



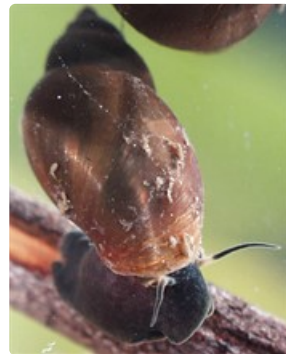
Glyptophysa
(*Glyptophysa*) *novaehollandica*
(Bowdich, 1822)



Glyptophysa novaehollandica (adult size may exceed 30 mm)



Glyptophysa novaehollandica, ventral view of head-foot, NW Australia. Photo J. Walker.



Glyptophysa novaehollandica, dorsal view of head-foot, NW Australia. Photo J. Walker.



Distribution of *Glyptophysa novaehollandica*.



Glyptophysa novaehollandica egg masses. Scotts Peak Rd, SW Tasmania. Photo: K. Richards.

Disclaimer

This genus is in need of revision, as the species concepts we have used have not been rigorously tested. Unpublished molecular data indicate that the species units we are using here are not accompanied by clear-cut morphological characters that allow separation based on shell characters alone. As the species units appear to be overall concordant with state boundaries, we have used these boundaries to aid delimiting species. This situation is not ideal, and can only be resolved by additional molecular and morphological studies involving dense sampling.

Diagnostic features

The taxonomy of *Glyptophysa* is very poorly understood. This is one of several species of relatively smooth shelled *Glyptophysa* that are variable in shape and in periostracal development (periostracal hairs and spirals can be present), even within a single population. A large number of species-group names are available and it is quite possible that more species occur in Australia. At present we are recognising only three, in addition to *G. aliciae*.

This species is one of three that we are somewhat tentatively recognising (see statement under Notes) that were previously referred to as *Glyptophysa gibbosa* (now treated as a synonym of *G. novaehollandica*). These taxa are in need of revision, as the species concepts we have used have not been rigorously tested.

Classification

Glyptophysa novaehollandica (Bowdich, 1822)

Common name: Pouched snail

Class Gastropoda

Infraclass Heterobranchia

Megaorder Hygrophila

Order Lymnaeida

Superfamily Planorboidea

Family Planorbidae

Subfamily: Miratestinae

Genus *Glyptophysa* Crosse, 1872

Original name: *Physa novaehollandica* Bowdich, 1822 (as *Physa n.hollandica*). In Bowdich, T. E. (1822). *Elements of Conchology* Pt. 1. Paris.

Type locality: Assumed to be New Holland (= Australia), based on the name.

Synonyms: *Physa novaehollandiae* Lesson, 1831; *Physa novaehollandiae* Gray, 1833; *Physa ludwigii* Küster, 1844; *Physa gibbosa* Gould, 1846; *Physa pectorosa* Conrad, 1850; *Physa australiana* Conrad, 1850; ?*Physa circumlineata* Morelet, 1857; *Physa concinna* A. Adams & Angas, 1864; *Physa olivacea* A. Adams & Angas, 1864; *Physa badia* A. Adams & Angas, 1864; *Physa (Bulinus) acutispira* Tryon, 1866; *Physa aciculata* Sowerby, 1873; *Physa dispar* Sowerby, 1873; *Physa proteus* Sowerby, 1873; *Physa pyramidata* Sowerby, 1873; *Physa tenuistriata* Sowerby, 1873; *Physa subundata* Sowerby, 1873; *Aplexa adamsiana* Tapparone-Canefri 1874; *Physa duplicata* G. B. Sowerby, 1874; *Physa aperta* Sowerby, 1874; *Physa attenuata* Sowerby, 1874; *Physa pinguis* Sowerby, 1874; *Physa brunniensis* Sowerby, 1874; *Physa eburnea* Sowerby, 1874; *Physa mamillata* Sowerby, 1874; *Physa nitida* Sowerby, 1874; *Physa puncturata* Sowerby, 1874; *Physa texturata* Sowerby, 1874; *Physa bullata* Sowerby, 1874; *Physa huonensis* Tenison Woods, 1876; *Physa*

