

TITLE: PROFILE OF MYCORRHIZAL FUNGI COMMUNITY IN *Gomesa recurva* (ORCHIDACEAE) GROWING IN DIFFERENT SPECIES OF PHOROPHYTES

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ABSTRACT:

Epiphytic orchids can use trees as phorophyte, and they are associated with mycorrhizal fungi, which are essential for orchid's seed germination and development. However, the influence of phorophyte species on the relationship between epiphytic orchids and their mycorrhizal fungi is still unknown. Thus, in this work we investigated the influence of the phorophyte species on the profile of mycorrhizal fungi community associated with *Gomesa recurva*, an epiphyte species. Samples roots of *G. recurva* were collected in five phorophytes: *Alchornea triplinervea* (Euphorbiaceae), *Miconia* sp. (Melastomataceae), *Soroceae bomplandii* (Moraceae), *Myrsine gardneriana* (Primulaceae) and *Himatanthus articulatus* (Apocynaceae). DNA was extracted from the roots samples using commercial extraction kit. So, the ITS region of the fungi was amplified by Nested-PCR, using the ITS1F / ITS4OF primer pairs for the first reaction and ITS86F / ITS4-GC (for GC clamp addition) for the second one. The resulting Nested-PCR amplicons were analyzed by DGGE on DCode™ (BIO-Rad, California, USA). Twenty microliters of DNA was applied on an 8% (w / v) acrylamide gel with a denaturing gradient of 35% to 55% (where 100% corresponds to 7 mol L⁻¹ of urea and 40% of formamide). The profile of bands generated by the DGGE was analyzed using Bionumerics, version 6.0, and external markers were used for normalization of the bands. Different bands were considered belonging to different operational taxonomic units (OTUs). The band profile was subjected to Jaccard's similarity coefficient, and the dendrogram was constructed using the UPGMA grouping method. No clusters was observed between the mycorrhizal fungi of *G. recurva* in the same phorophyte species. However, similarity with about 40% was observed in 2 samples of *M. gardneriana*, as well as for *Miconia* sp. and *A. triplinervea*. These results evidenced a low similarity between fungal profiles in the same phorophyte species, indicating that phorophyte has no direct influence on the mycorrhizal fungal community of *G. recurva*. Other factors, such as humidity, pH and nutrient content, may be responsible for the variation in the community of mycorrhizal fungi associated with *G. recurva*.

KEYWORDS: Mycorrhizal fungi, epiphytic orchids, *Gomesa recurva*

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