

Two Remarkable New West Malesian *Homalomena* (Araceae) Species

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Abstract

Two very distinctive new species of *Homalomena* Schott (Araceae-Homalomeneae) are described from Sumatera (*H. elegantula* A. Hay & Harscovitch) and Borneo (*H. expedita* A. Hay & Harscovitch). Both are illustrated.

Introduction

Homalomena Schott is a genus of about 100 species of terrestrial or lithophytic forest-dwelling herbs. Most are Malesian, with a few in continental SE Asia and the neotropics. The genus is most closely allied to and possibly congeneric with *Furtadoa* M. Hotta (West Malesia), the two genera forming the tribe Homalomeneae. *Furtadoa* is distinguished by its monandrous male 'flowers' with the stamens aligned in a regularly transverse pattern (in relation to the spadix axis) and with a pistillode associated with each (versus at least diandrous male flowers without pistillodes in *Homalomena*). However, Sumateran *H. monandra* M. Hotta is intermediate in having monandrous male 'flowers' in the same configuration as those of *Furtadoa* but without associated pistillodes. The tribe is currently considered most closely allied to neotropical Philodendreae (Mayo *et al.*, 1997).

Homalomena has been recently revised for New Guinea (Hay, 1999) and Java (Yuzammi, 2000). Progress with revising the genus for the rest of the *Flora Malesiana* region has unfortunately slowed, however, and therefore we are publishing the more distinctive taxa as they come to light.

1. *Homalomena elegantula* A. Hay & Harscovitch, *sp. nov.*

A Homalomena bellula Schott habitu repenti, foliis distantibus, petiolo ad apicem geniculato, lamina anguste elliptica longe cuspidata, inflorescentia valde minore differt. **Typus:** Indonesia, Sumatera, West Sumatera, East of Pajakumbuh, Taram, sandstone region of River Tjampo, 24 Aug 1957, W. Meijer 6928 (L, holo).

Figure 1

Slender creeping herb to c. 25 cm tall. *Rhizome* very slender, elongate, creeping, c. 5 mm diam. *Leaves* few, distant, about 5 cm apart on the rhizome, subtended and enclosed by cataphylls in bud; petiole 15-22 cm long, erect, apically sharply bent holding the blade at right angles, geniculate at the junction with blade, sheathing only at the extreme base; blade narrowly elliptic, slightly falcate, 17-20 cm long, c. 3 cm wide, the base acute, the tip cuspidate-acuminate for c. 4 cm and apiculate for c. 2 mm, drying greyish adaxially, reddish brown abaxially; midrib slender and very prominent abaxially, impressed adaxially, with 6-8 primary lateral veins on each side; primary lateral veins very weakly differentiated from the secondary venation, diverging at c. 30-45° and somewhat prominent abaxially and adaxially. *Inflorescences* several together, subtended by sublinear cataphylls to c. 3 cm long; peduncle slender, to 4 cm long, declinate after anthesis. *Spathe* unconstricted, spindle-shaped, c. 1 cm long, c. 2.5 mm thick (before anthesis), c. 1.2 cm long, c. 5 mm thick (after anthesis). *Spadix* very shortly stipitate for c. 0.5 mm; female zone 2 mm long, c. 1.5 mm diam.; pistils crowded; ovary subglobose-ovoid, drying rust-brown, c. 0.3 mm diam.; stigma button-like, somewhat narrower than the ovary, raised on a short style; infra-pistillar staminodes somewhat shorter than the ovary, clavate on a very short stipe, c. 0.2 mm diam., ivory; male zone contiguous with the female, cylindrical, distally tapering to a point, drying ivory yellow; male flowers 2-staminate; stamens truncate, c. 0.5 mm across; thecae opening through large subapical pores; connective slightly elevated beside and between the pores. *Fruiting spathe* broadly spindle-shaped.

Distribution: Malesia: endemic to Sumatera (West Sumatera; known only from the type).

