

Grand Canyon Cave Pseudoscorpion
(Archeolarca cavicola)

STATUS: None.

SPECIES DESCRIPTION: The holotype of Grand Canyon cave pseudoscorpion (Family Garypidae, Order Pseudoscorpionida, Class Arachnida) was described from one female specimen collected in Grand Canyon's Cave of Domes in 1978. The species is a troglophile, or cave-dwelling, pseudoscorpion. The species was recognized within the genus *Archeolarca* and given the species name *cavicola* in recognition of its subterranean habitat. The specimen, which is the only one known to exist, is in the Florida State Collection of Arthropods, Gainesville, Florida. No other individuals are known to have been collected since 1978 although little effort has been made to collect this or other species in the genus.

DISTRIBUTION: Cave of Domes in Grand Canyon National Park is currently the only known location for *A. cavicola*. A regional study of cave fauna on Horseshoe Mesa of Grand Canyon was conducted from 1977 to 1978. Eight caves were examined including Babylon Cave, Crystal Forest Cave, Land's End Cave, Middle Cave, Scorpion Cave, Tse An Cho Cave, Tuning Fork Cave, and Cave of Domes. All caves except Land's End and Scorpion Cave were visited twice. On each visit, the walls, ceilings, and floors were examined for invertebrates. Twelve invertebrates were identified from the eight caves; *A. cavicola* was only known in Cave of the Domes.

HABITAT: According to Grand Canyon National Park's hydrologist, Cave of Domes is considered to be a dry cave with no discharge or pools, but having some small ephemeral drip zones. The single most important limiting factor for the cave fauna on Horseshoe Mesa, which includes Cave of Domes, was the lack of moisture. Most of the caves are dry and dusty with low relative humidity. Six of the eight caves, which included Cave of Domes, receive moisture from the limestone above. The species was collected in the cross passage of the Cave of Domes in some organic material (i.e., grass). Dry caves are atypical habitat for pseudoscorpions.

LIFE HISTORY: We have no additional biological information about *A. cavicola* since the species is known from only one collected specimen. We can only speculate about the biology and ecology of the Grand Canyon cave pseudoscorpion. Pseudoscorpions are known to be phoretic (use another species for transportation) on other arthropods such as flies, beetles, and wasps. Pseudoscorpions will attach themselves (not as parasites) to the legs and appendages of the adult arthropod which permits them to "hitchhike" or disperse.

REASON FOR DECLINE/VULNERABILITY: No evidence is available of whether not this species is in decline.

LAND OWNERSHIP: Grand Canyon National Park, Arizona.

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