



MAMMALIAN SPECIES RICHNESS IN AN ISOLATED FRAGMENT OF CERRADO

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INTRODUÇÃO

The Brazilian Savanna (Cerrado) is one of the most threatened biomes worldwide and is considered a “hotspot,” area with great endemism and less than 30% remaining natural vegetation, by Myers *et al.* (2000). According to Kronka (2005), among the 7,500 cerrado fragments in the state of São Paulo, 71% has less than 20 ha. Rodrigues & Bononi (2008) suggest that the remaining fragments with significant area should be permanently protected. Fragmentation plays an important role on species richness, especially on those one who require more resources or territory. If we focus on mammals, we notice the richness of species decreases in smaller fragments (Cáceres *et al.*, 2010). In addition, habitat isolation disrupts species distribution patterns, with consequent effects on metapopulation dynamics and the genetic structure of the populations (Ewers & Didhan, 2005). Besides those, hunting and habitat changing are the biggest threatens to medium and large sized mammals (Costa *et al.* 2005; Trolle *et al.*, 2007). As we can see, human influence causes a high pressure on natural areas.

OBJETIVOS

The work aims to know the richness of medium and large sized mammals in an isolated fragment of cerrado.

MATERIAL E MÉTODOS

We conducted the study at Fazenda Palmeira da Serra, in a cerrado fragment with 176 ha located in Pratânia/SP, Brazil (22°48'S, 48°44'W). The fragment is composed by an area of cerradão and another one of cerrado sensu stricto. It is surrounded by pastures and plantations of sugarcane, Eucalyptus and Citrus (Ishara & Maimoni-Rodella, 2012) and has a proximity index of 40.879 (Santos *et al.*, 2013). The study was carried out from December, 2008 to February, 2012 and during this period we collected data at least once each season, in a total of 12 incursions. We used several methods to observe the mammalian species richness: (1) walks along the road that surrounds the fragment to observe the signs left by the animals, like fingertips, faeces, bones and holes; (2) installation of sand plots where we put attractive food (fruit, salt and tuna fish). We installed 12 sand plots (9 in the cerrado sensu stricto area, which is larger, and 3 in the cerradão) in trails we created or had been used by animals in the fragment. The sand plots were left there during 5 days at each sampling period, which totalized 480 hours of data collecting; (3) installation of night trap cameras close to the sand plots (the cameras also collected images during 480 hours).

RESULTADOS

We found a richness of 5 species in the area: *Puma concolor* (Linnaeus, 1771), *Myrmecophaga tridactyla* (Linnaeus, 1758), *Sylvilagus brasiliensis* (Linnaeus, 1758), *Dasyurus novemcinctus* (Linnaeus, 1758) and *Mazama Americana* (Erxleben, 1777). We also observed traps to capture large sized mammals, especially in the cerradão

area, and domestic dogs fingertips (*Canis lupus*) along the road.

DISCUSSÃO

Destruction of habitats, overexploitation, introduction of alien species, spread of diseases carried by alien species and pollution are the most important threats to biodiversity (Wilcove *et al.*, 1998; Wilson, 1992). In this study, we observed the species richness is lower if compared to other areas of cerrado (Hülle, 2006; Trolle *et al.*, 2007), evidencing the pressure this area has undergone. Pardini *et al.* (2003) found a total of 7 and 13 species in fragments with 2000 ha and 2100 ha, respectively, and concluded that the difference between the areas was explained by the presence of human settlements close to the first fragment. We suggest that the fragment spatial isolation contributes to the absence of usual species in cerrado areas, but further analysis need to be taken to confirm a functional isolation; currently, we may say the proximity indexes low if we compare it with other landscapes units in São Paulo. Besides that, hunting and introduction of alien species, both caused by human population, play an important role to this situation in this area. Finally, the continuous use of herbicides and heavy machinery in the surrounding crops has caused changes on the edges of the fragment, which may influence the mammal population dynamics.

CONCLUSÃO

The study showed the area has undergone a process of environmental pressure that has contributed to the low richness of mammalian species. Despite the owner's efforts to the conservation of the area, its isolation, signs of hunting, the presence of alien species and the surrounding crops contribute to a decrease of the fragment quality.

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