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PREDATION OF A LIZARD (*PLICA UMBRA*) BY PYGMY MARMOSETS (*CEBUELLA PYGMAEA*) IN A FOREST FRAGMENT IN SOUTHWESTERN BRAZILIAN AMAZON

Edson Guilherme
Rodrigo Canizo
Jailini da Silva Araújo

The pygmy marmoset (*Cebuella pygmaea*) is the smallest species of New World primate, and is found exclusively in the western Amazon basin (Townsend, 2001; Ankel-Simons, 2007; Messias *et al*. 2011). Given their small size and cryptic behavior, these monkeys are difficult to observe in the wild. They are found mainly in Amazonian alluvial and *terra firme* forests. Like other marmosets, *C. pygmaea* is highly specialized for the dietary exploitation of plant exudates (Moynihan, 1976; Soini, 1982; 1988; Yépez *et al*., 2005; Youlatos, 2009), but also feeds on insects and small vertebrates (Townsend and Wallace, 1999). This study describes the predation of a vertebrate by *Cebuella pygmaea* in an urban forest fragment (Parque Zoobotânico – PZ; 09°57'S, 67°57'W) of approximately 150 ha, which belongs to the Federal University of Acre (UFAC) in Rio Branco, capital of the Brazilian state of Acre (Fig. 1). This site is occupied by at least three groups of *C. pygmaea*, one of which was the subject of a previous ecological study

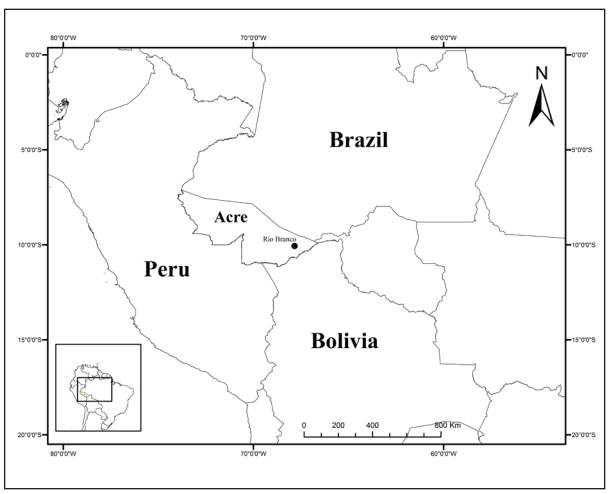

Figure 1. Geographical location of the Rio Branco city, State of Acre, Brazil.

Figure 2. A pair of pygmy marmosets (a subadult and a juvenile) feeding together on a tree-dwelling lizard (*Plica umbra*) on the edge of a forest fragment in southwestern Brazilian Amazonia.

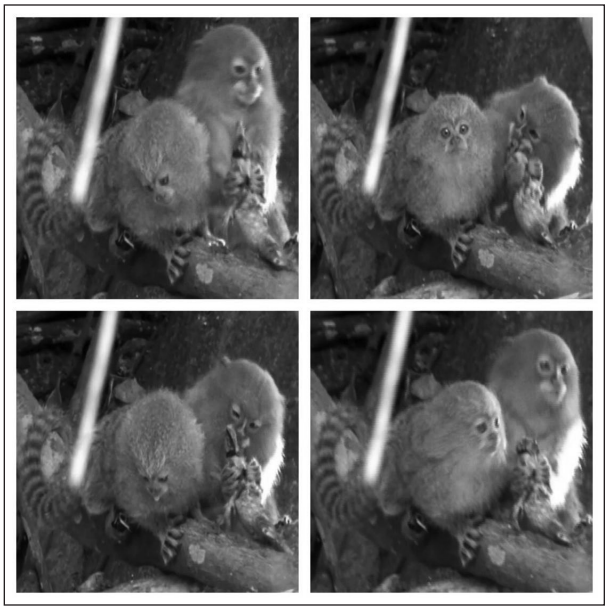

Figure 3. Sequence of images taken from footage obtained on June 6th 2015, showing a subadult pygmy marmoset next to a juvenile, while feeding on a tree-dwelling lizard (*Plica umbra*) on the edge of a forest fragment in southwestern Brazilian Amazonia.

by RC, based on behavioral monitoring (Canizo, 2012; Canizo and Calouro, 2011).

