



Physa pomilia Conrad 1834

glossy physa

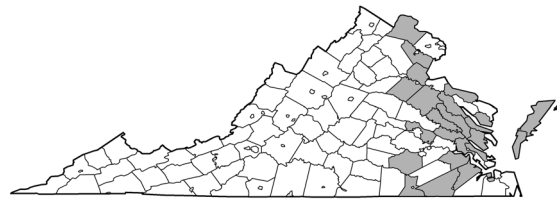
Taxonomy & Systematics. The basommatophoran pulmonate family Physidae is worldwide in distribution but reaches its maximum diversity in North America. The gill has been lost, leaving respiration to occur across the entire mantle cavity, as is true for pulmonates in general. Their ability to enfold an 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.

Until recently it was believed that the North American Physidae numbered more than 40 species, and a variety of elaborate classification schemes have been proposed. All of the physids common in the southeastern U.S. have at times been referred to the genus "*Physella*," which VDGIF recognizes following Turgeon et al. It is now clear that most of this nominal diversity is attributable to phenotypic plasticity, however, and that the true number of American species is closer to ten. The simple two-genus system favored by earlier workers would seem sufficient, all species of the American southeast referable to the genus *Physa*.

The shell apex is straight to slightly convex, and penial sheath subdivided into glandular and non-glandular portions. Although outwardly very similar to *P. acuta*, laboratory mating experiments have returned evidence of both pre-mating and post-mating reproductive isolation.

The species was originally described by T. A. Conrad from a creek in south Alabama. Clench described a subspecies, *P. pomilia hendersoni*, from Yemassee, South Carolina. George Te synonymized *pomilia* under *heterostropha* and raised *hendersoni* to the rank of full species. Dillon and colleagues have demonstrated, however, that *P. heterostropha* is a synonym of the cosmopolitan *P. acuta*. Mate choice tests and no-choice breeding studies have confirmed both that *acuta* and *pomilia* are specifically distinct, and that "*hendersoni*" populations from South Carolina are not reproductively isolated from *P. pomilia* collected at its Alabama type locality.

Habitat & Distribution. In Virginia *P. pomilia* is moderately widespread on the margins of slow-moving rivers in the lower Piedmont and Coastal Plain. Populations are typically found on emergent vegetation and debris in quiet backwaters. *Physa pomilia* certainly ranges through the southeast as far as Alabama, and through interior drainages as well.



Ecology & Life History. Laboratory cultures of *P. pomilia* reach maturity only 5 – 6 weeks post hatch, and shell length of only 5 – 6 mm. This is about two weeks earlier and 1 – 2 mm smaller than typical *P. acuta* raised under similar conditions.

Conservation Status. NatureServe G5Q/SNR - Secure/Unranked.