

SPATIAL STRUCTURE OF DIVERSITY OF SOIL DESTRUCTORS ON THE EXAMPLE OF COLLEMBOLA OF THE VALUEV MOSCOW FOREST PARK

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Abstract. *Background.* In forest ecosystems, soil organisms perform an important ecosystem role in the destruction of organic matter. Destructors include, among others, small soil arthropods (Collembola). The patterns of distribution of this group in forests of different formations are insufficiently studied. The study is devoted to the identification of species composition and spatial structure of diversity of collembola in forests of different formations of the Valuev Moscow forest park. *Materials and methods.* The study was carried out in summer and autumn in the trial plots in broadleaved, mixed and coniferous forests. The material was collected using a scale-oriented inventory design based on a large number of samples describing areas ranging from a few square centimeters to 100 square meters in each habitat. *Results.* The species list of springtails of the Valuev Moscow forest park for different forests formations is given. The range of functional groups by latitude of the set of habitats under development (specialized forest, eurythmy and ruderal forms) showed the wellbeing of the area. An increase in the number of species with increasing sampling effort (SAR, SSER) is analyzed. Estimates of the average number of species in areas of different size (8 cm², 1 dm², 6 dm², 1 m² and 3 m²) in different forests formations and their seasonal changes were obtained. *Conclusions.* Species richness was comparable, and the total number of species was lower than in natural forests. The Valuev Moscow forest park differs from many other Moscow forest parks in its insignificant participation in communities of ruderal forms. The share of species found in the 1 m² area of the area is practically independent of the species richness of collembola of habitats and is similar in different forest formations. The species saturation of small areas ranging from several square centimeters to several square decimeters during the growing season increases by 1.5–2.5 times. The above estimates of species richness of collembola at sites of different sizes allow forecasting the number of species in the habitats of forest formations of different types.

Keywords: microarthropods, springtails, scale-oriented accounting scheme, multiscale method, species richness, species saturation, species diversity.