On June 6th 2015, EG spotted a group of six *C. pygmaea* in an emergent tree (*Enterolobium schomburgkii*) during informal observations on the eastern edge of the PZ. The tree was located within a thicket of bamboo (*Guadua weberbaueri*) and was overgrown with *Trigonia* lianas. When the group was first sighted, it was photographed, and then two individual were seen in a fork in the middle of the tree, manipulating an object. At this moment, EG began to film the animals, after noting that they were two juvenile individuals, feeding on a lizard they had just captured. A subadult then approached the first dyad, took the lizard, and moved immediately to a lower branch, where it began to feed on the prey. One of the individuals of the original dyad approached the subadult, which allowed it to share parts of the prey (Fig. 2). It was only possible to observe the marmosets ingesting the lizard's head. The footage of this sequence was converted into a sequence of photographs (Fig. 3). When analyzing the images, JSA identified the prey as a tree-dwelling lizard of the species *Plica umbra*, a member of the family Tropiduridae.

Records of the predation of vertebrates by pygmy marmosets in the wild are rare (Townsend and Wallace, 1999). This may be because these monkeys are morphologically adapted more for the exploitation of plant exudates and the predation of trunk-dwelling insects than the capture of vertebrates (Youlatos, 2009). The rare reported cases include the attack of a domesticated pygmy marmoset on a bird that had just collided with a window, and which was killed by bites to its neck and head (Townsend and Wallace, 1999). During the year-long monitoring of a group of eight *C. pygmaea* in the same study area (possibly the same group observed here), Canizo (2012) only observed two events of predation on vertebrates, one of which involved an anuran (*Allobates* cf. *trilineatus*) and the other, a small lizard (*Anolis* sp.). In the event reported here, it was unclear whether other parts of the lizard were eaten, but the photographic evidence (Fig. 3) shows that the prey's head was ingested completely. These observations also confirm that pygmy marmosets are capable of capturing, killing, and ingesting small vertebrates (less than 100 g weight). However, it does remain unclear to what extent this behavior reflects a systematic foraging strategy or merely an opportunistic event, or whether it represents a response to specific local conditions, such as the absence of exudate sources in this urban fragment of forest.

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DEMOGRAPHY OF THE BLACK LION TAMARIN (*LEONTOPITHECUS CHRYSOPYGUS*, MIKAN) IN CAPÃO BONITO NATIONAL FOREST (STATE OF SÃO PAULO)

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Cauê Monticelli
Pedro Manoel Galetti Jr.

Introduction

The black lion tamarin is known to inhabit 11 Atlantic Forest fragments, with a total estimated population of 1,000 individuals in the wild (Kierulff et al., 2008). Its conservation status went from Critically Endangered to Endangered in recent years (IUCN, 2015) due to successful conservation efforts (Kierulff et al., 2008). The largest population of black lion tamarins (~820 animals) inhabits Morro do Diabo State Park (Valladares-Padua and Cullen Jr. 1994). Caetetus Ecological Station houses the second largest population (~40 individuals). The remaining individuals are supposedly distributed in the other nine forest fragments (Kierulff et al, 2008), from which only Capão Bonito National Forest (FLONA-CB) is a protected area and represents the southernmost distribution limit for the species. The population size at FLONA-CB was estimated to be 12 individuals in 2005, but no detailed information is available on how this population was assessed (Population and Habitat Viability Assessment briefing book, 2005). Considering the importance of FLONA-CB in supporting a viable population of black lion tamarins due to its protected status and geographic limit for the species, the purpose of this study was to report the current black lion tamarin population size in this area. Hopefully, this information will be able to contribute to the establishment of a management plan for this site.

Methods

Study area

Capão Bonito National Forest (23º 54'S and 48º 30'W) is located between the municipalities of Capão Bonito and Buri (state of São Paulo), at an altitude of 700 m in southwestern Paranapiacaba Valley. It is inserted in the Atlantic Forest biome and has an area of 4,344 ha. However, since FLONA-CB is a protected area with sustainable use, it is mainly occupied by pine (*Pinus* sp) and araucaria (*Araucaria angustifolia*) plantations. Only 8% (357 ha) of its territory consists of native forests, and these patches are mainly located along the riparian zones of rivers Apiaí-Mirim, Paranapitanga, and other smaller streams.

Demographic situation

In order to conduct a direct count of the existing black lion tamarin groups and the number of individuals in each of them, transects were performed in all areas of potential habitat for this species within the limits of FLONA-CB: