(Diptera), beetles (Cantharidae, Staphylinidae, Carabidae, Elateridae), spiders (Aranei) and millipedes (Lithobiidae).

ECOLOGICAL CHARACTERISTICS OF *OXALIS ACETOSELLA* L. GROWTH UNDER ANTHROPOGENIC TRANSFORMATION OF THE LANDSCAPE

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Plants capable of growing under urban pressure have always been of interest for researchers. The reason for that is that the response of organisms (plants, microbial complexes) to human impacts in a specific urban environment needs to be studied to fulfill biomonitoring tasks, to compensate for wear of the natural components of urban landscapes (soils, plant cover) (Drozdova 2007).

Wood sorrel (*Oxalis acetosella* L.*)* is known for its fairly wide ecological amplitude. It has adaptations to the highly variable water regime of forest soils and the soil upper mineral horizon: high water retention capacity of the leaves, slight water deficit. Wood sorrel grows best on podzolic humified soils (Chernen'kova and Shorina 1990). Litter stock is one of the leading factors for the species vitality status (Chernen'kova 1982). Wood sorrel usually occurs at a soil pH of 4.0 to 6.0, but may grow well also in a wide range of both lower and higher soil acidity (3.2–8.0) (Packham 1979). Compared to other shade-tolerant species (*Aegopodium podagraria* L., *Maianthemum bifolium* (L.) F.W. Schmidt, *Pulmonaria obscura* Dumort., *Vaccinium myrtillus* L.) wood sorrel has a much lower level of photosynthesis light saturation (6 000 lx) (Starostina 1983). Wood sorrel can actively assimilate mineral nutrients forming in the course of litter decomposition, preventing their leaching from the soil (Chernen'kova and Shorina 1990). An important property of the species is the capacity to store heavy metals, which enables its adaptation to urban

environment. When exposed to heavy metal pollution, wood sorrel loses the all symbiotic relations with fungi (Veselkin 2003).

The aim of the study has been to identify the ecological characteristics of the boreal species *Oxalis acetosella* growing in a landscape transformed by urbanization. This aim involved the following tasks: 1) study chemical properties of soils in undisturbed and disturbed ecosystems; 2) study the biological activity of soils; 3) identify distinctive patterns in the growth of the species in question. Surveys were carried out in middle taiga of Karelia. Material was sampled from Kivach strict nature reserve: mature bilberry spruce stand (control), and in the city of Petrozavodsk: under the canopy of small-leaved lime (*Tilia cordata* Mill.) in a nature recreation area (Culture and Recreation Park). Soil for microbial-biochemical analyses was sampled following a conventional technique (Methods… 1996). The results show the edaphic conditions in the site changed abruptly under anthropogenic pressure. Changes in acidity, ash content, concentrations of nutrients and heavy metals were detected in urban soils. Disturbed soils demonstrated also structural and functional transformation of the microbial community. The resultant data disclose the mechanisms of physiological adaptation in plants, namely adaptation of forest plants to urban conditions, wherefore research into functional relations among biotic components in the plant-soil-microorganism system under specific site conditions needs to be continued.

ЭКТОМИКОРИЗНЫЕ ГРИБЫ В АЗОТНОМ РЕЖИМЕ ГРУБОГУМУСНЫХ ПОЧВ

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Эктомикоризные грибы (ЭМГ) функционируют в состоянии эктомикориз древесных растений, мицелия и плодовых тел. Особенность ЭМГ является получение простых углеводов от симбионта-