

A new *Notovoluta* Cotton, 1946 (Mollusca: Volutidae) from Victoria, Australia

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ABSTRACT A Victorian volute is presented. *Notovoluta portlandensis* n. sp. is distinguishable from other *Notovoluta* by its regional isolation and morphology. The early whorls are smooth, in contrast to the neighbouring *Notovoluta kreuslerae* (Angas, 1865) and *Notovoluta verconis* (Tate, 1892), which have strong axial ridges and are more elongated in form, as well as having a smooth body, and differing in the lack of axial ribs associated with *Notovoluta rossiteri*, (Brazier, 1898). While restricted to the southern Victorian Coast, the distance to the continental shelf makes the niche of this species important to determine, and until then, in that region, care must be taken to avoid localized disturbance, which may cause extinction.

KEYWORDS Extinction, *Notovoluta*, Range, *Notovoluta portlandensis*, Taxonomy, Volutidae

INTRODUCTION

There is a demonstrable need for a more complete systematic review of the Australian Volutidae (Maxwell & Berschauer 2023; Maxwell & Zheng 2025; Zheng & Maxwell 2025a, 20025b). The genus *Notovoluta* Cotton, 1946 is a small group of moderately to extremely rare species found in Australian waters. At present, there is one member of the *Notovoluta* from Victoria, *Notovoluta rossiteri* (Brazier, 1898) (Maxwell & Zheng 2025). This paper adds one more to the list of Victorian *Notovoluta* with the introduction of a new species from the offshore waters of Portland.

During the final decades of the last century, there was a flurry of international trade in rare deep-water Australian shells. Specimens were readily devoured by the international market of Europe and the United States. A consequence of this activity led to a great deal of undescribed material being locked into

collections that are now only coming on the market as the collections are dissolved. The type material used in this study is an example of this bilateral trade and was sourced from the United States.

Abbreviations

BSRF	BlueSky Research Foundation, Cairns, Australia
H	Height
RWC	Ray Walker Collection Busselton, Western Australia
SAM	South Australian Museum, Adelaide.
YZC	Yao Zheng Collection, Kardinya, Western Australia.

METHODS

The new species is described based on morphology and biogeographical evidence. Genetic research to explore sister relationships and organism clustering was possible, however due to funding restrictions this opportunity was

not undertaken. This approach has underpinned the recognition of many members of other Australian molluscan families (Maxwell & Berschauer 2023; Maxwell & Zheng 2025; Zheng & Maxwell 2024, 2025a, 2025b, 2025c).

SYSTEMATIC PART

Order	Prosobranchia Milne Edwards, 1848
Infraorder	Neogastropoda Wenz, 1938
Superfamily	Volutoidea Rafinesque, 1815
Family	Volutidae Rafinesque, 1815
Genus	<i>Notovoluta</i> Cotton, 1946

Notovoluta portlandensis Zheng & Maxwell,
new species
(Plate 1)

Description. Shell elongate and fusiform, with a smooth and large protoconch of three whorls; the spire with three whorls, smooth, and slightly convex with diminished, broad axial ribs, sutures distinct; body whorl rounded with smooth wide flattened axial ribs, subsutural ramp straight, anterior sinus shallow; outer lip without significant callous and sharply joining the shell below the shoulder forming a clean angle without posterior sinus; columella with four distinctive plaits, which become more axially toward anteriorly, anterior callus is smooth and thickened, base of the shell extends past the outer lip; shell coloured apricot with two paler stripes, one located at the shoulder and the other mid-body, small triangular pattern, which is a slightly lighter shade than the area of the shell it decorates, the aperture shares the base colour of the shell with a lighter band below the edge of the outer lip.

Type Material. Holotype – The continental shelf off Portland, Victoria, H. 69.2 mm (BSRF TC013).

Type Location. This species is localised to the southern Victorian continental shelf off Portland, Victoria.

Etymology. Named after the coastal town from which the type locality is found offshore in deep water.

