



Alabama creekmussel (*Strophitus connasaugaensis*)
101 mm (4 inches). Conasauga River, Bradley Co.,
Tennessee. Photo by Jason Wisniewski, GA DNR.
Specimen provided by the McClung Museum courtesy
of Gerry Dinkins.

Common Name: ALABAMA CREEKMUSSEL

Scientific Name: *Strophitus connasaugaensis* Lea

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Unionidae

Rarity Ranks: G3/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: Shell thin, compressed to slightly inflated with an elliptical or elongate shape. Anterior margin broadly rounded. Posterior margin typically rounded to truncate. Ventral margin straight to slightly arcuate. Umbos elevate slightly above hingeline. Posterior ridge low and rounded. Periostracum typically yellowish green in juveniles to dark brown in adults. Left and right valve each with single, compressed pseudocardinal teeth. Lateral teeth greatly reduced to absent. Umbo cavity shallow and wide. Nacre typically bluish gray to white.

Similar Species: Southern creekmussel (*Strophitus subvexus*). The Alabama creekmussel strongly resembles the southern creekmussel and may be the same species in the eastern Mobile

River basin. Alabama creekmussel can be distinguished from the southern creekmussel by the former typically having lower umbos and less prominent posterior ridge. Additionally, the ventral margin of the Alabama creekmussel tends to be straight to slightly arcuate whereas that of the southern creekmussel tends to be broadly rounded.

Habitat: Usually found in sand-gravel substrates in medium sized creeks to larger rivers with moderate current.

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 through pedal feeding and then developing the ability to filter feed during adulthood.

Life History: A recent research project involving the basic life history of the Alabama creekmussel observed gravid individuals between October and January and found that glochidia appear to transform on 19 fish 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 may increase probability of detection.

Range: Endemic to the Alabama River basin of Alabama, Georgia, and Tennessee. Historically widespread throughout range but becoming restricted to a few waters in Alabama and Georgia. In the Mobile River basin of Georgia, the Alabama creekmussel appears to be restricted to the Conasauga River and its tributaries. Extensive surveys have not found the species elsewhere in the upper Coosa River basin in Georgia.

Threats: Excess sedimentation due to inadequate riparian buffer zones, development, and agriculture covers suitable habitat and could potentially suffocate mussels. Poor agricultural practices may also cause eutrophication and degrade water quality. Industrial effluent as well as sewage treatment plant discharges may also be degrading water quality.

Georgia Conservation Status: The Alabama creekmussel is not known from any state or federal lands in Georgia. 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: Minimizing sedimentation in the Upper Coosa River basin and its tributaries is a key component to conserving the Alabama creekmussel. Restoration of riparian buffers will stabilize banks providing clean gravel and sand substrates for the species. Changing the operations of Carters Reservoir was identified as a high priority management need for the restoration of the Alabama creekmussel to the Coosawattee River. Irregular flow regimes coupled with cold hypolimnetic discharges are believed to have caused the decline of the species in the Coosawattee and Oostanaula rivers. If habitat degradation can be

minimized, reintroduction/augmentation of the Alabama creekmussel populations should be explored in order to re-establish viable populations of the species. However, prior to initiating any reintroduction/augmentation projects for the Alabama creekmussel, the effective population size of this species should be examined to ensure that these actions would not negatively affect the genetic integrity of the population.

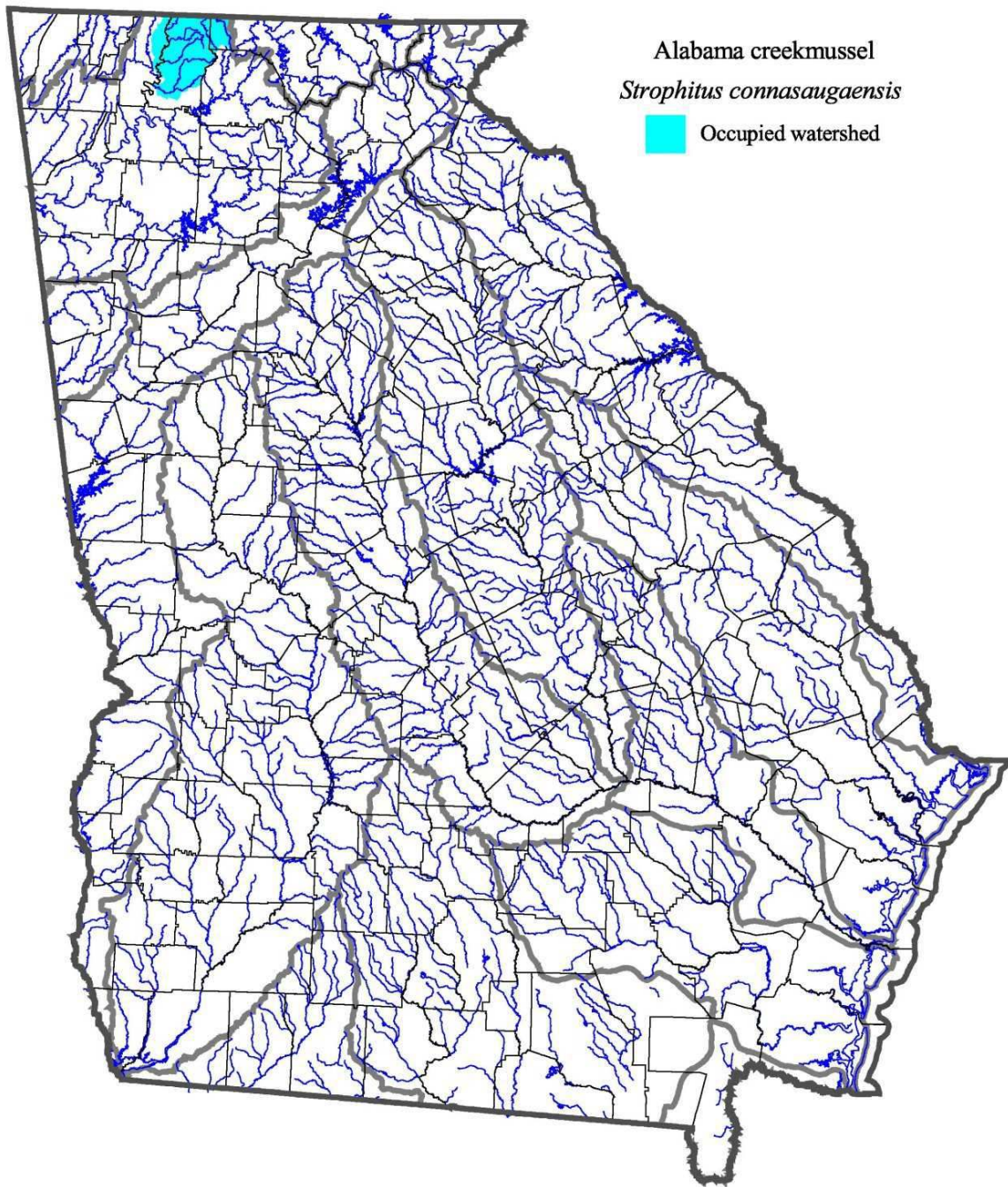
Selected References:

Vaughn C.C. and C.C. Hakenkamp. 2001. The functional role of burrowing bivalves in freshwater ecosystems. *Freshwater Biology* 46: 1431-1446.

Williams, J.D., A.E. Bogan, and J.T. Garner. 2008. *Freshwater mussels of Alabama and the Mobile Basin in Georgia, Mississippi, and Tennessee*. The University of Alabama Press, Tuscaloosa.

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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.