Planorbula armigera (Say 1821)

thicklip rams-horn

Taxonomy & Systematics. The Planorbidae is the most diverse family of basommatophoran pulmonates, including hundreds of species in perhaps 30-40 genera worldwide. The gill has been lost, leaving respiration to occur across the entire mantle cavity, as is true for pulmonates in general. The ability of pulmonate snails to enfold an air bubble within this cavity can be seen as an adaptation to the colonization of warm or stagnant freshwaters, where the concentration of dissolved oxygen may be reduced.

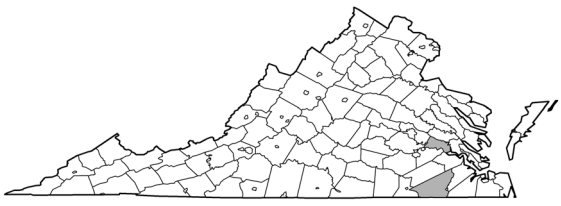
Planorbids are hermaphroditic, as is also true for pulmonates in general; typically capable of self-fertilization and laying eggs in circular egg masses with a tough outer covering. But the sinistral, typically planispiral axis of shell coiling, together with other derived aspects of their anatomy, suggests that the Planorbidae may be among the most recently-evolved of the basommatophoran pulmonates.

Thomas Say originally described his "*armigerus*" in the genus *Planorbis*, and the species has also subsequently been assigned to the genera *Planorbella* and *Segmentina*. Specific synonyms include *jenksii* and *wheatleyi*.

Habitat & Distribution. This is a rare species in our study area, recorded almost entirely from swamps, ponds, and sluggish creeks in the Coastal Plain. Populations extend south to Florida, but are much more common further north, especially above the glacial maximum, west to Nebraska. We speculate that *P. armigera* populations in southern Atlantic drainages may originate from dispersal by migratory waterfowl.

Northern populations reach maximum abundance in smaller ponds and intermittent lentic habitats including marshes and wetlands, especially associated with submersed macrophytes and decomposing vegetation. In Canada, Clarke considered populations of *P. armigera* to be characteristic of older eutrophic ponds or swamp-like ecosystems. *Planorbula armigera* populations seem adaptable to a variety of water chemistries and have the physiological capability of aestivation if habitats dry.

Ecology & Life History. Northern populations of *P. armigera* typically display at least two generations annually, individuals not living for more than one year. Dillon considered Connecticut populations to be R-adapted, typically associated with rich but unpredictable habitats. Jokinen considered *P. armigera* to be a good disperser, and therefore a frequent early colonizer of newly available sites.



Conservation Status. NatureServe G5/S4 - Secure/Apparently secure.

Prepared by Robert T. Dillon, Jr., College of Charleston, SC.