

A new *Muricopsis* (Gastropoda, Muricidae) from Annobón Island, Eastern Atlantic.

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ABSTRACT. *Muricopsis annobonensis* n.sp. is described from Annobón Island (Equatorial Guinea) and compared with *Muricopsis fusiformis punctata* Houart, 1990, *M. principensis* Rolán & Fernandes, 1991, and *M. rutilus mariangelae* Rolán & Fernandes, 1991. The small size of the shell, the last teleoconch whorl with obsolete axial sculpture and a high number of spiral cords, and the overall colour pattern differentiate it from these species. The classification of the Eastern Atlantic *Muricopsis* species is updated.

RESUME. *Muricopsis annobonensis* n.sp. est décrite de l'île Annobón (Guinée Equatoriale) et est comparée à *Muricopsis fusiformis punctata* Houart, 1990, *M. principensis* Rolán & Fernandes, 1991, et *M. rutilus mariangelae* Rolán & Fernandes, 1991. La petite taille de la coquille, le dernier tour de spire avec une sculpture axiale quasi inexistante et un nombre élevé de cordons spiraux, ainsi que la couleur générale différencie cette nouvelle espèce de toutes les autres. La classification des *Muricopsis* de l'Atlantique Oriental est actualisée.

INTRODUCTION

The Recent species of *Muricopsis* from the Eastern Atlantic were illustrated in Rolán & Fernandes (1991), Houart (1990, 1993, 1996) and Vokes & Houart (1986), all the species were considered then as belonging to the subgenus *Risomurex* Olsson & Mc Ginty, 1958. However, the genus *Muricopsis* is being studied by Merle, Dommergues & Houart (in press), and as a result, the group of "true" species of *Risomurex* is probably confined in the Western Atlantic. The other group of species usually included in *Risomurex*, i.e. the Eastern Atlantic species, proves to have a closer relationship to *Muricopsis* s.s. than to *Risomurex*.

Following Recent species are currently known in the Eastern Atlantic:

M. fusiformis fusiformis (Gmelin, 1791)

M. fusiformis punctata Houart, 1990

M. gofasi Houart, 1993

M. matildeae Rolán & Fernandes, 1991

M. principensis Rolán & Fernandes, 1991

M. rutilus rutilus (Reeve, 1846)

M. rutilus mariangelae Rolán & Fernandes, 1991

M. seminolensis Vokes & Houart, 1986

M. suga suga (Fischer-Piette, 1942)

M. suga discissus Houart, 1990

The Annobón Island (Republic of Equatorial Guinea), located in the Gulf of Guinea, approximately at 1°24'-1°28' S, 5°36'-5°38' E, has an area of 17 km² and constitutes one of the oceanic islands forming part of the Cameroun line of volcanoes. Annobón has a maximum altitude of 612 m at Pico Santa Mina in the south of the island. In the centre of the island, Pico Quioveo (598 m) overshadows a volcanic crater in the north containing a freshwater lake (Lago A Pot). The island's sharp relief creates a striking rainshadow effect so that there is a strong difference between the driest northern part of the island and the wetter south.

The Annobón molluscan fauna has been presented only as isolated citations in general works pertaining to the West African fauna, and in one single paper based on a collecting trip to the island (Alvarado & Alvarez, 1964). Only 25 species of Gastropoda and 4 of Bivalvia are mentioned in that paper, some of them without any name, or erroneously identified.

The malacological fauna of Annobón is almost similar to that of São Tomé, although with fewer. It seems that some species previously supposed to be endemic in São Tomé also occur in Annobón, however with some differences in shell morphology. These differences probably result from an important reproductive barrier between both populations and, in some cases, could give raise to allopatric speciation. Most of the material collected during the expedition in Annobón in 2000 was obtained by snorkeling and collecting in the intertidal zone. Some dredgings were also made from a small boat. This material is currently studied and a paper presenting all the records will be published in the future. However, some species or groups of species will be commented

in particular works such as this one.

Abbreviations.

