

藏东南急尖长苞冷杉林林隙土壤线虫群落特征

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Characteristics of soil nematode community in *Abies georgei* var. *smithii* forest gaps in southeast Tibet, China.

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摘要

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摘要

为了解西藏东南部急尖长苞冷杉林林隙土壤线虫群落特征,对林隙、非林隙土壤0~30 cm范围内不同深度土层的线虫群落进行调查,并用线虫个体密度、生物多样性指数和营养类群指数等特征值分析了土壤线虫群落的结构及多样性特点.结果表明:采用浅盘法分离得到土壤线虫26801条,隶属于2纲5目40科64属;线虫个体密度平均为3552条·100g⁻¹干土,表聚性极强.垫咽属、丝垫刃属为林隙土壤线虫优势属;食细菌性线虫为主要营养类群.土壤有机质的分解兼有真菌分解和细菌分解两种途径.线虫的生物多样性及丰富度与林隙面积有关.土壤线虫群落特征表明,林隙具有异于郁闭林分和林间空地的特性,在环境指示方面具有应用潜力.

关键词: 土壤动物 高山森林 生物多样性 微生境 西藏

Abstract:

In order to understand the characteristics of soil nematode community in the *Abies georgei* var. *smithii* forest gaps in southeast Tibet, an investigation was conducted to study the variations of soil nematode community at different depths of 0-30 cm soil layer in the gaps and non gaps. The nematode individual density, diversity index, and trophic group index were taken to analyze the composition and structural characteristics of the soil nematode community. A total of 26801 soil nematodes belonging to 2 classes, 5 orders, and 64 genera were collected by shallow dish method. The nematode individual density was averagely 3552 ind·100g⁻¹ dry soil, and the individuals had a highly surface-gathering characteristics. In the gap soils, the dominant genera were *Tylencholaimus* and *Filenchus*, while the dominant trophic group was bacterivores. The soil organic matter was decomposed by both bacteria and fungi. The ecological index results showed that the nematodes diversity and richness were related to gap size. The characteristics of soil nematode community in the gaps were different from those in closed stand and forest open land, and this difference indicated the potential for using nematodes as the environmental indicator species.

Key words: soil animal alpine forest biological diversity microhabitat Tibet.

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