

# First record of predation on the bat *Carollia perspicillata* by the false coral snake *Oxyrhopus petolarius* in the Atlantic Rainforest

Frederico Gustavo Rodrigues França \*

Rafaella Amorim de Lima

Universidade Federal da Paraíba, Centro de Ciências Aplicadas e Educação  
Departamento de Engenharia e Meio Ambiente, CEP 58297-000, Rio Tinto – PB, Brasil

\* Corresponding author  
fredericofranca@me.com

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## Resumo

**Primeiro registro de predação do morcego *Carollia perspicillata* pela falsa coral *Oxyrhopus petolarius* na Mata Atlântica.** Registros de morcegos como presas de serpentes são bastante escassos na literatura, mas trabalhos recentes têm evidenciado que essa predação não parece ser um fenômeno incomum. Apresentamos aqui o primeiro registro de predação do morcego *Carollia perspicillata* pela falsa coral *Oxyrhopus petolarius* em uma área de Mata Atlântica na região Nordeste do Brasil.

**Palavras-chave:** Dieta; Falsa coral; Morcegos; Serpentes

## Abstract

Records of bats as prey of snakes are very few in the literature, but recent studies have shown that this predation doesn't seem to be an unusual phenomenon. We present here the first record of predation on the bat *Carollia perspicillata* by the false coral snake *Oxyrhopus petolarius* in an Atlantic Rainforest area in the Northeastern Brazil.

**Key words:** Bats; Diet; False coral snake; Snakes

Although bats are not considered an important component of the diet of most snake species, snake predation on bats does not seem to be an unusual phenomenon (SCHÄTTI, 1984; HASTINGS, 2010). In fact, boids are common predators of bats in the neotropics, with bats having been recorded in the diet of almost all genera (except *Eunectes*), the most notable being Central American *Epicrates* (*E. angulifer*, *E. inornatus*,

and *E. subflavus*) (HARDY, 1957; RODRÍGUEZ; REAGAN, 1984; KOENIG; SCHWARTZ, 2003) and South American *Corallus hortulanus* (HENDERSON, 1993; ESBÉRARD; VRCIBRADIC, 2007). Other snakes that reportedly prey on bats include the vipers *Bothriechis schlegelii* and *Bothrops asper* (ESBÉRARD; VRCIBRADIC, 2007) and large-sized Colubrinae, such as *Elaphe flavirufa*, *Pantherophis guttatus*, *Pituophis*

*melanoleucus*, *Pseustes sulphureus*, and *Spilotes pullatus* (DAVIS, 1951; RAINWATER; PLATT, 1999; RUFINO; BERNARDI, 1999; ESBÉRARD; VRCIBRADIC, 2007). Finally, among the many Dipsadinae snakes, bats have been recorded only in the diet of *Siphlophis cervinus*, which was reported to have eaten an insectivorous bat *Myotis* sp., ingested tail-first (PRUDENTE et al., 1996).

In the material kept in the Herpetological Collection of Universidade Federal da Paraíba (CHUFPB), Brazil, we found an adult female calico false coral snake *Oxyrhopus petolarius* (Linnaeus, 1758) (UFPB 2451; Figure 1; 635mm snout-vent length and 820mm total length) collected in Estacao Ecologica Pau-Brasil, Porto Seguro, Bahia, Brazil, which had an entire adult bat specimen in its stomach (Figure 1). The prey bat was identified by the Chiroptera specialists Alfredo Ricardo Langguth Bonino and Patrício Adriano da Rocha, from Universidade Federal da Paraíba (UFPB), as seba's short-tailed bat *Carollia perspicillata* (Linnaeus, 1758) (Chiroptera, Phyllostomidae). The bat was 23cm in total length, it weighed 18g, and it was ingested tail-first.

*Oxyrhopus petolarius* is widely distributed throughout Central and South Americas (SAVAGE; VILLA, 1986; MARKEZICH, 2002; LYNCH, 2009; MACCULLOCH et al., 2009). In Brazil, *O. petolarius* inhabits forested areas in Cerrado (VAZ-SILVA et al., 2007), Atlantic Rainforest (SANTANA et al., 2008), and Amazonia (BERNARDE; MACHADO, 2000). Information on this species' diet is few in the literature, and is typically claimed as mainly consisting of lizards, rodents, and occasionally birds (ANDRADE; SILVANO, 1996; BERNARDE; MACHADO, 2000). *Carollia perspicillata* is a frugivorous bat species that inhabits both moist evergreen and dry deciduous forests, usually in caves, hollow trees, tunnels, road culverts, and, less commonly, in rock crevices, under leaves and in buildings (CLOUTIER; THOMAS, 1992). Although, as far as we know, there were no records of snakes preying on *C. perspicillata*, other animals have been reported to opportunistically prey on this bat, such as the frog *Leptodactylus pentadactylus* (CASTRO et al., 2011) and the mammals *Chrotopterus auritus*, *Phyllostomus hastatus*, *Felis silvestris catus*, *Cercocyon thous*, and

*Chironectes minimus* (BREVIGLIERI; PEDRO, 2010; NOVAES et al., 2010).

FIGURE 1: A live, adult *Oxyrhopus petolarius* from the Brazilian Atlantic Rainforest (A). Dorsal view of *Oxyrhopus petolarius* (UFPB 2451) and the bat *Carollia perspicillata* found in the snake's stomach (B).



This record corroborates the role of bats as potential prey for snakes and it extends the list of bat predators in Brazil. Preying on bats can involve some risk of injury to the predator (ESBÉRARD; VRCIBRADIC, 2007). However, snakes which use constriction to subdue their prey, such as *Oxyrhopus* and other Dipsadinae snakes (ANDRADE; SILVANO, 1996), may have reduced risk for injury. Both in our record, with *O. petolarius*, and in the record by Prudente et al. (1996), with *Siphlophis cervinus*, the bat prey was ingested tail-first, something which suggests that the bat was immobilized prior to ingestion. The most likely scene for this behavior is the

Colubrid's predation strategy presented by Esbérard and Vrcibradic (2007): these snakes forage at, or near to, cave entrances, and capture bats that are lying on the ground or clinging to cave walls.

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