

**DYNAMICS IN THE SIZE OF THE POPULATION OF SPRINGTAILS
(*COLLEMBOLA* LUBBOCK 1870) IN DIVERSIFIED TYPES OF MEDIA**

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ABSTRACT

Abundance of soil mineral substances depends on activity of animals inhabiting the soil (pedofauna). While decomposing organic matter both micro as well as macropedofauna release elements and implement them into biogeochemical cycles. Processed, complex chemical compounds unassimilable for plants occur in the soil in form of water solutions of mineral salts. In these processes springtails (*Collembola*) wingless insects inhabiting the soil play a crucial role. The common belief of the detrimental effect of springtails on plants as they damage their root system is confirmed with reference to certain species. However, many of them indisputably play a positive role in ecosystems. Inhabiting habitats in large numbers, in all types of the soil, forest duff, the moss they contribute to the growth of the soil microflora. Its presence is essential to the course of pedogenesis processes. This system of trophic connections guarantees maintenance of the ecosystem balance.

The aim of the study was to analyze the population dynamics of springtails on three types of media with different content of organic matter.

Conductivity and pH of every type of the media were examined and also constant soil moisture was kept (80%) so that characteristics of biotope conditions for the conducted breeding should be determined. Counting the population of springtails took place in a two week cycle taking into account the four-week life cycle of this organism. Counting the population consisted in rinsing the culture medium out with distilled water and isolating all individuals from the water surface. The obtained results indicated the type of medium preferred by springtails. Also, they pointed at characteristic dynamics of changes in sizes of the population. In the first and second breeding (on the medium with synanthropic and garden soil) the population growth was similar and averaged from 5 to 10 individuals in each subsequent assessment of the size of the population. In the first breeding all specimens died, which could be caused by small amount of the organic matter available.

Key words: *pedofauna, biogeochemical cycle, size of the population*

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