

Comparative Chloroplast Analysis and Phylogenetic Relationships Among *Corylopsis* Siebold & Zucc. (Hamamelidaceae)

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Corylopsis Siebold & Zucc. (Hamamelidaceae) is widely used for horticultural plant and comprise ca. 25 species in East Asia (1 species in Korea; 4 species in Japan; 20 species in China). Previous revisions have gone from 7 to more than 30 species, causing confusion in the nursery industry and public gardens. Due to morphological similarity within *Corylopsis*, molecular research is needed to distinguish it. In this study, the chloroplast genome of *C. gotoana* and *C. pauciflora* distributed in Japan was completed by using NGS (Next-Generation Sequencing) technique. The genome size of *C. gotoana* and *C. pauciflora* were 159,434 bp (large single-copy (LSC): 88,164 bp; small single-copy (SSC): 18,702 bp; inverted repeat regions (IRs): 26,284 bp) and 159,363 bp (LSC: 88,097 bp; SSC: 18,700 bp; IRs: 26,283 bp), respectively. In addition, we investigated the repeats, SNPs, and indels, and that could be used as DNA markers. Phylogenetic analysis demonstrated that *C. pauciflora* was sister to *C. gotoana* and *C. spicata*. The genus *Corylopsis* is a monophyletic group and *Loropetalum* is closely related to *Corylopsis*. The results of our study will provide the basic data necessary for the analysis of the species identification markers and genetic diversity within the genus *Corylopsis* in the future.

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