Savannah liliput (*Toxolasma pullus*), male (left) 28 mm (1⅛ inches), female (right) 31 mm (1¼ inches). Savannah River, Burke Co., Georgia. Photo by Jason Wisniewski, GA DNR.

Common Name: SAVANNAH LILLIPUT

Scientific Name: *Toxolasma pullus* Conrad

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Unionidae

Rarity Ranks: G2/S2

State Legal Status: Threatened

Federal Legal Status: none

Description: Shell is small, typically less than 35 mm (1⅜ inches) in length. Valves somewhat thick and inflated. Anterior margin rounded, ventral margin straight to convex in females. Posterior margin typically broadly pointed in males while more truncated or broadly rounded in mature females. Umbos typically elevate to the hingeline or slightly above. Periostracum usually satiny and black or brown. Left valve with two triangular pseudocardinal teeth and short straight lateral teeth. Right valve with one triangular pseudocardinal tooth and one lateral tooth. Umbo pocket shallow. Nacre variable, ranging from bluish-white to pink, purple, or iridescent.

Similar Species: None

Habitat: Typically found in shallow water near the banks of streams, rivers, ponds, and lakes with little flow. This species is usually found in soft substrates such as mud, silty sand, and sand.

Diet: The diets of unionids are poorly understood but are believed to consist of algae and/or bacteria. Some studies suggest that diets may change throughout the life of a unionid with juveniles collecting organic materials from the substrate though pedal feeding and then developing the ability to filter feed during adulthood.

Life History: Gravid females have been observed between late April through early August, but not during mid-September. Glochidia successfully transformed on hybrid sunfish (*Lepomis sp*.). Successful transformation likely occurs on other *Lepomis* species.

Survey Recommendations: Surveyors should consider sampling during periods when female individuals are spawning or brooding as this species may have higher detection rates during this period. However, since basic life history information for many of Georgia's unionids is lacking, sampling during periods when closely related species are spawning or brooding my increase probability of detection. Surveys for the Savannah lilliput should focus on backwaters, sloughs, and oxbows in the Altamaha to assess its status in this river as the Altamaha represents the southern-most extant of the range of this species.

Range: Known from the Neuse River Drainage, North Carolina, south to the Altamaha River in Georgia. In Georgia, the Savannah lilliput is known from the Savannah, Ogeechee, and Altamaha River systems. From 1975 through 1980 the Savannah lilliput was found at eleven different sites in the Ohoopee River. Recent collections of this species were made from Little Brier Creek (Savannah River basin), McDuffie/Warren Counties; Ogeechee River, Bryan/Chatham Counties; and Ocmulgee River, Jeff Davis County from 2000-2005. In the Ohoopee River, two live individuals were collected in 2001. Three live individuals were collected from one site in a 2003-2004 survey of the Ogeechee River basin. Sampling conducted in the Savannah River during 2006 yielded substantial populations in river cutoffs located between New Savannah Lock and Dam down to the mouth of Brier Creek, Screven County. In July 2008, several live individuals were collected from a slough immediately upstream of U.S. 301 at Doctortown in the Altamaha River basin.

Threats: Excess sedimentation due to inadequate riparian buffer zones covers suitable habitat and could potentially suffocate mussels. Direct and indirect competition by the introduced flathead catfish may be reducing native mussel populations through direct consumption of mussels and their host fishes. Since the Savannah lilliput is primarily found along the banks in shallow water, all-terrain vehicles may also impact this species, particularly within the Ohoopee River.

Georgia Conservation Status: The Savannah lilliput is known from the Altamaha River on Griffin Ridge Wildlife Management Area in Georgia. However, unlike terrestrial species, the occurrence of an aquatic species on state or federal lands may not eliminate habitat degradation due to the influences of upstream and downstream disturbances.

