

Two new deep water Buccinidae (Gastropoda) from western Pacific

Koen FRAUSSEN

Leuvensestraat 25, B-3200 Aarschot, Belgium

koen.fraussen@skynet.be

KEYWORDS. Gastropoda, Buccinidae, *Manaria*, *Nassaria*, new taxa, Taiwan, South China Sea, Helen Bank.

ABSTRACT: The genus *Nassaria* Link, 1807 comprises a small number of shallow to moderately deep-water (upper continental shelf) species, restricted to the tropical Indo-West Pacific. To this fauna is added a deep-water species with peculiar spiny sculpture: *Nassaria cirsiuroides* sp. nov. (southern South China Sea). The genus *Manaria* Smith, 1906 comprises a number of deep-water buccinids characterized by a slender shape, a strong spiral sculpture usually with alternating strong and weak cords, a rather weak axial sculpture, in combination with a paucispiral protoconch and a thick velvety periostracum. *Manaria callophorella* sp. nov. (southern South China Sea) is characterized by a rather pagodoid shape, its generic placement is based only on strong resemblance of shell morphology.

INTRODUCTION

Bouchet and Warén (1986) revised the known buccinid deep water species from the Indo-West Pacific, their study was based on material from scientific expeditions. The description of two new species in the present work is based on material trawled by commercial vessels (schrumpers) from Russia (trawled on Helen Bank, South China Sea) and Japan (trawled between north east Taiwan and Japan, South China Sea).

Abbreviations

JCH: collection Jens & Christa Hemmen, Germany
KBIN-IRSNB: Koninklijk Belgisch Instituut voor Natuurwetenschappen - Institut royal des Sciences naturelles de Belgique, Brussels, Belgium
KF: collection Koen Fraussen, Belgium
MNHN: Muséum national d'Histoire naturelle, Paris, France

SYSTEMATICS

Family **BUCCINIDAE** Rafinesque, 1815

Genus *Nassaria* Link, 1807

Nassaria Link, 1807: 123. Type species by subsequent designation (Eames, 1952): *Nassaria lyrata* Link, 1807, a junior synonym of *Neptunea pusilla* Röding, 1798.

For a detailed discussion of the synonymy and the confusing nomenclatorial history of *Nassaria* I refer to Cernohorsky (1981: 3-4).

Nassaria cirsiuroides sp. nov.

Figs 1-4, 11-12

Material examined. Holotype, between Taiwan and Japan, 30.4 mm, MNHN.

Paratype 1, 29.6 mm, between Taiwan and Japan, KF nr. 2458.

Paratype 2, 27.8 mm, idem., KF nr. 4118.

Paratype 3, 30.5 mm, idem., KBIN nr. 30.188.

Paratype 4, 31.4 mm, South China Sea, KF nr. 3137.

Type locality. Between Taiwan and Japan, 800-900 m deep, trawled by fisherman from Kyushu, Japan.

Range and habitat. Known from 800-900 m deep in the southern South China Sea, between Japan and Taiwan. Exact data are not available, but most probably along Nansei-Shoto ridge.

Description. Shell up to 31.1 mm in length, thin but solid, semi-transparent, snow-white. Shape semi-pagodoid with 6 slightly inflated teleoconch whorls. Protoconch paucispiral, consisting of 3/4 to 1 whorl, diameter 1.6 mm. Transition to teleoconch marked by 3 or 4 weak broad axial ribs covering about 1/3 - 1/4 whorl.

First teleoconch whorl with 4 or 5 high, sharp spiral cords, interspaces broad, subsutural cord separated by broader interspace. Second whorl more angulate, subsutural cord still fine, other cords stronger; middle ones accentuated by shoulder, forming strong, slightly bicarinate carina, separated from subsutural cord by increasingly broader interspace which form a subsutural slope. From third whorl on, 3 or 4 additional spiral cords occur on subsutural slope between subsutural cord and bicarinate shoulder.

Secondary spiral threads appear between abapical cords from third whorl on, additional cords on subsutural slope from penultimate whorl on. Body whorl with 23 or 24 spiral cords, of which about 12 on siphonal canal.

First teleoconch whorl with 12 or 13 (rarely 14) strong, broad axial ribs, running from suture to suture. Interspaces narrow on first whorl, increasingly broader from second or third whorl on. On fourth whorl axial ribs on shoulder only, accentuating 2 spiral cords, resulting in bicarinate carina. Body whorl with 17 weak axial ribs on shoulder.

Aperture ovate, aperture and siphonal canal about 1/2 total shell length. Outer lip rather thick, edge callous, 16-23 lirae within, according with external interspaces. Columella slightly curved, callus moderately thick, smooth. Siphonal canal short, twisted, narrow, open.

Periostracum, radula and operculum unknown.

Remarks. *Nassaria cirsiuroides* sp. nov. is a peculiar species, different from all other known Recent and fossil *Nassaria* species by the pagodoid shape in combination with a bicarinate spiral sculpture on the shoulder.

