

植物保护

## 哀牢山亚热带次生林AM真菌的初步研究<sup>\*</sup>

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**摘要** 哀牢山分布着目前我国面积最大、保存最完整的亚热带山地湿性常绿阔叶林。为摸清该地的丛枝菌根真菌群落结构和多样性现状, 采用碱水解-锥虫兰染色法和湿筛法, 对哀牢山亚热带次生林中丛枝菌根真菌的侵染率 (colonization level)、孢子密度 (Spore density)、物种丰富度 (species richness)、频度 (species frequency) 及AMF的结构类型进行了研究。从5个样点不同植物的根围土壤中分离到了隶属于球囊霉属 (*Glomus*)、巨孢囊霉属 (*Gigaspora*)、盾巨孢囊霉属 (*Scutellospora*) 和无梗囊霉属 (*Acaulospora*) 的8种AM真菌。该地AMF侵染率为23.0%~89.0%; 孢子密度为每100 g土壤27~42个; 物种丰富度为2~6; 在受侵染的植物中, 82%的植物的AMF结构类型为Arum型, 而Paris型只占18%; 球囊霉属 (*Glomus*) 和巨孢囊霉属 (*Gigaspora*) 的AM真菌是哀牢山亚热带次生林中出现频率较高的丛枝菌根真菌类群。

**关键词** [丛枝菌根](#); [孢子密度](#); [亚热带森林](#); [常绿阔叶林](#); [疆南星型](#)

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## A Preliminary Study of Arbuscular Mycorrhizal Diversity in the Subtropical Secondary Forest of Ailao Mountain, SW China

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### Abstract

In Ailao Mountain, it distributes the largest tract and intactest of subtropical montane moist evergreen broad-leaved forest in China. To elucidate the community structure and diversity of arbuscular mycorrhizal fungi (AMF) in this area, we investigated mycorrhizal associations status on the plants growing in Ailao Mountains, southwest China for the first time. Applying for modified wet sieve and alkali trypan-blue stained method, the arbuscular mycorrhizal colonization level, spore density, species richness, species frequency and the AMF structure type in the soil and plants of subtropical forest were analyzed. Various tree species belonging to five sampling areas of the subtropical moist evergreen broad-leaved forest were surveyed. Eight arbuscular mycorrhizal fungi were isolated and identified to the genera of *Glomus*, *Gigaspora*, *Scutellospora* and *Acaulospora*. The result indicated that AMF colonization levels of the studied area ranged between 23% and 89%; the spore density ranged between 27 spores and 42 spores per 100 g soil; the species richness ranged from 2 to 6 and among the infected wild plant species, 82% of them formed Arum-type of AM, whereas only 18% belonged to the Paris-type. AMF spores belonging to *Glomus* and *Gigaspora* were the most frequent in the soils of Ailao Mountain.

**Key words** [arbuscular mycorrhiza](#) [spore density](#) [subtropical forest](#) [evergreen broad-leaved forest](#) [Arum-type](#)

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