Common Name: BROAD RIVER BURROWING CRAYFISH

Scientific Name: *Distocambarus devexus* Hobbs

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cambaridae

Rarity Ranks: G1/S1

State Legal Status: Threatened

Federal Legal Status: none

Description: The overall color of the Broad River burrowing crayfish is tan to brownish with dark mottling. The areola is fairly narrow and the rostrum is wide, gradually converging anteriorly to a blunt point. The moveable fingers of the claws are about the same length as the mesial margins of the palm of the claws. The abdomen appears narrower than the cephalothorax. This species reaches a maximum total body length of about 75 mm (3 inches).

Similar Species: Small individuals of the Broad River burrowing crayfish can be confused with small individuals of the variable crayfish (*Cambarus latimanus).* Juveniles of the latter usually have red-tipped claws, and a more sharply pointed rostrum. In addition, the moveable fingers of the claws are about 1.5 times the length of the mesial margin of the palm rather than equal in length as in the Broad River burrowing crayfish.

Habitat: Simple and complex burrows adjacent to streams or in low areas where the water table is near the surface of the ground. A single specimen was collected from a burrow that did not penetrate the water table and was only damp in the bottom. This species, particularly juveniles, are frequently collected in temporary pools and ephemeral streams.

Diet: Crayfishes are considered opportunistic omnivores that will consume virtually any living or dead organic matter that they find or can capture. Night video of burrowing crayfishes indicates they may also be active predators of invertebrates that venture close to their burrow opening.

Life History: Burrowing crayfishes inhabit a system of tunnels that may be very complex with several openings to the surface. Openings to the tunnels are often marked by piles of dirt or mud pellets (chimneys). Depending on the soil type and moisture content, these chimneys can reach heights of 15 cm (6 inches) or more. These crayfishes are typically confined to their burrows, but a male must leave its burrow to search for females during the reproductive season. As mentioned above, they may also forage near the opening of their burrow. Active burrows with fresh soil are seen from late spring to late fall, particularly after rain events. During the dry part of the summer, burrow openings may be plugged to help conserve moisture in the burrow. Reproduction probably occurs during the spring and fall, but males in reproductive condition may be found at any time during the year. It is very rare to find more than one adult crayfish in the same burrow. When a female crayfish releases her eggs, she 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. Multiple juveniles are occasionally found in a single burrow. 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. Although it is difficult to study burrowing crayfishes, some researchers believe they may live as long as 10 years. Very little is known about the life history of the Broad River burrowing crayfish. Males in reproductive condition have been collected in April and a female with bright orange eggs was observed in May. On two occasions, a male and female Broad River burrowing crayfish were found in the same burrow.

Survey Recommendations: Burrowing crayfishes may be collected by direct excavation of their burrows, by trapping, and during night surveys. Excavating burrows is time consuming and can be very difficult. It also results in destruction of the animals’ burrow. Traps made with PVC pipes or mist nets can be effective. Burrowing crayfishes are sometimes captured around the openings of their burrows on damp nights. Active burrows are found from about mid-March to mid-November if the water table is within about 2 feet of the surface of the ground.

Range: The Broad River burrowing crayfish is currently known from about 7 locations in the Broad River system (Savannah River drainage) in northeastern Georgia. It is

known from Wilkes, Washington, and Elbert Counties, all of which lie in the Piedmont physiographic province.

Threats: The small range of this species makes it vulnerable to land disturbing activities around streams and wetlands.

Georgia Conservation Status: Because this species is usually confined to burrows, it is difficult to assess the numbers of individuals of the various populations.

Conservation and Management Recommendations: Areas with burrows should be protected from land disturbing activities. Additional surveys and life history studies are needed to better define the range of the Broad River burrowing crayfish and help predict its response to environmental change. Environmental education programs should include information about burrowing crayfishes and encourage protection of burrows.

