SULPHUROUS CAVE AMPHIPOD
Crangonyx sulphurium

Order: Amphipoda
Family: Crangonyctidae
FNAI Ranks: G1/S1
U.S. Status: none
FL Status: none

Description: Like other stygobiont (aquatic cave-dwelling) amphipods, this tiny crustacean is very small (6.5–10 mm, relatively medium-sized for an amphipod) and white to translucent, with a laterally compressed body. The mouthparts, especially maxillae 1 and 2, are highly setose (fine bristles). Sawicki et al. (2017) provide extensive descriptions of both sexes.

Similar Species: This medium-size troglomorphic (cave-adapted) species of amphipod is most similar to *Crangonyx hobbsi*. It is easily distinguishable from *C. hobbsi* by possessing relatively robust propods of gnathopods 1 and 2, in addition to differences in other fine morphological details. Because many amphipods are similar externally, identity should always be confirmed by an expert.

Habitat: This is a fully stygobitic species that inhabits karst groundwaters in limestone caves and springs. At the time of collection (2005) of this previously undescribed species, the walls of both Wekiwa and De Leon springs were covered by thick mats of chemoautotrophic sulfur oxidizing bacteria and filamentous iron bacteria, with which the amphipod may be closely associated (Sawicki et al. 2017).

Seasonal Occurrence: Data are insufficient to describe life cycle or seasonal habitat use. The species would be expected to inhabit sites year-round when conditions are appropriate, but presence and abundance may be tied to occurrence and condition of bacterial and algal mats on cave walls (Sawicki et al. 2017).

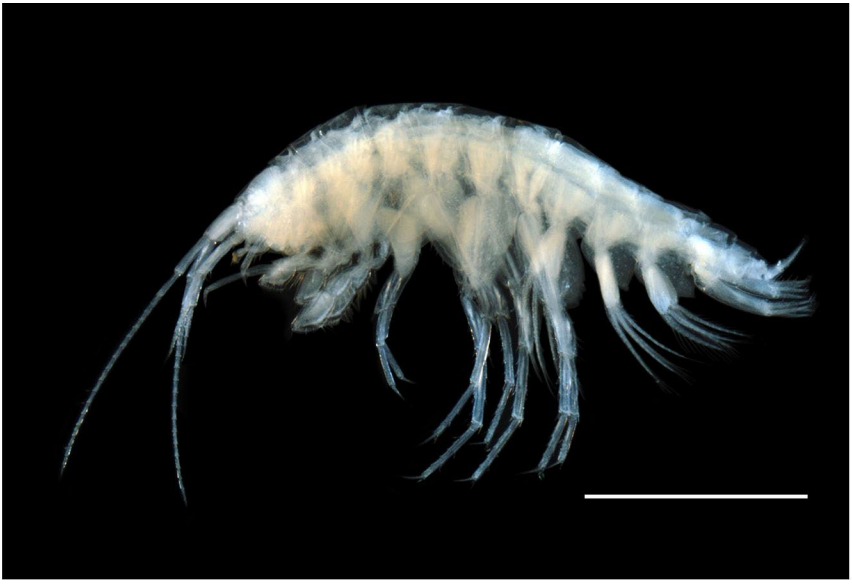
Florida Distribution: This amphipod was not described until 2017 and is thus far documented from only three caves in two counties (Orange, Volusia) in east-central Florida.

Range-wide Distribution: This species is restricted to Florida.

Conservation Status: Even though the few known occurrences of this amphipod are within state parks, they are associated with a single aquifer that is potentially threatened by pollution and excessive withdrawal for various human uses. Long-term viability of populations under such circumstances is uncertain. Of particular concern, although the species was readily collected in 2005, it has not been relocated subsequently despite extensive effort; the potential decline may reflect microhabitat changes that have occurred in the intervening decade (Sawicki et al. 2017).

Protection and Management: It is critical to protect land around all karst features (sinks, caves, springs) within the range of this species. 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. Populations of amphipods and other associated cave crustaceans, in addition to groundwater quality, should be regularly monitored at sites known to support this species. All deleterious groundwater issues should be addressed to lessen their potential impact on resident biota.

References: Sawicki et al. 2017



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