



Gillia altilis (Lea 1841)

buffalo pebblesnail



Taxonomy & Systematics. The Hydrobiidae is a diverse group in the worldwide Superfamily Rissoacea - prosobranch gastropods typically small in body size, shallow or even amphibious in their habit, bearing cusps around the base of their median radular tooth. Sexes are separate in almost all cases, eggs being laid singly and attached in a spare capsule to solid substrates. The penis arises from the neck. Hydrobiids are distinguished from their two sister groups in freshwater, the Bithyniidae and the Pomatiopsidae, by the calcareous operculum of the former and the amphibious life habit of the latter.

The monotypic genus *Gillia* is characterized by a simple, single-ducted verge, and as such is classified with *Somatogyrus* and several other North American genera in the subfamily Lithoglyphinae. Its anatomy has been described by Thompson. This is the largest of the Virginia hydrobiids, adult shell length 7 - 9 mm.

Habitat & Distribution. Walker gave the American range of the species as New Jersey to South Carolina, but Jokinen confirmed it from as far north as Vermont and west to Lake Ontario. Thompson suggested that the Lake Ontario population may have been introduced artificially, through the Erie Canal. We have anecdotal reports of an apparently healthy population of *Gillia* on the shores of Lake Champlain.

At the southern end of its range, however, *G. altilis* seems to be quite rare. Its type locality was the Santee Canal, an early nineteenth century passage between Charleston and the Santee River to the north, now largely submerged under the waters of Lake Moultrie. We are aware of but a single population surviving in South Carolina today, in the Lynches River south of Florence. *Gillia* in the Lynches River shows similar habitat preferences to the sparse *Goniobasis catenaria catenaria* population with which it co-occurs, strongly associated with rip rap rocks and hard clay islands in an environment characterized by mud and sand. The species is also uncommon in Virginia. Our only modern records are from a boat ramp on the (rather silty) Nottoway River in Southampton County, and a single tributary upstream in Greensville County. It seems likely that the range of *Gillia* throughout the southeast may have been severely impacted by erosion and sedimentation.

Ecology & Life History. We are not aware of any study on the ecology of *Gillia*. But given its association with scattered hard substrates in silty rivers, we speculate that it is a generalized grazer, probably preferring rocks for the deposition of eggs.



Conservation Status. NatureServe G5/S5 - Secure.