

## Lizard predation *Tropidurus hispidus* (Squamata, Tropiduridae) by false coral snake *Oxyrhopus trigeminus* (Squamata, Dipsadidae) in the Caatinga, in northeastern Brazil

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### Predação do lagarto *Tropidurus hispidus* (Squamata, Tropiduridae) por serpente falsa coral *Oxyrhopus trigeminus* (Squamata, Dipsadidae) na Caatinga (nordeste do Brasil)

**Resumo:** A predação de lagartos raramente é observada na natureza, e eventos envolvendo serpentes são ainda mais escassos. Aqui nós documentamos em detalhes a predação de um lagarto (*Tropidurus hispidus* (Spix, 1825)) por uma serpente (*Oxyrhopus trigeminus* Duméril, Bibron & Duméril, 1854). Muitos estudos identificaram lagartos *Tropidurus* Wied-Neuwied, 1825 como presas de serpentes brasileiras. Assim, este registro fornece importantes informações sobre a história natural de ambas as espécies, especialmente de *O. trigeminus*, que são essenciais para a compreensão de sua ecologia.

**Palavras chave:** Ecologia alimentar, dieta, constrição de presas, Saurofagia.

**Abstract:** The predation of lizards is rarely observed in the wild, and events involving snakes are scarcer still. Here we document in detail the predation of a lizard (*Tropidurus hispidus* (Spix, 1825)) by a snake (*Oxyrhopus trigeminus* Duméril, Bibron & Duméril, 1854). Many studies have identified *Tropidurus* Wied-Neuwied, 1825 lizards as prey for Brazilian snakes. Thus, this record provides important insights into the natural history of both species, especially *O. trigeminus*, which are essential for the understanding of their ecology.

**Key words:** Feed ecology, diet, prey constriction, Saurophagy.

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The snake *Oxyrhopus trigeminus* Duméril, Bibron & Duméril, 1854 is broadly distributed in Brazil, ranging from northern Marajó Island in the state of Pará south to the state of Rio de Janeiro. *Oxyrhopus trigeminus* occurs in much of the Cerrado, Caatinga, Atlantic Forest and Amazon domains (Peters & Orejas-Miranda 1970; Zaher & Caramaschi 1992; MacCulloch *et al.* 2009; Alencar *et al.* 2012).

According to Marques *et al.* (2005) *Oxyrhopus trigeminus* is an oviparous, terrestrial, and predominantly nocturnal snake. It presents a varied diet composed mainly of mammals,

lizards, and some birds (Vitt & Vangilder 1983; Rocha *et al.* 2005; França *et al.* 2008; Alencar *et al.* 2012; Mesquita *et al.* 2013). Most snake species rely on constriction to immobilize their prey (Vanzolini *et al.* 1980; Sazima & Haddad 1992; Moon 2000; Pinto & Lema 2002), and while *O. trigeminus* is a constrictor, it is also able to inoculate its prey with toxic substances through its bite (Vanzolini *et al.* 1980).

The lizard *Tropidurus hispidus* (Spix, 1825) has a wide geographical distribution (De-Carvalho *et al.* 2013), occurring in northeastern South America between Venezuela and Minas Gerais, Brazil (Rodrigues 1987; Ávila-Pires 1995). *Tropidurus hispidus* is the largest species of the genus, and is classified as a “sit-and-wait” forager (Rodrigues 1987; Colli & Paiva 1997; Ribeiro & Freire 2010, 2011; Santana *et al.* 2011a; Santana *et al.* 2014) that feeds primarily on insects (Vitt *et al.* 1996; Ribeiro & Freire 2011; Gomes *et al.* 2015). This lizard is oviparous and a habitat generalist, and can be observed mainly on rocky surfaces on the ground at the borders of forests, on tree trunks and sandy soils (Rodrigues 1987; Vitt *et al.* 1996, 1997; Carvalho & Vilar 2005; Santana *et al.* 2011b; Ribeiro & Freire 2010; Santana *et al.* 2014; Gomes *et al.* 2015).

The predation of lizards is rarely observed in the wild (Malkmus 2000; Aguiar & Di-Bernardo 2004), and events involving snakes are scarcer still (Vitt & Vangilder 1983; Almeida *et al.* 2009). This study documents the predation of a lizard (*Tropidurus hispidus*) by a snake (*Oxyrhopus trigeminus*) (**Figure 1**). The event was observed on 26 November 2011 at 00:45 in the Grota do Angico State Natural Monument located on the right bank of the São Francisco River, in the scrublands of the Brazilian state of Sergipe (09°41'00"S, 38°31'00"W). This conservation unit has a total area of 2128 ha and is located in the South Country Depression, with an average height of 100 m (Ruiz-Esparza *et al.* 2011).

An adult *Tropidurus hispidus* was observed and photographed being preyed upon by *Oxyrhopus trigeminus*. The initial capture was not observed, and when the animals were first seen, the snake was beginning to swallow the lizard head-first (**Figure 2**). The snake was perched on the branches of a tree about 150 cm from the ground (**Figure 3**), an unusual location, given that *O. trigeminus* is generally considered to be a terrestrial species (França *et al.* 2008; Alencar *et al.* 2012).

