

Description of a New Species of *Naquetia* (Gastropoda, Muricidae) from the Red Sea and Redefinition of *Naquetia jickelii* (TAPPARONE CANEFRI, 1875)

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With 1 Table, 3 Text-Figures and 24 figures on Plates 1 and 2

Keywords

Gastropoda, Muricidae, Red Sea, *Naquetia*, redefinition, new species.

Abstract

A new species of *Naquetia* is described from the northern Red Sea. It is compared with three species: *Naquetia cumingii* (A. ADAMS, 1853) and *N. vokesae* (HOUART, 1986), both from the Indo-West Pacific, and *N. jickelii* (TAPPARONE CANEFRI, 1875) from the Red Sea. The Recent *Naquetia* species are listed and *N. jickelii* is reinstated as a valid species.

Zusammenfassung

Eine neue Art aus der Gattung, *Naquetia* wird aus dem nördlichen Roten Meer beschrieben. Die neue Art wird mit folgenden drei Arten verglichen: *Naquetia cumingii* (A. ADAMS, 1853) und *N. vokesae* (HOUART, 1986), beide aus dem Indo-West Pacific, und *N. jickelii* (TAPPARONE CANEFRI, 1875) aus dem Roten Meer. Es wird eine Übersicht der rezenten *Naquetia*-Arten gegeben und *N. jickelii* wieder als valide Art anerkannt.

Introduction

There are seven living species of *Naquetia*: *N. barclayi* (REEVE, 1858), *N. cumingii* (A. ADAMS, 1853), *N. fosteri* D'ATTILIO & HERTZ, 1987, *N. jickelii* (TAPPARONE CANEFRI, 1875), *N. manwaii* HOUART & HÉROS, 2013, *N. triqueter* (BORN, 1778), and *N. vokesae* (HOUART, 1986).

Four species, *N. barclayi*, *N. cumingii*, *N. triqueter*, and *N. vokesae* have an Indo-West Pacific distribution, one, *N. manwaii*, is restricted to the Indian Ocean, and two, *N. fosteri* and *N. jickelii*, are restricted to the Red Sea.

Specimens closely related to *N. vokesae* and probably conspecific, were recently collected in the Philippines Islands (Pl. 2, Figs G-H, L) which considerably extends its geographical distribution.

Naquetia jickelii, formerly identified as a synonym of *N. cumingii* by HOUART (1992: 128) and by MERLE et al. (2011: 113), is probably a valid species occurring only in the southern part of the Red Sea. This species was already considered valid by KAICHER (1973: card 167), FAIR (1976: 51), and HOUART (1985: 10). VOKES (1978: 396) also retained it as valid, but she mixed the east African broader form of *N. cumingii* with the typical *N. jickelii* from the Red Sea. RADWIN & D'ATTILIO (1976: 89) incorrectly synonymized *N. jickelii* with *Chicomurex laciniatus* (G. B. SOWERBY II, 1841).

The latest described species, *Naquetia manwaii*, is endemic to the extreme north of Madagascar (HOUART & HÉROS, 2013: 510).

Abbreviations

Terminology used to describe the spiral cords (after MERLE 2001, 2005) (Text-Figs 2 and 3). Terminology in parentheses: erratic feature

Convex part of teleoconch whorl and siphonal canal

ab abapical (or abapertural);

abis abapical infrasutural secondary cord (on subsutural ramp);

ABP abapertural primary cord on the siphonal canal;

ad adapical (or adapertural);

ADP adapertural primary cord on the siphonal canal;

IP infrasutural primary cord (primary cord on subsutural ramp);

MP median primary cord on the siphonal canal;

P primary cord;

P1 shoulder cord;

P2-P6 primary cords of the convex part of the teleoconch whorl;

s secondary cord;

s1-s4 secondary cords of the convex part of the teleoconch whorl (example: s1 = secondary cord between P1 and P2; s2 = secondary cord between P2 and P3, etc.);

Aperture

D1-D6 abapical denticles;

ID infrasutural denticle.

