

A re-evaluation of the taxa *Hastula hectica* (Linnaeus, 1758) and *Hastula bacillus* (Deshayes, 1859) (Gastropoda: Conoidea: Terebridae), with the description of a new species and reassessment of four historical synonyms

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Abstract: The status of *Hastula hectica* (Linnaeus, 1758) and *Hastula bacillus* (Deshayes, 1859), their synonyms and their respective types are reassessed, whereby we conclude that 3 synonyms need a new and updated status; detailed comments on the types and type localities are provided; an additional new species is described and the status of *Terebra trailli* Deshayes, 1859 is reassessed and updated.

Introduction: The supraspecific taxon *Impages* E. A. Smith, 1873 was described as a subgenus of *Hastula* H. & A. Adams, 1853, a new name for the taxon *Leiodomus* Gray, 1835 [non Swainson, 1840]. In his description, Smith emphasised the presence of an additional supra-sutural spiralling band as a key feature justifying this sub-generic grouping. This rather evident feature was later rarely cited as significant (e.g. only Dall, 1908 mentions its minor importance) and was shortly after in fact never again considered in more recent revisions (e.g. Bratcher & Cernohorsky, 1987; Terryin, 2007). The main feature justifying the supraspecific taxon cited by Bratcher & Cernohorsky (1987) was the general shape characterised by a wide apical angle and a triangularly shaped aperture, admittedly a relative and subjective set of morphological features present in only a handful of species (*sensu* Terryin, 2007). This feature of a supra-sutural band is present in a number of species in various degrees, both in the Indo-Pacific and Atlantic Ocean and the Caribbean. Although not (yet) a conclusive indicator for a (sub-) generic grouping (see Fedosov et al., 2020), it nonetheless remains a helpful discriminative feature at species-level.

Through the study of specimens conspecific with *H. bacillus*, the validity of *Hastula apicina* (Deshayes, 1859) was confirmed based on the differences in supra-sutural banding, axial sculpture, colour/pattern arrangement and protoconch, and an additional undescribed species that is somewhat intermediate between the *hectica*- and *bacillus*-complex of species in general shell morphology was discovered. Burch (1964: 212) mentions that '*Hastula bacillus*' specimens are easily mistaken for juvenile specimens of *Hastula caerulea* (= *H. hectica*), which triggered the study of rarely encountered juveniles and the comparative analysis of the historical synonyms of *H. hectica* (according to Bratcher & Cernohorsky, 1987) included below, whence the confirmation of the aforementioned new species.

Terebra trailli Deshayes, 1859 was incorrectly synonymised by Bratcher & Cernohorsky (1987) based on its evident similarity to *Hastula cuspidata* (Hinds, 1844), citing the "probably incorrect" type locality of the former as one of the reasons. The type locality of *Hastula trailli* (Deshayes, 1859) is confirmed herein, its key features setting it apart from *H. cuspidata* are listed and the presence of the species along the eastern Indian coast is confirmed.

Abbreviations:

- KVL:** Private collection Kirsten Van Laethem, Belgium.
LSL: Linnean Society, London, England.
MfN: Museum für Naturkunde, Berlin, Germany.
MHNG: Muséum d'histoire naturelle, Geneva, Switzerland.
MK: Private collection Marc Keppens, Belgium.
NHMUK: Natural History Museum of the United Kingdom, London, England.
NHMW: Naturhistorisches Museum Wien, Austria.
YT: Private collection Yves Terryin, Belgium.
SH: Private collection Steve Hubrecht, Belgium.

Systematics: The systematics for the species described and discussed in the present paper follow the systematics as proposed in Fedosov et al. (2020) and discuss synonymy as listed by Bratcher & Cernohorsky (1987). For information on the types held in the NHMUK, we refer to Salvador & Pickering (2017).

Class **Gastropoda** Cuvier, 1797
 Order **Neogastropoda** Wenz, 1938
 Superfamily **Conoidea** Fleming, 1822
 Family **Terebridae** Mörch, 1852
 Subfamily **Terebrinae** Mörch, 1852
 Genus **Hastula** H. & A. Adams, 1853

Hastula hectica (Linnaeus, 1758)

Pl. 2, Fig. 6; Pl. 3, Figs 1-8; Pl. 4, Figs 6-21

Synonymy (non-exhaustive):

Buccinum hecticum Linnaeus, 1758
Buccinum bifasciatum Dillwyn, 1815 – here we follow Tryon (1885) & Bratcher & Cernohorsky (1987); the type was not studied
Terebra caerulea Lamarck, 1822
Terebra caerulea var. *otaitensis* Lesson in Duperrey, 1830 – corrected to “*otaitensis*” in Bratcher & Cernohorsky (1987); here we follow Bratcher & Cernohorsky (1987) and Tryon, 1885; the type, if any, could not be retraced, the specimen(s) are (were) not figured.
Terebra (Impages) hectica var. *alba* Dautzenberg, 1935

A comprehensive synonymy is listed in Bratcher & Cernohorsky (1987), mainly copied from Dautzenberg (1925), of which most have either been linked to taxa in other families or have not been retraced yet.

