

**First record of predation by the pit viper *Bothrops atrox* (Squamata: Viperidae)  
on a water snake (Squamata: Dipsadidae: *Helicops polyleps*) in the Eastern  
Amazon**

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**ABSTRACT:** *Ophiophagy is a relatively well-reported feeding habit in the diet of the Amazonian pit viper (Bothrops atrox). However, aquatic snakes have not yet been recorded as food items in this snake's diet, especially in adult individuals. In this work, we report the first record of predation of the water snake Helicops polyleps by Bothrops atrox. The event occurred in a floodplain forest environment in eastern Amazonia. Our record expands knowledge about the natural history and diet composition of one of the most abundant snakes in the Amazon.*

**Key words:** ophiophagy, diet, feeding habits, floodplain forest

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**Primeiro registro de predação da jararaca *Bothrops atrox* (Squamata: Viperidae)  
sobre uma serpente aquática (Squamata: Dipsadidae: *Helicops polyleps*) na  
Amazônia Oriental**

**RESUMO:** *A ofiofagia é um hábito alimentar relativamente bem reportado na dieta da jararaca-da-Amazônia (Bothrops atrox). Entretanto, serpentes aquáticas ainda não foram registradas como itens alimentares na dieta desta serpente, sobretudo em indivíduos adultos. Nesse trabalho, relatamos o primeiro registro de predação da cobra-d'água Helicops polyleps por Bothrops atrox. O evento de predação ocorreu em um ambiente de floresta inundável de várzea, na Amazônia oriental. Nosso registro expande o conhecimento sobre a história natural e a composição da dieta, de uma das serpentes mais abundantes da Amazônia.*

**Palavras – chave:** ofiofagia, dieta, hábito alimentar, floresta inundável de várzea

**Primer registro de depredación por parte de la víbora *Bothrops atrox* (Squamata:  
Viperidae) sobre una culebra de agua (Squamata: Dipsadidae: *Helicops polyleps*)  
en la Amazonía Oriental**

**RESUMEN:** La ofiofagia es un hábito de alimentación relativamente bien informado en la dieta de la víbora amazónica (*Bothrops atrox*). Sin embargo, las serpientes acuáticas aún no se han registrado como alimentos en la dieta de esta serpiente, especialmente en individuos adultos. En este trabajo reportamos el primer registro de depredación de la serpiente de agua *Helicops polyleps* por parte de *Bothrops atrox*. El evento de depredación ocurrió en un ambiente de bosque de llanura aluvial en el este de la Amazonía. Nuestro registro amplía el conocimiento sobre la historia natural y la composición de la dieta de una de las serpientes más abundantes de la Amazonía.

**Palabras clave:** ofiofagia, dieta, hábitos alimenticios, llanura inundable bosque inundable

The Amazonian pit viper *Bothrops atrox* (Linnaeus, 1758) has a wide distribution across the Amazon basin and is adapted to different habitats (Turci et al., 2009), although higher densities of individuals can be expected in areas associated with water bodies (Fraga et al., 2013). *B. atrox* is an ambush predator and has generalist eating habits, like most snakes of the genus *Bothrops* (Martins et al., 2002). The species presents an ontogenic change in diet, in which younger individuals tend to feed on ectothermic prey, such as frogs, lizards, centipedes and other snakes, while adult individuals tend to consume endothermic prey, such as small mammals (Bisneto and Kaefer, 2019).

Ophiophagy in *B. atrox* is relatively well reported, even though it is considered a minor food item in the diet of generalist snakes (Gavira and Loebman, 2011; Bisneto and Kaefer, 2019). Starace et al., (2021) listed a total of 13 snakes preyed on by *B. atrox*, distributed in five families, where Dipsadidae holds the highest number of occurrences distributed on the genera *Atractus*, *Erythrolamprus*, *Imantodes*, *Leptodeira*, *Ninia*, *Oxyrhopus* and *Siphlophis*. In this study we present a new genus from the Dipsadidae family used by *B. atrox* as a food resource.

