

Three new species of Gastropoda from deep water off the Philippines

Luigi BOZZETTI

V. Devoto, 3 - 20133 Milano - ITALY

KEYWORDS. Gastropoda, Trochidae, Mitridae, Philippines.

ABSTRACT. Three new gastropod species from deep water off the Philippines, are described; one of them, which generic placement has not been positively ascertained, is tentatively assigned to the genus *Eumitra* Tate, 1889.

I. INTRODUCTION

Through the courtesy of Mr. Emmanuel Guillot de Suduiraut during the last two years I had the opportunity of examining several species from his tangle nets operating in the central-southern range of the Philippine Archipelago at 100-600m depth. After investigation, some of the species prove to be new to science and three of these are described here.

II. SYSTEMATICS

Genus: *Calliostoma* Swainson, 1840

Type species: *Trochus conulus* Linnaeus, 1758

Subgenus: *Ampullotrochus* Monterosato, 1890

Calliostoma (Ampullotrochus) suduirauti n. sp.

Figs 1-4

Description.

Shell light and thin in structure, small for the genus, up to 15 mm in length, with a trochiform outline. Protoconch of about one whorl, showing a faveolate sculpture with weakly prominent, blunt sides of the hexagonal cells; teleoconch starting abruptly with a varix and consisting of 7 flat sided whorls with a strong keel at the whorl periphery bearing serrate, round pointed triangular nodules. Spire extended, slightly coeloconoid and produced at an apical angle of about 60°, suture indistinct. Aperture subquadrate, base moderately convex, outer lip thin, truncate at the base, inside showing the tracing of outer spirals. Columella smooth, thickened, gently oblique, umbilicus not completely closed by the columellar callus. Sculpture consisting of subequal beaded spiral cords evenly spaced above peripheral keel, numbering 2 on first teleoconch whorl, increasing to 5 on last adult whorl; beads on the early whorls are axially connected by blunt riblets which get progressively

weaker, almost disappearing after the fourth teleoconch whorl. Minor additional ridges in the interspaces of main cords, several thick and hardly visible growth striae. Ground colour brownish with bronze hues, axial flammules of a darker nuance evenly distributed on teleoconch whorls; peripheral keel nodules arranged in alternate white and brown couples. Base white, bearing 9 or 10 beaded concentric cords with articulate pattern of white and brown dashes, disposition of beads produces thin and arched radial furrows; some secondary spirals between main ones. Inside of mouth and columella nacreous.

Type material.

Holotype : 14.1x12.4mm, MNHN-Paris, paratype 15x11.8mm, Emmanuel Guillot de Suduiraut collection.

Type locality.

Balicasag Island, Bohol, Central Philippines; fished by tangle nets, 140m.

Discussion.

KOSUGE (1984) described a new species and reported new locality records for two others from the Philippines, all belonging to *Benthastelena* (= *Tristichotrochus*, Ikebe, 1942) (MARSHALL, 1995) a typical subgenus of Southern Japan waters. *C. suduirauti* resembles *C. tosaensis* (Kuroda & Habe, 1961), *C. paucicostatum* Kosuge, 1984 and *C. soyoe* Ikebe, 1942, especially the latter two, but differs by having a stronger peripheral keel, brighter coloration and smaller size. *C. suduirauti* also resembles the mediterranean *C. gubbiolii* Nofroni, 1984, but differs in having a stronger peripheral keel and showing an even periferal outline instead of a wavy one.

Etymology.

The new species is named in honour of Mr. Emmanuel Guillot de Suduiraut, experienced conchologist and supplier of valued malacological material from the Philippines.

Genus: *Mitra* Lamarck, 1798

Subgenus: *Mitra* Lamarck, 1798

Type species: *Mitra mitra* (Linnaeus, 1758)

Mitra (Mitra) nadayaoi n. sp.

Figs 5-6

Description.

Shell up to 30.05mm in length, fusiform-elongate; protoconch missing, teleoconch of 8/9 slightly convex whorls, separated by a grooved, marginated suture. Spiral sculpture consisting of finely incised and punctate threads equally distributed, numbering 4 on the spire whorls and 18/20 on body whorl plus siphonal canal; axial disposition of pits producing a weakly beaded surface; thick and weak axial growth lines present. Aperture high, more than half total length, and narrow, little widening out in the middle; outer lip strengthened by a weak margin, inside crenulated. 4 oblique columellar folds growing stronger adapically; columellar callus thin, bright and transparent. Siphonal canal open, well developed and hardly dorsally projected. Background colour pink-beige on body whorl, tending to chestnut-brown on spire and to pink on peristome; upper part of spire and columellar folds whitish, sutural girdle patterned with articulate white and brownish dashes.

Type material.

Holotype : 26.9x9.65mm, MNHN, paratype 30.05x10.6mm, Emmanuel Guillot de Suduiraut collection.

