Notas de História Natural & Distribuição Geográfica

Human-snake conflict in an urban environment in southwestern Amazonia: A case study on motivation and interaction with *Eunectes murinus* in Rondônia

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Urban expansion and habitat reduction have caused conflicts between humans and wild animals throughout Brazil (Mascarenhas-Junior et al. 2021; Ruiz-Tagle et al. 2021) and these have intensified in the last 20 years (Marchini & Crawshaw Jr. 2015). In rural environments, conflicts with snakes are mainly preventive because snakes represent a potential risk to domestic animals and humans (Alves et al. 2012; Miranda et al. 2016; Lima et al. 2020). The motivations related to snake-killing in urban environments may be similar to those in rural environments. Nevertheless, there is a clear need to understand the existing interactions and motivations related to such conflicts.

Snakes are historically portrayed as untrustworthy animals, mainly due to myths and legends (Lima-Santos et al. 2020), which contribute to their systematic killing (Fernandes-Ferreira et al. 2012), including the non-venomous constricting anacondas. The green an-

aconda (*Eunectes murinus*) occupies aquatic habitats and feeds on a wide variety of animals, including fish, amphibians, chelonians, lizards, snakes, alligators, birds, and mammals such as agoutis, pacas, capybaras, peccaries, tapirs, deer, monkeys, and even domestic species (Strimple 1993; Strüssmann 1997; Martins & Oliveira 1998; Bernarde & Abe 2010; Rivas et al. 2016; Lima et al. 2020; Thomas & Allain 2021).

Although some motivations for killing snakes are related to protection of domestic animals, motivations in urban environments need to be explored, especially when another wild species interacts with the snake. This study reports a conflict between humans and a green anaconda motivated by predation on a bird (*Ramphocelus carbo*).

At 4:56 pm on February 19, 2021, in the municipality of Porto Velho, Rondônia State, Brazil, southwestern Brazilian Amazonia, residents reported the presence of a newborn *Eunectes murinus* on a private property in the city center. The property is within an urban forest fragment crossed by a small river named Santa Barbará (8.768° S, 63.898° W; WGS-84; 87 m above sea level), 1.22 km from the Madeira River (Fig. 1). The properties within the forest fragment do not have any division system, and inhabitants plant fruit trees in the forest. The fruit is used as food for both residents and birds. The residents contacted the senior author for the removal of an *E. murinus* from the top of a banana tree (*Musa* sp.), where it was said to be preying on silver-beaked tanagers (*Ramphocelus carbo*). According to the residents, silver-beaked tanagers are common in the locality and are always seen feeding on fruit trees; the birds' presence is appreciated and accepted as positive. Residents killed the snake for fear and because it was preying on birds.

The *Eunectes murinus* specimen was collected (Fig. 2A–B), and the stomach contents were dissected and analyzed, revealing that it had consumed a *Ramphocelus carbo* (Fig. 2D). The snake was deposited in the Coleção Herpetológica da Universidade Federal de Rondônia (UFRO-HEP 003318) and its prey was deposited in the Coleção de Referência da Avifauna do Estado de Rondônia (UFRO-AVE 000288). Both snake and bird were preserved in 70% ethanol. The *E. murinus* (Fig. 2C) was a male, ca. 86 cm total length, and 329 g weight. The *R. carbo* (Fig. 2D) was a male, identified by white spots on its beak (Sick 1997), ca. 11 cm total length, and 46 g weight.

In many regions of Brazil, feeding birds is a part of the human population's daily activity (Crepaldi et al. 2018), demonstrating a very close relationship between humans and birds, as observed

in the study site. Therefore, the predation of birds by snakes can be negatively interpreted by residents, even though it is a natural event, and birds, including *Ramphocelus carbo* (Bagno et al. 2012), are a common component of the diet of *E. murinus*.

Snakes of the genus *Eunectes* suffer from human pressure for illegal breeding, the commercial use of their skin, and their fat for traditional medicine (Alves et al. 2006; Souza et al. 2017; Ramos et al. 2020; Oliveira et al. 2021), besides being considered aggressive (Waldez & Vogt 2009). An essential aspect of the conflict between humans and snakes is the snakes' diet. In the event reported here, residents exhibited a clear preference for the prey (bird) over the predator (snake). This indicates the need to communicate the importance of snakes, especially in urban environments. Educational activities on the behavior and diet of snakes should be directed toward reducing hostile behaviors toward these animals (Moura et al. 2010). This report reinforces the need for environmental education for demystifying snakes and their ecological relationships, especially regarding predation, and the importance of this group to the urban population of Porto Velho.

