

Systematic study on Guttiferae Juss. of Peninsular Malaysia based on plastid sequences

ABSTRACT

Twenty-one taxa in 4 genera (*Calophyllum*, *Mammea*, *Mesua* s.l. and *Garcinia*) of Guttiferae from several areas in Peninsular Malaysia were used to investigate the status and relationships of taxa within the family Guttiferae using the chloroplast DNA trnL-trnF sequence data. Molecular phylogeny results indicated that *Calophyllum*, *Mammea* and *Garcinia* are monophyletic genera. However, the genus *Mesua* appeared to be polyphyletic as *Mesua ferrea* did not form a cluster with the other *Mesua* taxa. Therefore, the molecular phylogeny supports the morphological classification that *Mesua* taxa in Peninsular Malaysia other than *M. ferrea*, be transferred back into genus *Kayea*. On the other hand, the molecular phylogeny disagrees with the morphological classification of *Calophyllum wallichianum* var. *wallichianum* and *C. wallichianum* var. *incrassatum* as varieties of *C. wallichianum*. Therefore, the status of these two varieties should be reinstated to distinct species as *C. wallichianum* and *C. incrassatum* respectively.

Keyword: Guttiferae; *Mesua*; trnL-trnF; cpDNA; Phylogeny