Type locality.

Balut Island, Mindanao, Philippines, fished by tangle nets, -240 m on sandy, muddy and stony bottom; sympatric with *Mitra isabella* Swainson, 1831 and *Mitra pele* Cernohorsky, 1970. Holotype live taken, paratype crabbed.

Discussion.

M. nadayaoi is related to *M. subflava* (Kuroda & Habe, 1971), but differs in the smaller size, 27mm versus 50mm, in the less slender profile and in the spiral punctations which become obsolete on the body whorl in the second species. *M. nadayaoi* also shows a spiral threads sculpture and an outer lip inside crenulated, both characters not present in *M. subflava*. *M. nadayaoi* resembles *M. sacerdotalis* A. Adams, 1853, mostly in the pattern and colour of sutural girdle, but differs in the smaller size, 27mm versus 60-70mm, in the more developed siphonal canal and in the peristome colour, which is brown in *M. sacerdotalis*; the range of *M. sacerdotalis* is probably limited to the Indian Ocean. H. Turner (pers. com.)

firstly recognized the present species as new in 1995.

Etymology.

Following the wishes of Mr. Emmanuel Guillot de Suduiraut, this species is named in honour of his

friend Mr. Daniel Nadayao who collected the specimens.

Genus: *Eumitra* Tate, 1889

Type species: *Mitra alokiza* Tenison-Woods, 1880

?*Eumitra suduirauti* n. sp.

Figs 7-8

Description.

Shell fusiform-elongate; protoconch bulbous and extended consisting of about 2 smooth whorls not easily distinguished from the teleoconch due to erosion; teleoconch of 9 convex whorls, separated by a deep and wide sutural groove with rounded edge. Teleoconch sculpture consisting of rounded axial ribs covering the whole whorl height, and weak spiral cords; sculpture becoming almost obsolete on last two whorls, especially the axial sculpture; 10/11 stronger spiral cords on anterior end; thick and feeble growth markings on teleoconch whorls. Short and open siphonal canal with a clear siphonal fasciole. Aperture ovoid, high, about half total length, with maximum width at 1/3 from anterior end, anal sulcus sharp; outer lip unmarginated, smooth inside, inner lip sinusoidal. Columella weakly bent to the left, bearing a thickening on middle area with 5 feeble, evenly spaced folds, the basal one weaker. Shell colour chalky white.

Type material.

Holotype : 51x17.1mm MNHN, paratype 47.8x15.6mm, Emmanuel Guillot de Suduiraut collection.

Type locality.

Tanala, Tiain Pt., Northern side of Sarangani Island, Davao del Sur Province, Mindanao, Celebes Sea. By tangle nets, -500/-600 m., volcanic stone bottom; both specimens crabbed, sympatric with *Calliotectum tibiaeforme* f. *johnsoni* (Bartsch, 1942), *Amalda hilgendorfi* (von Martens, 1897) and *Perotrochus vicdani* (Kosuge, 1980).

Discussion.

The present new species is tentatively attributed to *Eumitra* as some shell characters, viz. sculpture and columellar plications, support this generic placement, whereas protoconch shape shows a slight likeness to species of the genus *Charitodoron* Tomlin, 1932 and finally shell size and sutural area conformation seem to exclude it belonging to either genus. LOZOUET (1991) first described four recent species of *Eumitra*, up to that time considered a fossil group related to *Charitodoron* (CERNOHORSKY, 1970); in the same work he reported on the discovery of two new species of *Charitodoron* from the Upper Oligocene deposits of Aquitania and consequently suggested that the assumption of a close relationship between the two genera must be revised, followed in this conclusion

by CERNOHORSKY (1991). If the placement of the new taxon to the genus *Eumitra* is confirmed by future findings of living animals, it would be an important new record, increasing the original range extension to New Caledonia; on this subject, Lozouet (pers. com.) reports that a specimen very close to the ones here studied has been collected during the cruise "Karubar" undertaken by MNHN team in Indonesia. As previously stated, the shell characters of ?*Eumitra suduirauti* do not match completely the standards of the genus and the reported differences clearly separate it from all the species, both recent and fossil, ascribed to *Eumitra*.

