



Aplexa hypnorum (Linnaeus 1758)

lance aplexa

Taxonomy & Systematics. The basommatophoran pulmonate family Physidae is worldwide in distribution but reaches its maximum diversity in North America. 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. Physids are hermaphroditic, as is also true for pulmonates in general; typically capable of self-fertilization and laying eggs in irregular, loosely-packed, gelatinous masses.

Recent studies of anatomy, allozyme frequency, and mtDNA sequence have confirmed that *Aplexa* is the most genetically distinctive of the North American physids. Thomas Say considered American populations of *Aplexa* distinct from those of the Old World, authoring the nomen *elongata* in 1821. VDGIF recognizes *A. elongata*. We find no difference between North American populations and those of the Palearctic, however, and consider *elongata* to be a junior synonym of *hypnorum*.

Habitat & Distribution. We have not confirmed *Aplexa hypnorum* in southern Atlantic drainages, although there are reports from Greene and Surry Counties in Virginia. This is a more northern species, ranging coast to coast from New York to Washington, north to Alaska and south to Colorado. Its range extends across the northern latitudes of Europe and Asia. Populations of *A. hypnorum* typically inhabit marshes and weedy ditches, as well as the edges of intermittent ponds and slow-moving streams.

We suspect that records of *Aplexa* in southern Atlantic drainages may be attributable to confusion with *Physa carolinae*, which is a similar species both morphologically and ecologically, apparently the result of convergence.

Ecology & Life History. Dutch populations of *Aplexa* display the annual, semelparous life cycle typical of larger-bodied pulmonates in northern latitudes. The animals overwinter as juveniles in the frozen soil, growing rapidly in the spring, reproducing in late summer or fall. Den Hertog reported a correlation between the abundance of *Aplexa* and certain soil types, characterized by cyclic periods of inundation and drying. Brown characterized *A. hypnorum* as a specialist in both habitat and diet when compared to the other pulmonate snails of the Crooked Lake Biological Station in northern Indiana, feeding primarily on detritus.

Conservation Status. NatureServe G5/SNR - Secure/Not assessed.