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A new species of *Varicospira* Eames, 1952 from Indonesia (Gastropoda, Stromboidea, Rimellidae)

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ABSTRACT

A new species of *Varicospira* Eames, 1952 from Indonesia is described as *Varicospira marjae* sp. nov. It is compared with *V. kooli* Moolenbeek & H. Dekker, 2007 from the Bay of Bengal, Myanmar. The genus *Varicospira* is with similar genera, based on shell morphology, removed from the Rostellariidae Gabb, 1868 and allocated in the Rimellidae R. B. Stewart, 1927.

Key words – Gastropoda, Rimellidae, *Varicospira*, Indonesia, taxonomy

INTRODUCTION

In the last two years many new species of Gastropoda have been described from Indonesia. New Indonesian tradesmen are selling the freshly collected shells from their home country on the international specimen shell market. Among the shells is a *Varicospira* Eames, 1952 species resembling *V. kooli* Moolenbeek & H. Dekker, 2007, but it differs from the latter species in certain aspects, for instance a larger size and different sculpture. This Indonesian species will be described below as a new species.

Varicospira is a genus with four valid extant species (MolluscaBase) in the tropical Indo-West Pacific. Nine extinct species (MolluscaBase) have been described, mostly from Indonesia (Miocene, and younger). For *Varicospira* and similar rather small shelled species contained in the family Rostellariidae Gabb, 1868 at present (MolluscaBase), another family name is available: Rimellidae R. B. Stewart, 1927. Currently, this family name is considered a synonym of Rostellariidae (MolluscaBase). Here, the family Rimellidae is considered again a valid family.

Abbreviations

L	Shell length
W	Shell width
AMD	(collection of) Aart M. Dekkers, Purmerend, the Netherlands
HD	(collection of) Henk Dekker, Winkel, the Netherlands
GV	(collection of) Goran Vertriest, Gent, Belgium
KdT	(collection of) Koenraad de Turck, Herzele, Belgium
ZMA	(collection of) Naturalis Biodiversity Center, Leiden, the Netherlands

TAXONOMY

Superfamily Stromboidea Rafinesque, 1815
Family Rimellidae R. B. Stewart, 1927 **revised status**

Diagnosis. – R. B. Stewart (1927: 366) coined the name Rimellinae as subfamily of the Strombidae, but he did not provide a diagnosis. The first diagnosis is given by Bandel (2007). Bandel (2007: 124) placed *Varicospira* in the subfamily Rimellinae R. B. Stewart, 1927 of the Rostellariidae, and defined this subfamily as: "Shell shape is spindle-like with whorls of the teleoconch ornamented by axial ribs and variable varices. The body whorl is of about the same height as the spire. The aperture is elongate with open short siphonal canal. Its outer margin is commonly elongate and pointed. The apical end of the outer lip forms together with the continuation of the callus of the inner lip a narrow canal that continues onto the spire. The outer lip may or may not have a distinct stromboid notch, that is a sinus next to the siphon". Squires (2013) used the subfamily Rimellinae in his review of North American species within this group.

Included genera. – *Rimella* Agassiz, 1841; *Dientomochilus* Cossmann,1904; *Ectinochilus* Cossmann, 1889; *Strombolaria* De Gregorio, 1880; *Varicospira* Eames, 1952.

Discussion. – The herein reinstated family Rimellidae R. B. Stewart, 1927 contains small to medium sized genera (L roughly 20–40 mm) and generally have a stromboid notch. In contrast, Rostellariidae genera like *Rostellaria* Lamarck, 1799; *Rostellariella* Thiele, 1929; *Tenuitibia* Dekkers, 2020 and *Tibia* Röding, 1798, etc., are larger sized (L 40 to >300 mm) and lack a stromboid notch. The family Rostellariidae Gabb, 1868 is defined by Bandel (2007: 128, as Rostellariinae): "The spire consists of many whorls and sometimes is higher than the body whorl. The fully grown shell has a very high spire, a well-developed long rostrum, tooth-like or digit-like projections of the outer lip, and an operculum that seals the aperture. The apical canal that arises from the continuation of the upper end of the outer lip and the callus of the inner lip is short and curved backwards". Due to the distinct differences, both the Rostellariinae and Rimellinae are raised to family level herein. This opinion is shared by Ulrich Wieneke and collaborators (www.stromboidea.de, accessed on 2025-12-14).

Plate 1. *Varicospira* species. Figs 1-2. ***Varicospira marjae* sp. nov.** Fig. 1. Holotype, Indonesia, Sumbawa, "Labuan Bajo", dived 5-10 m, MNHN-IM-2000-28968, L 33.2 mm. Fig 2. Paratype 3, Indonesia, Sumbawa, "Labuan Bajo", dived, AMD, L 28.6. Fig. 3. ***Varicospira kooli*** Moolenbeek & H. Dekker, 2007, holotype, Myanmar, Rakhine Province, Ngapali beach, Jha Taw village; 18°15 N 94°20 E, at low tide; ZMA.MOLL.407015, L 23.2 mm. All shells are illustrated to scale.

Genus *Varicospira* Eames, 1952
Type species *Strombus cancellatus* Lamarck, 1822, by original designation

Varicospira was described as a subgenus of *Dientomochilus* Cossmann, 1904 for Eocene species from Pakistan, in the family Strombidae Rafinesque, 1815.

Varicospira marjae **sp. nov.**

(Pl. 1 Figs 1-2)

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Description. – Shell slender, rather solid with about 10 whorls. Holotype L 33.2 mm, W 9.5 mm, the paratypes vary in length between 22.5 and 37 mm. Protoconch of three rather rounded, smooth whorls, followed gradually by a sculpture of only axial riblets. After about two whorls with axials riblets, spiral riblets gradually appear divided by narrow grooves; on the penultimate whorl about 17-18 spiral riblets. The axial ribs are always more prominent than the spiral riblets, which continue across the axial ribs and the interstices. On the penultimate whorl about 30 rather strong axial ribs. Body whorl generally only with axial ribs on the dorsal side, but sometimes also on the ventral side. Suture well marked; whorls half rounded. Spire with many dispersed varices.
Ventral side of the body whorl almost smooth, but axial ribbing faintly visible, especially on the upper and lower parts. The greater part of the ventral side of the body whorl is (glossy) smooth with hardly visible minor spiral grooves.
Anterior canal short and upturned. Posterior canal open, long, weakly curved (opisthocline), ending three whorls beyond the body whorl. Outer lip (varix) strong, heavy, with only a few axial growth lines on the flat outer part; on the dorsal side a clear gutter on which the spiral ribbing continues; the spiral ribbing continues over the flat part of the outer lip and turns into tiny dents on the rim; two or three of them form tiny denticles near the anterior canal. The strong outer lip is slightly curved with a hardly visible “stromboid notch” and with ridges on the inner side, the anterior ones the best visible and towards the posterior part of the rim becoming weaker to almost obsolete; the upper columellar side is smooth.
Colour dark brown to creamy tan with irregular brown blotches finally ending in three indistinct brown spiral bands on body whorl, more pronounced on the upper part of the cream coloured varix. On the ventral part of body whorl the three bands continue, loosing the solidness; instead lots of brown zig-zags are present.
Aperture (inside) inner part of the labrum of purplish colored; broad, highly glossy, white columellar callus, becoming smaller towards the posterior part and ending on the ventral part of the second whorl, going further posteriorly as a brown left part of the posterior canal. Posterior canal brown, strongly curved (opisthocline), ends three whorls beyond the body whorl. Anterior canal violet in side, upturned, bending to the left (in dorsal view).

Variation. – The new species shows color variation, with some shells appearing notably lighter.

Holotype. – Indonesia, West Nusa Tenggara, Sumbawa, "Labuan Bajo", handpicked by divers from 5-10 m, MNHN-IM-2000-28968, L 33.2 mm, W 13.3 mm (Pl. 1 Fig. 1).

Paratypes. – All from Indonesia:
West Nusa Tenggara, Sumbawa, "Labuan Bajo": Paratype 1, AMD, L 36.1 mm; Paratype 2, AMD, L 35.9 mm; Paratype 3, AMD, L 28.6 mm (Pl. 1 Fig. 2); Paratype 4, AMD, L 24.5 mm; Paratype 5, AMD, L 26.31 mm; Paratype 6, AMD, L 25.9 mm; Paratype 7, HD 52153, L 37.0 mm; Paratype 8, HD 55535, L 36.9 mm; Paratype 9, HD 55542, L 31.2 mm; Paratype 10, KdT, L 27.6 mm; Paratype 11, KdT, L 24.3 mm; Paratype 12, KdT, L 34.7 mm; Paratype 13, KdT, L 27.3 mm; Paratype 14, GV, L 27.0 mm; Paratype 15, AMD, L 34.8; Paratype 16, AMD, L 37.7; paratype 17, HD 56917, L 23.8.
West Nusa Tenggara, Sumbawa, Bima: Paratype 18, AMD, L 33.5 mm; Paratype 19, AMD, L 26.3 mm; Paratype 20, AMD, L 25.3 mm; Paratypes 21-24, HD 56918, L 23.8, 23.4 , 23.3, 22.5.
West Nusa Tenggara, Sumbawa, Rontu: Paratype 25, AMD, L 33.9 mm.
East Nusa Tenggara, East Flores, Lamakera: Paratype 26, AMD, L 25.9 mm.

Type locality. – Indonesia, West Nusa Tenggara, Sumbawa, "Labuan Bajo".

Distribution. – Only known from Indonesia, the coastal waters around the islands Sumbawa and Flores. Might be more widespread in Indonesian waters.

Etymology. – This species is named for Marja Hogenes, the author's wife, who has continually supported shell collecting on trips and holidays.

Comparison. – The new species is rather similar to *Varicospira kooli* Moolenbeek & H. Dekker, 2007 (PL. 1 Fig. 3) described from the Bay of Bengal, Myanmar. This species is also known from India, Tamil Nadu (AMD, HD), Western Thailand (HD) and Sri Lanka. It is usually smaller (L around 22-27 mm), of a lighter color, and characteristic with a smooth thickened outer rim of the labrum, not bearing strong ribblets as in the new species. The open posterior canal, weakly curved (opisthocline), ends two whorls beyond the body whorl in *V. kooli* whereas in *V. marjae* sp. nov. it is stronger curved ending on the third whorl from the body whorl.

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REFERENCES

Bandel, K. (2007). About the larval shell of some Stromboidea, connected to a review of the classification and phylogeny of the Strombimorpha (Caenogastropoda). Freiberger Forschungshefte, Ser. C., 524: 97-206.
Cossmann, M. (1904). Essais de Paléoconchologie comparée. Sixième livraison. Paris: The author and de Rudeval. 151 pp., 9 pls.
Eames, F. E. (1952). A contribution to the study of the Eocene in Western Pakistan and Western India C. The description of the Scaphopoda and Gastropoda from standard sections in the Rakhi Nala and Zinda Pir areas of the western Punjab and in the Kohat District. Philosophical Transactions of the Royal Society of London, Series B Biological Sciences, 236 (631): 1-168, pls 1-6.
Gabb, W. M. (1868). An attempt at the revision of the two families Strombidae and Aporrhaidae. American Journal of Conchology 4(3): 137-149.
Moolenbeek, R. G. & Dekker, H. (2007). A new species of *Varicospira* from Myanmar (Burma) (Gastropoda: Strombidae). Miscellanea Malacologica 2(3): 45-58.
Stewart, R. B. (1927). Gabb's California fossil type gastropods. Proceedings of the Academy of Natural Sciences of Philadelphia 78: 287–447, pls 20–32.
Squires, R. L. (2013). West Coast North America record of the Paleogene marine stromboid gastropod *Rimella* and paleobiogeography of the genus. Journal of Paleontology 87(5): 826-841.

MolluscaBase, accessed 2025-12-14.

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New genera within the Vasidae H. Adams & A. Adams, 1853 (Gastropoda, Turbinelloidea)

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ABSTRACT

Two new genera within the Vasidae are presented which are drawn from the genus *Tudivasum*. The new genera are biogeographically distinctive. *Afrivasum* gen. nov. from the Mascarenean, Madagascan and Mozambican Subprovinces can be distinguished from other Vasidae genera by the broad columella plate, expansive calloused labrum, and lack of spinose body sculpture. *Australivasum* gen. nov. from the Macquarian Subprovince can be discriminated from other genera in the Vasidae by its equibonicality with the spire comprising half the length of the shell, a sharp labrum, and a semi-open thick labrum.

Key words – Vasidae, *Afrivasum*, *Australivasum*, new genus, Australia, East Africa, taxonomy

INTRODUCTION

There has been a great renewal of interest in Molluscan taxa, this has resulted in many new species being recognized in complexes that were once considered taxonomically stable, and this is reflected in the species level taxonomy of the Vasidae. This is a relatively small family,

especially compared to the other well-known mostly strongly spinose family Muricidae with its many genera and species, but this family lacks the characteristic columellar folds present in Vasidae. Species level monographs have been published for the fossil and Recent Vasidae, see the references in Vermeij, 2024. However, not much attention had been given to the generic composition of the family. This triggered Vermeij (2024) to introduce several new genera, up to then many species were included in *Vasum* Röding, 1798. Vermeij (2024: 526): "Although a molecular phylogeny of the Vasidae is not yet at hand, it is appropriate to revisit the genus-level classification and composition of the Vasidae based on a detailed examination of features of the shell observable in fossils. This reappraisal, together with a biogeographic synthesis of the Vasidae, is the subject of the present paper". Two genera from Australia were recently revised on the species level (Dekkers & Maxwell, 2018, Morrison et al., 2020, Maxwell et al., 2024). The Australian endemic genus *Altivasum* Hedley, 1914 was discussed in several papers, mainly by Dekkers and Maxwell, and the species are restricted to the temperate southern and western parts of Australia, it forms a homogeneous genus. However, the genus *Tudivasum* Rosenberg & Petit, 1987 is more wide spread, divided in complexes of species: Indian Ocean, north-west Australia and Queensland. The shared character of those wide spread species complexes is the more or less spinose condition of the shells and the long siphonal canal. The Indian Ocean and Australian diversification was not fully represented in the generic composition of the family yet. Further subdivision of the genus *Tudivasum* is provided here, based on detailed examination of features of the species involved.

Abbreviations:

BCC	(the collection of) Barbara Collins, Cairns, Queensland
DSC	(the collection of) Drew Strickland, Geraldton, Western Australia
VCC	(the collection of) Valda Cantamessa, Proserpine, Queensland
L	Length of the shell

METHODS

Descriptions of new genera contained within this paper are based on biogeographical molluscan provinces as outlined in Petuch & Berschauer (2021), endemism in the range of taxa to be included in each new genus (Abbott, 1958; Cossignani, 2024; Maxwell et al., 2024; Zheng & Maxwell, 2025), and the accepted use of morphology to identify and describe new genera within the Vasidae (Vermeij, 2024).

TAXONOMY

Superfamily Turbinelloidea Swainson, 1835
Family Vasidae H. Adams & A. Adams, 1853

Genus *Tudivasum* Rosenberg & Petit, 1987

Synonym: *Tudicla (Tudicula)* H. Adams & A. Adams, 1864: 429

Tudicula H. Adams & A. Adams, 1864 is a junior homonym of *Tudicula* Ryckholt, 1862; *Tudivasum* is a replacement name.

Type species: *Tudicla armigera* A. Adams, 1856, by subsequent designation (Wenz, 1943: 1303). Recent, Australia.

Diagnosis. – Shell slender, pear-shaped to fusiform, light-weight; shell small to large, up to around 100 mm in length; protoconch large; axial ribs present or absent; spiral sculpture consisting of mostly 3 fine spiral cords which bear very long spines and large spines on the shoulder. Outer lip convex, glazed at edge and on abapertural side; inner lip shield-like with free edge; inner side of outer lip with or without brief lirae; siphonal canal very long, narrow, ventrally open along entire length.

