



AM fungal diversity and modularity reveal different trends in the mycorrhizal association with generalist and specialist plant species.

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The plant communities present on gypsum soils include one of the most remarkable groups of edaphic “specialists”, which coexist with edaphic “generalists”. This study hypothesized that plant-arbuscular mycorrhizal fungi (AMF) associations can be related with specific functional plant strategies in gypsum soils. We analyzed, using network analysis, a plant-AMF mutualistic system in a gypsum environment, to characterize the plant-AMF interaction patterns according to their modularity or the tendency of species to be grouped into modules. Taking into account the total area studied (gypsum soil and marly-limestone soil), our results show that the factors determining the AM fungal community’s distribution were soil type and plant species, with gypsovags harboring a different AM fungal community in gypsum and non-gypsum soils. But, there were no differences in the community diversity between specialist and generalist plants. Modularity analysis revealed that, when only gypsum soils are considered, there were some AM fungal groups with a tendency to interact differently with gypsophytes (specialists) and gypsovags (generalists).