Selected References:

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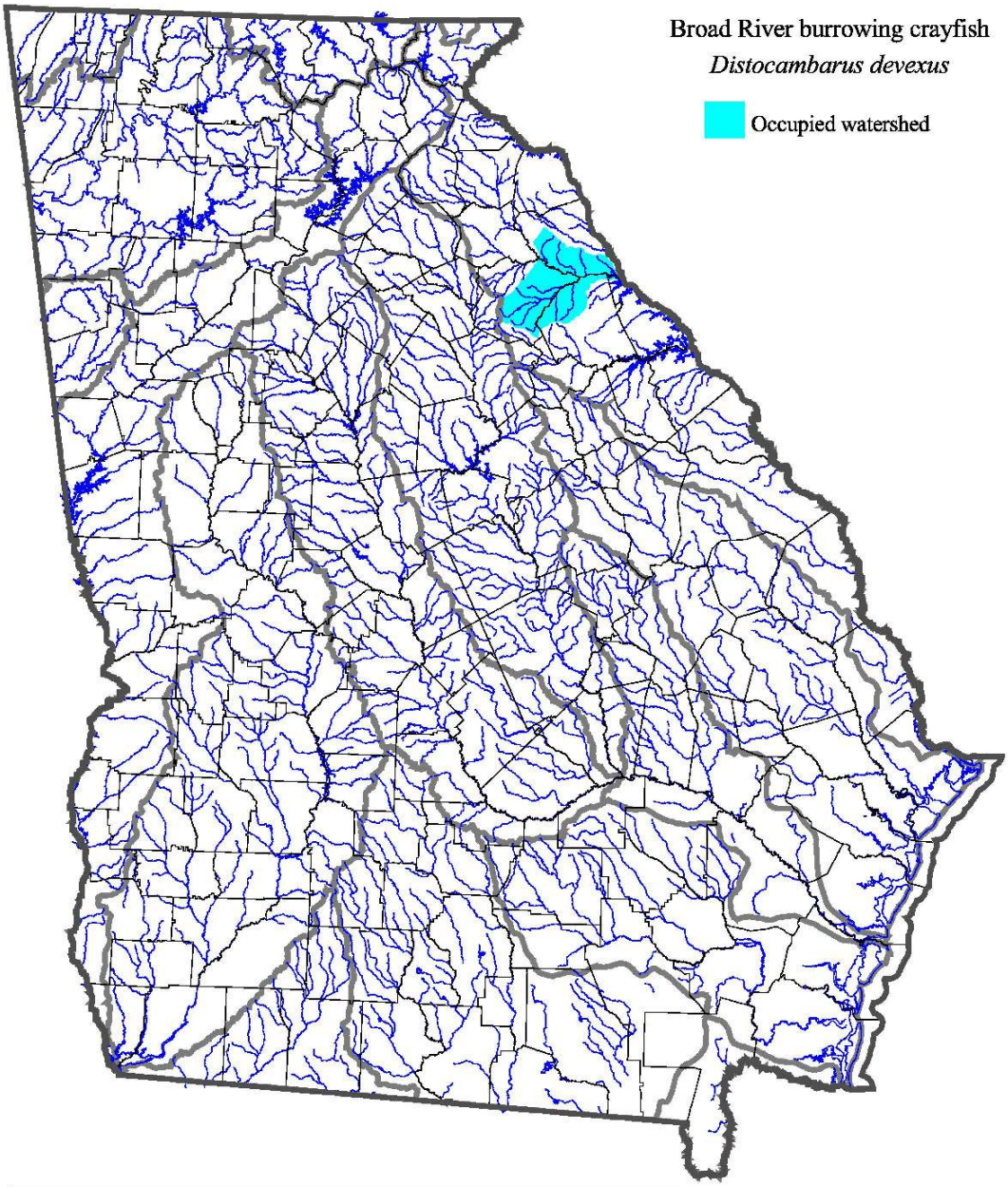

Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on December 18, 2008.