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CHANGES OF ARBUSCULAR MYCORRHIZAL FUNGAL COMMUNITY FOLLOWING OVER-DOMINANCE OF BAMBUSA BAMBOS IN MOIST-MIXED EVERGREEN FOREST IN MORAGOLLA SRI LANKA

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It is understood that the changes in species compositions of plant communities can lead to changes in soil microbial communities. Arbuscular Mycorrhizal Fungi (AMF) plays a major role in determining plant diversity, productivity, community structure and ecosystem processes. By studying the responses of AMF to changes in vegetation may help understanding and interpreting the recovery patterns following disturbances. Over the past few decades, a native bamboo species, *Bambusa bambos*, has been expanding its population in moist-mixed evergreen forests in Sri Lanka altering their structure and composition. The present study assessed the AMF community characteristics in bamboo-dominated (BM) and non-bamboo (NB) forest patches in Moragolla, Sri Lanka. From two representative sites each, 10 composite soil samples were taken from a depth of 0-20 cm. AMF spores were extracted using wet sieving and decanting method (Phillips and Hayman, 1970). A total of 563 and 401 spores were counted in BM and NB, respectively with 12 morphotypes in each forest type. The BM site recorded a Shannon-Weiner Diversity index of 2.25 in comparison to 2.20 at NB. Spores from high and medium-sized categories (125 and 63 µm) were more abundant than that of small spores (45µm) in both sites. *Glomus* and *Gigaspora* were the most abundant genera (with each forest type representing 4 species). The results suggest that the bamboo over-abundance increase the AMF spore abundance and diversity. However, the richness and composition showed no impacts due to bamboo. The results suggest that dominance of a single species may have the potential to alter some characteristics of the soil microbial communities. Therefore, habitat-dependent alterations of AMF communities may influence the survival and performance of seedlings consequently affecting the recovery processes following disturbances.

Key Words: Arbuscular Mycorrhizal Fungi, Regeneration, Over-dominance, Bamboos

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