Notes on synonymy:

Terebra castanea Kiener, 1839 (syntype, MHNG-MOLL-121654 (ex 1152/72)) (Pl. 3, Fig. 14) was erroneously considered a synonym of *H. hectica* [Bratcher & Cernohorsky, 1987], a wide-spread Indo-Pacific species, largely due to its coloration (dark chestnut brown), a feature sometimes indeed encountered in *H. hectica*, a somewhat similar juvenile sculpture and its type locality (Mauritius Island). However, it is identical to (a possible ‘ecomorph’ of) *Hastula cinerea* s.l. (Born, 1778) (Pl. 3, Fig. 12) found in areas of Brazil. *Terebra castanea* Kiener, 1839 is therefore hereby preliminary transferred to the synonymy of *Hastula cinerea* s.l. (Born, 1778), pending a revision of the Caribbean (and Atlantic) *Hastula*.

Terebra nimbosea Hinds, 1844 (lectotype (Pl. 3, Fig. 9) & 3 paralectotypes, NHMUK 1968226-1&2-4)

was erroneously considered as a junior synonym of *H. hectica* by Bratcher & Cernohorsky (1987). Admittedly, based on the type and often incomplete additional specimens, lacking protoconch and reliable data, the conclusion was well accepted by subsequent authors. Yet, a recent study of a large number of specimens of which a few had a protoconch, the distinction could be substantiated based on protoconch morphology and juvenile sculpture, and it is here discussed as a valid taxon *Hastula nimbosea* (Hinds, 1844) - see below.

Notes on the types: *Buccinum hecticum* Linnaeus, 1758 – 6 syntypes are curated in the LSL, with an additional note mentioning that six unmarked specimens were isolated by Hanley and added to the Linnean collection afterwards, the type series itself is thus not ‘Linnean’ as such. It could be opted that the taxon is a *nomen dubium*, but as the specimens are conspecific, completely fit the comprehension of the taxon in literature and the taxon has been and still is in common use, we prefer taxonomic stability in line with presumably many other such cases in the Linnean collection.

Terebra caerulea Lamarck, 1822 – the holotype (bluish hued specimen – the ‘vis bleuâtre’ of Lamarck, MHNG-MOLL-52139 (ex 1102/24/2)) and a (possible) paratype (MHNG-MOLL-52139) are conspecific with *H. hectica*.

?*Terebra caerulea* var. *otaitensis* Lesson in Duperrey, 1830 – described as a variation for its slender outline of the shell, with locality information “extraordinairement commune à O-Taïti et Baie de BoraBora” (= extraordinarily common, French Polynesia). Judging from the description of the colour composition, which is typical of the Central Pacific island specimens of *H. hectica*, synonymy is justified. The type, if any, could not be retraced.

Terebra (Impages) hectica var. *alba* Dautzenberg, 1935 – is a completely white specimen, a feature not uncommonly encountered in *H. hectica*.

Notes: The original description gives little or no detailed information, and the description listed in Bratcher & Cernohorsky (1987) is somewhat of a composite description based on various authors and the various (some incorrect) synonymised taxa (e.g. *H. nimbosea*). Hence, without detailed description, locality data or figure, historical accounts are inconclusive. The treatment of *H. nimbosea* as a synonym and thus *H. hectica* as a widely variable species with a wide range was understandable, as roughly 99% of collected specimens of both taxa are either eroded and/or lack the protoconch.

H. hectica is on the one hand easily recognisable by its medium to large size, white background stained with blackish, greyish, bluish or brownish irregular blotches covering half to almost entirely the whorls in patches or continuously, although completely black and completely white specimens are known. The main feature setting it apart from *H. nimbosa* is the about 20% larger (and wider) protoconch, its specific juvenile sculpture of widely spaced straight ribs and its subadult sculpture of much finer, arcuate ribs. The sculpture is often eroded in mature specimens and does not develop on the mature whorls at all, hence appearing smooth in most cases.

H. hectica has a wide range and is known throughout the Indian Ocean into the Central Pacific, from E Africa to the Polynesian and Hawaiian Islands, recorded from the intertidal zone to depths not deeper than 10 m. As historical data included references to *H. hectica*, *H. nimbosa* and *H. caerulescens*, the exact boundaries of the range are not completely known, but recent investigations have revealed that *H. hectica* is probably not present in the Red Sea, Arabian Sea, nor on the shores of the Horn of Africa. The ranges of both *H. hectica* and *H. nimbosa* seem to overlap on the Kenyan shores and Indian Ocean Islands such as the Seychelles, where they have both been recorded from. The northeastern boundary of the range of *H. nimbosa* is hitherto unknown, but is most probably around the strait of Hormuz or further east into Balochistan (Pakistan), making *H. nimbosa* an 'Arabian' species. A more detailed account of the range of *H. nimbosa* is given below.

