

# Blunt-nosed Leopard Lizard (*Gambelia sila*) Avoidance of Soil Contact During High Temperatures

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The Blunt-nosed Leopard Lizard (Fig. 1, *Gambelia sila*; Stejneger, 1890) is federally and California state-listed as “endangered” and has been protected since the 1960s. It is a medium-sized predatory lizard native to the San Joaquin Valley of California (Hammerson 2007) with an average snout-vent length of 87 to 120 mm and an average mass of 30 to 37 g (USFWS 1998). The species typically occupies arid grasslands, sandy washes, alkali flats and sinks, and saltbush (*Atriplex*) scrub habitats (USFWS 1998). The lizard consumes insect prey, including beetles and other large insects, as well as lizards and other small vertebrate prey. They occupy the burrows of arid-adapted mammals such as kangaroo rats (*Dipodomys*) and antelope squirrels (*Ammospermophilus*). The species typically basks on burrow mounds and when the air temperature increases during mid-day periods they will shelter under shrubs or retreat underground (Germano and Williams 2005). USFWS (1998) states that, “Optimal activity occurs when air temperatures are between 23.5 degrees and 40.0 degrees Celsius (74 and 104 degrees Fahrenheit) and ground temperatures are between 22 degrees and 36 degrees Celsius (72 and 97 degrees Fahrenheit)... some activity has been observed at temperatures as high as 50 degrees Celsius (122 degrees Fahrenheit)...” Here, we report behaviors wherein a Blunt-nosed Leopard Lizard avoided contact with hot soils during mid-day foraging activities within an ecological reserve, Kern County, CA.

On August 6, 2023, at 1220 h, we observed an adult Blunt-nosed Leopard Lizard (Fig. 1) sitting in direct sunlight near a two-track dirt roadway on top of a patch of flattened grass. It then ran a few meters into saltbush scrub land-cover adjacent to the roadway and perched on top of a small *Atriplex* shrub. It was alert and appeared to be engaged in foraging efforts. After a few moments it ran into the shade of a nearby shrub. It remained under the shrub for several minutes and then ran under another shrub. It remained in the shade of the second shrub for the rest of our observation period, which was approx. 15 minutes.

It appears that the lizard took advantage of flattened grassy patches and small shrubs to avoid contact with the direct soil during foraging activities. The ambient air



**Fig. 1.** Blunt-nosed Leopard Lizard (*Gambelia sila*) perched on small *Atriplex* shrub during high mid-day temperatures, Kern County, CA. Photo by Graham Biddy captured using a fixed 400 mm lens at a distance of ~7 m.

temperature was 38.3 °C (101 °F) and the soil temperature was 58.9 °C (138 °F). Remaining out in the open optimizes foraging because the Blunt-nosed Leopard Lizard is a visual hunter and needs a clear field of view to effectively track prey, especially during the late summer when lizards are accumulating fat stores and preparing for dormancy. Being within and under a shrub may limit hunting success but is eventually necessary if temperatures in the open are no longer tolerable (see Germano [2019] for additional thermal analysis).

## Literature Cited

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