

A rare record of bush dogs (*Speothos venaticus*) in a peri-urban area of Cerrado in Minas Gerais State, Brazil

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ABSTRACT. Bush dog (*Speothos venaticus*) is an endangered wild canid, about which there are still several gaps of knowledge. The species has large home range and can live in environments altered by human activities but requires native habitats. Bush dogs are classified as “endangered” in the Cerrado biome, and the main threats are habitat loss, contraction of diseases from domestic animals and killing by dogs and humans. To contribute with data on the species, we report an unexpected and unprecedented encounter with five bush dogs in a peri-urban reserve, an environment that lies between activities of the Kinross mining company and a residential neighborhood of Paracatu-MG, Brazil, in July 2021. At the time, the animals were seen while marking territory with urine and fecal mucus on a trail widely used by humans and domestic dogs. This is an important and relevant record because, in addition to being unprecedented, as it occurred in a peri-urban environment, it demonstrates the importance of conservation and protection of local areas of native vegetation in the Cerrado biome. *Speothos venaticus* still needs to be further studied, and effective measures to protect the species, such as population control and health care actions targeting domestic dogs are urgent.

Keywords: Cerrado, biodiversity conservation, endangered species, ecological importance, biodiversity.

DOI: <https://dx.doi.org/10.33837/msj.v5i1.1574>

Received: October 13, 2022. Accepted: November 8, 2022
Associate editor: Anderson Rodrigo da Silva

Bush dog (*Speothos venaticus*) is a naturally rare wild canid (Beisiegel & Zuercher, 2005; Oliveira et al. 2016) and a species about which there is still few biological and ecological information (DeMatteo & Loiselle, 2008, Tiepolo et al. 2016, Oliveira et al. 2016). It occurs from Panama to southern Brazil, eastern Paraguay and northeastern Argentina, but despite being wide, its distribution is irregular (Oliveira, 2009) and regionally little known. The animal lives in packs that roam in large living areas (Lima et al. 2012, Lima et al. 2014). Internationally, it is classified by the International Union for Conservation of Nature as almost threatened (DeMatteo et al. 2011), and in Brazil it is categorized as vulnerable (Jorge et al. 2013, MMA, 2022). However, it is important to consider that for the

Cerrado biome the species is classified as “endangered” (Jorge et al. 2013), and the list of endangered species in the State of Minas Gerais has classified the bush dog as “critically endangered” (COPAM, 2010).

As *Speothos venaticus* is naturally rare and data about it are scarce, there used to be a hypothesis that the species was almost exclusively associated with conserved areas, but Oliveira (2009) described that 43% of the records occurred in human-modified environments. Nevertheless, Lima et al. (2014) demonstrated that, despite using altered areas for living, the bush dog preferably occurs in native habitats and avoids cultivated areas, which suggests that the species adjusts its home range size according to the availability of native habitats. In human-modified environments, the packs of bush dogs passed quickly, while in the native habitats they foraged, ate and rested (Lima et al. 2014).

Considering the relevance of *Speothos venaticus* regarding rarity, knowledge gaps and threats of extinction, we report here the first record of the species

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in a peri-urban area. The species was recorded in the São Domingos Reserve, which is part of the legal reserve of the mining company Kinross Brasil, in the municipality of Paracatu, Minas Gerais, at the UTM 23K coordinates 302318/8097830 and 302300/8097905, 700 meters away from mining activities and next to private residences (at a distance of 160 meters from the houses in the São Domingos neighborhood) – Figure 1. The company operates in the activities of mineral research and development, mining, processing and marketing of gold. It is one of the largest gold producers in Brazil, accounting for 22% of the national production (Kinross, 2022). The São Domingos Reserve is connected to other reserve areas of the mining company in the direction the bush dogs went after being seen.

The trail in which the bush dogs were seen has signs of constant use by humans (presence of people and common waste) and domestic dogs (footprints and feces), which demonstrates risks to the survival of the individuals in the region, since the species is threatened by mortality resulting from diseases

(mainly sarcoptic mange transmitted by domestic dogs) and killing by dogs or people (Jorge et al. 2013).

Five individuals of bush dog (*Speothos venaticus*), two males and three females, all adults, were seen on July 16, 2021, at 06:40 a.m. The individuals appeared on a trail, emerging one at a time from a steep slope, a cliff covered by grass, shrubs and some trees. This narrow trail is between the cliff and a high cut of a hill, an access of the neighborhood to bodies of water and lagoons in the São Domingos Reserve. The vegetation is characterized by a gradient of rupestrian Cerrado, campo sujo (shrubby grassland), Cerrado *sensu stricto* and gallery forest.

At the time, it was possible to record the bush dogs on video, which allowed a subsequent, more detailed observation of their behavior (Figure 2 shows images taken from the video). The individuals marked territory with a kind of fecal mucus of intense odor and with urine.

