

净月潭国家森林公园凋落物层土壤动物群落多样性

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Community Diversity of Litter Invertebrates in Jingyuetan National Forest Park of Changchun, China

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摘要

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摘要 为了解中温带地区城市森林凋落物层土壤动物群落结构及大面积针叶人工林对凋落物层土壤动物群落多样性的影响,对长春净月潭国家森林公园凋落物层土壤动物进行调查,共采集土壤动物8630头,隶属于3门6纲18个类群,其中弹尾目、蜉蝣目、膜翅目、鞘翅目、鳞翅目幼虫、蜘蛛目、双翅目幼虫和石蜈蚣目是该地区森林生态系统凋落物层土壤动物的主要类群,其个体数占土壤动物个体总数的97.91%。天然次生林与针叶人工林间凋落物土壤动物的类群数、密度、多样性指数、均匀度指数、Simpson优势度指数和密度类群指数均无显著差异($P>0.05$),而2种林分间伪蝎目、石蜈蚣目、纓翅目和鳞翅目幼虫的密度及蜉蝣目和弹尾目个体数之比差异明显。2种林分Jaccard相似性系数为0.67。

关键词: 针叶人工林 天然次生林 凋落物 土壤动物 群落多样性

Abstract: To understand community structure of the litter invertebrates in urban forests in the Central Temperate Zone and effects of large-area artificial coniferous forests on community diversity of the litter invertebrates, investigation of litter invertebrates was carried out in the Jingyuetan National Forest Park, with a total of 8 630 invertebrate individuals collected, belonging to 18 orders in 6 classes under 3 phyla. Results show that Collembola, Acarina, Hymenoptera, Coleoptera, Lepidoptera larvae, Araneae, Diptera larvae, and Lithobiomorpha were the dominant groups, which accounted for 97.91% of the total individuals collected. No significant differences were found between the litter invertebrate communities in natural secondary forests and in artificial coniferous forests in number of groups, density, Shannon-Wiener diversity index, Pielou evenness index, Simpson dominance index, and density-group index, whereas big differences were between the two kinds of forests in density of larvae of Pseudoscorpionida, Lithobiomorpha, Thysanoptera and Lepidoptera, and in ratio of Acarina to Collembola in number of individuals. Jaccard similarity index of soil invertebrate was 0.67 in both of the two kinds of forests.

Keywords: artificial coniferous forest natural secondary forest litter soil invertebrate community diversity

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