

Seed micromorphology and morphometry of some temperate orchids (Orchidaceae)

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To reveal both qualitative and quantitative seed properties of the species belong to Turkish epidendroid and orchidoid genera in detail and to investigate which properties are diagnostic among these taxon, the seed micromorphology and morphometry of 12 taxa were examined using a light and electron microscopy. The seed micromorphological and morphometrical characteristics were examined with the help of canonical discriminant analysis and hierarchical clustering analyses by taking into consideration the taxonomic status of species belonging to the subfamilies Orchidoideae and Epidendroideae. In this study, significant differences were detected in terms of several features such as seed shape, seed length, periclinal wall ornamentation, testa cell shape, embryo length, width and volume. Two main patterns have been observed, one is similar shape and size of chalazal and medial cells, higher seed morphometrical properties and the number of cells along the longitudinal axis, for epidendroid species. The other has differences in shape and size between chalazal and medial cell, smaller seed sizes and the number of cells along the longitudinal axis, for orchidoid species. This study confirms the diagnostic value of qualitative and quantitative seed features.

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