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Two new *Euthria* (Gastropoda: Buccinidae) from Philippine Islands.

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Abstract: Two new buccinids from off Balicasag Island, the Philippines, are described as new to science: *Euthria suduirauti* sp. nov. and *Euthria rikae* sp. nov. Both species are characterized by a striking subsutural band ornamented with small axial scales, a sculpture which serves to distinguish them from the sympatric *E. walleri* (Ladd, 1976), its closest relative. The placement of both species in the genus *Euthria* is based on conchological characteristics only, by comparing them with *E. walleri* (Ladd, 1976) and some New Caledonian species (Fraussen & Hadorn, 2003).

Introduction: An excellent article about the exceptional Philippine fauna and flora, its current degradation and the realization of conservation programmes, was published in the July 2002 issue of National Geographic magazine. Author Priit Vesilind described the archipelago as one of the world's hottest hotspots of biodiversity (p. 62), "the Galápagos times ten" (p. 70), paradise (p. 67). A place where still new species are found (p. 62, 70). Everyone of us can figure out that the Mollusca are no exception to this. Each year several species are described as new, especially when new fishing grounds are opened.

In the present paper two such shells are dealt with. The first was sent to me by "Manu" Suduiraut. Large and beautiful, the shape and pattern similar to *Latirus*, this species doesn't seem to belong to Buccinidae at first sight. But careful comparison

with other buccinid species from the Philippines and New Caledonia ensured this species' accomodation among the buccinids. Searching for more study material, Rika Goethals informed me she had collected some very similar shells, belonging to another species. As a result, both species are described below and named after their collectors.

Genus *Euthria* M. E. Gray, 1850

Euthria (as a subgenus of *Sipho*) M. E. Gray, 1850: 67. (type species by original designation: "*Fusus lignarius* Chiaje" (delle Chiaje) (this is *Fusus lignarius* Lamarck, 1816, a junior synonym of *Euthria cornea* (Linnaeus, 1758)).

Euthria suduirauti sp. nov.

Type material (all from type locality):

Holotype, 56.4 mm, Muséum national d'Histoire naturelle, Paris, France.

Paratype 1, 37.7 mm, coll. Suduiraut, Philippines.

Paratype 2, 27.0 mm, coll. De Donder-Goethals, Belgium.

Type locality: Philippines, Bohol, Off Balicasag Island, 200-340 m deep.

Range and habitat: Only known from the type locality. Lives on sand and muddy bottom with vulcanic stones and rocks, sympatric with *Euthria walleri* (Ladd, 1976), *E. rikae* sp. nov., *Xenophora pallidula* (Reeve, 1842), *Mitra hilli* Cernohorsky, 1976, *Bathytoma atractoides* (Watson, 1881), *Phos* species, and many Turridae species.

Description:

Shell of medium size (up to 56.4 mm), thin but solid. Shape fusiform with slender spire, whorls angulate, siphon short.

Colour yellowish brown. Brown dots, situated on axial ribs, arranged in 2 spiral bands, separated by a pale spiral band which is occasionally white when crossing axial ribs.

Protoconch white, well rounded, surface smooth, with 1 3/4 to 2 1/4 well convex whorls, at first minute, gradually increasing in size. Diameter 1.1-1.2 mm.

9 teleoconch whorls, carinated on axial ribs, interspaces convex. Subsutural concavi-

ty weak. Suture ornamented with a double band: upper band on suture, narrow, consisting of small axial semilunar scales, second band consisting of small, white, low knobs.

5 strong, well rounded spiral cords on 2 upper teleoconch whorls, 5 or 6 on third teleoconch whorl. 11-22 thin, moderately elevated, spiral cords on penultimate whorl, of which 8-11 between carina and lower suture. Interspaces as narrow as cords, smooth or with 1 or 3 fine, hardly visible, lirae. Body whorl and siphonal canal with 25-35 fine spirals, denser and finer towards tip of siphonal canal.

10 or 11 strong axial ribs on first teleoconch whorl, 8 or 9 on penultimate whorl, 9 or 10 on body whorl. Ribs pronounced on periphery, resulting in angulate whorls. Interspaces at first narrow, towards second whorl as broad as ribs, but wider from third whorl on.

