

## **A SHORT-TERM STUDY OF POPULATION DYNAMICS OF TARDIGRADES IN THE MOSS *LEUCODON SCIUROIDES* (HEDW.) SCHWÄGR**

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Although factors that affect tardigrades population like humidity, temperature, anthropogenic factors, are known, ecological studies about tardigrades are poor because scientists mostly research tardigrades place in systematics of organisms. Nobody has researched tardigrades in Latvia, that's why data about these animals are especially important and interesting. The aim of the work is to describe tardigrades (Tardigrada: Eutardigrada) population dynamics in mosses *Leucodon sciuroides* and to determine factors that affect tardigrades. Samples were collected 35 weeks in territory of Suntaži Secondary school's park. Tardigrade samples were collected by taking 1 cm<sup>2</sup> moss samples from the asbestos roof with 10° slope. To get more individuals and eggs in sample, tardigrades from mosses were separated using original method.

In a period of time average temperature of week linearly increased from April to August and linearly decreased from August to December. Sum of rainfall in a time of research was 344,54 mm and high fluctuations were discovered. Hydrothermal coefficient increased very fast from October to December. Moss relative moisture significantly positively correlated with sum of the rainfall and hydrothermal coefficient.

In total 498 individuals and 562 eggs were collected, from them *Paramacrobiotus richtersi* species group 58%, *Macrobiotus hufelandi* species group 26% and undet species group 16%. In a period of time number of individuals and eggs significantly, linearly decreased. The number of individuals per sample fluctuated from 2 to 33 ind.cm<sup>-2</sup>, in average there were 14 ind.cm<sup>-2</sup> individuals per sample. The number of eggs fluctuated from 0 to 36 ind.cm<sup>-2</sup>, in average there were 16 ind.cm<sup>-2</sup> eggs in sample.

It was founded that eggs has two types of maturation durations: ~4 weeks and ~10-11 weeks, also tardigrades lay eggs in next week. The number of eggs per individual fluctuated from 0 to 4,8 and in average there were 1,7 eggs per individual. Average egg death coefficient in period of time from April to September was  $0,72 \pm 0,08$ . It has been observed that the higher is birthrate, the higher is death rate.

From abiotic factors week's average temperature makes positively significant effect on number of individuals and eggs. The eggs of undet species group are positively significantly affected by sum of weeks rainfall.

This original method of collecting samples allows to determine quantitative and relative number of eggs in the population. These data are important if the aim of the work or task of the work is to determine population values like death rate, birthrate, life cycle etc.