Habitat: Terrestrial in hill forest over sandstone, 500-1000 m alt.

Notes: *Homalomena elegantula*, though its minute inflorescence closely resembles those of *H. humilis* (Jack) Hook.f and allies, is distinguished from that group by its remarkable habit. Shoot organisation appears comparable to that of *H. hastata* M.Hotta and *H. bellula* Schott, with flowering being both functionally and anatomically terminal and renewal taking place by the release of a dormant lateral bud. The architecture of the rhizome thus resembles that of many gingers and most *Schismatoglottis* species allied to *S. calyprata* (Roxb.) Zoll. & Moritz (Hay & Yuzammi, 2000). This organisation is in marked contrast to that of other *Homalomena* species where the shoot consists of a physiognomically unbranched

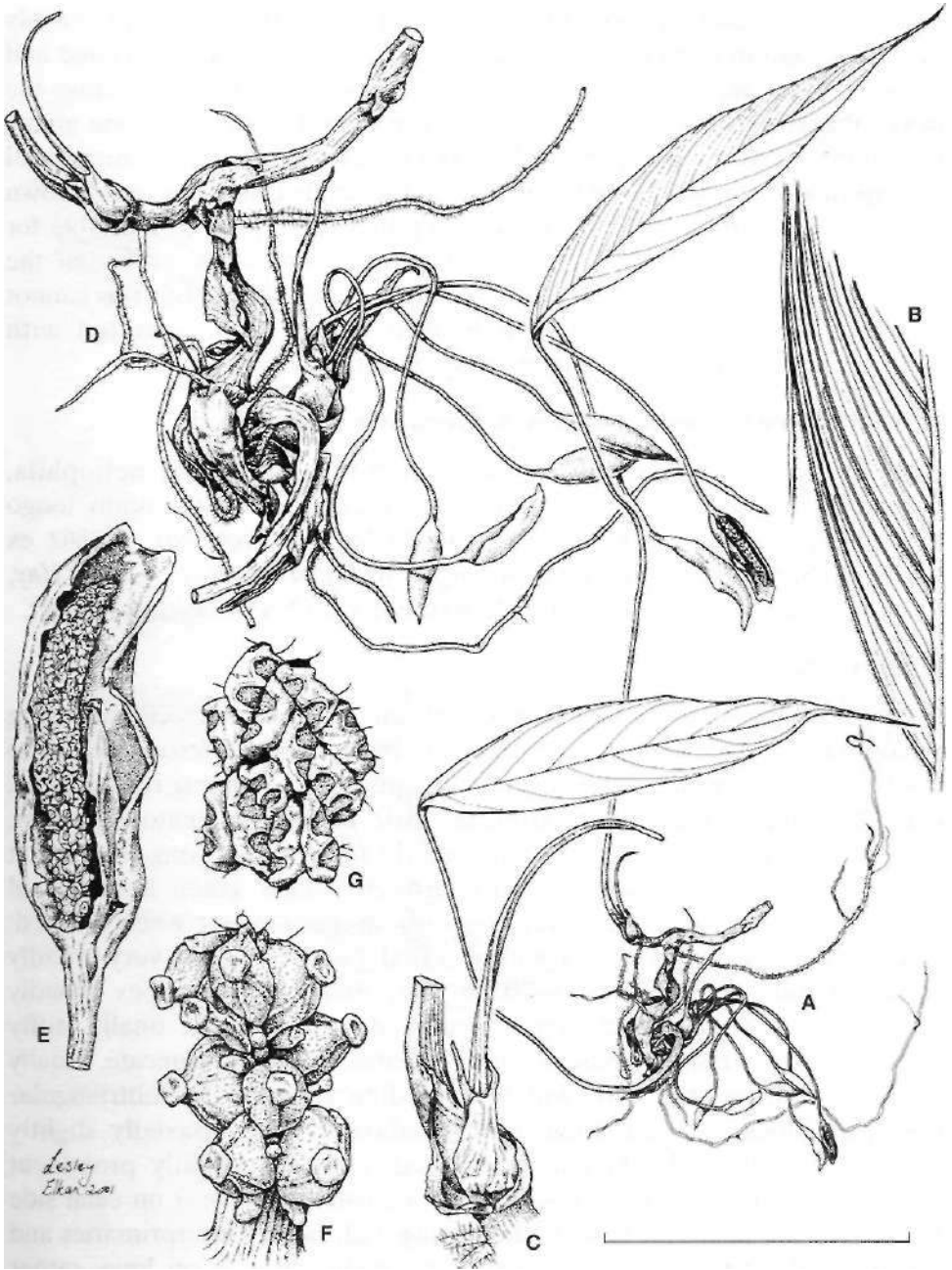


Figure 1. *Homalomena elegantula* A. Hay & Herscovitch

W. Meijer 6928-A. habit; B. leaf venation; C. detail of vegetative tip of rhizome showing leaf base and cataphylls; D. rhizome with synflorescence; E. inflorescence with part of spathe removed; F pistils and staminodes; G. stamens.

Scale: bar to A = 12 cm, to B = 2.7 cm, to C = 3 cm, to D= 6 cm, to E= 7 mm, to F & G = 1.5 mm.

sympodium typical of most herbaceous Araceae. It has not previously been recorded in this genus. The leaves of *H. elegantula* are preceded and enclosed by a series of cataphylls and evidently the bud containing the next foliage leaf is extended some distance from the previous one giving the plant its long creeping habit. However, the exact architectural organisation is impossible to observe from the single dried specimen known to us. The elegant leaves (to which the epithet refers) are remarkable for appearing to be held, through the action of a geniculum, such that the blades all face the same way (and probably held tip down, but this cannot be ascertained from the specimen as it cannot be orientated with confidence), and for their elongate cuspidate tips.

2. *Homalomena expedita* A. Hay & Herscovitch, *sp. nov.*

