Common Name: **ETOWAH CRAYFISH**

Scientific Name: *Cambarus* (*Hiaticambarus*) *fasciatus* Hobbs

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cambaridae

Rarity Ranks: G3/S2

State Legal Status: Threatened

Federal Legal Status: none

Description: The carapace and claw color of the Etowah crayfish is brownish while the segments of the abdomen have pale centers and the rear edge of each segment is red. The tail may be bluish. The areola is wide and well developed cervical spines are present. The rostrum narrows anteriorly, appears slightly pinched in the middle, and has small points on either side of the tip. The claws of this species may get quite large compared to the body size and there is a gap between the fingers of the claws when the fingers are closed. This Etowah crayfish reaches a maximum total body length of over 75 mm (3 inches).

Similar Species: Upstream of Allatoona Dam, the variable crayfish (*Cambarus latimanus)* occurs with the Etowah crayfish. The variable crayfish is a drab, speckled-brown species with an hourglass-shaped areola (versus nearly parallel-sided in the Etowah crayfish). It has a rostrum that converges gradually and evenly toward the tip as opposed to the pinched condition exhibited by the Etowah crayfish. Furthermore, the fingers of the variable crayfish touch throughout their length, whereas the fingers of the

Etowah crayfish have a gap between them when closed. Below Allatoona Dam, the Etowah crayfish can occur with the very similar Coosa crayfish (*Cambarus coosae*). The main difference separating these two species is the almost parallel-sided rostrum of the Coosa crayfish versus the pinched and more anteriorly narrowed rostrum of the Etowah crayfish.

Habitat: The Etowah crayfish is usually found beneath rocks in moderately to swiftly flowing areas of streams. It is occasionally found in association with woody debris or aggregations of leaves.

Diet: No studies of the Etowah crayfish 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: Stream dwelling crayfishes typically hide during the day and come out at night to feed. Reproduction usually occurs during the spring and fall, but males in reproductive condition may be found at any time during the year. When female crayfish are ready to lay eggs, they usually find a secure hiding place and hence are rarely encountered. When the eggs are released, the female attaches them to her swimmerets and is said to be "in berry." Upon hatching, the juvenile crayfish are attached to the mother by a thread. After the juveniles molt for the second time, they are free of the mother, but stay close and will hold on to her for some time. Eventually they move off on their own. Crayfishes molt 6 or 7 times during their first year of life and most are probably able to reproduce by the end of that year. They molt once or twice a year for the remainder of their lives and live about 3 years. Male Etowah crayfish in reproductive condition have been collected in March, April, and May, and females with eggs have been collected in May and June. Females with young have been observed in May. Number of eggs for 8 individuals ranged from 27-101.

Survey Recommendations: Since this species is usually found in swift water, it is most easily collected by holding a net perpendicular to the current downstream of a large rock, then lifting the rock and disturbing the substrate beneath it. If a crayfish is hiding underneath the rock, it will likely move into the net. Shocking downstream into a seine net with a backpack electroshocker is also effective. Collections in spring or fall are more likely to produce males in reproductive condition, which can be helpful with identifications.

Range: The Etowah crayfish is known only from the Etowah River system, primarily above Allatoona Dam. All of the records of this species are from the Piedmont physiographic province. Only three collections have been made downstream of Allatoona Dam and it is possible that this form represents an undescribed species.

Threats: The small range of this species and the high development rates within that range are significant threats to the Etowah crayfish. Heavy sedimentation resulting from poor development and land management practices may cover substrates and other

daytime hiding places on which crayfishes rely to avoid predation. The introduction of non-native crayfishes is a threat to all native crayfishes.

Georgia Conservation Status: Some populations occur on publicly owned conservation lands in headwater tributaries to the Etowah River.

Conservation and Management Recommendations: Conserving populations of the Etowah crayfish will require general watershed level protection measures, including the protection of riparian zones, control of sediment and nutrient runoff from farms and construction sites, and limiting the amount of impervious cover (e.g., pavement) within occupied watersheds. Non-native crayfishes should never be used for bait. Instead, anglers should use crayfishes collected from the river system they will be fishing in and should never release unused bait crayfish back into Georgia waters.

