



## *Pleurocera proxima* (Say 1825) sprite elimia

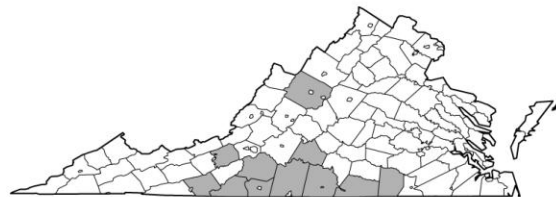
**Taxonomy & Systematics.** *Pleurocera* is a genus in the (primarily North American) family Pleuroceridae - prosobranch gastropods of moderate body size, generally inhabiting shallow waters, males aphyallic. Females can be distinguished by an egg laying groove on the right side of their foot. Most populations are perennial and iteroparous, typically requiring more than a year to mature and living several years. Eggs are affixed to hard substrates singly or in small clusters from spring to midsummer. Pleurocerids are generalized grazers, and where present in high density can have significant effects on energy flow in streams.

Until recently this species has been assigned either to the genus *Goniobasis* or to "*Elimia*." Both of these generic nomina were subsumed under the genus *Pleurocera* in 2011.

High levels of interpopulation divergence in morphology, allozyme frequency, and DNA sequence are well-documented in *P. proxima*. Dillon & Davis recognized three races: Race A being the typical form found in the mountains and foothills, Race B inhabiting harder waters, and Race C inhabiting streams of lower flow in the eastern Piedmont. Dillon & Robinson nominated *P. proxima* as one of the "snails the dinosaurs saw," suggesting on the basis of DNA sequence data that populations may date to the Appalachian orogeny. *Pleurocera symmetrica* (Haldeman 1841) is a synonym.

**Habitat & Distribution.** *Pleurocera proxima* ranges through the Blue Ridge and Piedmont ecoregions from southern Virginia to north Georgia, primarily in Atlantic drainages but also in the upper New River drainage of the Ohio system and many eastern tributaries of the Tennessee River as well. It reaches maximum abundance in smaller streams with high percent groundwater and good flow over rock & cobble substrate. Water quality is typically soft and low in nutrients.

**Ecology & Life History.** Like pleurocerids generally, *P. proxima* seems to be a rather nonspecific grazer and shredder. Streams supporting large populations typically seem less productive than those inhabited by most other freshwater gastropods, but are quite stable and predictable. *Pleurocera proxima* populations are perennial and iteroparous, two years being required for maturity.



The sex ratio seems balanced in some *P. proxima* populations, although female-biased in others. Individual movement seems to average around 10 m/yr upstream and 5 m/yr down, but apparently minor barriers may have significant effects. Populations of *P. proxima* often carry high loads of trematode parasites.

**Conservation Status.** NatureServe G5/S5 - Secure.