- AMNH : American Museum of Natural History, New York, U.S.A.
- BMNH : The Natural History Museum, London, U.K.
- IRSNB : Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium.
- MNCN : Museo Nacional de Ciencias Naturales, Madrid, Spain.
- MNHN : Muséum national d'Histoire naturelle, Paris, France.
- SMNH : Swedish Museum of Natural History, Stockholm, Sweden.

P	Primary cord
s	secondary cord
IP	Infrasutural primary cord (primary cord on shoulder)
P1	Shoulder cord
P2-P6	Primary cords of the convex part of the teleoconch whorls
APERTURE	
ID	Infrasutural denticle
D2 to D5	Abapical denticles

Table 1 : text conventions.

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
 Subfamily **MURICOPSINAE** Radwin & D'Attilio, 1971
 Genus *Muricopsis* Bucquoy & Dautzenberg, 1882
 Type species by original designation: *Murex blainvillei* Payraudeau, 1826 (= *Murex cristatus* Brocchi, 1814).
 Recent; Mediterranean.

Muricopsis annobonensis n.sp.

Figs 1-2, 3-8

Type material.

Holotype MNCN 15.05/43787, Eastern Atlantic, Annobón Island, 1°24' S, 5°37' E, Playa Paliá, in tide pools.
 Paratypes : 1 AMNH; 1 BMNH 20001319; 1 IRSNB IG 29304; 1 MNHN; 1 SMNH type collection 5324; 6 collection R. Houart; 14 collection E. Rolán.

Other material examined

All from the type locality, crabbed and empty shells. 11 shells and 2 protoconchs. collection R. Houart; 63 shells and 5 protoconchs, collection E. Rolán.

Distribution.

Annobón Island. Playa Paliá, a small beach at 1.5 Kms west of San Antonio de Palé, in tide pools.

Description.

Shell small, up to 10.7 mm in length at maturity, slender, lanceolate, heavy. Spire high with 1.25-1.5 protoconch whorls and up to 5 weakly convex, nodose teleoconch whorls. Suture adpressed. Protoconch small, whorls carinate, with a narrow, strong, single keel adapically, squamose. Axial sculpture of teleoconch whorls consisting of low, strong, nodose ribs : 10 or 11 on first whorl, 11 or 12 on second, 10-13 on third, 13 on fourth and 11 or 12 on last whorl. Axial ribs of last whorl low, almost obsolete, broad. Spiral sculpture of high, strong, narrow, nodose cords. First and second whorls with 3 primary cords (IP, P1-P2); third whorl with 3 primary cords and a single secondary cord between IP and P1; fourth whorl with IP, P1-P2, secondary cord between IP and P1, and 2 or 3 threads between primary cords; last whorl with 10 or 11 cords (P and s) of approximately same strength. Aperture moderately broad, ovate. Columellar lip broad with 2 elongate, weak knobs abapically. Rim partially erect, adherent at adapical extremity. Anal notch deep. Outer lip smooth, with 4 strong denticles within (ID, D2-D5) : ID between the suture and P1, D1 (obsolete) between P1 and P2, D2 (broad) between P2 and P3, D3 and D4 (small) between P3 and P5, D5 (intermediate strength) between P5 and P6. Siphonal canal very short, straight, open, with 1 or 2 adapertural spiral cords and 3 or 4 abapertural threads.

Protoconch dark brown. teleoconch whorls blackish brown with white blotches. Usually space covering P1 and P2 alternating white and blackish-brown blotches, ending as a white blotch near the aperture. Siphonal canal white, inner side of outer lip glossy white. Columellar lip blackish-brown adapically, glossy white abapically.

Animal creamy-white with a few milky-white small blotches; tentacles transparent, pale yellow in the

middle. Penis flated and curved as an inverted S.

Operculum ovoid with subcentral nucleus. Light brown in most parts, transparent in columellar border (Fig. 2).

Radula elongate with about 300 teeth. Rachidian tooth with 7 cusps and denticles. Central cusp wide and projected anteriorly; marginal cusps projected outwards; lateral denticles shortest, narrow; lateral cusps long.



Figs. 1-2. (scale bars 1 mm).

