

Two new species of Terebridae (Gastropoda: Conoidea) from Indonesia and the Red Sea

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Abstract: *Hastulopsis baliensis* sp. nov. and *Terebra erythraeensis* sp. nov. are described and compared with their morphologically closest relatives.

Introduction: For a number of years, the ‘*Terebra amanda*’-complex has been under intense scrutiny: the shell morphology of the type (figure) and the types of its current synonyms (WoRMS status 08/2017), together with the allocation of the name to a myriad of different-looking shells in literature, opened an in-depth study of the complex, that took years to comprehend. After careful consideration, an additional species from the Red Sea is hereby described and compared with *Terebra amanda* Hinds, 1844, whose current synonyms and their status should be re-evaluated pending further in-depth discussion and molecular data.

Additionally, a species from Indonesia is described and compared with the morphologically comparable species *Hastulopsis whiteheadae* (Aubry & Marquet, 1995), and to a lesser extent *Hastulopsis elialae* (Aubry, 1994).

Abbreviations:

FL: Collected by Dr Felix Lorenz, Germany
GP: Private collection Gianluigi Pellifroni, Italy
HD: Private collection Henk Dekker, The Netherlands
MM: Private collection Max Marrow, Australia
YT: Private collection Yves Terryin, Belgium
RBINS: Royal Belgian Institute of Natural Sciences
SH: Private collection Steve Hubrecht, Belgium

WAM: Western Australian Museum, Perth, Australia
SYSTEMATICS

Class **GASTROPODA** Cuvier, 1797

Order **NEOGASTROPODA** Wenz, 1938

Superfamily **CONOIDEA** Fleming, 1822

Family **TEREBRIDAE** Mörch, 1852

Genus *Hastulopsis* Oyama, 1961

Type species: *Terebra melanacme* E. A. Smith, 1873 (by original designation)

The species is presently allocated to *Hastulopsis* Oyama, 1961 based on shell morphology (*sensu* Terryin, 2007) pending further molecular results.

Hastulopsis baliensis sp. nov.

Pl. 1, Figs 1-4

Type material: Holotype: RBINS I.G. 33549/MT.3612, leg. YT, 25.2 mm; **Paratypes 1-3:** YT, 27.2-32.3 mm (from type locality).

Type locality: Indonesia, NE Bali, Kubu, 10-12 m.

Description (holotype): Shell colour yellowish orange, with irregularly dispersed lighter axial bands; subsutural band white with brownish axial flammules at regular interspace, which extend somewhat abapically of the subsutural groove, on the adapical extremity of the axial ribs of the remainder of the whorl on the remainder of the whorl and also present at the periphery. Outline of whorls slightly convex, constrained at the subsutural groove; rendering a somewhat angulated impression of the abapical part of the remainder of the whorl. Protoconch somewhat bulbous; of about 2.0-2.5 brownish whorls.

Axial sculpture consists of slightly raised, slightly curved ribs, extending from suture to subsutural groove. Sunken within the subsutural groove, thickened remains of a riblet are clearly discernible. Axial sculpture of faint riblets on the subsutural band, as numerous as on remainder of whorl. Spiral sculpture consists of 3 incisions confined to the interspace of the axial ribs. Aperture elongate-quadrate, columella straight, thickened with callus.

Distribution: Only known from the type locality.

Comparison and discussion: *H. baliensis* sp. nov. is only comparable to *Hastulopsis whiteheadae* (Aubry & Marquet, 1995) (Pl. 1, Figs 8-9) due to similar shell morphology. *H. whiteheadae* is characterised by a peculiarly shaped, 4-whorled protoconch, while *H. baliensis* sp. nov. has a rounded protoconch of about 2.0-2.5 whorls. Although somewhat similar in pattern and colour composition, the spiral sculpture differs largely. The spiral rows of incisions in *H. whiteheadae* number up to 8 on later whorls, while this number is constant (3) in *H. baliensis*. Additionally, the outline of the remainder of the whorls differs: convex and somewhat angular adapically in *H. baliensis*; overall straight to slightly convex in *H. whiteheadae*.

H. elialae (Aubry, 1994) (Pl. 1, Figs 5-6) differs from the new species in its darker colour, the more curved axial ribs and the dark spots on the subsutural band that are only present on the adapical part.

A species closely resembling *H. baliensis* sp. nov. with a distinct sculpture on the remainder of the whorl, but up to now only known from a single specimen collected by Dr Felix Lorenz in Indonesia (Celebes, N Hoga Island, dived at 25-40 m 6°26'95"S-123°46'22"E); previously erroneously figured in Terryn, 2007 (pl. 29n fig. 15 & pl. 59) as *H. cf. loisae* (E. A. Smith, 1903) is figured for comparison (Pl. 1, fig. 7).

