Finelined pocketbook (*Hamiota altilis*) 76 mm (3 inches). Conasauga River, Bradley Co., Tennessee. Photo by Jason Wisniewski, GA DNR. Specimen provided by the McClung Museum courtesy of Gerry Dinkins.

Common Name: FINELINED POCKETBOOK

Scientific Name: *Hamiota altilis* Conrad

Other Commonly Used Names: none

Previously Used Scientific Names: *Lampsilis altilis*

Family: Unionidae

Rarity Ranks: G2/S1S2

State Legal Status: Threatened

Federal Legal Status: Threatended

Description: Shell profile ovate with a maximum length of approximately 117 mm (4⅝ inches). The umbo is positioned anteriorly of the middle of the valves and is elevated slightly above the hingeline. Shell is broadly rounded anteriorly and sharply rounded posteriorly with males exhibiting a more pointed appearance. Ventral margin is broadly rounded. Posterior ridge low or broadly rounded. The periostracum dull to glossy and yellow to dark brown with fine dark rays

radiating from the umbo to the margin of the shell. Left valve has two compressed, triangular pseudocardinal teeth and two long, but straight lateral teeth. Right valve with one stout, triangular pseudocardinal tooth. Umbo cavity shallow. Nacre color typically white or salmon.

Similar Species: Alabama rainbow (*Villosa nebulosa*). The finelined pocketbook is distinguishable from the Alabama rainbow in that the posterior margin of the finelined pocketbook tends to be more broadly rounded than that of the Alabama rainbow. The pseudocardinal teeth in the finelined pocketbook also tend to be heavier than those in the Alabama rainbow.

Habitat: Typically occupies small streams to large rivers in sandy to muddy sand substrates or gravel shoals with slight to 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 though pedal feeding and then developing the ability to filter feed during adulthood.

Life History: Females are known to brood glochidia from late summer through late spring and release superconglutinates during this time. The superconglutinate is comprised of a long gelatinous string with several glochidial packages attached and floats on the water current to resemble a small fish. The purpose of the superconglutinate is to attract predatory host fishes. Glochidia of this species successfully transformed on largemouth bass (*Micropterus salmoides*), spotted bass (*M. punctatus*), Coosa bass (*M. coosae*), and green sunfish (*Lepomis cyanellus*).

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 eastern Mobile Basin of Alabama, Georgia, and Tennessee and was historically reported from the Tombigbee, Black Warrior, Cahaba, Alabama, Tallapoosa, and Coosa River drainages. Currently, the finelined pocketbook appears to be restricted to the Cahaba, Coosa, and Tallapoosa River drainages. In Georgia, this species is currently extant in the Tallapoosa and Conasauga Rivers as well as in several tributaries to the Coosa and Tallapoosa Rivers. A lone individual was collected from Euharlee Creek in the Etowah River Basin in Georgia during a 2002 survey but the status of this population is uncertain.

Threats: Currently, the Mobile Basin of Georgia is experiencing substantial development and timber removal along the banks. 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.

Georgia Conservation Status: The finelined pocketbook does not occur on any state properties 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 finelined pocketbook. 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 finelined pocketbook populations should be explored in order to re-establish viable populations of the species. However, prior to initiating any reintroduction/augmentation projects for the finelined pocketbook, 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. Surveys for should be done to assess the abundance and distribution of the finelined pocketbook in the Upper Coosa River basin and the Tallapoosa River basin in Georgia.

Selected References:
Haag, W.R., R.S. Butler, and P.D. Hartfield. 1995. An extraordinary reproductive strategy in freshwater bivalves: prey mimicry to facilitate larval dispersal. Freshwater Biology 34: 471-476.

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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Fine-lined pocketbook

Hamiota altilis

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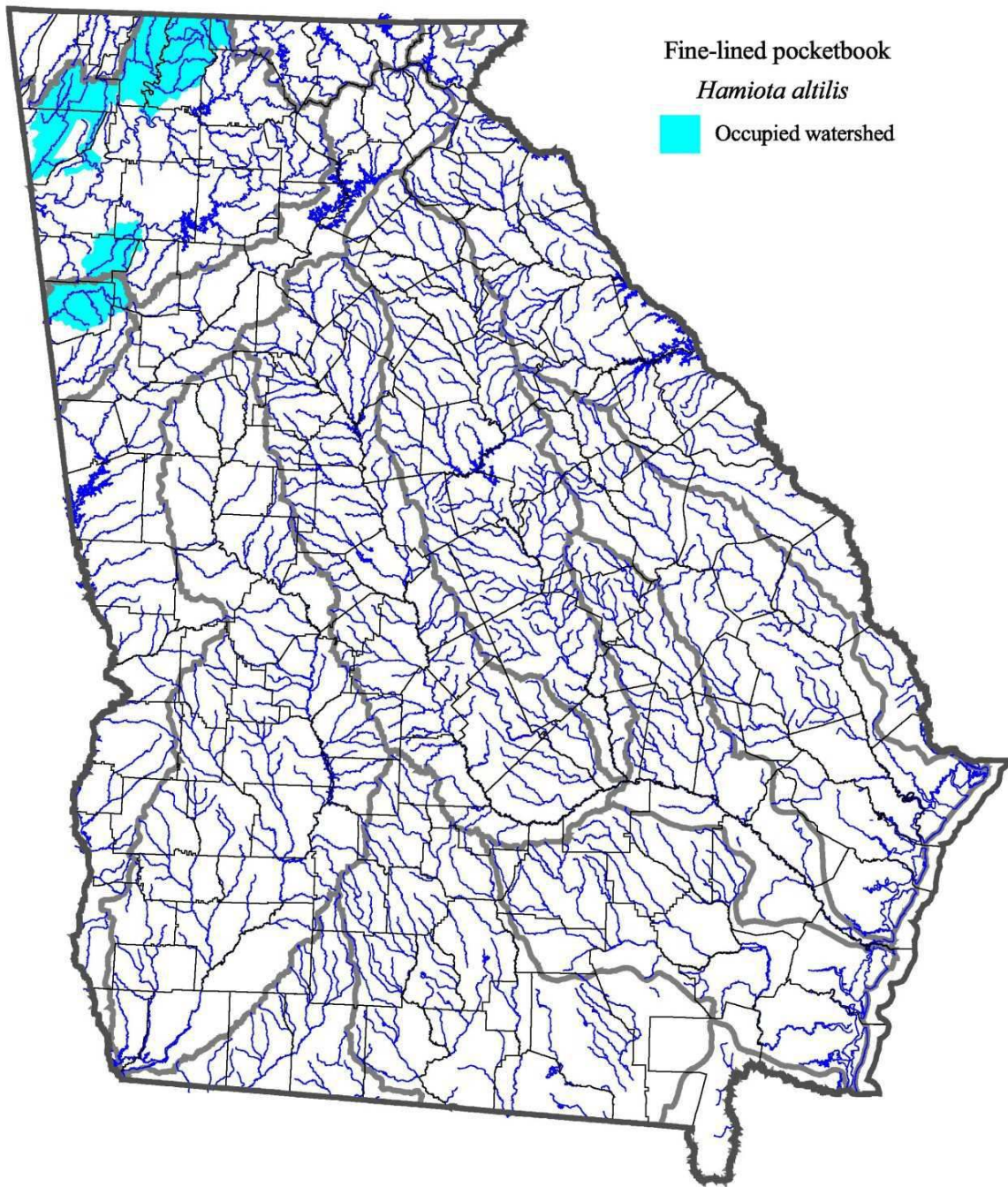
Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on January 26, 2009.