

DIVERSITY OF ARBUSCULAR MYCORRHIZAL FUNGI (AMF) OF *ZELKOVA SICULA* (Di Pasquale, Garfi & Quézel, 1992), AN ENDANGERED PLANT SPECIES ENDEMIC OF SICILY, ITALY

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Background and aims. Arbuscular Mycorrhizal Fungi (AMF) form beneficial mutualistic symbiosis with 70% of plants in almost all habitats, but research on their role in conservation of endangered plants is still limited. This study aims to examine AMF in *Zelkova sicula* (*Zs*), an endemic tree critically endangered, incapable of sexual reproduction, that survives in a very restricted area.

Methods. Fine roots and rhizosphere soil were sampled from the only two known populations of *Zs*, in the Iblei Mountains (SR, Italy). AMF mycorrhizal status was determined after roots trypan-blue staining; DNA from AM spores was extracted. AMF from spores and roots were molecularly identified by nested-PCR on SSU of 18S. Soil chemical and physical parameters were correlated to AMF colonization and soil fungal diversity.

Results. We report for the first time that *Zs* is colonized by AMF and Dark Septate Endophytes (DSE). We identified five AMF genera and two species. *Claroideoglossum etunicatum* spores are the most abundant in soils and *Funneliformis geosporum* was identified in roots. Soil spore abundance in *Zs* habitat is inversely correlated to organic matter.

Conclusions. *Zs* hosts a variety of endophytes which may play crucial roles in plant survival and conservation. A preliminary experiment to assess the role of AMF inoculum on *Zs* propagation is underway to explore how these fungi can become allies in plant propagation processes, helping to preserve this and other rare trees.

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