N. atjehensis Oostingh, 1939 from the Indonesian Pliocene occasionally shows a bicarinate shoulder but differs by the more slender spire, the finer spiral cords and the lower number of spiral threads inside the aperture.

Etymology. *Nassaria cirsiuroides* sp. nov. is named after the botanic genus *Cirsium* Miller (Compositae), feather-thistles, being more or less similar in shape with a prickly surface.

Genus *Manaria* Smith, 1906

Type species: *Manaria thurstoni* Smith, 1906, by original designation.

For a study of the species belonging to this deep-water genus we refer to Bouchet & Warén (1986).

***Manaria callophorella* sp. nov.**

Figs 5-10, 13

Material examined. Holotype, 19.3 mm, between Taiwan and Japan, MNHN.

Paratype 1, 21.7 mm, between Taiwan and Japan, KBIN nr. 30.187.

Paratype 2, 20.0 mm, idem., KF nr. 4120.

Paratype 3, 21.3 mm, with operculum, idem., JCH.

Paratype 4, 19.9 mm, with periostracum, Helen Bank, southern South China Sea, 500 m deep, KF nr. 2833.

Figures 1-6

1-4. *Nassaria cirsiuroides* sp. nov., between Taiwan and Japan. **1-2.** Holotype MNHN, 30.4 mm. **3-4.** Paratype 4, 31.4 mm, KF nr. 3137.

5-6. *Manaria callophorella* sp. nov., between Taiwan and Japan, holotype MNHN, 19.3 mm.

Type locality. Between Taiwan and Japan, 800-900 m deep, trawled by fisherman from Kyushu, Japan.

Range and habitat. Known from 500-900 m deep in the southern South China Sea. Between Japan and Taiwan, most probably along the Nansei-Shoto ridge, 800-900 m deep. The specimen from Helen Bank lived 500 m deep, on mud.

Description. Shell small, 19.2 to 21.7 mm in length, thick, solid, snow-white, rather dull. Shape semi-pagodoid with 5 - 5 1/2 inflated, angulate teleoconch whorls.

Protoconch paucispiral, consisting of about 1 whorl, smooth, covered with miniscule holes, diameter 1.35 - 1.45 mm. Transition to teleoconch marked by 1 or 2 weak axial ribs.

First teleoconch whorl with 5 spiral cords, interspaces of equal size. Second whorl with 7 spiral cords, their number increasing to 11 or 12 on penultimate whorl. Body whorl with 32-34 spiral cords of which about 20 covering the whorl, about 12 on siphonal canal.

First whorl with 11 or 12 strong axial ribs, running from just below upper suture to lower suture, obvious on the shoulder, giving the shell a pagodoid shape. Interspaces of equal size. Penultimate whorl with 19 axial ribs, interspaces twice as broad as ribs. Body whorl with 21 or 22 axial ribs.

Aperture semi-ovate, aperture and siphonal canal together lesser than 1/2 total shell length. Outer lip thick, edge rather sharp, inner side smooth. Columella slightly curved, smooth. Siphonal canal short, straight, open.

Periostracum thick, yellow-brown, arranged in axial lamellae, denser and thicker on axial ribs.

