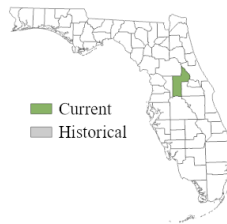


BIG-CHEEKED CAVE CRAYFISH

Procambarus delicatus



Order: Decapoda
Family: Cambaridae
FNAI Ranks: G1/S1
U.S. Status: none
FL Status: none

Description: This is a medium-small (body length to 50 mm/2 in) white to translucent cave crayfish with reduced eyes that lack pigment and facets. Specific identification is based on fine morphological features, including (presumably) structure and ornamentation of the first pleopods of reproductive (form I) males. Additional characteristic features include enlarged third maxillipeds, a tapering rostrum lacking marginal spines, elongate chelae, and a somewhat bulging (inflated) thorax (Hobbs and Franz 1986, Deyrup and Franz 1994).

Similar Species: This highly distinctive crayfish is one of several stygobitic species in the subgenus *Ortmannicus* and appears to be on the line leading to the highly specialized spider cave crayfish in the genus *Troglocambarus*. Closest affinities are with another Florida stygobitic species, *P. attiguus*. Whereas *P. delicatus* has a pouch-like protrusion on the anteroventral surface of the branchiostegites (lateral extensions of the carapace covering the gills at the base of the legs), causing the thorax to appear inflated, this region is less pronounced in *P. attiguus*; several other fine morphological features also appear to distinguish the pair (Hobbs and Franz 1992).

Habitat: The species is associated with subterranean fresh waters in limestone bedrock. The only known site is the karst aquatic cave system from which issues Alexander Springs and run. Specimens have been taken from the main spring boil and near smaller spring vents.

Seasonal Occurrence: Crayfish are presumably present year-round (thus far observed in March, June, and August), although nothing is known of the species' life history.

Florida Distribution: To date, the species remains known only from the locality from

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where it was first described, Alexander Springs cave, Lake County, just west of the St. Johns River (Deyrup and Franz, 1994).

Range-wide Distribution: The species is endemic to Florida.

Conservation Status: The species' only known locality at Alexander Springs lies within the Ocala National Forest, which generally protects the site as a recreational area.; whether the aquatic cave system containing *P. delicatus* extends beneath private lands offsite is unknown, because access vents are too small, and the flow too powerful, to permit divers for any distance. In general, subterranean fresh waters, such as inhabited by this crayfish, face a variety of potential threats; these include chemical pollution and excessive water withdrawal to support human consumption, agriculture, and industry. Population data for this species are non-existent and virtually impossible to obtain given that most of the species' primary habitat is inaccessible. Thus, population declines, though thus far unreported, are likely to go unnoticed.

Protection and Management: Although the only site known to support this species is within a national forest, conservation of the subterranean aquifer and associated species is not a major focus of management; establishing formal goals in this direction would be appropriate. Because of its limited geographic range and vulnerable habitat, the species and local groundwater quality merit continued monitoring and attention. Land managers should retain natural vegetation and avoid use of chemical pesticides and herbicides within at least 50 m of Alexander Springs and any associated subterranean conduits. Because the site is popular for human recreation, all activities must be regularly monitored to assure that the spring, cave, and surrounding upland habitat do not suffer from disturbance or degraded water quality.

References: Deyrup and Franz 1994, Franz et al. 1994, Hobbs and Franz 1986, Hobbs and Franz 1992, Morris 2006, Relyea et al. 1976.



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