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Diversity of endophytic fungi from various Aegean and Mediterranean orchids (saleps)

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Abstract: The diversity and host specificity of endophytic and Rhizoctonia-like fungi were investigated in orchids from the Aegean and Mediterranean regions. Endophytic fungi from various Aegean and Mediterranean orchids (Anacamptis pyramidalis (L.) L.C.M.Richard, Orchis sancta L., Ophrys fusca Link., and Serapias vomeracea subsp. orientalis Greuter) were isolated and identified partially. Surface sterilisation of roots and tubers was carried out in laminar airflow under aseptic conditions. Several modified methods for the isolation of symbiotic fungi from orchid roots and tubers were used. Most of the orchid endophytes isolated was found to be Fusarium Link ex Fr. spp. A total of 47 isolates, having genus characterisations as 44 (94%) isolates belonging to the genus Fusarium, 2 (4%) isolates belonging to the Rhizoctonia DC. ex Fr.-like fungi, and 1 (2%) isolate belonging to the genus Papulaspora Preuss, were found from the orchid root and tubers. Endophytic Fusarium spp. were isolated from Aegean and Mediterranean orchids Anacamptis pyramidalis, Orchis sancta, Ophrys fusca, and Serapias vomeracea subsp. orientalis. Rhizoctonia-like fungi were only isolated from Orchis sancta whereas Papulaspora sp. was only isolated from Anacamptis pyramidalis.

Key words: Aegean and Mediterranean orchids, orchid endophytes, Rhizoctonia-like fungi, Fusarium, Papulaspora

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