Included species. – Herein limited to the Australian species: *T. amandacantamessae* S. J. Maxwell, Y. Zheng & Berschauer, 2024; *T. annettae* S. J. Maxwell, Y. Zheng & Berschauer, 2024; *T. ashmorense* H. Morrison, 2020; *T. armigerum* (A. Adams, 1856); *T. barbara-collinsae* S. J. Maxwell, Y. Zheng & Berschauer, 2024; *T. chaneyi* H. Morrison, 2020; *T. glendae* S. J. Maxwell, Y. Zheng & Berschauer, 2024; *T. gracelumwanae* Y. Zheng & S. J. Maxwell, 2025; *T. variabile* S. J. Maxwell, Y. Zheng & Berschauer, 2024; *T. westrale* H. Morrison, 2020.

Distribution. – At present distributed in Australia, northern Australia, from the Rowley Shoals in the west almost reaching the Key Islands (Indonesia) in the north east (Morrison et al., 2001) to Queensland.

Habitat. – Queensland species are collected from clean sand from the intertidal zone to depths of 50 m; in other locations the species are trawled or dredged on a sandy mud bottom at depths larger than 70 m (Morrison et al., 2020).

Comparison. – The genus is well defined and not easy confused with other genera in Vasidae. It is remarkable that the Indian Ocean species *Tudicula zanzibarica* Abbott, 1958 (now placed in the new genus *Afrovasum* gen. nov.) was not separated before, though remarks in that direction were already made by Abbott (1959), Morrison et al. (2020) and Vermeij (2024). The same is applicable for *Turbinella (Tudicula) rasilistoma* Abbott, 1959 (now placed in the new genus *Australivasum* gen. nov.). For the differences with the two newly proposed genera see below.
The holotype of *Tudicla armigera* from Queensland, Moreton Bay (NHMUK 1992160) is illustrated in Morrison et al. (2020, fig. 3E-G). This faded, slightly juvenile shell has a thin, partially broken lip. Fresher shells are illustrated in his fig. 3A-D. Although the species is used in molecular research (Morrison et al., 2020), the shells of the animals sequenced were not illustrated, an omission. Maxwell et al. (2024) have taken fig. 3F from Morrison et al. (2020) for the descriptive part of their paper.

Plate 1. Examples of *Tudivasum*, *Afrivasum* gen. nov. and *Australivasum* gen. nov. Fig. A. ***Tudivasum annettae*** Maxwell, Zheng & Bershauser, 2024, holotype, L 67.7 mm, Central Queensland, Shoal Point, BSRF00026. Fig. B. ***Tudivasum armigerum*** (A. Adams, 1856), L 87 mm, off northern NSW, BCC. Fig. C. ***Tudivasum spinosum*** (H. Adams & A. Adams, 1864), L 55.4 mm, Western Australia, North-west Cape, West of Coral Bay, 149 m, DSC. Fig. D. ***Afrivasum zanzibaricum*** (Abbott, 1958), L 64.6 mm, Zanzibar, trawled, 100 m, VCC. Fig. E. ***Australivasum rasilistoma*** (Abbott, 1959), L 91 mm, Queensland, east of Noosa, dredged, 30 m, VCC.

Afrivasum gen. nov.

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Synonymy:
Tudivasum in part – Vermeij, 2024: 535

Type species. – *Tudicula zanzibarica* Abbott, 1958

Description. – Shell triangulate with short spire, flaring columella plate and broad flattened, thickened labrum; spire short with long spines just above the suture; dorsal body whorl and rostrum forming a triangle, long sharp, triangular, spines on the shoulder; bending posteriorly, on the shoulder. Shoulder strongly keeled. Body whorl with spiral threads and lacking the distinctive fimbriations, aperture triangular; lower body whorl may have one or two rows of long spines at the commencement of the labrum dorsally. Outer lip flaring above the shoulder and thickened with callous; columella plate large crossing the axis of the shell, covering two thirds the upper body whorl and forming a shield that extends to the formation of the rostrum; rostrum open. Siphonal canal elongated, broad starting, tapering to the end.

Included species.
A. zanzibaricum (Abbott, 1958) **new combination**
A. simonaikeni (T. Cossignani, 2024) **new combination**

Distribution. – The taxa contained within this genus range along the tropical east African coast and associated islands, a distribution that falls within the Mascarenean, Madagascan and Mozambican Subprovinces, which are part of the Lemurian Molluscan Province (Petuch & Berschauer, 2021).

Etymology. – The name is derived from the Latin Afri (term for Berber people who inhabited North Africa near Carthage, forming the root of the name "Africa") + *vasum*.

Comparison. – Currently, taxa belonging to *Afrivasum* gen. nov. have been classified under *Tudivasum*, but differ from that genus in having a short rostrum, a large columellar shield and a broad thickened and flaring labrum. Similarly, the aperture form discriminates members of the new genus from *Altivasum* Hedley, 1914 and *Vasum* Röding, 1798.
The genus *Afrivasum* gen. nov. has the most bulbous protoconch and the broadest tapering body whorl to siphonal canal construction compared to the other genera treated herein, and is the only genus bearing triangular spines at the base of the spines.
Most other extant genera (*Florivasum* Vermeij, 2024, *Globivasum* Abbott, 1950, *Rhinovasum* Vermeij, 2024, *Siphovasum* Rehder & Abbott, 1950 and *Volutella* Perry, 1810) lack the flared columella and the wide calloused labrum. While similar in general shape to *Aristovasum* Vermeij, 2024, it differs in having a shell that bears fewer, and pointed spines.

Australivasum gen. nov.

urn:lsid:zoobank.org:act:05719D12-CB00-4432-8556-B908B3C1F269

Synonymy:
Tudivasum in part – Vermeij, 2024: 535

Type species. – *Turbinella (Tudicula) rasilistoma* Abbott, 1959

Description. – Shell equibiconic, to about 80 mm in length, fusiform, high spired, regularly enlarging spire whorls, with tapered body whorl and broad, attenuated siphonal canal. Solid with large blunt nobs on the shoulder of the spire and body whorl; spire is half the length of the shell; aperture with large rounded columella plate that extends over the ventral lower body whorl when full mature, continuing and tapering at mid rostrum; columella with 3 strong plaits; labrum thickened and sharp edged; siphonal canal semi-open, tapering, its length is one fifth the total shell length.

Included species.
A. rasilistoma (Abbott, 1959) **new combination**

Distribution. – The only species contained in this genus occurs in Australia, ranging from southern Queensland to northern New South Wales. A distribution that falls within the Macquarian Subprovince part of the Peronian Molluscan Province (Petuch & Berschauer, 2021).

Etymology. – The name is derived from the Latin austral (southern) + *vasum*.

Comparison. – Prior to this paper, taxa belonging to *Australivasum* gen. nov. have been classified under *Tudivasum*, but differ in lacking the fine spines and extended narrow rostrums characteristic to that species group. *Australivasum* gen. nov. differs from members of *Altivasum* and *Vasum* whose members do not have the broad columella plate, are more spinose and have shorter rostrums and lack the flaring outer lip typical of *Aristovasum*. *Australivasum* does not have the three rows of spines anteriorly indicative of *Florivasum*. *Globivasum* is more rounded, with narrow aperture that is less than a third the width of the shell, and without the columella plate that extends across the body whorl as in *Australivasum* gen. nov. *Rhinovasum* and *Volutella* differs from the new genus in having a spire that is shorter and the shell less bionic, and the aperture comprising more than two-thirds the length with a short rostrum. *Siphovasum* differs from *Australivasum* gen. nov. in being more fusiformly elongated, with a closed anterior canal and small ovate aperture.

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REFERENCES

Adams, H. & Adams, A. (1864). Descriptions of new species of shells, chiefly from the Cumingian collection. Proceedings of the Zoological Society of London 1863: 428-435.
Abbott, R. T. (1958). A new Recent species of *Tudicula* from Zanzibar (Gastropoda: Vasidae). Notulae Naturae 305: 1–4.
Abbott, R. T. (1959). The family Vasidae in the Indo-Pacific. Indo-Pacific Mollusca 1(1): 15-32.
Adams, H. & Adams, A. (1853-1858). The genera of Recent Mollusca; arranged according to their organization. Volume 1. London: van Voorst. 484 pp.
Cossignani, T. (2024). Nuova sp. di *Tudivasum* Rosenberg & Petit, 1987 dall'Isola di Unguja (Zanzibar). *Malacologia Mostra Mondiale.* 122: 18-21.
Dekkers, A. M. & Maxwell, S. J. (2018). *Altivasum* Hedley, 1914 (Gastropoda: Turbinellidae) from South Western Australia. The Festivus 50(4): 245-254.
Hedley, C. (1914). Mollusca. Zoological Results of the fishing experiments carried on by F. I. S. “Endeavor” 1909–10, under H.C. Dannevig, Commonwealth Director of Fisheries. 2(2) 65–74.
Maxwell, S. J., Dekkers, A. M., Zheng, Y. & Berschauer, D. P. (2024). New *Tudivasum* Rosenberg & Petit, 1987 (Mollusca: Vasidae) from Queensland and the first report of sinistralism in that genus. The Festivus 56(2): 101-122.
Morrison, H. M., Kirkendale, L. A. & Wilson, N. G. (2020). A review of extant *Tudivasum* Rosenberg & Petit, 1987 (Neogastropoda: Turbinellidae) and description of three new species from Western Australia. Journal of Molluscan 87(1), eyaa030: 1-16.
Petuch, E. J. & Berschauer, D. P. (2021). Tropical Marine Mollusks: An illustrated biogeographical guide. Boca Raton, London & New York: CRC Press. 357 pp.
Rosenberg, G. & Petit, R. E. (1987). Ryckholt's Mélanges Paléontologiques, 1851-1862, with a new name for *Tudicula* H. & A. Adams, non Ryckholt. Proceedings of the Academy of Natural Sciences of Philadelphia 139: 53-64.
Vermeij, G. J. (2024). Shell-based genus-level reclassification of the family Vasidae (Mollusca: Neogastropoda). Zootaxa 5405(4): 526-544.
Zheng, Y. & Maxwell, S. J. (2025). A new *Tudivasum* Rosenberg & Petit, 1987 (Mollusca: Vasidae) from the Coral Sea, Australia. The Festivus 57(3): 150-156.

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New *Cyathodonta* and *Thracia* species (Bivalvia, Thraciidae) from the Bartonian (Middle Eocene) of Horsarrieu [Pédelail] (Landes, France)

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ABSTRACT

New species of Thraciidae are described from the Bartonian sandy clay (Middle Eocene) from France, Landes, Horsarrieu [Pédelail]: *Cyathodonta tarbelliana* sp. nov. and *Thracia sixi* sp. nov. They are discussed and compared with other closely related Paleogene congeners. It is the first record of the genus *Cyathodonta* and *Thracia* in the Bartonian from the Aquitaine Basin. *Thracia gilardeti* nom. nov. is proposed here to correct the primary homonymy *Thracia rugosa* Bellardi, 1852 from the Bartonian of France, Alpes Maritimes, Blausasc [La Palarea], non *Thracia rugosa* d'Orbigny, 1846, a living species described from Brazil, Rio de Janeiro.

Key words – Mollusca, Bivalvia, Thraciidae, *Cyathodonta*, *Thracia*, Eocene, Bartonian, Aquitaine Basin, new species, nomenclature.

INTRODUCTION

The Paleogene species of the genus *Cyathodonta* Conrad, 1849 (type species: *Cyathodonta undulata* Conrad, 1849, by monotypy) and *Thracia* (type species: *Mya pubescens* Pulteney, 1799, by subsequent designation, Anton, 1838) are represented in Europe by extremely rare specimens. With regard to the Aquitaine Basin, we found no mention of the species discussed here in the brief lists more or less inspired by the shells of the Paris Basin published by Benoist (1887), Lambert (1914), Abrard (1931), Fabre (1936), or Larroude (1967). Moreover, the exploration of the Pédelail locality by Marcel Neuville, an enlightened amateur naturalist based in Bordeaux and working as an artisan, who collected marine invertebrate fossils and provided the substantial bivalve fauna on which Cossmann (1921; 1922) based his Synopsis des mollusques du bassin d'Aquitaine, did not yield any such shells; indeed, the author makes no mention of them. Furthermore, we did not observe a single specimen, even fragmentary, in the Neuville collection preserved at the University of Bordeaux in Talence. We therefore report for the first time the presence of these new species in the sandy clays of the Bartonian (Middle Eocene), base of the Brassempouy Limestone, at France, Landes, Horsarrieu [Pédelail], based on five well preserved specimens.

We have already described from this site (Pacaud et al., 2024a-b, 2025) three other new species resulting from the 2021/2022 excavation campaign, underscoring the scientific importance of the Pédelail site. *Pachycrommium gourguesi* Pacaud, Buisson, Coppini & Meunier, 2024, the second species of *Pachycrommium* described from the Bartonian of the Aquitaine Basin; a taxon we initially believed to be endemic to the Pédelail locality, but which also occurs in Bartonian sediments of Spain (Gómez García, 2024: 281, illustrated under the erroneous name *Ampullinopsis crassatina*). *Pseudomiltha horcsarriu* Pacaud, Coppini, Buisson & Meunier, 2024, the second-largest species of *Pseudomiltha* described from the Eocene of France. This lucinid was recently collected (Remy coll.) in the Bartonian sands of Campbon (Loire-Atlantique). *Enigmonia silossa* Pacaud, Coppini, Buisson & Meunier, 2025, represents the first fossil occurrence of the motile anomiid *Enigmonia* Iredale, 1918 in the Aquitaine Basin. The discovery in the sandy clays of the Bartonian at Horsarrieu [Pédelail], together with the exceptional preservation of our *Enigmonia* specimens and the presence of several species of Ellobiinae, *Cerithideopsis* sp., and *Isognomon* sp., constitutes a key line of evidence demonstrating the existence of a palaeo mangrove. The excavated levels at Pédelail are no longer present.

