

Mycorrhizal associations of Erica hair roots in South African fynbos

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Ericoid mycorrhizae (ERM) form between a range of fungal symbionts and the hair roots of ericaceous plants. These associations are most common in heathland soils with low phosphate and nitrogen contents. Although this type of association is very specific, studies of European, Australian and North American heathlands have shown that a range of fungal symbionts are involved in ERM formation. ERM fungi have been well researched elsewhere, however, the identity and diversity of ERM fungi in South African fynbos soils is still relatively unknown. Thus, a multi-faceted approach is used to investigate ERM formation, the diversity and the identity of the fungal symbionts in South African fynbos. Surface sterilized hair roots of *Erica mammosa* were stained to visualize the mycorrhizae, and used for direct isolation of the fungal symbionts for taxonomic studies. The diversity of the symbionts will be examined using both cloning and sequencing and automated ribosomal intergenic spacer analysis (ARISA). Initial results showed that typical ericoid mycorrhizae are formed on *E. mammosa* hair roots, and that a range of ascomycetes and basidiomycetes are associated with these roots. ERM fungi are sterile in culture and therefore difficult to classify, but phylogenetic analysis showed that many of the isolates obtained are new to science. The aim of this study is thus to investigate the diversity of ERM on *E. mammosa* and *E. versicolor* and describe the species and fungal communities associated with different areas where these plants occur.