

SHORT COMMUNICATION

Predation on the black capuchin monkey *Cebus nigritus* (Primates: Cebidae) by domestic dogs *Canis lupus familiaris* (Carnivora: Canidae), in the Parque Estadual Serra do Brigadeiro, Minas Gerais, Brazil

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ABSTRACT. Predation on an adult male black capuchin monkey, *Cebus nigritus* (Goldfuss, 1809) by two domestic dogs was observed in the Parque Estadual Serra do Brigadeiro, in the Atlantic Forest of southeastern Minas Gerais. Predation occurred in an area of well preserved native forest 800 m from the nearest forest edge. This is the first confirmed record of predation by domestic dogs in this reserve, yet data from a study in the same area indicates that the domestic dog is the most frequently recorded mammal species, which suggests that it is common in the area. The few published reports indicate that this problem occurs in other conservation units in Brazil and should, therefore, be treated with more rigor by the environmental agencies.

KEY WORDS. Atlantic Forest; commensal species; conservation units.

RESUMO. Predação de macaco-prego *Cebus nigritus* (Primates: Cebidae) por cães domésticos *Canis lupus familiaris* (Carnivora: Canidae), no Parque Estadual da Serra do Brigadeiro, Minas Gerais, Brasil. A predação de um macho adulto de macaco-prego, *Cebus nigritus* (Goldfuss, 1809) por dois cães-domésticos é relatada no interior do Parque Estadual da Serra do Brigadeiro, localizado na Mata Atlântica do sudeste de Minas Gerais. A observação foi registrada em local de mata nativa bem preservada, a cerca de 800 m da borda mais próxima da reserva. Embora este seja o primeiro registro confirmado de predação por cão doméstico nesta unidade de conservação, dados de um estudo sobre a mastofauna local, usando parcelas de pegadas, indicam que o cão-doméstico é a espécie de mamífero mais freqüentemente registrada, sugerindo que sua presença é constante e amplamente distribuída na área. Os poucos relatos existentes na literatura indicam que este problema está presente em outras unidades de conservação e deveria, portanto, ser tratado com maior rigor pelas agências ambientais.

PALAVRAS-CHAVE. Espécie comensal; Mata Atlântica; unidade de conservação.

The global impact of invasive and domestic species is considered the third greatest threat to endangered species, following habitat destruction and over-exploitation (GROOM 2006). The domestic dog (*Canis lupus familiaris* Linnaeus, 1758) population was estimated globally at 400,000,000 individuals in 2001 (COPPINGER & COPPINGER 2001), with 25 million individuals estimated in Brazil as of 2006 (CAMPOS *et al.* 2007). Feral domestic dogs are commonly found in cities and, increasingly, in semi-urban environments, rural and natural areas, even within conservation units (GALETTI & SAZIMA 2006, CAMPOS *et al.* 2007, SRBEK-ARAUJO & CHIARELLO 2008). Recently, direct and indirect impacts of this species on the native fauna have become frequent (GALETTI & SAZIMA 2006, CAMPOS *et al.* 2007). Also, feral dogs are

possible carriers of diseases, such as leishmaniasis and rabies, which is another important threat to native species (BUTLER & DU TOIT 2002, BUTLER *et al.* 2004, CURI *et al.* 2006).

While reports of the impact on native fauna of this species are common in other countries (ANDERSON 1986), in Brazil, reports are few and recent (CURI *et al.* 2006, GALETTI & SAZIMA 2006, CAMPOS *et al.* 2007, SRBEK-ARAUJO & CHIARELLO 2008). To date, only two studies identified prey consumed by domestic dogs in Brazil (GALETTI & SAZIMA 2006, CAMPOS *et al.* 2007). Small and medium-sized mammals were the most consumed prey, while less commonly, larger animals such as cervids and primates were also consumed. Typical primate predators are birds of prey, reptiles and mammals (MARTINS *et al.* 2005), yet, do-

mestic dogs as predators have been reported (GALETTI & SAZIMA 2006, LUDWIG *et al.* 2006).

