

BISON REINTRODUCTION INFLUENCE ON THE EARTHWORMS COMPLEXES OF THE NATIONAL PARK «ORLOVSKOYE POLESYE»

A. P. Geraskina

*Center for Ecological Problems and Productivity of Forests Russian Academy of Sciences,
84/32 Profsoyuznaya street, Moscow, Russia, 117485;
Moscow Pedagogical State University, 6 Kibalchicha street, Moscow, Russia, 129164
E-mail: angersgma@gmail.com*

L. L. Kiseleva

*FGBU National Park «Orlovskoye polesye», 1 Lesnaya, street, Zhudersky Village, Khotynetsky district, Orel Region, Russia, 303943
E-mail: llkiseleva@yandex.ru*

A. P. Karpachev

*FGBU National Park «Orlovskoye polesye», 1 Lesnaya, street, Zhudersky Village, Khotynetsky district, Orel Region, Russia, 303943
E-mail: orlpolesie@mail.ru*

M. N. Abadonova

*FGBU National Park «Orlovskoye polesye», 1 Lesnaya, street, Zhudersky Village, Khotynetsky district, Orel Region, Russia, 303943
E-mail: orlpolesie@mail.ru*

Abstract. Currently in the Russian Federation in the reserves and national parks the reintroduction of the European bison – a powerful transducer that has a significant effect on vegetation and soil cover – is actively being carried out. This study is devoted to the assessment of the effect of different bison densities on earthworm complexes in the forest communities of the national park «Orlovskoye polesye», where they are the world's second largest free-living group of bisons. Analysis of the current distribution of bison on the territory of the national park «Orlovskoye polesye» was carried out on the basis of remote sensing data and density maps. Soil-zoological investigations and geobotanical descriptions were performed by standard methods. Comparison of the obtained lists of plant species with literature data of fodder species of bison shows that the feeding base of the «Orlovskoye polesye» corresponds to the trophic needs of the bisons. In forest communities the photophilous forest flora is predominate, which constitutes the bulk of the bisons' diet. It has been established that in forest communities on loamy soils the increase in the density of bison on feeding grounds positively influences the formation of a full-grown complex of earthworms represented by four morpho-ecological groups, the largest numbers and biomass. On sandy loamy soils, regardless of the density of bison on feeding grounds, the complex of earthworms is incomplete, the numbers and biomass are low, in addition, on the soil surface the undecomposed excrement of bisons is accumulated, which indicates a deficiency in the trophic block of coprophages and detritophages.

Key words: bison, phytophagous, saprophagous, earthworms, plant communities, fodder base, reintroduction.