Bellamya japonica (von Martens 1861)

Japanese mysterysnail

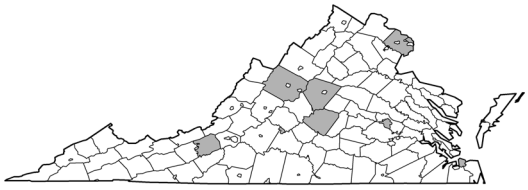
Taxonomy & Systematics. *Bellamya* is an Old World genus in the worldwide family Viviparidae, a strictly freshwater family of relatively large-bodied prosobranch gastropods, bearing concentric opercula. Viviparids have evolved specializations of the gill and mantle cavity allowing them to filter feed as well as graze. They are also distinguished by their ovoviviparity. Females brood eggs in a "uterus," releasing young as crawling juveniles. The penis arises as a modified right tentacle.

The oldest literature sometimes refers *japonica* to the genus *Viviparus*. Although the species is most commonly assigned to the genus "*Cipangopaludina*" here in the United States today, the genus *Bellamya* is generally preferred throughout the Old World. The two North American species, *B. chinensis* and *B. japonica*, have sometimes been confused or even synonymized. But Smith found no morphological overlap between the former and the latter (with a more turreted shell), and recommended that the specific distinction be retained.

Habitat & Distribution. Although native to southeast Asia, *Bellamya* populations were first introduced to North America in the 1890s and have now spread throughout the United States, especially in New England and the Midwest. The earliest record in the American southeast of which we are aware is a 1947 report from Burlington, NC, associated with a local biological supply company. Our earliest Virginia record is a 1976 collection at a fish pond in Montgomery County. At this writing, however, *B. japonica* is widespread in large hydroelectric impoundments through the Carolinas, and spottily-distributed in Virginia.

Ecology & Life History. Retail stores supplying the hobby of "water gardening" commonly stock "mystery snails" or "trap-door snails" to clarify the water. These are almost always *Bellamya*. They seem to reproduce well in artificial environments, and we suspect that many recent introductions in the southeastern United States are simply excess snails casually dumped by water gardeners.

That *Bellamya* populations can, in fact, clarify the water in small ornamental ponds attests to their efficiency as filter-feeders. They probably also graze, or at least scavenge excess fish food. There is recent experimental evidence that *Bellamya* invasion might have a negative impact on native pulmonate populations, although this has not been confirmed by the field studies.



Although we are aware of no good study following the life history of *B. japonica*, sparse studies of *B. chinensis* suggest that maturity may be reached at age one year, with iteroparous reproduction for several years thereafter.

Conservation Status. NatureServe G5/SNA - Secure/Not Applicable (exotic).

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