



Original Article



Environmental Variation on Snowfleas (Insecta: Apterygotes) at Agra Region

Deepmala Verma , *Manish Kumar And Anil Paliwal

Department Of Zoology Ganjdundwara P.G College, Ganjdundwara, Etah(U.P.)

*Academy for Environment and Life Sciences, Agra

ABSTRACT

This paper deals with the comparative study of snowfleas population which are recorded in three different terrestrial ecosystem of Agra. Some observations were also made regarding their association with environmental variations of snowfleas.

KEYWORDS: Snowfleas, Population, Ecosystem.

INTRODUCTION

Collembola are well known apterygotes among insects and are most interesting due their jumping habits and popularly called as springtails and snow fleas. Snowfleas are minute, soft bodied, apterygotes, occurring enormous in numbers on the surface of stagnant water, in decaying vegetables, fallen leaves, under the bark of tree, on snows and in ant or termites nests Prabhoo, [1]. Soil and litter Collembolan of South India . In India collembolan order is represented by 210 species under 86 genera , from 8 families and two sub-order [2]. Snowfleas are soil micro arthropods which taken part in decomposition of litter, so they also help in improving the soil fertility. Within ecosystem and the process of decomposition it is essential to analysis the population of this dominant group. Snowfleas (Collembola) numerically is one of the dominant group of soil micro arthropods. Some entomologists have provided different information about soil arthropods, Singh and Singh, [3]. An ecological study of soil microarthropods from soil and litter of tropical deciduous forest of Varanasi (India) but the comparative data's of snowfleas population in different ecosystem is quite poor up-to-date. So the present study deals with the comparative data's of snowfleas population recorded from three different terrestrial ecosystems.

MATERIAL AND METHODS

For the collection of Snowfleas three different terrestrial ecosystem sites (Shahajan Garden (Taj Mahal Campus), Mariyam Tomb (Sikandra), Red Fort Garden i.e site A, B, C) Agra region is selected, fifty samples from each sites is taken with the help of iron cave sampler (8.25cm X 10.5cm X 35.2cm) during rainy season which is very good for snowfleas activities. Snowfleas were extracted by Tulgram funnel method from soil upto 20cm depth from each sites The pH, humidity, soil temperature and organic matter were studied by Piper's methods.

Mean of pH, humidity, emperature and organic matter:

$\Sigma X/N$

Where, ΣX = Total monthly average

N = Number of sites

RESULTS AND DISCUSSION

It is apparent from table 1-2 that Snowfleas population was maximum at site-A and minimum at site-C ecosystem. The value reported for site-B and site-C are more or less similar. The present contribution for snowfleas to the total population of micro arthropods weer maximum at site-A and minimum at site-C. The organic matter content and humidity percentage were recorded to be maximum at site-A and minimum at site-C. But the monthly average of temperature were recorded maximum at site-C and minimum at site-B. The pH is also recorded maximum at site-B but site-A and site-C are more or less similar. The Snowfleas which are common in all ecosystem but varied in their population, density and frequency of occurrence were i.e. *Drepanura agronica* sp.nov.,

Entomobrya crassa Imms, *Cyphoderus assimilis* Börner, *Dicranocentroides viraniculatus* sp.nov., *Drepanosira subornata* Denis [4]. An attempt has also been made to correlated the abundance of Snowfleas in different ecological factors of experimental sites.

Table 1: Edaphic Factors for Experimental sites(A,B,C)

S.No.	Edaphic Factors	Site A	Site B	Site C	Mean
1.	Temperature(oC) monthly	28.4	27.3	29.5	28.4
2.	average	13.1	12.2	11.3	12.2
3.	Humidity(%) monthly	2.12	1.23	0.76	1.37
4.	average	6.4	7.2	6.5	6.7
	Organic matter(%)				
	pH (monthly average)				

Table 2: Average number of Snowfleas population per mil. In different ecosystem

S.No.	Sites	Number in Thousand	% of population
1.	Site A	7600	26.3
2.	Site B	6114	25.6
3.	Site C	8012	24.2

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