



Coosa moccasinshell (*Medionidus parvulus*) 49 mm (2 inches). Conasauga River, Bradley Co., Tennessee. Photo by Jason Wisniewski, GA DNR. Specimen provided by the McClung Museum courtesy of Gerry Dinkins.

**Common Name:** COOSA MOCCASINSHELL

**Scientific Name:** *Medionidus parvulus* Lea

**Other Commonly Used Names:** none

**Previously Used Scientific Names:** none

**Family:** Unionidae

**Rarity Ranks:** G1/S1

**State Legal Status:** Endangered

**Federal Legal Status:** Endangered

**Description:** Shell profile is sub-rhomboidal to elliptical in outline. Shell rather delicate with a maximum length of approximately 58 mm (2<sup>3</sup>/<sub>8</sub> inches). Anterior margin broadly rounded while posterior margin is bluntly pointed and terminates near the posteroventral margin. Ventral margin is straight to slightly arcuate. Umbos positioned anterior of the middle of the valves and elevated to or just slightly above the hingeline. Posterior ridge is well developed with prominent corrugations present on the posterior slope. The periostracum dull to glossy and yellow to green with fine, irregularly shaped dark rays radiating from the umbo to the margin of the shell. Pseudocardinal teeth are short and triangular while lateral teeth are slightly curved. Nacre color typically bluish-white to gray.

**Similar Species:** Alabama moccasinshell (*Medionidus acutissimus*). The Alabama moccasinshell and the Coosa moccasinshell may be difficult to distinguish from one another. However, the Alabama moccasinshell typically has a more pointed posterior terminus as well as a more angular posterior ridge than the Coosa moccasinshell.

**Habitat:** Typically occupies small streams to large rivers with sand, gravel, or cobble substrates and swift flowing shoal areas.

**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:** The life history of this species has been poorly studied, but is assumed to be similar to that of other species in the genus *Medionidus* which brood glochidia over winter and parasitize darters.

**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:** This species is endemic to the upper Mobile River basin of Alabama, Georgia, and Tennessee. In Georgia, this species appears to be restricted to the upper Conasauga River and several of its tributaries.

**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 Coosa moccasinshell 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 Conasauga River and its tributaries is a key component to conserving the Coosa moccasinshell. Restoration of riparian buffers will stabilize banks providing clean gravel and sand substrates for the species. If habitat degradation can be minimized, reintroduction/augmentation of the Coosa moccasinshell populations should be explored in order to re-establish viable populations of the species. However, prior to initiating any reintroduction/augmentation projects for the Coosa moccasinshell, 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.

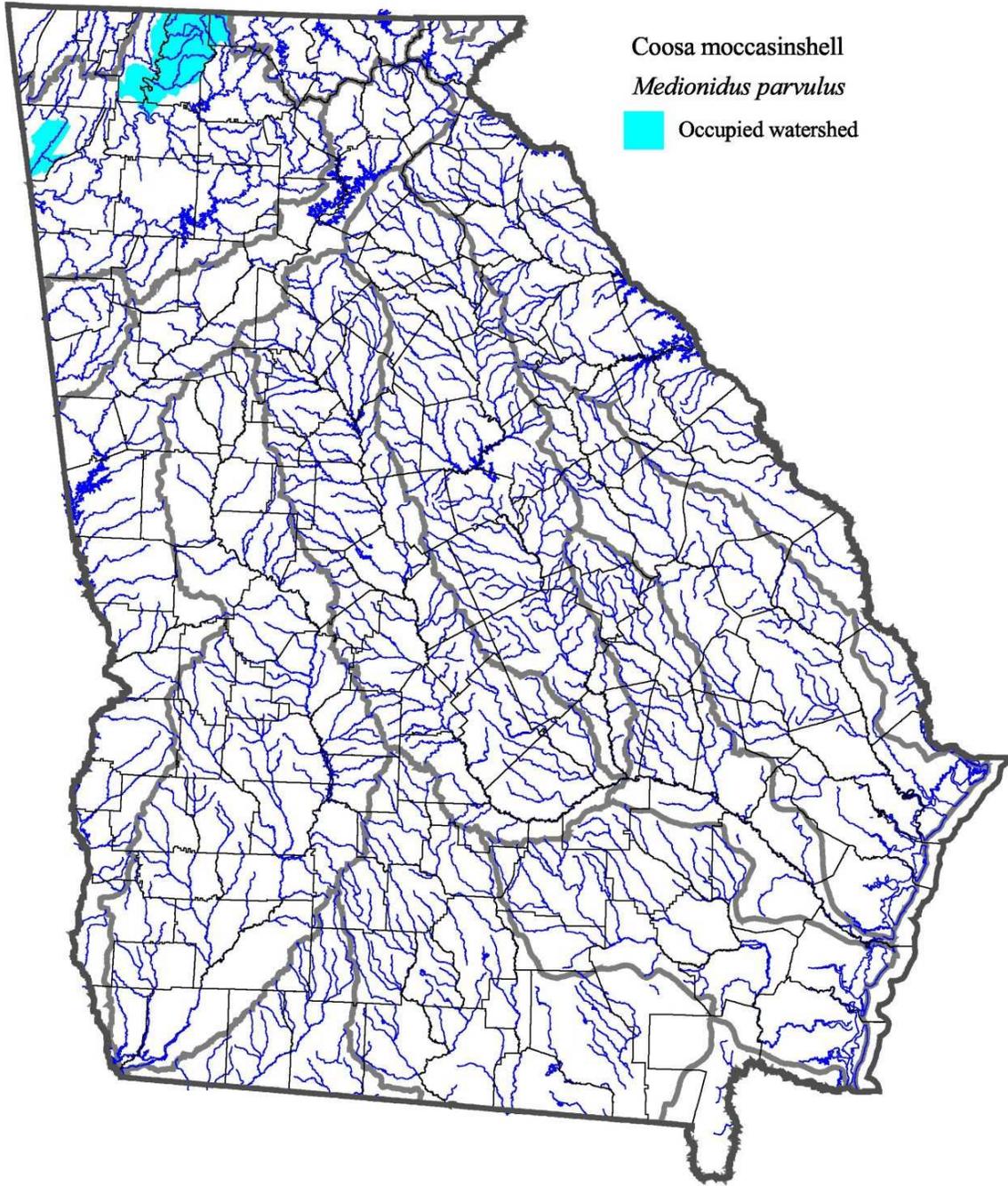
**Selected References:**

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 26, 2009.