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Short Communication

Climbing and swallowing: new food item in the diet of *Boiruna sertaneja* Zaher, 1996 (Squamata: Dipsadidae) with note of climbing behavior

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Resumo

Escalando e engolindo: novo item alimentar na dieta de *Boiruna sertaneja* Zaher, 1996 (Squamata: Dipsadidae) com nota de comportamento de escalada. Observações sobre a história natural das serpentes, bem como sobre seus hábitos alimentares e comportamento são essenciais para ampliar o conhecimento básico sobre as espécies. Aqui relatamos o encontro de uma serpente Pseudoboini *Boiruna sertaneja* alimentando-se de indivíduo de *Philodryas nattereri* em poleiro não natural, elevado dois metros acima do nível do solo. Este é o primeiro registro de predação de *B. sertaneja* sobre *P. nattereri*, ampliando as informações sobre a dieta e o comportamento alimentar da espécie em áreas semiáridas do nordeste do Brasil.

Palavras-chave: Forrageio; Ofiofagia; Pseudoboini; Serpente

Abstract

Observations on the natural history of snakes, including their food items and behavior, are essential for increasing the basic knowledge about species. Here we report the encounter of a Pseudoboini snake, *Boiruna sertaneja*, feeding on an individual of *Philodryas nattereri* on an unnatural perch elevated two meters above ground level. This is the first record of predation by *B. sertaneja* on *P. nattereri*, which increases what is known about the diet and feeding behavior of the species in semi-arid areas of northeastern Brazil.

Key words: Foraging; Ophiophagy; Pseudoboini; Snake

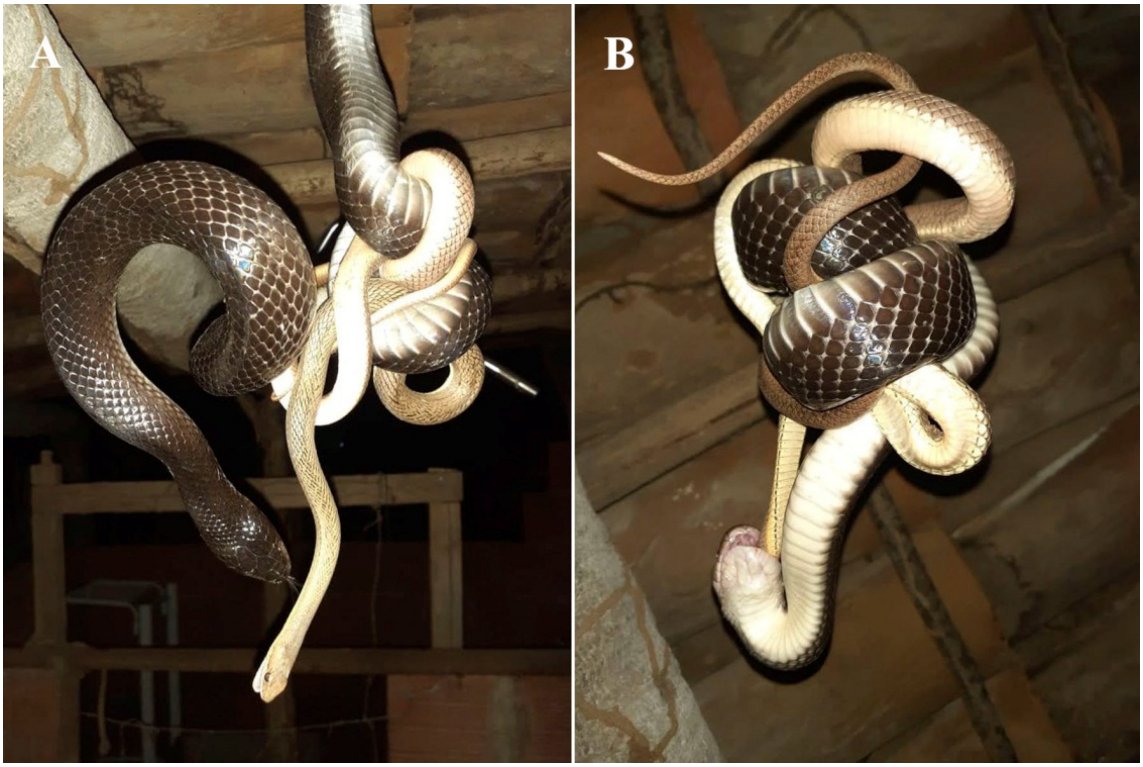
The genus *Boiruna* comprises two Pseudoboini species distributed in the cis-Andean region of South America: *Boiruna maculata* (Boulenger, 1896) and *Boiruna sertaneja* Zaher, 1996 (GUEDES et al., 2020). Popularly known as "mussuranas" in Brazil, they are medium- to large-sized opisthoglyphous snakes, with ophiophagus habits, and commonly feed on large venomous snakes, such as those in the genera *Bothrops* and *Crotalus* (SCOTT JR. et al., 2006; QUINTEROS-MUÑOZ, 2015). *Boiruna sertaneja* is a large species (maximum SVL = 1940 mm), widely distributed in lowlands of northeastern Brazil where it inhabits xeric open formations, and is endemic to the Caatinga (GUEDES et al., 2014). This snake is predominantly nocturnal, more active during moonless nights and has terrestrial habits (JAAO pers. obs.; MESQUITA et al., 2013; GUEDES et al., 2014; MARQUES et al., 2017). Despite its wide distribution, *B. sertaneja* seems to be locally rare and scarce in scientific collections (PIZZATTO, 2005; LOEBMANN; HADDAD, 2010; MESQUITA et al., 2013; GUEDES et al., 2014; PEREIRA-FILHO et al., 2017; NOGUEIRA et al., 2019).

