



Ferrissia fragilis (Tryon 1863)
fragile ancyloid



Taxonomy & Systematics. The Ancyliidae is a small family of small basommatophoran pulmonates, including several dozen species in 6-8 genera worldwide. They are (at least embryonically) sinistral, although their direction of shell coil tends to be obscured by the cap-like or limpet shape of their shells. The gill has been lost, leaving respiration to occur across the entire mantle cavity, as is true for pulmonates in general. But ancyliids do not rise to breathe at the surface; their mantle cavity being filled with water throughout their lives. Thus unlike most pulmonates, they are not especially well-adapted for warm or stagnant waters. Ancyliids are hermaphroditic, as again

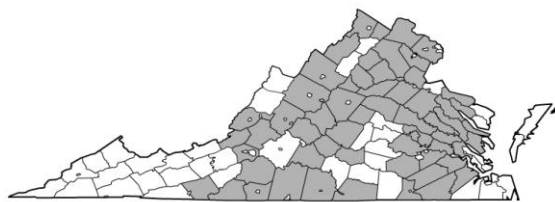
is true for pulmonates in general; often apparently self-fertilizing. They lay eggs in singletons or small clusters with little matrix.

Basch recognized five species in the genus *Ferrissia* - *F. rivularis* from stones, *F. fragilis* from vegetation and organic debris in flowing water, *F. parallela* on narrow-bladed plants in lentic environments, *F. walkeri* on broad-leaved plants in lentic environments, and *F. mcneilli* endemic to Alabama. The shell morphological criteria upon which his system was largely based seem to be subject to a great deal of ecophenotypic plasticity, however. The five taxa have recently been combined into two species, *parallela* subsumed under *rivularis* and *walkeri* and *mcneilli* under *fragilis*.

Habitat & Distribution. *Ferrissia fragilis* ranges throughout North America from southern Ontario to southern California, on rocks, woody debris, macrophytes, and dead leaves in aquatic habitats of all descriptions. Some minimum levels of dissolved oxygen seem to be required. Thus populations of *F. fragilis* are not typically found in warm reservoirs or stagnant waters, or in water that is artificially enriched or polluted.

Ecology & Life History. *Ferrissia fragilis* seems to be predominantly herbivorous, grazing almost entirely upon diatoms.

Allozyme data suggest that South Carolina populations of *F. fragilis* are obligately self-fertilizing. Generation times of less than six weeks have been documented in the laboratory, adults maturing around 2-3.0 mm shell length, laying singleton eggs perhaps 0.6 mm in diameter.



Jokinen reported three generations per year for an *F. fragilis* population in Connecticut (Life cycle Esis). The statewide distribution of *F. fragilis* documented by Jokinen suggested to Dillon that the species might show Stress-tolerant life history adaptation.

Conservation Status. NatureServe G5Q/S4 - Secure/Apparently secure.