Phylogenetic study of the *Hottarum* Group (Araceae: Schismatoglottideae) utilising the nuclear ITS region

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ABSTRACT. Recent phylogenetic analyses of the tribe Schismatoglottideae (Araceae) elucidated a well-supported but internally unresolved crown group comprising *Schismatoglottis sarikeensis* (Bogner & M.Hotta) A.Hay & Bogner, previously placed in the genus *Hottarum* Bogner & Nicolson, the genus *Phymatarum* M.Hotta, and a number of species either novel or hitherto placed in *Schismatoglottis* Zoll. & Moritzi. The clade is particularly interesting in that it is centred in northern central Sarawak (Malaysian Borneo), north of the Lupar Divide and appears to represent an autochthonous radiation point for evolutionary activity isolated from the major tribal radiations in south-western Sarawak. Former *Hottarum* species (with the exclusion of *H. truncatum*) transferred to *Piptospatha* and *Schismatoglottis* are misplaced. All except *Bakoa lucens* (Bogner) P.C.Boyce & S.Y.Wong belong to this supra-Lupar Divide grouping. This study was undertaken to test the validity and phylogeny of the genus *Hottarum* utilising the nuclear ITS region.

Keywords. *Hottarum*, ITS region, Lupar Divide, phylogeny, *Phymatarum*, *Schismatoglottis*

Introduction

The genus *Hottarum* Bogner & Nicolson previously comprised of four rheophytic species, all endemic to Borneo (Mayo et al. 1997). These include the type species, *Hottarum truncatum* (Bogner 1978), from Sg. (river) Kakus, Tatau, Bintulu, Sarawak, and a further three species: *H. lucens* (Bogner 1983), *H. sarikeense* (Bogner & Hotta 1983) and *H. kinabaluense* (Bogner 1984). *Hottarum brevipedunculatum* (Okada & Mori 2000) was subsequently described.

In dismantling *Hottarum*, Bogner & Hay (2000) placed the constituent taxa of *Hottarum* (i.e., including the type) into *Piptospatha*, and *H. sarikeense* was placed into *Schismatoglottis*, based purely on morphological characters. *Piptospatha sensu* Bogner & Hay (2000) differs from *Schismatoglottis* by its unconstricted spathe and in having seeds with an extended micropylar appendage. *Piptospatha sensu* Wong & Boyce (2010b) is further defined from *Schismatoglottis* by the peduncle erect at fruit dispersal, with the persistent lower fruiting spathe forming a funnel-form splash cup,