



Pomacea Perry, 1810

Diagnostic features

Large to very large globose smooth shells, sutures channelled (*Pomacea canaliculata*) or with the top of the whorl shouldered and flat at the suture (*Pomacea diffusa*). Shells umbilicate with unthickened lip. Uniform yellow to olive green with darker spiral bands. Interior of aperture orange to yellow. Operculate, with concentric operculum.

Animal with distinctive head-foot; snout uniquely with a pair of distal, long, tentacle-like processes; cephalic tentacles very long. A long 'siphon' is also present.

Classification

Pomacea Perry, 1810

Class Gastropoda

Infraclass Caenogastropoda

Informal group Architaenioglossa

Order Ampullariida

Superfamily Ampullarioidea

Family Ampullariidae

Genus *Pomacea* Perry, 1810

Type species: *Pomacea maculata* Perry, 1810

Original reference: Perry, G. 1810-1811. *Arcana*; or the Museum of Natural History, 84 pls., unnumbered with associated text. Issued in monthly parts, pls.[1-48] in 1810, [49-84] in 1811. Stratford, London.

Type locality: Rio Parana, Argentina.

Biology and ecology

Amphibious, on sediment, weeds and other available substrates. Lays pink coloured egg masses on plants above the waterline.

Distribution

Native to North and South America but some species have been introduced around the world through the aquarium trade (*Pomacea diffusa*) and as a food source (*Pomacea canaliculata*). *Pomacea diffusa* has been reported from the Ross River in Townsville in NE Queensland, and from freshwater waterbodies in the greater Brisbane area, Ipswich and Urangan near Maryborough in SE Queensland.

Notes

This genus is widely known in the aquarium trade through the so-called mystery snail, *Pomacea diffusa*. In countries such as the Philippines, Hawaii and parts of SE Asia, the species *Pomacea canaliculata* (Lamarck) is a serious pest of rice crops. Introduction of this species to the wild could result in a serious pest problem. Any sightings of this species in the wild should be reported to the Biosecurity authority or to the Australian Museum Malacology Section.

Two south Asian ampullariid species of the genus *Pila* have sometimes been intercepted by Australian Biosecurity – they are *Pila ampullacea* (Linnaeus, 1758) and *Pila globosa* (Swainson, 1822).

The genus *Pila* differs from *Pomacea* in the following respects:

The shells of *Pila* tend to have less elevated and less pointed (blunt) spires compared to *Pomacea*.

Pila species both have rounded whorl shoulders with slightly indented sutures. The whorl shoulders of *Pomacea diffusa* are flat topped while the whorl shoulders of *P. canaliculata* are rounded with deeply indented sutures.

Pila ampullacea has a narrow to almost closed umbilicus while *Pila globosa* has an open, large and deep umbilicus. Both *Pomacea* species have an open and deep umbilicus.

The operculum of *Pila* is horny on the outside and calcified on the inside while in *Pomacea* the whole operculum is horny.

The siphon (breathing tube) of *Pila* is shorter than that of *Pomacea*.

The eggs of *Pila* are white and calcareous and laid above the water line on banks and mudflats in shallow depressions, while *Pomacea* eggs are soft and pink and laid on plants and upright surfaces just above the waterline.

Pila species aestivate by burying in mud during the dry season while *Pomacea* do not.

Pila are well adapted to living in ephemeral waterbodies while *Pomacea* generally inhabit permanent freshwater areas.

Pila originate from south Asia and Africa while *Pomacea* comes from the Americas.

Pila are an important food source in South Asia while *Pomacea* are generally not eaten.

Pila are generally not considered pest species while *Pomacea canaliculata* is a major crop pest.

Further reading

The Apple Snail website: <http://www.applesnail.net>

Cowie, R. H. (2002). Apple Snails (Ampullariidae) as Agricultural Pests: their Biology, Impacts and Management. Pp. 145-192 in G. M. Barker. *Molluscs as Crop Pests*. Wallingford, UK, CAB International.

- Cowie, R. H. (2005). The Golden Apple Snail: *Pomacea* species including *Pomacea canaliculata* (Lamarck, 1822) (Gastropoda: Ampullariidae). Diagnostic standard. *Report to Plant Health Australia*. 38 p. <http://www.planthealthaustralia.com.au/wp-content/uploads/2013/03/Golden-apple-snail-DP-2005.pdf>
- Cowie, R. H. & Hayes, K. A. (2019). Ampullariidae Gray, 1824. Pp. 37-42 in C. Lydeard & Cummings, K. S. *Freshwater Mollusks of the World: a Distribution Atlas*. Baltimore, John Hopkins University Press.
- Cowie, R. H. & Thiengo, S. C. (2003). The Apple Snails of the Americas (Mollusca: Gastropoda: Ampullariidae: *Asolene*, *Felipponea*, *Marisa*, *Pomacea*, *Pomella*): A nomenclatural and type catalogue. *Malacologia* 45: 41-100.
- Mochida, O. (1991). Spread of freshwater *Pomacea* snails (Pilidae, Mollusca) from Argentina to Asia. *Micronesica Supplement* 3: 51-62.
- 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.
- Perera, G. & Walls, J. G. (1996). *Apple snails in the aquarium*. T.F.H. Publications, Inc., Neptune City, New Jersey.
- Simone, L. R. L., 2004. Comparative morphology and phylogeny of representatives of the superfamilies of architaenioglossans and the Annulariidae (Mollusca, Caenogastropoda). *Arquivos do Museu Nacional* 62: 387-504.

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.

