PATTERNS OF AVIFAUNA DIVERSITY ALONG A GRADIENT OF LAND USE IN THE MAPUTOLAND CENTER OF ENDEMISM, MOZAMBIQUE

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Abstract - A key threat to biodiversity in the Mozambican section of the Maputo land centre of endemism are the anthropogenic disturbances associated with agriculture and use of forest resources for the subsistence of people living in the surrounding of the Maputo Special Reserve. From inside to outside the nature reserve there is a gradient of environmental protection with potential effects on patterns of avifaunal diversity in the landscape, which have not been documented.In this study we assessed the alfa and beta avifauna diversity at species and family levels and the diversity of functional groups across vegetation types along a land use gradient, from multiple use area outside the nature reserve to the core area of the nature reserve during the dry season of 2016 and wet season of 2017. A stratified random sampling design was applied, using vegetation types inside and outside of the reserve as the strata.Bird species were identified and individuals counted from 60 point counts inside and 60 point counts outside the reserve. The richness of species, families and functional groups was higher inside than outside the reserve in grasslands and dense woodlands, but no significant difference were recorded in open woodlands. There was a combination of species turnover and loss of species without replacement from inside to outside the reserve for all vegetation types, which resulted in low similarity in species composition. For families and functional groups, we found low turnover, low nestedness and high similarity between inside and outside the reserve for all vegetation types. Anthropogenic disturbances that change vegetation structure and composition in the periphery of the Maputo Special Reserve resulted in changes in the composition and function of avifauna communities.

Key words - Avifauna, Richness, Diversity, Disturbance, Species Turnover and Nestedness