

Population dynamics of hymenoptera formicidae in relation of edaphological factor of Hazaribag sanctuary, Jharkhand, India

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Received : 28.03.2024; **Accepted** : 08.05.2024

ABSTRACT

In a sanctuary insects have great role in the nutrient cycling and they play significant role in the food structure of terrestrial bird community. Research contributions on forest fauna of India comparison to that of other parts of the world are inadequate. Besides, this insect community plays an important role in the feeding behaviour of bird's sanctuary. This paper deals with hymenopteran insect population fluctuation in Hazaribag sanctuary in relation to certain edaphological factors. At the same time certain environment factors were studied for twelve months to see their effects on hymenopteran population.

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KEY WORDS : Hazaribagh, Hymenoptera, Sanctuary

Introduction

Soil organisms collectively bring about decay and cycling of nutrients, nitrogen-fixation, mechanical weathering, mixing of soil, help in the production of growth stimulating substances, improve soil aeration and of course also cause some harm to plants. Research contribution on forest soil fauna of India, compared to that of other parts of world are inadequate. Besides these insect communities play an important role in the feeding structure of terrestrial particularly ground niche of sanctuary.

Present paper deals with synecological investigation on hymenopteran population variations and diversity in the sanctuary with certain atmospheric and edaphic factors. Hazaribag sanctuary is located in Jharkhand state covering an area of about 75 sq. miles. Sanctuary is at about 1700' above sea level at latitude 24°6 N and longitude 85°23' E It is a dry deciduous type of forest having Sal (*Shorea robusta*), as common tree species.

Materials and Methods

The soil surface hymenopteran fauna, their relative abundance were studied for twelve months

(August 2022 to July 2023). Study area of 200 m² was selected covering most undisturbed area of sanctuary. A quadrate of 1 m² was placed at 10 random plots. After

TABLE - 1 : Species of Hymenoptera recorded from Hazaribag Sanctuary

1.	<i>Monomorium inaicum</i>
2.	<i>Campanotus compressus</i>
3.	<i>Campanotus paria</i>
4.	<i>Campanotus taylori</i>
5.	<i>Monomorium gracillinum</i>
6.	<i>Solenopsis geminate</i>
7.	<i>Anoplolepis longipes</i>
8.	<i>Formica sanguinea</i>