

**Predation of *Polychrus marmoratus* (Squamata: Polychrotidae)  
by *Buteo albonotatus* (Accipitriformes: Accipitridae)  
in southeastern Brazil**

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**RESUMO: (Predação de *Polychrus marmoratus* (Squamata: Polychrotidae) por *Buteo albonotatus* (Accipitriformes: Accipitridae) no sudeste do Brasil).**

Nós registramos a predação do lagarto *Polychrus marmoratus* (Squamata: Polychrotidae) por *Buteo albonotatus* (Accipitriformes: Accipitridae) no Espírito Santo, Brasil. Apesar da predação de pequenos vertebrados já ter sido reportada para esta espécie de gavião, o lagarto *P. marmoratus* não havia sido ainda registrado como sua presa. Tal registro traz uma contribuição para a história natural de lagartos brasileiros.

**Palavras-chave:** Gavião-de-rabo-barrado, Lagarto, Dieta, Predador, História natural.

**ABSTRACT:** We report the predation of the lizard *Polychrus marmoratus* (Squamata: Polychrotidae) by *Buteo albonotatus* (Accipitriformes: Accipitridae) in southeastern Brazil. Although predation of small vertebrates has been reported for this hawk species, the lizard *P. marmoratus* had not been reported as its prey yet. Such record brings a small contribution to the natural history of Brazilian lizards.

**Key-words:** Zone-tailed hawk, Lizard, Diet, Predator, Natural history.

Many hawks are known like predators of lizards (Ferguson-Lees & Christie, 2001; Sick, 1997), but there are few available information regarding

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prey-predator relationships between reptiles and birds within Brazilian communities (Christianini, 2005; Novaes-e-Silva & Araújo, 2008; Sazima, 2010; Costa *et al.*, 2014). This is due to the time required for proper sampling and the elusive habitats of many species of reptiles (Rocha & Vrcibradic, 1998). The accurate identification of natural predators may contribute to the understanding of a wide array of prey strategies as such as its defensive behavior, microhabitat use and activity patterns (Pianka & Vitt, 2003; Novaes-e-Silva & Araújo, 2008; Vitt *et al.*, 2008).

Iguanian lizards belonging to the genus *Polychrus* Cuvier, 1817 occur in the Central America and in much of South America, on both sides of the Andes (Ávila-Pires, 1995). The genus is currently composed of seven species: *Polychrus marmoratus* (Linnaeus, 1758); *P. acutirostris* Spix, 1825; *P. femoralis* Werner, 1910; *P. guttuosus* Berthold, 1845; *P. liogaster* Boulenger, 1908; *P. peruvianus* Noble, 1924 and *P. jacquelinae* (Koch, Venegas, Garcia-Bravo & Bohme, 2011) (Uetz & Hosek, 2015), of which three (*P. acutirostris*, *P. liogaster* and *P. marmoratus*) occur in Brazil (Ávila-Pires, 1995; Costa & Bérnils, 2014). *Polychrus marmoratus* is an arboreal lizard species occurring in South America east of the Andes in the Amazonian and Atlantic forests (Vanzolini, 1983; Ávila-Pires, 1995; Kawashita-Ribeiro & Ávila, 2008), and in the Cerrado biome, in central Brazil (Nogueira *et al.*, 2010). This species is “omnivorous”, eating both small arthropods as well plant material (Vanzolini, 1983; Ávila-Pires, 1995). Reports involving predation of *P. marmoratus* are scarce, it is known to be preyed by birds (Beebe, 1944) (*Leucopternis albicollis*), snakes (Cunha & Nascimento, 1993) (*Chironius multiventris*) and “capuchin” monkeys, *Sapajus robustus* and *S. xanthosternos* (Cassimiro & Martins, 2011; Canale *et al.*, 2013).

