NEW RECORD OF COLLEMBOLA (HEXAPODA) FROM THE PRUTUL DE JOS SCIENTIFIC RESERVE

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Abstract. The paper presents new data about the species diversity of the order Collembola from the Prutul de Jos Scientific Reserve. A total of 13 species of Collembola from 11 genera and 5 families were identified for the first time in the floodplain forest of the Prutul de Jos Scientific Reserve. Among the identified collembolan species one - *Endonura lusatica* Dunger, 1966 is new for the fauna of the Republic of Moldova.

Introduction

Prutul de Jos Scientific Reserve was created on April 23, 1991 in order to protect the flora and fauna of Lake Beleu and the floodplains around it. The protected area is located in the lower reaches of the Prut River in the south west of the Republic of Moldova. It includes Lake Beleu and its surroundings, a network of ponds that, as a whole, form a unique ecosystem. The surface of the reserve is 1691 ha, about $\frac{1}{3}$ of its surface is occupied by the waters of lake, the rest of the territory is presented by marshy vegetation and floodplain [5]. On 2018, the reserve was registered in the UNESCO World Network of Biosphere Reserves, becoming the first biosphere reserve established in the Republic of Moldova.

Material and methods

The samples were collected in the spring 2021 in a floodplain forest located on the shores of Lake Beleu formed 27-30 years ago (fig. 1), in which white willow (*Salix alba*) predominates [5]. The willow forest is floodable, in which water enters during floods rising up to 1 m. Many trees have grown too tall, others have dried up and break very easily from strong winds.

Figure 1. Floodplain forest in the Prutul de Jos Scientific Reserve

The specimens of Collembola were extracted from decomposed wood using modified flotation method [1] then were treated with lactic acid, discolored in KOH and mounted in permanent slides.

The taxonomic identification of invertebrate species were performed using MBS-10, Meiji Techno binoculars, microscope Leica and determination keys [1, 6].

Results and discussion

As a result of investigation 13 species of Collembola from 11 genera and 5 families were identified for the first time in the wood decompose covered with mosses and lichens from the Prutul de Jos Scientific Reserve. Among the identified species one *Endonura lusatica* Dunger, 1966 from the family Neanuridae is new for the fauna of the Republic of Moldova.

Table 1. List of species identified in the Prutul de Jos Scientific Reserve

N.	Taxon	Data of collection	Nr. of ind.	Ecology
Neanuridae				
1	<i>*Endonura lusatica</i> Dunger, 1966	23.03.21	14	Silvicolous and hydrophilous species
Hypogastruridae				
2	<i>Choreutinula inermis</i> (Tullberg, 1871)	23.03.21	1	Litter species
3	<i>Schoettella ununguiculata</i> (Tullberg, 1869)	23.03.21	44	Euribiont
4	<i>Xenylla brevicauda</i> Tullberg, 1869	23.03.21	7	Silvicolous, briophilous species
Isotomidae				
5	<i>Isotoma riparia</i> (Nicolet, 1842)	23.03.21	6	Hygrophilous species
6	<i>Isotoma viridis</i> Bourlet, 1839	23.03.21	1	Euribiont
7	<i>Folsomia quadrioculata</i> (Tullberg, 1871)	23.03.21	12	Euribiont
8	<i>Proisotoma minuta</i> (Tullberg, 1871)	23.03.21	4	Ruderal and thermophilous species
Entomobryidae				
9	<i>Entomobrya marginata</i> (Tullberg, 1871)	23.03.21	8	Euribiont
10	<i>Lepidocyrtus paradoxus</i> Uzel, 1890	23.03.21	1	Mesophilous species with preference for wet habitat
11	<i>Lepidocyrtus violaceus</i> Lubbock, 1873	23.03.21	13	Silvicolous species with preference for wet habitat
12	<i>Willowsia nigromaculata</i> (Lubbock, 1873)	23.03.21	1	Corticicolous and silvicolous species
Katiannidae				
13	<i>Sminthurus</i> sp.	23.03.21	1	

The analysis of the wood decompose covered by moss collected along the banks of Prut River using collembolan communities' structure emphasized several peculiarities of collembolan species diversity and distribution in riparian habitat. Thus, if we compare the list of species identified in the Prutul de Jos Scientific Reserve with other habitats located along the Prut River no euedaphic species were found [3].

The revealed species presented different types of the hygropreference, the largest part of them are mesophilous and silvicolous species (Tab. 1).

New revealed species *Endonura lusatica* Dunger, 1966 is the second species from genus *Endonura* identified in the Republic of Moldova. According to research conducted by Smolis it is one of the most hygrophilous species of the genus [6].

The riparian habitats remain rather attractive places for the soil invertebrates due to the carry-over and accumulation on their surface of the biogenic elements. Thereby, Collembola inhabited all the studied localities from the banks of Prut and Dniester Rivers and their species diversity is varying [1, 2, 3, 4]

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