Repository

MNHN Muséum national d'Histoire naturelle, Paris, France.

Systematics

Family Muricidae RAFINESQUE, 1815

Subfamily Muricinae RAFINESQUE, 1815

Genus *Naquetia* JOUSSEAUME, 1880

Type species by original designation: *Murex triqueter* BORN, 1778; recent, Indo-West Pacific.

Naquetia rhondae n. sp.

(Text-Figs 1 to 3, Pl. 1 Figs A to D, Pl. 2 Fig. I)

Material

Five specimens from the Egyptian Red Sea, collected by SVEN KAHLBROCK and the second author.

Holotype: 50.5 mm. Gulf of Aqaba, 50 km off Sharm el-Sheikh, 27°48' N, 33°55' E at 25-28 m. Coll. MNHN IM 2000-27724.

Paratype 1: 41.5 mm. Gulf of Aqaba, 50 km off Sharm el-Sheikh, 27°48' N, 33°55' E at 25-28 m. Coll. R. HOUART.

Paratype 2: 50.3 mm. Rafa Sataya, north of Ras Banas, Egypt 24°10' N, 35°40' E, at night, approximately at 20 m. Coll. F. LORENZ.

Paratype 3: 52 mm. Shaab Sharm in Wadi Gimal, at 25 m. Coll. R. HOUART.

Paratype 4: 43.8 mm (broken first whorl). Abu Ramada, Hurghada area 27°08' N, 33°57' E, at 30 m. Coll. F. LORENZ.

Distribution

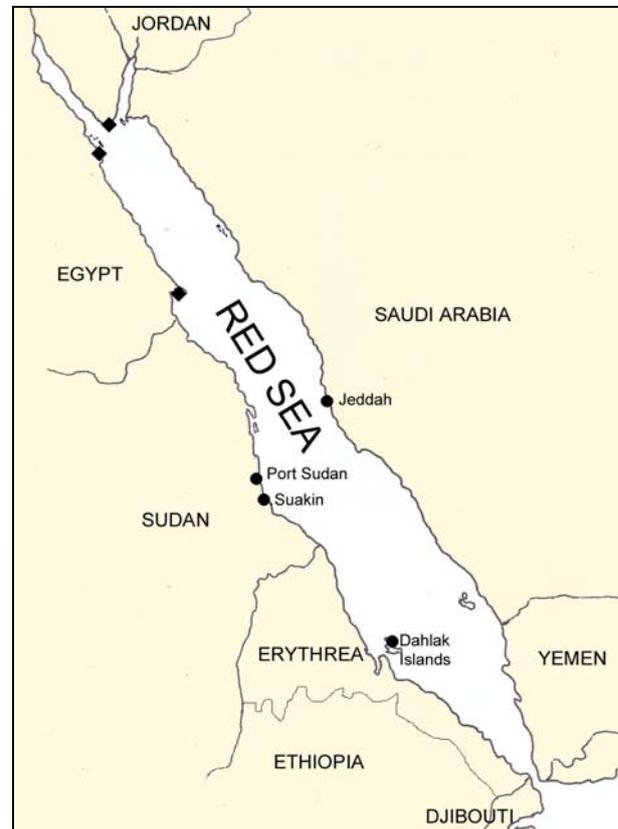
Northern Red Sea, from Sharm el-Sheikh to the north of Ras Banas (Egypt), living in 20 to 30 m (Text-Fig. 1).

Description

Shell medium sized for the genus, up to 52 mm in length at maturity. Length/width ratio 2.02 to 2.10. Biconical, heavy, strongly nodose. Subsutural ramp narrow, strongly sloping, almost straight.