Aperture ovate, yellowish to brownish, snow-white near edge of outer lip. Columella brown, callus thin or absent, smooth, with 1 strong abapical and 1 strong adapical columellar denticle, occasionally 1-5 additional weak denticles, transition to siphonal canal smooth. Outer lip thin, with 18-20 internal lirae. Edge sharp, slightly furrowed. Connection between lip and columellar callus rather thick, anal fold striking, situated on lip rather than on transition to columella. Siphonal canal short, slightly curved, open.

Aperture with siphonal canal about 1/2 of total shell length (holotype) or slightly lesser (paratype 1).

Operculum, periostracum and radula unknown.

Comparison: *Euthria suduirauti* sp. nov. is characterized by the angulate whorls and elongate, rather pagodoid, shape, the double subsutural band, of which the upper one is sculptured with minute axial scales, and by the weak subsutural concavity.

For differences with *E. rikae* sp. nov. I refer to the comparison under that species.

Euthria walleri (Ladd, 1976), a sympatric congener, has a somewhat similar shell, but can be distinguished by the presence of a well developed subsutural concavity, by the axial ribs which have the carina situated closer to the upper suture, and which give the whorls a parallel outline (instead of angulate), the pattern based on a cream brown background with fine, alternating darker and paler, spiral lines and by a more elongate, narrow siphonal canal.

Siphonofusus lubrica (Dall, 1918) (holotype figured by Kosuge, 1972: pl. 9 figs 7), a Recent species from Japan, differs from *E. suduirauti* sp. nov. by the smooth shell with convex whorls and subsutural concavity. The placement of that species in the genus *Siphonofusus* Kuroda & Habe, 1954 was based on radular difference (a quadrangular middle tooth instead of triangular as in *Euthria*). A more profound study of the similarities between *Siphonofusus* and *Euthria* is beyond the scope of this paper. For a discussion of the use of *Euthria* as (or not as) a genus I refer to Beets (1986: 92-93), Shuto (1978: 358-359, 364-365), Fraussen (1999a: 73) and Fraussen & Hadorn

(1999: 120-121). The placement of *E. suduirauti* and *E. walleri* in the genus *Euthria* is based on conchological features. Till present date I have not had any occasion to collect live specimens and study the radula. Species from New Caledonia with similar shell (Fraussen & Hadorn, in print) have indeed a radula typical of *Euthria*.

E. suduirauti n. sp. looks remarkably similar to *Latirus* species in shape and especially in pattern. Mimitism is not uncommon in Philippine buccinids. For example: "*Engina*" *mactanensis* (Cernohorsky, 1985) (Buccinidae) living sympatric with the very same looking *Lienardia capilatta* (Hedley, 1992) (Turridae). More study on the habitat and ecology (especially predators) of these species can probably help us to more information to understand the evolutionary power responsible for this mimitism.

Etymology: This species is named to honour Emmanuel "Manu" Suduiraut from the Philippines. His important supply of material to many people in the world makes it possible to study the Philippine malacofauna more profoundly. He also collected the type material.

Euthria rikae sp. nov.

Type material (all from type locality):

Holotype, 23.0 mm, Muséum national d'Histoire naturelle, Paris, France.

Paratype, 22.0 mm, coll. K. Fraussen, Belgium.

Type locality: Philippines, Bohol, Off Balicasag Island, 200-250 m deep, taken by tangle nets.

Range and habitat: Only known from the type locality. Lives on sand and muddy bottom with rocks, sympatric with *Euthria walleri* (Ladd, 1976) and *E. suduirauti* sp. nov., *Nassaria acuminata* f. *amboynensis* Watson, 1881; *Phos varicosum* Gould, 1851; *Trigonostoma scalata* (Sowerby, 1832); *Scalptia obliquata* (Lamarck, 1822); *Ctenocardia victor* Angas, 1872; *Brechites vaginiferus* Lamarck, 1818; *Conus bullatus*, Linnaeus 1758; *C. floridulus* Adams & Reeve, 1870 and *C. polongimarumai* Kosuge, 1980; *Vexillum rubellum* (Adams & Reeve, 1850); *Cypraea martini* Schepman, 1907 and *C. pulchella* Swainson, 1823; *Fissidentalium hungerfordi* (Pilsbry & Sharp, 1897) and *F. vicdani* Kosuge, 1981; *Granulofusus kiranus* Shuto, 1958; *Latirus balicasagensis* Bozzetti, 1997 and *L. martinorum* Cernohorsky, 1986; *Harpa major* Röding, 1798; *Bedevea blosvillei* (Deshayes, 1832); *Calliostoma*

dedonderi Vilvens, 2000; *C. emmanueli* Vilvens, 2000; *C. suduirauti* Bozzetti, 1997 and *C. tosaense* Kuroda & Habe, 1961; *Bolma erectospinosa* (Habe & Okutani, 1980); *Conopleura striata* Hinds, 1844; *Ptychobela flavidula* (Lamarck, 1822); *Tritonoturris poppei* Petaes & Vega Luz, 1999; and many other Turridae and Ovulidae species.

