

甜槠凋落叶分解中土壤节肢动物群落结构动态及其对森林片段化的响应

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摘要

选取浙、闽、赣交界山地5个不同的常绿阔叶林群落(1处连续森林和4处片段化森林),对优势种甜槠凋落叶分解过程中土壤节肢动物动态进行了研究.5个研究样地共获得土壤节肢动物899头,分属9纲25目,其中鳞翅目占个体总数的10%以上,为优势类群;膜翅目、弹尾目、双翅目、前气门亚目和地蜈蚣目为常见类群.凋落叶分解速率与土壤节肢动物的类群数、个体数随季节动态呈现一致的变化趋势.8月凋落物分解最快,土壤节肢动物类群和个体数最多;而4至6月和12月情况与之相反.片段化森林和连续森林在土壤节肢动物的类群数、个体数和物种多样性方面均显示出差异,面积效应和边缘效应在其中都起了一定的作用.

关键词: 常绿阔叶林 甜槠 凋落叶分解 土壤节肢动物 群落结构 生境片段化

Abstract:

Five evergreen broad-leaved forests (one continuous forest and four fragmented forests) in the mountain areas in the juncture of Zhejiang, Fujian, and Jiangxi Provinces, East China were selected as test objects to study the dynamics of soil arthropod community structure and its responses to forest fragmentation during the decomposition of dominant tree species *Castanopsis eyrei* leaf litter. A total of 899 soil arthropods were collected, belonging to 9 classes and 25 orders. Lepidoptera was the dominant taxon, accounting for 10% of the individual, while Hymenoptera, Collembola, Diptera, Prostigmata, and Geophilomorpha were the common taxa. The decomposition rate of *C. eyrei* leaf litter was the highest in August and lower in April-June and December, which was in accordance with the seasonal dynamics of the taxa number and individual number of soil arthropods. Meanwhile, the taxa number, individual number, and species diversity of soil arthropods differed between continuous forest and fragmented forests, suggesting that both area effect and edge effect affected the dynamics of soil arthropod community structure during the decomposition of *C. eyrei* leaf litter.

Key words: evergreen broad-leaved forest *Castanopsis eyrei* leaf litter decomposition soil arthropod community structure habitat fragmentation

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