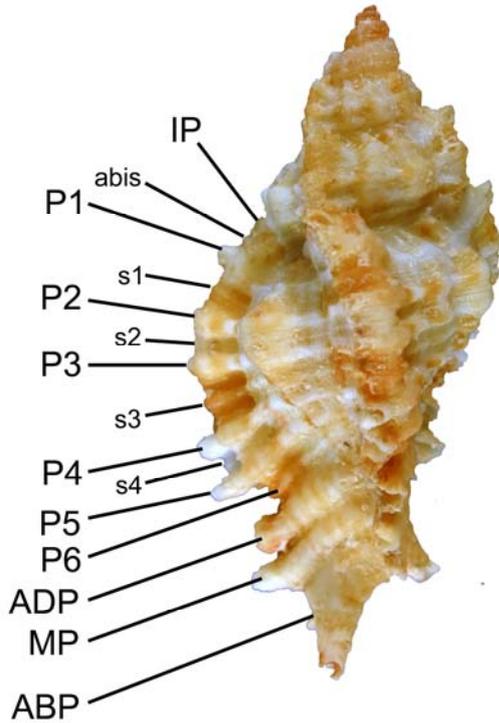
Light tan with a few darker colored spots on primary spiral cords and darker spiral bands between P1-P2, P3-P4, and P5-ADP, more obvious on axial varices. Other brown spots occasionally on shoulder ramp. Aperture white.

Spire high with 2+ protoconch whorls and teleoconch up to 6 moderately broad, convex, weakly shouldered, nodose whorls. Suture slightly adpressed. Protoconch small with broad, rounded last whorl and narrow, small, rounded first whorl; tip somewhat damaged. Terminal lip eroded. Maximum width 1,150 µm.



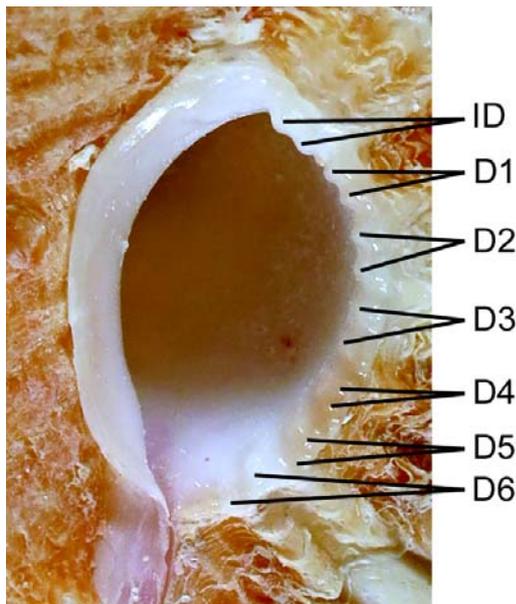
Text-Fig. 1: Known distribution of *Naquetia rhondae* n. sp. (rhombs) and *N. jickelii* (TAPPARONE CANEFRI, 1875) (dots) in the Red Sea.

Axial sculpture of teleoconch whorls consisting of high, narrow, rounded, nodose varices and high, nodose intervariceal ribs. First whorl with 5 or 6 irregular ribs, from second to last whorl, 3 varices and few intervariceal ribs between each pair of varices. Second and third whorl with 3 or 4 low intervariceal ribs, fourth and fifth whorls with 2, rarely 3 moderately high ribs. Last whorl with 2 uneven, nodose ribs. Spiral sculpture of rounded, narrow, weakly squamous cords. First whorl with P1, (s1), P2, P3; second with P1, s1, P2, s2, P3, starting IP; third and fourth with IP, P1, s1, P2, s2, P3, with few additional threads; fifth whorl with IP, P1, s1, P2, s2, P3, s3, P4; last whorl with IP, abis, P1, s1, P2, s2, P3, s3, P4, s4, P5, P6, (s6), ADP, MP, ABP and a few additional tertiary cords and threads. Primary spiral cords approximately similar in size



Text-Fig. 2: Spiral cords morphology of *Naquetia rhondae* n. sp. (holotype, MNHN IM 2000-27724).

and strength except quite smaller P₆. Secondary cords very narrow, except s₃ almost as large as primary cords, forming large gap between P₃ and P₄. Primary cords extending on axial varices, forming very short, broadly open, webbed spines.