Abbreviations

MNHN.F	Muséum National d'Histoire Naturelle de Paris, Collection de Paléontologie, France
MHNNice	Musée d'Histoire Naturelle de Nice, France
CNRS	Muséum national d'Histoire naturelle, Sorbonne Université, France
H	umbono pallial height
L	antero posterior length

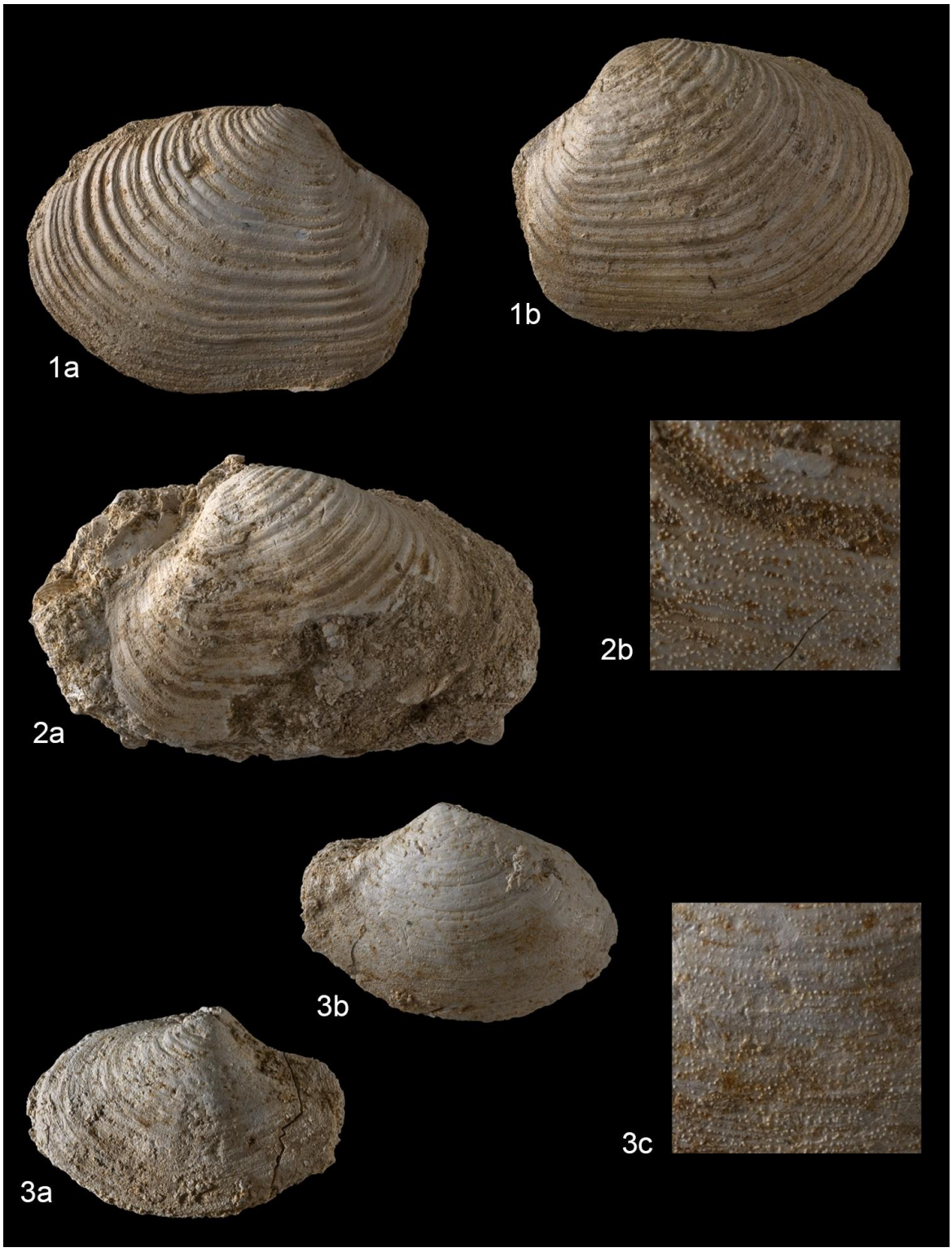

Plate 1. Thraciidae. Bartonian sandy clay, from France, Landes, Horsarrieu [Pédelail]. Figs 1-2. ***Cyathodonta tarbelliana* sp. nov.** Fig. 1. Holotype MNHN.F.C02714 (Audouit coll.), L 41.8 mm. Fig. 2. Paratype MNHN.F.C02715 (Audouit coll.), L 38.7 mm. 2b. Detail of the postero ventral region, revealing the surface granulations. Fig. 3. ***Thracia sixi* sp. nov.** Holotype MNHN.F.C02717 (Audouit coll.), L 19.0 mm. 3c. Detail of the ventral region, revealing the surface granulations.

TAXONOMY

Superfamily Thracioidea Stoliczka, 1870 (1839)
Family Thraciidae Stoliczka, 1870 (1839)
Genus *Cyathodonta* Conrad, 1849
Type species *Cyathodonta undulata* Conrad, 1849 by monotypy. Origin: Pacific, Recent.

***Cyathodonta tarbelliana* sp. nov.**

(Pl. 1 Figs 1-2)

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Holotype. – MNHN.F.C02714 (Audouit coll.) (Pl. 1 Fig. 1a-b) (valves in connexion).

Paratypes. – All from the type locality, right valves: 1 ex., MNHN.F.C02715 (Audouit coll.) (Pl. 1 Fig. 2a-b); 1 ex., MNHN.F.C02716 (Coppini coll.).

Type locality. – France, Landes, Horsarrieu [Pédelail].

Type stratum. – Sandy clays of the Bartonian, Middle Eocene, base of the Brassempouy Limestone.

Distribution. – Only known from the type locality.

Description. – The shell is of medium size, fragile, quadrangular, and inequilateral. The right valve is slightly more inflated than the left. The anterior margin is elongated, oval, distinctly rounded, twice as long as the posterior one, while the posterior margin is short, broadly truncated, with a straight outline, joining the linear pallial margin through a broad forward directed curve. The umbo is small, weakly projecting, moderately inflated, and situated in the posterior third of the antero-posterior length. The anterior dorsal margin is slightly convex and merges smoothly with the anterior margin. The posterior dorsal margin is sloping and straight, forming a distinct 110° angle with the vertical posterior margin, which connects to the pallial margin through a rounded angle. The dorsal surface is separated from the posterior side by a blunt radial ridge, delimiting a broad, slightly depressed area. The external surface bears very fine, barely marked growth lines, crossed by broad, thick, fairly regular comarginal folds. Numerous minute, barely raised granulations are also visible in the postero-ventral region. The escutcheon is narrow, elongated, lanceolate, and bounded by a slightly rounded salient angle. The hinge and the internal surface of our specimens could not be observed.

Dimensions. – Holotype: L 41.8 mm, H 30.9 mm.

Etymology. – From the Tarbelles, the name of one of the earliest known peoples of protohistoric Aquitaine, who occupied the present day Chalosse, a Gascon region located in the southern part of the French département of Landes.

Comparison. – *Cyathodonta ludovica* (Deshayes, 1857) from the Lutetian (Middle Eocene) of Thiverval Grignon (Yvelines, France) differs from *Cyathodonta tarbelliana* sp. nov. by its more elongated posterior margin, by its umbo positioned almost at mid length of the valve, by its fewer commarginal folds, and by its smaller dimensions (Deshayes, 1857: 268, pl. 17 figs 27-29; Cossmann & Pissarro, 1904: pl. 4 fig. 25-3; Le Renard & Pacaud, 1995: 68; Pacaud, 2008: 85). *Cyathodonta sulcata* (J. de C. Sowerby, 1844) from the Middle Eocene of Bracklesham (England) and from the Bartonian (Wemmelian) of Neder Over Heembeek, Wemmel, and Jette (Belgium) differs by its right valve slightly overlapping the left, by its slight inequilateral outline, by its more elongated posterior margin, by its umbo positioned almost at mid length of the valve, by its fewer commarginal folds more strongly marked near the umbo and by its smaller dimensions (J. de C. Sowerby, 1844: 44, pl. 632 fig. 3; Glibert, 1936: 191-192, pl. 7 fig. 9).

The examination of the name bearing type [MHNNice 2014.0.428] of *Thracia rugosa* Bellardi, 1852 [*Thracia rugosa* Bellardi, 1850 is a nomen nudum] from the Bartonian of Blausasc [La Palarea] (Alpes Maritimes, France), here assigned to the genus *Cyathodonta*, shows that it differs by its right valve clearly overlapping the left, by its more elongated posterior margin, moderately truncated with a rounded outline, by its greater umbono pallial height, and by its more numerous commarginal folds.

Furthermore, the name *Thracia rugosa* introduced by Bellardi (1852: 233, n° 131, pl. 16 fig. 14) is a junior primary homonym of *Thracia rugosa*, a living species described from Brazil, Rio de Janeiro, by d'Orbigny (1846: 519, n° 508). The two species are no longer considered congeneric, and the prevailing usage of the names *Cyathodonta rugosa* (Bellardi, 1852) for the fossil species and *Thracia similis* Couthouy, 1839 (Huber, 2010: 500; Huber, 2015: chapter 5 of the CD) for the extant species could be maintained; however, the case must obligatorily be submitted to the International Commission on Zoological Nomenclature for a ruling under its plenary powers (ICZN Art. 23.9.5). Under these circumstances, we propose for the fossil shell the replacement name *Cyathodonta gilardeti* Pacaud, nom. nov. [Etymology. – Species dedicated to Remy Gilardet for his work on the type specimens in the palaeontology collections of the Musée d'Histoire naturelle de Nice].
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The species *Thracia arcuata* von Koenen, 1894 and *T. scabra* von Koenen, 1894 from the Priabonian (Upper Eocene) of Germany (Koenen, 1894: pl. 93 figs 1-3; pl. 95 fig. 1a-b) and Belgium (Marquet et al., 2012: 95, pl. 36 fig. 2a-d), as well as *T. parvula* described by Deshayes (1857: 269, pl. 17 figs 24-26) and reported from the Bartonian of the Paris Basin by Cossmann (1896: 8), differ fundamentally by the absence of commarginal folds on the external surface.

Genus *Thracia* Blainville, 1824
Type species : *Mya pubescens* Pulteney, 1799 by subsequent designation (Anton, 1838).
Origin: British Isles, Recent

***Thracia sixi* sp. nov.**

(Pl. 1 Fig. 3)

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Holotype. – MNHN.F.C02717 (Audouit coll.) (Pl. 1 Fig. 3a-c) (valves in connexion).

Paratype. – MNHN.F.C02718 (Coppini coll.) (valves in connexion).

Type locality. – France, Landes, Horsarrieu [Pédelail].

Type stratum. – Sandy clays of the Bartonian, Middle Eocene, base of the Brassempouy Limestone.

Distribution. – Only known from the type locality.

Description. – The shell is small, fragile, quadrangular, and inequilateral. The right valve is slightly more inflated than the left. The anterior margin is elongated, oval, and distinctly rounded, while the posterior margin, shorter and slightly truncated with a straight outline, joins the linear pallial margin through a broad forward directed curve. The umbo is small, projecting, moderately inflated, and situated in the posterior third of the antero-posterior length. The anterior dorsal margin is slightly sloping, convex, and merges smoothly with the anterior margin. The posterior dorsal margin is sloping and straight, joining the pallial margin through a rounded angle. The dorsal surface is separated from the posterior side by a blunt radial ridge, delimiting a narrow, slightly depressed area. The external surface is smooth, marked by numerous very fine, barely accentuated growth lines, intersected by a few commarginal folds, mostly visible near the umbo. Numerous minute, barely raised granulations are also visible in the ventral region. The escutcheon is narrow, elongated, and lanceolate. The hinge and the internal surface of our specimens could not be observed.

Dimensions. – Holotype: L 19.0 mm, H 12.7 mm.

Etymology. – Species dedicated to the memory of our friend and field companion Jean-Claude Six (1950-2026), who left us far too soon.

Comparison. – *Thracia parvula*, described by Deshayes (1857: 269, pl. 17 figs 24-26) and reported from the Bartonian of the Paris Basin by Cossmann (1896: 8), differs by its shorter antero-posterior length, its overall broader and shorter outline, its wider, more inflated, more rounded umbo, and its posterior margin, which is shorter and more distinctly truncated.

T. grignonensis Deshayes, 1857, also reported from the Bartonian (Deshayes, 1857: 268-269, pl. 17 figs 20-23), differs by its more transverse, more elongated, lower shell, by its less inflated right valve, by its less rounded, moderately straight pallial margin, and by its obsolete growth lines. *Thracia sixi* sp. nov. further differs from these two species by the presence of numerous minute granulations visible in the ventral region.

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REFERENCES

Anton, H. E. (1838). Verzeichniss der Conchylien welche sich in der Sammlung von Hermann Eduard Anton befinden. Halle: herausgegeben von dem Besitzer, Anton. xvi + 110 pp.
Bellardi, L. (1850). Liste des fossiles de la formation nummulitique du comté de Nice. Bulletin de la Société Géologique de France 2(7): 678-683.
Bellardi, L. (1852). Catalogue raisonné des fossiles nummulitiques du comté de Nice. Mémoires de la Société Géologique de France 2(4): 205-300, pls 12-22.
Cossmann, M. (1896). Appendice n° 2 au Catalogue illustré des coquilles fossiles de l'Éocène des environs de Paris. Annales de la Société Royale Malacologique de Belgique 31: 3-94, pls 1-3. [Also published by Cossmann, M. (1896): Catalogue illustré des coquilles fossiles de l'Éocène des environs de Paris faisant suite aux travaux paléontologiques de G.-P. Deshayes. Appendice nº 2, Société Royale Malacologique de Belgique, Bruxelles, 96 pp., 3 pls].
Cossmann, M. & Pissarro, G. (1904). Iconographie complète des coquilles fossiles de l'Éocène des environs de Paris. Tome 1. Paris: Hermann. Pls 1-16.
Deshayes, G.-P. (1857). Description des animaux sans vertèbres découverts dans le bassin de Paris pour servir de supplément à la description des coquilles fossiles des environs de Paris comprenant une revue générale de toutes les espèces actuellement connues. Paris: Baillière & Fils; Londres: Baillière; New-York: Baillière Brothers.Volume 1 [Bivalves], liv. 3-4: pls 11-20; liv. 7-8: 241-312.
Glibert, M. (1936). Faune malacologique des sables de Wemmel. 1: Pélécypodes. Mémoires du Musée Royal d'Histoire Naturelle de Belgique 78: 1-241, pls 1-7.
Gómez García, G. (2024). Pirineo paleontológico. Todas sus edades en los últimos 500 millones de años. Zaragoza: Prames. 445 pp., 1500 fig.
Huber, M. (2010). Compendium of bivalves. A full-color guide to 3,300 of the world's marine bivalves. A status on Bivalvia after 250 years of research. Hackenheim: ConchBooks., 901 pp. + CD-ROM.

Huber, M. (2015). Compendium of bivalves 2. A full-color guide to the remaining seven families. A systematic listing of 8,500 bivalve species and 10,500 synonyms. Harxheim: ConchBooks. 907 pp. + CD-ROM.
Koenen, A. von (1894). Das Norddeutsche Unter-Oligocän und seine Molluskenfauna. Lieferung 5. Pelecypoda, II. Siphonida, B. Sinupalliata, 6. Brachiopoda. Abhandlungen zur Geologischen Specialkarte von Preussen und den Thüringischen Staaten 10(6): 1250-1392, pls 87-95.
Le Renard, J. & Pacaud, J.-M. (1995). Révision des Mollusques paléogènes du Bassin de Paris. 2: Liste des références primaires des espèces. Cossmanniana 3(3): 65-132.
Marquet, R., Lenaerts, J. & Laporte, J. (2012). A systematic study of the Bivalvia (Mollusca) from the Grimmertingen Sand Member and from the Klimmen Member (Early Oligocene) in Belgium and the Netherlands. Palaeontos 22: 1-156, pls 1-38.
d'Orbigny, A. (1846). Voyage dans l'Amérique méridionale [...] exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833, Vol. 5(3), Mollusques. Livraison 82: 489-528. Paris: A. Bertrand; Strasbourg: V. Levrault.
Pacaud J.-M. (2008). Le contenu paléontologique du Lutétien du bassin de Paris: Mollusca. In: Merle, D. Stratotype Lutétien. Paris: MNHN; Mèze: Biotope; Orléans: BRGM (Patrimoine géologique 1). Pp. 40-95 of CD-ROM.
Pacaud, J.-M., Buisson, S., Coppini, S. & Meunier, F. (2024a). Description d'une espèce nouvelle de *Pachycrommium* (Gastropoda, Caenogastropoda, Ampullinidae) endémique du Bartonien (Éocène moyen) de Pédelail, Horsarrieu (Landes). Bulletin de la Société d'Histoire Naturelle de Toulouse 159: 47-54, pls 1-3.
Pacaud, J.-M., Coppini, S., Buisson, S. & Meunier, F. (2024b). Description d'une espèce nouvelle de *Pseudomiltha* (Mollusca, Bivalvia, Lucinidae) endémique du Bartonien (Éocène moyen) de Pédelail, Horsarrieu (Landes). Bulletin de la Société d'Histoire Naturelle de Toulouse 159: 55-63, pls 1-2.
Pacaud, J.-M., Coppini, S., Buisson, S. & Meunier, F. (2025). Première occurrence de l'Anomiidae motile *Enigmonia* (Bivalvia, Pectinida) dans le Bartonien (Éocène moyen) du bassin d'Aquitaine et description d'une espèce nouvelle. Folia Conchyliologica 76: 7-24, pls 1-3.
Sowerby, J. de C. (1844). The mineral conchology of Great Britain; or coloured figures and descriptions of those remains of testaceous animals or shell, which have been preserved at various times and depths in the earth. Vol. 7. London: privately published. pp. [index], 241-250, 1-80, pls 610-648.