legrandi Tenison Woods, 1876; *Physa tasmanica* Tenison Woods, 1876; *Physa huonicola* Tenison Woods, 1876; *Physa tasmanicola* Tenison Woods, 1876; *Physa ciliata* Tenison Woods, 1876; *Physa arachnoidea* Tenison Woods, 1878; *Physa yarraensis* Tenison Woods, 1878; *Physa diemenensis* Johnston, 1879; *Physa fumiformis* Nelson and Taylor, 1879; *Physa beddomei* Nelson & Taylor, 1879; *Physa brisbanica* Nelson & Taylor, 1879; *Aplexa turrita* Tate, 1881; *Physa exarata* Smith, 1882; *Physa gracilentia* Smith, 1882; *Physa etheridgii* Smith, 1882; *Physa queenslandica* Smith, 1882; *Physa lessoni* Smith, 1882; *Physa grayi* Smith, 1882; *Physa smithi* Clessin, 1885; *Physa kreffti* Clessin, 1886; *Physa multispinata* Clessin, 1886; *Physa conica* Clessin, 1886; *Physa lincolnensis* Clessin, 1886; *Physa waterhousei* Clessin, 1886; *Physa producta* Smith, 1882; *Physa tortuosa* Clessin, 1886. *Isidora gibbosa brevispira* Odhner, 1917; *Bullinus tenuistriatus confluens* Hedley, 1917; *Amerianna subacuta* Cotton & Beasley, 1941; *Tasmadora sorellensis* Cotton, 1943; *Lenameria calda* Iredale, 1944; *Lenameria digressa* Iredale, 1944; *Lenameria epicropa* Iredale, 1944; *Lenameria formalis* Iredale, 1944; *Lenameria placata* Iredale, 1944; *Lenameria pretena* Iredale, 1944; *Lenameria renola* Iredale, 1943; *Mutalena modica* Iredale, 1944; *Mutalena reperta* Iredale, 1944.

State of taxonomy

The taxonomy of *Glyptophysa* is very poorly understood. A large number of species-group names are available and it is quite possible that more species occur in Australia.

This species is one of three that we are somewhat tentatively recognising (see statement under Notes) that were previously referred to as *Glyptophysa gibbosa* (now treated as a synonym of *G. novaehollandica*). These taxa are in need of revision, as the species concepts we have used have not been rigorously tested.

Biology and ecology

On water weeds, wood, and similar substrates, in ponds, billabongs, swamps, and sluggish streams and rivers. Feeds on algae and detritus. Egg mass typically a bean(kidney)-shaped jelly strip containing many small eggs. Development direct.

Distribution

This species, as tentatively recognised, is found in northern, central, eastern and south-eastern Australia and Tasmania.

Notes

This genus is similar to the common introduced *Physa acuta* (Physidae) in that both have similar-shaped, sinistral shells. *Glyptophysa* can be distinguished by the shell not being completely smooth (as it is in *Physa*), *Glyptophysa* often having some periostracal ornament and microscopic wrinkles or spiral ridges in the case of *Glyptophysa aliciae*. *Physa* has a mottled mantle which can usually be seen through the semi-transparent shell whereas *Glyptophysa* has a uniformly dark-coloured mantle. The animal of *Physa* has digitations (finger-like processes) along the mantle edge against the columella whereas this edge is smooth in *Glyptophysa*. *Physa* lacks a false gill (pseudobranch) which is present in *Glyptophysa* and all planorbids. The animal of *Glyptophysa*, if damaged when alive, has red-coloured blood whereas *Physa* blood is clear.

Glyptophysa differs from the otherwise similar genus *Isidorella* in the penial apparatus having a penial stylet and an accessory flagellum. *Isidorella* lacks a stylet and an accessory structure but the penis has two lobes.

This species was previously often known as *Glyptophysa gibbosa*, but *G. novaehollandica* is an earlier name.

Further reading

Hubendick, B. (1955). Phylogeny of the Planorbidae. *Transactions of the Zoological Society of London* 28: 453-542.

Shea, M. (1995). Freshwater molluscs of Sydney. *Australian Shell News* 88: 4-6.

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.

Smith, B. J. & Kershaw, R. C. (1979). *Field guide to the non-marine Molluscs of South-eastern Australia*. Canberra, A.N.U. Press.

Walker, J. C. (1988). Classification of Australian buliniform planorbids (Mollusca: Pulmonata). *Records of the Australian Museum* 40: 61-89.

Willan, E. C. & Kessner, V. (2021). A conspectus of the freshwater molluscs of the Daly River catchment, Northern Territory. *Northern Territory Naturalist* 30: 108-137.

To cite this resource: **Ponder, W. F., Hallan, A., Shea, M. E., Clark, S. A., Richards, K., Klunzinger, M. W., and Kessner, V. 2023. Australian Freshwater Molluscs. Revision 2.**

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

To contact the authors for comment or suggestions, please email: fwmollusc@gmail.com

Copyright © 2023. All rights reserved. The Australian Museum.