Hastula nimbosa (Hinds, 1844)

Pl. 2, Fig. 5; Pl. 3, Figs 9-11; Pl. 4, Figs 1-5

Synonymy:

Terebra nimbosa Hinds, 1844 – Historically considered a synonym of *H. hectica* – an opinion no longer followed here. During the century after its description, the taxon was readily used to designate the milky brown specimens known from the wider Red Sea area, but it was synonymised by Bratcher & Cernohorsky (1987) and since then no longer in common use. The reason for its synonymisation as discussed above is understandable, and can now be rectified due to the study of a small number of specimens of both *H. nimbosa* and *H. hectica* with complete protoconch.

Terebra caerulescens var. *flammulata* von Martens, 1880 – historically considered a synonym of *H. hectica* – an opinion no longer followed here and considered a synonym of *H. nimbosa*.

Notes on the types:

T. nimbosa Hinds, 1844 – Lectotype, NHMUK 1968226/1 (Pl. 3n Fig. 9) and 3 paralectotypes,

1968226/2-4. The lectotype is very recognisable and separable from *H. hectica*. Yet, taking the morphological variability of the shells of the latter into consideration, the taxon was readily synonymised.

On the other hand, a specimen labelled '*T. caerulescens*', but from the Delessert-collection (MHNG-MOLL-121655 (ex 981/722) (Pl. 3, Fig. 10), appears closer in morphology to *H. nimbosa* at first glance. No locality data is provided on the original label.

T. caerulescens var. *flammulata* von Martens, 1880 – Syntype, MfN (ZMB-MOLL 108543), from the Robillard-collection (Pl. 3, Fig. 11), appears morphologically identical to *H. nimbosa*. Described as a variety of *caerulescens* Lamarck, 1822, von Martens hinted at the differences from the nominative species: characteristic smeared brown dots that faded into a uniform creamish brown background, whence its name. He further stated that the sculpture did not allow to separate it from the nominative species, hence its description as a variation. The type is a worn specimen (beached?) with no traces of the typical juvenile sculpture, making separation from the also worn type of *caerulescens* virtually impossible at the time.

Notes: Only the study of subadult specimens of both *H. nimbosa* and *H. hectica* facilitated comparative study.

H. nimbosa has a juvenile sculpture somewhat similar to *H. hectica*, but in general, the axial sculpture becomes fainter and more widely spaced, whereas in comparison to *H. hectica* the spiral sculpture becomes denser, finer and arcuate. Admittedly, both species have a certain degree of plasticity in this matter and display some phenotypical overlap to a certain extent, which can only be correctly assessed with the study of a large number of specimens from various localities/populations. The main and most constant feature is the coloration and pattern of *H. nimbosa*, which is often a milky white background covered with a milky brown pattern usually reaching from suture to suture with the exception of a white band at the periphery. These distinctive features, on top of the protoconch differences, are evident in juvenile and subadult specimens. In adulthood, with the loss of many of the distinctive features, the historical view of considering the two taxa as synonyms is understandable.

Specimens of *H. nimbosa* have been confirmed from Egypt, Eritrea, Somalia, Kenya and Tanzania (Zanzibar Isl.), Red Sea Saudi Arabia, Yemen and Oman and the Seychelles (confirmed data from institutional and private collections, e.g. YT, MK, SH, KVL, RBINS, MfN). The species has northernly been recorded throughout the Red Sea based on (erroneous) references of *H. hectica* (e.g. Mienis (1970) & Wils & Wellens (2000: fig. 33)). *H. hectica* is also found in Kenya, the Seychelles and Oman

(Muscat) (coll. YT), but not (yet) in any other of the localities listed above, where the presence of *H. nimbose* has been confirmed. More detailed information on their respective range, specifically in Kenya, the Seychelles, Mauritius, Oman and Pakistan is desirable. These localities are most probably the boundaries of the ranges of both species, where they might live sympatrically.

Hastula sendersi sp. nov.