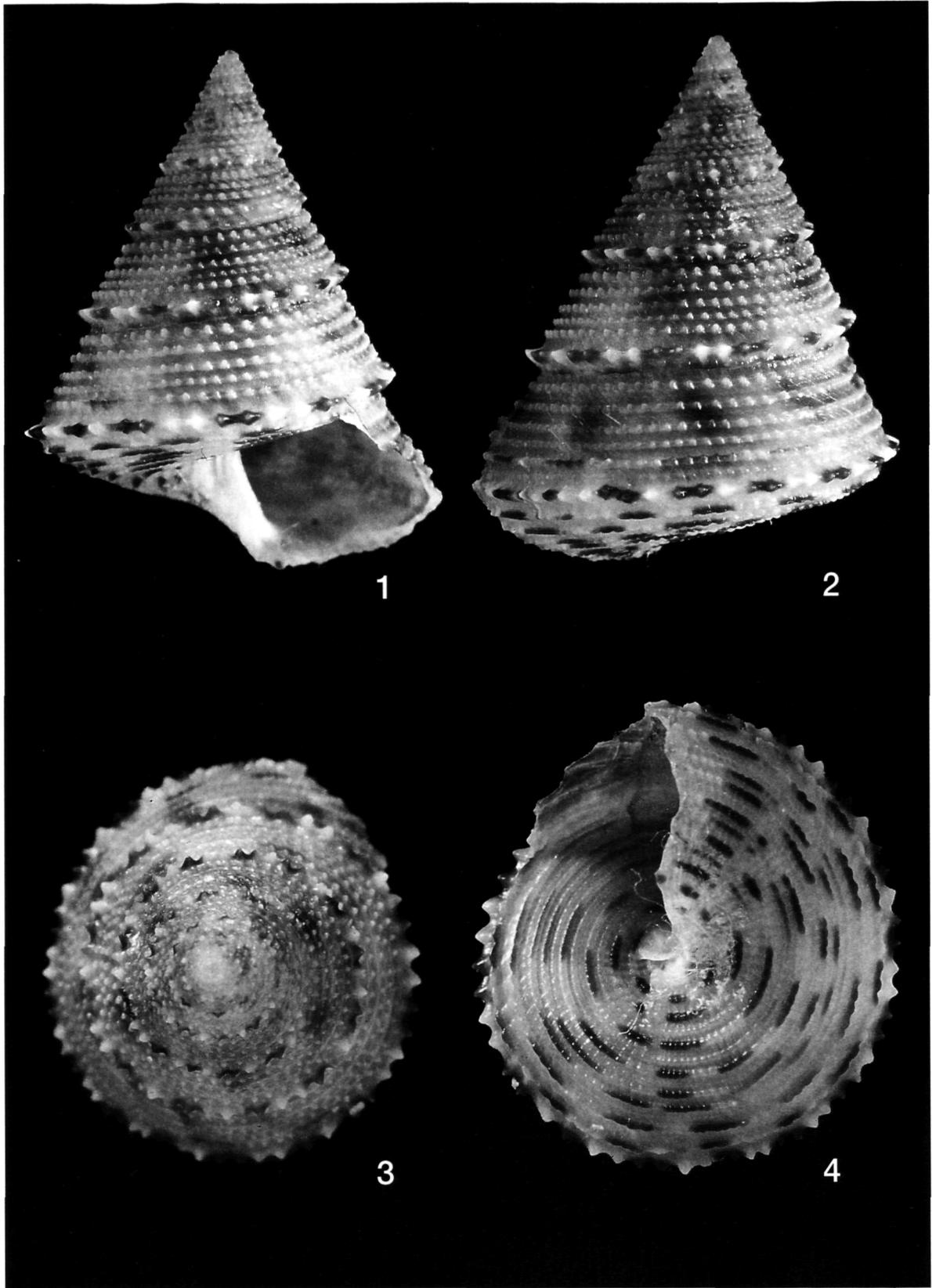
Etymology.

This species is named after Mr. Emmanuel Guillot de Suduiraut.