RESPONSIBLE EDITOR

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A new *Borsonia* Bellardi, 1839 (Gastropoda, Borsoniidae) species from the deep waters surrounding the Rowley Shoals in northwestern Australia

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ABSTRACT

Borsonia **is a small genus of fifteen taxa, most of which are restricted to the continental shelves globally. In this paper, we present** ***Borsonia clarkae*** **sp. nov. from the north-west shelf of Australia, taken during the trawling trials for scampi around the Rowley Shoals in 1986. It is differentiated from other members of the genus by morphology, having sixteen axial nodules per whorl that are restricted to the shoulder, one distinct columella plait, and a body whorl with fine, uniformly spaced spiral threads. The new species is known only from the type material.**

Key words – *Borsonia clarkae*, Borsoniidae, turrid, new species, taxonomy, Australia.

INTRODUCTION

Recent revisions have seen the turrids, once considered one large monophyletic group, now being divided into multiple families (Fleming 1822; Bouchet 2011; Abdelkrim et al. 2018). These divisions have renewed interest in the turrids and enabled a more focused study of

taxonomic clusters, which has resulted in new taxa being described after decades of stasis. Much of the taxonomic content of many of the new families, such as Clavatulidae J. E. Gray, 1853 and Borsoniidae Bellardi, 1875 exists in the deep waters of the continental shelves, and these regions remain to be fully explored. Numerous taxa continue to reside in these difficult to access biotopes and have yet to be formally described.

Within the Clavatulidae and specifically the genus *Turricula* Schumacher, 1817, for example, two new species have been presented (Horro & Gori 2024; Zheng & Maxwell 2024), the first since the 1950s (Barnard, 1958). Similarly, within the genus *Borsonia* Bellardi, 1839, there has been a significant time gap from the extant taxa described at the end of the last century (Sysoev, 1997). In this paper, we introduce a new *Borsonia* species obtained from the north-western continental shelf of Western Australia. Currently, this new taxon is known only from the five specimens that comprise the type material.

Abbreviations:

BSRF	BlueSky Research Foundation Collection, Cairns, Queensland.
YZC	Yao Zheng Collection, Perth, Western Australia.
SCC	Stephanie Clark Collection, Faulconbridge, Sydney, New South Wales.
L.	Axial length of the shell

METHODS

Material for this study was originally sourced from the trial scampi boat trawls conducted in January 1986. Originally sold by Huge Morrison, the material has passed through a variety of collections before being acquired by the authors in 2024, where its significance was recognised. The use of morphological information was used to describe the new taxon. The use of morphology has underpinned the basis of taxonomic endeavours describing Australia taxa in recent years: Columbariidae (Zheng & Maxwell 2025a), Vasidae (Zheng & Maxwell 2025b), Volutidae (Zheng & Maxwell 2025c), Clavatulidae (Zheng & Maxwell 2024), and Conidae (Maxwell & Berschauer 2023). The use of species rank is grounded in the theoretical understanding contained within Maxwell et al. (2020, 2021). Genetic material is obtainable from the shell matrix, but the cost of undertaking the extraction and processing of the material was outside the funding scope of the authors.

TAXONOMY

Superfamily Conoidea Fleming, 1822
Family Borsoniidae Bellardi, 1875
Genus *Borsonia* Bellardi, 1839

Type species *Borsonia prima* Bellardi, 1839 (by Monotypy)

***Borsonia clarkae* sp. nov.**

(Pl. 1, P1. 2 Figs A-D)

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Plate 1. ***Borsonia clarkae*** **sp. nov.** Holotype, Western Australia, near Rowley Shoals, 500 m, January 1986, . 60 mm (BSRF0010).

Description. – Shell fusiform and solid; protoconch with two small light apricot whorls; teleoconch with eleven convex whorls with a smooth post sutural ramp to the angular shoulder adorned with sixteen uniform axial ribs on each whorl; spiral lines commence on the shoulder anteriorly continuing to the incised suture; body whorl with smooth subsutural ramp, and fine uniformly spaced spiral threads form the shoulder which alternate in size from larger then smaller becoming obsolete on the short siphon; aperture half the length of the shell; columella smooth and concave posteriorly, slightly reflected anteriorly, with a single strong plait centrally; outerlip with a large lobe posteriorly, centrally convex becoming concave anteriorly, labrum thickened and blunt; colour of shell and aperture a uniform light apricot.

Holotype. – Western Australia, near Rowley Shoals, trawled in 500 m, January 1986: L 60 mm (BSRF0010), Pl. 1.

Paratypes. – All from type locality. Paratype 1, L 57 mm (YZC) (Pl. 2 Fig. A); Paratype 2, L 54 mm (YZC) (Pl. 2 Fig. B); Paratype 3, L 52 mm (SCC S.48421) (Pl. 2 Fig. C); Paratype 4, L 46 mm (YZC) (Pl. 2 Fig. D).

Type locality. – Western Australia, Rowley Shoals, at a depth of 500 m

Distribution. – The scampi grounds west of the Rowley Shoals at a depth of 500 m. where the continental shelf is steep and reaches depths of 500 m at 20 km from the intertidal reef flats (Pl. 3).

Etymology. – Named in honour of Stephanie Clark (New South Wales, Faulconbridge) for her contribution to the taxonomy of Mollusca and wider invertebrate conservation.

Comparison. – Members of the genus *Borsonia* are often characterised by a well-developed single columella plait as seen in *B. silicea* Watson, 1881 (Pl. 2 Fig. F), which enables ease in generic placement within the wider Bonsoniidae and turrid complexes. *B. clarkae* sp. nov. differs from *Borsonia jaya* Sysoev, 1997 (Pl. 2 Fig. E), from the Timor Sea south of Yamdena, in having the columella plait well developed and axial ribs that are not spirally reflected. *B. jaya* also lacks the spiral threads found on the teleoconch and body whorl of *B. clarkae* sp. nov. *Borsonia epigona* Martens, 1901 (Pl. 2 Fig. G) differs in having ten nodules on each teleoconch whorl while *B. clarkae* sp. nov. has sixteen, and in having a more quadrate body whorl with extended shoulder ribs. *Borsonia clarkae* sp. nov. has shoulder ribs that are not extended to the rounded mid-body whorl.

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We are thankful to Trevor and Marguerite Young of Myrtle Bank, South Australia, for kindly offering their time to provide remarks and proofreading the paper.

Plate 2. Comparative plate of *Borsonia*: A-D. *Borsonia clarkae* sp. nov., Western Australia, near Rowley Shoals, 500 m. **A.** Paratype 1, L 57 mm (YZC); **B.** Paratype 2, L 54 mm (YZC); **C.** Paratype 3, L 52 mm (SCC S.48421); **D.** Paratype 4, L 46 mm (YZC). **E.** ***Borsonia jaya*** Sysoev, 1997, Eastern Indonesia, L 60.5 mm, (Muséum National d'Histoire Naturelle, Paris). **F** ***Borsonia silicea*** (Watson, 1887), Brazil, Pernambuco, 640 m, L 9.6 mm (Natural History Museum, London, no. 188.2.9.1123-1126). **G.** ***Borsonia epigona*** Martens 1901, Sumatra, 646 m, L 28 mm (Martens, 1904: pl. 2 fig. 2).

REFERENCES

Abdelkrim, J., Aznar-Cormano, L., Fedosov, A., Kantor, Y., Lozouet, P., Phuong, M., Zaharias, P. & Puillandre, N. (2018). Exon-capture based phylogeny and diversification of the venomous gastropods (Neogastropoda, Conoidea). Molecular Biology and Evolution, 35(10): 2355-2374.

Barnard, K. H. (1958). Contributions to the knowledge of South African marine Mollusca. Part I. Gastropoda: Prosobranchiata: Toxoglossa. Annals of the South African Museum, 44(1): 73-163.

Bouchet, P., Kantor, Y. I., Sysoev, A. & Puillandre, N. (2011). A new operational classification of the Conoidea (Gastropoda). Journal of Molluscan Studies, 77(3): 273-308.

Horro, J. & Gori, S. (2024). A new species of *Turricula* (Gastropoda: Conoidea: Clavatulidae) from Oman. Conchylia, 55(1-2): 47-52.

Martens, E. von. (1901). Einige Neue Meer-Conchylien von der Deutschen Tiefsee-Expedition. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, (1901): 14-26**.**

Maxwell, S. J. & Berschauer, D. P. (2023). A new endemic species of *Miliariconus* Tucker & Tenorio, 2009 (Gastropoda: Conidae) from Western Australia. The Festivus, 55(3): 170-177.

Maxwell, S. J., Congdon, B. C. & Rymer, T. L. (2020). Essentialistic Pluralism: The theory of Spatio-temporal positioning of species using integrated taxonomy. Proceedings of the Royal Society of Queensland, 124: 83-97.

Maxwell, S. J., Rymer, T. L., Rowell, M. K., Hernandez Duran, L. C., Berschauer, D. P., Underdown, M. Petuch, E. J. & Dekkers, A. M. (2021). Defining and bringing relevance of meaning to species group-level taxa. Proceedings of the Biological Society of Washington, 134(1): 27-28.

Sysoev, A. V. (1997). Mollusca Gastropoda: New deep-water turrid gastropods (Conoidea) from eastern Indonesia. In: Crosnier, A. et al. (Ed.) Résultats des Campagnes MUSORSTOM 16. Campagne Franco-Indonésienne KARUBAR. Mémoires du Muséum national d'Histoire naturelle, Série A, Zoologie, 172: 325-335.

Zheng, Y. & Maxwell, S. J. (2024). A new *Turricula* (Conoidea, Clavatulidae) from the Northwest Shelf of Western Australia. The Festivus, 56(1): 31-38.

Zheng, Y. & Maxwell, S. J. (2025a). A new *Columbarium* von Martens 1881 (Columbariidae) from Queensland with notes on modern taxonomic practice. The Festivus, 57(3): 150-156.

Zheng, Y. & Maxwell, S. J. (2025b). New *Tudivasum* Rosenberg & Petit, 1987 (Mollusca: Vasidae) from the Coral Sea, Australia. The Festivus, 57(3): 171-176.

Zheng, Y. & Maxwell, S. J. (2025c). New *Melo* Broderip, 1826 (Gastropoda: Volutidae) species from the Northern Territory and tropical Queensland, Australia. Acta Malacologica Inquisitionis, 2(1): 20-46.

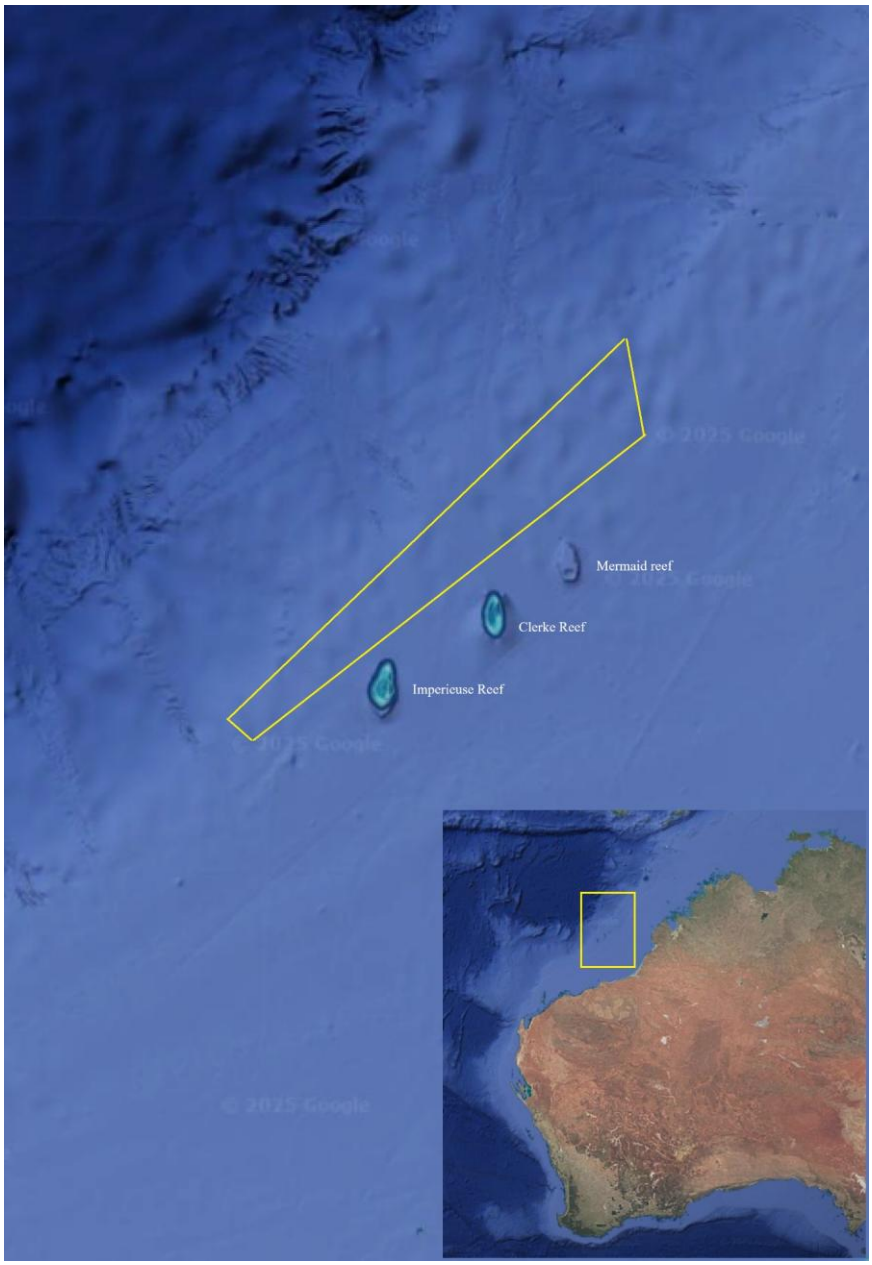

Plate 3. The known range of *Borsonia clarkae* sp. nov., Western Australia, near Rowley Shoals, 500 m depth, and the location of Rowley Shoals in inset (Image – https://earth.google.com, accessed 1/12/2025).

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Further specimens of *Nihonia maxima* Sysoev, 1997 (Gastropoda, Cochlespiridae) from the Arafura Sea

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ABSTRACT

***Nihonia* is a small genus of five extant species that live in deep water on the continental shelf and are rarely observed in research material. *Nihonia maxima* is only known from the holotype collected in 1991. We present three more specimens of this very rare taxon that were trawled from the Arafura Sea, north of Darwin.**

Key words – Cochlespiridae, *Nihonia maxima*, turrid, Australia, Arafura Sea, new records

INTRODUCTION

The turrids historically were considered to represent a very large monophyletic group (Hedley, 1922; Laseron ,1954). However, recent revisions have led to the reformation of the Turridae into several families that better reflects the morphological and genetic diversity of the group (Puillandre et al., 2011; Bouchet et al., 2011; Abdelkrim et al., 2018).

The turrids of the deep waters of northern Australian are relatively poorly studied while those of the nearby Indonesian waters have been better examined (Schepman, 1913; Sysoev, 1997). However, in the last 30 odd years new material has been found as new fishing grounds are explored across northern Australia and this has led to a renewed interest in the turrids, resulting in the description of new species (Zheng & Maxwell 2024, 2025).

The genus *Nihonia* MacNeil, 1961 contains five extant species that inhabit deep water (200 m and more), with some species only known by the holotype (Sysoev 1997), while other species are more common such as *N. mirabilis* (G. B. Sowerby III, 1914). In this paper, we revisit *Nihonia maxima* Sysoev, 1997, currently known from the eastern Timor Sea by a single specimen. We present three more specimens taken from the western Arafura Sea north of Darwin. This brings the total currently known specimens of this species to four.

