



Georgia pigtoe (*Pleurobema hanleyianum*) 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: GEORGIA PIGTOE

Scientific Name: *Pleurobema hanleyianum* 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: Moderately thin oval to elliptical shell with a maximum length of approximately 50 mm (2 inches). Anterior margin broadly rounded. Posterior margin typically rounded to bluntly pointed to rounded. Dorsal and ventral margins are relatively straight to broadly rounded. Umbos elevated slightly above hingeline and moderately inflated. Posterior ridge broadly

rounded. Periostracum typically yellow to dark brown, occasionally with dark growth rings near the umbo. Left valve with two triangular low pseudocardinal teeth and two low but straight or slightly curved lateral teeth. Right valve with one high serrated pseudocardinal tooth and one, typically high, straight, and long lateral tooth. Umbo cavity typically shallow. Nacre typically 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 subtly differing, conchological characteristics. Williams et al. (2008) recognize two species that strongly resemble the Georgia 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 coarse sand and gravel substrates in medium sized creeks to large rivers.

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 the Georgia pigtoe has been poorly studied but is believed to be similar to that of other individuals in the genus *Pleurobema*, which typically brood glochidia in the late spring or early summer. Glochidial host fishes for the Georgia pigtoe are unknown but believed to be similar to that of other *Pleurobema*, which often use cyprinids.

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: The Georgia pigtoe was historically restricted to the Coosa River basin in Alabama, Georgia, and Tennessee. In Georgia, historic occurrences included the Chattooga, Conasauga, and Coosawattee Rivers and Armuchee, Coahulla, Holly, Swamp, and Telloga Creeks. Currently, the Georgia pigtoe appears to be restricted to a small section of the Conasauga River watershed in Whitfield and Murray counties.

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 Georgia 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 is a top research priority needed for the conservation of this species. 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 Upper Coosa River basin and its tributaries is a key component to conserving the Georgia 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 Georgia pigtoe populations should be explored in order to re-establish viable populations of the species.

Selected References:

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

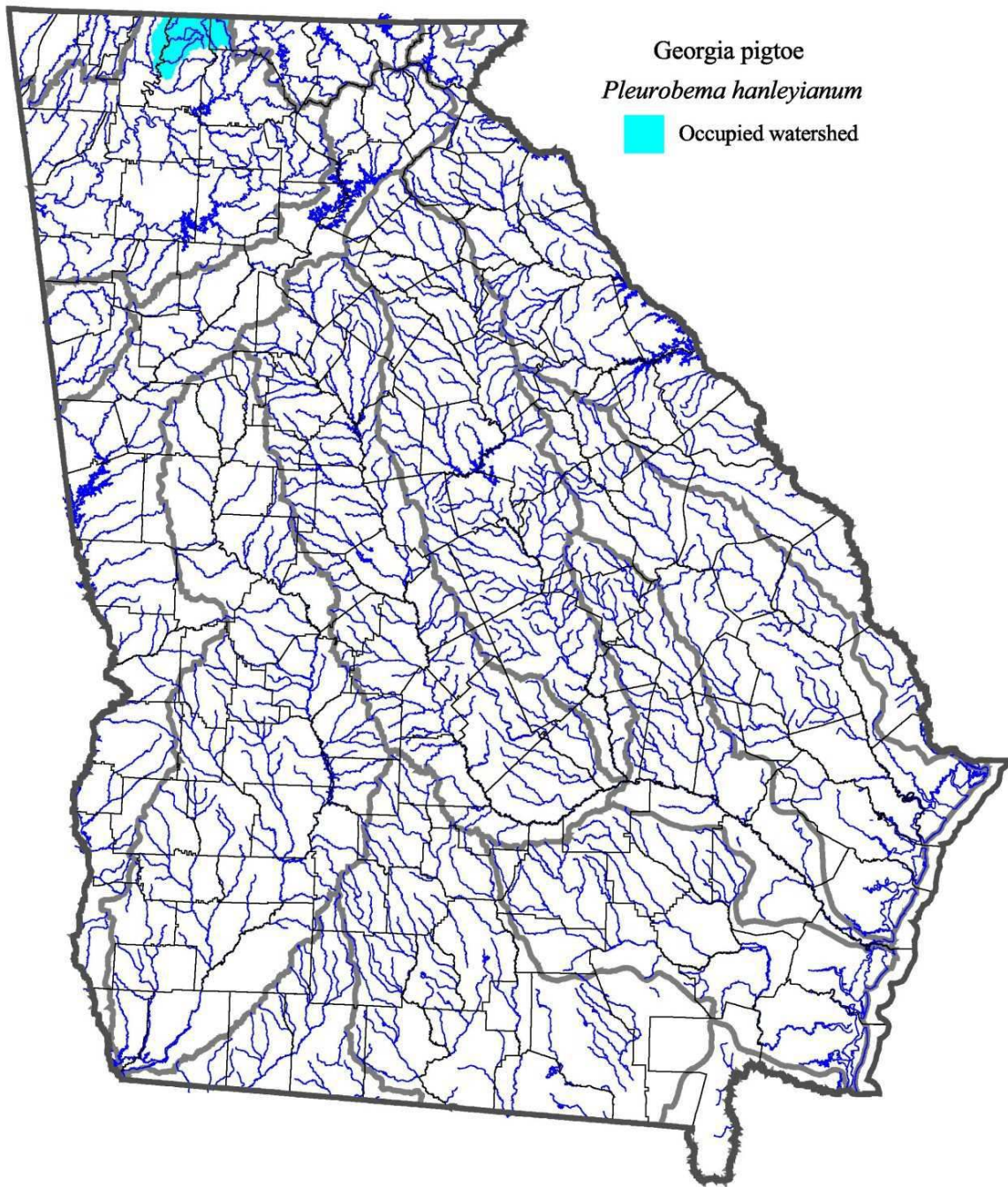
Williams, J.D., A.E. Bogan, and J.T. Garner. 2008. *Freshwater mussels of Alabama and the Mobile Basin in Georgia, Mississippi, and Tennessee*. The University of Alabama Press, Tuscaloosa.

Author of Species Account: Jason Wisniewski

Date Compiled or Updated:

J. Wisniewski, September 2008: original account

M. Camp, December 2010: updated federal status



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.