Pl. 2, Figs 1-4

Type material: Holotype: MNHN-IM-2000-35031, leg. J. Senders, ex coll. YT, 24.8 mm. (Pl. 2, Fig 1). **Paratypes: Paratypes 1-6:** YT, from type locality, 24.2-27.5 mm; **Paratype 7:** MK, Idem, 26.2 mm; **Paratypes 8-9:** YT, Peoples Republic of China, S Hainan Island, Sanya, in sand in shallow water at low tide, 19.9-23.7 mm; **Paratype 10:** YT, Papua New Guinea, Madang Province, Hansa Bay, off Awar, 17.3 mm; **Paratype 11:** MK, idem, 17.7 mm; **Paratype 12:** YT, Solomon Islands, 19.9 mm; **Paratype 13:** YT, Papua New Guinea, Madang Province, 17.8 mm; **Paratypes 14-16:** SH, Peoples Republic of China, S Hainan Island, Sanya, in sand in shallow water at low tide, 25.2-26.2 mm.

Type locality: Indonesia. Bali. S of Sanur.

Description (holotype): Length 24.8 mm. Outline of whorls about straight, minorly indented subsuturally. First teleoconch whorls white with a broadening brown spiral band and midwhorl. Remainder of shell with white base colour; with a colour arrangement of a thin white band ranging from suture to suprasutural band, followed by a yellow tinged fine band, followed by a broad, increasingly darker bluish-green grey to dark grey band, followed by a yellowish white band (covering the suprasutural band), which continues just below the periphery. A similar dark band is visible below the periphery, posteriorly bordered by the calloused columella. Darker tinged bands shining through the aperture as dark brown bands (Pl. 2, Fig. 1a). Protoconch unknown, first teleoconch whorls somewhat eroded, calloused where the protoconch used to be (Pl. 2, Fig. 1c). Sculpture of numerous, fine, arcuate, flattened axial ribs, reaching from suture to the top edge of the suprasutural band; axial ribs narrowly incised in between. Edge of suture irregular due to the round edges of the ribs (Pl. 2, Fig. 1b). Suprasutural band with a width of about 30% of total width of the whorl and sculpted with flattened, irregularly-shaped, arcuate riblets, sometimes smeared or flattened; of which the direction of curling is opposite to that of the ribs on the remainder of the whorl. Border with the sculpture of the remainder of the whorl irregular (Pl. 2, Fig. 1b). Aperture triangular with a rounded lip.

Columella straight, interiorly brownish stained, white calloused.

Additional information: Recorded maximal size is 27.5 mm. All specimens were collected just below the low tide mark at the listed localities. The holotype is the only known specimen with as complete as possible teleoconch whorls, all other specimens of the type series miss the protoconch and have more eroded first teleoconch whorls; the break-off point of the protoconch is calloused, a common and well-known phenomenon in the genus *Hastula*.

Distribution: Known from Hainan Island (PRC), Bali (Indonesia), Papua New Guinea and the Solomon Islands.

Comparison and discussion: Besides the quite unique colour composition of the shell, the unique sculpture sets it apart from allied species. The fine, arcuate, flattened axial ribbing and the broad and sculptured suprasutural band set it apart from *H. hectica*, *H. nimbose*, *H. bacillus* and *H. apicina*, which all possess thinner and virtually unsculpted suprasutural bands (except for some degree of 'callosity'). The apical angle of *H. sendersi* sp. nov is intermediate between *H. hectica/nimbose* and *H. bacillus/apicina*.

Derivatio nominis: *Hastula sendersi* sp. nov. honours the late Jacques Senders (Belgium), collector of the species at both Bali and Hainan Island, and lifelong enthusiast of shells, travels, natural history and photography and an active member of the Belgian conchological community.

Hastula bacillus (Deshayes, 1859)

Pl. 1, Figs 1-8

Synonymy:

Terebra lactea Deshayes, 1859 – considered a synonym of *H. bacillus* (Deshayes, 1859) *vide* Cernohorsky & Bratcher (1987) – an conservative opinion followed here. The original description, following the description of *T. bacillus*, leaves little or no information for its specific distinction at present, as the morphological features are conspecific with the variability of the type specimens. Moreover, a large number of white specimens, intermixed with others originating from identical localities revealed no differences in protoconch morphology, but specimens from E India in particular (see type locality discussion below and discussion of *T. apicina*) were not available for study. Conservatively, *T. lactea* is maintained in the synonymy of *T. bacillus*.

Terebra apicina Deshayes, 1859 – considered a synonym of *Hastula bacillus* (Deshayes, 1859) *fide* Cernohorsky & Bratcher (1987) – an opinion here not followed and regarded as a valid and well-separable taxon *Hastula apicina* (Deshayes, 1859) — see below.

Notes on the types:

Terebra bacillus Deshayes, 1859 – Lectotype, NHMUK 197982/1 and 4 paralectotypes, NHMUK 197982/2-5 glued to cardboard (Pl. 1, Fig. 8). The type series includes a wide range of colour forms ranging from completely white to dark bluish, subsuturally stained with regularly spaced reddish-brown spots. This variability is found in virtually all populations across its range. The type locality (and locality on the accompanying label) states ‘Sandwich Isl’ (Hawaiian Islands). Cernohorsky & Bratcher (1987) deemed this erroneous and designated ‘Singapore’ as a new type locality. To our knowledge, the species is indeed not known from the Hawaiian Islands.

