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AN UNEXPECTED RECORD OF *SPEOTHOS VENATICUS* (CARNIVORA, CANIDAE) IN THE CAATINGA DOMAIN

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ABSTRACT

An unexpected record of Speothos venaticus (Carnivora, Canidae) in the Caatinga domain. This paper reports the first record of the bush dog (*Speothos venaticus*) in the Caatinga morphoclimatic domain, more precisely in a humid forest refuge located 870 m above the sea level, in the municipality of Aratuba, Ceará State, Northeastern Brazil. This canid has a wide distribution in South America, however, precise locality records are omitted in most publications, resulting in distributional maps with little informative contens for ecological and biogeografphic studies. Thus, we added a list of localities documented with voucher specimens from 15 American and European museums to update the current knowledge on distribution of the species.

Keywords: *Speothos venaticus*, distribution record, Northeastern Brazil, Caatinga.

RESUMO

Um registro inesperado de Speothos venaticus (Carnivora, Canidae) no domínio da Caatinga. Este trabalho comunica o primeiro registro do Cachorro-do-mato-vinagre (*Speothos venaticus*) no domínio morfoclimático da Caatinga, particularmente num Brejo de Altitude localizado a 870 m de altura no Mun. de Aratuba, Estado do Ceará, Nordeste do Brasil. A espécie tem uma ampla distribuição na América do Sul, todavia, as localidades precisas de coleta se omitem na maior parte das publicações resultando em

mapas de distribuição pouco informativos para estudos ecológicos e biogeográficos. Por isso acrescentamos uma lista de localidades documentadas com espécimes testemunha de 15 museus de América e Europa atualizando o conhecimento atual da sua distribuição.
Palavras-chave:*Speothos venaticus*, Registro de distribuição, Nordeste do Brasil, Caatinga.

INTRODUCTION

Speothos venaticus (Lund, 1842), the **"**bush dog" or "cachorro do mato vinagre", is a small canid with an elongated body, short legs and tail, small interdigital membranes, and small, rounded ears. His dorsal and ventral colors are uniform and varies from dark brown to reddish brown, with a golden tone in the head region (LANGGUTH 1975, DARLING and WHITEHEAD 1991, BEISIEGEL and ZUERCHER 2005).

This species is considered the most social of the small canids (ZUERCHER *et al.* 2008), organizing themselves in family groups that can vary from three to ten individuals (EISENBERG and REDFORD 1999, NOWAK 1999), although solitary individuals have been observed (ZUERCHER *et al.* 2008). These animals dig burrows in the ground level or in river banks, or use hollow fallen tree trunks as a refuge (CHEIDA *et al.* 2011).

Speothos venaticus is widely distributed throughout South America and occurs from Panama to southern Brazil, Paraguay and northern Argentina, with a western distribution to Bolivia, Peru and Ecuador (LANGGUTH 1969, BEISIEGEL and ZUERCHER 2005). In Brazil, these animals are found in the Amazonia, Cerrado, Atlantic Forest and Pantanal biomes, and occurs in humid forests or gallery forests, generally near water courses (COIMBRA-FILHO 1972, LANGGUTH 1975, EISENBERG and REDFORD 1999, DEMATTEO and LOISELLE 2008, OLIVEIRA 2009, MICHALSKI 2010). This species is considered "vulnerable" by the Brazilian Ministry of the Environment (CHIARELLO *et al.* 2008) and "near threatened" on IUCN Red List (ZUERCHER *et al.* 2008).

Most distribution maps published omit distributional records as in ZUERCHER *et al.* (2008). On the other hand maps that show records as in EISENBERG (1989) and EISENBERG and REDFORD (1999) do not mention the exact locality of each record or as in the case of the most recent study of OLIVEIRA (2009), where most records do not even have voucher specimen. Therefore we added to this paper the following list with localities of occurrence of *S. venaticus*, documented by museum specimens examined and identified by Alfredo Langguth.

