A215 Origin of the Cyathium in Euphorbioideae (Euphorbiaceae): Phylogenetic Study Based on Morphological Characters

Ki-Ryong Park
Department of Biology, Kyung-Nam University

A cladistic analysis of the subfamily Euphorbioideae was undertaken to elucidate the origin of the cyathium bearing Euphorbieae, and provide hypotheses about evolutionary relationships within tribe Euphorbieae. 20 species representing most of the genera within the study group, and two outgroup taxa from the subfamily Crotonoideae were selected for the parsimony analysis. A parsimony analysis of 18 morphological characters resulted in 9 equally most parsimonious trees. Most parsimonious trees had consistency indices of 0.731 and tree lengths of 26 steps. A strict consensus tree supported monophyly of the cyathum bearing Euphorbieae. *Anthostema* and *Dichostemma* is basal within the tribe Euphorbieae in 50% majority-rule consensus tree. The sister group relationships of cyathim bearing Euphorbieae with *Maprounea* and *Hura* were weakly supported. These results also suggest that the cyathium was evolved from a common ancestor with Hippomaneae and Hureae, or evolved independently within the family.

A216 Taxonomic Position of *V. bifolia* Based on Random Amplified Polymorphic DNA (RAPD) Analysis

Dong-Im Seok and Byoung-Hee Choi
Department of Biology, Inha University

Random amplified polymorphic DNA(RAPD) markers were investigated to assess the genetic diversity among 12 individuals of *Vicia unijuga* complex which represent each geographical populations or infraspecific taxa. 31 decanucleotide primers of arbitrary sequence were used for DNA amplification and 57 scorable markers were generated. The genetic similarities between populations calculated by DICE-Nei & Li's coefficient method, and then a phenogram using UPGMA method was obtained. The genetic similarities between the populations of *V. unijuga* var. *unijuga* were very high, 0.91-1.00. *V. unijuga* var. *kaussanensis* falls within the ranges of the genetic variations of var. *unijuga*, while f. *albiflora*, var. *angustifolia* and *V. linearifolia* were clearly different from var. *unijuga*. *V. bifolia* which is very similar to *V. unijuga* in having a pair of leaflet was clustered with *V. venosa* having multi-foliolate leaves rather than *V. unijuga*. These results indicated the parallelism of leaflet numbers as taxonomic character in the section Vicilla.