

Macrofauna of different aged soils of Moscow city settlement and park zones

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Abstract:

The peculiarities of soil macrofauna community formation of urban areas are not well investigated. They do not have data about as human gradually transformed soil, as human-made soil-like bodies. The aim of our investigation is studying of macrofauna communities of different ages soils of Moscow city.

The plots with different land use have been studied at the North-West district of the city. There are macrofauna of out building areas of 5-years human-made soil (Replantozem Rus.) and 40-years urban soils-Urbic Technosol (Urbanozem Rus.). We take the macrofauna community of forest-park Umbric Albeluvisol as a natural control. We also have been examined macrofauna community of floodplain park zone disturbed by building of sport constructions. Soils are 4-years human-made soil (Replantozem Rus.) and Endogleic Regosol with urbic properties (30 years). We take the macrofauna community of Umbric Postfluvisol as a natural control.

The urban soils are characterizing by enlarged pH, moderate content of organic matter and active forms of phosphorus and potassium. There is not a high amount of heavy metals. The quantitative calculation of macrofauna by hand sorting sample method (Giliarov, 1975) has been carried out.

The examinations have shown low values of macrofauna biomass and population, depleted numbers of groups in 4-5 year soils independently of plot character. The macrofauna complex of settlement 40-year areas characterize by high values of biomass and population. However, the set of dominant species reduces to 3 groups. Trophic structure of macrofauna community differs from natural control at the expense of increasing phytophages and saprophages. The litter group is practical absent.

The full-fledged macrofauna complex similar to natural control soil has been formed in the park zone by the 28 years. However, the indices of biomass and population did not amount to background values such as soil ages.

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