1. Animal of *Muricopsis annobonensis* n.sp.
2. Operculum

Remarks.

Muricopsis annobonensis has a colour pattern almost like in *M. principensis* Rolán & Fernandes, 1991 from Principe Island, however the microsculpture and the colour of the protoconch are different, finer in *M. principensis* and white in all examined specimens. Moreover, *M. annobonensis* has more obvious and more numerous spiral cords on the last teleoconch whorl. *M. principensis* has 6 primary cords, only apparent on the axial ribs, otherwise very low. Further spiral sculpture in *M. principensis* consisting of 2 or 3 secondary, narrow, very low cords on all whorls, and of low secondary cords and numerous fine lirae on last whorl. The shell is comparatively narrower with a higher spire.

M. annobonensis differs from *Muricopsis fusiformis punctata* Houart, 1990 in having a smoother shell with lower, often narrower spiral sculpture. The last whorl of *M. annobonensis* has 10 or 11 cords, narrow, low threads and very low, almost undistinguishable axial ribs compared to the 8 or 9 obvious spiral cords, and the high, nodose, axial ribs in *M. fusiformis punctata*. Five spiral cords are visible on the penultimate teleoconch whorl in *M. annobonensis* vs 4 in *M. fusiformis punctata*. The denticles within the aperture are heavier in

M. annobonensis, chiefly D2.

From *M. rutilus mariangelae* Rolán & Fernandes, 1991, *M. annobonensis* differs also in the overall different colour pattern, in the smaller size and in having a lower sculpture and more numerous spiral cords on the last teleoconch whorl (10 or 11 vs 6 in *M. rutilus mariangelae*). *M. annobonensis* is more rounded with a broader, shorter last teleoconch whorl, a narrower aperture and smaller denticles within.

M. annobonensis n.sp. differs from all other Eastern *Muricopsis* species in its colour and sculptural pattern.

Etymology.

annobonensis (from Annobón Island).

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REFERENCES

- Alvarado, R. & Alvarez, J. 1964. Resultados de la expedición Peris-Alvarez a la isla de Annobón. VIII. Algunos invertebrados marinos. *Bol. R. Soc. Española Hist. Nat. (Biol.)*, 62 : 265-282.
- Houart, R. 1990. Description of two new subspecies of *Muricopsis* (*Risomurex*) (Muricidae: Muricopsinae) from Angola, Western Africa. *Publ. Ocas. Soc. Port. Malac.* 15: 53-58.
- Houart, R. 1993. Description of three new species and one new subspecies of Muricidae (Muricinae and Muricopsinae) from West Africa. *Boll. Malac.* 29 (1-4): 17-30.
- Houart, R. 1996. Les Muricidae d'Afrique Occidentale (The West African Muricidae) I. Muricinae & Muricopsinae. *Apex* 11 (3-4): 95-161.
- Merle, D., Dommergues, J.L. & Houart, R. in press. A reevaluation of the Recent species of *Muricopsis* Bucquoy & Dautzenberg, 1882 based on shell characters and morphological disparity of the aperture.
- Rolan, E. & Fernandes, F. 1991. *Muricopsis* (*Risomurex*) (Gastropoda, Muricidae) de las islas de Sao Tomé y Príncipe (Golfo de Guinea, Africa Occidental). *Apex* 6 (1-2): 11-20.
- Vokes, E.H. & Houart, R. 1986. An evaluation of the taxa *Muricopsis* and *Risomurex* (Gastropoda: Muricidae), with one new species of *Risomurex*. *Tulane Stud. geol. & Paleont.* 19(2): 63-88.

