
Photo by Chris Lukhaup

Common Name: PIEDMONT BLUE BURROWER

Scientific Name: *Cambarus* (*Depressicambarus*) *harti* Hobbs

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cambaridae

Rarity Ranks: G1/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: As its name implies, the Piedmont blue burrower is deep blue in color, particularly on the claws. The areola is virtually non-existent, and the abdomen appears much narrower than the cephalothorax. The claws of this species may be robust. The Piedmont blue burrower reaches a maximum total body length of about 75 mm (3 inches).

Similar Species: None

Habitat: Complex burrows adjacent to streams and seepage areas, or in low areas where the water table is near the surface of the ground.

Diet: Crayfishes are considered opportunistic omnivores that will consume virtually any live 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 openings.

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 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. Males in reproductive condition have been found in April, May, and November. Females carrying eggs have not been found.

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-May to mid-November if the water table is within about 2 feet of the surface of the ground.

Range: The Piedmont blue burrower is definitely known from two localities in Meriwether County, Georgia: one in the Flint River system and one in the Chattahoochee River system. Both of these locations are in the Piedmont physiographic province. The author found bluish crayfish specimens that may represent the Piedmont blue burrower at six additional locations in Meriwether County, but none were males and thus the identifications are considered tentative. A recent collection of blue burrowing crayfishes from the Whites Creek system (Flint tributary) may also be the Piedmont blue burrower.

Threats: Small range size makes this species vulnerable to extinction. The small size of individual populations makes them vulnerable to land disturbing activities. Any expansion of the Warm Springs National Fish Hatchery or the Warm Springs water works would threaten this species.

Georgia Conservation Status: One population is on property owned by the city of Warm Springs and is somewhat protected.

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 Piedmont blue burrower and help predict its response to environmental change. Environmental education programs should include information about burrowing crayfishes and encourage protection of burrows.

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

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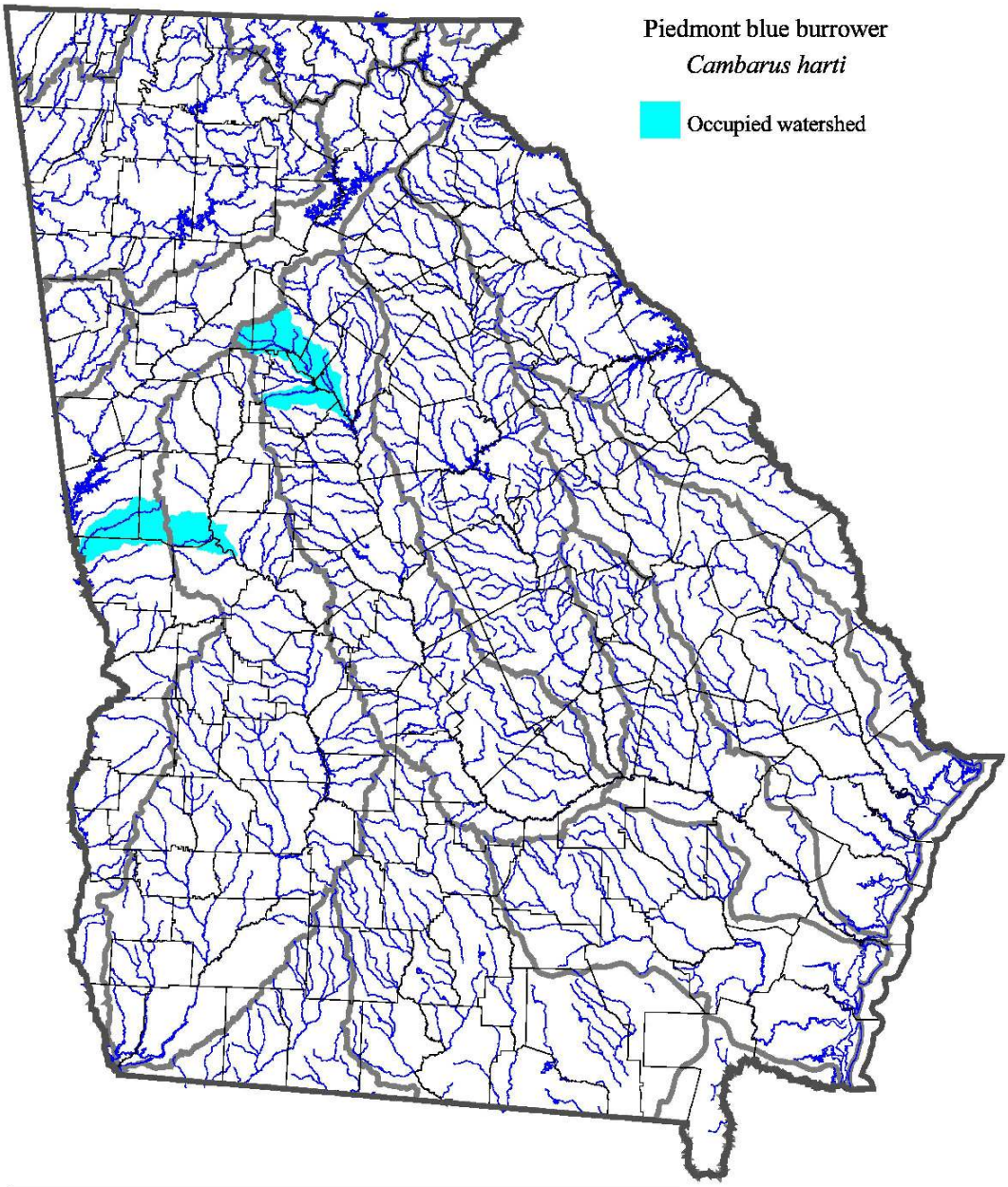
Date Compiled or Updated: June 2008



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.