



***Glyptophysa* (*Glyptophysa*) sp. (Edgbaston Springs)**



Glyptophysa sp. (adult size up to 11 mm)



Distribution of *Glyptophysa* sp.



A spring on Edgbaston Station in which this species occurs. Photo C. Lydeard.

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 Unpublished molecular data indicate that the species units we are here using appear to be justified, however they are not accompanied by clear-cut morphological characters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 in 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* but this species from Edgbaston Springs in western Queensland has a distinctive shell morphology and is here treated as a distinct, yet unnamed, species.

Classification

Glyptophysa sp. (Edgbaston Springs)

Class Gastropoda

Infraclass Heterobranchia

Megaorder Hygrophila

Order Lymnaeida

Superfamily Planorboidea

Family Planorbidae

Subfamily: Miratestinae

Genus *Glyptophysa* Crosse, 1872

Locality: A few springs on Edgbaston Station, W. Queensland.

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.

Biology and ecology

On water weeds, wood and similar substrates in ponds formed by the springs. Biology probably generally similar to other species of *Glyptophysa*.

Distribution

Known only from Edgbaston Springs, near Aramac, western Queensland (Lake Eyre Division).

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.

Further reading

Fensham, R., Ponder, W. & Fairfax, R. (2010). *Recovery plan for the community of native species dependent on natural discharge of groundwater from the Great Artesian Basin. Report to Department of the Environment, Water, Heritage and the Arts, Canberra.* Queensland Department of Environment and Resource Management, Brisbane. <https://www.environment.gov.au/system/files/resources/0cefc83a-3854-4cff-9128-abc719d9f9b3/files/great-artesian-basin-ec.pdf>

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

Rossini, R. A., Fensham, R. J. & Walter, G. H. (2017). Spatiotemporal variance of environmental conditions in Australian artesian springs

affects the distribution and abundance of six endemic snail species. *Aquatic Ecology* 51: 511-529.

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

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

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