

# SQUIRREL CHIMNEY CAVE SHRIMP

## *Palaemonetes cummingi*

(Photo unavailable)

**FAMILY:** Palaemonidae

**STATUS:** Threatened (*Federal Register*, June 21, 1990)

**DESCRIPTION:** The Squirrel Chimney Cave shrimp, also known as the Florida cave shrimp, is approximately 1.2 inches (30 millimeters) long. Its body and eyes are unpigmented; the eyes are smaller than those of related surface-dwelling species of *Palaemonetes*.

**RANGE AND POPULATION LEVEL:** This cave shrimp is known only from a single sinkhole (Squirrel Chimney) in Alachua County, Florida. No more than a dozen individuals have been seen near the surface of the sinkhole water table, but more individuals may exist at greater depths.

**HABITAT:** Squirrel Chimney is a small, deep sinkhole that leads to a flooded cave system of unknown size. The sinkhole is known to support one of the richest cave invertebrate faunas in the nation. Other cave invertebrates found in this sinkhole include McLane's cave crayfish (*Troglocambarus maclanei*); the light-fleeing cave crayfish (*Troglocambarus lucifugus*); the pallid cave crayfish (*Procambarus pallidus*); and Hobb's cave amphipod (*Crangonyx hobbsi*). These species are found in the shallower portions of a pool in the fissure leading off the sinkhole. They usually cling bottom-side-up to limestone just beneath the water table. These species are adapted for survival in a nutrient-poor, detritus-based ecosystem.

**REASONS FOR CURRENT STATUS:** The Squirrel Chimney Cave shrimp is endemic to a single sinkhole. Any changes in the sinkhole or cave system could eliminate the species. The site is privately owned and the owners are currently protecting the site from trespassers. Urban development associated with the growth of Gainesville, Florida are expected to continue and will most likely alter land use practices in the vicinity of Squirrel Chimney Cave. These changes could severely impact ground water quality and quantity and could alter or destroy the system. Storm water runoff, septic tank drainage fields, aquifer recharge, herbicide/fertilizer use in the area, and erosion/sediment deposition are some of the primary concerns that may affect this cave system.

**MANAGEMENT AND PROTECTION:** A security fence should be maintained around the sinkhole to prevent human trespassing yet allow for natural flow of detrital matter and fauna into the cave. A buffer zone of native vegetation surrounding the sink should be allowed to follow ecological succession. Comprehensive planning for this area should include zoning and restrictions regarding the type of development and chemical use in the vicinity of the sink to protect water quality and quantity. If possible, the sink and its surrounding property should be purchased. Qualified persons should continue to monitor the status of the shrimp and the Squirrel Chimney Cave and monitor other similar cave/sink systems in the vicinity.

## REFERENCES:

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