

WOODVILLE KARST CAVE CRAYFISH

Procambarus orcinus

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 pinkish-orange cave crayfish. The reduced eyes lack facets but may bear a small pigmented spot. The body is exceedingly tuberculate, the cephalothorax is inflated, chelipeds are long and slender, and rostral margins are convergent. Specific identification is based on fine morphological features, especially structure and ornamentation of the first pleopods (appendages beneath the abdomen) of reproductive (Form I) males (Hobbs and Means 1972, Deyrup and Franz 1994).

Similar Species: This distinctive crayfish is one of several stygobitic species in the subgenus *Ortmannicus*. Closest affinities are with another Florida stygobitic species that lives in the same region, *P. horsti*. The two are distinguished by the complete absence of pigmentation in the eye and musculature of *P. horsti*, its longer and narrower areola (region of the carapace between the two lateral plates), and differences in the spines and tubercles on parts of the body. Another close relative from caves to the east (Suwannee River basin) of this pair, *P. pallidus*, is distinguished by lack of posterior spines on the postorbital ridges and other minor differences in spination and the first pleopod of Form I males. Because of similarities among Florida's many species of crayfishes, identification should be confirmed by an expert.

Habitat: The species is associated with subterranean fresh waters in limestone bedrock within the Woodville Karst Plain. Crayfish have been observed clinging to ceilings and walls in both twilight and dark zones of aquatic caves in sinks and beneath springs, at depths of > 20 m (65 ft).

Seasonal Occurrence: Crayfish are present year-round. Little is known of the species' life history beyond observations of reproductive males in February and April (including one in copula).

Florida Distribution: Currently known distribution of this species is restricted to adjacent parts of two counties (Leon, Wakulla) in the Big Bend region of the eastern Florida Panhandle, just north of Apalachee Bay (Deyrup and Franz, 1994). All of the approximately one dozen known sites are within a 10 km (6 mi) radius, and most are within a shared aquifer.

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

Conservation Status: About half of the approximately one dozen known localities lie within (beneath) state and federal conservation lands, and some of the remainder are on private lands being considered for state protection (pending funding). Even so, subterranean fresh waters, such as inhabited by this crayfish, face a variety of potential threats that may emanate from off-site. 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 much of the species' primary habitat is inaccessible. Thus, population declines, though thus far unreported, are likely to go unnoticed.

Protection and Management: All undeveloped private land within 1 mile (1.7 km) of known localities of this species should be protected by fee simple or less-than-fee-simple legal means. Within conservation land units known to support this species, increased management attention should be directed to the protection of the subterranean aquifer and associated species; establishing formal goals in this direction would be appropriate. Both this crayfish 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 all documented sites and any associated subterranean conduits. Recreational activities must be regularly monitored to assure that the springs, caves, and surrounding upland habitats do not suffer from disturbance.

References: Deyrup and Franz 1994, Franz et al. 1994, Hobbs and Means 1972.



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