

Ecological Impact on Biodiversity of Apterygota And Pterygota Insects of Undisturbed Areas Of The Chotanagpur Plateau

J.P .Sanyal, Akash Garain and Prerna Sharma

Department of Zoology and Biotechnology, Annada College, Hazaribag, 825301, Jharkhand

Email: akashgarain@gmail.com

ABSTRACT

Present paper deals with comparative study of Apterygota and Pterygota study of fluctuation in Hazaribag sanctuary in relations to certain physiochemical factor of soil. In the present study insect population density showed bimodal peak. One in January and other in September. Total insect population was comparatively low in April, May and June.

Keywords: *Shorea robusta*, Pterygota and Apterygota, Richness Indices

Received 09.07.2019

Revised 27.07.2019

Accepted 29.08.2019

CITATION OF THIS ARTICLE

J.P .Sanyal, Akash Garain and Prerna Sharma. Ecological Impact on Biodiversity of Apterygota And Pterygota Insects of Undisturbed Areas Of The Chotanagpur Plateau. Int. Arch. App. Sci. Technol; Vol 11 [4] December 2020: 18-22

INTRODUCTION

In India total of 639182 km² under forest cover. In Jharkhand forest area is 23253.4 km² which is about 29.3% of total Jharkhand geographical areas. It is dry deciduous type of forest having sal tree (*Shorea robusta*). This work has been taken up for the purpose of enclosing our horizon of understanding of the forest ecological principle. The forest so far studied by various investigator in India have revealed that each forest has a characteristic feature of its own with regard to physical, chemical and biological condition. Soil surface insects have great role in the nutrient cycling of the ecosystem. Present paper deals with comparative study of Apterygota and Pterygota study of fluctuation in Hazaribag sanctuary in relations to certain physiochemical factor of soil. Species diversity index(H), species evenness(E) and species richness(D) has been estimated for twelve months .Correlation matrix and multiple analysis have been made to see edaphological effect of sanctuary on both Apterygota and Pterygota insect population dynamics. Besides these, insect community play an important role in the feeding behaviour of birds of the sanctuary.

MATERIAL AND METHODS

The soil fauna Pterygota and Apterygota insect, their relative abundance where study for twelve month (August 2017-July2018.Ten intensive area 200 sq.m where selected covering most undisturbed area of sanctuary. From each study area a quadrat of 1 sq.m was placed at 10 random plots. All insect were collected in polythene bags. Population density was expressed as no./sq.m in the field standard data and soil analysis was made according to Goel and Trivedy,[1].Standard data sheet was used [2]. For identification different references where used.Diversity indices were calculated following formula:

$$\text{Shannon's index} = H' = - \sum_{i=1}^s \left[\frac{ni}{n} \ln \frac{ni}{n} \right]$$