

The Ecological Role of the Bush Dog, *Speothos venaticus*, as Part of the Mammalian Predator Community in the Interior Atlantic Forest of Paraguay

by

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ABSTRACT

The bush dog, *Speothos venaticus*, is a poorly known canid from South America. Bush dogs are considered hyper-carnivorous and dependent on forests near water. They are rarely observed and most information on the species comes from studies of captive animals. A free-living population of bush dogs occurs on the Reserva Natural del Bosque Mbaracayú where the largest fragment of Interior Atlantic Forest remains in Paraguay. Bush dogs live sympatrically in this reserve with at least fifteen other mammalian carnivores. I investigated the ecological role of bush dogs within this carnivore community using non-invasive techniques. A molecular diagnostic test was developed to determine species of carnivore that deposited scats collected at Mbaracayú. Comparison of results from this molecular analysis with visual identifications given by local and indigenous people reveals 100% agreement, thus validating scat identifications from these sources. The sixteen carnivore species known to inhabit Mbaracayú were detected by molecular analysis, while two other species, suspected of existing within Mbaracayú, were not detected. Analysis of diets of bush dogs revealed a greater reliance on small mammal prey than previously suggested as well as fruit consumption which was previously unknown. Remains of four other mammalian carnivore species were detected in scats from jaguars, *Panthera onca*, providing evidence their role as top carnivore in this system is maintained to some degree by interference competition. Comparison of dietary overlap among all carnivore species showed strong similarities in diets of small felids and some mustelids, but no strong overlap between bush dogs and any other mammalian carnivore. A model of potential competitive interactions was developed reflecting carnivore diet niches along a preference axis ranging from 100% plant to 100% animal dietary content. My analysis of carnivore sign relative to availability of major habitat types and distances to permanent water indicated a strong preference for forests by bush dogs but they occurred disproportionately further from permanent water than suggested by earlier reports. My results show the ecological role in this community is unique, with no strong dietary competition with other carnivores and associations with habitats that differ markedly from habitat associations documented for similar-sized mammalian carnivores.