Segregation of the polyphyletic genus *Polyalthia* (Annonaceae)

Xue, B.*[1], Su, C.F.Y.[1,2], Thomas, D.C.[1,3] & Saunders, R.M.K.[1] [1] School of Biological Sciences, The University of Hong Kong, P. R China [2] Duke-NUS Graduate Medical School Singapore [3] Netherlands Centre for Biodiversity Naturalis, section NHN, Leiden University *e-mail: Xue Bine xuebine@gmail.com

The circumscription of the species-rich genus *Polyalthia* (Annonaceae, with ca. 155 species) has long been recognised to be highly problematic: as previously circumscribed, the genus was a morphologically heterogeneous assemblage lacking conspicuous synapomorphies, and was one of the most significant impediments to revisionary and floristic taxonomic research in the family. Recent molecular phylogenetic analyses have confirmed that *Polyalthia* is polyphyletic. A broader taxonomic sampling of *Polyalthia* species and associated taxa is included in the present phylogenetic analyses to enable the recognition of monophyletic genera with clearly defined diagnostic morphological characters. Bayesian, maximum parsimony and maximum likelihood analyses of chloroplast *matK*, *rbcL* and *trnL-F* sequences consistently gave congruent topologies, with *Polyalthia* species distributed in four well-supported clades. Based on molecular and morphological data, existing *Polyalthia* species are classified into the following four genera: (1) *Hubera*: a newly established genus consists of 27 *Polyalthia* species; (2) *Marsypopetalum*: six species, following the transfer of five *Polyalthia* species; (3) *Monoon*: a revived generic name with 56 species, following the transfer of 37 *Polyalthia* species, 18 *Enicosanthum* species, and *Woodiellantha sympetala*; and (4) *Polyalthia* s.str.: ca. 86 species, following the transfer of 11 *Haplostichanthus* species.