



## ***Lortiella* Iredale, 1934**

### **Diagnostic features**

Shell narrowly elongated (ratio of maximum height of shell to its length <45%) or 'adze-shaped' with a short, rounded anterior, straight ventral margin and obliquely truncated posterior margin. Valves winged. Periostracum colour light olive to dark brown or almost black in large specimens. Shell surfaces and beaks lack sculpture. Pseudocardinal teeth lamellar and semi-serrated in small shells and either peg-like, or flattened, and smooth in larger shells.

Marsupium formed in the inner demibranch.

Siphons pigmented with mottled patches, black and tan in colour, and had 2–4 rows of bulbous/pyramidal pale-coloured papillae on the inhalant siphon. Inhalant siphon ca. 1 times the size of the exhalant siphon.

**Anatomy:** The gills (ctenidia) are eulamellibranch and the foot is compressed, tongue-shaped and lacks a byssal groove. Larvae (glochidia) are brooded in a marsupium that occupies at least two thirds of the inner pair of the female demibranchs. Inhalant and exhalant siphons not prominent and formed by the mantle edge, which is open ventrally, inhalant 'siphon' larger than exhalant 'siphon'. Labial palps of medium size, elongate-triangular in shape.

The species of *Lortiella* can be distinguished as follows:

*Lortiella rugata* (Sowerby). Shell with reduced hinge, posterior end squarely truncate, ventral margin straight to slightly concave, markedly elongate (ratio of maximum height of shell to its length >29-41%).

*Lortiella froggatti* Iredale. Shell with moderately strong hinge; posterior end rounded, obliquely truncate; ventral margin convex, elongate (ratio of maximum height of shell to its length >40-55%).

*Lortiella opertanea* Ponder & Bayer. Shell with rather reduced hinge; posterior end rounded, ventral margin straight to concave, obliquely truncate; elongate (ratio of maximum height of shell to its length 36-45%).

### **Classification**

***Lortiella*** Iredale, 1934

Class Bivalvia

Infraclass Heteroconchia

Cohort Palaeoheterodonta

Order Unionida

Superfamily Unionoidea

Family Hyriidae

Subfamily Velesunioninae

Genus *Lortietta* Iredale, 1934

Type species: *Mycetopus rugatus* Sowerby, 1868

Original reference: Iredale, T. (1934). The Freshwater mussels of Australia. *Australian Zoologist* 8: 57-78, pls 3-6.

Type locality: Victoria River, Northern Territory.

### State of taxonomy

The last major taxonomic revision of Australian freshwater mussels was by McMichael & Hiscock (1958).

Based on the available molecular results, Walker et al. (2014) pointed out that a reassessment of Australian hyriids is needed.

### Biology and ecology

Rivers, streams, and water catchment dams. Found along stream banks at the edge of the river in shallow burrows with the tips of the posterior ends of shells exposed, or under flat stones on the river bottom.

Suspension feeders. Dioecious. Brood young in marsupia in the inner pair of demibranchs of females. Larvae (glochidia) presumably parasitic, using fish as hosts and dispersal agents.

### Distribution

From the Daly and Katherine Rivers, Northern Territory, eastern and western Kimberley Region, Western Australia, to the De Grey River in the Pilbara region of Western Australia.

### Notes

The Australian genera of freshwater mussels are distinguished by the following shell characters (note that all are subject to erosion with age, depending on the local environment):-

***Hyridella***. Beaks and umbos of at least young specimens sculptured with V-shaped ridges; shell quadrate to elongate (ratio of maximum height of shell to its length >50%), not markedly winged. Hinge strong with grooved pseudocardinal teeth and simple 'lateral' teeth. Shell surface (other than beaks) are, in most species of *Hyridella*, more-or-less smooth except for collabral growth lines, but sculpturing extends over shell surface in *H. gienelgensis*. Eastern and south-eastern Australia, and Tasmania.

***Velesunio***. Beaks smooth, shell can be rather thick, rounded in outline (ratio of maximum height of shell to its length >50%), often inflated, hinge lamellar, usually simple (rarely serrated). Shell surface with collabral growth lines only. Northern and eastern Australia, Tasmania.

***Alathyria***. Shell typically large, elongate-ovate (ratio of maximum height of shell to its length >50%), often distinctly winged, thick, hinge usually with heavy, pseudocardinal teeth grooved, 'lateral' teeth smooth. Shell

surface more-or-less smooth, with collabral growth lines only, although nodular sculpture has been observed on the beaks of *A. pertexta*. Eastern half of Australia.

***Cucumerunio***. Shell very elongate (ratio of maximum height of shell to its length <40%), beaks sculptured with V-shaped ridges; rest of shell surface with conspicuous nodules or ridges. Hinge strong, pseudocardinal teeth grooved. Eastern rivers of NSW and Queensland.

***Lortiella***. Shell elongate (ratio of maximum height of shell to its length <45%), usually winged posteriorly, hinge simple, not well developed. Beaks smooth and shell surface with collabral growth lines only. Found in NW Australia.

***Westralunio***. Shell more or less oblong (ratio of maximum height of shell to its length >50%). Pseudocardinal teeth erect, strongly serrated, shell medium-sized (usually less than 70-80 mm in length, up to 90-100 mm). Beaks sculptured in un-eroded juveniles with v- or w-shaped ridges, shell rather thick, with collabral growth lines. Three taxa in SW Australia and two species in Papua New Guinea.

## Further reading

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