

Plastome Phylogenomics of Commelinaceae Mirb. (Commelinales): Insights into Genome Evolution and Phylogenetic Relationships

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Commelinaceae (Commelinales), consist of three subfamilies and 40 genera, are distributed in the Old and New world, except Europe. This family is commonly known as dayflower and spiderwort due to their short bloom time and a viscous stem secretion. Although, several morphological and molecular analysis were conducted, the relationships among the genera are still ambiguous. The rapid advances in next-generation sequencing (NGS) enable us to do genomic research widely. Here, we assembled 12 new plastomes of Commelinaceae including Cartonematoideae and compared with previously published data. We identified pseudogened *accD* and *rpoA* in Commelinoideae taxa. Phylogenetic analysis inferred from 78 protein-coding genes showed that *Rhopalephora scaberrima* was nested within *Aneilema*. Also, there is a need to revise the subtribal relationships in Tradescantieae. This study will contribute to define the genome structures, phylogenetic and biogeographic studies of Commelinaceae.

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