

A new species of *Amoria* J. E. Gray, 1855 from Ashmore Reefs

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ABSTRACT This paper presents a new species of *Amoria* from the Ashmore Reefs, Western Australia, a species which has been long been confused by collectors with *Amoria spenceriana* (Glatiff, 1908) of the Ashmore Banks, off Far North Queensland. *Amoria textilata* n. sp. shows differences in morphological characteristics and geographic separation from similar species of the *Amoria* complex. *Amoria textilata* can be differentiated from all other members of its genus by its angulated shoulders, the presence of only three columella plaits instead of the usual 4 found in most *Amoria* species, and a fine tent-like patterning across the shell. *Amoria textilata* is found intertidally down to an estimated depth of 15-20 m.

KEYWORDS *Amoria*, *Amoria textilata*, Ashmore Reefs, Mollusca, Queensland, Volutidae, Western Australia

INTRODUCTION

Amoria Gray, 1855 is a moderately large genus comprised of shells that show little variation in their morphology within a species complex, but great variety in their colouration and patterns. These qualities enable the morphological distinctiveness of this species to be determined along a clinal range. This distinctiveness in regional morphology and biogeographical contextualisation enables the description of this new species from within unresolved current polymorphic coloured Volutidae and other family complexes (Maxwell & Berschauer 2023; Maxwell *et al.* 2024).

Most *Amoria* are restricted to the northern waters surrounding Australia, spanning from the northern end of New South Wales to Western Australia. The recent revision of *Relegamoria*, formally a subgenus of *Amoria*, demonstrated biogeographic zonation and

phenotypical distinctiveness as a means of species differentiation, navigating the concatenation of polymorphism of form and colour across ranges (Maxwell *et al.* 2023). This paper presents a new species from the Ashmore Reefs of Western Australia.

METHODS

Specimens from this study were obtained from the research collection of the Western Australian Museum. The new species is described based on morphological characteristics and is compared with similar species of *Amoria* that occur in the vicinity. Material examined in this study was collected intertidally down to an estimated depth of 15-20 m.

This paper is grounded in comparisons of morphology and distribution. The species concept methodology (Maxwell *et al.* 2021)

used in this paper has allowed for the recognition of many new members of the Australian Volutidae (Healy 2020; Morrison & Schneider 2021).

ABBREVIATIONS

WAMC Western Australian Museum
Collection, Welshpool, WA,
Australia.

SYSTEMATIC PART

Order Prosobranchia Milne Edwards,
1848
Infraorder Neogastropoda Wenz, 1938
Superfamily Volutoidea Rafinesque, 1815
Family Volutidae Rafinesque, 1815
Genus *Amoria* Gray, 1855

Amoria textilata Zheng & Maxwell, n. sp.
(Plate 1 and 2)

Description. Shell of moderate size for genus, medium length to 62 mm; protoconch with 3 whorls; large, bulbous smooth, pale cream with underline of spots across the spire base; teleoconch smooth, short and rounded body, sutures well defined; shoulders prominent and angulated, fine tent-like patterning across the body; outer lip thickened, with a distinctive angle posteriorly, the posterior sinus well formed; ground colour pale fawn to darkened brown with occasional irregular axial wavy stripes.

Type Material. Holotype – Crabbed from a sand bank north of Middle Lagoon, Ashmore Reef, Western Australia, 58.9 mm (WAM No. S51200). All paratypes were collected from Ashmore Reef via diving/intertidal collecting methods: A) Paratype 1 – length 62.0 mm

(WAMC); B) Paratype 2 – length 53.2 mm (WAMC); C) Paratype 3 – length 36.0 mm (WAMC); all type specimens in this study are deposited in the collection of the Western Australian Museum.

Material Examined. Crabbed from sandbank in northeast lagoon, Ashmore Reefs (Holotype, WAMC x 1); Collected from sand flat off West Island, Ashmore Reefs (Paratype 1, WAMC); Diver collected from 6 m of depth, north side lagoon, Ashmore Reefs (Paratype 2, WAMC); Collected from reef flat north of West Island, Ashmore Reefs (Paratype 3, WAMC).

Type Locality. Ashmore Reefs, approx. 320 kms off the coast of Western Australia.

Comparative Remarks. The new species, *Amoria textilata*, is most similar to *Amoria praetexta* (Reeve, 1849), which is also from Ashmore Reefs and the Northwest Coast of Western Australia, having a similar body shape and pattern as the new species (Wilson 1994: see illustration pl. 19 fig. 3a). *Amoria praetexta* is distinguishable from the new species in lacking the strongly angulated shoulders of *Amoria textilata*, as well as the presence of 3 columella plaits instead of the usual four found in almost all other *Amoria* species. The new species can be differentiated from of *Amoria* species by its colour and pattern of fine tent-like markings found across the shell.

Etymology. The name for this species is reflective of pattern of the shell, from the Latin *textilata* or woven.

Discussion. At present, *Amoria textilata* is thought to be confined to the Ashmore Reefs, Ashmorean Infraprovince evolutionary hot spot (Peruch & Berschauer 2021: 261), where it is an uncommon component of the local ecosystems. Numerous collecting expeditions to the area have yielded few specimens, despite intensive searches. A survey of the Kimberley

region of Northwest WA conducted and funded by Woodside in 2013 yielded only one very poor-quality specimen worn and faded with its spire missing. Surveying of the relevant area conducted by private individuals, such as Drew Strickland (personal communication) of Geraldton *et al.*, have also reported finding no specimens. In recent years, *A. textilata* was thought to be the “lost” *Amoria spenceriana* (Glatiff, 1908), a species from the Ashmore Banks, off Far North Queensland. This locality confusion, due to similar names, was corrected by Petuch & Berschauer (2021: 266, Figure 8.8J), who illustrated a 75 mm live-collected specimen from the Queensland locality.

CONCLUSION

We have used biogeographical and morphological differences to distinguish *A. textilata* from similar sympatric taxa. The Ashmore Reefs have long been an area of great interest to biologists of all areas, mainly due to its extremely diverse ecosystem and hosting many endemic species found nowhere else in the world.

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Plate 1. The holotype of *Amoria textilata* n. sp. crabbed from a sand bank north of Middle Lagoon, Ashmore Reef, Western Australia, 58.9 mm (WAM No. S51200).



Plate 2. Paratypes of *Amoria textilata* n. sp. from Ashmore Reef via diving/intertidal collecting methods: **A**= Paratype 1 – length 62.0 mm (WAMC); **B**= Paratype 2 – length 53.2 mm (WAMC); **C**= Paratype 3 – length 36.0 mm (WAMC); and **D**= an example of *Amoria praetexta* from Ashmore Reef for comparison taken in 20 meters by diver (size unknown, Femorale no. 313509).