Terebra lactea Deshayes, 1859 – Lectotype, NHMUK 1979100/1 and 2 paralectotypes, NHMUK 1979100/2-3 (Pl. 1, Figs 6-7). There is a discrepancy between the type locality and the label locality (Vasigapatam, India). According to Bratcher & Cernohorsky (1987: 191), the locality ‘Sandwich Islands’ (Hawaiian Islands) is erroneous, an opinion confirmed here. The locality mentioned on the label is probable.

Notes: The complete range is unknown, but populations are known from Phuket (Thailand), the Malay and Indonesian archipelagoes; all from the intertidal zone where they can be locally abundant.

For comparison with *Hastula apicina* (Deshayes, 1859), see there.

Hastula apicina (Deshayes, 1859)

Pl. 1, Figs 9-15

Synonymy:

Terebra apicina Deshayes, 1859 – considered a synonym of *Hastula bacillus* (Deshayes, 1859) *fide* Cernohorsky & Bratcher (1987) – an opinion not followed here. The taxon was readily synonymised due to its small shell size and appearing as fitting within the shell-morphological variability of colour and sculpture of *H. bacillus*. Yet, the description mentions and the types of *T. apicina* display constant features such as a fleshy colour of the upper half of the whorl with darker subsutural flecks and a coarser axial sculpture when compared to *H. bacillus*. Moreover, the apical angle is much wider and the protoconch is white to fleshy-coloured with 1.5 whorls with a broad nucleus. On the other hand, the conical protoconch of *H.*

bacillus is usually dark purple to black with 3.5 whorls with a small nucleus.

Notes on the types:

Terebra apicina Deshayes, 1859 – Lectotype NHMUK 197981/1 and 2 paralectotypes NHMUK 197981/2-3 (Pl. 1, Figs 6-7). The protoconch and teleoconch whorls of the type specimens are eroded or missing, but the characteristic features of the sculpture allow clear distinction from *H. bacillus*. The type locality is confirmed by the label locality, i.e. Singapore, a locality deemed plausible for the species.

Notes: The complete range is unknown, but besides the type locality (Singapore) it is known to us from two localities in SE Vietnam, i.e. Cam Rahn Bay and Hoi An. The validity of this species has remained hidden for such a long time because specimens were never encountered (or clearly separated) in any private or institutional collection.

Hastula trailli (Deshayes, 1859)

Notes on the types:

Terebra trailli Deshayes, 1859 – Lectotype NHMUK 1979114/1 and 3 paralectotypes NHMUK 1979114/2-4 (text figs b & c). The type locality is listed as “Vasigapatam”, present Visakhapatnam in the state of Andhra Pradesh.

The characteristic short columella and brownish subperipheral area evidently differentiate it from the W African species *H. cuspidata* (text fig. a); these features were also emphasised in the descriptive notes by Deshayes (1859).



a. *Hastula cuspidata* (Hinds, 1844), lectotype NHMUK 1968247/1, “Cape Coast Africa”, 29.4 mm.

b. *Hastula trailli* (Deshayes, 1859), lectotype NHMUK 1979114/1, Vasigatam, Indian Ocean, 23.8 mm.

c. *Hastula trailli* (Deshayes, 1859), 3 paralectotypes NHMUK 1979114/2-4, Vasigatam, Indian Ocean.

Notes: E. A. Smith (1873) listed *T. trailli* as a member of his newly described supraspecific taxon *Impages* E. A. Smith, 1873 (see above) along with a number of other species (e.g. species listed here above) because of the presence of the characteristic spiralling smooth suprasutural band. Bratcher & Cernohorsky (1987) noted the morphological similarities with *H. cuspidata* and dismissed the type locality as erroneous, hence considering *T. trailli* a junior synonym of *H. cuspidata*. To our knowledge, the taxon *T. trailli* has not correctly been used after 1873 (except figured by Aubry, 1984: pl. VI – locality Montebelo Isl, Australia?) and disappeared in common taxonomic use. Moreover, *Hastula* specimens from E India in general were rarely reported at all and did not appear in collections, probably facilitating and enhancing the opinion of Bratcher & Cernohorsky (1987). Venkitesan & Mukherjee (2012) reported *H. trailli* in their revision of the Indian **Terebridae**, partially based on Ramkrishna, Barua & Mukhopadhyaya (2007). The presence of the species along the coasts of the SE Indian states of Andhra Pradesh and Tamil Nadu and the figured specimen confirm the identification. Recently, a century-old private collection containing specimens conspecific with the type of *T. trailli* originating from ‘E India’ has been made available for study. The subsutural axial striation in both species is different: continuous, arcuous and dense-set in *H. trailli*; straight, wider-spaced and depressed in the middle (across the darker spiral band) in *H. cuspidata*. Hence these recent findings confirm the validity of *H. trailli*, present along the E Indian coast, which no longer justifies its dubious status as a synonym of *H. cuspidata*.

