

IONIC COMPOSITION OF SOILS UNDER THE INFLUENCE OF *EISENIA NORDENSKIOLDI* AND *LUMBRICUS RUBELLUS* UNDER MICROCOSM CONDITIONS

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Abstract. Over the past 20 years, on the territory of the Urals and Siberia an invasive species has been noticed – the redworm *Lumbricus rubellus*, which belongs to the same morpho-ecological group as the native one *Eisenia nordenskioldi nordenskioldi*. The spread of the active competitor for the native species in half of Eurasia requires a thorough study of the impact of each of the species under research on soil characteristics. One of the most important characteristics is the ionic composition, which is the basis of plant nutrition. The purpose of this research was to study the influence of epi-endogeic earthworms – the native and invasive species – on the cationic-anionic composition of soils in laboratory environment. For this purpose, a nine-month experiment was conducted in microcosms, it involved two monovariants, a bivariant and control without earthworms. The soil ion content was determined by capillary electrophoresis system "Kapel-104T". It has been established that epi-endogeic species *E. n. nordenskioldi* and *L. rubellus* increased the soil cation concentration, except for sodium, increased the content of acetate, formate ion, and reduced the amount of phosphates and fluorides compared to the control. There has been no significant difference between the influence of the native species and the invasive species on the ionic composition of soils. Cohabitation of the native and exotic species definitely influenced the amount of sodium, calcium, magnesium, phosphates and fluorides as compared to monovariants.

Keywords: earthworms, cationic-anionic composition of soils, invasive species, invasions, interaction of species, capillary electrophoresis.

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