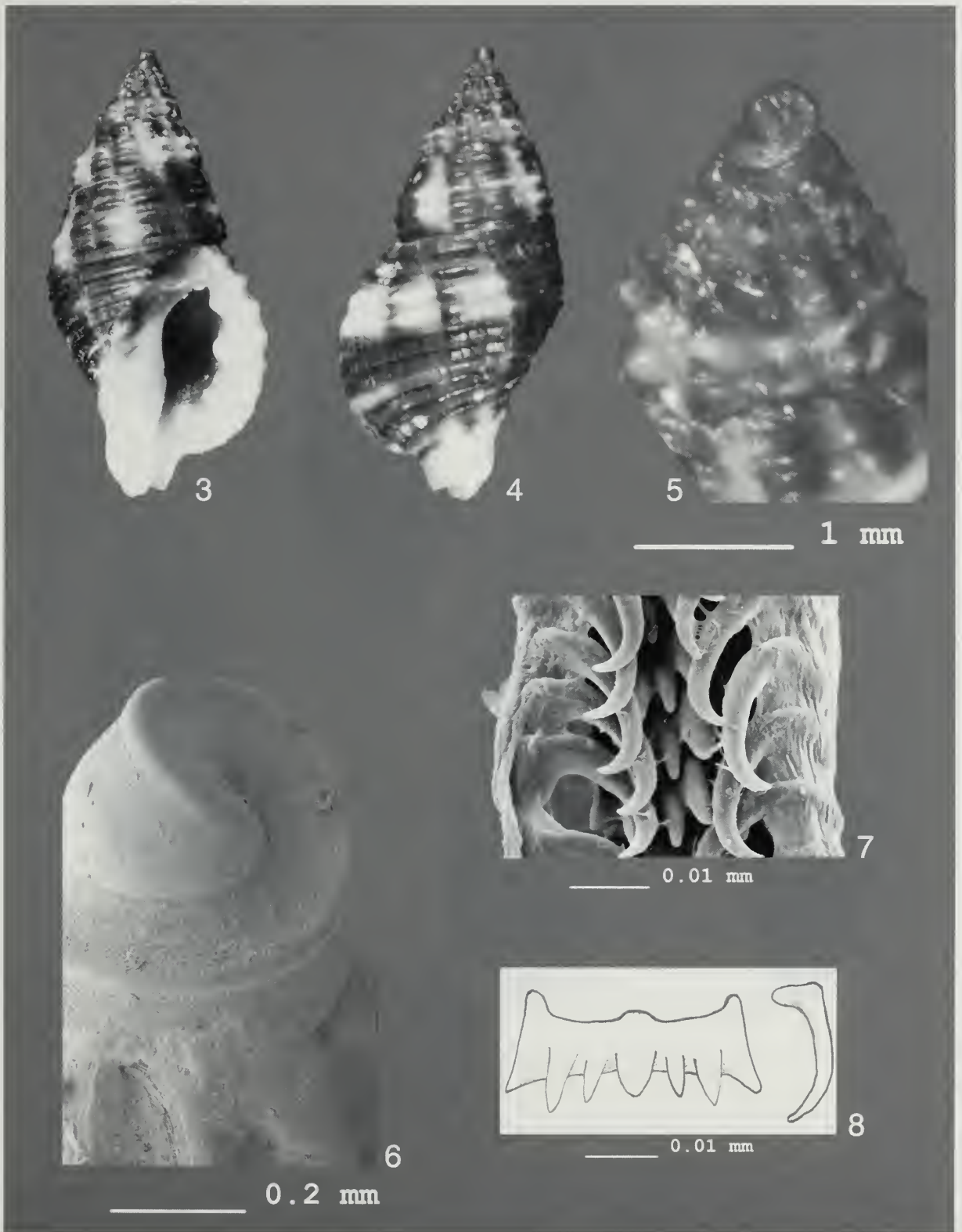
Figures 3 - 8. *Muricopsis annobonensis* Houart & Rolán, n.sp.

