USING BIOMETRY IN PLANT SYSTEMATIC

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Today for classifying plants a detailed systematic analysis utilizing macro and micromorphological characters as well as palynology, cytogenetics, ecology, phytochemistry and information of biological association are analyzed using multivariate and univariate statistical methods in order to determine the presence of groups/clusters/variants and to quantify the pattern of variation. Although phonetic numerical taxonomy techniques have been overshadowed in recent years by the development of molecular and cladistic techniques they still have a place for the study of patterns of variation at and below species rank where variation in qualitative characters may not be easily available. For studies of characterization of the Iranian members of tribe Sophoreae, plant materials were collected from different habitats and regions of Iran and in addition some herbarium specimens were examined. All of data were subjected to multivariate and univariate statistical methods. Comparisons have been made at individual, population and infera-specific levels as well as among species and genera. Results show that the Iranian members of the tribe have pollen grains with tricolporate apertures and grow in different geographical and ecological conditions in Iran. They can differentiated and identified by the distribution of trichomes in surface of leaflets, chromosome size, ecological characteristics, existing gypsum crystals and flavonoid compounds in their leaves.