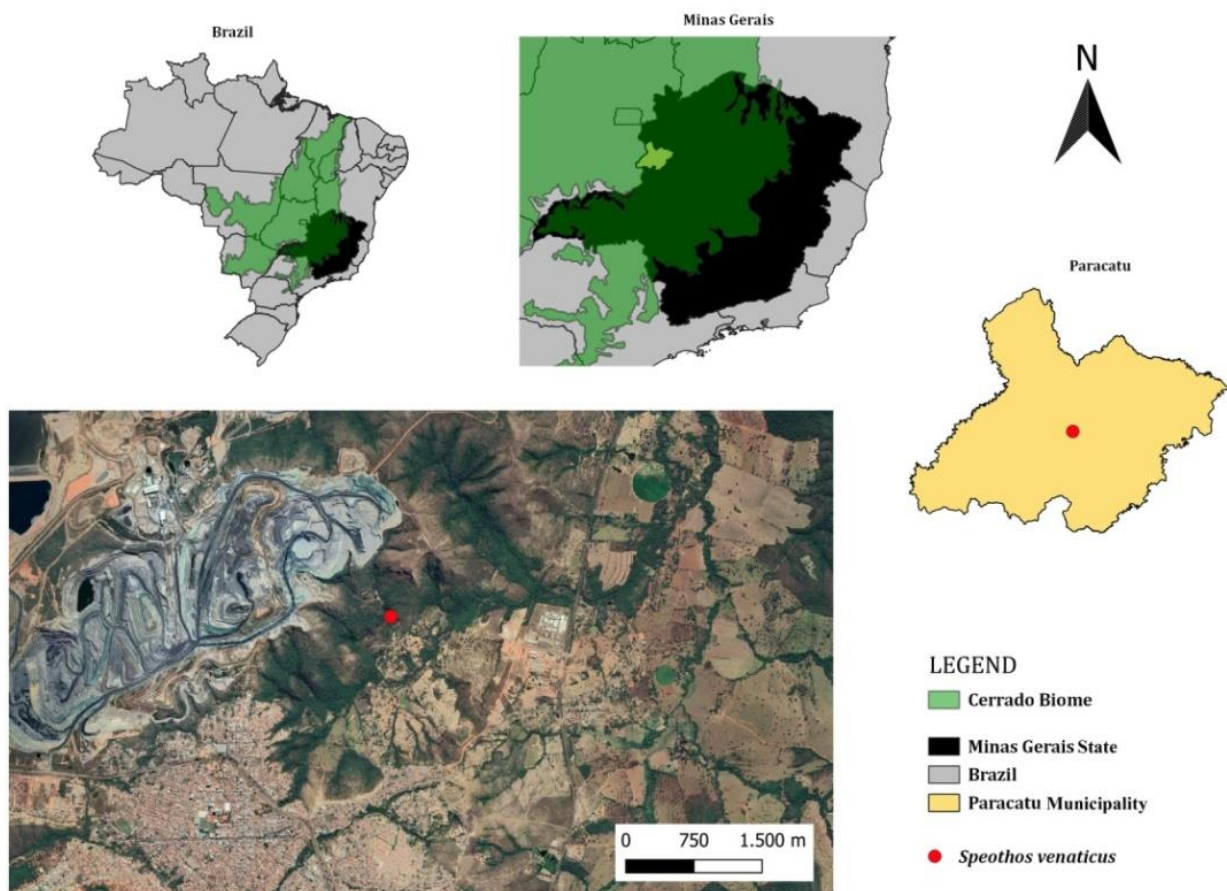


Figure 1: Maps showing the site where the bush dogs (*Speothos venaticus*) were recorded in Paracatu Municipality, Minas Gerais State, Brazil.



Figure 2: Images of the bush dogs (*Speothos venaticus*) recorded in Paracatu-MG, Brazil.

The characteristics of the record site and the observed behavior of bush dogs indicate that these animals are in imminent conflict with domestic dogs. Mammals of Carnivora Order, such *Speothos venaticus*, are more threatened by domestic dogs due to competition and disease transmission, which increase the risk of local extinctions, and this demonstrates the need for actions to control the population of domestic animals (Lessa et al. 2016), especially measures such as castration, responsible ownership, prevention of abandonment and sanitary control. As *Speothos venaticus* has great ecological relevance and is subject to extinction, our record highlights the importance of maintaining native vegetation areas and ecological corridors, whether peri-urban or not. However, strategies must be defined so that these environments remain protected from unplanned access of people and domestic animals. Our record also highlights the importance of legal reserves for biodiversity conservation, showing the need for their local maintenance.

ACKNOWLEDGEMENTS

To Kinross mining company for maintaining the relevant areas of native vegetation, for encouraging research and for the enthusiasm with this record of bush dogs. To the Arbore Consultoria Ambiental company, responsible for the fauna monitoring logistics at the time of the record.

DECLARATION OF CONFLICT OF INTEREST

The author(s) have not declared any potential conflict of interest regarding the research, authorship and/or publication of this article.

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To cite this paper:

Silva, P. M., Serafim, G. T., Rocha, E. C., Fonseca, A. P. E., & Ferreira, O. A. (2022). A rare record of bush dogs (*Speothos venaticus*) in a peri-urban area of Cerrado in Minas Gerais State, Brazil. *Multi-Science Journal*, 5(1): 26-29. DOI: <https://dx.doi.org/10.33837/msj.v5i1.1574>