No specimens were collected, but it was possible to obtain a complete photographic record of the entire event (**Figure 4**). The identification of the species was facilitated by the fact that they are very common at the study site, and have characteristic coloration and other features. While the predation of *Tropidurus* lizards by Brazilian snakes is often mentioned in the literature, only a few studies have identified entire event of predation (Vitt & Vangilder 1983; Prudente *et al.* 1998; Martins & Oliveira 1999; Almeida *et al.* 2009; Mesquita *et al.* 2010; Santos *et al.* 2012; Maia-Carneiron *et al.* 2016). In this report, we revealed the existence of a different interaction, predation far above the ground, involving *Oxyrhopus trigeminus* and *T. hispidus*, adding knowledge regarding the trophic ecology of this snake. This record provides important insights into the natural history of both species, especially *O. trigeminus*, which are essential for the understanding of their natural history.



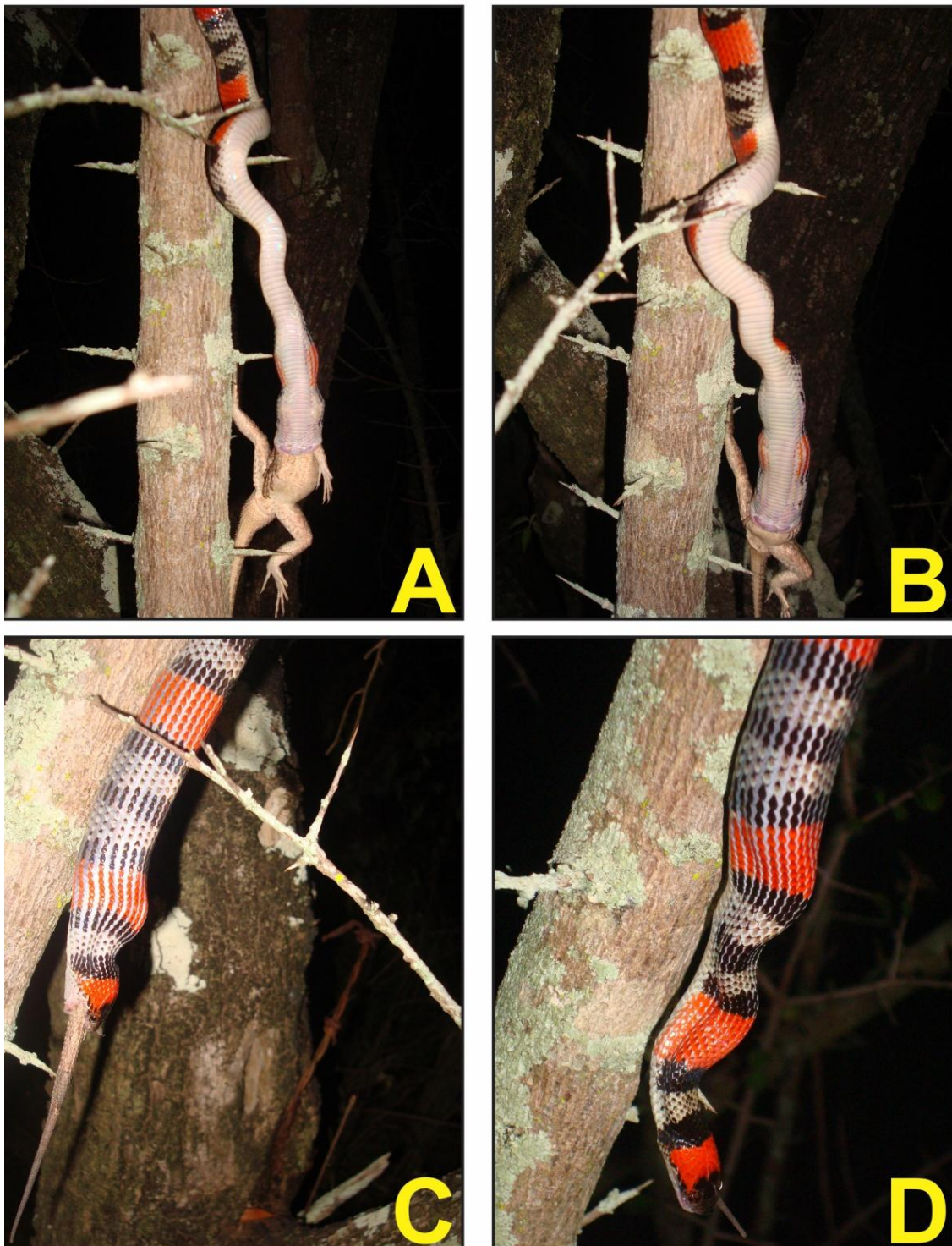
**Figure 1.** Lizard *Tropidurus hispidus* being preyed by a snake *Oxyrhopus trigeminus* (Photo: Marcos Barreto Filho).



**Figure 2.** Beginning swallowed lizard *Tropidurus hispidus* by *Oxyrhopus trigeminus* (Photo: Marcos Barreto Filho).



**Figure 3.** Detail snake perch *Oxyrhopus trigeminus* during predation of *Tropidurus hispidus* (Photo: Marcos Barreto Filho).



**Figure 4.** Stages of the end of the swallowed final process of *Tropidurus hispidus* by *Oxyrhopus trigeminus*: A–B. Ingestion after loosening the turns; C–D. Swallowed completion (Photo: Marcos Barreto Filho).

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