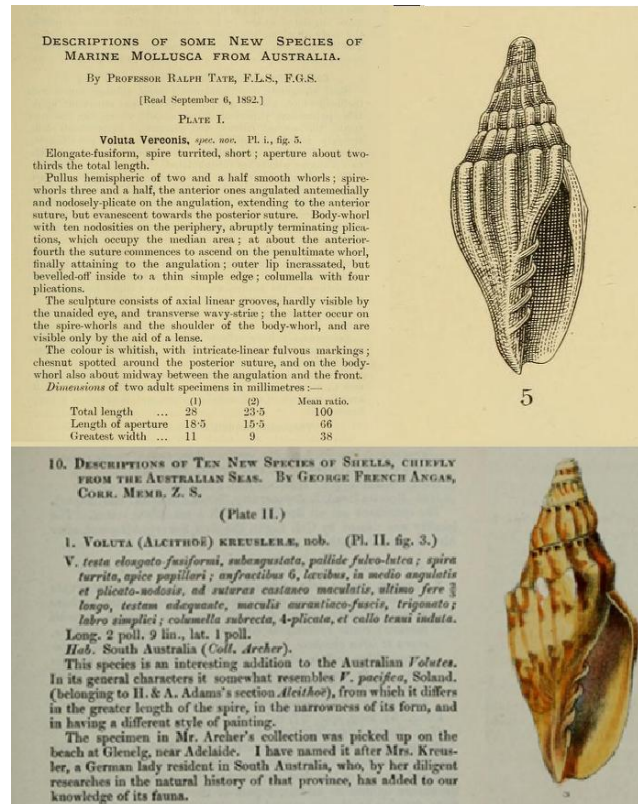


Figure 1. The original descriptions and published images of the types of *Voluta kreuslerae* (Angas, 1865, p. 55, pl. 2, fig. 3) and *Voluta verconis* (Tate, 1892, p. 125, pl. 1, fig. 5). Taken from Atlas of Living Australia (“ALA”).

DISCUSSION AND REMARKS

The smaller *Notovoluta verconis* (Tate, 1892) is the closest record to the new species, coming from 50 miles (80 km) SE of Kangaroo Island (collected in 1962) and extending to southwestern Australia. Records for *Notovoluta kreuslerae* (Angas, 1865) has an eastern restricted distribution to southern Spencer Gulf and St Vincent Gulf of South Australia (ALA, Figure 1). These ranges do not overlap with the *N. portlandensis* and are to be considered

