



Pomacea diffusa Blume, 1957

Diagnostic features

Distinguished from *Pomacea canaliculata* by its smaller sized shell (up



Pomacea diffusa (adult size up to 150 mm in height)



Pomacea diffusa - living specimen. Photo A. Hallan.



Pomacea diffusa egg masses. Deagon Wetlands, Brisbane. Photo: M. Klunzinger.



Deagon Wetlands, Brisbane. Photo: M. Klunzinger.

to 65 mm in height) and shouldered whorls that abut the preceding whorls without forming a channel.

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 diffusa Blume, 1957

Common name: Mystery snail

Class Gastropoda

Infraclass Caenogastropoda

Informal group Architaenioglossa

Order Ampullarida

Superfamily Ampullarioidea

Family Ampullariidae

Genus *Pomacea* Perry, 1810

Original name: *Pomacea bridgesii diffusa* Blume, 1957. In Blume, W. (1957) Eine bis heute unbekannte Unterart von *Pomacea bridgesii* Rve. Opuscula Zoologica 1: 1–2.

Type locality: Lagune in St Cruz, Bolivia.

Biology and ecology

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

This species is not considered to be an agricultural pest as it only feeds on dead plant material and algae.

Distribution

Introduced from the Amazon River system in South America and found in aquarium shops in most Australian cities. Recently reported from the Ross River in Townsville, and there are other known naturalised populations that have not been previously reported; these are in the Kallangur/Narangba region north of Brisbane, North Lakes, northern Brisbane, two areas SW of Brisbane (Flinders View, south of Ipswich and Springfield Lakes, Coolnwynpin Creek, Capalaba E of Brisbane and Hervey Bay Botanic Gardens at Urangan, NE of Maryborough (D. Potter, pers. comm. - material all vouchered in Queensland Museum). It is abundant in the Deagon Wetlands, Brisbane. See also Snails of Australasia | Found in leaf litter to the side of a rarely-used walking trail, Hervey Bay, Qld | Facebook for another Hervey Bay record.

This species was also established in Kimberley Warm Springs, in Tasmania but efforts have been made to eradicate it.

Notes

This species has until very recently been known as *Pomacea bridgesii* (Reeve, 1856) which has now been shown to be based on a rather rare South American species.

Two similar south Asian ampullariid species have regularly been intercepted by Australian Biosecurity – they are *Pila ampullacea* (Linnaeus, 1758) and *Pila globosa* (Swainson, 1822). *Pila ampullacea* has a more pear-shaped shell compared to *Pomacea diffusa* which is more turbanate in shape. *Pila ampullacea* has rounded whorl shoulders and lacks the distinct flat topped shouldered whorls present in *Pomacea diffusa*. *Pila ampullacea* has a narrow to almost closed umbilicus whereas in *Pomacea diffusa* the umbilicus is wide and deep. *Pomacea diffusa* has a sharp pointed spire whereas in *Pila ampullacea* the spire is more rounded. *Pila ampullacea* is larger in size (up to 100mm high) compared to *Pomacea diffusa* (up to 65mm high).

The shell colour of *Pila ampullacea* varies from bright green to orange-brown with reddish spiral bands. The interior of the shell is yellowish with a suffusion of purple and marked with strong spiral bands. The operculum of *Pila ampullacea* is calcified on the inside whereas in *Pomacea diffusa* the operculum is completely horny. The eggs of *Pila ampullacea* are calcareous and white and are deposited above the water line on banks and mudflats in shallow depressions. *Pila ampullacea* aestivates during the dry season. The snails bury themselves deep into the mud and can be found to depths of one metre. *Pomacea diffusa* generally does not aestivate.

Pila globosa has a globose pear shaped shell with an oval aperture and low rounded spire. In contrast with *Pila ampullacea*, *Pila globosa* has a large and deep umbilicus. The colour of *Pila globosa* varies from olive green to grey green with a reddish suffusion. The interior of the shell is dull reddish with very faint spiral bands visible, the columella is white. Like *Pila ampullacea* the operculum is calcified on the inside. The eggs are calcareous and white and are deposited above the water line on banks and mudflats in shallow depressions. Like *Pila ampullacea*, *Pila globosa* aestivates during the dry season.

Further reading

Brandt, R. A. M. (1974). The non-marine aquatic Mollusca of Thailand. *Archiv für Molluskenkunde* 105: 1-423.

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. & 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 (Piliidae, 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.

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

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.

