
**Common Name: MUCKALEE CRAYFISH**

**Scientific Name:** *Procambarus* (*Pennides*) *gibbus* Hobbs

**Other Commonly Used Names:** none

**Family:** Cambaridae

**Rarity Ranks:** G3/S3

**State Legal Status:** Threatened

**Federal Legal Status:** none

**Description:** The carapace of the Muckalee crayfish ranges from pale to dark brown. A dark saddle crosses the top of the carapace just before the abdomen and extends forward along the sides of the carapace. The rostrum is long and sharply pointed. There are two distinctive cervical spines on either side of the carapace. The dorsal surface of the abdomen is tan with a dark margin along the posterior edge of each segment. The abdominal segments have green or black U-shaped stripes on the sides, the first four of which are bordered above by a scarlet to orange spot. These scarlet to orange markings are located more dorsally on the last abdominal segment and have irregular outlines. The telson alternates between tan and brown, has black spots, and its margins have an orange tinge. The claws are dark with a prominent row of light tubercles on the mesial margin of the palm. The tips of the fingers are red or orange. The areola is 2.8-3.5 times as long as broad and comprises 24-28% of carapace length. Adult Muckalee crayfish may reach a maximum total body length of over 100 mm (4 inches).

**Similar Species:** The white tubercled crayfish (*Procambarus spiculifer*) is very similar and is found in streams immediately adjacent to those occupied by the Muckalee crayfish. Definitive identification requires examination of male reproductive structures.

**Habitat:** The Muckalee crayfish has been found in clear, free-flowing waters, often in **riffle** habitat. Like the white tubercled crayfish, Muckalee crayfish are often collected from aquatic plants (macrophytes) or plant litter in sandy-bottomed streams. This species will also seek shelter under the rocks that are added to streams near highway crossings.

**Diet:** No studies of the Muckalee crayfish diet are known. Crayfishes are considered opportunistic omnivores and are likely to feed on live and decaying vegetation, aquatic insect larvae, small fishes, and dead animal matter.

**Life History:** Hobbs (1981) suggested that young hatch during both the spring and summer. Reproductive males have been collected in April and August. Little else is known about the life history of this species, but it is probably similar to the life history of the white tubercled crayfish.

**Survey Recommendations:** Disturbing the substrate around aquatic plants and debris upstream from a net is productive. Because crayfish are typically more active at night, trapping may also be effective.

**Range:** Most records for this species are from Muckalee Creek and tributaries (Flint River system) in both the Fall Line Hills and Dougherty Plain physiographic provinces in southwest Georgia. It is also reported from a single locality in Coolewahee Creek, a tributary to the Flint River that lies south of Muckalee Creek.

**Threats:** The small geographic range of this species makes it vulnerable to extinction. The Muckalee Creek watershed is primarily agricultural. Threats include inadequate **riparian** buffers, nutrient and pesticide runoff, and stream impoundment.

**Georgia Conservation Status:** There are no known occurrences on publicly owned lands.

**Conservation and Management Recommendations:** Additional surveys are needed to better define the range of the Muckalee crayfish in the Coolewahee Creek system. Additional taxonomic study is needed to better differentiate the Muckalee crayfish from the similar appearing white tubercled crayfish. Incentive programs to help farmers implement best-management practices could improve instream habitat by decreasing sediment, nutrient, and chemical runoff and increasing riparian forest cover.

**Selected References:**

Hobbs, Horton H., Jr. 1969. Two new species of the crayfish genus Procambarus (Decapoda, Astacidae). Proceedings of the Biological Society of Washington 83(24): 329-348.

Hobbs, Horton H., Jr. , Horton H., Jr. 1981. The crayfishes of Georgia, Smithsonian Contributions to Zoology 318: vii-549.

Stanton, George E. 2006. Evaluation of conservation status of six west Georgia, Chattahoochee-Flint River crayfish species. Columbus State University, report to the Georgia Department of Natural Resources, Georgia Natural Heritage Program. 60 pp.