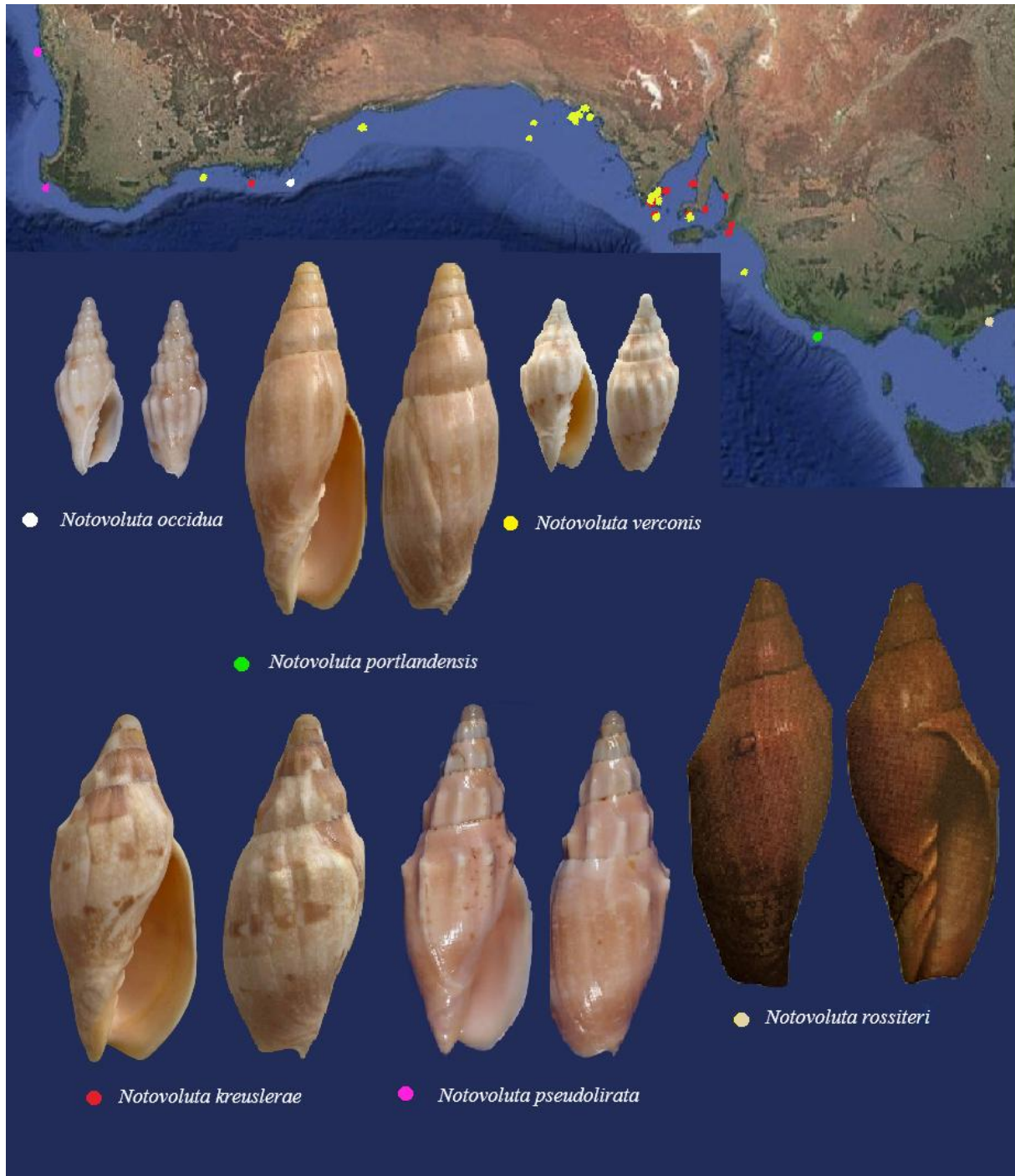


Figure 2. The distribution of south eastern Australia *Notovoluta* showing the data contained within the ALA database and *Notovoluta portlandensis* new species [Images- *Notovoluta kreuslerae* (Angas, 1865), Cape le Grande, Esperance, Western Australia Live collected on sand at 20-30m deep during night dive, 1998, H. 61.2 mm (YZC); *Notovoluta occidua* Cotton, 1946, Crabbed by ROV at 78m off Salisbury Island, Esperance, West Australia, H. 31.7 mm; *Notovoluta portlandensis*, Portland, Victoria, Australia, H. 69.2 mm (BSRF holotype); *Notovoluta pseudolirata* (Tate, 1888), off Augusta, Western Australia, H. 72.2 mm (RWC); *Notovoluta rossiteri*, Lakes Entrance, Victoria, H. 108 mm (Weaver & du Pont 1970, pl. 72, figs. F and G); *Notovoluta verconis* (Tate, 1892), Taylor Island off Port Lincoln, South Australia, H. 38.1 mm (YZC)].

regionally distinct from those species. Furthermore, *N. portlandensis* differs from *N. verconis* and *N. kreuslerae* in lacking the strong ribbing associated with those species (Figure 2). While similar, the fossils *Voluta sexaplicata* Chapman, 1922 and *Voluta ellipsoidea* Tate, 1888, are similar in form to the new species; they differ in columella structure and general shape, being more elongated. *N. portlandensis* differs from *Notovoluta rossiteri* (Brazier, 1898) from eastern Victoria, in not having the axial ribs of the early whorls.

CONCLUSION

This paper introduces one of the world's rarest volutes. The location of these species makes them both susceptible to localised disturbances. The closure of the fishery in the region of the type locality provides a level of protection for the benthic species, but highlights the importance of old collections in sourcing deepwater rare fauna that are no longer being caught as a consequence of bycatch.

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LITERATURE CITED

- Abbottsmith, F. 1969.** Multiform Australian Volutes. Sydney.
- Angas, G.F. 1865.** Description of ten new species of shells, chiefly from the Australian seas. Proceedings of the Zoological Society of London 33(1):55-58. <https://doi.org/10.1111/j.1469-7998.1865.tb02308.x>
- Brazier, J. 1898.** New marine shells from the Solomon Islands and Australia. Proceedings of the Linnean Society of New South Wales. 22:779-782. <https://doi.org/10.5962/bhl.part.12745>
- Cotton, B.C. 1946.** Some rare southern Australian shells. The South Australian Naturalist 24(1):13-16, pl. 1.
- Maxwell, S.J. & D.P. Berschauer. 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. <https://doi.org/10.54173/F554271>
- Maxwell, S.J. & Y. Zheng. 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):230-234. <https://doi.org/10.54173/F57268>
- 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.
- Tate, R. 1888.** The gastropods of the older Tertiary of Australia (Part I). Transactions of the Royal Society of South Australia, 10: 91-176.
- Weaver, C.S. & J.E. Dupont. 1970.** Living Volutes: A Monograph of the Living Volutidae of the World. Monograph Series No. 1, Delaware Museum of Natural History, Greenville, Delaware. 375 pp. <https://doi.org/10.5962/bhl.title.132267>
- Zheng, Y. & S.J. Maxwell. 2024.** A new *Turricula* (Conoidea, Clavatulidae) from the North-west Shelf of Western Australia. The Festivus 56(1):31-38. <https://doi.org/10.54173/F56131>
- Zheng, Y. & S.J. Maxwell. 2025a.** A new species of *Amoria* J. E. Gray, 1855 from Ashmore Reefs. The Festivus 57(20):68-72. <https://doi.org/10.54173/F57268>
- Zheng, Y. & S.J. Maxwell. 2025b.** A remarkable new *Cymbiola* (Volutidae) from the Arafura Sea, Northern Territory: How many specimens is enough? The Festivus 57(2):85-91. <https://doi.org/10.54173/F57285>
- Zheng, Y. & S.J. Maxwell. 2025c.** A new *Columbarium* von Martens 1881 (Columbariidae) from Queensland with notes on modern taxonomic practice. The Festivus 57(3):150-156. <https://doi.org/10.54173/F573150>

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Plate 1. The holotype of *Notovoluta portlandensis* n. sp., from the continental shelf of Portland, Victoria, Australia, H. 69.2 mm.