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Plate 1

- 1-7: *Hastula bacillus*** (Deshayes, 1859)
1a: YT, Indonesia, Java, Jakarta, Bay Island, 16.2 mm.
1b: detail of protoconch.
2: YT, Indonesia, Java, Parangtritis, at low tide, 13.1 mm.
3: Idem, 14.3 mm.
4: Idem, 14.4 mm.
5: Idem, 15.3 mm.
6-7: *Terebra lactea* Deshayes, 1859
6: Paralectotype, NHMUK 1979100-2, 16.7 mm.
7: Lectotype, NHMUK 1979100-2, 19.0 mm.
- 8: *Terebra bacillus*** Deshayes, 1859,
 lectotype (left, 23 mm) and 4 paralectotypes,
 NHMUK 197989.
- 9-15: *Hastula apicina*** (Deshayes, 1859)
9: *Terebra apicina* Deshayes, 1859, paralectotype,
 NHMUK 197981-2, 22.0 mm.
10: Idem, paralectotype, NHMUK 197981-1, 22.0 mm.
11a: MK, Vietnam, Hoi An, Cua Dai Beach, at low tide, 15.7 mm.
11b: detail of protoconch.
12: Idem, 15.0 mm.
13: Idem, 16.8 mm.
14: Idem, 17.1 mm.
15: Idem, 18.7 mm.

Plate 2

- 1-4: *Hastula sendersi*** sp. nov.
1a: Holotype, Indonesia, Bali, S of Sanur, at low tide, 24.8 mm. Réunion Island, off Saline les Bains, 90-110 m, 27.4 mm.
1b: detail of subadult sculpture.
1c: detail of first teleoconch whorls.
2: YT, idem, 26.2 mm.
3: Idem, 26.4 mm.
4: YT, Peoples Republic of China, S Hainan Island, Sanya, at low tide, 23.7 mm.
- 5: *Hastula nimbose*** (Hinds, 1844), YT, Eritrea, 30 km SE of Massawa, at low tide, 32.0 mm.
5a: shell.
5b: detail of subadult sculpture.
5c: detail of first teleoconch whorls.
- 6: *Hastula hectica*** (Linnaeus, 1758), YT, Seychelles, Mahe Island, 29.3 mm.
6a: shell.
6b: detail of subadult sculpture.
6c: detail of first teleoconch whorls.

Plate 3

- 1-8: *Hastula hectica*** (Linnaeus, 1758)
1-6: *Terebra hectica* Linnaeus, 1758, syntypes, LSL (approx. sizes):
1: 34 mm.
2: 37 mm.
3: 32 mm.
4: 50 mm.
5: 24 mm.
6: 27 mm.
- 7-8: *Terebra caerulescens*** Lamarck, 1822:
7: (Possible) paratype, MHNG-MOLL-52139, 51.1 mm.
8a: Holotype, MHNG-MOLL-52139 (ex 1102/24/2), 60.7 mm.
8b: Detail of first teleoconch whorls.
- 9-11: *Hastula nimbose*** (Hinds, 1844)
9: Lectotype, NHMUK 1968226/1, 59 mm.
10a: '*T. caerulescens*' from the Delessert-collection (MHNG-MOLL-121655 (ex 981/722)), 64.7 mm.
10b: Detail of first teleoconch whorls.
11: *Terebra caerulescens* var. *flammulata* von Martens, 1880, syntype, MfN, ZMB-MOLL-108543, Seychelles, 30.5 mm.
- 12-14: *Hastula cinerea*** s.l. (Born, 1778)
12: YT, Brasil, S Bahia State, Trancosa, at low tide 45.2 mm.
13: *Buccinum cinereum* Born, 1778, NHMW 14259, 40.4 mm.
14: *Terebra castanea* Kiener, 1839, syntype, MHNG-MOLL-121654 (ex 1152/72), 62.5 mm.