MATERIAL

Localities and voucher specimens: PANAMÁ: Monte Pirri ca. Cabeza Del Rio Limon, USNM 179048, 179047. **COLOMBIA:** Int del Meta, Restrepo, Villavicencio, USNM s/n; USNM s/n; Los Micos, FMNH 87861; Villavicencio, MCZ

42086; Landazuri (KM 148) Mon. Bolívar, Depto. Santander, AMNH 136284; Piri, Mun. Méd., Cundinamarca, AMNH 136285; Rio Tengra, SW de Darien, BM 0-11-27-1. **VENEZUELA:** Gran Sabana, USNM 269135. **SURINAME**: Zanderiyg, BM Ost. 1952-1086; Locality unknown, ZMB 4680; Locality unknown, RNHL 3224. **BRASIL:** Mun. of Aratuba (4º24'48.85''S – 38º03'19''W), Ceará UFPB 6272; Chapada, Mato Grosso, BM 3-7-7-43; Lagoa Santa, Minas Gerais, ZMK L.31, L.30, 285; Fazenda do Bonito, Serra da Bocaina, Rio de Janeiro, MCZ 28056; São João da Boa Vista, São Paulo, MZUSP 4060; Colônia Hansa, Santa Catarina, MZUSP 2902, ZMB 48826; Annapolis, Goiás , MN 4850; Rio Curi Curiay ao South of upper Rio Negro, Anat Ffm 54.84; Rio de Janeiro, ZMB 37787; Rio Itapoca, Santa Catarina, ZMB 31003; Descalvados Ranch, Mato Grosso, USNM 270165, 270171; Pará, NMB 1150, Brasília, DF, MN s/n; Tapirapoan, MN 3035; Miranda Noroeste, São Paulo, BM 23-11-6-2; Bei Baixo, lower Rio Madeira, Município Manirare, ZMB 42541; 100 miles S of S. Luiz de Cáceres, West side of Rio Paraguay, USNM 270368, 270369, 270370. **PERU**: Quillabamba, MCZ 41096; Lagarto, Alto Ucayali, AMNH 76805, 76806; Boca del Rio Urubamba, AMNH 76035; Iquitos, Amazonas, AMNH 98560, 98558, 98559. **BOLÍVIA**: Rio Blanco 65,5°W 16°S, BM 2-1-1-8, BM 2-1-1-9; Santa Cruz 800m, ZSM 1962-267; Charuplaya 65,5°W 16°S, BM 2-1-1-10, 2-1-1-8; Buena Vista, Prov. Ichilo, Depto Santa Cruz, MACN 50.67; Santa Cruz de la Sierra, MACN 33.154.

Museum acronyms are: AMNH= American Museum of Natural History; Anat Ffm= Dr. Senckenbergisehes Anatomisches Institut der Universität Frankfurt/Main; BM= British Museum (Natural History); FMNH= Field Museum of Natural History; MACN= Museo Argentino de Ciencias Naturales Bernardino Rivadavia; MCZ= Museum of Comparative Zoology, Harvard University; MN Museu Nacional, Rio de Janeiro; MZUSP= Museu de Zoologia da Universidade de São Paulo; NMB= Naturhistorisches Museum Bern; RNHL= Rijksmuseum van Naturlijke Historie, Leiden ; USNM= United States National Museum; ZMB = Institut für Spezielle Zoologie und Zoologisches Museum der Humboldt-Universität Berlin; ZMK= Universitetets Zoologiske Museum, Kopenhagen; ZSM= Zoologische Sammlung des Bayerischen Staates, München.

Most specimens of this list were collected during the first half of the twentieth century and probably the species is locally extinct in several places.

RESULTS AND DISCUSSION

In June 1, 2010 a dead female cub of *S. venaticus* was found by local people in the municipality of Aratuba (4º24'48.85''S – 38º03'19''W), Baturité Montain Range, Ceará State, northeastern Brazil, and donated to H. Fernandes-Ferreira.

The collecting place was near a small stream in an area of humid forest (Tropical Pluvial-Nebular Evergreen Forest) at 870 m above sea level and surrounded by the semi arid Caatinga vegetation. The local humid climate and

orographic situation favors the growth of arboreal vegetation between 10 and 20 m tall with epiphytes, and an understory of dense shrub vegetation with smaller trees and bromeliads. The sandy and rocky substrate is covered by a thick layer of leaf-litter.

This specimen was deposited in the Mammal Collection of the Department of Sistematics and Ecology, Federal University of Paraíba (UFPB 6272). Being a young animal our specimen, preserved in formalin, does not show the characteristic pattern of head and body coloration (DARLING and WHITEHEAD 1991). However, other diagnostic characters are easily observable, like the presence of a protruding forehead, short legs ears and tail, pads of digits 3 and 4 fusioned proximally, eight symmetrical palatal rugae and a simple intestinal caecum (LANGGUTH 1969). Measurements in mm of the specimen UFPB 6272 are as follows: Total length 230; Tail 53.8; Head length from vertex to tip of nose 59; Maximum width of head 37; Ear 17.8; Foot with/without claw 30.5 / 29.0; Weight 111 g. The dentition is incomplete, only one cusp of a molariform tooth is visible as well as the i3, and c1 deciduous teeth.