Taylor, Christopher A., Gunter A. Schuster, John E. Cooper, Robert J. DiStefano, Arnold G. Eversole, Premek Hamr, Horton H. Hobbs III, Henry W. Robison, Christopher E. Skelton, and Roger F. Thoma, 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. Fisheries 32(8): 372-389.

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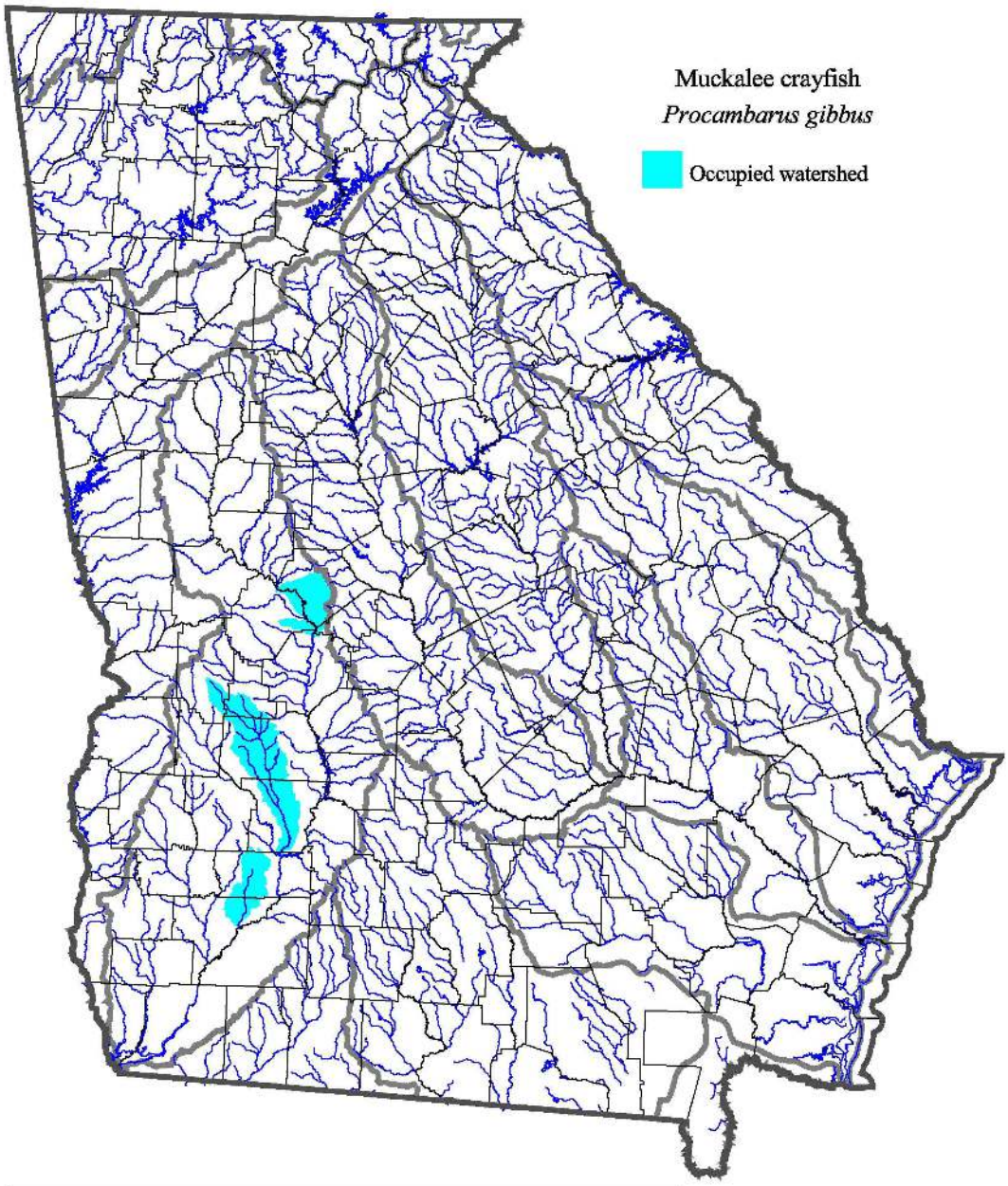


Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on December 18, 2008.