Description:

Shells (up to 23 mm, but subadult), solid. Shape fusiform with slender spire, angulate, siphon short.

Colour orange-brown. Dark brown dots, situated on axial ribs, fine, horizontally orientated, separated by a pale brown, occasionally white dot, arranged in about 5 or 6 spiral bands, the 3 or 4 abapical ones occasionally fused to become a broad band.

Protoconch white, rather bulbous, consisting of 1 1/4 to 1 1/2 whorls. Diameter 1-1,1mm.

7 teleoconch whorls, convex between axial ribs, carinated on axial ribs. Subsutural concavity strong. Suture ornamented with a double band: upper band on suture, narrow, consisting of minute wrinkled irregular folds, second band weak, consisting of some weak, white, hardly recognizable knobs.

5 strong, well rounded spiral cords on 2 upper teleoconch whorls. On penultimate whorl 8, on body whorl 13, thin, moderately elevated spiral cords, of which 5 between carina and lower suture. Interspaces broad, with 3 or 7 extremely fine, hardly visible lirae, the central one slightly stronger. Siphonal canal with 11 rather broad and flat spiral cords.

8-10 strong axial ribs on first teleoconch whorl, 7 or 8 on penultimate and body whorl. Interspaces broad.

Aperture ovate, yellowish to brownish, white near edge of outer lip, subadult. Columella pale brown, callus thin or absent, transition to siphonal canal smooth, columellar denticles not yet visible. Outer lip thin with 12-14 internal striae, edge sharp, anal fold already visible in these subadult specimens. Siphonal canal short, slightly curved, open.

Aperture with siphonal canal slightly shorter than 1/2 total shell length.

Operculum, periostracum and radula unknown.

Comparison: *Euthria rikae* sp. nov. looks remarkably similar to *E. suduirauti* sp. nov. and is without doubt closely related, but differs by multiple conchological differences. The protoconch of *E. rikae* sp. nov. is smaller in number of whorls (1 1/4 - 1 1/2 instead of 1 3/4 - 2 1/4) and bulbous (instead of rather conical), the subsutural concavity is rather strong (instead of weak), the double subsutural band has a weak second cord with hardly visible knobs, less spiral cords on the penultimate whorl, body whorl and on the siphonal canal (8 instead of 15-22), the broader interspaces with a

higher number of intercalated lirae (3-7 instead of 0-3), the slightly lower number of axial ribs on the first whorl (8-10 instead of 10-11) and the already broad interspaces from the beginning (instead of narrow at first and becoming broader somewhat later), the slightly broader spire with whorls which increase in size more rapidly (7 whorls correspond with 6 1/2 whorls in subadult *E. suduirauti* sp. nov.), the siphonal canal is slightly shorter, and the surface of the shell looks not as brilliant or glossy.

As in *E. suduirauti* sp. nov., the study of the radula is needed to ensure the generic placement.

Etymology: *Euthria rika* is named to honour Rika Goethals. Together with Fernand De Donder she has made great efforts to study the Philippine shells by collecting small and "difficult" species and especially by collecting habitat data to accumulate our knowledge on the Philippine malacofauna considerably.

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Plate 1

1-5, 8. *Euthria suduirauti* n.sp., off Balicasag Island, Philippines, 200-340 m deep. 1-3. Holotype, 56.4 mm, MNHN. 4-5. Paratype, 37.7 mm, coll. E. Suduiraut. 7. Apex of holotype.

6-7. *Euthria waller*, (Ladd, 1976)., off Surigoa, Mindanao Island, Philippines, 180 m deep.

Plate 1



Plate 2

9-12. *Euthria rika* n.sp., off Balicasag Island, Philippines, 200-250 m deep. 9-10. Holotype, 23.0 mm, MNHN. 11-12. Paratype, 22.0 mm, coll. K. Fraussen.

13-14. *Euthria suduirauti* n.sp. juvenile, paratype 2, off Balicasag Island, Philippines, 200-250 m deep, coll. F. De Donder - R. Goethals.

Plate 2