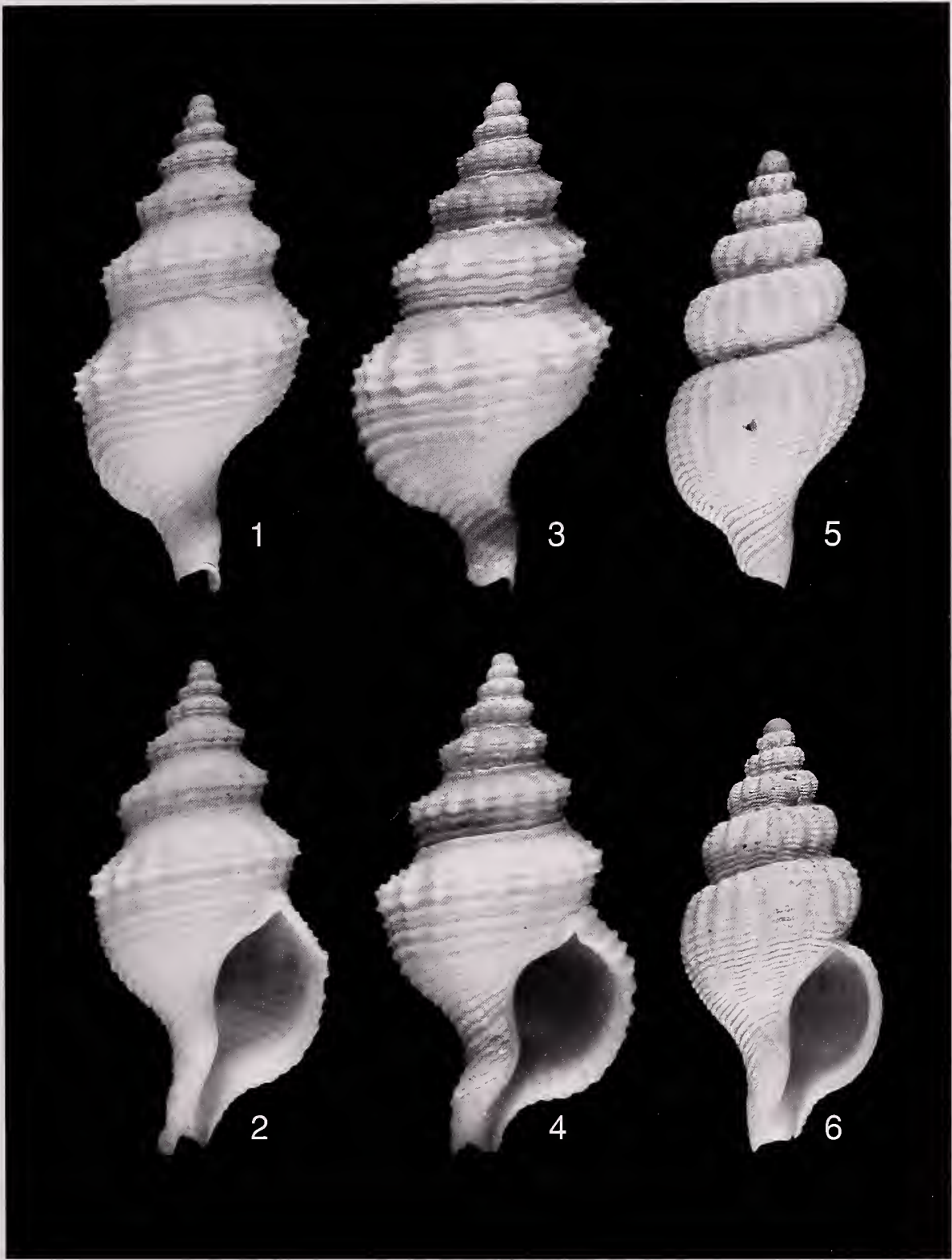
Operculum lanceolate-ovate, yellow-brown, covered with fine growth-lines. Nucleus terminal, blunt.

Animal and radula unknown.

Remarks. *Manaria callophorella* sp. nov. is characterized by the pagodoid shape and inflated whorls.

M. clandestina Bouchet & Warén, 1986 from the Philippines is most similar in spiral sculpture and periostracum but differs in the more slender spire, the rather convex whorls (instead of inflated and angular), the broader axial ribs and the lesser number of spiral threads within the aperture.

Kapala kengrahami Ponder, 1982 from deep water off Australia (type species of *Kapala* Ponder, 1982: 201-202) has a similar operculum, a similar sculpture on the early whorls and an even much more pagodoid shape, but differs by the multispiral protoconch consisting of 3 whorls.



Etymology. *Manaria callophorella* sp. nov. is derived from *kallos* (Greek) meaning "a beauty" and translated to the Latin as *callos*; and *phoros* (Greek) meaning "wearing", to evocate the animal which was wearing this beautiful shell, with the diminutive suffix *ella* (Latin) to evocate the small size.

ACKNOWLEDGMENTS

I am grateful to Igor Bondarev (Crimea), Jens & Christa Hemmen (Germany) and Franz Huber (Austria) for procuring the type material, to Guido T. Poppe (Belgium) for digital images and for his enthusiasm and support, and to David Monsecour (Belgium) for correcting the English text.

REFERENCES

- Bouchet, P. & Warén, A. 1986. Mollusca gastropoda: Taxonomical notes on tropical deep water
- Buccinidae with description of new taxa. In: Résultats des Campagnes MUSORSTOM. I & II. Philippines, tome 2. *Mém. Mus. natn. Hist. nat.*, "1985", sér. A, Zool., 133: 457-499.
- Cernohorsky, W. 1981. The family Buccinidae. Part 1: The Genera *Nassaria*, *Trojana* and *Neoteron*. In: Abbott, R. T., Monographs of Marine Mollusca. Taxonomic Revisions of the Living and Tertiary Marine Mollusca of the World. No. 2. American Malacologists, Inc. Florida.
- Link, H. F. 1807. Beschreibung der Naturalien-Sammlung der Universität zu Rostock, 3: 101-165. Rostock.
- Ponder, W. F. 1982. A new genus and species of Buccinidae (Mollusca: Gastropoda) from the Continental Slope of eastern and southern Australia. *Journ. Malac. Soc. Aust.*, 5 (3-4): 201-207.

Figures 7-13

- 7-10. *Manaria callophorella* sp. nov. 7-8. Paratype 3, 21.3 mm, off Taiwan, CJM. 9-10. Paratype 4, 19.9 mm, South China Sea, Helen Bank, KF nr. 2833.
- 11-12. *Nassaria circumoides* sp. nov., protoconch of the holotype.
13. *Manaria callophorella* sp. nov., protoconch of the holotype.