*Buteo* hawks represent a large group of diurnal birds of the family Accipitridae. *Buteo* spp. are almost globally distributed, being absent only in the Australia and in Antarctica (del Hoyo *et al.*, 1994, Ferguson-Lees & Christie, 2001). They occur along several habitats, ranging from boreal to tropical regions, including forested and to open landscapes (Riesing *et al.*, 2003; Amaral *et al.*, 2009). *Buteo albonotatus* (Kaup, 1847), or Zone-tailed hawks, are primarily aerial hunters, scanning for prey over relatively open areas, including fields, pastures, desert grasslands, or even rocky outcrops in the montane forests (Kennedy *et al.*, 1995; Johnson *et al.*, 2000). Once a potential prey is spotted, the hawk drops into a steep stoop with partially closed wings, but occasionally it also hunts from perches (Johnson *et al.*, 2000). In Brazil, this species is distributed from the Amazonas state to the northeastern and southern regions of the country (Sick, 1997).

Research on the feeding ecology and natural history of Accipitridae

are scarce in Brazil, compared with other regions of the world such Europe and the United States (Albuquerque *et al.*, 1986; Roda & Pereira, 2006).

The diet of *B. albonotatus* includes a variety of small to medium-sized mammals, birds, lizards and occasionally invertebrates (Hiraldo *et al.*, 1991; Kennedy *et al.*, 1995; Johnson *et al.*, 2000). The relative importance of these various taxa in its diet varies among regions and habitats, but typically *B. albonotatus* consumes a greater amount of birds and reptiles than other sympatric *Buteo* spp. (Hiraldo *et al.*, 1991; Johnson *et al.*, 2000). To our knowledge, although lizards have been registered compounding *B. albonotatus* diet (Hiraldo *et al.*, 1991; Kennedy *et al.*, 1995; Sazima, 2010), accurate identification of the lizard species consumed by this hawk is scarce in the scientific sources (Johnson *et al.*, 2000). Thus, in this short communication, we are reporting for the first time an observation of *B. albonotatus* preying a *P. marmoratus* lizard in southeastern Brazil.

The predation event was observed during an avifaunal survey in the “Morro do Moreno” Permanent Preservation Area, in the municipality of Vila Velha, Espírito Santo state, southeastern of Brazil (20°19’82”S / 40°16’46”W, 184 m a.s.l.). The site is covered by Submontane Dense Ombrophilous Forest (Veloso *et al.*, 1991). On 13 February 2015, 08:30 a.m., Mr. Ademir Carletti was



**Figure 1.** Zone-tailed hawk *Buteo albonotatus*, holding a lizard *Polychrus marmoratus* by its claws in an Atlantic Forest area, Vila Velha municipality, Espírito Santo state, southeastern of Brazil (Photos: A. Carletti).



**Figure 2.** Adult *Polychrus marmoratus* climbing a tree, in the same area where the hawk *Buteo albonotatus* was observed attacking another specimen of this lizard species (Photo: A. Carletti).

observing a group of Lesser yellow-headed vultures (*Cathartes burrovianus*), when he noticed a *B. albonotatus* hawk flying together with them. Afterwards, the hawk flew towards a tree and returned with a *P. marmoratus* lizard in its claws (Fig. 1). It was not possible to see the outcome of this predation event, because the hawk departed with the lizard away from the site of observation. The lizard was identified through A. Carletti's pictures, supported by size, shape, color (in tail and dorsal regions), and previous recognized occurrence of the species in this site (D.A. Koski pers. obs.) (Fig. 2).

Predation studies about lizards are important to understand the evolution of defensive strategies, such as toxic and distasteful secretions, cryptic and aposematic coloration and a variety of defensive postures and behaviors (Greene, 1988; Lima & Dill, 1990; Lima, 1998; Downes, 2001). Furthermore, information about predation on lizards is also necessary to understand predator-prey interactions, which are essential to develop conservation and management strategies for these taxa (Sinclair & Arcese, 1995). Therefore, our findings expand the knowledge on natural history of *P. marmoratus* lizard through identification of its natural predator, and of *B. albonotatus* by adding a lizard species to its list of consumed preys.

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