Plate 1

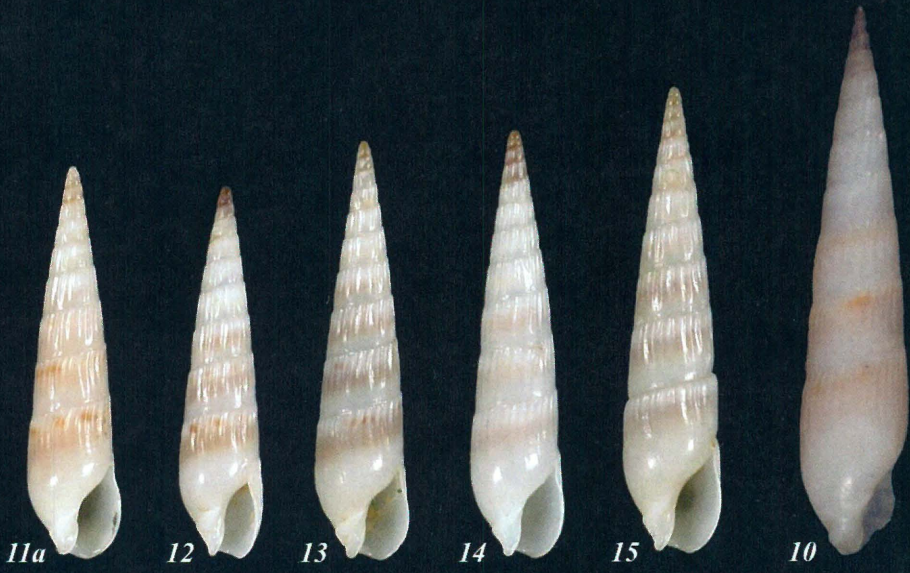
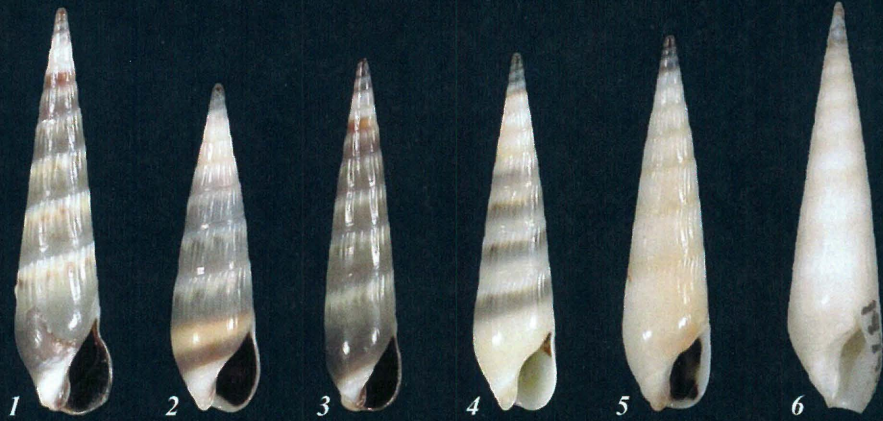


Plate 2

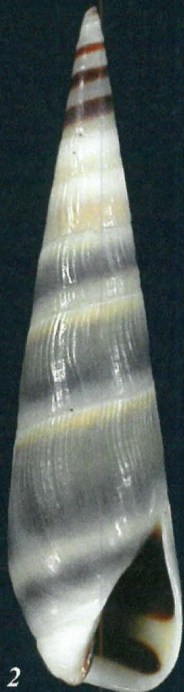
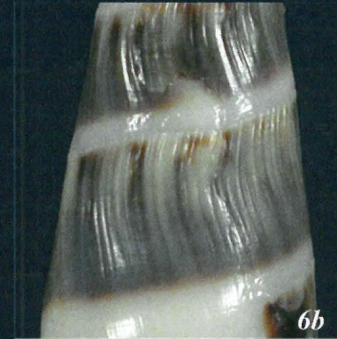
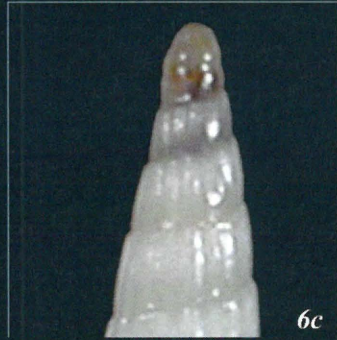