Abbreviations:
BCC – Barbara Collins Collection, Cairns, Queensland, Australia.
MNHN – Muséum National d'Histoire Naturelle, Paris, France.
SCC – Stephanie Clark Collection, Faulconbridge, Sydney, New South Wales, Australia.
L – shell length

METHODS

Material from private collections was compared with the holotype illustration of *Nihonia maxima* Sysoev, 1997. New material was obtained from prawn trawlers in the Arafura Sea to the northeast of Darwin, and location data was supplied by those fishermen to dealers.

TAXONOMY

Superfamily Conoidea Fleming, 1822
Family Cochlespiridae Powell, 1942
Genus *Nihonia* MacNeil, 1961

Type species *Nihonia shimajiriensis* MacNeil, 1961 (Original Designation)

Nihonia maxima Sysoev, 1997

(Pl. 1 Figs A-D)

Synonymy:
Nihonia maxima Sysoev, 1997: 329, figs 13-15.

Original description. – "Shell solid, slender, fusiform, height 128.2 mm, with relatively high spire comprising 35% of shell height. Protoconch and tip of teleoconch missing. Teleoconch consisting of 10.5 whorls, adapical 3 whorls styloid, with very slow increase in diameter. Suture tightly adpressed, sometimes hardly distinguishable, clearly lined on spire whorls by a narrow, strongly granular subsutural cord, which becomes rather obsolete on last

2 whorls. Subsutural ramp concave, especially on juvenile whorls, less so on adult whorls. Spiral sculpture of spire whorls consisting of thin cords on the subsutural ramp, a broader cord bordering abapically the subsutural ramp, and 3 (later 2) strong cords below whorl periphery. On subsequent whorls sculpture becoming more complex. Cords in subsutural ramp fading out until only three indistinct ones remain in the middle of subsutural ramp of last adult whorl. Secondary and wavy, closely set tertiary spiral cords appearing gradually in interspaces between main cords. On periphery and base of last adult whorl, sculpture consisting of 4 single and 2 twinned flattened, rather weak primary cords. No axial sculpture except numerous strong incremental lines intersecting spiral cords, spiral cords sometimes interrupted at intersections, especially on canal. Aperture rather narrow, ovate, smoothly continuous with long, straight canal. Inner lip covered by thin callus. Outer lip thin, strongly projecting forward below anal sinus. Sinus deep, asymmetrical, deepest part in abapical half of subsutural ramp. Colour yellowish-white, with reddish-brown primary spiral cords" (Sysoev, 1997: 329).

Supplemental diagnosis. – The new specimens range in shell length from 96-147 mm, teleoconch whorls convex and somewhat angulate posteriorly prior to the formation of the subsutural ramp. This ramp does not form a side wall of the posterior sinus of the aperture, but ends at top of the lobe and its conjunction with the shell, whorls with radially raised threads each tinged with colour, with one to three small white threads in the inter-spaces; body whorl with distinctive posterior sinus, siphon extended, with radial raised threads each tinged with colour, with one to three small white threads in the inter-spaces; aperture smooth and oblanceolate, columella white, smooth and straight.

Type locality. – Indonesia, Karubar, south of Tanimbar Islands, 9°23'S 131°09'E, 246-275 m, Stn. CP84.

Material examined. – All deep water off Darwin in the Arafura Sea collected 7.11.2007: L 99.5 mm (SCC S.48423, Pl. 1 Fig. B); A) L 147 mm (BCC Pl. 1 Fig. C); and B) L 96 mm (BCC, Pl. 1 Fig. D).

Distribution. – Known from 200-300 m of the eastern Timor Sea and the trawler grounds of the western Arafura Sea (Pl. 2).

Comparison. – The new material conforms to the morphology of the holotype. While the holotype is known from the Timor Sea, the new material from the Arafura Sea indicates a level of morphological stability across the known range of the species. The Arafura Sea material shows a small level of variation from the type in the angle of the sutural ramp before the shoulder, which is attributed to clinal interspecific variability.

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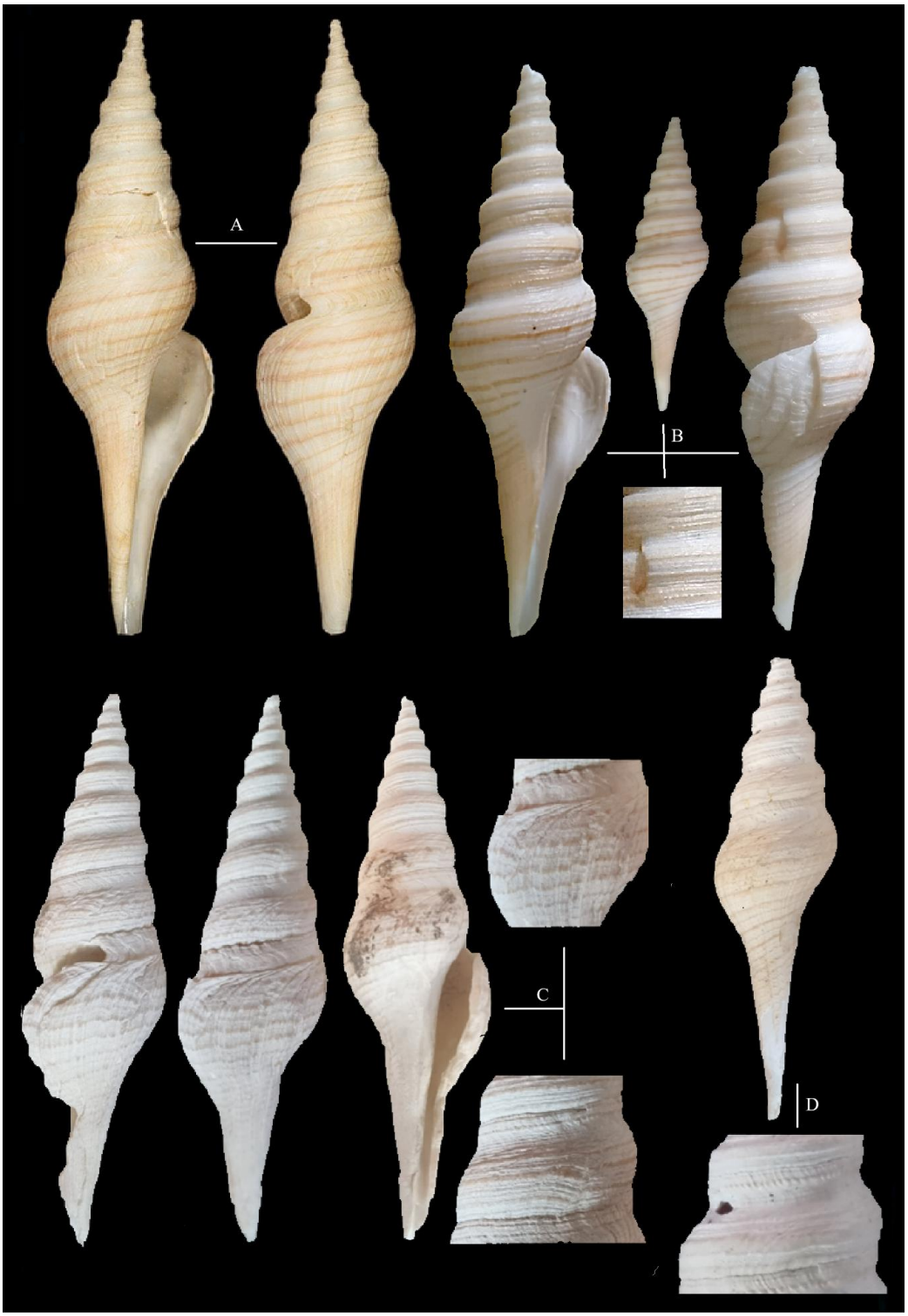

Plate 1. ***Nihonia maxima*** Sysoev, 1997: Fig. A. holotype, Karubar, Tanimbar Islands, Indonesia, L 128 mm (MNHN-IM-2000-3068). Figs B-D. Trawled off Darwin in the Arafura Sea – B. L 99.5 mm (SCC S.48423); C. L 147 mm (BCC); D. L 96 mm (BCC).

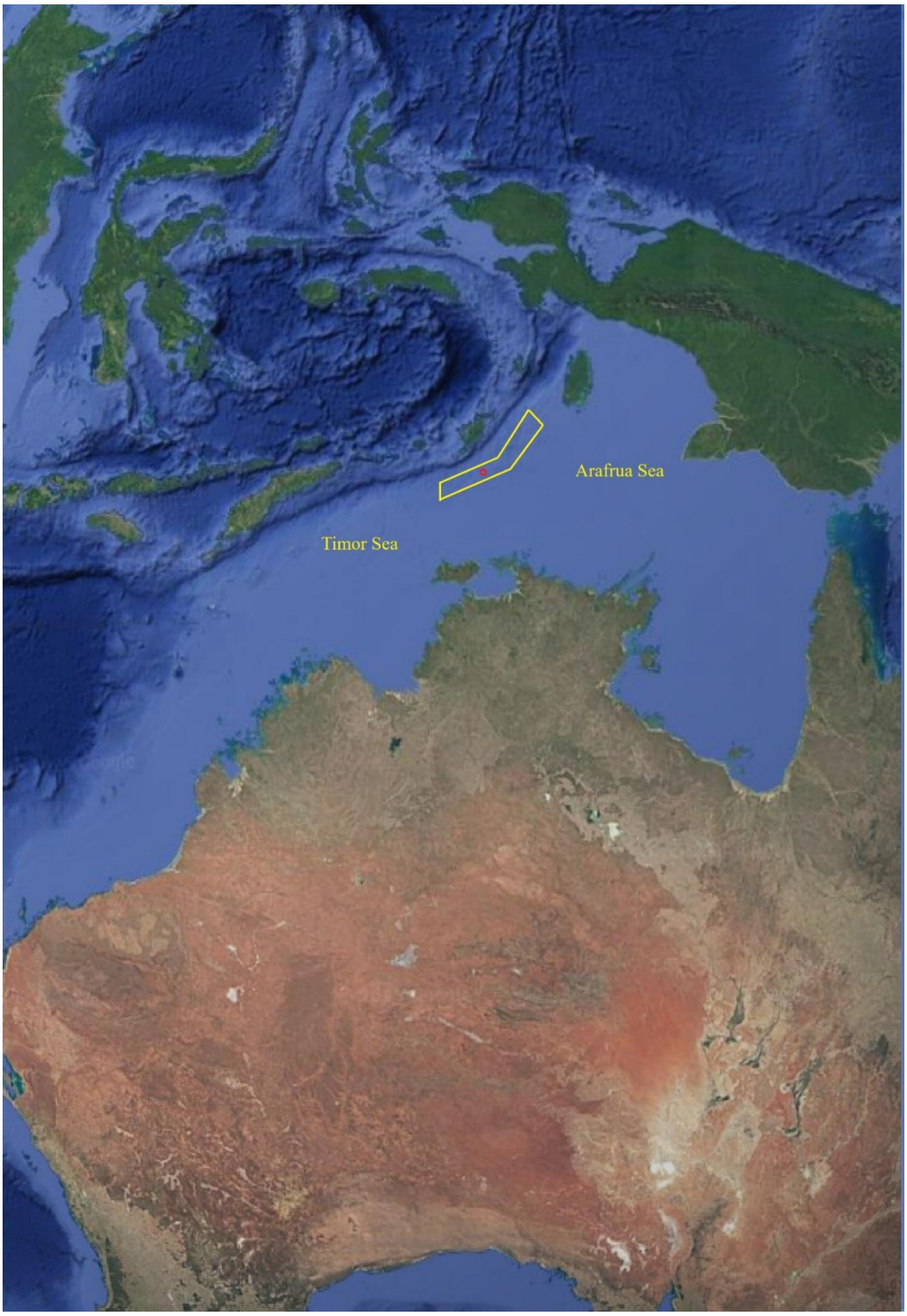

Plate 2. Distribution of *Nihonia maxima* Sysoev, 1997 from northern Australia with the type location red dot (map source: Google Earth accessed on 21st November 2025).

REFERENCES

Abdelkrim, J., Aznar-Cormano, L., Fedosov, A. E., Kantor, Y. I., Lozouet, P., Phuong, M. A., Zaharias, P. & Puillandre, N. (2018). Exon-capture based phylogeny and diversification of the venomous gastropods (Neogastropoda, Conoidea). Molecular Biology and Evolution, 35(10): 2355-2374.
Bouchet, P., Kantor, Y. I., Sysoev, A. & Puillandre, N. (2011). A new operational classification of the Conoidea (Gastropoda). Journal of Molluscan Studies, 77(3): 273-308.
Hedley, C. (1922). A revision of the Australian Turridae. Records of the Australian Museum, 13(6): 213-360.
Laseron, C. F. (1954). Revision of the New South Wales Turridae. Royal Zoological Society of New South Wales, Australian Zoological Handbook. Sydney: Royal Zoological Society of New South Wales. 56 p.
MacNeil, F. S. (1961). Tertiary and Quaternary Gastropoda of Okinawa. Geological Survey Professional Paper, 339: 1-148.
Puillandre, N., Kantor, Y. I., Sysoev, A., Couloux, A., Meyer, C., Rawlings, T., Todd, J. A. & Bouchet, P. (2011). The dragon tamed? A molecular phylogeny of the Conoidea (Gastropoda). Journal of Molluscan Studies, 77(3): 259-272.
Schepman, M. M. (1913). The Prosobranchia of the Siboga Expedition. Part V. Toxoglossa with a supplement. Siboga-Expeditie, 49e: 365-452.
Sysoev, A. (1997). Mollusca Gastropoda: New deep-water turrid gastropods (Conoidea) from eastern Indonesia. Mémoires du Muséum national d'Histoire naturelle, Série A, Zoologie, 172: 325-356.
Zheng, Y. & Maxwell, S. J. (2024). A new *Turricula* (Conoidea, Clavatulidae) from the Northwest Shelf of Western Australia. The Festivus, 56(1): 31-38.
Zheng, Y. & Maxwell, S. J. (2026). New *Borsonia* Bellardi, 1839 (Borsoniidae) from the deep waters surrounding the Rowley Shoals in northwestern Australia. Acta Malacologica Inquisitionis, 2(2) 21-27.

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A new species of Notovoluta Cotton, 1946 (Gastropoda, Volutidae) from Western Australia

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ABSTRACT

Notovoluta stricklandi **sp. nov. is described based on shell morphology and is compared to other species of** ***Notovoluta*** **known from Western Australia. The recent discovery of** ***N. stricklandi*** **brings the total number of extant taxa within this Australian endemic genus to fourteen. Furthermore, the addition of this new species reinforces south-western Australia as a** ***Notovoluta*** **hotspot.**

Key words –*Notovoluta*, *Notovoluta stricklandi*, Deep water, new species, taxonomy, Volutidae.

INTRODUCTION

The endemic Australian genus *Notovoluta* Cotton, 1946 currently is comprised of 13 recent and 11 fossil taxa (MolluscaBase, 1st December 2025), most recent taxa are known from very few specimens, and are highly sought after by researchers of Mollusca. Many, such as *Notovoluta kalotinae* Bail & Limpus, 2015, *Notovoluta norwestralis* Bail & Limpus, 2003, *Notovoluta portlandensis* Zheng & Maxwell, 2025 and *Notovoluta rossiteri* (Brazier, 1898) are currently only known from the holotype (Maxwell & Zheng 2025; Zheng & Maxwell

2025e). Similarly, other species are known only by a handful of specimens largely held in private collections, often with only the holotype being located in an institution, such as *Notovoluta baconi* B. R. Wilson, 1972, *Notovoluta capricornea* (B. R. Wilson, 1972), *Notovoluta gerondiosi* Bail & Limpus, 2005, *Notovoluta hoskensae* Poppe, 1992, *Notovoluta occidua* Cotton, 1946, and *Notovoluta pseudolirata* (Tate, 1888). Only three, *Notovoluta gardneri* Darragh, 1983, *Notovoluta kreuslerae* (Angas, 1865) and *Notovoluta verconis* (Tate, 1892) are considered relatively common.

