

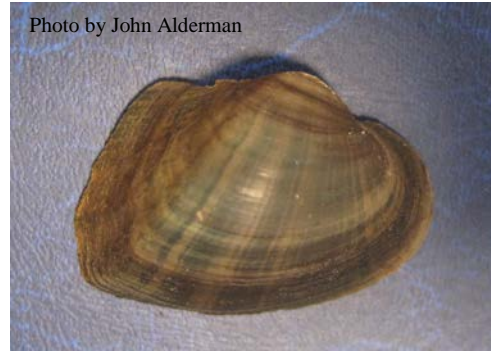
Altamaha Arcmussel*Alasmidonta arcula*

Contributor (2012): William Poly (SCDNR)

DESCRIPTION

Taxonomy and Basic Description

The shell of the Altamaha Arcmussel is triangular in outline and inflated with a rounded anterior end and a truncated posterior end. The umbo is high above the hinge line near the center of the shell. The outer surface is generally smooth except on the posterior slope; the coloration is dull greenish-yellow with green rays, becoming darker in mature individuals. The inner shell surface is bluish-white or white. Maximum shell length for this species is 75 mm (2.9 in.) (Johnson 1970). It is tentatively included in the South Carolina fauna pending completion of a current project on *Alasmidonta* spp. (Arthur Bogan pers. comm.).

**Status**

The Altamaha Arcmussel is listed as endangered in the IUCN Red List of Threatened Species (Bogan and Seddon 2000). The current global status for the Altamaha Arcmussel is imperiled (G2), and it is listed as imperiled (S2) in Georgia as well. It is not ranked in South Carolina (NatureServe 2011), but it is recommended for a rank of S2.

POPULATION SIZE AND DISTRIBUTION

The Altamaha Arcmussel was thought to be restricted to the Altamaha River system in Georgia (Johnson 1970). Now it is known from several rivers of the Altamaha River system in Georgia, including the Ocmulgee, Little Ocmulgee, Ohoopee, and Altamaha Rivers to the Ogeechee and Savannah Rivers in Georgia and South Carolina. It was found only recently in the Savannah River downstream of Augusta (NatureServe 2011). Based on a compilation and comparison of pre-2000 and post-2000 mussel surveys in the Altamaha River Basin, populations of the Altamaha Arcmussel have exhibited declines (Wisniewski et al. 2005). Quite a few individuals have also been found in Clarks Hill Lake (Thurmond Lake) and Lake Jackson in the upper reaches of the Ocmulgee River (Altamaha Basin) as well as numerous locations with decent populations in the historically known ranges (Wisniewski, pers. comm.).

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The Altamaha Arcmussel has only been found in the Savannah River and thus little is known about its habitat preference. One study found that a few *A. arcula* successfully transformed on Robust Redhorse, showing a potential linkage between the mussel and an imperiled fish (Wisniewski, pers. comm.), while others metamorphosed on 2 species of suckers (*Moxostoma* spp.) (Johnson, et al. 2012).

CHALLENGES

As it has only been documented in South Carolina recently, little is known about the habitat preferences and abundance of the Altamaha Arcmussel in South Carolina.

CONSERVATION ACCOMPLISHMENTS

There are no significant conservation accomplishments for the species at this time.

CONSERVATION RECOMMENDATIONS

- Conduct surveys to document the extent of distribution and population size of the Altamaha Arcmussel in the Savannah River Basin of South Carolina.
- Promote land stewardship practices through educational programs both within critical habitats with healthy populations and in other areas that contain available habitat for the Altamaha Arcmussel.
- Consider this species' needs when participating in the environmental permit review process.
- Work to improve minimum flows and restoration of more natural hydrologic regimes in the Savannah River.

MEASURES OF SUCCESS

Locating additional live mussels in the Savannah River, learning about their preferred habitat, and halting further disturbance to the habitat and natural hydrology of the Savannah River will be measures of success for the Altamaha Arcmussel.

LITERATURE CITED

- Bogan, A.E. and Seddon, M.B. 2000. *Alasmidonta arcula*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. <www.iucnredlist.org>. Downloaded on 31 January 2012.
- Johnson, J. A., J. M. Wisniewski, A. K. Fritts, and R. B. Bringolf. 2012. Host identification and glochidia morphology of freshwater mussels from the Altamaha River Basin. *Southeastern Naturalist* 11(4): 733-746.
- Johnson, R. I. 1970. The systematics and zoogeography of the Unionidae (Mollusca: Bivalvia) of the southern Atlantic Slope Region. *Bulletin of the Museum of Comparative Zoology*. 140(6):263-449.
- NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.

Wisniewski, J. M., G. Krakow, and B. Albanese. 2005. Current status of endemic mussels in the lower Ocmulgee and Altamaha rivers. *In* K. J. Hatcher (editor). Proceedings of the 2005 Georgia Water Resources Conference, April 25–27. Institute of Ecology, Athens, Georgia. (Available from: <http://www.gwri.gatech.edu/uploads/proceedings/2005/WisniewskiJ-GWRCpaper.pdf>)