Although *B. sertaneja* is an ophiophagous specialist (ALENCAR et al., 2013), it can be opportunistic with a diet that includes small vertebrates, such as the following: the lizards *Ameiva ameiva* (Linnaeus, 1758), *Diploglossus lessonae* Perecca, 1890 and *Tropidurus hispidus* (Spix, 1825); rodents, such as *Thrichomys apereoides* Lund, 1839 and *Rattus rattus* Alexandrinus E. Geoffrey, 1803; and even dead items, such as *Columbina picui* (Temminck, 1813) (VITT; VANGILDER, 1983; GAIARSA et al., 2013; SALES et al., 2019). The following snake species have been previously documented for the *B. sertaneja* diet: boids, *Boa constrictor* Linnaeus, 1758 and *Epicrates assisi* Machado, 1945; colubrids, *Erythrolamprus viridis* (Günther,1862), *Lygophis dilepis* Cope, 1862, *Oxyrhopus* cf. *trigeminus*, *Philodryas* sp. and *Xenodon merremii* (Wagler, 1824); and viperids, *Bothrops erythromelas* Amaral, 1923 and *Crotalus durissus* Linnaeus, 1758 (VITT; VANGILDER, 1983; GAIARSA et al., 2013; LEITE et al., 2017; SALES et al., 2019). Here, we report the first record of predation on the Common-Racer, *Philodryas nattereri* (Steindachner, 1870), by *B. sertaneja*.

Our observation occurred while one of the authors (JAAO) was field herping in the municipality of Morada Nova (-4.8508232S, -38.3980865W; 110 m a.s.l.), in the state of Ceará, Brazil. At 20:30 h on 13 December 2020, an individual of *B. sertaneja* (Bs) preyed upon an individual of *P. nattereri* (Pn). We observed a sequence of movements performed during the predation process and recorded the event by photographing it with a cell phone camera. The snakes were found on the roof of an abandoned pigsty that was 2 m from the ground. The (Bs) was biting the most posterior dorsolateral region of the prey that was partially hidden in the roof crevices trying to escape. After several attempts, the (Bs) managed to pull out and rapidly constrict the (Pn). Due to the location, with few support points for the body, the individuals were partially suspended in the air. The (Bs) attached its tail to one of the ceiling boards while part of its body wrapped around the prey. During constriction, at least two well-defined spirals were formed; in this case, the right body wall was in contact with the prey, forming dextrogyre spirals. This movement appears to be in line with previous ex-situ observations for the genus (see PINTO; LEMA, 2002). In our observation, the predator formed medial constriction rings with the dorsal region of the body facing its head. The (Bs) continuously bit its prey in a static spot for several minutes while constricting it. After that, when the prey showed less resistance, the (Bs) started to dart its tongue and search for the prey's head (Figure 1A). After biting the prey's head, the swallowing process started (Figure 1B). The entire observation lasted around 25 min until the prey was completely swallowed.

Philodryas nattereri is a snake with predominantly terrestrial habits, quite common, and abundant in several regions of the Caatinga (MESQUITA et al., 2013; GUEDES et al., 2014; BENÍCIO et al., 2015; OLIVEIRA et al., 2017). It may constitute an important item in the diet of *B. sertaneja*, as mentioned for the genus (*Phylodryas*) in studies on the diet of this species (GAIARSA et al., 2013). Although the eating habits of *B. sertaneja* essentially include prey in terrestrial habits (SALES et al., 2019), our observations show that

FIGURE 1: Predation on *Philodryas nattereri* by *Boiruna sertaneja* on an unnatural perch two meters above the ground. *Boiruna sertaneja* darting its tongue in search of the head of the prey (A). Start of the swallowing process (B).



this species can climb vertical structures, such as logs and buildings, in search of food. We provide important information about the natural history of a species that is widely distributed in semiarid areas of northeastern Brazil, which increases the knowledge about the predatory behavior and habitat use exhibited by a large Pseudoboini snake species.

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