ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract **Element Code:** ILARA38040
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Archeolarca welbourni*
COMMON NAME: A Cave Obligate Pseudoscorpion
SYNONYMS:
FAMILY: Garypidae

AUTHOR, PLACE OF PUBLICATION: Muchmore, Journal of Arachnology, 9: 47-60. 1981.

TYPE LOCALITY:

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: In North America, there are 18 known families, roughly 100 identified genera, and about 350 described species of pseudoscorpions. It is estimated that there are 500 undescribed species of pseudoscorpions in North America, and probably 75% of the genera need revision. (Read *in* http://www.sff.net/people/windrummer/ReadWebSite/psdoscrp.html). According to the Bohart Museum at UC Davis, There are about 200 species of pseudoscorpions in North America (*In* http://bohart.ucdavis.edu/bohart.asp?s=kidscorner&f=arachnid). Worldwide, there are about 2000 described species of pseudoscorpions.

DESCRIPTION: Pseudoscorpions are small (generally 5mm or less), flattened, oval-bodied arachnids, with a scorpion-like appearance. They bear relatively large chelae on the pedipalps, but they do not have a telson or stinger. Pseudoscorpion pedipalps smaller, pincher-like appendages, and are similar to those of scorpions except that usually each has a poison gland located in one or both "fingers" of the hand. The abdomen of the pseudoscorpions is oval and has a wide junction with the rectangular carapace. The chelicerae, or grasping pincers, are small and are equipped with structures for cleaning the mouthparts. The third pair of walking legs has excretory glands near the coxae, or base segment. On various parts of the body are numerous trichobothria, or sensory hairs, which can sense small air currents. Pseudoscorpions respiration occurs through two pairs of spiracles, or openings to the outside, leading to a tracheal system.

AIDS TO IDENTIFICATION: Pseudoscorpions are seldom more than 5 mm in length, and have zero, two or four eyes.

ILLUSTRATIONS: Color photo (genus/species unknown, Kim Taylor/Bruce Coleman Inc., in

http://www.everythingabout.net/articles/biology/animals/arthropods/arachnids/pseudoscorpion/)

TOTAL RANGE: Arizona

RANGE WITHIN ARIZONA: See "**Total Range."**

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Many pseudoscorpions have poison glands in their pedipalps, which are used to subdue insect prey and small invertebrates. They also have silk glands, but unlike spiders, which have them at the tip of the abdomen, the duct openings are located on the jaws or chelicerae. They use this silk to spin cocoons, in which they over winter and molt. Pseudoscorpions can maneuver with great ease, moving forward, backward, and sideways. They move slowly, holding their pedipalps in front of them. Sometimes they cling to and are carried around by large insects. All species typically have highly localized distributions, low dispersal and cannot survive outside the cave. Pseudoscorpions do not fluoresce under ultraviolet light.

REPRODUCTION: In general male pseudoscorpions deposit a spermatophore on the substrate, and the female is attracted to it by scent, or in some advanced species, the male who aids her in the uptake actively maneuvers the female to the spermatophore. After insemination, the female builds a silk lined nest. After the 2-50 eggs are laid, they remain in a sac that is attached to the underside of the female's body. They feed on in the milk like liquid from the female's ovaries. Development takes place within the sac. The young undergo one molt before hatching and one during hatching before emerging from the sac. They molt twice more before becoming adults, usually a year later, and individuals may live 2-3(-5) years.

FOOD HABITS: *Archeolarca* spp. primarily eat arthropods that are associated with other mammals in the cave.

HABITAT: Subterranean cave habitat probably associated with bats and rodents. Individuals occur on or very near the soil surface and can be collected by direct capture or by sieving through the dirt. Johnson (1992) reports "Genus *Archeolarca* Hoff and Clawson is comprised of species that inhabit rodent nests and caves, largely only those that are inhabited by vertebrates such as bats and especially rodents."

ELEVATION:

PLANT COMMUNITY:

POPULATION TRENDS:

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: None

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Life history studies and population surveys and range distribution studies need to be performed.

LAND MANAGEMENT/OWNERSHIP:

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

William B. Muchmore - Department of Biology, University of Rochester, Rochester NY.

ADDITIONAL INFORMATION:

Revised: 2004-04-23 (AMS)
2004-07-14 (SMS)

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