USING NUMERICAL TAXONOMY FOR PHYLOGENETIC STUDIES OF TRIGONELLA SPECIES IN IRAN

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The Trigonella L. belongs to the tribe Trifolieaeof Leguminosae. This genus has 80 species in all over the world. In flora Iranica 30 species and subspecies have been reported for different region of Iran. For phylogenetic studies between the genus members, numerical taxonomy was carried out on 10 collected specimens of 14 populations of 3 species and 1 subspecies from central of Iran. 42 qualitative and quantitative morphological characters were studied. Qualitative characters were coded as multistate characters and the means of quantitative characters were used. In order to group the species having morphological similarities, cluster analysis using single linkage, Ward method and ordination of species on the first two principal component analysis (PCA) were performed. In order to determine the most variable morphological characters among the species, a factor analysis based on PCA was done. Varimax rotation was carried out after Kaiser Normalization. Factor analysis of morphological characters showed that the first four factors (Standard, Wing and Legume sizes and number and color of seed) describe about 77% of total variance. T. astroites Fisch and May is new for the Markazi province and has the most relationship with T. Montana ssp. noeana.