

A review of anthropogenic-sourced cover items used by the Desert Night Lizard (*Xantusia vigilis*)

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The Desert Night Lizard (*Xantusia vigilis*), contrary to its common name, is diurnally active, spending the majority of its time under cover. This species is closely associated with several species of yucca, with Joshua tree (*Yucca brevifolia*) most commonly cited. Other yucca species used as cover by night lizards include Mojave yucca (*Y. schidigera* = *Y. mohavensis*; Deacon et al. 1966) and Whipple's yucca (*Y. whipplei*, now *Hesperoyucca whipplei*; Stebbins 1948, Hawbecker 1949). However, Desert Night Lizards also occur in areas where yucca species are absent. For example, Desert Night Lizards from Pinnacles National Monument and Panoche Valley, San Benito County, California, were found under California foothill pine (*Pinus sabiniana*) debris and branches (Stebbins 1948), as well as under small stones (Morafka and Banta 1973) and rocks (Christenson 1948). Deacon et al. (1966) found several Desert Night Lizards in Nye County, Nevada, under cow chips within a saltgrass (*Distichlis stricta*), screwbean (*Prosopis pubescens*), and saltbush (*Atriplex confertifolia*) association. The Desert Night Lizard in Sonora, Mexico (now Cole's Night Lizard, *Xantusia jaycolei*; Bezy et al. 2008) was commonly found under decaying Cardón pieces (*Pachycereus pringlei*; Felger 1965). Woodrat (*Neotoma* sp.) nests have also served as a cover source for night lizards (Zweifel and Lowe 1966, Kaufmann and Bennett 1989). Bezy (2005) lists a large number of plant species inhabited by the Desert Night Lizard in Arizona. Herein I summarize cover items described in the literature that are not naturally occurring (i.e., anthropogenic-sourced) and include my own observations of this species using such objects in the Mojave Desert, California.

Desert Night Lizards do not appear to restrict themselves to yucca and other vegetative debris for cover, and may use anthropogenic-sourced items when available on the landscape. During surveys in Las Vegas Valley, Nevada, Deacon et al. (1966) found Desert Night Lizards under lumber, cardboard, and metal. While collecting reptiles in Nye County, Nevada, Banta (1950) found 4 Desert Night Lizards in a debris pile consisting of fallen leaves, humus, small pieces of rotted

wood, and scraps of graphite roofing paper. Miller (1951) also found the Desert Night Lizard in "piles of trash" while studying the species in the Antelope Valley, Mojave Desert. Morafka and Banta (1973) found night lizards under wood, boards, and cloth, while Randel et al. (2009) found night lizards under tin cans.

Since 2005, I have conducted diurnal mammal live-trapping surveys in the Mojave Desert, where I also concurrently search for reptiles. While inventorying the herpetofauna near Hesperia, San Bernardino County, California in 2005, I found my first night lizard under a piece of plywood. In 2009, during diurnal mammal surveys outside of the city of Lancaster, Los Angeles County, California, I found Desert Night Lizards under debris piles consisting of lumber and plywood, as well as discarded clothing, plastic toys, and miscellaneous paper products. The survey area, lacking a Joshua tree component, was predominately vegetated with saltbush (*Atriplex* sp.) and spiny hopsage (*Grayia spinosa*). Currently, there is not any significant Joshua tree woodland within 30 km (18.6 miles) of the study site, but prehistorically, the woodlands may have occurred in the area. Similarly, Turner (1959) found Desert Night Lizards at the base of sagebrush (*Artemisia* sp.) shrubs in an area devoid of *Yucca* species.

On the desert landscape, Desert Night Lizards occur with plant species that can provide favorable microclimatic conditions (e.g., thermal protection and moisture content), such as Joshua trees. In desert areas

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Desert Night Lizard (*Xantusia vigilis*), near Palmdale, Los Angeles County, CA. Photo by Howard Clark.

It is important that when searching and investigating the Desert Night Lizard that all upturned debris is returned to its original position.

without a yucca component, accumulated organic debris under shrubs is also capable of filling this role. Industrialized humans have been moving into the desert over the past 200 years, and their “trash piles” may possibly provide the microclimate requirements necessary for the Desert Night Lizard to persist. It is unknown whether these anthropogenic habitats provide the requirements for reproduction and long-term survival of a population and therefore further research is needed.

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Note: It is important that when searching and investigating the Desert Night Lizard that all upturned debris is returned to its original position (Cowles 1952).

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CURRENT RESEARCH SUMMARIES

Crotalus atrox (Western Diamond-backed Rattlesnake) adult predation on lizards

Repp and Schuett (2009) provide additional information on the diet of the Western Diamond-backed Rattlesnake. The typical prey for the species consists of rodents and lagomorphs, with the occasional bird. Additional prey species specific to the Sonoran Desert of south-central Arizona include the Desert Spiny Lizard (*Sceloporus magister*) and Regal Horned Lizard (*Pbrynosoma solare*). The authors provide a detailed description of the behavior of the rattlesnakes and the prey items, including dates, times, how the prey reacted to the rattlesnakes’ presence, core temperatures, and ambient temperatures, as well as location of the predation events and vegetative cover. Mammalian prey tends to create large food boluses in rattlesnakes, whereas lizards form small food boluses, and therefore are more difficult to detect. It is likely that these small boluses would be overlooked by researchers under most situations.

Repp, R. A., and G. W. Schuett. 2009. *Crotalus atrox* (Western Diamond-backed Rattlesnake). Adult predation on lizards. *Herpetological Review* 40:353–354.

Heloderma suspectum (Gila Monster) diet and predatory behavior

Repp and Schuett (2009) provide additional information on the diet of the Gila Monster in the Sonoran Desert of south-central Arizona. Gila Monsters are nest-raiding specialists. Typical prey include nests of ground-nesting birds, lizards, and mammals. The authors observed Gila Monsters consume the eggs of Gambel’s Quail (*Callipepla gambelii*) and neonatal Desert Cottontails (*Sylvilagus audubonii*). Each predation act was detailed and described. Additional details provided include study site locations, precipitation, and vegetative cover.

Repp, R. A., and G. W. Schuett. 2009. *Heloderma suspectum* (Gila Monster). Diet and predatory behavior. *Herpetological Review* 40:343–345.