



Two new records of the maned wolf (*Chrysocyon brachyurus* (Carnivora: Canidae)) from the semiarid of Bahia, Brazil

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Abstract

The *Chrysocyon brachyurus*, Maned wolf, is the largest canid in South America, occurring in areas with open formations such as the Pampa, Chaco and, mainly, the Cerrado. Here, we present two new records of the species in the semiarid region of Bahia State, Brazil. One individual was recorded by camera trap in the municipality of Igaporã (Cerrado domain) and another by an amateur cameraman in the municipality of Caetité (Caatinga domain). Our records expand the known distribution of the species and show that it can occur in areas more related to the semiarid.

Key words: Distribution expansion, semiarid, Lobo-guará

Resumen

El *Chrysocyon brachyurus*, Aguará Guazú, es el cánido más grande de América del Sur, presente en áreas con formaciones abiertas como el Pampa, el Chaco y, principalmente, el Cerrado. Aquí presentamos dos nuevos registros de la especie en la región semiárida del estado de Bahía, Brasil. Un individuo fue registrado por cámara trampa en el municipio de Igaporã (dominio Cerrado) y otro por un camarógrafo aficionado en el municipio de Caetité (dominio Caatinga). Nuestros registros amplían la distribución conocida de la especie y muestran que puede ocurrir en áreas más relacionadas con el semiárido.

Palabras clave: Expansión de la distribución, Aguará Guazú, Semiárido.

The *Chrysocyon brachyurus* (Illiger 1815) (Carnivora: Canidae), Maned wolf, is the largest canid in South America, being considered “near threatened” (NT) by the International Union for Conservation of Nature (Paula & DeMatteo 2015; IUCN 2023) and as “vulnerable” (VU) by the National List of Endangered Species in Brazil (Brasil 2022). The species inhabits open and semi-open formations (pastures, shrub pastures and wooded savannas), being

mostly in areas of the Cerrado, Chaco and Pampa domains in South America (Queirolo *et al.* 2011; Paula *et al.* 2013; Coelho *et al.* 2018).

Queirolo *et al.* (2011) reevaluated the distribution of this species, comparing its historical distribution with more recent georeferenced data (1988–2008), and showed that maned wolves still occur largely in central-west Brazil, with limited distribution in the north by the Amazon Forest and to the northeast by the semiarid and arid domains of the Caatingas. The current distribution of the species has shown a reduction, mainly to the south, due to habitat loss, and an expansion to the east due to the transformation of the Atlantic Forest into pastures (Queirolo *et al.* 2011; Bereta *et al.* 2017). In older publications, the distribution of the species is also shown covering the semiarid (Caatinga) of Northeastern Brazil (see Dietz 1985; Ginsberg & Macdonald 1990), however, in more recent studies (Queirolo *et al.* 2011; Coelho *et al.* 2018) this information was not taken into account due to the lack of reliable sources about this possible distribution. Here, we present two new records of *C. brachyurus* from the semiarid region of Bahia State, Brazil, one being in an area of the Cerrado domain and the other in the Caatinga domain.



FIGURE 1. Adult individuals of *Chrysocyon brachyurus* recorded in the semiarid region of the state of Bahia, Brazil. A: frontal view (municipality of Igaporã); B: side view (municipality of Igaporã); C and D: Frames captured from the footage recording an individual in the urban area of the municipality of Caetité.

The first record was made on November 14, 2015 (-13.949228° , -42.624586° , 981 masl.) in the rural area of the municipality of Igaporã, in the southwest of the State of Bahia, Brazil. An adult individual (Figure 1A-B) was recorded using a camera trap (Bushnell Trophy Cam XLT model), during the execution of a campaign for a wildlife monitoring program. The equipment was installed in a tree about 50 cm above the ground, using food attractants (fruits, chicken carcasses, sardines and edible roots) (Tomas & Miranda 2006). The second record was made by an amateur cameraman in the municipality of Caetité, State of Bahia, Brazil (Figure 1C-D), approximately 19 km away from the previous record in Igaporã. An individual was found at dawn in the urban area of the municipality (-14.064169 , -42.490467 ,

827 masl.), being filmed moving through the streets of the city. The video was released on social networks and communication apps on March 9, 2022 and provided by the author of the record. The diagnosis of individuals was made through the presence of extremely elongated limbs with dark extremities, lighter body color (golden-red), presence of dark dorsal erectile mane and large ears (Dietz 1985; Ginsberg & Macdonald 1990). The age of individuals (both adults) was also determined following this same pattern of limb coloration and proportion (Brady & Ditton 1979; Dietz 1985).

These two new records of *C. brachyurus* in Igaporã and Caetité expand approximately, respectively, by 146 and 141 km to the north and 180 and 192 km to the east, the distribution of the species from areas with already known records (Queirolo *et al.* 2011; Paula *et al.* 2013; Paula & DeMatteo 2015) (Figure 2A-B). The region is part of the “Polígono das Secas” (Ab’Sáber 2003), and it’s located between the limits of the Cerrado and Caatinga domains (IBGE 2019). The climate of the municipality of Igaporã is classified as semiarid (DdB' 4a') according to Thornthwaite (1948), with an average annual precipitation of 693.8 mm (SEI 1999). The municipality of Caetité has a climate classified as sub-humid to dry (C1dB' 4a'; Thornthwaite 1948), with an average annual precipitation of 888.7 mm (SEI 1999).