The collection of material using remotely operated vehicles (ROVs) is providing opportunities to study the taxonomic composition of molluscan fauna from benthic substrates that hitherto have not been available for sampling. Importantly, those operating the ROVs have shared their finds willingly with active taxonomists, enabling the description of many new taxa. This paper adds to that growing number of taxa described based on the generosity and endeavours of those modern explorers of the deep, without whom much would remain hidden to science.

Abbreviations:

BSRF	BlueSky Research Foundation Collection, Cairns, Queensland.
DSC	Drew Strickland Collection, Geraldton, Western Australia.
RWC	Ray Walker Collection, Busselton, Western Australia.
YZC	Yao Zheng Collection, Perth, Western Australia.
L	Length of the shell.

METHODS

This study uses shell morphological information to describe new species, a method that has been used with several molluscan groups from Australia in recent years and Volutidae in particular (Maxwell & Berschauer 2023; Zheng & Maxwell 2025a, 2025b, 2025c, 2025d). The use of species rank was based on the theoretical understanding contained within Maxwell et al. (2020, 2021). Genetic material (the shell) was available for this study, but the cost of undertaking that task was outside the funding scope of the authors.

TAXONOMY

Superfamily Volutoidea Rafinesque, 1815
Family Volutidae Rafinesque, 1815
Genus *Notovoluta* Cotton, 1946
Type species *Voluta* (*Alcithoe*) *kreuslerae* Angas, 1865 [by original designation]

Notovoluta stricklandi sp. nov

(Pl. 1, Pl. 2 Fig. B)
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Description. – Shell elongate conic, 63-55 mm high and 22-20 mm wide; protoconch smooth, apically flattened with three whorls, uniformly light apricot in colour; teleoconch with three whorls, with 20-22 rounded ribs; rounded ribs that gradually increase in size with maturity, the ribs commencing at the distinct suture, in alignment with the rib on the prior

whorl; a slight subsutural ramp prior to the formation of the shoulder; body whorl 39-37 mm in height, 22-19 mm wide; aperture 29-28 mm high and 8-7 mm wide; columella fold that commences with the second plait; aperture blunt anteriorly, with four well-formed plaits; outer lip straight posteriorly becoming recurved anteriorly where the aperture is widest and joins just below the shoulder forming an acute angle with the body whorl; labrum not thickened; shell colour uniformly light apricot with small reticulated darker apricot lines that create a triangular nebulae over the surface of the shell, a row of darker spots is found on the mid body whorl, and rarely with blotches.

Plate 1. ***Notovoluta stricklandi*** **sp.nov.**, Western Australia, off Dongara, crabbed, by ROV, on sand at 180 m, L 55 mm, holotype (BSRF0036).

Holotype. – Western Australia, off Dongara, crabbed, L 55 mm, by ROV on sand at 180 m (BSRF0036).

Paratype. – Western Australia, off Dongara, crabbed, L 63 mm, taken in a cray pot 70-80 m, the aperture is damaged (DSC).

Type locality. – Western Australia, off Dongara, from 70 to 180 m (Pl. 3).

Distribution. – Known from the type locality only.

Etymology. – Named in honour of Drew Strickland, who has provided the authors with material, enabling a more nuanced understanding of Western Australian Mollusca, and for his long-term commitment and contribution to the research of molluscs.

Comparison. – *Notovoluta stricklandi* sp. nov. is currently known from two specimens. The holotype shows the broad body whorl, which is characteristic of the new taxon; the paratype lacks a complete lip and therefore does not reflect this feature.
Notovoluta stricklandi differs from others in the *Notovoluta* complex in having a broad body whorl. *Notovoluta baconi* differs from the new species in having more pronounced axial ribs, a different colour pattern and the width of the aperture is widest at the mid-point and not anteriorly in *N. stricklandi.* The anterior ventral fold is not thickened and ridge-forming in *N. baconi*, which is in contrast to the solid, wide ridge in *N. stricklandi*. *Notovoluta genderosi* has a narrower protoconch, and has a longer, elongated aperture that is tapered anteriorly and a columella tinged with yellow, the pattern in that species is much less finely reticulated than that found on *N. stricklandi*. *Notovoluta stricklandi* differs from *N. pseudolirata* in not having the strong, sharply raised axial shoulder. *Notovoluta capricornea* differs by lacking the axial ridges found on the body whorl of *N. stricklandi.*

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We thank Drew Strickland of Geraldton and Ray Walker of Busselton for the use of specimens. We are indebted to Trevor and Marguerite Young of Myrtle Bank, South Australia, for kindly offering their remarks and proofing the paper, which improves the readability and clarity of the work.

Plate 2. *Notovoluta* species from central and southern Western Australia. Fig. A. ***N. capricornea*** (Wilson, 1972), dead collected coarse sand/sediment bottoms at 168 m, L 50.3 mm (YZC). Fig. B. ***N. stricklandi*** n. sp., Paratype, Dongara, Western Australia, taken in a cray pot 70-80 m, L 63 mm (DSC). Fig. C. ***N. gerondiosi*** Bail & Limpus, 2005, west of Dongara, collected by ROV on silty sand, L 51 mm (YZC). Fig. D. ***N. baconi*** Wilson, 1972, off South East Margaret River in about 90 metres, L 49 mm (RWC). Fig. E. ***N. pseudolirata*** (Tate, 1888), off Bremer Bay area, Albany, trawled by scallop boats at 50-75 m, L 72.7 mm (DSC). All figures at same scale.

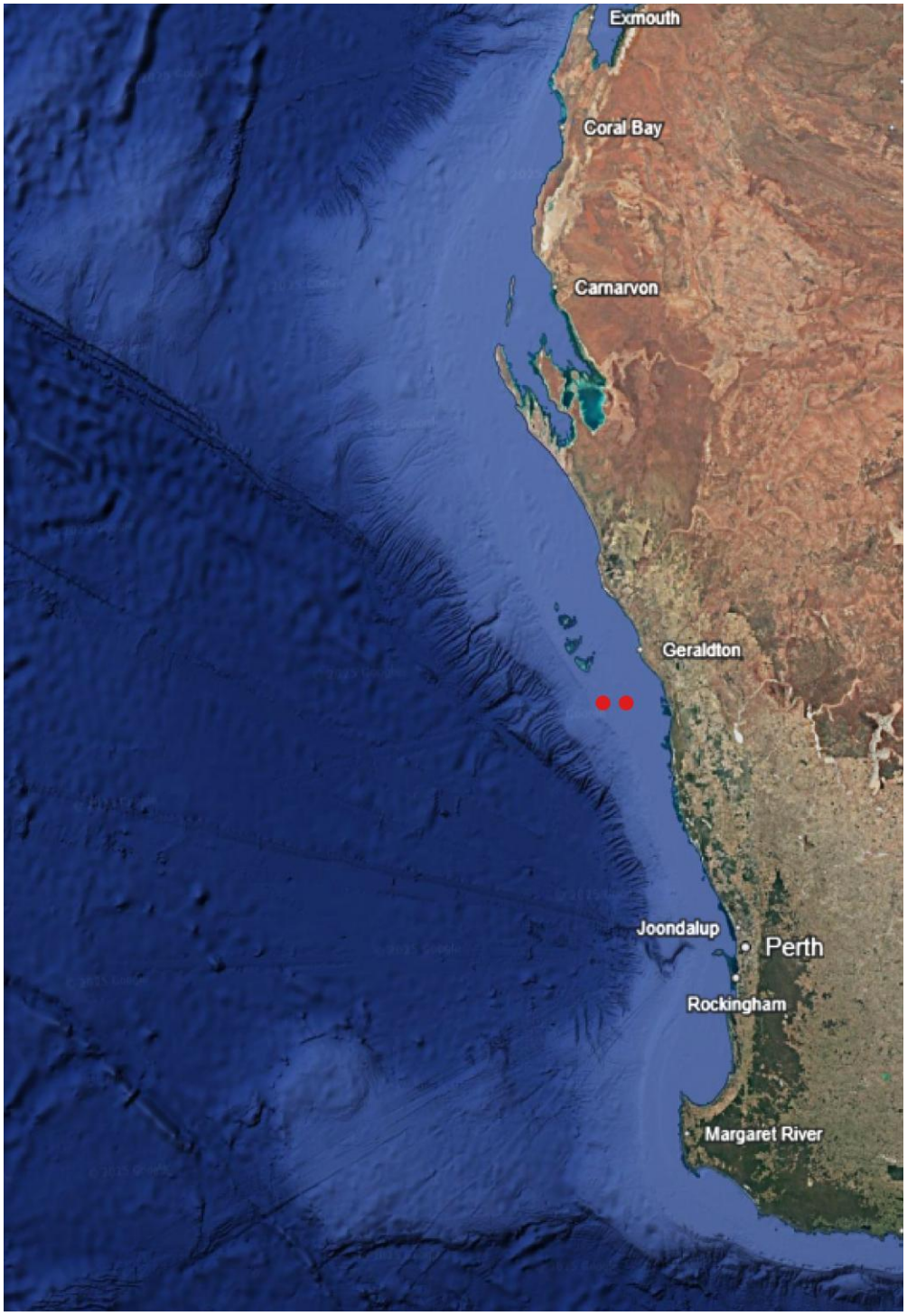

Plate 3. Known record locations of *Notovoluta stricklandi* sp. nov. from off Dongara, Western Australia (map scource - Google Earth accessed 1.11.2015).

REFERENCES

Angas, G. F. (1865). Description of ten new species of shells, chiefly from the Australian seas. Proceedings of the Zoological Society of London, 1865: 55-58.

Bail, P. & Limpus, A. (2003). Two new species of Volutidae (Gastropoda) from Western Australia, *Notovoluta norwestralis* n. sp. and *Amoria (Amoria) simoneae* n. sp.. La Conchiglia, 34(305): 23-30.

Bail, P. & Limpus, A. (2005). A new species of Volutidae (Gastropoda) from Western Australia. Visaya, 1(3): 47-54.

Bail, P. & Limpus, A. (2015). A new species of the genus *Notovoluta* Cotton, 1946 (Gastropoda: Volutidae) from Northwestern Australia. Novapex, 16(3):95-98.

Brazier, J. (1898). New marine shells from the Solomon Islands and Australia. Proceedings of the Linnean Society of New South Wales, 22:779-782.

Cotton, B. C. (1946). Some rare southern Australian shells. The South Australian Naturalist, 24(1): 13-16.

Darragh, T. A. (1983). Volutidae (Mollusca: Gastropoda) from the Capricorn Channel, Central Queensland, Australia. Journal of the Malacological Society of Australia, 6(1-2): 83-87.

Maxwell, S. J. (2022). A revision of *Doxanderina* Dekkers and Maxwell, 2020 (Gastropoda: Neostromboidae: Strombidae): The extant *Doxander* Wenz, 1940 and a new species from Queensland. The Festivus, 54(2): 141-168.

Maxwell, S. J. & Berschauer, D. P. (2023). A Review of the *Relegamoria molleri* complex (Gastropoda: Volutoidea: Volutidae) from the Solanderian Molluscan Province in Queensland, Australia. The Festivus, 55(4): 271-294.

Maxwell, S. J., Congdon, B. C. & Rymer, T. L. (2020). Essentialistic Pluralism: The theory of Spatio-temporal positioning of species using integrated taxonomy. Proceedings of the Royal Society of Queensland, 124: 83-97.

Maxwell, S. J., Rymer, T. L., Rowell, M. K., Hernandez Duran, L. C., Berschauer, D. P., Underdown, M., Petuch, E. J. & Dekkers, A. M. (2021). Defining and bringing relevance of meaning to species group-level taxa. Proceedings of the Biological Society of Washington, 134(1): 27-28.

Maxwell, S. J. & Zheng, Y. (2025). The reinstatement of *Voluta rossiteri* Brazier, 1898 (Mollusca: Volutidae) from Victoria, Australia and notes on its taxonomic placement and importance for conservation. The Festivus, 57(4): 230-233.

Poppe, G. (1992). New species and a new subspecies in Volutidae (Mollusca: Gastropoda). Malacologia Mostra Mondiale, 11: 3-21.

Tate, R. (1888). The gastropods of the older Tertiary of Australia (Part I). Transactions of the Royal Society of South Australia, 10: 91-176.

Tate, R. (1892). Descriptions of some new species of marine Mollusca from Australia. Transactions of the Royal Society of South Australia, 15(2): 125-132.

Wilson, B. R. (1972). New species and records of Volutidae (Gastropoda) from Western Australia. Journal of the Malacological Society of Australia, 2(3): 339-359.

Zheng, Y. & Maxwell, S. J. (2025a). A remarkable new *Cymbiola* (Volutidae) from the Arafura Sea, Northern Territory: How many specimens are enough? The Festivus, 57(2): 85-91.

Zheng, Y. & Maxwell, S. J. (2025b). A new species of *Amoria* J. E. Gray, 1855 from Ashmore Reefs. The Festivus, 57(2): 68-72.

Zheng, Y. & Maxwell, S. J. (2025c). A new *Notovoluta* Cotton, 1946 (Mollusca: Volutidae) from Victoria, Australia. The Festivus, 57(4): 230-233.

Zheng, Y. & Maxwell, S. J. (2025d). New *Melo* Broderip, 1826 (Gastropoda: Volutidae) species from the Northern Territory and tropical Queensland, Australia. Acta Malacologica Inquisitionis, 2(1), 20-46.

Responsible editor: Henk Dekker.

CORRECTION to "Notes on the nomenclature of two species of *Septaria* (Gastropoda, Neritidae)"

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ABSTRACT

We herein correct the name to use for *Septaria tessellaria* (Lamarck, 1816), as proposed in our previous article, into *S. lineata* (Lamarck, 1816). We were made aware of an earlier First Reviser action by W. S. S. van Benthem Jutting in 1956.

Key words – Gastropoda, Neritidae, *Septaria*, nomenclature, synonymy

INTRODUCTION

In our previous article (Gras & Dekker, 2025) we wrote:
"Lamarck introduced the names *Navicella lineata* and *N. tessellaria* in the same work. Both names are now regarded to be based on the same species (Haynes, 2001b: 191). To establish which name takes precedence, one needs a First Reviser (ICZN Art. 24.2). Haynes (2001b: 191), followed by Eichhorst (2016: 840), considered E. von Martens (1881) as First Reviser. But E. von Martens (1881) does not mention the name *N. tessellaria* at all in this work, he uses the later name *N. tessellata*. This means that E. von Martens cannot be considered as First Reviser for the names *tessellaria* and *lineata*. As we did not find a previous correct selection in the literature, we herein select the name *Navicella tessellaria* Lamarck, 1816 to take precedence over *Navicella lineata* Lamarck, 1816, following the intention of E. von Martens, 1881."

DISCUSSION

But after reading our article, Hiroaki Fukumori reported to us that there is an earlier correct selection in the literature by W. S. S. van Benthem Jutting (1956: 317-318). She mentioned both species names and selected the name *Navicella lineata* Lamarck, 1816 as preferred name. Her use of *N. lineata* is a clear First Reviser action. Therefore, *N. lineata* has taxonomic priority over *N. tessellaria* Lamarck, 1816. The valid name to use for this species is therefore *Septaria lineata* (Lamarck, 1816).

ACKNOWLEDGEMENTS

Our oversight was noticed by Hiroaki Fukumori, and communicated to us by Philippe Bouchet. We thank Hiroaki Fukumori for his attentiveness.

