

Molecular phylogeny study of schismatoglottis From different regions in Sabah using internal Transcribed spacer region

ABSTRACT

The Schismatoglottideae tribe, primarily in Borneo, is notably diverse within the Araceae family. It encompasses various rainforest herbs, adapting to terrestrial, lithophytic, and rheophytic habitats. The Schismatoglottis genus, with over 175 species, mostly exclusive to Borneo due to geological preferences, stands out. A study aimed to understand genetic relationships among Schismatoglottis species from Kadamaian-Kinabalu Park, Kionsom Recreational Area, Imbak Canyon Conservation Area, Mensalong Forest Reserve, Danum Valley Conservation Area, Tawau Hills Park, and Mantailang Crocker Range Park. The Internal Transcribed Spacer (ITS) regions of twelve Schismatoglottis species were sequenced. Genomic DNA was extracted from dried-silica-gel leaf tissue using a commercial kit (Promega, USA). ITS region lengths ranged from 528 bp to 708 bp. BLAST analysis accurately identified species within the Schismatoglottis genus (95% to 98% similarity). Phylogenetic analysis revealed a highly supported sister clade, uniting Schismatoglottis porpax species from Mensalong and Kionsom, despite differing elevational habitats. This pioneering study delves into Schismatoglottis phylogenetics, particularly in Sabah, with seven of the twelve species showing potential for new species classification, pending further research.