

Preliminary checklist of ants from Shendurney Wildlife Sanctuary, Kerala, India Inventario preliminar de las hormigas de Shendurney Wildlife Sanctuary, Kerala India

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Introduction

Shendurney Wildlife Sanctuary is a public funded Sanctuary in Kerala, India. It is located on the southern part of the Western Ghats. Despite being a biodiversity hotspot, there has been no studies on ants to date from this Sanctuary. The present study aims to bridge this knowledge gap and bring to light a comprehensive picture of the species present.

Materials and Methods

Site Selection

The Shendurney Wildlife Sanctuary was divided into 5 sites depending on the habitats. The sites were Semi-Evergreen, Secondary grassland, Myristica Swamp, Evergreen, and Dry Deciduous. A quadrat (20mx 20m) was selected on each site for the collection. The collection was done only from this quadrat.

Collection Techniques

Ants were collected using the Ants of Leaf Litter (ALL) protocol (Alonso et al., 2000). The collection was done for a four month period from April 2021 to July 2021. From each quadrat in each site, a small 1x1 m sub-quadrat was selected randomly each month. The ants and soil samples were collected from this sub-quadrat only. Ants were collected using Hand-picking, Baits, Litter Sifting, Inverted Umbrella Technique and Winkler Sack methods. The collected ants were preserved in 70% alcohol and kept in vials with proper labelling.

Identification

Ants were identified using identification keys by Bolton, (1994). Other latest keys were also used. Identification and photography was done using a Leica stereomicroscope.

Results

A total of 78 species of ants were identified from a total of 718 individuals. Ants belonging to the subfamilies Myrmicinae, Formicinae, Ponerinae, Dolichoderinae and Pseudomyrmicinae were found. The most number of species were from Myrmicinae (46%) followed by Formicinae (31%), Ponerinae (12.8%), Dolichoderinae (7.6%) and Pseudomyrmicinae (2.5%).

Table 1. Site-wise species number

| Family | Semi-Evergreen | Secondary grassland | Myristica Swamp | Evergreen | Dry Deciduous |
|------------------|----------------|---------------------|-----------------|-----------|---------------|
| Myrmicinae | 34 | 12 | 5 | 12 | 13 |
| Formicinae | 11 | 6 | 6 | 9 | 11 |
| Ponerinae | 8 | 2 | 4 | 4 | 3 |
| Dolichoderinae | 7 | 3 | 3 | 2 | 2 |
| Pseudomyrmicinae | 1 | 1 | 1 | 1 | 2 |

Fig.1 Common Ants found in Shendurney



Discussion

The highest diversity of ants was found in Kattalappara Semi-Evergreen site with 51 species of ants from 5 genera. This site is relatively undisturbed and with more optimum conditions for ants like moderate temperature and humidity. This could be the reason for the high diversity. The lowest diversity was in Kattalappara Myristica Swamp perhaps due to water logging which makes it difficult for ants to forage. The overall diversity was found to be high in Shendurney Wildlife Sanctuary. Further studies are being done in the Sanctuary to get a better picture of the total ant diversity.

References

- Agosti, Donat & Majer, Jonathan & Alonso, LEEANNE & SCHULTZ, Ted. (2000). Ants: standard methods for measuring and monitoring biodiversity. Smithsonian Institution Press, Washington. 10.5281/zenodo.11736.
Bolton, B. (1994). Identification guide to the ant genera of the world. Harvard University Press.