Southern pigtoe (*Pleurobema georgianum*) 35 mm (1⅓ inches). Conasauga River, Bradley Co., Tennessee. Photo by Jason Wisniewski, GA DNR. Specimen provided by the McClung Museum courtesy of Gerry Dinkins.

Common Name: SOUTHERN PIGTOE

Scientific Name: *Pleurobema georgianum* 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 elliptical to oval in outline and the shell is relatively compressed to inflated with a maximum length of approximately 65 mm (2⅝ inches). Anterior margin rounded and posterior margin bluntly pointed to broadly rounded. Ventral margin is straight to broadly rounded. Umbos broad, positioned anterior to the middle of the shell, and elevated slightly above

hingeline. Posterior ridge is rounded with a relatively steep posterior slope. Periostracum dark yellow to brown often with a wide, dark ray present on the disc near the posterior ridge. Prominent, dark growth rings present on surface of the shell. Pseudocardinal teeth are low and triangular. Lateral teeth are long and slightly curved. Umbo cavity typically shallow. Nacre color typically bluish-white to white.

Similar Species: The genus *Pleurobema* is generally regarded as one of the most difficult of genera to identify. Even the most seasoned malacologists find mussels in this genus to be extremely difficult to identify due to very few, or subtlly differing, conchological characteristics. Williams et al. (2008) recognize five species that strongly resemble the southern pigtoe and should be referenced to obtain a detailed list of similar species and characteristics to distinguish between these species. As a result, no similar species will be discussed in this account.

Habitat: Typically occupies medium size streams to large rivers with moderate flow and sand or gravel substrates.

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: Specific life history information is unknown but is presumed to be similar to those of other individuals from in the genus *Pleurobema*, which brood and release glochidia from late spring through mid-summer. It is also likely that this species uses a cyprinid as a fish host.

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.

Range: This species is endemic to the upper Coosa River basin of Alabama, Georgia, and Tennessee and is historically known from the Coosa, Chattooga, Coosawattee, Etowah, and Conasauga Rivers in Georgia. The southern pigtoe currently appears to be restricted to the Conasauga River and several of its tributaries in Georgia but is extremely rare.

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 southern pigtoe 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: Examination of the basic life history was identified as a top research priority needed for the conservation of this species during the 2005 Georgia Wildlife Action Plan. Understanding the basic life history of this species will provide the foundation upon which all other research and conservation actions should be built. Minimizing sedimentation in the Conasauga River and its tributaries is a key component to conserving southern pigtoe. 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 southern pigtoe populations should be explored in order to re-establish viable populations of the species.

Selected References:

Haag, WR. and M.L. Warren, Jr. 2003. Host fishes and infection strategies of freshwater mussels in large Mobile Basin streams, U.S.A. Journal of the North American Benthological Society 22:.78-91.

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.

Author of Species Account: Jason Wisniewski

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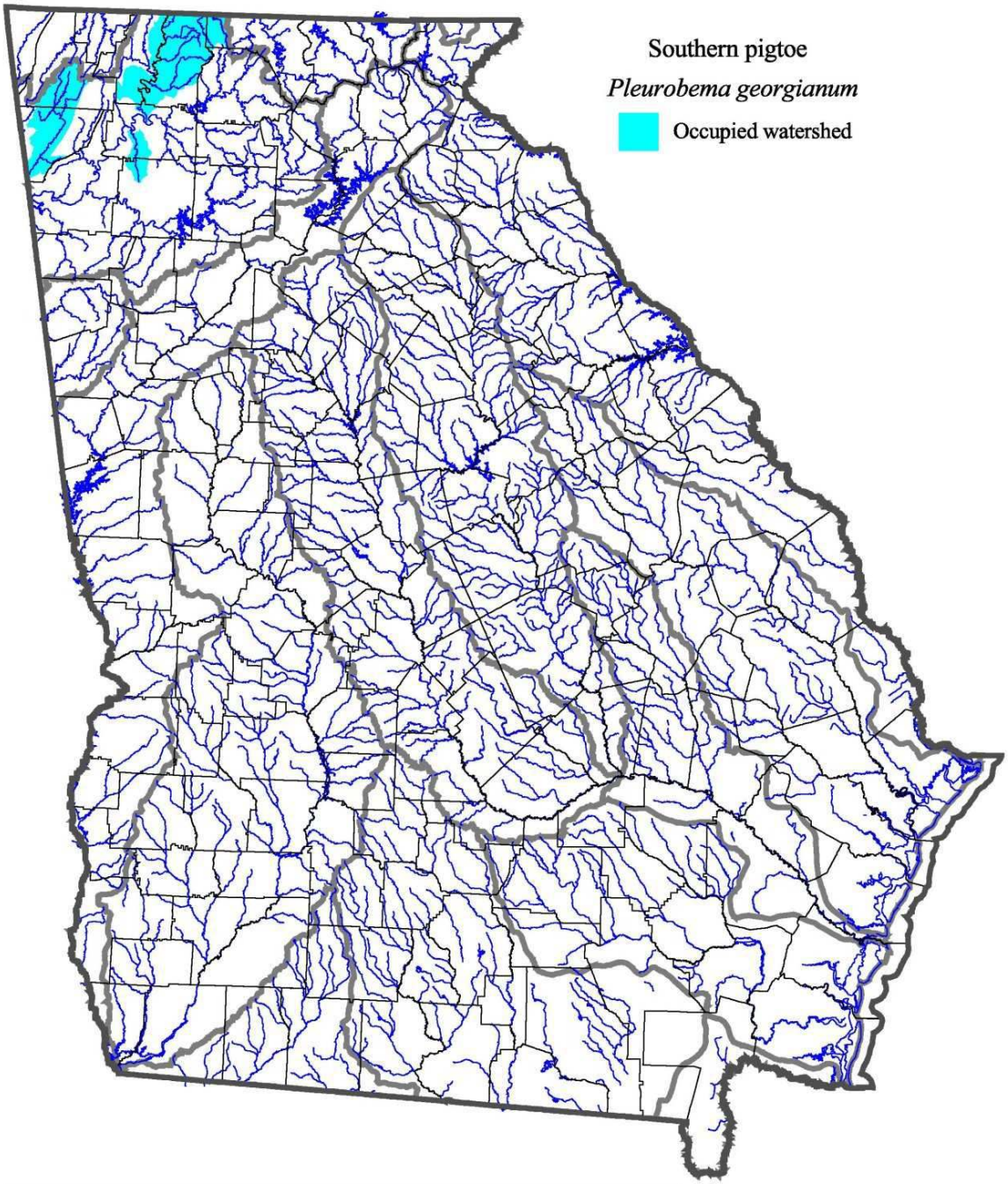

Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on January 26, 2009.