Ab aliis speciebus *Homalomenae* in habitu stolonifera, heliophila, paludicola, inflorescentia solitaria, spadice cum interstitio nudo longo verruculoso differt. — **Typus:** Cult. RBG Sydney Ace. No. 940562 ex Malaysia, Sarawak, Lundu, near bridge on Kuching Road (orig. coll. *Hay, Yahud, Saupel & Chan 9409*), *C. Herscovitch s.n.* (NSW, holo; iso SAR).

Figures 2 & 3

Colony-forming stoloniferous herb to c. 60 cm tall. *Stem* an erect to creeping rhizome to c. 30 cm long, c. 4 cm thick emitting cataphylliferous stolons to c. 40 cm long, 1 cm thick, these eventually upturned, becoming rhizomatous, leafy, emitting further stolons from the base of the rhizomatous portion. *Leaves* clustered, to c. 10 together; petiole to c. 45 cm long, somewhat spongy within, pale mid-green with broken darker green longitudinal striations, sheathing in the lower 1/3, with an anise odour when crushed; blade mid-green on both sides, glossy at first, becoming matt, very broadly ovato-sagittate, leathery, c. 15-20 cm long and wide, the apex broadly obtuse, very abruptly and shortly acuminate for c. 1 cm, finally stiffly apiculate for c. 3 mm, the base shallowly cordate to almost truncate, usually distinctly asymmetric, with widely spreading rounded to subtriangular posterior lobes 7-10 cm long; midrib adaxially flat, abaxially slightly prominent, with c. 5 adaxially impressed, abaxially slightly prominent primary lateral veins on each side (plus a cluster of 2 or 3 on each side running to the posterior lobes), alternating with fainter interprimaries and diverging at c. 60°. *Inflorescence* solitary; peduncle c. 7 cm long, rather thick, c. 8 mm diam., erect. *Spathe* green, c. 5 cm long, 1.5 cm across and in bud slightly inflated at level of female zone, thence subcylindric-tapering, but not constricted, later very narrowly ovoid, apiculate for c. 4 mm. *Spadix* stipitate for 6 mm, 4.5 cm long; female zone more or less cylindric, 0.8-1.2 cm long (irregular length around circumference of spadix), 1.2 cm wide;

