

Comparative anatomy of root vascular bundles of some orchids

Mustafa Kemal AKBULUT^{1,*}, Şenay SÜNGÜ ŞEKER², Gülcan ŞENEL²

¹ Department of Landscape and Ornamental Plants, Lapseki Vocational School, Çanakkale Onsekiz Mart University, Çanakkale, Turkey

² Department of Biology, Faculty of Arts and Sciences, Ondokuz Mayıs University, Samsun, Turkey

* mkakbulut@comu.edu.tr

Orchidaceae is the largest family of Asparagales and constitutes about 7% of all Angiosperms. The family, which has a wide spreading area on the world, problematic in terms of taxonomy due to similar flower structures and different applications. In our study, the structure of root vascular bundles of some Epidendroid and Orchidoid species was examined comparatively. Materials were collected from localities of Black Sea Region in Turkey. Samples for anatomical studies were fixed in 70 % alcohol. During the definition of the species root vascular bundles features, the sections taken from roots was analyzed using the Zeiss AxioLab A1 microscope and the Zeiss AxioCam 105 viewing system. While collecting anatomical sections, the location differences were considered, and for every feature, 30 measurements were made in average using the same microscope. In the study, root structures of some taxa belonging to 12 genera were examined in detail. In addition to reveal general anatomical features in the roots, the order of vascular bundles has been schematized. Comparisons were made between genera and taxonomic values of the root vascular characteristics were revealed.

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