



FIG. 1. Neonate *Micruroides euryxanthus* (top) preyed upon by a neonate *Lampropeltis splendida* (NCSM 85817), Portal, Cochise Co., Arizona, USA.

(Fagundes et al. 2009. Bol. Mus. Biol. Mello Leitão [N. Sér.] 25:67–71). Here, we report predation by *Lampropeltis splendida* (Desert Kingsnake) on *Micruroides euryxanthus*. On 28 August 2015, a neonate *L. splendida* (SVL = 26.1 cm; tail length = 2.2+ cm) was found road-killed ca. 1.1 km E of Portal, Cochise Co., Arizona, USA (31.91406°N, 109.13013°W; WGS 84). The stomach contained a neonate *M. euryxanthus* (Fig. 1). To our knowledge, this represents the first documentation of a heterospecific snake preying upon *M. euryxanthus*. The *L. splendida* specimen and the *M. euryxanthus* remains are deposited in the herpetological research collections of the North Carolina Museum of Natural Sciences (NCSM 85817).

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MICRURUS LEMNISCATUS (Coralsnake). **ALBINISM**. The majority of species in the elapid genus *Micrurus* exhibit color patterns divided into triads or dyads of rings in black, white, or yellow interspersed by red (Roze 1996. Coral Snakes of the Americas: Biology, Identification, and Venoms. Krieger Publishing Co., Malabar, Florida. 328 pp.). Here we report the first record of albinism in *M. lemniscatus*.

On 2 October 2015, in Santa Maria County (16.00313°S, 47.98776°W, WGS 84; 1237 m elev.), Distrito Federal, Brazil, two local fishermen found an adult albino specimen of *M. lemniscatus* at the edge of the Anicunzinho River. They collected it, later giving it to a biology student who came to us asking for assistance in identification. The snake (Fig. 1; adult female, SVL = 100 cm, tail length = 13 cm) eventually died and is deposited in the Herpetological Collection Alphonse Richard Hoge of the Butantan Institute, São Paulo, SP, Brazil (IBSP 88.341). The snake is classified as a full albino because there is total absence of melanin in scales, skin, eyes, and tongue (Sazima and Di-Bernardo 1991. Memórias do Instituto Butantan. 53:167–173). What should be black rings are white, rings that should be white are pale yellow, almost undiscernible against the white background, and the red rings are pink (Savage and Slowinski 1992. Biol. J. Linn. Soc. 45:235–254). The fact that this snake grew to reproductive maturity despite lacking its aposematic

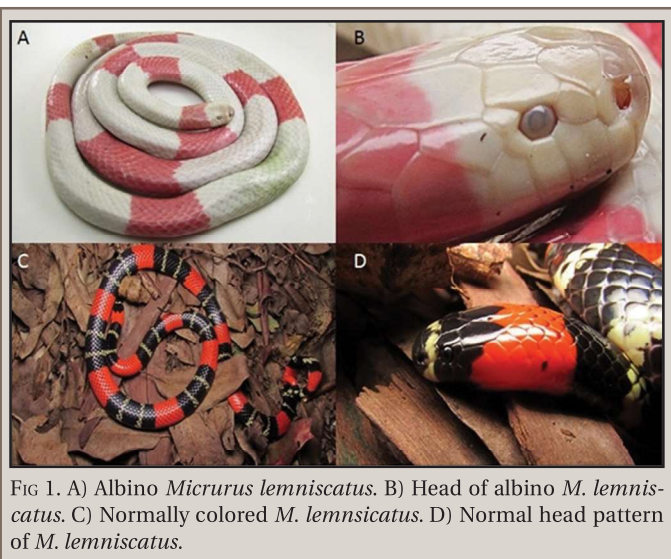


FIG. 1. A) Albino *Micrurus lemniscatus*. B) Head of albino *M. lemniscatus*. C) Normally colored *M. lemniscatus*. D) Normal head pattern of *M. lemniscatus*.

coloration suggests that it avoided predation through nocturnal or fossorial activity patterns (Sazima and Di-Bernardo, *op. cit.*).

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MICRURUS LEMNISCATUS CARVALHOI (Coralsnake). **REPRODUCTION / MALE-MALE COMBAT**. Male-male combat is a widespread behavior in snakes (Senter et al. 2014. PLoS ONE 9:1–10) and is frequently associated with male-biased sexual size dimorphism (SSD) (Shine 1994. Copeia 1994:326–346). However, combat has only been reported rarely and sporadically in the genus *Micrurus* (Almeida-Santos et al. 1998. Herpetol. Rev. 29:242; Marques et al. 2013. Herpetologica 69:58–66). The genus *Micrurus* is widespread in the Americas and contains 80 described species (Uetz et al. 2016. www.reptile-database.org; 01 Jun 2016). In South America, *Micrurus* species are divided into two distinct phylogenetic lineages: species with black rings arranged in monads (BRM) and species where the black rings are arranged in triads (BRT) (Slowinski 1995. J. Herpetol. 29:325–338). Male-male combat was suspected to occur only in the latter lineage (Slowinski, *op. cit.*; Marques et al., *op. cit.*), but has been recorded for only one BRT species, *M. altirostris*, based on observations of wild and captive individuals (Almeida-Santos et al., *op. cit.*; Marques et al., *op. cit.*). Here, we present a first record of the male-male combat in a second Brazilian BRT coral snake, *Micrurus lemniscatus carvalhoi*.