The Parque Estadual Serra do Brigadeiro (PESB) is located in Mantiqueira range (Serra da Mantiqueira) in the Forest zone (Zona da Mata) of Minas Gerais and was created in 1996. Encompassing 13,210 ha, it includes the municipalities of Araponga, Fervedouro, Miradouro, Ervália, Sericita, Muriaé, Pedra Bonita and Divino (42°40'-40°20'W, 20°33'-21°00'S, CAIAFA & SILVA 2005). The PESB is one of the last remnants of Atlantic Forest in the state of Minas Gerais and an area of "extreme biological importance", according to the Atlas of Priority Areas for Conservation in Minas Gerais (DRUMMOND *et al.* 2005). In addition to the black capuchin, *Cebus nigritus* (Goldfuss, 1809), four other primate species occur in the PESB: the northern muriqui, *Brachyteles hypoxanthus* (Kuhl, 1820) (Atelidae); the brown howler monkey, *Alouatta guariba* (Humboldt, 1812) (Atelidae); the buffy tufted-ear marmoset, *Callithrix aurita* (É.Geoffroy, 1812) (Cebidae); and the masked titi monkey, *Callicebus nigrifrons* (Spix, 1823) (Pitheciidae).

On 17 August 2006 forest rangers saw two domestic dogs attack an adult male capuchin in the interior of PESB (UTM 23K: 0762048/7707023). The monkey, still alive and severely hurt, died some moments later. The specimen measured 43.5 cm (head-body length) and 85.5 cm (head-tail body length). The animal was bloody and had several puncture wounds over its body.

The site of predation was ~800 m from the borders of the PESB, in an area of dense forest without man-made trails, but with one unpaved road that connects the municipalities of Araponga and Carangola, close to the main entrance of the park. The region around the PESB has farms and small villages nearby, probably sources of the domestic dogs that enter the park. The incidence of domestic dogs in conservation units is related to the proximity of neighboring households (SRBEK-ARAUJO & CHIARELLO 2008). More records of domestic dogs were found at the edge of Estação Biológica de Santa Lúcia – EESL (Espírito Santo state, Brazil) closer to households than in the region of the reserve contiguous with large forest tracts (SRBEK-ARAUJO & CHIARELLO 2008). Similarly, the PESB is surrounded by private property and has a large perimeter-to-area ratio, being narrow in parts. Although this is the first confirmed predation of a mammal by domestic dog in PESB, other researchers have witnessed domestic dogs pursuing a collared peccary, *Pecari tajacu* (Linnaeus, 1758) (Tayassuidae), in the northern part of this park (Leandro S. Moreira, Universidade Federal de Viçosa, pers. comm.).

A mammal inventory was carried out in PESB from January to December 2006, in which the most commonly recorded animal was the domestic dog (n = 104 or 7.64% of records) after a sampling effort of 1360 track plots-nights (OLIVEIRA, unpublished data). The dog was recorded in all samples collected bimonthly (spanning 11 months) and in all transects. Hence, it is clear that the domestic dog is very common and widely

distributed in the park. Similar results were found in a camera trap study in EBSL, also in a region of Atlantic Forest (SRBEK-ARAUJO & CHIARELLO 2005, 2008). There, the domestic dog was recorded mostly during daytime (88.9% of all records) (SRBEK-ARAUJO & CHIARELLO 2008). On the other hand, in Santa Genebra reserve in Campinas (in the state of São Paulo) most prey consumed by domestic dogs was nocturnal (GALETTI & SAZIMA 2006). Thus, dogs may be important predators for both diurnal and nocturnal animals.

Local people observed dogs pursuing titi monkeys, *Callicebus personatus* (É.Geoffroy, 1812) (SRBEK-ARAUJO & CHIARELLO 2008). A possible predation of *C. nigritus* and *A. guariba* by domestic dogs has been reported (GALETTI & SAZIMA 2006) and three domestic dogs were seen preying on an adult male *C. nigritus* (LUDWIG *et al.* 2006). Thus, these reports together indicate that the impact of domestic dogs on the native fauna of Brazil is already serious enough to suggest that increased control must be adopted. Measures should include capture and removal of dogs and should be adopted both within conservation units and in their buffer zones. Mechanisms must be found or enacted that will allow the application of fines to dog owners that permit that their dogs enter conservation units. This latter strategy should be part of an action plan that will also include education to improve environmental awareness of the Brazilian population in general and those living near conservation units in particular. Only with a well orchestrated effort of a diverse range of actions will this problem eventually be eliminated or its impact significantly reduced in the long term.

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