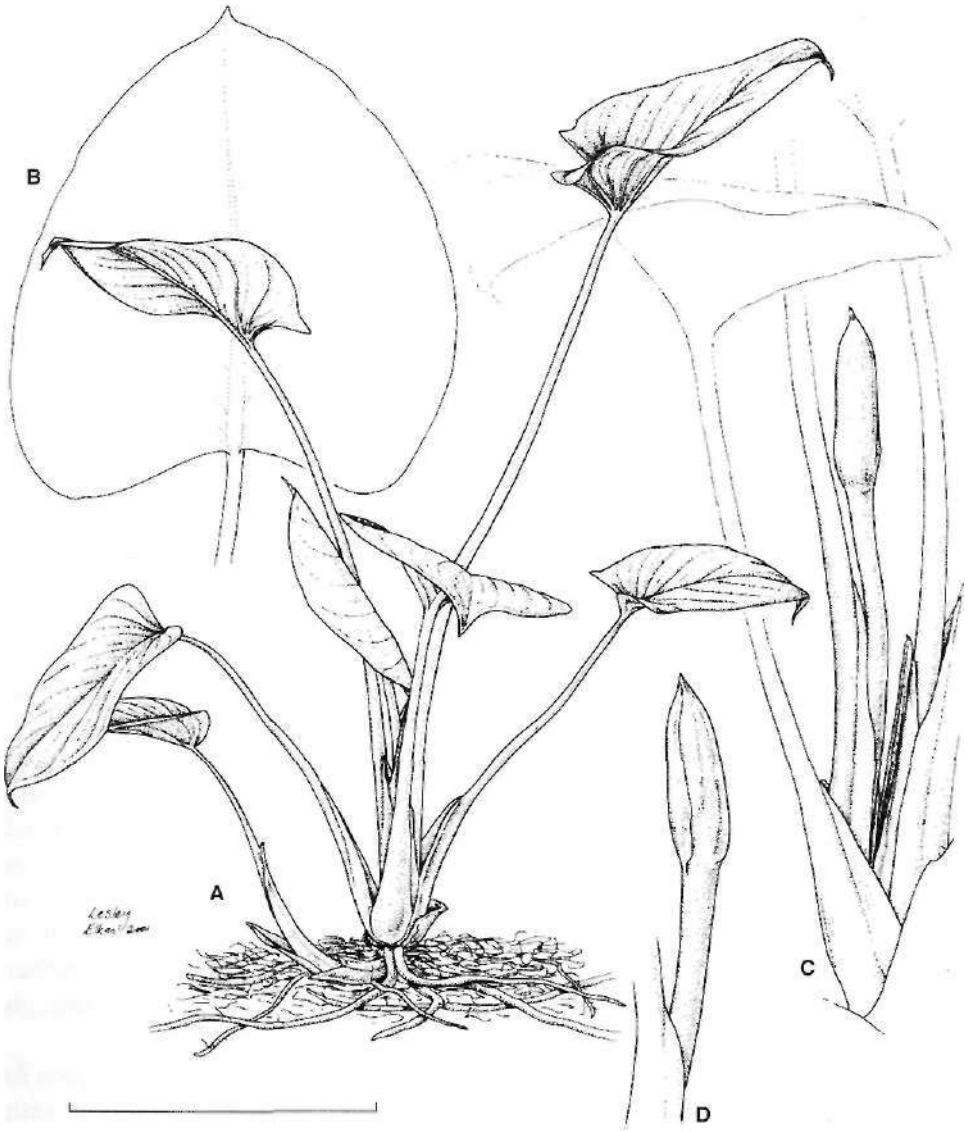


Figure 2. Homalomena expedita A. Hay & Herscovitch

Herscovitch s.n. - A. young shoot with runner; B. leaf blade outline; C. flowering shoot detail; D. inflorescence.

