DOUGHERTY PLAIN CAVE CRAYFISH
Cambarus cryptodytes

Order: Decapoda
Family: Cambaridae
FNAI Ranks: G2G3/S2
U.S. Status: none
FL Status: none

Description: A medium-small (body length to 60 mm/2.4 in) white to translucent cave crayfish with reduced, unpigmented eyes. Specific identification is based on fine morphological features, including structure and ornamentation of the first pleopods of reproductive (form I) males. Characteristic features are a rostrum lacking marginal spines or tubercles; a moderately broad areola; chelae that are long and slender with slender fingers; and first pleopods of males terminating in two elements, a non-tapering central projection bent at nearly a right angle and with a subterminal notch, and a much longer mesial process that is bent slightly more and tapers to the tip.

Similar Species: Although approximately 15 species of cave crayfishes occur in Florida, no others occur in the panhandle west of the Ochlockonee River. No other Florida members of the genus *Cambarus* are restricted to underground waters.

Habitat: Limited to karst groundwaters; these are typically accessible at surface and submerged limestone caves, sinks, spring vents, and artificially dug wells. The same sites and habitat also typically support Florida's only known cave salamander, *Eurycea* (formerly *Haideotriton*) *wallacei*.

Seasonal Occurrence: Crayfish are present at sites year-round. Seasonal presence of reproductive males and egg-bearing females is incompletely known and in need of study. Thus far, reproductively ready males have been collected in the autumn. A captive female produced eggs in July, with hatching in late August.

Florida Distribution: This species is known from more than three dozen sites mostly in adjacent Jackson and Washington counties in the west-central Panhandle. Most of the Jackson County sites are clustered in the limestone cave region along the Chipola River near Marianna and Florida Caverns State Park. Smaller, more recently discovered

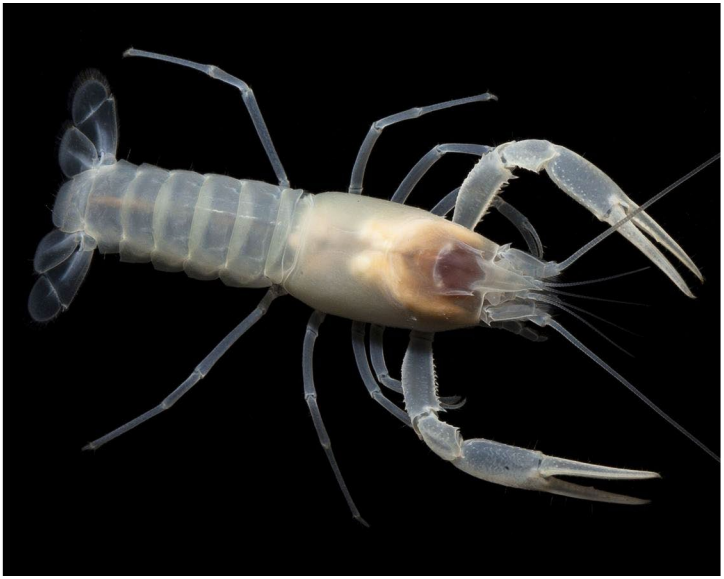
clusters of sites in Washington County are principally along Holmes Creek, a tributary of the Choctawhatchee River, and Econfina Creek, which flows southward to St. Andrew Bay.

Range-wide Distribution: The range extends northeastward, east of the Apalachicola River, into southwestern Georgia, where it is known from at least eight counties. Whether the species occurs in adjacent southeastern Alabama remains unknown.

Conservation Status: The species has been of conservation concern in Florida for decades because of its restricted distribution and confinement to subterranean waters, which face a variety of potential threats; these include chemical pollution and excessive water withdrawal to support human consumption, agriculture, and industry. Population data are extremely sparse and difficult to obtain given that most of the species' primary habitat can only be visited, if at all, by highly specialized and equipped cave divers. Thus, population declines, though thus far unreported, are likely to go unnoticed.

Protection and Management: Some sites in all three principal Florida clusters noted above lie within publicly owned conservation lands, including Florida Caverns State Park, Jackson County Blue Springs and Merritts Mill Pond, and the Upper Chipola River, Econfina Creek, and Choctawhatchee River water management areas. However, conservation of subterranean aquifer species and their habitats is not necessarily a major focus of management even at protected sites. Additional private lands with known occurrences need to be incorporated into the public lands noted above. Whether public or private, it is critical to protect land around all karst features (sinks, caves, springs) in the Chipola River, Choctawhatchee River, and Econfina Creek drainages. Land managers should retain natural vegetation and avoid use of chemical pesticides and herbicides within at least 50 m of recorded sites, including associated subterranean conduits. Entrances to caves may be gated or fenced as needed at sites where human visitation is unduly disturbing natural resources. Crayfish populations and groundwater quality should be regularly monitored at sites known to support this species.

References: Deyrup and Franz 1994; Fenolio et al. 2014, 2015; Franz et al. 1994; Hobbs 1941, 1942; Hobbs et al. 1977; Moler et al. 2017; Morris 2006.



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