassonii* de Serres (1829, p. 123, pl. iii, figs. 9, 10), but that name is rejected by Fontannes on account of the uncertainty attaching to the provenance of the type of the species.

described from the Plaisancian of the Rhone Valley and the Perpignan district, and since recorded by Aïmera and Bofill (1898, p. 26) from the Pliocene of Catalonia. Its base, however, bears fewer spiral ribs than in the species in question, and the axial ribs on its last whorl are more pronounced.

The most closely related species from the Italian Neogene is *N. inaequicostata* Bellardi (1882, p. 88, pl. v, figs. 23 a, b), from the Upper Pliocene of Volpedo, near Voghera. That species, however, differs in the proportionately greater height of its last whorl, while its axial ribs are less strongly developed. The best known species of this group is *N. turrita* Borson (see Bellardi, 1882, p. 86, pi. v, figs. 19 a, b), which occurs typically in the Pliocene of northern Italy and has been recorded from Portugal by Da Costa (1866, p. III, pi. xv, figs. ii a, b). In *N. turrita*, however, the axial ribs die out completely on the later whorls. The species now described also bears some resemblance to the well-known species *N. reticulata* (Linné), which is rather similarly ornamented and may attain a comparable size, but which differs in its narrower aperture, in the greater width of the callosity covering the parietal wall, and in the absence of a parietal rib.

At the suggestion of Professor de Morais, I have pleasure in naming this species after Senhor Malachias, the owner of the property on which the fossils were collected.

Family OLIVIDAE

Genus ANCILLA Lamark, 1799

Ancilla marinhensis sp. nov. Pl. I, figs. 2 a, b.

Specific Characters. — Shell large for the genus, thick-shelled, and of fairly stout proportions; aperture now occupying slightly more than one-half of the total height, but

somewhat reduced in height owing to the infilling of its posterior angle with callus. Spire whorls and sutures entirely obscured by a vernicose coating of callus, which also covers the posterior quarter of the last whorl, spreading downwards above the aperture to merge with the callosity of the parietal wall and inner lip ; a slight depression above the last half-whorl marks the approximate position of the corresponding suture. The anterior region of the last whorl also bears a thick vernicose coating, which is limited posteriorly by a moderately wide, spirally ascending groove which disappears below the callosity of the inner lip well above the middle of the height of the aperture, and, at its other extremity, produces an indentation near the anterior end of the labrum. The anterior coating of the last whorl is itself crossed by a groove which originates at the extremity of the basal notch of the aperture, while several growth-stages of the anterior notch are conspicuous upon it. The uncoated region of the last whorl, on which vertical growth-lines are strongly pronounced, occupies about one-third of the total height of the shell.

Aperture of moderate width, with a wide, sub-horizontal basal notch. Columellar lip twisted outwards at its anterior end, where it has a well-defined margin separated by a groove from the anterior coating of the whorl, and bears about five not very conspicuous, steeply inclined folds sub-parallel with its margin ; above the twisted region the columellar lip bears a callous coating which bulges strongly where the lip merges with the parietal wall ; the margin of the callosity ascends almost vertically until it curves round to join the margin of the callosity which covers the spire. Outer lip sharp, feebly convex and with an average vertical inclination in front view, straight and subvertical in profile view except at its posterior end, where it curves inwards towards the obscured suture.

Measurements. — Holotype : — height 47.8 mm., diameter 21.2 mm., height of aperture 26.0 mm.

Remarks. — The presence of this species of *Ancilla* in the Pliocene of Portugal is of interest in view of the apparent absence of the genus from the Pliocene of Italy and south-eastern France. It is not at all similar to any of the species described from the Miocene of Italy or France, while no comparable species is at present living in European seas.

List of works to which reference is made

- ALMERA, J. and A. BOFILL, 1898. Moluscos fósiles recogidos en los terrenos pliocenos de Cataluña, *Bol. Com. Mapa geol. España*, vol. xxiv.
- BELLARDI, L., 1882. I molluschi dei terreni terziarii del Piemonte e della Liguria, Parte III, *Mem. Accad. Sci. Torino*, ser. 2, vol. xxxiv.
- Cox, L. R., 1936. Pliocene Mollusca from Portugal, *Museu Min. e Geol. Univ. Coimbra Publ. n.º 9*, pp. 47-75, pis. I, II.
- DA COSTA, P., 1866. Gastéropodes dos depósitos terciarios de Portugal, *Mem. Com. geol. Portugal*.
- FONTANNES, F., 1879-82. Les mollusques pliocènes de la vallée du Rhône et du Roussillon.
- SERRES, M. DE, 1829. Géognosie des terrains tertiaires.

Explanation of plate I

(The figures are of natural size)

- FIGS, 1 *a, b.* *Nassarius (Uzita) malachiasi* sp. nov. Holotype (Mus. Min. e Geol. Univ. Coimbra).
- FIGS. 2 *a, b.* *Ancilla marinhensis* sp. nov. Holotype (Mus. Min. e Geol. Univ. Coimbra).

L. R. Cox, Sc. D.,
of the British Museum (Natural History).

Fig. 1

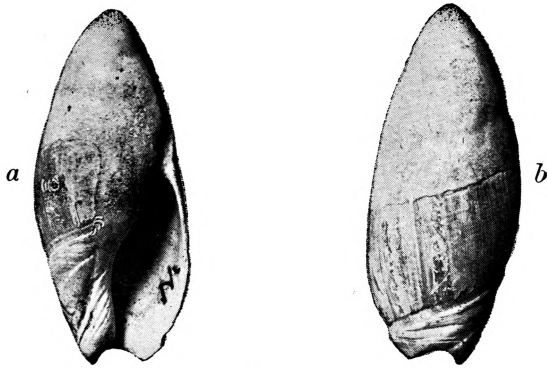
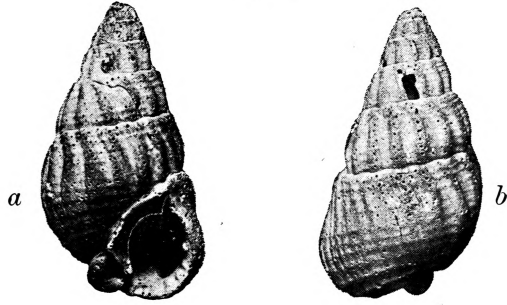


Fig. 2