

## Studies on Homalomeneae (Araceae) of Borneo III: The helophytic *Homalomena* of Sunda

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**ABSTRACT.** An account of the helophytic *Homalomena* in Sunda is presented. Two species are recognized: *H. expedita* A.Hay & Hersc. and *H. rostrata* Griff., neither novel. *Homalomena expedita* is so far endemic to Sarawak, where it is known from three widely separated sites. *Homalomena rostrata* is widespread from Sumatera through Peninsular Malaysia to Borneo, and onwards to Maluku (Pulau Ceram). Throughout its range *H. rostrata* is morphologically plastic, such that it has accrued a considerable synonymy, proposed here: *Homalomena beccariana* Engl., *H. ensiformis* Alderw., *H. miqueliana* Schott, *H. miqueliana* var. *truella* Alderw., *H. paludosa* Hook.f., *H. propinqua* Schott, *H. raapii* Engl., *H. sagittifolia* Jungh. ex Schott, *H. sagittifolia* var. *angustifolia* Furtado, *H. sagittifolia* var. *pontederiifolia* Ridl. (including homotypic *H. ridleyana* Engl.), *H. sagittifolia* var. *sumatrana* Alderw., *H. teysmannii* Engl., and *H. triangularis* Alderw. An overview of the occurrence of helophytism in Araceae, together with speculations on the evolution of helophytism in *Homalomena*, a key to the species, and illustrations of both species are presented.

**Keywords.** Araceae, helophyte, helophytism, *Homalomena*

### Introduction

*Homalomena* in Sarawak is presently the subject of study by a taxonomic and systematic consortium coordinated from the Universiti Malaysia Sarawak (UNIMAS) (see Boyce & Wong 2008; Boyce & Wong 2009; Boyce, Wong & Fasihuddin 2010; Ng et al., in prep.). One of the first priorities has been the application of previously published names, a task especially problematic in *Homalomena* due to the poor state of preservation of most of the historical types. Nonetheless, progress has been made, and the taxonomic status of most published Bornean *Homalomena* names is now resolved. Disturbingly, this process has resulted in just 13 'good' names for Borneo, plus about 10 as yet unresolved, and these virtually all from Kalimantan. Given the very high levels of local endemism that is a feature of *Homalomena*, and that Sarawak alone likely has in excess of 300 species, it can be confidently stated that nearly everything encountered in the field in Sarawak would be undescribed.

This paper is one in a continuing series that aims to bring a better understanding to this, the most speciose and complex genus of the Araceae of SE Asia. Of the species

dealt with here, *H. rostrata* Griff. is one of the very few widespread and also highly polymorphic species in a genus that is otherwise notable for an exceptionally high degree of localized endemism and low levels of morphological variation. The large amount of material of *H. rostrata* in regional herbaria has been almost universally misidentified, and in addition the two names most commonly applied to almost all cordate-leaved *Homalomena* seen in herbaria, *H. sagittifolia* Jungh. ex Schott and *H. propinqua* Schott, are both junior synonyms of *H. rostrata*. This paper aims to settle the taxonomic chaos that exists around this name.

*Homalomena expedita* A.Hay & Herc. is included in this paper as the only other colonially helophytic species of *Homalomena* and as such is important to include as it is potentially a source of taxonomic confusion. Furthermore, *H. rostrata* and *H. expedita* belong to phylogenetically widely separated parts of the genus and thus are certainly an example of independent evolution into the (for Araceae) rare ecology of colonial helophytism.

The overwhelming majority of *Homalomena* are terrestrial or lithophytic clumping mesophytic herbs occurring in shady perhumid or everwet forest. However, two species, *H. expedita* and *H. rostrata* are colonial, stoloniferous helophytes. Whereas the taxonomy of the recently described *H. expedita* poses no problems, and the species is remarkably stable in terms of gross morphology, perhaps as a result of its clonal colonial habit (see below), *H. rostrata* is exceedingly morphologically variable, as well as widespread, with the result that it has been redescribed no fewer than 15 times.

## Taxonomic Part

### Key to helophytic *Homalomena* in Sunda

Leaves very broadly ovato-sagittate; spathe not constricted; spadix about 4.5 cm long, with a conspicuous warty interstice between the male and female flower zones, interpistillar staminodes absent ..... **1. *H. expedita***

Leaves sub-linear to broadly ovato-oblong; spathe conspicuously constricted; spadix up to 14 cm long, male and female flower zones contiguous, interpistillar staminodes present ..... **2. *H. rostrata***

**1. *Homalomena expedita*** A.Hay & Herc., Gard. Bull. Singapore 54: 174 (2002). TYPE: Cult. RBG Sydney Acc. No. 940562 ex Malaysia, Sarawak, Lundu, near bridge [over the Batang Kayang] on Kuching Road (orig. coll. Hay, Yahud, Saupe & Chan 9409), C. Herscovitch s.n. (holo NSW, iso SAR!). (Fig. 1 & 2)

Colony-forming stoloniferous strongly aromatic (terpenoids – anethol?) helophytic herbs to c. 75 cm tall. **Stem** an erect to creeping rhizome to c. 30 cm long, c. 4 cm thick, spongy, emitting cataphylliferous stolons to c. 40 cm long, 1 cm thick, these eventually upturned, becoming rhizomatous, leafy, and thence emitting further stolons from the base of the rhizomatous portion. **Leaves** clustered, up to c. 10 together; **petiole** to c. 45 cm long, spongy within, pale mid-green with broken darker green longitudinal