

PEER EDITED

NOTES

UNUSUAL MATING POSITION BY A PAIR OF BLAINVILLE'S HORNED LIZARDS (*PHRYNOSOMA BLAINVILLII*) IN THE SAN JOAQUIN DESERT, CALIFORNIA

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Abstract.—Here we report on and present a photograph of the unusual belly-to-belly mating of Blainville's Horned Lizard (*Phrynosoma blainvillii*). This species is the only horned lizard that mates in this manner.

Key Words.—California; lizards; mating; San Joaquin Desert

During the course of a two year study of Blainville's Horned Lizards (*Phrynosoma blainvillii*) at the Atwell Island Restoration Project of the US Bureau of Land Management in Tulare County, California (Hult and Germano 2015a, b), we came upon a pair of *P. blainvillii* on 22 April 2009 at 0917 that were mating with one lizard on its back on the ground and the other on top, in a belly-to-belly posture (Fig. 1). We do not know how long the lizards had been in this position, but the lizard on top was still fairly dark in color and lightened considerably by the time they pulled apart at 0942. The air temperature (ca. 1.2 m above the ground) was 28.4° C, the surface temperature (2 cm aboveground) was 30.5° C, and the soil temperature (2 cm under the surface) was 31.5° C when recorded about 5 min after we sighted the pair. The lizard on its back sporadically heaved its chest; two heaves were given in quick succession. Pairs of heaves would be spaced 5–10 s apart over an interval encompassing 10–15 pairs of heaves, and then there would be long pauses of 1–3 min without heaving. We think the chest heaving may have been respiration. This sporadic heaving lasted over the 25 min we watched this pair until they disengaged. Unfortunately, they pulled apart so quickly while we were not directly watching them that we are uncertain which sex was on top. Each ran about 1 m from where they were mating, which was in the open, with the female (73 mm SVL, 22.5 g) running into a Heermann's Kangaroo Rat (*Dipodomys heermanni*) burrow and the male (69 mm SVL, 18.5 g) running under a Goldenbush (*Isocoma acradenia*) shrub about 0.25 m from the burrow.

Most horned lizards mate with the female upright and the male on top or to her side, with tails positioned to allow cloacal contact (Sherbrooke 2003). Mating usually lasts 15–30 min (Sherbrooke 2003). The belly-to-belly mating position of *P. blainvillii* that we observed

typically occurs with the male on top (Montanucci 1968; Tollestrup 1981) and is unique to this species among horned lizards (Sherbrooke 2003), though mating in *P. blainvillii* also occurs with the female upright (Tollestrup 1981). Although we did not determine which sex was on top during mating, males are known to bite the female on the throat and then flip her onto her back (Tollestrup 1981). The significance of mating belly-to-belly is not understood (Tollestrup 1981).

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FIGURE 1. Apparent copulatory position of a male and female Blaineville's Horned Lizard (*Phrynosoma blainvillii*) found 22 April 2009 at the Atwell Island Restoration site in Tulare County, California. Note that the individual on top (presumably the male) has grasped the throat skin of the individual on the bottom. (Photographed by Susan Hult).