On November 27, 2018, during an active nocturnal search, we collected an adult male of *Bothrops atrox* (snout-vent length = 605.6 mm; tail length = 106.4 mm) (Fig. 1A) in an area of varzea forest, in the drought period in the municipality of Monte Alegre, state of Pará, Brazil (54°4'9.7"W; 02°5'1.4"S). The collected specimen was euthanized and deposited in the Herpetological Collection of the Federal University of Western Pará (UFOPA-H 1438 voucher, collection protocols authorized by the license IBAMA / ICMBio / SISBIO n° 24072-1). While analyzing the digestive tract of the specimen, we found an intact young individual of *Helicops polyleps* Günther, 1861 (snout-vent length = 166 mm, tail length = 63 mm) (Fig. 1B, C). The prey was ingested head first.

This is the first record of a water snake in the diet of *Bothrops atrox*. *Helicops*

*polyleps* is an aquatic snake that has nocturnal habits and feeds on fish and amphibians present in flooded habitats of floodplains and igapós where there is low water flow and depths are low (Santos-Jr and Ribeiro, 2005; Teixeira et al., 2017). Several studies have shown that *B. atrox* presents ontogenic changes in its diet, with ingestion of ectothermic prey by juveniles and adults tend to prey on endothermic animals, which are more caloric (Bisneto and Kaefer, 2019; Starace et al., 2021). However, the specimen presented here already has a size compatible with that of an adult (Silva et al., 2019), which supports the assumption that even larger individuals continue to feed, even if less frequently, on ectothermic prey.

Although ours is a single record, the predation event described above occurred in a floodplain forest environment, which is strongly influenced by seasonal variations in river level, and consequently, temporally reflects on the composition and availability of prey, favoring the encounter of prey – predator in the use of microhabitats (Loiaza-Langes et al., 2023). Thus, widely distributed species that occupy a wide variety of habitats, such as *B. atrox*, can be highly adaptable predators in the consumption of their prey, as observed in its congener *B. asper* (Loiaza-Langes et al., 2023). Our record opens the opportunity to investigate in the future whether ectothermic prey, including aquatic snakes, may be common food items in the diet of adult *Bothrops atrox*, or whether such prey types are ingested opportunistically.

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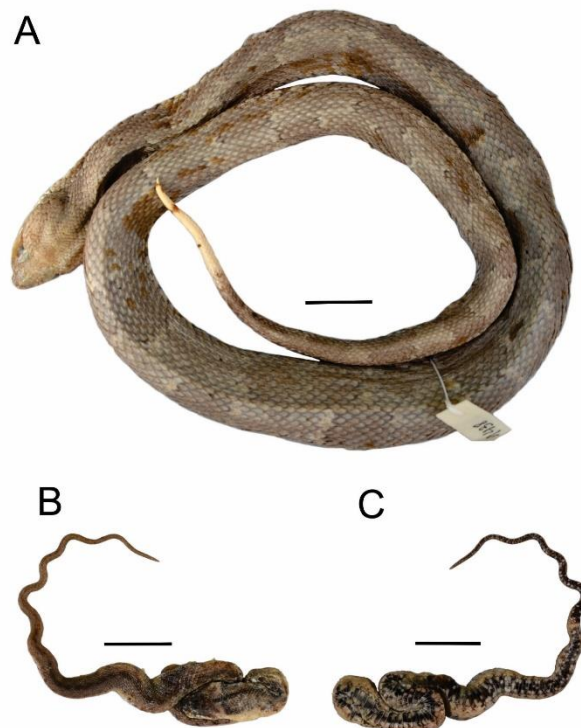
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**Figure 1:** **A)** General dorsal view of the Amazonian pit viper *Bothrops atrox* (UFOPA-H 1438) from the municipality of Monte Alegre, Pará, Brazil. **(B-C)** Respectively, dorsal and ventral views of digested prey, the water snake *Helicops polyleps*. Scale bars = 20 mm.