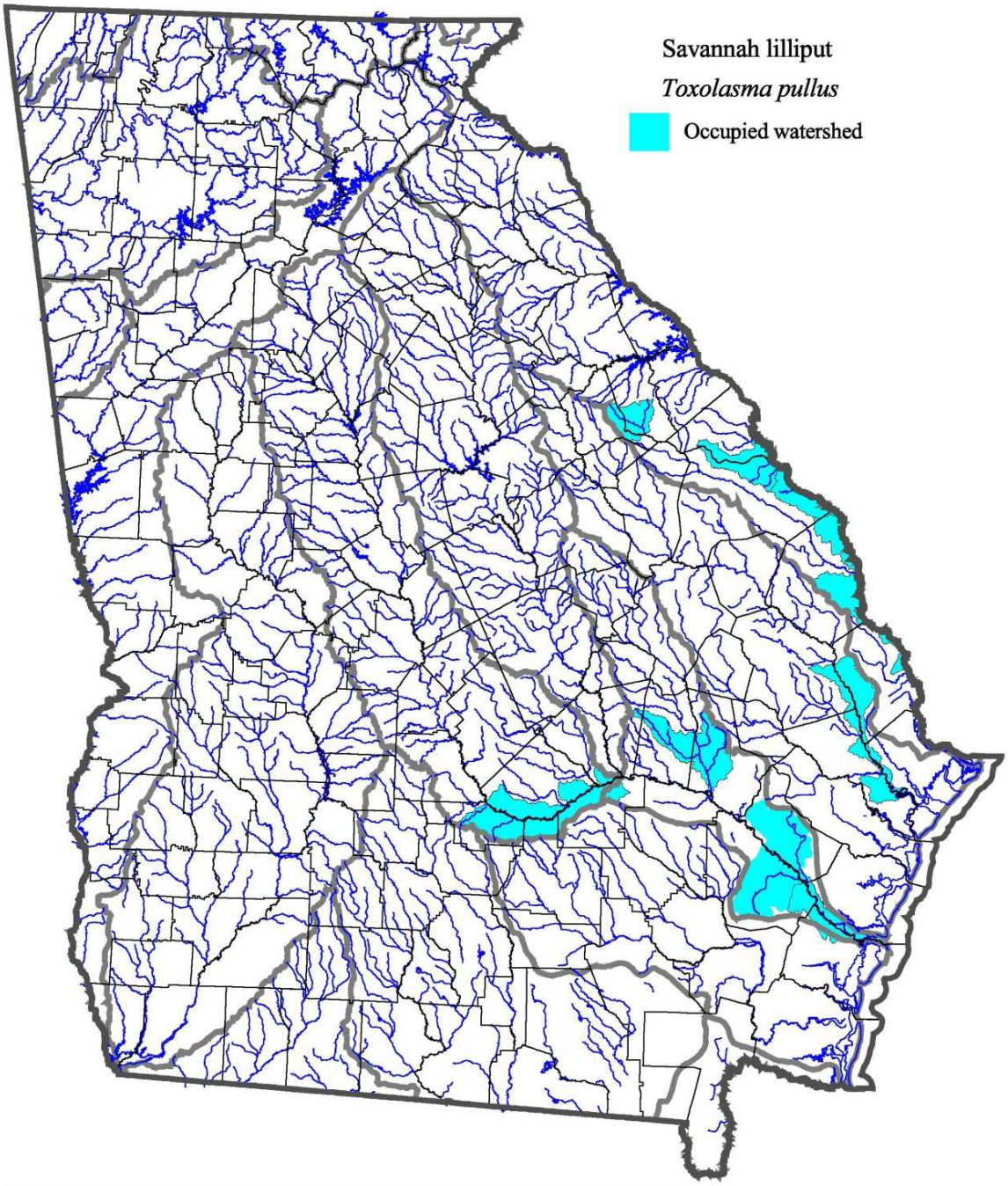
Conservation and Management Recommendations: Destruction of habitat for the Savannah lilliput by all-terrain vehicles was recognized as a leading reason for the decline of the species in the Ohoopee River. Minimizing disturbances due to all-terrain vehicles will prevent individuals from being crushed as well as minimize unnecessary erosion along waterways.

Selected References:

Hanlon, S.D., and J.F. Levine. 2004. Notes on the life history and demographics of the Savannah Lilliput (*Toxolasma pullus*) (Bivalvia: Unionidae) in University Lake, North Carolina. Southeastern Naturalist 3: 289-296.

Author of Species Account: Jason Wisniewski

Date Compiled or Updated: September 2008



Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on January 2009.