



to consume a still quivering adult male *Falco sparverius* (American Kestrel) at the Chihuahuan Desert Rangeland Research Center, Summerford Mountain (32.532536°N, 106.790825°W; datum WGS84), New Mexico, USA (Fig. 1). On 06 July 2012, the site was revisited and the kestrel was found, apparently regurgitated, after being swallowed down to the top of the wings. To our knowledge, this represents the first case of attempted predation on *F. sparverius* by *C. viridis*.

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**CROTALUS VIRIDIS** (Prairie Rattlesnake). **REPRODUCTION/COMBAT.** Male-male combat behavior is a component of the reproductive cycle of pitvipers (Aldridge and Duvall 2002. Herpetol. Monogr. 16:1–25). The occurrence of male-male combat behavior is reported in North America during spring (Gloyd 1947. Nat. Hist. Misc. 12:1–4) and summer (Klauber 1972. Rattlesnakes: Their Habits, Life History, and Influence on Mankind, 2<sup>nd</sup> ed. Univ. California Press, Berkeley; Holycross 1995. Herpetol. Rev. 26:37–38). Here we report field observations of two combat episodes between *C. viridis* in early autumn and spring in northern Chihuahua, Mexico.

At 1130 h on 23 September 2008, 1 km W of the gap that leads to "El Vergel," at km 304 of the Ciudad Juárez–Chihuahua Federal Highway 45, municipality of Juárez, Chihuahua, Mexico (31.20223889°N, 106.51834444°W, datum WGS84; elev. 1285 m) one of us (EMR) encountered two male *C. viridis* (ca. 1100 mm SVL) engaged in combat (Fig. 1). The observation occurred in dune habitat with vegetation composed primarily of *Prosopis glandulosa* and *Gutierrezia sarothrae*, about 20 m away from the location of a female *C. viridis* and her newborn offspring. Combat continued for ca. 10 min, after which the defeated male withdrew. A film and photos of the combat are deposited in the scientific collection of vertebrates of the Autonomous University of Juárez UACJ (CHI-VER-189-08-06). The second combat event took place on 15 April 2003, at 1100 h, on the campus of the Autonomous University of Juárez (UACJ) (31.49132095°N, 106.41687207°W; datum WGS84). These observations are unusual in that they occurred outside of the typical summer breeding season of the species.

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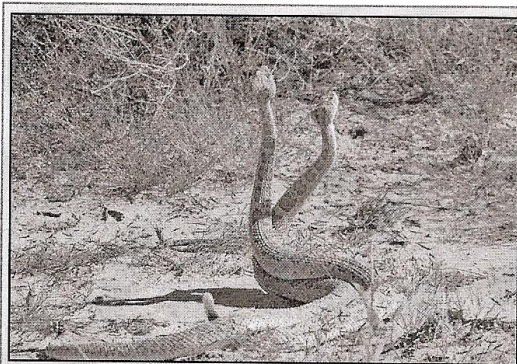


FIG. 1. Male-male combat between two *Crotalus viridis* observed in September in northern Chihuahua, Mexico.

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**DIPSAS ALTERNANS** (Jan's Snail-Eater, Dormideira). **DEFENSIVE BEHAVIOR.** The genus *Dipsas* comprises small and non-venomous Neotropical snakes that show several defensive strategies, some of which are thought to mimic venomous snakes of the genus *Bothrops* (Sazima 1992. In Campbell and Brodie Jr. [eds.], Biology of Pitvipers, pp. 199–216. Selva, Tyler, Texas). Recently, Maia-Carneiro et al. (2012. Biotemas 25:207–210) described three defensive behaviors in *Dipsas alternans*: immobility, spherical body coiling, and hiding the head among the body coils. In our long-term studies of snakes in the Atlantic forest region of the state of Paraná, southern Brazil, we have collected seven *D. alternans*. Five of these demonstrated the same defensive behaviors described by Maia-Carneiro et al. (*op. cit.*), but two exhibited a unique defensive behavior: spiral coiling. The two snakes were found moving within the leaf-litter on the ground of the forest. Both stayed immobile, but after manipulation, rolled their body into a perfect plain spiral, with their heads completely visible in the center (Fig. 1), displaying three spots on the dorsum of the head, as described by Maia-Carneiro et al. (*op. cit.*). In captivity, the specimens never showed any other defensive behaviors, but always forming the spiral when stimulated. Although the exact function of this behavior remains unknown, the spiral shape might confuse a potential predator or mimic the spiral-shaped dead leaves of common tree fern in the area, *Dicksonia sellowiana* (Cyatheaceae). The specimens are deposited in the herpetological collection of the Museu de História Natural Capão da Imbuia (MHNCL.691, Camarinhos, municipality of Campo Largo, Paraná; 25.43°S, 49.63°W, datum WGS 84; MHN-CL.3005, Rio do Meio, municipality of Antonina, Paraná; 25.33°S, 48.75°W, datum WGS 84).

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FIG. 1. *Dipsas alternans* (MHNCL.691) from Paraná, Brazil, showing spiral defensive behavior.