

International Journal of **Biological and Natural Sciences**

COMPOSITION, THREATS AND CONSERVATION OF AVIFAUNA IN SEVEN AREAS OF WIND FARMS IN NORTHEAST BRAZIL

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Abstract: The Northeast region of Brazil has great wind potential (Amarante *et al.*, 2001). Recently, wind energy has increased considerably, being responsible, in large part, for energy in Northeast Brazil in times of drought (Bezerra & Santos, 2017). However, capturing wind energy generates direct impacts for some groups of birds and bats (Kunz *et al.*, 2007; Martin, 2011). But, before knowing the impacts, it is important to know what are the species of birds that occur in the areas of the plants. The present study aimed to analyze the composition of the existing avifauna in six areas where there are wind farms in operation in the Northeast region, in addition to verifying some of the aspects that threaten them and suggesting proposals for their conservation. The wind complexes studied were: in Pernambuco: **Fontes dos Ventos (FV)**, in the municipality of Tacaratu; in Rio Grande do Norte: **Modelo (MO)**, in the municipality of João Câmara; and, in Bahia: **Cristal (CR)**, between the municipalities of Cafarnaum and Morro do Chapéu, **Delfina (DE)**, in the municipality of Campo Formoso, **Serra Azul (SA)**, in the municipality of Cafarnaum, **Morro Sul (MS)** in Morro do Chapéu and **Curva dos Ventos (CV)**, in the municipality of Igarorã. All Complexes are inserted in the Scrub domain, except CV, which is inserted in a Savannah and Scrub transition area. Six campaigns were carried out in the dry season and six in the rainy season, in the years 2017 and 2022. The species were detected using binoculars, cameras, trap cameras, mist nets, recorders and directional microphones. The captured species were marked with washers provided by CEMAVE and later released at the same location. The endangered taxa were considered according to national and global listings (MMA, 2022; IUCN, 2022). The endemics of the Scrub were those present in Stotz *et al.* (1996), Sick (1997) and Olmos

et al. (2005); Savannah endemisms followed Silva & Bates (2002) and Braz & Hass (2014); migrants agree with Stotz *et al.* (1996) and Sick (1997). Altogether, 192 species belonging to 19 Orders and 43 Families were recorded. The number of species per park was as follows: FV – 115, MO – 89, CR – 109, DE – 125, SA – 86, MS – 120 and CV – 95. One endangered species was recorded: *Penelope jacucaca*, and three classified as near threatened: *Hylopezus Ochroleucos*, *Augustes Lumacella* and *Porphyrospiza caerulescens*. As for endemism, 10 species were endemic to the Scrub and five to the Savannah. As migrants, two species were recorded for the Northern Hemisphere and one for Southern South America. The richness of species attests to the importance of these areas for the maintenance of avifauna, especially for the endangered and endemic taxa of the Scrub and Savannah; however, some of the endemisms pointed out in this work also occur in other domains. As these endemisms are mostly species that inhabit the interior of the forests, they must not be directly impacted by wind turbines, unlike some species that carry out migrations or regional displacements in the region, such as *Zenaida auriculata noronha*, which may be suffering negative impacts on their populations, but it has not yet been possible to detect mass migration of this taxon in the region, which is reported in the literature (Telino -Júnior *et al.*, 2007). In addition to collisions and other impacts generated directly or indirectly by wind turbines, there are also those that occur in the scrub, such as deforestation, illegal hunting and the capture of wild birds. However, within the boundaries of wind farms all these actions are prohibited. The implementation of private Conservation Units may be a good alternative for the conservation of avifauna, as this type of reserves, if well managed,

can ensure the conservation of endemic and endangered taxa (Oliveira *et al*, 2010); in addition, there must be more actions by environmental agencies to curb hunting, as hunters have been observed in some areas. We conclude that the places where the wind complexes are located are important places for the conservation of avifauna, with many endemic taxa and some endangered, and that

conservationist measures must be taken to ensure their protection.

Keywords: avifauna, Scrub, Savannah, threats, endemisms

Financing agency: Enel Green Power Brazil

Area of knowledge: Faunistics

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