

## PEER EDITED

## NOTES

## PREDATION BY THE LONG-NOSED SNAKE (*RHINOCHAILUS LECONTEI*) ON THE ENDANGERED BLUNT-NOSED LEOPARD LIZARD (*GAMBELIA SILA*)

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**Abstract.**—The Blunt-nosed Leopard lizard (*Gambelia sila*) is an endangered lizard of the San Joaquin Desert of California and knowing the species that are predators can be useful to the conservation and recovery of the species. Besides the three snakes and six birds that are known to eat Blunt-nosed Leopard Lizards, we add an additional snake. On 15 May 2015, we dug a Long-nosed Snake (*Rhinocheilus lecontei*) out of a kangaroo rat (*Dipodomys* spp.) burrow system at the same location of the radio transmitter of a Blunt-nosed Leopard Lizard that had obviously been through a digestive system of an animal. The radio transmitter belonged to an adult male Blunt-nosed Leopard Lizard that had not moved from this location for 10 d. This is the first record of a Long-nosed Snake eating a Blunt-nosed Leopard Lizard.

**Key Words.**—California; lizards; predators; San Joaquin Desert; snakes

The Blunt-nosed Leopard lizard (*Gambelia sila*) is state and federally listed as endangered and has lost about 85% of its historic range (Germano and Williams 1992; U.S. Fish and Wildlife Service 1998). It occurs throughout the San Joaquin Desert (Germano et al. 2011) and is a fairly large lizard reaching up to 120 mm snout-vent length (SVL; Montanucci 1965; Germano 2009). Recovery efforts would be aided by knowing likely predators of this reptile. Several predators are known to eat Blunt-nosed Leopard Lizards including the San Joaquin Coachwhip (*Masticophis flagellum ruddocki*), Gopher Snake (*Pituophis catenifer*), Northern Western Rattlesnake (*Crotalus oreganus*), Red-tailed Hawk (*Buteo jaimacensis*), Prairie Falcon (*Falco mexicanus*), American Kestrel (*Falco sparverius*), Loggerhead Shrike (*Lanius ludovicianus*), Burrowing Owl (*Athene cunicularia*), and Greater Roadrunner (*Geococcyx californianus*; Montanucci 1965; Tollestrup 1979; Germano and Carter 1995; Germano and Brown 2003). Here we report on an additional snake that ate a Blunt-nosed Leopard Lizard.

As part of a radio-telemetry study of Blunt-nosed Leopard Lizards in the Lokern area of the San Joaquin Desert, we noted that the signal from one male (115 mm SVL and 42.5 g when we collared him 28 May 2015) was coming from a kangaroo rat (*Dipodomys* spp.) burrow system (35°21'04"N, 119°32'58"W) and had not changed locations in 7 d. This prompted us to dig into the burrow system to determine if the lizard was still alive and to recover the transmitter. While digging into the system, we saw the upper 10 cm of a Long-nosed Snake (*Rhinocheilus lecontei*) come out of a tunnel. After it noticed us, the snake retreated back into the tunnel. We returned 3 d later on 15 May 2015 and the transmitter signal was still at the same location, so we dug into the

burrow system again. After about 20 min, we recovered both the Long-nosed Snake and the radio transmitter at the same spot where we found the snake. The radio transmitter of the lizard had obviously been through a digestive system of an animal (Fig. 1) based on the discolored beaded chain and the adherence of the chain to the transmitter. The Long-nosed Snake was an adult 68 cm total length and died the next day from wounds suffered when we dug into the burrow system. The Long-nosed Snake has been found in parts of the San Joaquin Desert (Robert Hansen, unpubl. data), but we have rarely seen it in the 25+ y that we have worked in the valley. This is the first record of a Long-nosed Snake eating a Blunt-nosed Leopard Lizard, but because of the relative rarity of this snake and its small size relative to an adult leopard lizard, we suspect that these predation events are uncommon.

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**FIGURE 1.** Long-nosed Snake (*Rhinocheilus lecontei*) with a Holohil BD2 radio transmitter originally attached to a male Blunt-nosed Leopard Lizard (*Gambelia sila*) that was being radio-tracked on the Lokern in Kern County, California. (Photographed by David J. Germano).