Two *M. l. carvalhoi* were observed and photographed by an amateur photographer, Carolina T. Zacho, on 21 June 2015, at 1800 h, in a rural area near Água Nova Camp Club (22.73932°S, 48.57158°S; WGS 84), São Manuel municipality, São Paulo State, Brazil. The snakes were found with the bodies intertwined, changing position and maintaining their heads side by side (Fig. 1A), but trying to raise them as far as possible above the head of opponent by lifting off the ground in the horizontal position (Fig.



FIG. 1. Male-male combat in *Micrurus lemniscatus carvalhoi*, São Manuel municipality, São Paulo, Brazil. Males were found with the bodies intertwined, maintaining their heads side by side in the horizontal position (A), and possibly trying to raise above the head of opponent (B).

1B). The witnessed behavior is similar to that recorded for wild *M. altirostris*, where two males were aligned horizontally with bodies and tails intertwined, and heads slightly moving forward and trying to hover over their opponent (Almeida-Santos et al., *op. cit.*). The behavior continued for approximately 15 min and biting was not observed. A sample of the *M. l. carvalhoi* population shows that females are larger than males ($t = 2.983$; $df = 54$; $P < 0.0001$; $N = 41$ and $N = 16$), with a sexual dimorphism index of 0.29. These data differ from previous published data (Marques et al., *op. cit.*) suggesting that SSD was negative or close to zero for all BRT species. Thus, this is the first record of male-male combat in a *Micrurus* species with female-biased sexual size dimorphism. Our observation occurred during the early winter, reinforcing that this is the mating season for *M. l. carvalhoi* (Marques et al. 2006. *South Am. J. Herpetol.* 1:99–105; Marques et al. 2013, *op. cit.*).

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NATRIX NATRIX (Grass Snake). MAXIMUM ELEVATION. *Natrix natrix* is widespread throughout most of Europe, Anatolia, Transcaucasia, Cyprus, Levant, Central Asia, and Siberia (to the Baikal Lake), northern Nei Mongol, China, south to Aral and Balkash Lakes and northern Iran (Kreiner 2007. *The Snakes of Europe*. Edition Chimaira, Frankfurt am Main, Germany. 317 pp.). In Armenia, it is also widespread with an elevational range from 550 to 2084 m (Lake Sevan area; Arakelyan et al. 2011. *Herpetofauna of Armenia and Nagorno-Karabakh*. Society for the Study of Amphibians and Reptiles, Salt Lake City, Utah. 149 pp.).

On 22 July 2015, we observed four *N. natrix* of both sexes in the Nshkhark region (Vardenyats Pass, Vardenis Mts.), ca. 17 km S of Geghovit village in central Armenia. The elevation of the locality is 2289 m, representing the highest altitudinal record for the species in Armenia. The habitat of the locality was mountain meadows with shallow streams. Other species recorded on the locality were *Rana macrocnemis* and *Vipera erivanensis*.

Natrix natrix inhabits an array of habitats at elevations from sea level to high mountains (Kabisch 1999. *In* W. Böhme [ed.], *Handbuch der Reptilien und Amphibien Europas*, Band 3, Schlangen II, pp. 513–580. Akademische Verlagsgesellschaft, Wiesbaden, Germany). For instance, in central Europe it is known from 2322 m (Austria; Cabela and Tiedeman. 1985. *Atlas der Amphibien und Reptilien Österreichs*. Verlag Ferdinand Berger & Söhne, Wien-Horn, Austria. 80 pp.). In the southern parts of its range this species may even occur at elevations of 2500 m (Kabisch 1999, *op. cit.*). As Armenia is a very mountainous country with suitable habitats at high elevations, we cannot exclude further records of the species from higher altitudes.

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NATRIX TESSELLATA (Dice Snake). DIET. *Natrix tessellata* is widely distributed from southern Europe to northwestern China. The main component of its diet consists of live fish (Bannikov et al. 1977. *Guide to Amphibians and Reptiles of the USSR Fauna*. Moscow, Prosveshchenie. 414 pp. [in Russian]). Bakiev et al. (2009. *Snakes of the Samara region*. Cassandra Publishing House, Tolyatti. 170 pp. [in Russian]) recorded *N. tessellata* scavenging dead fish from the shore in the territory of Samara Bend, Samara region, Russia.

On 27 May 2016, on the banks of the Volga River, in the village of Tsagan Aman, Kalmykia, Russia (47.56638°N 46.72555°E, WGS 84; -13 m elev.), we observed an adult *N. tessellata* eating offal of *Alosa kessleri* (Caspian Anadromous Shad) that had been discarded by fishermen (Fig. 1). This observation demonstrates the broad foraging habits of this species.



FIG. 1. *Natrix tessellata* (melanistic) eating offal of *Alosa kessleri* (Caspian Anadromous Shad), Tsagan Aman, Russia.

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NERODIA ERYTHROGASTER (Plain-bellied Watersnake). DIET. *Nerodia erythrogaster* has a diet comprised mostly of amphibians but it also eats a variety of fishes (Gibbons and Dorcas 2004. *North American Watersnakes: a Natural History*. University of Oklahoma Press, Norman. 438 pp.). Here we report two new fish species in its diet. Data were recorded from a watersnake foraging study investigating snake gut contents using palpation and regurgitation. All snakes containing new diet items were sampled using aquatic funnel traps. Snakes were sampled in 2014 at