Text-Fig. 3: Apertural denticles morphology of *Naquetia rhondae* n. sp. (paratype 2).

Aperture small, ovate. Columellar lip narrow, weakly flaring, smooth, with narrow, low, parietal tooth at adapical extremity; rim partially erect, adherent at adapical extremity. Anal notch deep, broad. Outer lip erect, crenulated, with 13 or 14 weak, elongate denticles within: ID-D5 split and D6 occasionally split. Siphonal canal moderately long, broad, dorsally bent at tip, narrowly open, with 3 broad, webbed spines: ADP, MP and ABP.

Operculum dark brown, ovate with apical nucleus. Radula unknown.

Etymology

The new species is named in honor of Mrs. RHONDA BORAH MONT of the Molluscan Science Foundation, Owings Mills, Maryland, USA.

Remarks

Naquetia rhondae n.sp. differs from the resembling *N. cumingii* (Pl. 1, Figs E to G, Pl. 2 Figs A to F, J and K) in having a different morphology of the protoconch whorls and axial sculpture of the teleoconch whorls. The protoconch of *N. cumingii* consists of a very small, narrow, more or less shouldered or carinate first whorl (Pl. 2, Figs J and K) and a weakly broader last whorl with a straight outline and a narrow keel abapically vs. a rounded, small, first whorl and a broad, rounded, last whorl in *N. rhondae* n. sp (Pl. 2, Fig. I).

The spiral sculpture of *N. cumingii* is identical to the new species, consisting of broad, strong, primary cords, narrow, weak, secondary cords and very small tertiary cords and threads. However, the intervariceal axial sculpture differs in being shallower, consisting of 2 or 3, occasionally 4 axial ridges on penultimate and last whorls in *N. cumingii* vs. 2 broad ridges on penultimate whorl and one broad node with an additional, less high, in *N. rhondae* n. sp. The second, low node, even becoming obsolete on the last portion of the whorl, between penultimate and last varix.

Naquetia jickelii (Pl. 1, Fig. H), considered synonym of *N. cumingii* by some authors, has a stouter and broader shell with occasionally also broad intervariceal axial nodes on the last whorl, but 2 or 3 ridges on penultimate whorl. It also has broader and stronger secondary spiral cords, a broader shell with a comparatively broader aperture, a lower spire and a shorter siphonal canal. *N. jickelii* is known from Sudan (Suakin and Port Sudan), Saudi Arabia (Jeddah), and the Dahlak Archipelago in the Red Sea (Text-Fig. 1). *Naquetia jickelii* is most probably a valid species but the so-

Table 1: Comparative table of four *Naquetia* species

Character	<i>N. rhondae</i> n. sp.	<i>N. cumingii</i>	<i>N. jickelii</i>	<i>N. vokesae</i>
Maximum length	52 mm	65 mm	58 mm	66 mm
Protoconch	Narrow, small, rounded first whorl. Broad, rounded last whorl	Small, narrow, shouldered first whorl. Narrow last whorl with a straight outline	Unknown	Two broad, rounded whorls
Spire	High	High	Comparatively lower	Very high
Last teleoconch whorl	Moderately broad, convex, weakly shouldered	Narrow to broad, weakly convex, occasionally weakly shouldered	Broadly convex	Narrowly convex
Siphonal canal	Moderately long	Short or moderately long	Short	Short
Aperture	Small, ovate	Small, ovate or broadly ovate	Broadly ovate	Broadly ovate
Intervariceal axial sculpture of penultimate teleoconch whorl	2 broad, high ridges	2 or 3 low ridges	2 or 3 ridges	3 or 4 ridges
Intervariceal axial sculpture of last teleoconch whorl	2 broad, high, unequal ridges	2 to 4 low ridges	2 or 3 unequal ridges	3 to 5, low, rounded, nodose ridges
Distribution	Northern Red Sea	Indo-West Pacific	Southern Red Sea	Indo-West Pacific

called specimens from Madagascar, Mozambique, and a few other scattered localities off the east African coast are only slightly broader specimens of *N. cumingii* (Pl. 2, Figs A to E, J).

