

**A210**Phylogeny of Hanabusaya Based on ITS Sequences of nrDNA

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Phylogenetic affinity of Korean endemic genus, Hanabusaya to other Campanulaceous genera has been a controversial issue since its description by Nakai in 1911. Members of Campanuloideae, Symphandra, Adenophora, and Campanula, have been considered as related genera by various taxonomists based on anther morphology, floral shape, and pollen characters, respectively. We have tested the competing phylogenetic hypotheses using the ITS (Internal Transcribed Spacer) sequences of nuclear ribosomal gene from a total of 9 accession representing 5 genera and 8 species of Campanulaceae. The resulted ITS phylogeny indicates that Hanabusaya asiatica is more closely related to Adenophora than to Campanula or Symphandra. The phylogenetic affinity of Hanabusaya and Adenophora is supported by high bootstrap value (100) and decay index (18). The sequence distance value calculated between Hanabusaya and Adenophora is 0.022 which is significantly lower than the ones observed between Hanabusaya and Campanula (0.194) and Hanabusaya and Symphandra (0.214). The DNA sequence data suggest that some morphological characters such as fused anther and pollen structures are homoplastic.

**A211**Studies on the genus *Spirogyra* (Conjugales, Chlorophyta) in Korea

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*Spirogyra* Link with more than 400 species (Devi 1994) is the most popularly known genus among the filamentous Conjugales (Chlorophyta). In spite of its wide distribution throughout the world, the taxonomic study has been carried out very poorly in Korea. The morphotaxonomic and cytological characters of the species were investigated to clarify their taxonomic limit and the variation range on the basis of comparative morphological, cytological and the numerical analyses by unialgal culture. Morphological characters available for identification of the species were the size of cells, number of chloroplasts, shape of cross wall, sexuality, size and shape of zygote, and cell wall ornamentation of the spore. As a result, a total of 13 species including 8 unrecorded species in Korea were identified in this study. The number of chromosomes of Korean *Spirogyras* ranged from n=15 in *S. varians* to n=38 in *S. dubia*.