Common Name: BLACKBARRED CRAYFISH

Scientific Name: *Cambarus* (*Jugicambarus*) *unestami* Hobbs and Hall

Other Commonly Used Names: none

Previously Used Scientific Name: none

Family: Cambaridae

Rarity Ranks: G2/S2

State Legal Status: Threatened

Federal Legal Status: none

Description: The overall color of the blackbarred crayfish is brownish with dark barring on the abdomen giving the impression of longitudinal stripes. This species may reach a total maximum body length of maximum length of over 90 mm (3½ inches).

Similar Species: The blackbarred crayfish has been collected with the similar mountain midget crayfish (*Cambarus parvoculus*) a few times. The latter has a slightly narrower areola and a fairly blunt rostrum compared to the longer tapered rostrum of the blackbarred crayfish. Additionally, the blackbarred crayfish has a mottled appearance while the mountain midget crayfish is more uniformly colored.

Habitat: The blackbarred crayfish is usually collected in medium-sized streams from beneath rocks or within leaf litter in moderate to swift current.

Diet: No studies of the blackbarred 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 blackbarred crayfish in reproductive condition have been collected in April, May, October, and November; females carrying eggs were found in April and May. The number of eggs for 2 individuals ranged from 124-194, with egg diameters averaging 2.5 mm (about ⅛ inch).

Survey Recommendations: Since this species is usually found in moving 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 blackbarred crayfish is known from the Cumberland Plateau and the Ridge and Valley physiographic provinces in tributaries of Chattanooga, Cole City, and Lookout Creeks in northwestern Georgia and extreme northeastern Alabama. These streams are in the Tennessee River drainage. It has also been taken from tributaries to the Little River, which is part of the Coosa River system.

Threats: The small range size of this species makes it vulnerable to extirpation. 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: This species likely occurs in streams in Cloudland Canyon State Park.

Conservation and Management Recommendations: Conserving populations of the blackbarred 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

Hobbs, H. H., Jr. and E. T. Hall, Jr. 1969. New crayfishes from Georgia (Deapoda: Astacidae). Proceedings of the Biological Society of Washington 82(21): 281-294.

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): 72-389.

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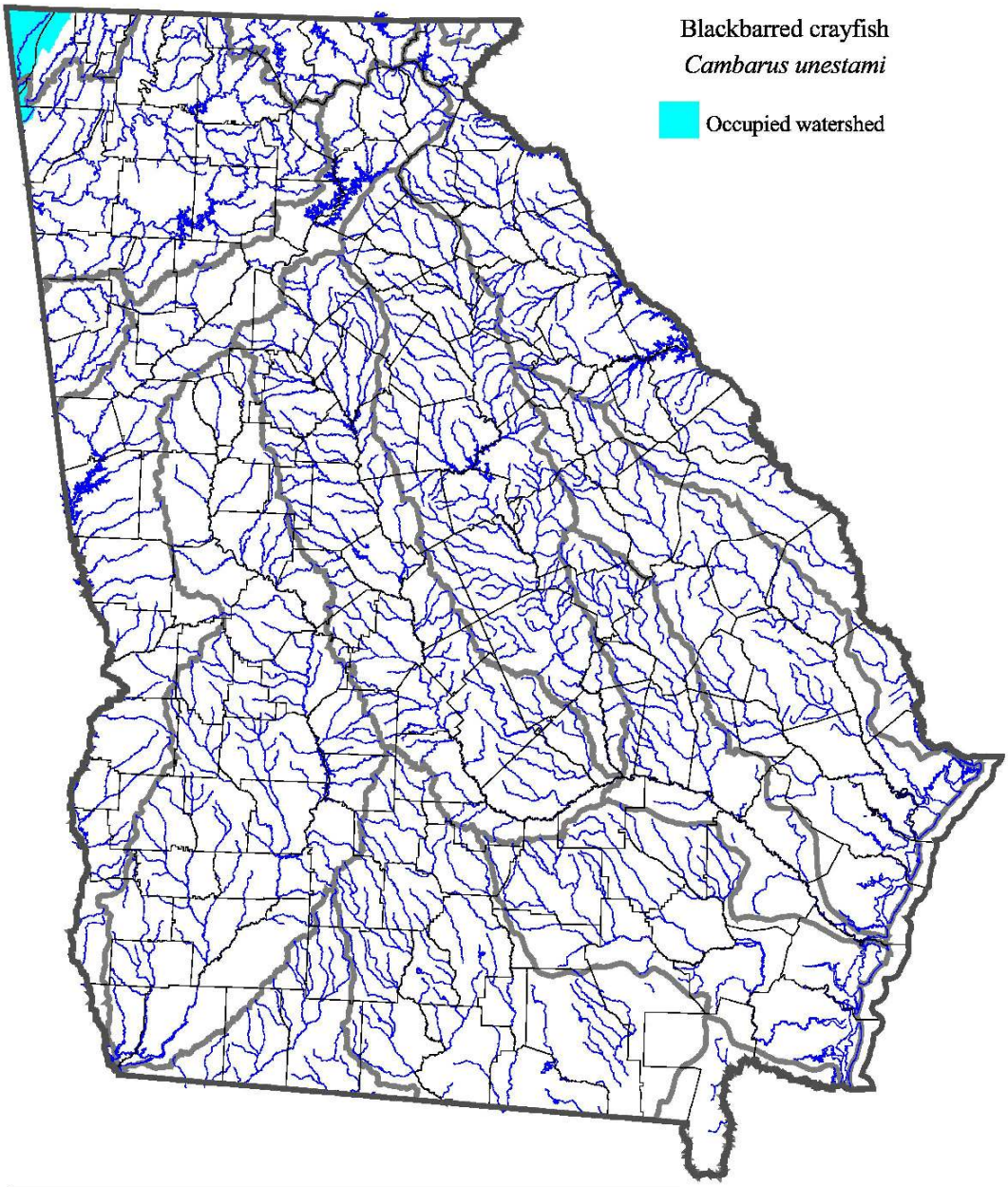

Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on December 18, 2008.