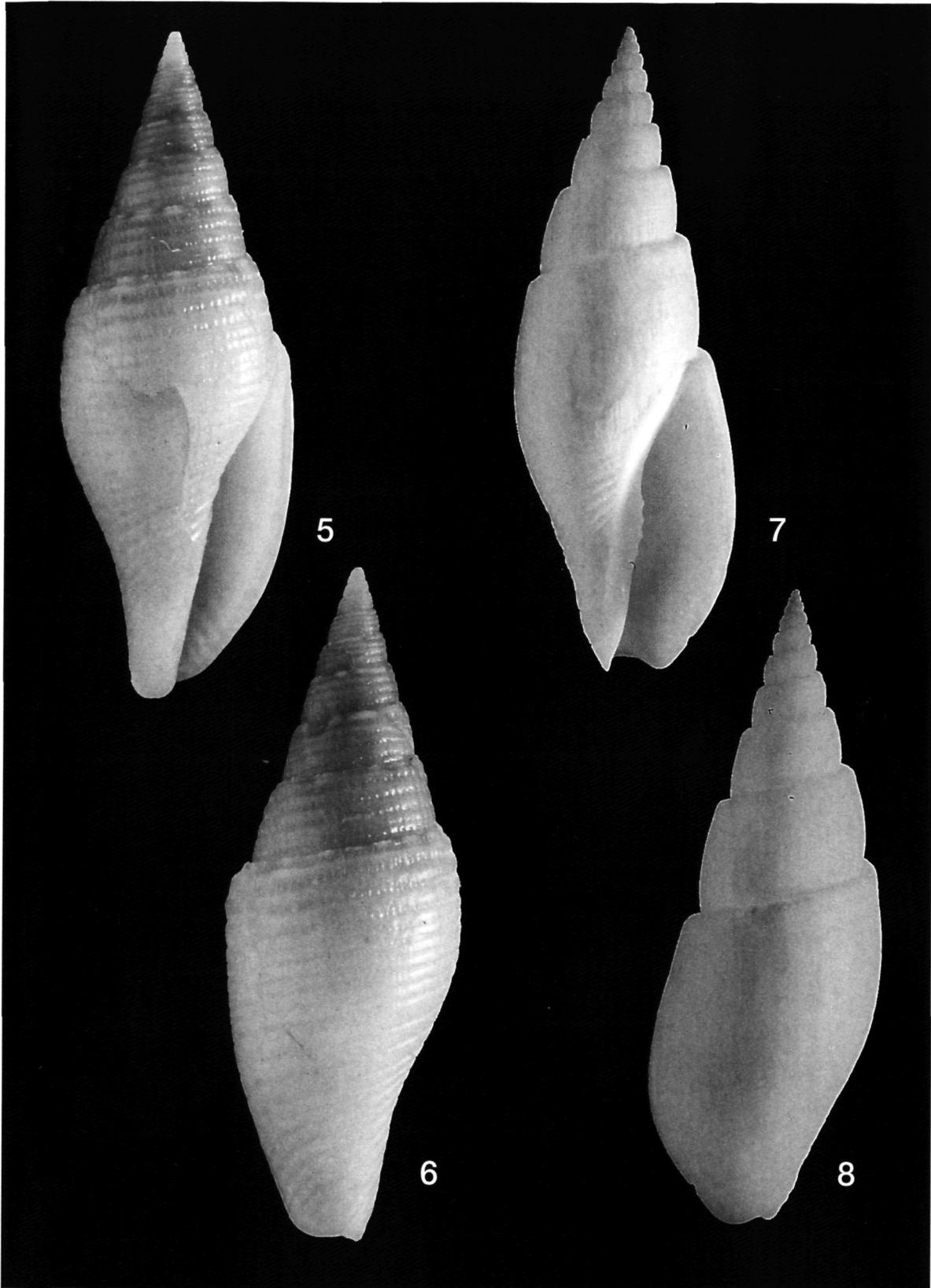
ACKNOWLEDGMENTS. I wish to express my best thanks to E. Guillot de Suduiraut, Cebu, Philippines, R. Salisbury, Idaho, U.S.A., P. Bouchet and P. Lozouet, Muséum National d'Histoire Naturelle, Paris, R. Houart, Landen, Belgium, A. Bianchi, Milano, Italy and my daughter Ilaria for their help and cooperation.

REFERENCES

- CERNOHORSKY, W.O. 1970. Systematic of the families Mitridae & Volutomitridae (Mollusca: Gastropoda). *Bull. Auckland Inst. Mus.* 8: 1-190.
- CERNOHORSKY, W.O. 1991. *The Mitridae of the World. Part 2. The Subfamily Mitrinae Concluded and Subfamilies Imbricariinae and Cylandromitri-nae. Monographs of Marine Mollusca.* Trophon Corporation, Silver Spring 4: 1-164.
- KOSUGE, S. 1984. Description of a new and five newly recorded species of the genus *Calliostoma* from Philippines (Gastropoda Trochacea). *Bull. Inst. Malac. Tokyo.* 2(1) : 5-6 pl. 2.
- LOZOUET, P. 1991. Mollusca Gastropoda : *Eumitra* récentes de la région néo-calédonienne et *Charitodoron* fossiles de l' Oligocène supérieur d' Aquitaine (Mitridae). In : A. CROSNIER & P. BOUCHET (eds), Résultats des Campagnes MUSORSTOM, Volume 7. *Mém. Mus. natn. Hist. nat.* (A) 150: 205-222.
- MARSHALL, B.A. 1995. Calliostomatidae from New Caledonia, The Loyalty Islands and the northern Lord Howe Rise. In : A. CROSNIER & P. BOUCHET (eds), Résultats des Campagnes MUSORSTOM. *Mém. Mus. natn. Hist. nat.* 167: 381-458.



Figs. 1-2-3-4. *Calliostoma suduirauti* sp. n., holotype MNHN, 14.1mm.



Figs. 5-6. *Mitra nadayaoi* sp. n., holotype MNHN, 26.9mm.

Figs. 7-8. *?Eumitra suduirauti* sp. n., holotype MNHN, 51mm.