The other Red Sea species, *Naquetia fosteri* (Pl. 1, Fig. K and Pl. 2 Fig. M) is a quite distinct species and does not need to be compared further here.

Naquetia vokesae (Pl. 1, Figs I and J, Pl. 2, Figs G, H and L) is also a species with paucispiral protoconch (Pl. 2, Fig. L) consisting of 2 whorls, but with broader, more rounded whorls. The teleoconch morphology is also quite different from the new species, having a higher spire, a more scabrous sculpture, narrower varices and 3 to 5 low, rounded, nodose, intervariceal ridges.

The other *Naquetia* species are highly different in protoconch and teleoconch characters.

Naquetia rhondae n. sp. was probably also figured by SHARABATI (1984: pl. 18, Figs 3 to 3a) as *Naquetia annandalei* (PRESTON, 1910), but the author avoided giving any other locality data than "Red Sea" to all the figured shells.

Acknowledgements

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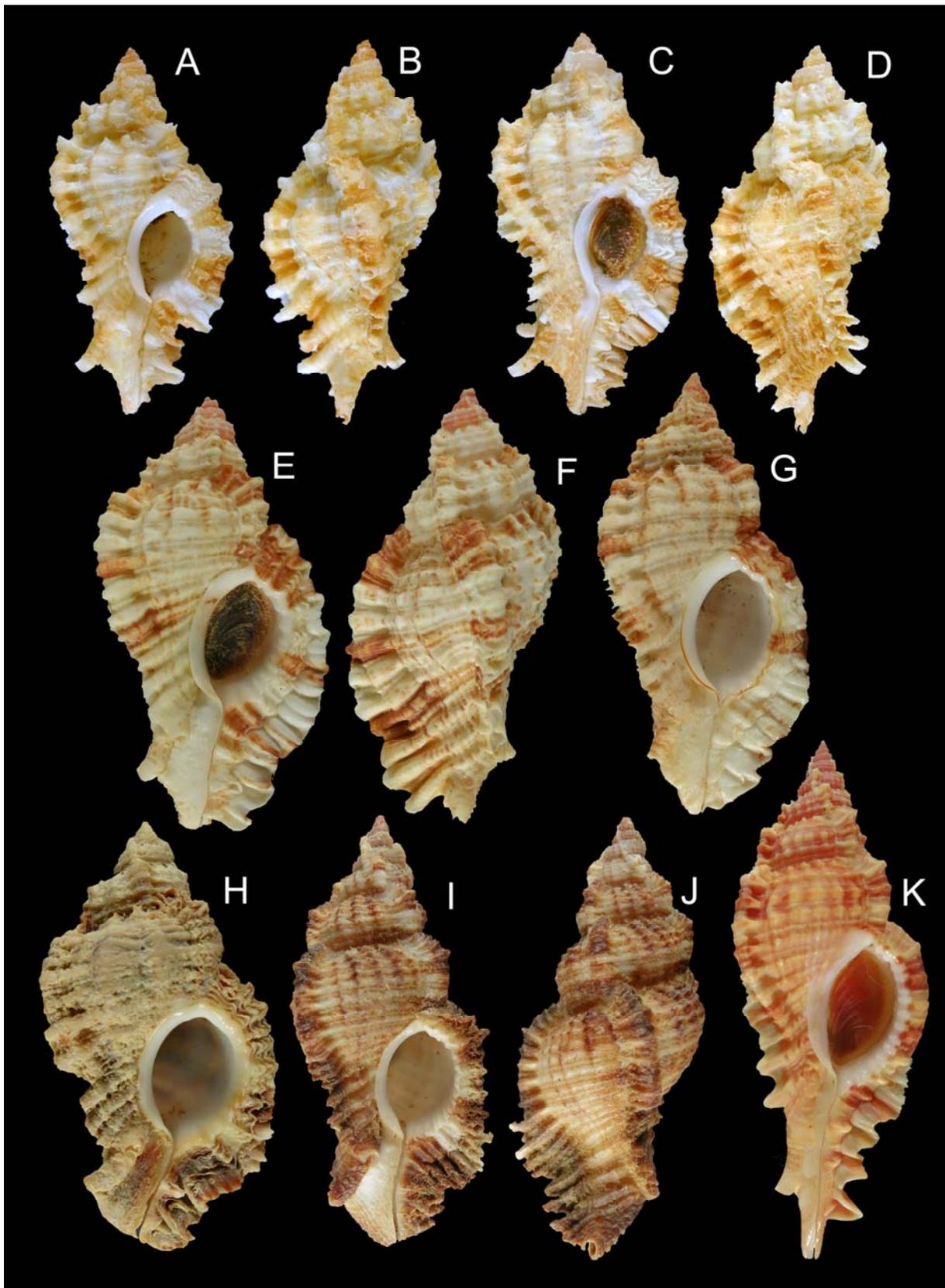
Plate 1 (on p. 48)