Selected References:

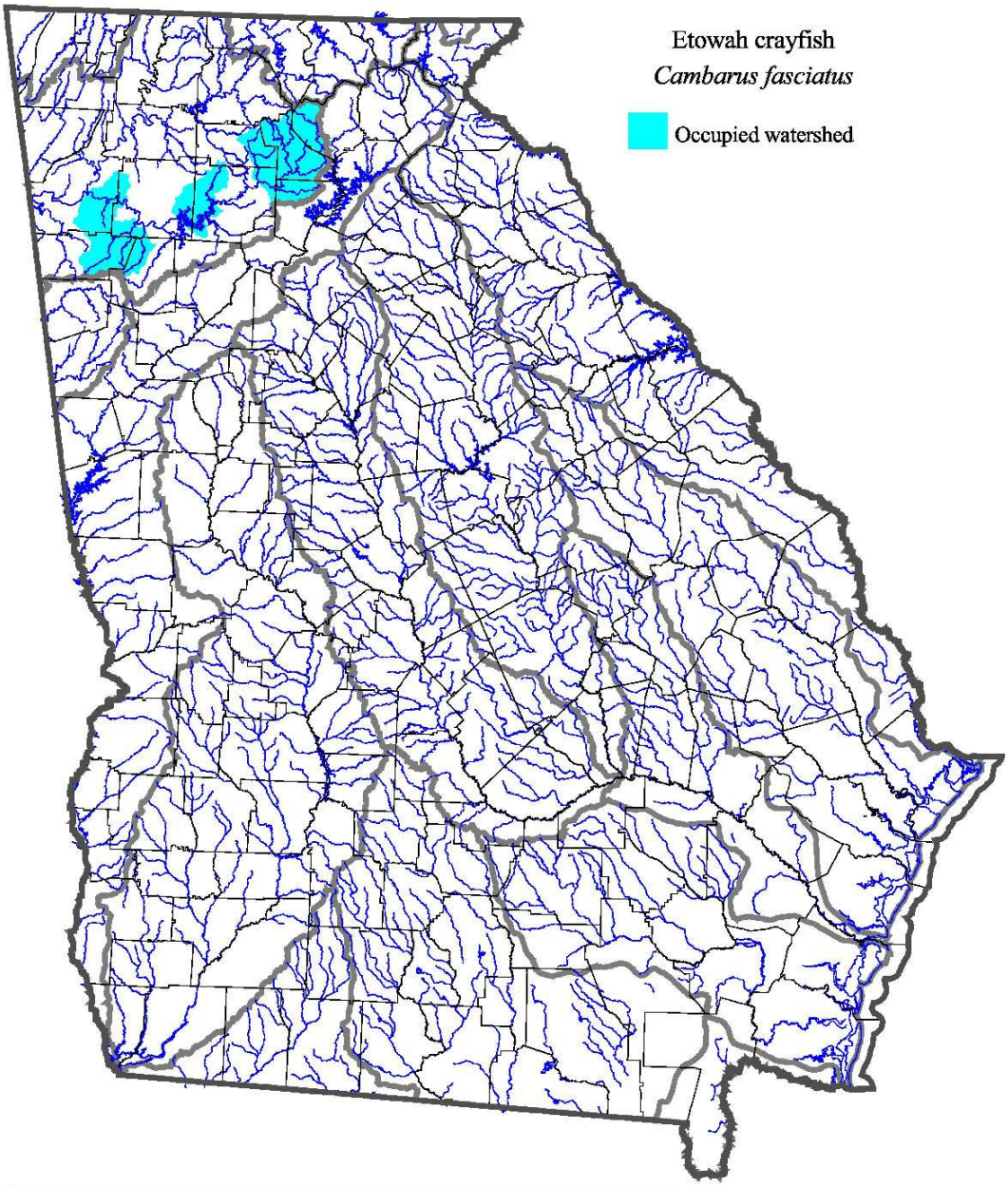
Hobbs, H. H., Jr. 1981. The crayfishes of Georgia. Smithsonian Contributions to Zoology 318:1-549.

Hobbs, H. H., Jr. 1989. An illustrated checklist of the American crayfishes (Decapoda: Astacidae, Cambaridae, and Parastacidae). Smithsonian Contributions to Zoology 480:1-236

Taylor, C. A., G. A. Schuster, J. E. Cooper, R. J. DiStefano, A. G. Eversole, P. Hamr, H. H. Hobbs III, H. W. Robison, C. E. Skelton, and R. 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.

Author of Species Account: Christopher E. Skelton

Date Compiled or Updated: June 2008



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.