SCIENTIFIC NAME: *Eremarionta immaculata*
COMMON NAME: White Desertsnail
CLASS, FAMILY: Gastropoda, Helminthoglyptidae

ORIGINAL DESCRIPTION: Willett, G. 1937. A new land shell from the Riverside Mountains, Colorado Desert. Bulletin of the Southern California Academy of Sciences 36(1):6-7, pl. 1, figs. A-C (dorsal, lateral, and ventral shell views).

TYPE LOCALITY: *Holotype*: - California: Riverside County; east slope of Riverside Mountains, 7 miles south of Vidal, San Bernardino County, collected by G. Willett and wife, 24 March 1937. Deposited in the Los Angeles County Museum of Natural History, type # 1051. *Paratypes*: same collectors and date, nine living (when collected) and 75 dead specimens, deposited in collections of the Academy of Natural Sciences, Philadelphia, and author (presumably ultimately deposited at LACM, where Willett worked).

RANKING/STATUS: G1/S1 (NatureServe-CNDDB); Vulnerable (IUCN).

GENERAL DESCRIPTION: From Willett, 1937: "Shell small, depressed, unbilicated. Color white, with brownish apex; unbanded. Nuclear whorls papillated in diagonal rows, as in the *M. rowelli* group, these papillations gradually becoming less distinct and showing mostly on growth lines, practically disappearing on last whorl and base. Aperture oblique, almost circular. Outer lip descending at insertion; inner lip encroaching slightly on the open umbilicus." Type series 12.3-13 mm in shell diameter.

Eremarionta immaculata is atypical of the genus in lacking brown banding on the shell, though Willett noted that two juveniles had faint traces of a very narrow brown band.

DISTRIBUTION: Apparently endemic to the Riverside Mountains in eastern Riverside County, California.

HABITAT: Among rocks on talus slopes, primarily calcium-rich dolomite. Shells are more frequently encountered with an increasing abundance of rocks <5 cm in upper-surface dimension, and are less frequently encountered when rock upper-surface dimension reaches >40 cm. Smaller rocks may allow this small species easier penetration to subterranean aestivation sites. Talus composed of smaller rocks has also been shown to retain more rainfall, providing a moister subterranean environment. No relationship between degree of slope and shell abundance has been observed for this species.

LIFE HISTORY/BEHAVIOR: No information on the reproductive biology or lifespan of this species is available.

During dry periods, individuals aestivate beneath talus, withdrawing into their shells and sealing the shell openings to rocks to reduce desiccation. Live snails are therefore difficult to find much of the year, though exposed shell remains can be seen at any time. Individuals of *E. immaculata* become more active as temperatures increase and saturation deficit decreases. Typical winter temperatures in this species' range are expected to decrease, but not entirely halt, activity. Live *E. immaculata* have been observed traveling distances of >1 meter across solid rock.

Eremarionta immaculata prefers (and possibly depends upon) a substrate of lichens and moss, probably for feeding and for moisture-retention properties. Prolonged dry periods limit feeding, development, and mating of *Eremarionta immaculata,* resulting in low rates of population growth. Therefore, the species is likely to recover slowly from population declines resulting from predation or habitat alteration.

SELECTED REFERENCES:

Wiesenborn, W.D. 2000. Abundance and dispersion of shells of the white desertsnail, *Eremarionta immaculata* (Gastropoda, Pulmonata). Southwestern Naturalist 45(4):450-455.

Wiesenborn, W.D. 2003. White desertsnail, *Eremarionta immaculata* (Gastropoda, Pulmonata), activity during daylight after winter rainfall. Southwestern Naturalist 48(2):202-207.

Written by Sandra Shanks, California Department of Fish and Game, Natural Diversity Database

Reviewed by William Wiesenborn, U.S. Bureau of Reclamation.