

半夏丛枝菌根真菌多样性研究^{*}

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摘要:目的 研究中药材半夏的丛枝菌根真菌(AMF)的多样性。方法 采集浙江杭州(虎跑、下满觉陇、富阳)、贵州贵阳等地半夏及其根际土壤。块茎徒手切片、根剪成1 cm的根段,经10% KOH透明、乳酸甘油酸性品红染液染色、乳酸甘油脱色后,镜下观察半夏植株内AMF的形态结构。湿筛倾析-蔗糖离心法分离半夏根际土中AMF孢子并鉴定,分析各地半夏根际AMF孢子的多样性。结果 半夏的皮层组织细胞间及细胞内存在大量菌丝、泡囊,以及典型的丛枝结构。根际土壤中存在大量的AMF孢子。鉴定得到20种3属,其中球囊霉属(Glomus)16种,占80.0%;无梗囊霉属(Acaulospora)3种,占15.0%;盾巨孢囊霉属(Scutellospora)1种,占5.0%。结论 各地半夏均可形成丛枝菌根,根际土壤中的AMF孢子具有丰富的多样性,球囊霉属为优势菌群。

关键词:半夏;丛枝菌根真菌;孢子;感染率;多样性

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On AMF Diversity of *Pinellia Ternate*

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Abstract Objective: To study the diversity of AMF (Arbuscular mycorrhizal fungi) in *pinellia ternate*. **Method:** *Pinellia ternate* and rhizosphere soil were collected from Hangzhou in Zhenjiang Province (including Hupao, Xiamanjue-long and Fuyang) and Guiyang in Guizhou Province. The tubers were cut into slices and roots made into 1 cm long segments, which were colored and decolorized by lactated glycerid acid fuchsin to observe their AMF's morphological structure in plantlets of *pinellia ternate*. The AMF spores in rhizosphere soils were isolated by the method of wet screening and sucrose centrifugation and identified to analyze the diversity of the spores from different regions. **Results:** There were large quantities of hypha and vesicle between and inside cells of cortical tissues as well as the typical branched structure in *pinellia ternate*. A lot of AMF spores in rhizosphere soils were being existent. The identification showed that there were 20 kinds of *pinellia ternate* belonging to 3 genera, among which 16 kinds attributes to genus *Glomus*, 3 to genus *Acaulospora* and 1 to genus *Scutellospora*, taking up 80.0%, 15.0% and 5.0% respectively. **Discussion:** AMF can be formed in all regions of *pinellia ternate* and AMF spores in rhizosphere soils are highly diverse, in which the genus *Glomus* are predominant bacterium.

Keywords *pinellia ternate*, AMF, spores, infection rate, diversity

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