Plate 3



Plate 4

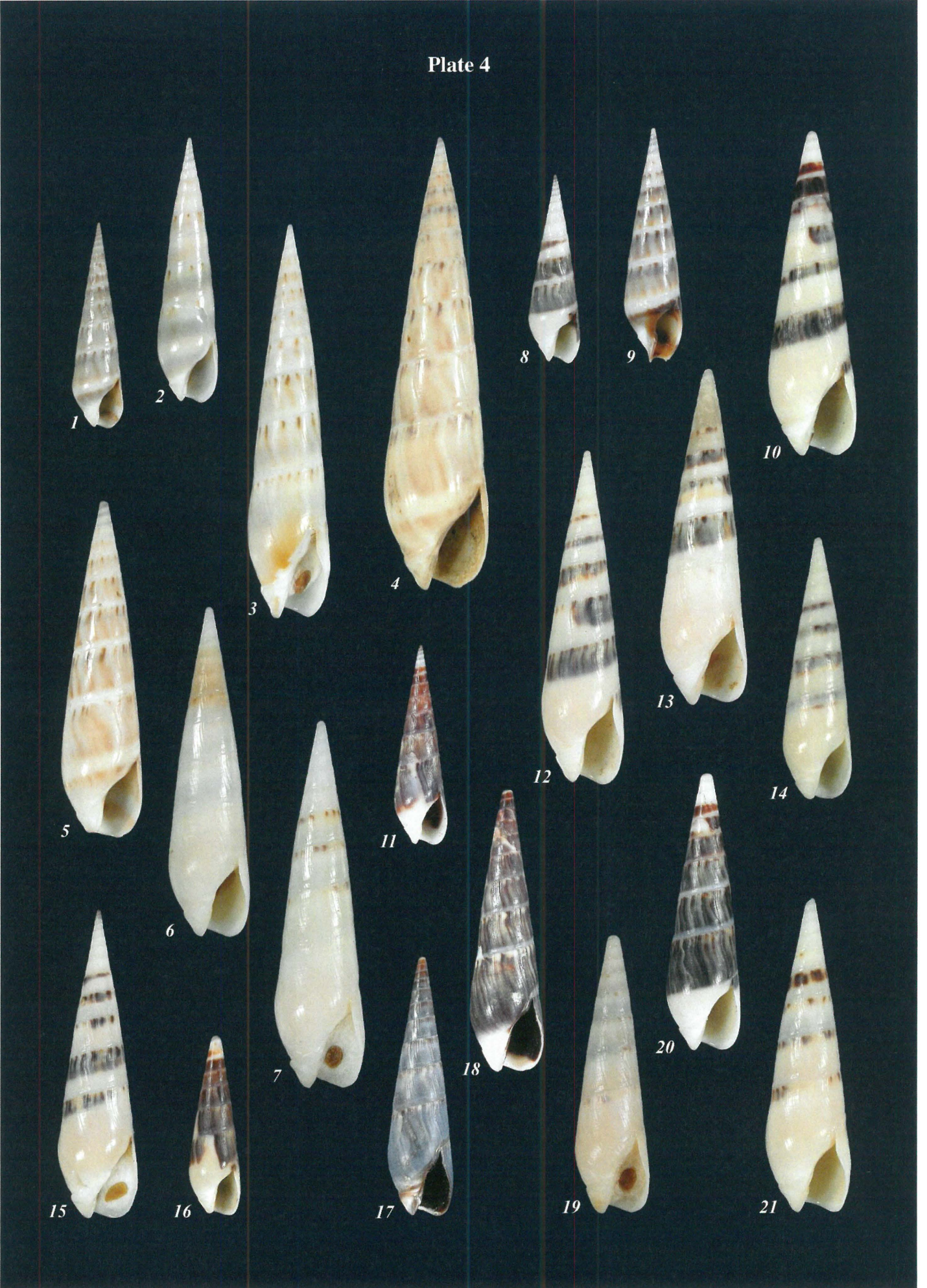


Plate 4

- 1-5: *Hastula nimbosa*** (Hinds, 1844), all coll. YT
1: Eritrea, 30 km SE of Massawa, 32.0 mm.
2: Oman, Masirah, 41.2 mm.
3: S Oman, Al Fizayah, at low tide, 61.5 mm.
4: Oman, Masirah, 70.4 mm.
5: Somalia, S of Mogadishu, dived at 2 m, 52.5 mm.
- 6-21: *Hastula hectica*** (Linnaeus, 1758), all coll. YT
6: Tanzania, Zanzibar Island, Uroa, 51.5 mm
(almost patternless specimen = so-called "var. *alba*").
7: Idem, 57.5 mm (almost patternless specimen = so-called "var. *alba*").
8: Seychelles, Mahe Island, 29.3 mm.
9: Idem, 36.7 mm.
10: Peoples Republic of China, S Hainan Island, Sanya, 50.8 mm.
11: Marquesa, Ua Huka, 31.1 mm.
12: Seychelles, 52.1 mm.
13: Indonesia, Bali, Sanur, 52.6 mm.
14: Solomon Islands, Marau Sound, 40.5 mm.
15: Mozambique, Inhaca, 48.6 mm.
16: Republic of South Africa, Kwazulu-Natal, 28.4 mm.
17: French Polynesia, Tahiti, Mahina, 40.7 mm.
18: Idem, 44.3 mm.
19: Papua New Guinea, Madang Province, Hansa Bay, Laing Island, 43.5 mm.
20: Peoples Republic of China, S Hainan Island, Sanya, 43.5 mm.
21: French Polynesia, Rangiroa, 49.4 mm.