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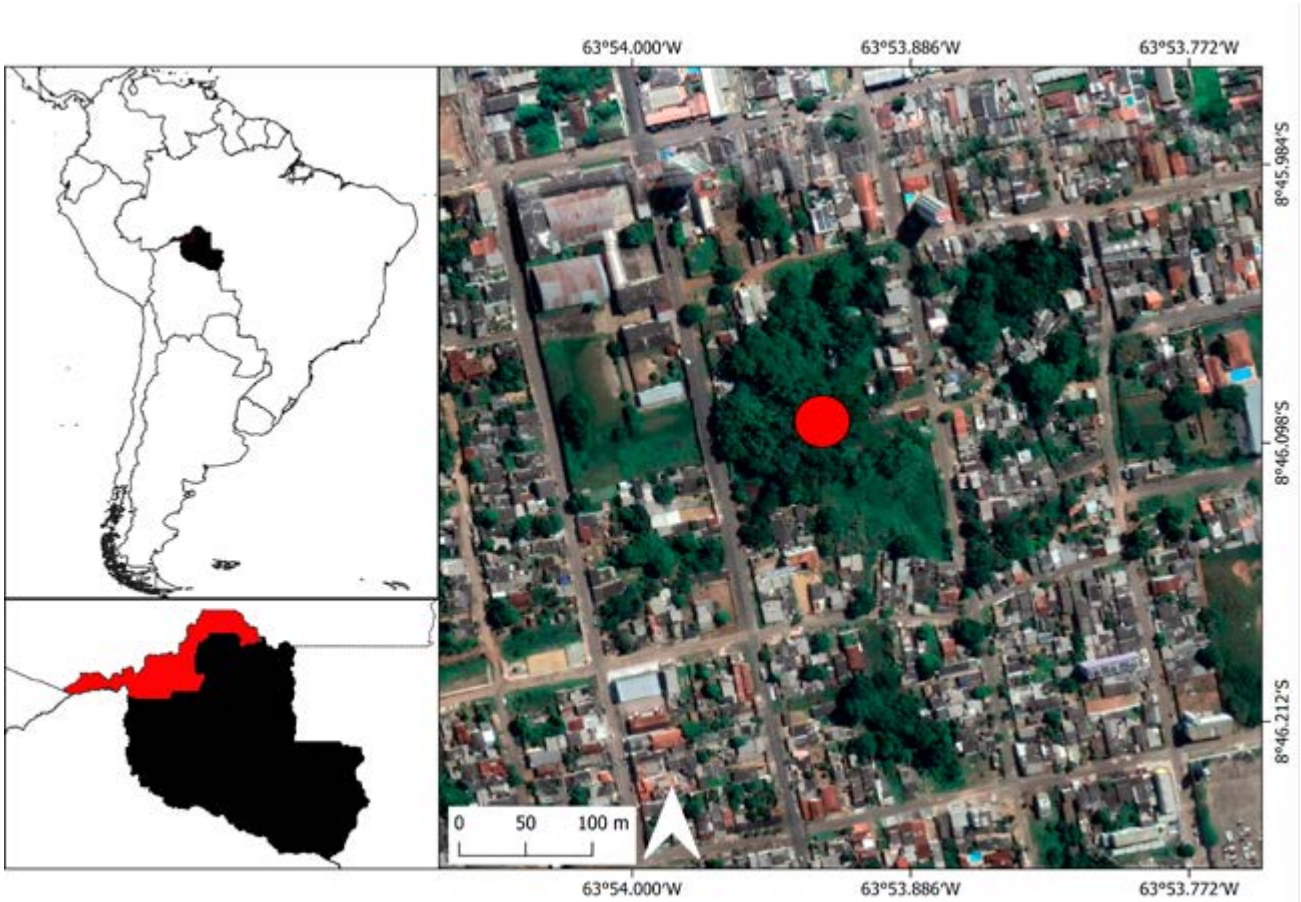

Figure 1. Site of the interaction between *Eunectes murinus* and humans in Porto Velho municipality, state of Rondônia, Brazil.

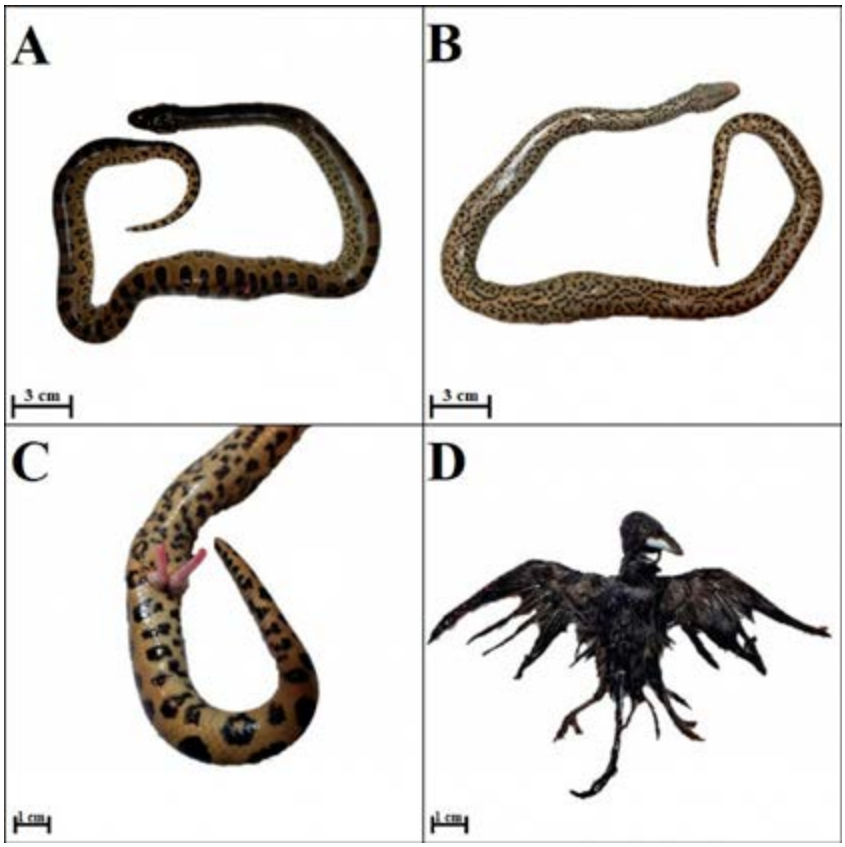

Figure 2. Photographic evidence of the consumption of *Ramphocelus carbo* (Pallas, 1764) by E*unectes murinus* (Linnaeus, 1758). A) Dorsal view of *E. murinus*. B) Ventral view of E. murinus. C) Hemipennis of *E. murinus*. D) *R. carbo* found in stomach contents of *E. murinus*.