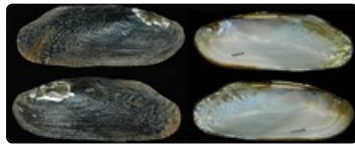
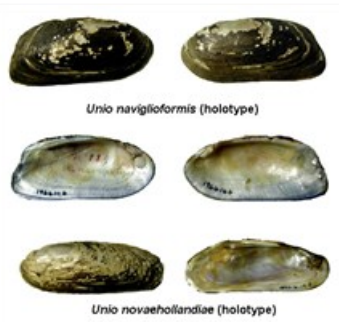




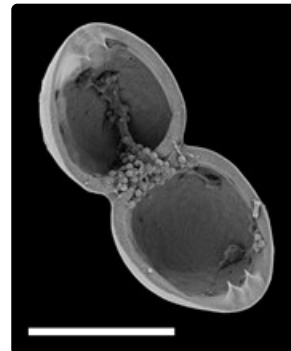
## *Cucumerunio novaehollandiae* (Gray, 1834)



*Cucumerunio novaehollandiae* (adult size 135-200 mm)



*Cucumerunio novaehollandiae* (type specimens)



*Cucumerunio novaehollandiae* glochidium. Scale bar, 50  $\mu$ m SEM photo: M. W. Klunzinger.



Distribution of *Cucumerunio novaehollandiae*.

### Diagnostic features

Shell typically large-sized (to about 200 mm in length), oblong to elongate (width/length ratio about 40%), equivalve, solid valves, with nodular sculpturing across much of the shell, especially posterior to the umbo. Umbos have ridged V-shaped sculpture and branching ridge sculpture along the posterior ridge. Periostracum

thick, black, interior of valves nacreous bluish to bronze to white. Pseudocardinal teeth very erect, grooved, serrated and frequently denticulate. 'Lateral' teeth strong.

**Anatomy:** The gills (ctenidia) are eulamellibranch and the foot is a compressed, tongue-shaped, lacking a byssal groove. Inhalant and exhalant siphons large and prominent, formed by the mantle edge, which is open ventrally and fused posteriorly, inhalant siphon larger than exhalant siphon bearing a variable number of prominent papillae, heavily pigmented and open below. Marsupium occupies middle four fifths of inner gill of females. Glochidial larvae are brooded in a marsupium that occupies about four fifths of the inner pair of demibranchs and possesses numerous incomplete septa. Labial palps large, semilunar in shape.

This monotypic genus is unique in its characteristic elongate shape, rugose sculpture, and hinge details. It is arguably the longest freshwater mussel in Australia, rivalled only by *Alathyria jacksoni* in body size.

## Classification

***Cucumerunio novaehollandiae*** (Gray, 1834)

*Common name:* Freshwater mussel; New Holland mussel; cucumber mussel.

*Class* Bivalvia

*Infraclass* Heteroconchia

*Cohort* Palaeoheterodonta

*Order* Unionida

*Superfamily* Unionoidea

*Family* Hyriidae

*Subfamily* Hyriinae

*Genus* *Cucumerunio* Iredale, 1934 (Type species: *Unio novaehollandiae* Gray, 1834).

*Original name:* *Unio novaehollandiae* Gray, 1834. In Gray, J. E. (1834) Proceedings for July 8th, 1834. *Proceedings of the Zoological Society of London*, 1834: 67.

*Type locality:* Macquarie River (as Macquarrie), probably Port Macquarie, mouth of Hastings River, New South Wales.

*Synonyms:* *Unio cucumoides* Lea, 1840; *Unio cumingianus* Dunker, 1852; *Unio navigioliformis* Lea, 1859.

## State of taxonomy

The last major taxonomic revision of Australian freshwater mussels was by McMichael and 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

Deep burrower in sand/gravel in actively flowing parts of rivers and large streams. Infaunal suspension feeder, living two thirds to almost fully buried in sand, sediment and amongst rocks in flowing water where they favour riffles and runs. Sexes separate. Larvae (glochidia) are brooded by females in marsupia in the inner pair of demibranchs of the gill and, when released, become parasitic on fish gills where they undergo metamorphosis before dropping to the sediment as free-living juvenile mussels. Thus, as with other freshwater mussels, the fish hosts serve as dispersal agents. Breed in late summer and autumn and release glochidia in winter (Jones et al. 1986).

This species is listed as Least Concern (LC) on the ICUN Red List of Threatened Species (Walker et al. 2014b).

## Distribution

Coastal rivers of mid Queensland to northern New South Wales as far south as the Hunter River. Only occurs at lower elevations (below 150 m - H. Jones, pers. comm.).

## Further reading

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