Scale: bar to A, B = 12 cm, to C, D = 7.5 cm.

pistils subglobose, 1-2 mm diam.; stigma subsessile, discoid or very weakly 2-3-lobed, slightly narrower than the ovary, papillate; infrapistillar staminodes absent; sterile interstice conspicuous, 1.5 cm long, naked, pale green and c. 6 mm diam. in the lower 1 cm, with more or less regular spirals of low domed warts c. 0.5 mm diam., the upper part (comprising the base of the male zone) 9 mm diam., ivory and clothed in irregular sterile stamens; fertile male zone elongate-bullet-shaped, 1.5 cm long, tapering to a blunt acute tip, ivory; male flowers irregular (1-)2-4-staminate; stamens truncate, irregular in size, 1-1.5 mm across, irregularly polygonal, slightly sinuous on the abaxial side, the thecae overtopped by connective. *Fruit* unknown.

Distribution: *Malesia:* endemic to Borneo (Sarawak); known from the type locality and sighted near Sibu along the main road to Miri.

Habitat: Forming large, probably clonal colonies in open swamps and ditches at low elevation, sometimes in tidal mud with *Cryptocoryne ciliata* (Roxb.) Schott and mangroves.

Notes: The spadix of *Homalomena expedita* is unique in the genus, having a very conspicuous naked warty interstice above the female zone as well as a zone of sterile stamens at the base of the male zone. *Homalomena expedita* is also very remarkable, in this genus of shade-loving terrestrial and rheophytic plants, for its occupation of open swampy sites, even tidal mudflats, in full sun. It appears to spread rapidly through the production of stolons, and is certainly very vigorous (though seldom-flowering) in cultivation when provided with large amounts of nutrients. At Lundu it forms dense swards in shallow muddy ponds and from a distance rather resembles water hyacinth (*Eichhornia*). It appears less vigorous, though nonetheless invasive and persistent, in tidal, brackish conditions.

This species, in relation to the rest of its genus, is rather analogous to the open swamp-dwelling, colony-forming *Aglaodorum*, contrasted with *Aglaonema* (both *Aglaonemateae*). Both *Homalomena expedita* and *Aglaodorum griffithii* Schott, besides their similar habitat preferences, produce solitary inflorescences where their immediate forest-dwelling, non-proliferating relatives generally produce complex synflorescences (except in some of the most diminutive species).

In addition to the reduced number of inflorescences, it seems, on the basis of limited observations of *H. expedita* in cultivation, that there is other evidence pointing to depressed or suppressed sexual fertility: we have never observed the spathe to open (but we are at present unable to