- Figs A-B:** *Naquetia rhondae* n. sp., Egypt, Gulf of Aqaba, 50 km off Sharm el-Sheikh, 27°48' N, 33°55' E at 25-28 m, holotype MNHN IM 2000-27724, 50.5 mm.
- Figs C-D:** *Naquetia rhondae* n. sp., Rafa Sataya, N of Ras Banas, at 20 m, paratype 2, Coll. F. LORENZ, 50.3 mm (protoconch see Pl. 2, Fig. I).
- Figs E-F:** *Naquetia cumingii*, Guam, near Neye Is, 1-2 m, Coll. R. HOUART, 59.2 mm.
- Fig. G:** *Naquetia cumingii*, Vanuatu, Port Vila, 3-6 m, Coll. R. HOUART, 62,0 mm.
- Fig. H:** *Naquetia jickelii*, Saudi Arabia, Jeddah, Coll. R. HOUART, 58 mm.
- Figs I-J:** *Naquetia vokesae*, Tanzania, S Zanzibar, Ras Kízimkazí, Coll. R. HOUART, 58,0 mm.
- Fig. K:** *Naquetia fosteri*, Egypt, Siani, Oa'hah, 35-45 m, Coll. R. HOUART, 68.5 mm (protoconch see Pl. 2, Fig. M).

Plate 2 (on p. 49)