Derivatio nominis: The species *T. baliensis* is named after the type locality Bali, Indonesia.

Genus *Terebra* Bruguière, 1789

Type species: *Terebra subulata* (Linnaeus, 1767) (by subsequent monotype)

Terebra erythraeensis sp. nov.
Pl. 2, Figs 1-9

Bratcher & Burch, 1967: 9; Sharabati, 1984: pl. 33, fig. 7; Bratcher & Cernohorsky, 1987 (in part): pl. 11, fig.

35c; Singer & Mienis, 1993: 52, fig. 3; Wils & Wellens, 2000: 77, pl. 1 fig. 2; Dekker & Orlin, 2000: 32; Heiman, 2002: 16, pl. 1 unnumbered figs; Rusmore-Villaume, 2008: 140, 141 unnumbered figs (all as *Terebra amanda* Hinds, 1844).

Type material: **Holotype:** RBINS I.G. 33549/MT.3613, leg. YT, 35.3 mm; **Paratypes:** Egypt, Giftun Kebir: **Paratypes 1-10:** YT, 28.6-43.5 mm. – Egypt, El Kesir: **Paratypes 11-12:** YT, 39.7-44.0 mm. – Egypt, Hurghada: **Paratypes 13-17:** GP, 24.0-46.2 mm. – Egypt, Sharm-el-Sheikh: **Paratype 18:** GP, 39.9 mm; **Paratypes 19-20:** YT, 40.6-42.4 mm. – Egypt, Marsa Abu Makhadiq: **Paratype 21:** HD 3448, 31.3 mm. – Egypt, Dahab: **Paratypes 22-23:** SH, 47.4-48.5 mm; **Paratype 24:** GP, 41.4 mm; **Paratype 25:** HD 25610, 46.8 mm. – Egypt, Ras Abu Soma: **Paratype 26:** HD 6714, 58.7 mm. – Israel, Eilat: **Paratypes 27-29:** SH, 38.4-66.9 mm.

Type locality: Red Sea, Egypt, Sharm-el-Sheikh, *Gardens* coral reef, under dead coral blocks, 1-2 m.

Description (holotype): Shell colour light reddish orange with white and darker reddish orange axial flammules from suture to suture and whitish axial ribs on the subsutural whorl. Outline of whorls straight to slightly concave. Elongated protoconch consists of about 4.0 whorls. Axial sculpture on the subsutural band consists of ribs set at an angle; this sculpture is continued just below the subsutural band and continues on the remainder of the whorl as axial growth striae. Subsutural furrow rather deep, continuous, with a wavy impression due to the axial sculpture both adapically and abapically. Spiral sculpture on the remainder of the whorl consists of 3, more or less evenly spaced rows of spirally incised indentations; the adapical one somewhat less prominent. Aperture elongate quadrate, columella curved.

Additional information: Colour of the species only varies in intensity throughout its range and with size and pattern constant. In maturity the spiral sculpture appears almost continuous; instead of rows of punctations, it becomes virtually continuous although reminiscent of subadult sculpture due to the shape of the edges of the furrows.

Distribution: The species seems to be confined to the Red Sea and was retrieved from various localities at depths ranging from the subtidal to 25 m. The first author collected specimens under dead coral blocks at 1 m deep at Sharm-el-Sheikh. The species was not present in various collections from Yemen and Oman (Gulf of Aden

and Persian Gulf), indicating that the species is limited in range to the northern Red Sea.

Comparison and discussion: The species was widely regarded as '*Terebra amanda* Hinds, 1844' ever since the species was listed by Bratcher & Burch (1967: 9) and since a specimen was figured in Sharabati (1984: pl. 33, fig. 7), unfortunately erroneously.

Below the original description in Latin of *Terebra amanda* Hinds annotates: 'the elegant contrast between the pearly *tubercles* and the *general orange colour*' (beaded, white subsutural band and orange remainder of whorl) (Pl. 2, Figs 12-13); and it was later on noted that the two specimens at hand were immature. Unfortunately, the *type* or the *two specimens* are reported to have been lost since Reeve (1860). *Terebra albomarginata* was described shortly thereafter by Deshayes (1859) (Pl. 2, Fig. 15), who noted a similarity of features with *Terebra cingulifera* Lamarck, 1822 and stressed the fact that the subsutural band has *axial riblets* ("être plissé"). Understandably, the high degree of similarity lead to *T. albomarginata* entering the synonymy of *T. amanda*. As did *Terebra unicolor* Preston, 1908 erroneously; even when Preston notes the most remarkable differences with *T. albomarginata*: a much blunter form, a *coloured* subsutural band, *coarser ribbing* and *finer punctuation of the remainder of the whorl*. An interpretation of the taxa is given on Plate 2. The re-evaluation of their status will be discussed later on as it is not the scope of this article.