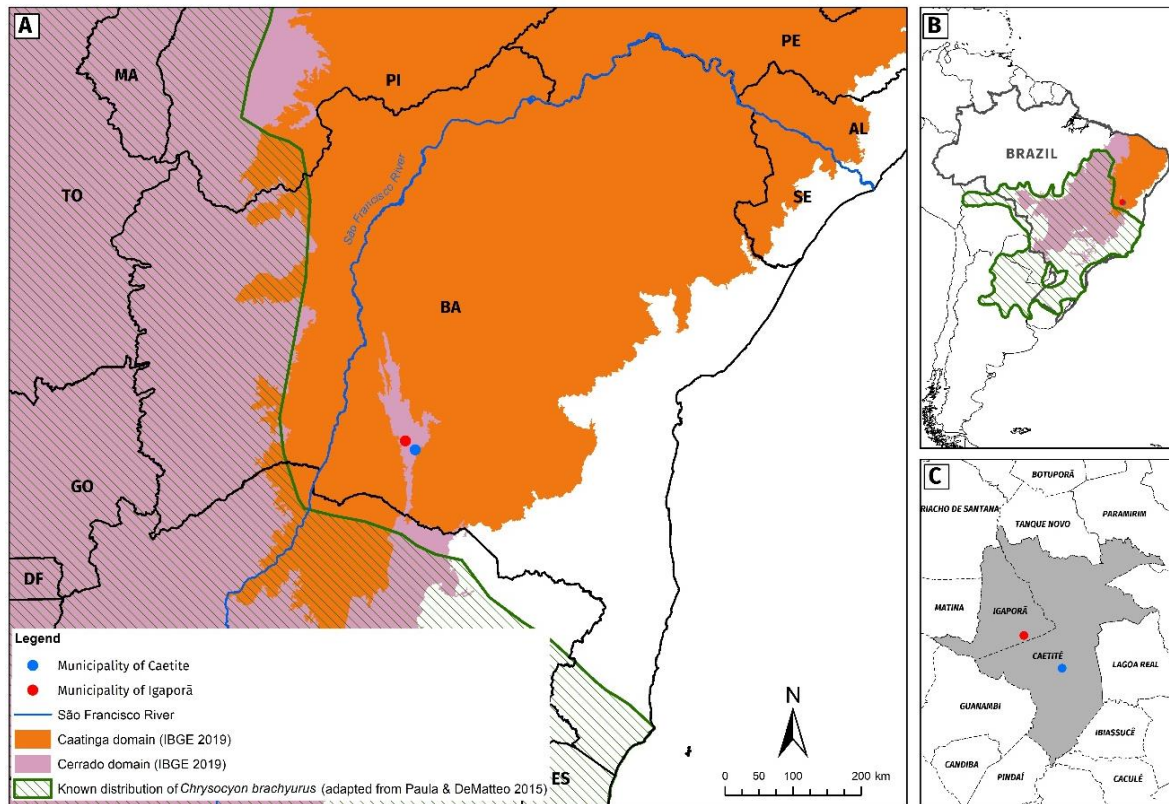


FIGURE 2. A: Two new records of *Chrysocyon brachyurus* for the Brazilian semiarid (present study). B: Entire known distribution of *Chrysocyon brachyurus* in South America (adapted from Paula & DeMatteo 2015), in addition to new records for the Brazilian semiarid. C: map detailing the location of records on the boundaries of the two municipalities.

In Igaporã, the camera trap was installed in an area of seasonal semideciduous forest, a formation that in the region is located in the interior of valleys with intermittent rivers, whose surrounding vegetation is predominantly savannah, included in the limits of the Cerrado domain (IBGE 2019). The peri-urban region of Caetité has vegetation cover with a

predominance of cerrado formations *strictu sensu*, seasonal forests bordering bodies of water, located in the Caatinga domain, close to the limits with the Cerrado domain (IBGE 2019). Such phytophysiognomic diversity is mainly due to the presence of the Espinhaço Range, a mountainous complex that contributes to the emergence of different geological and geomorphological contexts (Zappi 2008; Graeff 2015). These characteristics allow the existence of landscapes with conditions similar to those in other areas of known distribution of the *C. brachyurus* (Zappi 2008), and we believe that the portion of the Espinhaço Range, where the region is located, could act as a corridor for this species. The distribution of *C. brachyurus* has changed in recent years due to habitat loss (Queirolo *et al.* 2011). The species can be found in altered areas (Coelho *et al.* 2008; Paula *et al.* 2013; Coelho *et al.* 2018), like regions of the Atlantic Forest that have been changed into pastures (Bareta *et al.* 2017). Coelho *et al.* (2018) showed that a combination of spatial factors, land cover, lower human activity and climate explain the current distribution of the maned wolf. For these reasons, our records are important because they indicate an occurrence of this species in a region where there were no official records yet.

The maned wolf is considered a flagship species for conservation, as it is an important seed disperser and controller of other animal populations through predation (Santos *et al.* 2003). Its rarity, combined with discreet and nocturnal habits (Dietz 1985, Paula *et al.* 2013), make its records important, especially when outside its known area of distribution. Our work expands the distribution of the species and shows that it can occur, albeit sporadically, in areas more related to the semiarid climate and more similar to a forested environment.

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