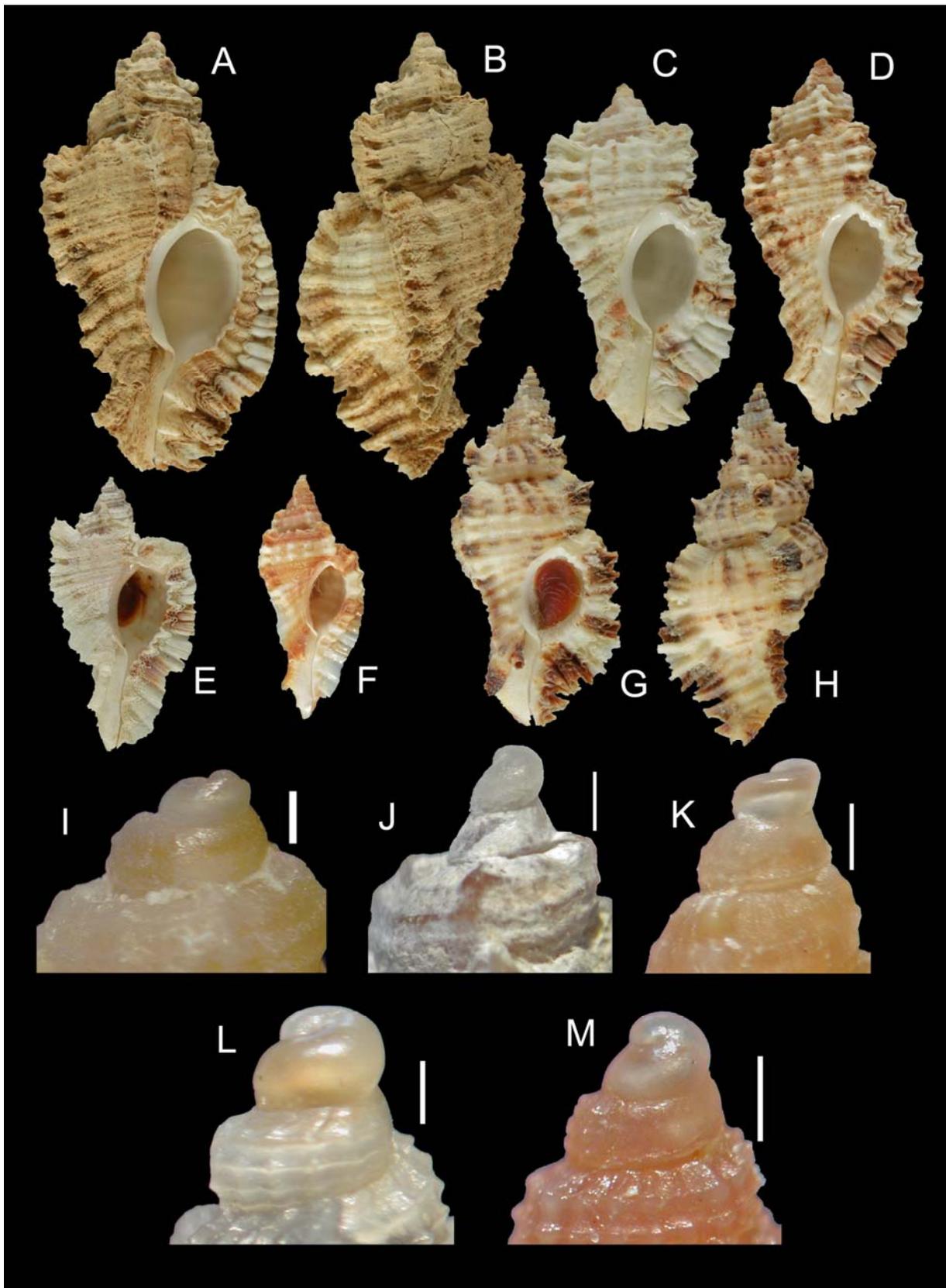
- Figs A-B:** *Naquetia cumingii*, Madagascar, Tulear, Coll. R. HOUART, 59 mm.
- Figs C-D:** *Naquetia cumingii*, N Mozambique, Nacala Bay, Coll. R. HOUART, 45.7 mm and 47.2 mm.
- Fig. E:** *Naquetia cumingii*, Mozambique, Quissimaju Bay, 2-3 m, Coll. R. HOUART, 32.7 mm, juvenile (protoconch see Fig. J).
- Fig. F:** *Naquetia cumingii*, Guam, Apra Harbour mouth, 6 m, Coll. R. HOUART, juvenile, 22.2 mm (protoconch see Fig. K).
- Figs G-H:** *Naquetia vokesae*, Philippines, Palawan, Balabac Island, Coll. R. HOUART, 46.5 mm (protoconch see Fig. L).
- Figs I-M:** Protoconchs (scale bars: 500 µm).
- Fig. I:** *Naquetia rhondae* n. sp. (see Pl. 1, Figs C-D).
- Fig. J:** *Naquetia cumingii* (see Fig. E).
- Fig. K:** *Naquetia cumingii* (see Fig. F).
- Fig. L:** *Naquetia vokesae* (see Fig. G-H).
- Fig. M:** *Naquetia fosteri* (see Fig. K).

Plate 1



Captions on p. 47

Plate 2



Captions on p. 47