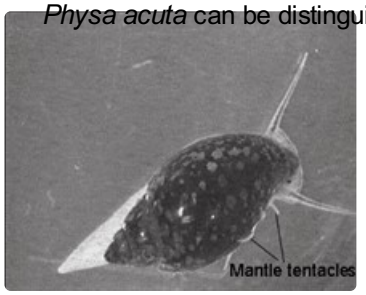
Physa acuta Draparnaud, 1805

Diagnostic features

Physa acuta can be distinguished by its completely smooth shell and

Physa acuta (adult size up to 15 mm).



Physa acuta - living animal. Photograher unknown.

Physa acuta - living animal. Note the mantle digitations on the lower part of the right hand figure. Photos A. Hallan.

Physa acuta. Esperance, Western Australia. Photo: M. Klunzinger.

Distribution of *Physa acuta* in Australia.

mottled mantle which can usually be readily seen through the semi-transparent shell. The animal has digitations (finger-like processes) along the mantle edge against the columella and there is no false gill (pseudobranch). Unlike planorbids, the animal, if damaged when alive, does not produce red blood.

Classification

Physa acuta Draparnaud, 1805

Common name: Acute bladder snail, fountain snail

Class Gastropoda

Infraclass Heterobranchia

Megaorder Hygrophila

Order Lymnaeida

Superfamily Planorboidea

Family Physidae

Subfamily: Physinae

Genus *Physa* Draparnaud, 1801 (Type species *Bulla fontinalis* Linnaeus, 1758) (Synonyms *Physella* Haldeman, 1842 (Type species *Physa globosa* Haldeman, 1842); *Haitia* Clench & Aguayo, 1932 (Type species: *Physa* (*Haitia*) *elegans* Clench & Aguayo, 1932). For a list of additional synonyms see http://www.marinespecies.org/aphia.php?p=taxdetails&id=160462).

Original name: *Physa acuta* Draparnaud, 1805. *In* Draparnaud, J. P. R. (1805). *Histoire Naturelle des Mollusques Terrestres et Fluviatiles de la France.* Paris : L. Colas, i-viii, 1-164 pp.

Type locality: Garonne River, France (introduced from North America).

Synonyms: *Lymnaea heterostropha* Say, 1825 and several others - see http://www.marinespecies.org/aphia.php?p=taxdetails&id=234093

State of taxonomy

This introduced species is often referred to as *Physella acuta* or sometimes *Haitia acuta* in the literature. Taylor (2003) transferred *Physa acuta* to the genus *Haitia* Clench & Aguayo, 1932 and this was followed in an earlier version of this key.

Biology and ecology

On water weeds, rocks, wood and other vegetation in rivers, streams, ponds, swamps, drains, ditches and similar habitats. Very pollution tolerant and may even be found in sewerage treatment plants. Often abundant. Feeds on algae and detritus. Egg mass a kidney-shaped jelly strip containing many small eggs. Development direct.

P. acuta is the host of the fluke *Choanocotyle hobbsi* in the Murray-Darling system (Barton et al. 2022).

Distribution

Worldwide. Native to north-eastern United States and adjacent Canada. *P. acuta* has been introduced widely, and is now in Europe, Asia Minor, Africa, the Mascarene and Macaronesian Islands, India, Nepal, marginal East Asia, Australia, New Zealand, Polynesia, Brasil and Argentina.

Introduced to Australia, probably from North America or Europe. Occurs throughout much of Australia, mainly (but not exclusively) in coastal drainages in agricultural and urban areas where it is usually abundant.

Notes

This introduced species is abundant in many waterways in temperate Australia and is often referred to as *Physella acuta* or sometimes *Haitia acuta*.

Physa is easily confused with species of *Glyptophysa* (Planorbidae) which have similar-shaped, sinistral shells. *Physa* can be distinguished by its completely smooth shell (*Glyptophysa* often - but not always - has some periostracal ornament) and mottled mantle which can usually be readily seen through the semi-transparent shell (*Glyptophysa* has a uniformly dark-coloured mantle). The animal also has digitations (finger-like processes) along the mantle edge against the columella (smooth in *Glyptophysa*) and there is no false gill (pseudobranch) (present in *Glyptophysa*). The animal, if damaged when alive, does not produce coloured blood, whereas *Glyptophysa* has red- coloured blood.

Species of *Isidorella* should also be compared, but differ from *Physa* in the same characters given above for *Glyptophysa*.

Physa mexicana (Philippi in Küster, 1841) - also from North America - is widespread throughout the world as well and is indistinguishable from *P. acuta* in shell morphology however *P. acuta* differs in the elongate sarcobelum in the reproductive system which is a feature not seen in *P. mexicana* (Taylor, 2003) Because of the similarity of both species it is currently unknown if *P. mexicana* is present in Australia. Other species such as *Physa gyrina* (Say, 1821) could also possibly be undetected.

Further reading

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

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