REFERENCES

Benthem Jutting, W. S. S. van (1956). Systematic studies on the non-marine mollusca of the Indo-Australian Archipelago. V. Critical revision of the Javanese freshwater Gastropoda. Treubia 23(2): 259-477.
Eichhorst, T. E. (2016). Neritidae of the world. Volume two. Harxheim: Conchbooks. Pp. 695-1366.
Gras, B. & Dekker, H. (2025). Notes on the nomenclature of two species of *Septaria* (Gastropoda, Neritidae). Acta Malacologica Inquisitionis 2(1): 65-77.
Haynes, A. (2001b). A revision of the genus *Septaria* Férussac, 1803 (Gastropoda: Neritimorpha). Annalen des Naturhistorischen Museums in Wien. 103B: 177-229.
International Commission on Zoological Nomenclature (1999). International Code of Zoological Nomenclature. Fourth edition, adopted by the International Union of Biological Sciences. London: International Trust for Zoological Nomenclature. xxix, 306 pp.
Lamarck, [J. B. P. A. de Monet de] (1816). Tableau encyclopédique et méthodique des trois règnes de la nature, Mollusques et polypes divers. Tome 3. Part 23 [Livraison 84], Paris: Vve Agasse. pp. 1-16, pls. 391-431, 431 bis, 431 bis*, 432-488.
Martens, E. von (1881-1882). Die Gattung *Navicella*. In: W. Kobelt, & H. C. Weinkauff (eds). Systematisches Conchylien-Cabinet von Martini und Chemnitz. Neu herausgegeben und vervollständigt. 2(10a): 1-56, pls 1-8. Nürnberg: Bauer & Raspe. [publication dates: 1-40, pls 1-6, 1881; 41-56, pls 7-8, 1882].

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The family allocation of *Dibaphimitra florida* (Gastropoda, Mitroidea, Pleioptygmatidae)

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ABSTRACT

The subfamily Pleioptygmatinae Quinn, 1989, now part of the family Mitridae, is raised to family rank based on a recent molecular study. The genus *Dibaphimitra* Cernohorsky, 1970 is newly recognized as belonging to this family.

Key words – Gastropoda, Mitridae, Pleioptygmatidae, *Dibaphimitra*, taxonomy

INTRODUCTION

Dibaphimitra Cernohorsky, 1970, originally described as a subgenus of *Mitra*, was included in the publication "The collapse of *Mitra*" by Fedosov et al. (2018). However, *Dibaphimitra florida* (A. A. Gould, 1856), its only living member, was not sequenced in this study. Fedosov et al. (2018: 325) accepted the genus *Dibaphimitra* but it was not attributed to a specific subfamily in the Mitridae, and they treated its taxonomic position as **Incertae sedis**. Cernohorsky (1970: 37) considered his new subgenus as belonging to the Mitrinae.

In MolluscaBase, the Pleioptygmatinae is treated as subfamily in the Mitridae, following Fedosov et al. (2018), although Quinn (1989: 13) originally introduced it as a family. At present the subfamily Pleioptygmatinae is represented by only one living species: *Pleioptygma helenae* (Radwin & Bibbey, 1972). Quinn based the description of his new family on the study of the anatomy of *P. helenae*. He wrote: "A new family of mitriform gastropods is proposed, comprising only the genus *Pleioptygma* Conrad, 1863, based on examination of the foregut of *P. helenae* (Radwin & Bibbey, 1972). *Pleioptygma helenae* is the only known living species of this genus, known otherwise only from species from the Neogene of the southeastern United States. The unique configuration of the foregut separates

this group from the Mitridae, Costellariidae, Volutidae, and Turridae. Features characterizing Pleioptygma-tidae include a proboscis introvert not connected to the head, presence of a proboscis bulb, buccal mass divorced from the proboscis, and hypertrophied rhachidian tooth". The exact placement of *Pleioptygma* in a family has always been very controversial and one can read about the historical proposed positions in families in Quinn (1989). He mentioned that the family contained only one living species, *P. helenae*, and did not mention *Dibaphimitra florida* (A. A. Gould, 1856) in his study. Subsequent authors, in popular shell books or in specialized studies like Fedosov et al. (2018), treated *D. florida* as a member of the Mitridae Swainson, 1831.

A recent solid molecular study of the mitochondrial genome of Mitroidea by Harasewych et al. (2025) shed light on the family placement of *Dibaphimitra florida*. In their figure 3 (Fig. 1) this species is nested between the Charitodoronidae and the Mitridae clade, closer to the Charitodoronidae than to the Mitridae clade. From this figure it can be concluded that *Dibaphimitra* neither belongs to the Charitodoronidae nor the Mitridae.

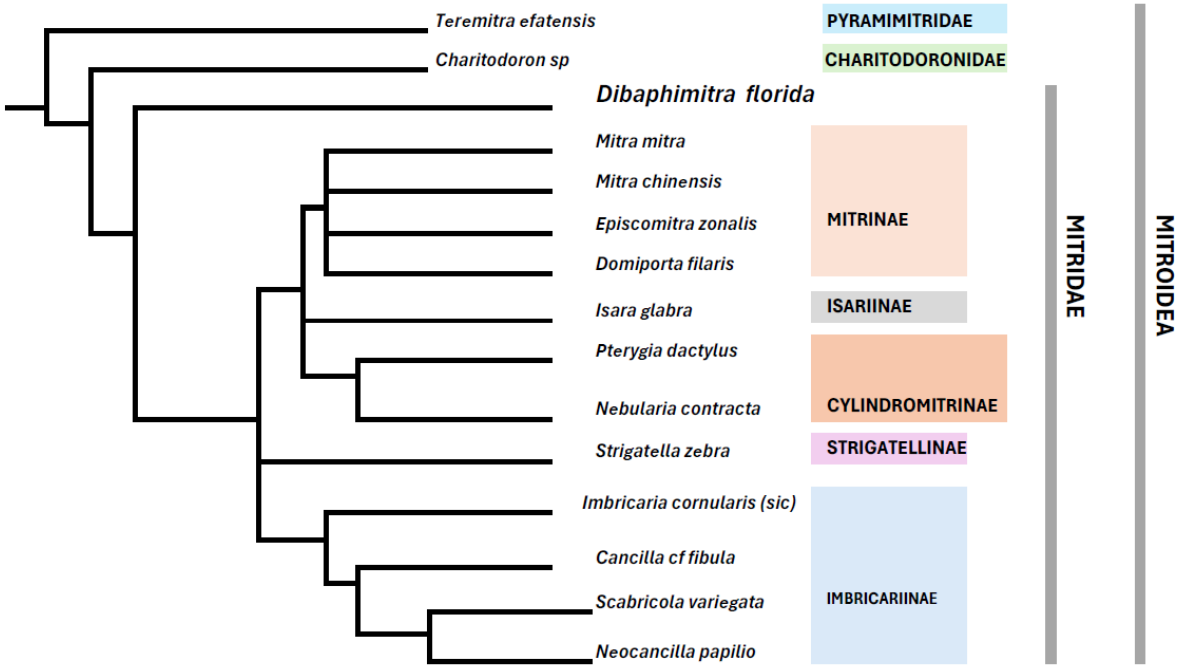

Figure 1. Phylogenetic relationships of *Dibaphimitra florida* and *Mitra chinensis* within Mitroidea based on maximum likelihood and Bayesian analyses of partial COI, 16S rRNA, and 12S rRNA sequences. Bayesian tree with branch support shown as maximum likelihood bootstrap value (when ≥ 50)/Bayesian posterior probability (when ≥ 0.7). Free after Harasewych et al. (2025: fig. 3).

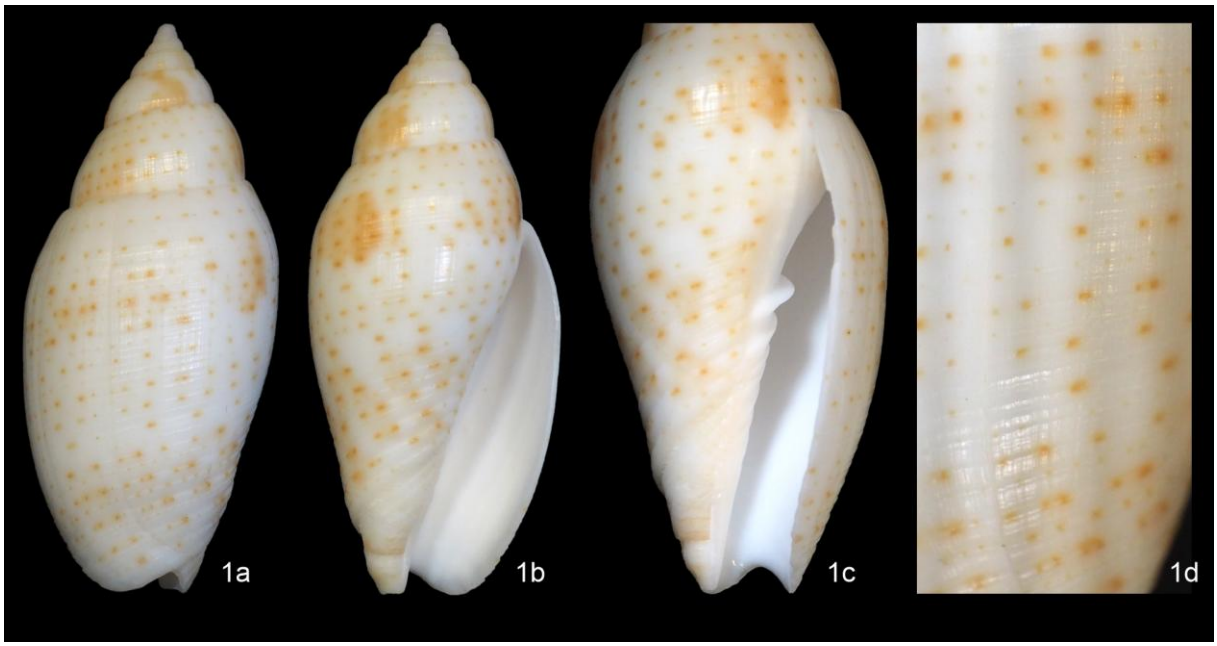

Plate. 1. Fig. 1a-d. ***Dibaphimitra florida*** (A. A. Gould, 1856), USA, Florida, Gulf of Mexico, trawled, L 47.8 mm, AMD unnumbered, 1c detail of columella with 6 plaits (only 2 well developed), 1d detail of sculpture on body whorl.

TAXONOMY

Family Pleioptygmatidae Quinn, 1989 **revised status**
Genus *Dibaphimitra* Cernohorsky, 1970 **revised family allocation**
Type species *Mitra florida* A. A. Gould, 1856 by original designation

Included species:
***Dibaphimitra florida* (A. A. Gould, 1856)**

Original description of *Dibaphimitra*. – Cernohorsky, 1970, page 37: "Shell moderate in size, 25 – 80 mm, pterygiaeform, ovate, last whorl inflated. Teleoconch of 4 - 6 convex whorls, protoconch of 1½ - 3½ glassy, smooth nuclear whorls. Sculptured with fine spiral threads and spiral cords on siphonal canal. Aperture longer than spire, wide or only slightly constricted, smooth within; labial lip simple, convex or slightly angulate. Columella with 4 - 7 oblique folds (6 - 7 in type species), first posterior fold more prominent than remaining folds; anterior part of columella calloused, siphonal notch distinct."

Discussion. – At the time of description of the genus it consisted of five species of which only one extant, and placed as subgenus of *Mitra* Lamarck, 1798. Cernohorsky (1970: 37) writes: "*Dibaphimitra* appears to be an ancestral stock of *Dibaphus*, the columellar folds are less numerous and more prominent, the aperture is wider and the shell lighter and more inflated in *Dibaphimitra*. *Dibaphimitra* possibly spread from Europe to the Indian Ocean and

the Caribbean, where one Recent species, i.e. *Mitra florida* survives". Cernohorsky made a correct observation on the old ancestral line of the genus/species, although the connection to the European and Indian Ocean *Dibaphus* R. A. Philippi, 1847 is not correct. *Dibaphus* is at present considered to be a junior synonym of *Nebularia* Swainson, 1840 (Fedosov et al., 2018), and a member of the Cylindromitrinae Cossmann, 1899 (Fig. 1). Harasewych et al. (2025: fig. 3) (Fig. 1) proved Cernohorsky's view on the older ancestral stock of *Dibaphimitra* correct. Two of the four fossil species attributed by Cernohorsky (1970:38) to his new subgenus *Dibaphimitra* are now classified in other genera (MolluscaBase). The remaining two fossil species (*Dibaphimitra clavata* (Bellardi, 1887) and *Dibaphimitra dennanti* (Tate, 1889) are not *Dibaphimitra* species either and should be included in the Mitridae, but that is beyond the scope of this article).

In the accompanying text to Gould's (1856: 15) original description of *Mitra florida* he noted the following: "Its characters are intermediate between *Mitra* and *Voluta*. It most resembles in form and coloring a small *Vol. antiquata*, but the markings are much more crowded and delicate". Although Gould described *florida* as a *Mitra*, he is not certain of its generic placement.
Petuch (1987: 70) described a second species in the genus. In his discussion he states: "*Dibaphimitra janetae* is the second known species of what was previously considered a monotypic genus. *Dibaphimitra florida* (Gould), which is only found in northern Cuba and the Florida Keys, was thought to be the only living species. The new Roatan Island endemic species differs from *D. florida* in a number of consistent ways; by being a more slender shell without an angled shoulder; in having a white base col or instead of violet or pink as in *D. florida*, in having a white protoconch instead of a violet or purple one; by having a characteristic row of large, dark brown dots and dashes along the margin of the suture; and having large wine-red patches on the shell. Although lacking the beautiful violet base color, protoconch, and aperture of *D. florida, D. janetae* is still a much more colorful shell, especially so with its large red patches and dotted suture margin". *Dibaphimitra janetae* has only been collected in Honduras, off Roatan Island, where it is probably endemic. The combination of differences in the shells of both morphs and the not overlapping distribution is an indication we are dealing with two separate species. However, at present *D. janetae* is regarded as junior synonym of *D. florida*, based on the book by Robin & Martin (2004: 17).

Plate. 2. Fig. 1a-f. ***Pleioptygma helenae*** (Radwin & Bibbey, 1972). AMD unnumbered. northern Nicaragua, off shore in traps, L 97.4 mm; 1c detail of columella with 6 plaits; 1d -f details of sculpture on body whorl.

The type genus of the Pleioptygmatidae Quinn, 1989 is *Pleioptygma* Conrad, 1863. Original description (Conrad, 1863: 563) is briefly: "Subfusiform; aperture long; columella with very oblique plaits, numerous, alternated in size, or irregular, the largest being the second one from above". The type is a Miocene fossil species, *Voluta carolinensis* Conrad, 1840.

The only known extant species, *Pleioptygma helenae* (Radwin & Bibbey, 1972) was placed in Mitridae by Cernohorsky in his second volume on Mitridae (Cernohorsky, 1991: 26), ignoring the family proposed for this genus by Quinn (1989). *Mitra helenae* was described from the Cay Sal Bank, between the Florida Keys and Cuba, and assigned to the (then) subgenus *Pleioptygma* Conrad, 1863, which was previously known to contain only species of Miocene and Pliocene age. "The large size of this gastropod, its distinctive clouded color pattern and its

threaded sculpture are unique among Recent western Atlantic mitrids" (Radwin & Bibbey, 1972). Especially the sculpture consisting of moderate to sharp spiral threads or cords, irregularly spaced and becoming a bit obsolete medially on the body whorl, shell with elongate aperture and columella with around 6 irregular, moderately thin, simple folds, is largely similar to *Dibaphimitra*. This similarity supports the placement of *Dibaphimitra* in the Pleioptygmatidae. The distinct position of *Dibaphimitra* (Fig. 1) supports a placement in a family distinct form the Mitridae. The similarity of this genus to the genus *Pleioptygma* indicates that it belongs to the same family, the Pleioptygmatidae.

