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Importance of nature reserves for the conservation of termite diversity

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INTRODUCTION & AIM

In Argentina, the Chaco region stands out as one of the most severely affected by the deforestation of native forests and their replacement with agricultural fields. In this context, protected areas play a fundamental role in the conservation of biodiversity, the maintenance of vital ecological processes, and the provision of ecosystem services alongside cultural benefits. Termites, due to their capacity to significantly alter their environment through biological activities, are commonly referred to as "ecosystem engineers." Their role as indicators of climate change is increasingly employed due to their sensitivity to environmental changes, which reflect alterations in the environment.

METHOD

This study analyzes termite diversity in a private reserve and a sustainably managed cattle ranching located in Chaco Province, Argentina. In both sites, transects of 100 m x 2 m were delimited, divided into 20 sections of 5 m x 2 m each, with a collection effort of 1 man-hour per section. All microhabitats up to 2 m in height were surveyed. Nesting was measured, and 12 soil samples of 12 cm x 12 cm x 10 cm were taken randomly from each section. All specimens found were preserved in vials labeled with 80% alcohol for transport to the laboratory, where they were identified.

RESULTS & DISCUSSION

Sixteen species of the Kalotermitidae and Termitidae families were recorded, representing 40% of the species richness previously documented in the Province of Chaco. They were classified into four dietary groups. This demonstrates the importance of protected areas in preserving not only the taxonomic diversity but also the functional diversity of key organisms such as termites.

CONCLUSION

This study highlights the importance of protected areas in biodiversity conservation, particularly in preserving key organisms such as termites. By finding a significant diversity of termite species, the analysis demonstrates that those areas help to maintain not only taxonomic diversity but also functional diversity, which is essential for ecological stability and balance. Moreover, the ability of termites to act as "ecosystem engineers" and their sensitivity to environmental changes underscores their value as indicators of climate change. These findings emphasize the necessity to protect these natural spaces in the face of agricultural expansion and deforestation.

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