It represents the first record in the morphoclimatic domain of the Caatinga, extending its known distribution far into northeastern Brazil. The closest previous reports, which are visual records, of this species were in Chapada Limpa (3° 31´S – 43° 28´W), 484 km away from our new locality, and in the Inhamum Municipal Park, municipality of Caxias (04º54'S – 43º26'W), 478 km away from our new locality (OLIVEIRA, 2009). Both records are in Maranhão State, Brazil (Figure 1).

In a recent revision of the distribution of *S. venaticus,* BEISIEGEL and ZUERCHER (2005) considered most part of northeastern Brazil outside the distribution of this species. OLIVEIRA (2009) included the Maranhão state in the area of occurrence, based in records obtained from interviews with local habitants. He points to the absence of the species in xeric habitats of Northeastern Brazil. Considering the surveys of DEMATTEO and LOISELLE (2008) who studied a global bush dog's distribution, through historical distribution and ecological niche modeling, we find this record of *S. venaticus* in Ceará completely unexpected.

BARNETT *et al.* (2001) quoted the presence of bush dog in a scrub forest, evergreen montane forest, scrub savannah and lowland rainforest in Guyana. LANGGUTH (1975) in a comparative study of the South American canids, considered this species a forest dweller, but able to visit open areas near forest. The "Brejos de altitude" are wet enclaves surrounded by scrub and xeric vegetation, and represent a refuge to a large number of animal and plant species of former forested areas (MANTOVANI 2007) like the bush dog.

The specimen, locally known as "guaxinim-vermelho", was acquired during an ethnozoological study concerning hunting activities on the local vertebrate terrestrial fauna of eight human communities of four municipalities in the Serra de Baturité, Ceará State. This research was undertaken using interviews with selected local specialists, including hunters (BAILEY 1994). Our results reinforce the role of Ethnozoology as an important tool for making inventories and enriching ecological surveys (ALVES *et al.*, 2009; ZUERCHER *et al.*, 2003).

The “brejos-de-altitude” forest formations in northeastern Brazil have received special attention by conservationists due to their unique phytophysiognomy and their high number of endemic species (BORGES-NOJOSA *et al.* 2006, GIRÃO *et al.* 2007). The humid forest in the Baturité Mountain Range is thought to have the greatest species richness and biodiversity in Ceará State (MANTOVANI 2007), and is home to many animal species threatened with extinction. Although the region is a managed State Conservation Reserve, it still suffers from gradual but continuous loss of vegetation cover and is subjected to non-sustainable levels of resource utilization (OLIVEIRA *et al.* 2007).

In addition to the increase of range distribution and the discovery of this species in a new morphoclimatic domain, the record here reported reveal the existence of an isolated population, thus indicating urgent conservation needs, especially because it is a threatened species in Brazil.

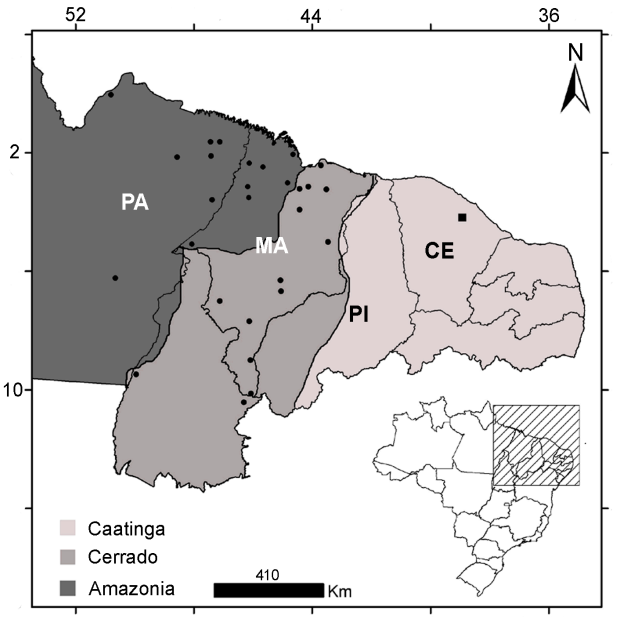

Figure 1 - Map of the northern part of Brazilian Northeast showing morphoclimatic domains. Circles refer to records of *Speothos venaticus* reported by Oliveira (2009). Square refer to the new locality here reported. PA = Pará State, MA = Maranhão State, PI = Piauí State and CE = Ceará State.

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