Juveniles of *T. erythraeensis* sp. nov. could be confused with the Australian *Terebra marrowae* Bratcher & Cernohorsky, 1982, but the rounded nodes on the subsutural band of the latter protrude much more and it has a narrower apical angle.

T. erythraeensis sp. nov. can furthermore be compared to *Terebra punctum* Poppe, Tagaro & Terryn, 2009, but the latter is characterised by a uniform colour, quadrate aperture and a distinct sculpture on the remainder of the whorl consisting of a smooth surface with 3 spiralling bands of widely-spaced squarish indentations (interspace more than twice as wide as the indentations), compared to the smaller, closely-set indentations in *T. erythraeensis* sp. nov. (interspace as wide as indentation)

The main features that set *T. erythraeensis* apart from these taxa is: the pattern/colour arrangement, range restriction (Red Sea), shape of the axial sculpture and the spiral sculpture limited to 2 rows of punctuation, somewhat continuous in maturity.

Derivatio nominis: Named for the Red Sea, also called "*Erythraean Sea*", to which the distribution of the species is limited.

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Plate 1

1-4: *Hastulopsis baliensis* sp. nov.

All from type locality: Indonesia, NE Bali, Kubu, 10-12 m.

1a: Holotype, 25.2 mm.

1b: detail of protoconch and first teleoconch whorls.

1c: detail of bodywhorl and sculpture.

2: Paratype 3, YT, 27.2 mm.

3: Paratype 1, YT, 28.5 mm.

4: Paratype 2, YT, 32.3 mm.

5-6: *Hastulopsis elialae* (Aubry, 1994)

5: YT, Somalia, trawled at 30 m, 30.8 mm.

6: SH, Somalia, dredged off Kisimaio at 15 m, 15.0 mm.

7: *Hastulopsis* species aff. *baliensis*

YT, Indonesia, Celebes, N Hoga Island, dived at 25-40m 6°26'95"S-123°46'22"E, collected by FL.

(figured in Terryn, 2007: pl. 29 fig. 15 & pl. 59 as cf. *H. loisae* (E. A. Smith, 1903))

8-9: *Hastulopsis whiteheadae* (Aubry & Marquet, 1995)

8: WAM S12001, holotype, NW Australia, Port Hedland, Pretty Pool, intertidal, 34.0 mm.

9: MM, NW Australia, Port Hedland, intertidal, 29.9 mm.

Plate 2

1-9: *Terebra erythraeensis* sp. nov.

1a: Holotype, 35.2 mm.

1b: detail of protoconch and first teleoconch whorls.

2: Paratype 21, HD 3448, Egypt, Marsa Abu Makhadiq, 31.3 mm.

3: Paratype 17, GP, Egypt, Hurghada, 46.2 mm.

4a: Paratype 26, HD 6714, Egypt, Ras Abu Soma, 58.7 mm.

4b: detail of sculpture at about midwhorl.

4c: detail of bodywhorl and sculpture.

5: Paratype 19, YT, Egypt, Sharm-el-Sheikh, dived 2 m, 40.6 mm.

6: Paratype 28, SH, Israel, Eilat, dived 2 m, 50.4 mm.

7: Paratype 10, YT, Egypt, Giftun Kebir, 43.5 mm.

8: Paratype 29, SH, Israel, Eilat, dived 2 m, 66.9 mm.

9: Paratype 27, SH, Israel, Eilat, dived 2 m, 38.4 mm.

10: *Terebra marrowae* Bratcher & Cernohorsky, 1982
YT, NW Australia, Karratha, intertidal, 14.6 mm.

11: *Terebra punctum* Poppe, Tagaro & Terryn, 2009
paratype 1, YT, Philippines, Cuyo Islands, dived between 5 and 25 m, 28.5 mm.

12-13: *Terebra amanda* Hinds, 1844

YT, USA, Hawaii, Oahu, dived at 8 m.

12: 25.9 mm.

13: 30.3 mm.

14: *Terebra nodularis* Deshayes, 1859

SH, Réunion Island, Possession Bay, dredged at 40-45 m, 28.5 mm.

15: *Terebra albomarginata* Deshayes, 1859

YT, Papua New Guinea, Hansa Bay, dredged at 45 m, 64.9 mm.

Plate 1



Plate 2

