



## **Collembola Diversity from Meerut regions of UP**

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### **ABSTRACT**

*The species of collembolan from Meerut region (West Uttar Pradesh) and its vicinity is studied in this paper. Based on different sampling methods conducted during 2014-2015, totally 136 species from 18 genera and 5 families including Hypogastruridae Isotomidae Tomoceridae Entomobryidae and Family Sminthuridae were identified.*

**KEY WORDS:** *Collembola, Meerut*

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### **INTRODUCTION**

Class Collembola includes insects commonly known as springtails and snow fleas. These insects are abundantly occurring, primitive, wingless, soft-bodied, mostly elongate or globose, measuring generally 2-3 mm in length. 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. The collembolans inhabitant of snow, ice and glaciers, are called as "Snow fleas" like Isotoma, Proisotoma, Hypogastrura, Aackia.

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 [1-2].

### **MATERIAL AND METHODS**

The specimens of this research were collected through the year from 2014 to 2015 in a two sites of Meerut 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<sup>2</sup> based on the principle of O'Connor [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.

### **RESULT AND DISCUSSION**

A total of 136 species in 18 genera 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 collemmola and Identified many species [3]. Verma and Yadav [4] and [5] indentified collembolan species in Agra and Jhansi Regions [Table-1].

**Table 1: Identified species of Collembola from different study areas of Meerut region**

S.No	Species	Study Site		
		SI	SII	Total
<b>I</b>	<b>Family Hypogastruridae Börner, 1906</b>			<b>30</b>
1	<i>Hypogastrura denticulate</i> (Begnall, 1941)	6	1	7
2	<b><i>Ceratophysella indovaria</i></b> (Salmon, 1970)	4	2	6
3	<i>Hypogastrura vernalis</i> (Carl, 1901)	4	1	5
4	<i>Xenylla maritime</i> Tullberg, 1869	6	2	8
5	<i>Friesea mirabilis</i> (Tullberg, 1871)	4	-	4
6	<i>Neanura conjuncta</i> (Stach, 1922)	-	-	-
<b>II</b>	<b>Family Isotomidae Schäffer, 1896</b>			<b>24</b>
1	<i>Folsomia nana</i> (Gisin 1957)	4	2	6
2	<i>Folsomia candida</i> (Willem 1902)	1	-	1
3	<i>Isotomiella minor</i> (Schaffer 1896)	1	-	1
4	<i>Isotomina bipunctata</i> Axelson	-	-	-
5	<i>Proisotoma crassicauda</i> (Tullberg 1871)	2	2	4
6	<i>Proisotoma minuta</i> (Tullberg 1871)	5	4	9
7	<i>Isotoma notabilis</i> (Schaffer)	2	1	3
<b>III</b>	<b>Family Tomoceridae Schäffer, 1896</b>			<b>5</b>
1	<i>Tomoceris vulgaris</i> (Tullberg 1871)	5	-	5
<b>IV</b>	<b>Family Entomobryidae, 1896</b>			<b>49</b>
1	<i>Entomobrya handschini</i> (Stach 1922)	4	2	6
2	<i>Entomobrya lanuginose</i> (Nicolet)	9	7	16
3	<i>Entomobrya marginata</i> (Tullberg)	3	-	3
4	<i>Entomobrya multifasciata</i> (Tullberg)	4	5	9
5	<i>Orchesella flavescens</i> (Bourlet)	2	3	5
6	<i>Orchesella cincta</i> (Nicolet)	1	-	1
7	<i>Pseudosinella wahlgreni</i> (Borner)	2	1	3
8	<i>heteromurus nitidus</i> (Templeton)	1	2	3
9	<i>Lepidocyrtus lanuginosus</i> (Gmelin)	-	-	
10	<i>Lepidocyrtus cyaneus</i> Tullberg	-	1	1
11	<i>Lepidocyrtus paradoxus</i> Uzel	1	1	2
<b>V</b>	<b>Family Sminthuridae, Lubbock 1862</b>			<b>19</b>
1	<i>Sminthurides malmgreni</i> (tullberg)	5	4	9
2	<i>Bourletiella insignis</i> (Reuter)	4	3	7
3	<i>Sminthurus lubbocki</i> Tullberg	2	1	3

S1= Hastinapur, S2= Jani

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