Advances in Bioresearch
Adv. Biores., Vol 6 (5) September 2015: 173-174
©2015 Society of Education, India
Print ISSN 0976-4585; Online ISSN 2277-1573
Journal's URL:http://www.soeagra.com/abr.html
CODEN: ABRDC3
ICV 7.20 [Poland]

Advances in Bioresearch

ORIGINAL ARTICLE

List of Collembola Species from Aligarh regions of UP

Deepmala Verma and Rajesh K Yadav
Department of Environment Science, S.S.Jain Subodh PG College, Jaipur
Email: deepav762@gmail.com

ABSTRACT
The species of collembolan from Aligarh region (West Uttar Pradesh) and its vicinity is studied in this paper. Base on different sampling projects conducted during 2014-2015, totally 97 species from 13 genera and 5 families including Hypogastruridae Isotomidae Tomoceridae Entomobryidae and Family Sminthuridae were identified.
***KEY WORDS**: Collembola, Aligrah*

Received 10.06.2015 Accepted 01.09.2015

How to cite this article:
Deepmala Verma and Rajesh K Yadav. List of Collembola species from Aligarh regions of UP. Adv. Biores., Vol 6 [5] September 2015: 173-174. DOI: 10.15515/abr.0976- 4585.6.5.173174

INTRODUCTION

Springtails have derived their name because of the presence of forked tail-like appendage or furcula or springing organ, on the underside of the 4th abdominal segment. With the help of furcula, most Springtails jump as far as 10- 15cms. Collembola are extremely abundant in soil and leaf litter. In most terrestrial ecosystems they occur in high numbers, typically between 104 and 105 m–2. Densities of springtails of more than 105 m–2 have been found in pine forests in India and Japan, moorland in England, and dry meadows in Norway. Collembola are particularly abundant in agricultural soils that are farmed "organically". In the rain forests, Collembola comprise about 20% of the total number of arthropods on tree trunks and 50% and 60% of the total from soil and leaf litter, respectively ace-dwelling species to those that live out all their lives in the depths of the soil. The majority of springtails feed on fungal hyphae or decaying plant material. In the soil, they may influence the growth of mycorrhizae and control fungal diseases of some plants [3-4].

There are about 8500 springtail species identified and described. Collembolan fossils from the Devonian (400 million years ago) are among the oldest known records of terrestrial animals. These organisms are virtually ubiquitous in terrestrial systems, ancient and thus, one of the more successful arthropod lineages [5,2].

MATERIAL AND METHODS

The specimens of this research were collected through the year from 2014 to 2015 in a two sites of Aligarh regions. Soil samples were collected on monthly intervals using cylindrical core sampler of size 5.5 cm. in diameter and 10 cm in height having a surface area of 23.76 cm^2 based on the principle of O'Conor [1].

Collected materials were put in ethanol 70% for identification in suitable time. These data have also been included in this paper. Specific name, author and description date, locality and date of collection are provided. All soil microarthropods were identified up to the level of their order or, family using a range of taxonomic keys [2]. A stereoscopic binocular microscope (Olympus Model CX 24B with digital camera) was used for identification of soil collembolan.

RESULTS

A total of 97 species in 13 genera of of Collembol are listed in this paper, which are given in below table - 1. Many researchers described population distribution in different areas, deciduous forest of collecmola

and Indentified many species [3-5]. Verma and Yadav [6] and [7] indentified collembolan species in Agra and Jhansi Regions.

Table 6: Identified species of Collembola from different study areas of Aligarh region

S.No	Species	Study Site		
		SI	SII	Total
I	**Family Hypogastruridae Börner, 1906**			**32**
1	*Hypogastrura denticulate*(Begnall, 1941)	4	1	5
2	*Ceratophysella indovaria* (Salmon, 1970)	7	2	9
3	*Hypogastrura vernalis* (Carl, 1901)	4	1	5
4	*Xenylla maritime* Tullberg, 1869	4	2	6
5	*Friesea mirabilis*(Tullberg, 1871)	5	-	5
6	*Neanura conjuncta*(Stach, 1922)	2	-	2
II	**Family Isotomidae Schäffer, 1896**			**22**
1	*Folsomia nana* (Gisin 1957)	5	2	7
2	*Folsomia candida* (Willem1902)	2	-	2
3	*Isotomiella minor* (Schaffer 1896)	2	-	2
4	*Isotoma notabilis* (Schaffer)	7	4	11
III	**Family Tomoceridae Schäffer, 1896**			**1**
1	*Tomoceris vulgaris* (Tullberg 1871)	1	-	**1**
IV	**Family Entomobryidae ,1896**			**34**
1	*Entomobrya handschini* (Stach 1922)	4	2	6
2	*Entomobrya lanuginose* (Nicolet)	6	4	10
3	*Entomobrya marginata* (Tullberg)	3	1	4
4	*Entomobrya multifasciata* (Tullberg)	4	1	5
5	*Orchesella flavescens* (Bourlet)	2	-	2
6	*Lepidocyrtus lanuginoosus* (Gmelin)	3	4	7
V	**Family Sminthuridae, Lubbock 1862**			**8**
1	*Sminthurides malmgreni* (tullberg)	5	3	8

SI= Iglas, SII= Khair

REFERENCES

1. O'Conor, F. B. (1957). An ecological study of the enchytracid worm population in a coniferous forest soil. Oikos 8: 161-199.
2. O'Connell, Bolger T (1994). The microarthropod fauna associated with fungal fruiting bodies in Woodland-a study of the role of spatial and temporal diversity in determining assemblage structure. Unpublished Ph.D thesis, National University of Ireland, Dublin.
3. Parwez, H. and Sharma, M. K. (2004a). Seasonal fluctuation in the population density of soil insects under Acacia Plantation. Annals of Biology. 20(2): 115-122.
4. Parwez, H. and Sharma, M. K. 2004 b. Species diversity and population dynamics in the soil Mesofauna of arable land. Annals of Biology. 20(2): 123-130
5. Sinha, P. B., Sen, N. S. and Jafri, H. A. (1988). On the seasonal population fluctuation of Collembola and Acarina in deciduous forest at Ranchi. J. Environ. Biol. 9(1): 79-83.
6. Deepmala Verma and Rajesh K Yadav. (2013).Collembolan Species In Grassland Area Of Jhansi Region .Journal Of Current Research In Science (ISSN 2322-5009) , Vol. 1, No. 6, pp: 639-640
7. Deepmala Verma and Rajesh Yadav . (2014). Preliminary Study of Population Diversity of Collembola in Agra Regions. Bull. Env. Pharmacol. Life Sci., Vol 3 (4): 07-09