



***Thiara* Röding, 1798**

Diagnostic features

Shells moderate to large; black to light yellowish brown with flames and speckles. Some spiral, but more prominently widely spaced prominent axial ribs exists often produced into short spines on the whorl shoulder. The whorls are stepped and shouldered. The apical whorls and the tip of the shells are mostly corroded. The aperture is oval and rounded but with a slightly flaring lip anteriorly; the umbilicus is closed, the columella callus not greatly thickened or reflected. The operculum is an elongated oval and paucispiral.

Anatomy largely as for the rest of the Thiaridae: The colour of the body in live animals is variable, mostly dark or black, but iridescent. The head-foot is short and squarish with a broad bilobed snout, usually with light transversal stripes. On the edge of the mantle there are 15–20 finger-like papillae, in which the anal papilla is three times larger than the others, and long, thin tentacles with eyes at their base. The radula is taenioglossate. The radula consists of about 130 rows and is highly variable. The rachidian or central tooth is clearly wider than high, the edge bulges out downwards of the bases. On the lateral edge short dentations are visible. The number of denticles of the rachidian varies from 7–10. The inner smaller denticles of the laterals appear to be either isolated from each other or form a wing-like plate. The slender, long marginals are broader distally, with a varying number of comb-like denticles, mostly from 5–12. The ctenidium is long with long filaments. Salivary glands are anterior to the nerve ring. The stomach contains a short style sac, a crystalline style and a gastric shield. The female pallial gonoduct is closed along its entire length. A brood pouch is located in the neck region of the head foot in females.

Classification

Thiara Röding, 1798

Class Gastropoda

Infraclass Caenogastropoda

Megaorder Cerithiimorpha

Order Cerithiida

Superfamily Cerithioidea

Family Thiaridae

Genus *Thiara* Röding, 1798

Type species: *Helix amarula* Linnaeus, 1758

Original reference: Röding, 1798: *Museum Boltenianum, sive catalogus cimeliorum e tribus regnis naturae* Hamburg: 109.

Type locality: "Asiae fluvii", i.e. in Asian rivers.

Synonyms: *Melania* Lamarck, 1799; *Melacantha* Swainson, 1840; *Amarula* Sowerby, 1842; *Tiaropsis* Brot, 1877; *Cerithomelania*. J. Moore, 1899.

State of taxonomy

We follow Glaubrecht et al. (2009) in this resource.

Biology and ecology

Thiara occurs in freshwater habitats, preferring the headwaters and middle reaches of rivers, although it is also found often in their lower courses. *Thiara* species feed on algae and detritus.

Females are parthenogenic and reproduce either ovoviviparously (i.e. releasing juveniles only as free swimming veligers, as for *Thiara amarula*) or euviviparously (i.e. releasing crawling juveniles as more advanced in size and development, as for *Thiara australis*). This is reflected in the habitats of both species - *Thiara amarula* has a wide Indo-Pacific distribution, whereas *Thiara australis* is endemic to northern Australia.

Distribution

Widely distributed through the Indo-Pacific region, including Australia, southern Asia and the Indo-Malay Archipelago.

Notes

The two species covered in this genus are quite different in appearance, and their relationship remains to be tested.

Further reading

Beesley, P. L., Ross, G. J. B. & Wells, A., Eds. (1998). *Mollusca: The Southern Synthesis. Parts A & B*. Melbourne, CSIRO Publishing.

Brandt, R. A. M. (1974). The non-marine aquatic Mollusca of Thailand. *Archiv Für Molluskenkunde* 105: 1-423.

Glaubrecht, M., Brinkmann, N. & Pöppe, J. (2009). Diversity and disparity 'down under': systematics, biogeography and reproductive modes of the 'marsupial' freshwater Thiaridae (Caenogastropoda, Cerithioidea) in Australia. *Zoosystematics and Evolution* 85: 199-275.

Glaubrecht, M. & Neiber, M. T. (2019). Thiaridae Gill, 1871 (1823). Pp. 86-89 in C. Lydeard & Cummings, K. S. *Freshwater Mollusks of the World: a Distribution Atlas*. Baltimore, John Hopkins University Press.

Iredale, T. (1943). A basic list of the fresh water Mollusca of Australia. *Australian Zoologist* 10: 188-230.

Maaß, N. & Glaubrecht, M. (2012). Comparing the reproductive biology of three "marsupial", eu-viviparous gastropods (Cerithioidea, Thiaridae) from drainages of Australia's monsoonal north. *Zoosystematics and Evolution* 88: 293-315.

Schütt, S., & Glaubrecht, M. (1999). *Thiara amarula* (Linné, 1758) (Caenogastropoda: Thiaridae) in Australia—new evidence on the anatomy of the reproductive system in a viviparous freshwater mollusc. *Courier Forschungsinstitut Senckenberg* 215: 181-188.

Smith, B. J. (1992). Non-marine Mollusca. Pp. i-xii, 1-408 in W. W. K. Houston. *Zoological Catalogue of Australia*, 8. Canberra, Australian Government Publishing Service.

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https://keys.lucidcentral.org/keys/v3/freshwater_molluscs/

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