ACKNOWLEDGEMENTS

I thank Harasewych and his colleagues for the excellent article and for the opportunity they gave me to fulfill a long-cherished wish to move *Dibaphimitra* to the Pleioptygmatidae.

REFERENCES

Cernohorsky, W. O. (1976). The Mitridae of the world Part I. The subfamily Mitrinae. Indo-Pacific Mollusca 3(17): 273-528.
Cernohorsky, W. O. (1991). The Mitridae of the world. Part 2. The subfamily Mitrinae concluded and subfamilies Imbricariinae and Cylindromitrinae. Monographs of Marine Mollusca. 4: ii + 164 pp.
Conrad, T. A. (1863). Catalogue of the Miocene shells of the Atlantic slope. Proceedings of the Academy of Natural Sciences of Philadelphia 14(10-12): 559-582. [Published after 12 January 1863, before 26 February 1863].
Fedosov, A., Puillandre, N., Herrmann, M., Kantor, Yu., Oliverio, M., Dgebuadze, P., Modica, M. V. & Bouchet, P. (2018). The collapse of *Mitra*: molecular systematics and morphology of the Mitridae (Gastropoda: Neogastropoda). Zoological Journal of the Linnean Society 183(2): 253-337.
Gould, A. A. (1856). [descriptions of shells]. Proceedings of the Boston Society of Natural History 6: 11-16.
Harasewych, M. G, Oleinik, A., Uribe, J. E. & Sei, M. (2025). The mitochondrial genome of *Dibaphimitra florida* (A. Gould, 1856) (Gastropoda: Neogastropoda: Mitridae). The Nautilus 139(4): 321–327.
Petuch, E. J. (1987). New Caribbean molluscan faunas. Charlottesville, Virginia: The Coastal Education and Research Foundation. 154 pp., 29 pls; addendum 2 pp., 1 pl.
Quinn Jr., J. F. (1989). Pleioptygmatidae, a new family of mitriform gastropods (Prosobranchia: Neogastropoda). The Nautilus 103(1): 13-19.
Radwin, G. E. & Bibbey, L. J. (1972). A new mitrid from the western Atlantic. Transactions of the San Diego Society of Natural History 17(7): 95-99.
Robin, A. & Martin, J.-C. (2004). Mitridae Costellariidae. Paris: Xenophora. 34 pp., 64 pls.

MolluscaBase. Accessed 2026-02-02.

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A new *Melo* Broderip, 1826 (Gastropoda, Volutidae) species from Western Australia, Barrow Island

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ABSTRACT

In this paper we further explore the diversity of *Melo* Broderip, 1826 in Australia, increasing the hypothetical framework to improve the understanding of biogeographical zones and their role in species evolutionary patterns. A new *Melo* species is presented from Barrow Island: *Melo raquelae* sp. nov. The description is based on morphology. Comparisons are made with the recognised members of the genus *Melo* in the subject region: *Melo amphora* ([Lightfoot], 1786) along the northern coast, *Melo miltonis* (J. E. Gray, 1833) to the south, and *Melo ashmorensis* Morrison & Wells, 2005 to the northwestern.

Key words – Volutidae, *Melo*, Western Australia, new species, taxonomy

INTRODUCTION

Recent revisions have expanded the knowledge of *Melo* in the waters of Indonesia (Dharma, 2023), and this has led to renewed wider interest in the *Melo* complex across the Indo-Pacific and particularly Australian waters (Zheng & Maxwell, 2025d). Prior to Dharma (2023) and Zheng & Maxwell (2025d) there has been little work undertaken on the genus *Melo*. Much of that neglect can be attributed to the size of the taxa and logistics in handling the material, rather than recognition of regional distinctiveness. Taxa within *Melo* are often over 30 cm and voluminous, requiring much accommodation space and expense in transport. Zheng & Maxwell (2025d) studied the *Melo* from Queensland and the Northern Territory and this resulted in the recognition of four new species: *Melo darwinensis* Zeng & Maxwell, 2025;

Melo poonaensis Zeng & Maxwell, 2025; *Melo swainreefensis* Zeng & Maxwell, 2025; *Melo innisfailensis* Zeng & Maxwell, 2025. Previously, there were only six species within Australian waters that had been recognised in the literature: *Melo amphora* ([Lightfoot], 1786)]; *Melo ashmorensis* Morrison & Wells, 2005; *Melo georginae* (J. E. Gray, 1833), *Melo knighti* Jackson, 1954; *Melo miltonis* (J. E. Gray, 1833); *Melo peterstimpsoni* T. Cossignani & Allary, 2021. This paper extends the zone of study into Western Australia and determines the Barrow Island *Melo* specimens warrants description as a new species based on its biogeographical isolation and morphological differentiation from known members of the genus.

Abbreviations:

BSRF	Blue Sky Research Foundation, Trinity Beach, Queensland
MCC	Merv Cooper Collection, Rockingham, Western Australia
YZC	Yao Zheng Collection, Kardinya, Western Australia
L	Length of the shell

METHODS

This study uses shell morphological information to describe new species, a method that has been used with several molluscan groups from Australia in recent years and Volutidae in particular (Maxwell & Berschauer 2023; Zheng & Maxwell 2025a, 2025b, 2025c, 2025d). The use of species rank was based on the theoretical understanding of species/subspecies differentiation contained within Maxwell et al. (2020, 2021).

TAXONOMY

Superfamily Volutoidea Rafinesque, 1815
Family Volutidae Rafinesque, 1815
Subfamily Amoriinae J. E. Gray, 1857
Tribe Melonini Pilsbry and Olsson, 1954
Genus *Melo* Broderip, 1826

Type species *Voluta melo* [Lightfoot], 1786, accepted as *Melo melo* ([Lightfoot], 1786) (type by absolute tautonymy)

Melo raquelae sp. nov.

(Pls 1-7, 11)

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Description. – Shell large, heavy, dorsoventrally ovate and bulbous; protoconch large and smooth, comprising the first four and half to five whorls; teleoconch developing spines; penultimate whorl with 10 -11 spines that increase in size rapidly and then carry onto the mid dorsum failing to continue to the outer lip; spines hollow, triangulate, acutely pointed and do not encase the apex; sutures distinct; flat serpentine ramp prior to the shoulder; dorsal body whorl smooth and rounded with an angulate shoulder; anterior columella folds distinct; ventral body whorl bulbiformis, approximately two thirds the shell width posteriorly,

Plate 1. ***Melo raquelae*** **sp. nov.** Holotype, ventral view, Western Australia, Barrow Island, collected intertidally, L 180 mm, BSRF0040.

gradually reducing in ratio towards the anterior; columella with three plaits which commence mid axially; outer lip well rounded, widest mid body, and does not extend past the apex of the shell; posterior sinus forms an axially perpendicular line with the body whorl and is wide, concave and calloused; colour variable from russet to chocolate brown, with a pattern of spiral wide solid bands on the body whorl and may form irregular triangulate blotches of cream.

Holotype. – Western Australia, Barrow Island, collected intertidally, L 180 mm (BSRF0040).

Paratypes. – All paratypes from type locality: paratype 1, L 180 mm (YZC); paratype 2, L 202 mm (YZC); paratype 3, L 154 mm (YZC); paratype 4, L 185 mm (MCC).

Type locality. – Western Australia, sand flats surrounding Barrow Island.

Distribution. – Currently restricted to Western Australia, Barrow Island and its surrounding area.

Etymology. – Named in honour of Raquel Cooper, granddaughter of Merv Cooper, and who accompanied Merv on many collecting trips into the wilds of northern Western Australia over the years.

Comparison. – The Western Australian *M. amphora* differs from *M. raquelae* in having a more solid, rounded form and a protoconch that extends past the body whorl in adults when viewed dorsally (Pl. 8); it lacks the anterior elongation of the shell of that species as represented in Western Australia, and the spines do not extend to the mid dorsum as is indicative with *M. raquelae. Melo ashmorensis* differs from *M. raquelae* in being more ovate, with a higher spire and more numerous smaller spines on the spire (Pl. 9). *Melo miltonis* has a spire that is more enclosed by spines, and those spines extend to the outer lip unlike *M. raquelae* (Pl. 10).

The *M. amphora* from Western Australian are not typical (Pl. 8), having a more elongated form and an anteriorly flaring aperture compared to the more ovate representatives of this species found in Queensland (Zheng & Maxwell, 2025d: pl. 20 fig. A), not dissimilar in elongation to *M. georginae* (J. E. Gray, 1833) and *M. darwinensis* Zeng & Maxwell, 2025, but still differing in spine structure from those species. Further work is needed to clarify its taxonomic position.

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REFERENCES

Cossignani, T. & Allary, A. (2021). *Melo peterstimpsoni* sp. n. dall' Australia. Malacologia Mostra Mondiale 33(112): 21-23.

Dharma, B. (2023). Species of *Melo* Broderip in Sowerby I, 1826 from the Indonesian archipelago, with the description of two new species (Gastropoda: Volutidae). Novapex 24(1): 1-20.

Griffith E. & Pidgeon E. (1833-1834). The Mollusca and Radiata. Vol. 12, In: E. Griffith, [1824]−1835, The Animal Kingdom arranged in conformity with its organization, by the Baron Cuvier. London, Whittaker and Co. 601 pp.

Jackson, N. (1954). Albinism in volutes. Proceedings of the Royal Zoological Society of New South Wales 73: 35-37.

Lightfoot, J. (1786). A Catalogue of the Portland Museum, lately the property of the Duchess Dowager of Portland, deceased; which will be sold by auction by Mr. Skinner & Co. London. 194 pp.

Maxwell S. J. & Berschauer, D. P. (2023). A Review of the *Relegamoria molleri* complex (Gastropoda: Volutoidea: Volutidae) from the Solanderian Molluscan Province in Queensland, Australia. The Festivus 55(4): 271-294.

Maxwell, S. J. & Zheng, Y. (2025). The reinstatement of *Voluta rossiteri* Brazier, 1898 (Mollusca: Volutidae) from Victoria, Australia and notes on its taxonomic placement and importance for conservation. The Festivus 57(4): 230-233.

Maxwell, S. J., Congdon B. C. & Rymer, T. L. (2020). Essentialistic Pluralism: The theory of Spatio-temporal positioning of species using integrated taxonomy. Proceedings of the Royal Society of Queensland 124: 83-97.

Maxwell, S. J., Rymer, T. L., Rowell, M. K., Hernandez Duran, L. C., Berschauer, D. P., Underdown, M., Petuch, E. J. & Dekkers, A. M. (2021). Defining and bringing relevance of meaning to species group-level taxa. Proceedings of the Biological Society of Washington 134(1): 27-28.

Morrison, H. & Wells, F. E. (2005). A new species of *Melo* (Gastropoda: Volutidae) from Northwestern Australia. Records of the Western Australian Museum 22: 343-351.

Zheng, Y. & Maxwell, S. J. (2025a). A remarkable new *Cymbiola* (Volutidae) from the Arafura Sea, Northern Territory: How many specimens are enough? The Festivus 57(2): 85-91.

Zheng, Y. & Maxwell, S. J. (2025b). A new species of *Amoria* J. E. Gray, 1855 from Ashmore Reefs. The Festivus 57(2): 68-72.

Zheng, Y. & Maxwell, S. J. (2025c). A new *Notovoluta* Cotton, 1946 (Mollusca: Volutidae) from Victoria, Australia. The Festivus 57(4): 230-233.

Zheng, Y. & Maxwell, S. J. (2025d). New *Melo* Broderip, 1826 (Gastropoda: Volutidae) species from the Northern Territory and tropical Queensland, Australia. Acta Malacologica Inquisitionis 2(1): 20-46.

RESPONSIBLE EDITOR

Editor in charge: Aart M. Dekkers.

Plate 2. ***Melo raquelae*** **sp. nov.** Holotype, dorsal view, Western Australia, Barrow Island, collected intertidally, L 180 mm, BSRF0040.

Plate 3. ***Melo raquelae*** **sp. nov.** , Holotype, apical and posterior views, and the aperture showing three plaits ventral view, Western Australia, Barrow Island, collected intertidally, L 180 mm, BSRF0040.

Plate 4. ***Melo raquelae*** **sp. nov.** Paratype 1, Western Australia, Barrow Island, collected intertidally, L 180 mm, YZC.

Plate 5. ***Melo raquelae*** **sp. nov.** Paratype 2, Western Australia, Barrow Island, collected intertidally, L 202 mm, YZC.

Plate 6. ***Melo raquelae*** **sp. nov.** Paratype 3, Western Australia, Barrow Island, collected intertidally, L 154 mm, YZC.

Plate 7. *Melo raquelae* sp. nov. Paratype 4, Western Australia, Barrow Island, collected intertidally, L 185 mm, MCC.

Plate 8. ***Melo amphora*** ([Lightfoot], 1786). Western Australia, off Mitchell River, trawled 50-60 m, L 482 mm, YZC. While currently this form is recognised as *Melo amphora,* further studies of more material are needed to confirm this identification.

Plate 9. ***Melo ashmorensis*** Morrison & Wells, 2005. Western Australia, Ashmore Archipelago, West Island, L 226 mm, YZC.

Plate 10. ***Melo miltonis*** (J. E. Gray, 1833). Western Australia, Geraldton, L 208 mm, YZC.

Plate 11. Known location of *Melo raquelae* sp. nov., Barrow Island, approximately 40 km from the Western Australian coast (map source: Google Earth, accessed 1.12.2025).

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General guidelines for manuscript preparation

The text should be in Times New Roman 12 pt font.
Preferred abbreviations “sp. nov.”, “gen. nov.”, “comb. nov.”, etc.

References

- Write journal names in full.
- Dutch author names have to be cited as “van der Schalie, A. B.”, not “Schalie, A. B. van der”.
- The references should be formatted as in the following examples.
  - Journal article:
    Dekkers, A. M., Herrmann, M., Poppe, G. T. & Tagaro, S. P. (2014). Three new species of *Subcancilla* from the Pacific Ocean (Gastropoda: Mitridae). Visaya 4(2): 39-48.
  - Book:
    Lorenz, F. & Fehse, D. (2009). The living Ovulidae. A manual of the families of allied cowries: Ovulidae, Pediculariidae and Eocypraeidae. Hackenheim: Conchbooks. 651 pp.
  - Book chapter:
    ter Poorten, J. J. (2011). Cardiidae. Pp. 186-255. In: G. T. Poppe, ed. Philippine marine mollusks, vol. 4. Hackenheim: ConchBooks. 676 pp.

References in the text

Author names are followed by year of publication and page and/or figure. Possible are “Lorenz & Fehse (2009: 109, pl. 143 figs 1-8)”or “(Lorenz & Fehse, 2009: 109, pl. 143 figs 1-8)”. Two authors are mentioned and connected by "&". Three, or more, authors are abbreviated to only the first author followed by "et al.".

Figures

Text figures for e.g. habitat photos are numbered separately. Figures can be combined to form plates, each plate starting with nr. 1. Figures of the same specimen (shell) should be numbered with letters, e.g. 8a, 8b, 8c. Use Arial 11 pt to number all the figures on the plate. Maximum size for plates is 155 × 190 mm (300 dpi). The legend should fit on the same page, so reduce the plate height to fit more extensive legends. Figures should be submitted preferably as tif or high quality jpg.

Figure legends

Please follow this example.
Plate 2. Comparable other species of *Ministrombus*. Fig. 1a-b. ***M. variabilis*** (Swainson, 1820), Thailand, Gulf of Thailand, Ban Talokapo, leg. B. Gras, H 46.5 mm, AMD STR3613A. Fig. 2a-b. ***M. caledonicus*** S. J. Maxwell, 2022, New Caledonia, Noumea, H 36.9 mm, AMD STR2602.

Locations

Locations should be arranged in declining order, e.g. first the country, then the region, then exact place, etc.

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