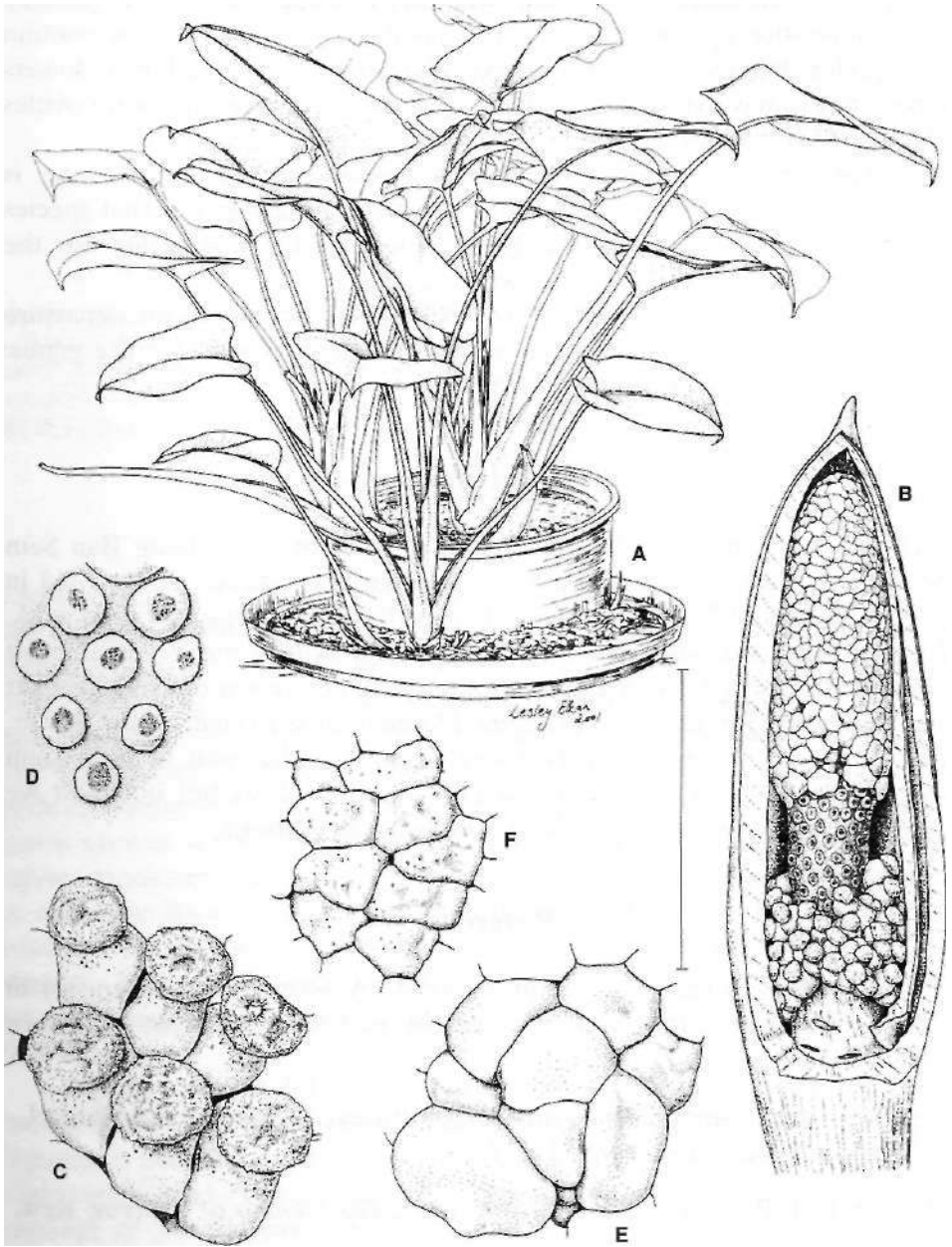


Figure 3. Homalomena expedita A. Hay & Herscovitch

Herscovitch s.n. - A. habit of cultivated plant; B. spadix; C. pistils; D. abortive pistils on interstice; E. sterile stamens from lower part of male zone; F. stamens from upper part of male zone.

Scale: bar to A = 18 cm, to B = 2 cm, to C, D & E = 6 mm.

verify that it remains closed throughout the flowering process); the papillae on the interstice appear to be abortive pistils; the staminal thecae contain some pollen, but are partially empty in most anthers; senescent male flowers appear not to have shed pollen; the ovaries however, are filled with ovules which appear normal in form.

The leaf, very broadly ovate with a near-truncate cordate base, is similar to that of *H. havilandii* Ridl., also from Sarawak, but that species does not share the habit and habitat preference of *H. expedita* nor the prominent sterile interstice of the spadix.

The epithet means 'set free', or 'foot-loose', alluding to the departure from confinement to shaded conditions otherwise typical for the genus, and the invasive, stoloniferous habit.

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