Collembola fauna from the shore of Lake Balaton, Hungary

By

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Abstract. 38 species of Collembola have been identified from the shores of Lake Balaton (Hungary). These animals were investigated in different habitats. The diversity was the highest in the undisturbed, natural places.

Lake Balaton is the largest lake in Central-Europe. Though the pollution of the water sometimes is very serious, there are a lot of areas with reeds and other willow trees grow. In these areas we can study the original fauna of the Balaton area or we can recognize the changes that have occurred. I am studying the collembolan fauna of the Balaton in different habitats. Though the first species of this insects was recognized in 1926, only 14 species were known by 1983. During the last research period 38 species were identified. I investigated 3 large areas. Each of them was divided into smaller habitats. These smaller habitats are as follows:

I. Close to Balatonkenese. Large reeds that bordered a stone dam.
   1. The 2 or 3 year old debris of reeds on top of the dam. This area is moderately wet and dry during most of the summer.
   2. The fresh reed debris on lake side of the dam where it is always very wet.
   3. Most of the dam where it is dry during the summer.
   4. Among the reeds where it is always wet.
   5. Shore of a small swamp where it is always wet and rich in organic matter.
   6. Large muddy area close to Albetta.

II. Area of large reeds and a patch of willow trees between Albetta and Palmaisk.
   7. Area with horsetail and sedges. A warm and dry place where bushes grow.
   8. An area of reeds and willow trees where the exception of summer it is always wet.
   9. Areas of comparison.

I collected samples from other parts of the lake too, for example from Alsókenyés, Szigliget, Kecsk-, Széti, etc.

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The list of species observed is as follows:

**Poduridae:**
- *Podura aquatica* L.

**Hycopestreidae:**
- *Hyperocta denticulata* (Bagn.)

**Friesiidae:**
- *Friesia mirabilis* (Tull.)

**Pseudochoreutidae:**
- *Pseudochoreutes corticicola* (Schauf.)

**Amauris talbergi* Schmet.

**Neanura conyctea* Stach.

**Onychiuridae:**
- *Tullbergia quadrispina* Braun.
- *Onychiura campitata* Guin.

**Isotomidae:**
- *Folsomia nana* Guin.
- *Folsomia candida* (Willems)

**Isotomiellia minor* (Schauf.)

**Proisotoma trivisicauda* (Tull.)

**Proisotoma minuta* (Tull.)

**Isotoma notabilis* Schaff.

**Isotoma viridis* Bourl.

**Isotoma olivacea* Tull.

**Isotomurus palustris* (Mull.)

**Tomoceridae:**
- *Tomocerus vulgaris* (Tull.)

**Entomobryidae:**
- *Entomobrya hauochini* Stach
- *Entomobrya lanuginosa* (Nac.)
- *Entomobrya margina* (Tull.)

**Orchesella flavescens* (Bourl.)

**Orchesella cinerea* (L.)

**Pseudosinella impa* (Schauf.)

**Pseudosinella wahlbergi* (Böhm.)

**Heteromurus major* (Moore)

**Heteromurus nivalis* (Templ.)

**Lepidocyrus laniginosus* (Garlini)

**Lepidocyrus ruber* (Schauf.)

**Lepidocyrus paradoxus* Uzlay

**Lepidocyrus cirrulosus* Bourl.

**Sminthuridae:**
- *Sminthurinae aquatica* (Bourl.)

**Sminthurinae punctis* (Krausb.)

**Sminthurinae malangrenzi* (Tull.)

**Bourletiella insignis* (Redt.)

**Sminthurus labbucki* Tull.

**Dicyrtoma fusco* Luc.

**Dicyrtoma ornata* (Nac.)

**Isotomurus palustris* (Mull.)
<table>
<thead>
<tr>
<th>Species</th>
<th>Study area</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Podura aquatica</td>
<td>-</td>
</tr>
<tr>
<td>Podothureta lindsayi</td>
<td>-</td>
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<tr>
<td>Eustrombus aquaticus</td>
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<tr>
<td>Smathurides aquaticus</td>
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</tbody>
</table>

Explanation: (1) non-existent species, (2) extinct but not abundant, (3) abundant but not dominant species, (4) (1-9), hiatus, see above mentioned above.

Only a few species (Podura aquatica, Smathurides aquaticus) live in the fresh debris but they could be there in large numbers. The rate of the diversity is very high in the 2 or 3 year old debris. Species were most diverse in areas of swamp and reeds. There is the largest difference between study area 7 as compared to the other areas. A Species (Eustrombus marginalis) was found only in the area 7, it did not live in the other wet places. Study areas 4 and 6 are very similar, Area 4 was burned during winter in 1992. The next spring there was not any Collembola in this area. Later a lot of species of this insect migrated from other places, so that, by autumn, in this area there were no differences between the areas.

REFERENCES