

Forest ecosystem disturbances generate changes including soil changes, generally with loss of topsoil and loss of much of the diversity of microorganisms, which are usually replaced by others that are more adapted to the new conditions. We describe the effect of rainforest clear-cutting in Madagascar, with stripping of surface soil horizons among ectomycorrhizal fungal communities associated with natural *Asteropeia mcphersonii* seedlings. An experimental device was placed on four sites, each including an undisturbed plot with litter and a plot in clear-cut areas on a soil composed of a homogeneous mineral substrate. On each of these eight plots the ectomycorrhizal infection rate was determined and root tips were collected to sequence the internal transcribed spacer. 219 sequences grouped into 59 operational taxonomic units (OTUs) were obtained. The main taxonomic groups were Russulaceae, Boletales and Thelephoraceae. Marked spatial aggregation was observed for OTUs. The disturbance significantly affected the ectomycorrhizal infection rate of *A. mcphersonii* seedlings and the OTU composition of mycorrhizal communities. However, some OTUs were found in both types of environments. We discuss the effect of the disturbance on mycorrhizal communities associated with natural ectomycorrhizal *A. mcphersonii* seedlings, particularly in view of its application to ecological restoration of disturbed forest environments.