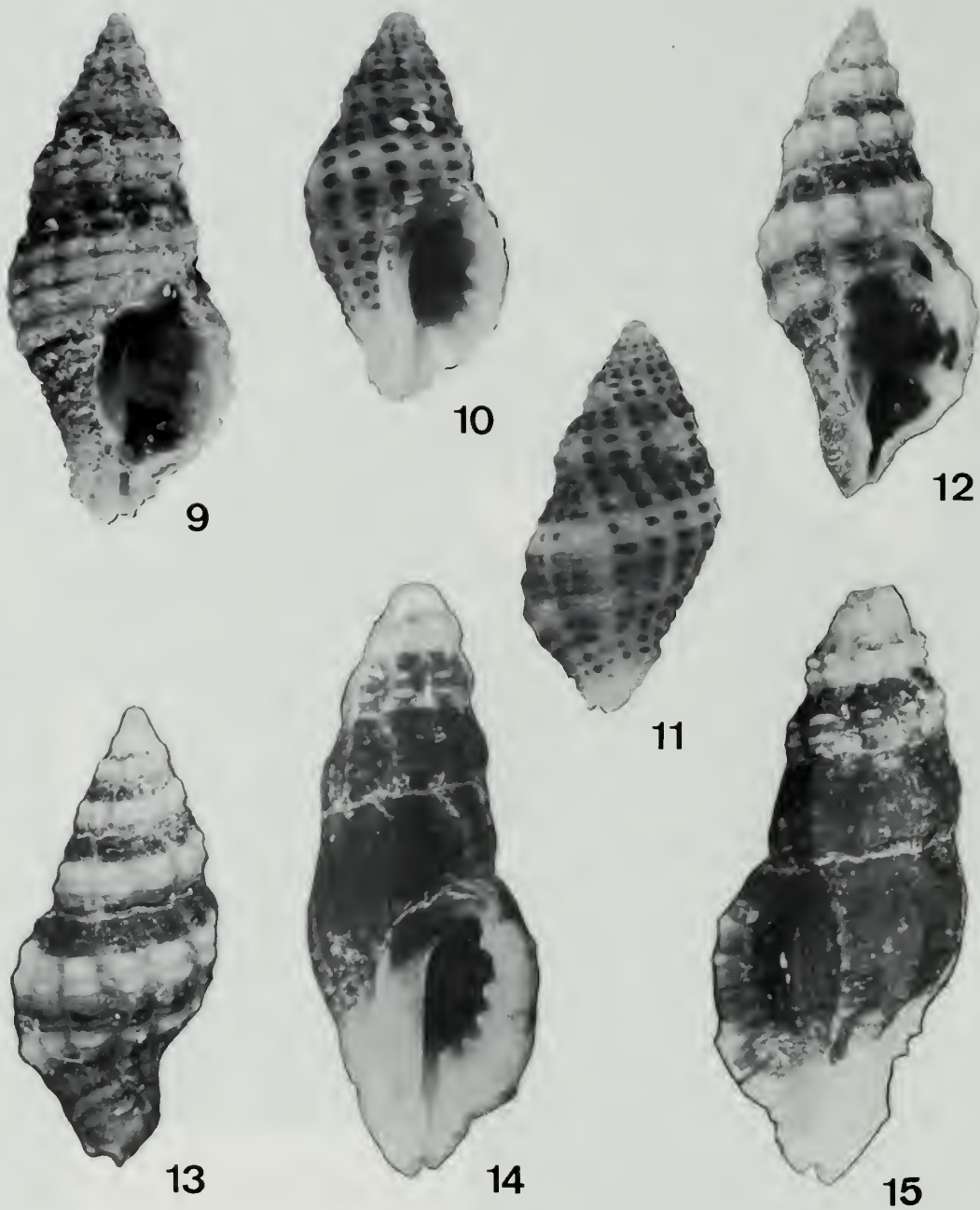
3-4. Eastern Atlantic, Annobón Island, 1°24' S, 5°37' E, Playa Paliá, in tide pools, 9.4 X 4.6 mm, holotype MNCN 15.05/43787.

5. Protoconch and first whorls

6. Protoconch

7-8. Radula





Figures 9-15.

9-11. *Muricopsis fusiformis punctata* Houart, 1990.

9. Angola, Lucira Bay, 11.5 mm, coll. Roland Houart.

10-11. Angola, Moçamedes, 12 mm, holotype MNHN.

12-13. *M. rutilus mariangelae* Rolán & Fernandes, 1991. São Tomé, 10.6 mm, holotype MCNM 15.05/1110.

14-15. *M. principensis* Rolán & Fernandes, 1991. Príncipe, 13 mm, holotype MCNM 15.05/1112.