

南亚热带季风常绿阔叶林不同演替阶段物种-面积关系

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Species-area relationship at different succession stages of monsoon evergreen broad-leaved forest in south subtropical area of Yunnan Province.

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摘要

通过对云南普洱地区季风常绿阔叶林演替15年、30年及原始林群落的调查,探讨了不同演替阶段群落的物种-面积关系。结果表明:不同演替阶段群落中,取样面积与总物种数,乔木、灌木和藤本物种数均具有极显著相关关系,其变化解释率均超过94%;演替30年群落中总物种和乔木的物种累积速率(Z)最低(0.334和0.394),演替15年群落中灌木和藤本的 Z 值最低(0.437和0.326);不同演替阶段中总物种、乔木、灌木和藤本的物种-面积曲线截距无显著变化,但原始林中总物种和藤本物种-面积曲线的决定系数(R^2)显著高于演替15年和30年群落。演替15年群落中,初始乔木及灌木物种丰富度解释了 Z 值变化的99.9%,而其他演替阶段群落中初始乔木、灌木、藤本及总物种丰富度与 Z 值均无显著相关性。

关键词: 种-面积关系 演替阶段 生长型 季风常绿阔叶林

Abstract:

Based on the investigation data of monsoon evergreen broad-leaved forest at its different succession stages (primary, CP; 15 years of succession, CF; and 30 years of succession, CT) in Pu'er of Yunnan Province, this paper studied the species-area relationship of this forest at each succession stage. It was found that in the communities at each succession stage, the number of total species, trees, shrubs, and lianas had a significant correlation with sampling area, with the area explained over 94% of the total variation. The Z value of the total species (0.334) and trees (0.394) was the lowest at CT, whereas that of shrubs (0.437) and lianas (0.326) was the lowest at CF. No significant differences were observed in the intercepts of the species-area curve of total species, trees, shrubs, and lianas among different succession stages, but the coefficient of determination (R^2) of the species-area curve of total species and lianas was the highest at CP. The richness of trees and shrubs at CF explained 99.9% of the variance of Z value, but the richness of total species, trees, shrubs, and lianas at CP and CT had no significant correlations with the Z value.

Key words: species-area relationship succession stage growth form monsoon evergreen broad-leaved forest

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