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Source: *Herpetologica*, Vol. 29, No. 2 (Jun., 1973), pp. 191-192

Published by: Allen Press on behalf of the Herpetologists' League

Stable URL: <https://www.jstor.org/stable/3891185>

Accessed: 19-04-2021 19:44 UTC

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Received: 20 March 1972

Accepted: 28 December 1972

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COMBAT IN THE HORNED LIZARD, *PHRYNOSOMA CORNUTUM*

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LYNN (1965) reported that he was able to discern little social interaction within or between species of *Phrynosoma*. He speculated that behavioral characteristics such as territoriality and aggressive behavior have been lost in horned lizards. However, continuous observations of horned lizard feeding behavior during the summer 1972 provided us with observations on combat between two *Phrynosoma cornutum*.

Mark-recapture data on *P. cornutum* from the Desert Biome Jornada Validation Site since 1970 and our feeding behavior studies support the contention that these animals are not territorial. Individual lizards, followed for a day, have moved well over 100 meters and frequently approach within a meter of another *P. cornutum*. This type of encounter usually results in head bobbing and mutual retreat of the lizards.

On 19 July 1972 the senior author observed physical combat between two male *P. cornutum*, hereafter designated A and B. The combat was not preceded by head bobbing display by either lizard and lasted for over an hour [(0851-1005 hours) mountain daylight time].

The following is a detailed description of this combat encounter. At 0855, the lizard

under observation (A) was in an open area where it was feeding on ants (*Myrmecocystus* sp.) from a nearby nest. A second horned lizard (B) emerged from the shadow of a fallen *Yucca elata* log approximately 3 m away and moved rapidly toward A. A climbed on B's back and bit it firmly in the right front axil. B proceeded to use its head and horns as weapons by twisting its body to expose the throat and underside of its opponent. Lizard B rapidly lowered and raised its head driving the sharp horns into the ventral side of A. Lizard A attempted to escape by scratching and turning over, but B's hold was too strong. Lizard A also attempted to use head butting but was not able to achieve a position where this would be defensively effective. By 0930 lizard A appeared exhausted and the attack efforts of B lessened, although the latter maintained a firm thoracic grip. During the next 35 minutes B engaged in 3 additional flurries of head butting and scratching lasting less than 1 minute each.

We separated and examined the lizards. B had no visible indication of physical damage from the encounter and moved off quickly when released. Lizard A had four bleeding puncture wounds in the throat

region and one large bleeding puncture wound on the upper abdomen. Lizards A and B had similar snout-vent lengths, being 82 mm and 85 mm, respectively.

To our knowledge this is the only report of combat in *Phrynosoma* although vigorous combat is common in iguanids (Carpenter, 1967).

Acknowledgments.—We thank Dr. Martha Whitson for discussions of and critical review of the manuscript. This paper is a contribution from the Jornada Validation Site of the IBP Desert Biome Program supported by NSF Grant GB 32194.

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