



Corbicula Mühlfeld, 1811

Diagnostic features

Small to medium sized relatively thick shelled bivalves, ovate to almost circular in outline. Inside of valves white to purplish, exterior white to purplish with a yellow to olive periostracum. Sculptured with well developed regular concentric growth ridges on the exterior surface. Hinge teeth strong with up to three cardinal teeth in each valve which may be bifid. Lateral teeth serrated. The pallial line is entire and the shell margins smooth. Strong external ligament posterior to umbones; no lunule or escutcheon.

Eulamellibranch gills with both demibranchs; generally with a strong, compressed, tongue shaped foot lacking a byssal groove. Two relatively short posterior siphons. Papillae on mantle edges which are not fused ventrally.

Classification

Corbicula Megerle von Mühlfeld, 1811

Class Bivalvia

Infraclass Heteroconchia

Cohort Heterodonta

Megaorder Neoheterodonte

Order Venerida

Superfamily Cyrenoidea

Family Cyrenidae

Genus *Corbicula* Megerle von Mühlfeld, 1811

Type species: *Tellina fluminalis* Müller, 1774 (by subsequent designation)

Original reference: Megerle von Mühlfeld, J. C. (1811). Entwurf eines neuen System's der Schalthiergehäuse. *Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin* 5: 38-72.

Synonyms: *Cyrena* Lamarck, 1818; *Corbiculina* Dall, 1903; *Cyrenodonax* Dall, 1903; *Serrilaminula* Lindholm, 1933; *Cyrenobatissa* Suzuki & Oyama, 1943; *Posostrea* Bogan & Bouchet, 1998.

Biology and ecology

Mainly in streams, rivers, dams, irrigation channels, pipelines and lakes. Living in shallow water. Infaunal, burrowing in sand and mud. Suspension feeders. Dioecious, and brood young (ovoviparous) in gill pouches. Have the potential to self-fertilise, and reproduce rapidly. Life span relatively short: 3-5 years. Spawning and incubation of embryos limited to the warmer months of the year. *C. australis* produces several clutches each year and the young are released as advanced juveniles with a well-developed foot. Some lineages clonal.

Distribution

In Australia, *Corbicula* is found throughout much of the Australian mainland. Other species are widely distributed in Asia, Eurasia, Africa and the Middle East. A few species are invasive in Europe and North America.

Notes

There are many names in the literature for the Australian species of this genus which reflect the morphological variability of the species. Only one native Australian species is recognised here, although this concept requires testing.

In a relatively recent treatment, Lamprell & Healy (1998) recognised three species in addition to *C. australis*, *C. ovalina* Deshayes, 1855, *C. esculenta* (Iredale, 1943), and the third species, *C. maroubra* (Iredale 1943), is here considered to be a synonym of *C. fluminea* while the other two are synonyms of *C. australis*.

Huber (2015) has recognised *C. australis*, *C. ovulina* and *C. desolata* Tate, 1887 as distinct species. While this may eventually prove to be correct, we treat these taxa as synonyms of *C. australis* pending more rigorous testing.

Further reading

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

Bieler, R. & Mikkelsen, P. (2019). Cyrenidae Gray, 1840. Pp. 187-192 in C. Lydeard & Cummings, K. S. *Freshwater Mollusks of the World: a Distribution Atlas*. Baltimore, John Hopkins University Press.

Byrne, M., Phelps, H., Church, T., Adair, V., Selvakumaraswamy, P. & Potts, J. (2000). Reproduction and development of the freshwater clam *Corbicula australis* in southeast Australia. *Hydrobiologia* 418: 185-197.

Huber, M., Langleit, A. & Kreipl, K. (2015). *Compendium of Bivalves 2. A Full-Color Guide to the Remaining Seven Families. A Systematic Listing of 8,500 Bivalve Species and 10,500 Synonyms*. Hackenheim, Germany, ConchBooks.

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

Lamprell, K. & Healy, J. (1998). *Bivalves of Australia. Vol.2*. Leiden, Backhuys Publishers.

Ng, T.H., Tan, S.K., Wong, W.H., Meier, R., Chan, S-Y., Tan, H.H. and Yeo, D.C.J. 2016. Molluscs for Sale: Assessment of Freshwater Gastropods and Bivalves in the Ornamental Pet Trade. *PLOS One*. DOI:10.1371/journal.pone.0161130.

Koniushin, A. V. & Glaubrecht, M. (2003). Novel reproductive modes in freshwater clams: brooding and larval morphology in Southeast Asian taxa of *Corbicula* (Mollusca, Bivalvia, Corbiculidae). *Acta Zoologica* 84: 293-315.

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

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.

Lamprell, K. & Healy, J. (1998). *Bivalves of Australia, volume 2*. Leiden, Backhuys Publishers.

Woolford, T. (1984). A fouling bivalve, *Corbiculina australis* (Deshayes, 1830), in the Renmark irrigation pipelines: its biology and control options for the Renmark Irrigation Trust. Unpublished Honours Thesis. Zoology Department, University of Adelaide, Adelaide, South Australia.

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.

