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Homalomena randii, a new species of Araceae from West Kalimantan, Borneo

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Abstract: *Homalomena randii* is described and illustrated here as a new species of Araceae from West Kalimantan, Indonesia. The new species is assigned to the Cyrtocladon Supergroup based on a combination of morphological characters, including typically hastate leaf blades with pronounced posterior lobes; staminate flowers consisting of (3–)4(–5) truncate stamens, each surmounted by a large, flat, cream-colored connective; and the presence of conspicuous resin droplets secreted between the staminate flowers. This discovery underscores the strong potential for further discoveries of *Homalomena* species in underexplored regions of Indonesian Borneo, highlighting the continuing importance of botanical exploration in the area.

Keywords: Araceae, Hanneae complex, Malesia, Philodendreae, Sambas

Introduction

Borneo is recognized as one of the principal center of diversity for the genus *Homalomena* (Araceae) in the Malesian region, with more than 70 species documented to date. Recent taxonomic work conducted over the last decade has significantly advanced the understanding of *Homalomena* diversity on the island, resulting in the recognition of several previously unknown species and refinement of species delimitation (Wong *et al.* 2020a, b; Wong & Boyce 2020a, b, c; 2021a, b; 2022; 2023a, b, c). However, botanical exploration in many parts of Kalimantan remains limited relative to Sarawak and Sabah, suggesting that the diversity of *Homalomena* in Indonesian Borneo has not yet been fully revealed.

The description of *H. sungaikeliensis* A.S.D.Irsyam & M.R.Hariri from Ngabang, West Kalimantan, Indonesian Borneo (Irsyam *et al.*, 2025), exemplifies this knowledge gap, as the species possesses distinctive vegetative and floral characters that set it apart from related taxa within the scintillating-velutinous group. This finding underscores the strong potential for further discoveries of *Homalomena* species in the underexplored regions of Indonesian Borneo.

In August 2025, a specimen of *Homalomena* collected from Sambas, West Kalimantan, Indonesia, was sent to us for observation. Comprehensive examinations were carried out on both vegetative and reproductive structures, with careful attention given to diagnostic morphological characters that are critical for species delimitation within the genus. These observations were systematically compared with published descriptions and type material of all previously described congeners. The specimens exhibit a distinctive combination of morphological traits that does not correspond to any known species. On the basis of this thorough comparative morphological assessment, we determine that the material represents a species new to science.

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Materials and Methods

The morphological study of the putative new species was carried out from August to December 2025 at the Herbarium Bandungense (FIPIA), School of Life Sciences and Technology, Institut Teknologi Bandung, and at the facilities of the National Research and Innovation Agency (BRIN) in Cibinong. Detailed examinations of diagnostic vegetative and floral characters from the type specimen were carried out to ensure accurate taxonomic interpretation. Comparative identification and species determination were based on the taxonomic treatments and diagnostic frameworks provided by Boyce *et al.* (2010), Wong *et al.* (2020a; 2020b) and Wong & Boyce (2020a, b, c; 2021a, b; 2022; 2023a, b, c). The terminology used in the species description follows Beentje (2016).

Taxonomic Treatment

Homalomena randii A.S.D.Irsyam & M.R.Hariri, **sp.nov.** **Figs. 1 & 2**

Homalomena randii is morphologically similar to *H. hanneae* P.C.Boyce, S.Y.Wong & Fasihuddin, but can be distinguished by having petiolar sheath measuring ⅓ to ⅔ the length of the petiole (*vs.* ⅕), strongly hastate leaf base (*vs.* hastato-cordate to cordate), oblong posterior lobes (vs. ovate to ovate-triangular), longer stipe, 7.5–7.8 mm long (*vs.* shorter, *c.* 3 mm long), white stipe (*vs.* pale yellow), pistils arranged in *c.* 12 rows (*vs. c.* 16), and suprapistillar interstice up to 8 mm long composed of staminodes (*vs.* nearly absent, at most *c.* 0.5 mm long and naked).

Type: INDONESIA, **West Kalimantan**, Sambas Regency, Subah District, Sabong village, 30 m asl, 11.08.2016, *A. Randi s.n.* (holo FIPIA!; iso BO!).

Mesophytic herbs, up to 30 cm tall. Stem *c.* 3 cm in diam.; internodes obscured by overlapping leaf bases. Leaves up to 8, clustered; sheath fully adnate to petiole, ⅓ to ⅔ the length of the petiole, 12.5–14 cm long, margin revolute, apex truncate, yellowish green; petiole geniculate, slender, 34–42 cm long, shallowly canaliculate, glossy green, glabrous; genicula *c.* ⅕ the length of the petiole, glossy lime green; leaf blade strongly hastate; posterior lobes oblong, 9–13 × 3.2–4.8 cm, primary lateral veins 7–9 on each side, glossy green adaxially, glossy lime green abaxially, glabrous, upward; anterior lobe lanceolate to lanceolate-oblong, 20–21 × 5.5–7 cm, primary lateral veins *c.* 10 on each side, glossy green adaxially, glossy lime green abaxially, glabrous, downward. Inflorescences up to 7 in a synflorescence; peduncle slender, up to 10 cm long, with the lower half white and the upper half green. Spathe strongly constricted, 6.6–8 cm long; lower spathe ovoid, 2.8–3.3 cm long, exterior white and faintly yellowish at the lower part, interior white, pale green at anthesis; spathe limb ovate, 4–4.3 cm long, exterior greenish white to white, interior white, pale green at anthesis, apex acute with a mucro to *c.* 3.5 mm long. Spadix stipitate, 6–7 cm long; stipe 7.5–7.8 mm long, white; pistillate flower zone cylindric, 1.6–1.8 cm long, *c.* ⅓ the length of the staminate zone. Pistils densely arranged, up to 12 whorls, globose, *c.* 1.4 mm in height, *c.* 2 mm in diam., creamy yellow; stigma sessile, button-like, 1.4–1.6 mm in diam., cream. Interpistillar staminode 1 each per pistillate flower, clavate, *c.* 1 mm in height, 1–1.6 mm in diam., waxy white. Suprapistillar interstice 6–8 mm long, with *c.* 5 rows of staminodes; staminodes irregularly angular, 1.2–2 mm wide, white. Staminate flower zone fusiform, 3.2–3.6 cm long, apex obtuse, secreting numerous large amber-coloured resin droplets from the late pistillate phase through the beginning of staminate anthesis; staminate flowers densely arranged, 2–2.5 mm long, consisting of (3–)4(–5) truncate stamens each overtopped by a large, flat, cream-colored connective. Fruiting spathe, fruits, and seeds not observed.

Flowering & fruiting: The species flowers during two distinct periods of the year, from January to February and from August to October.

Habitat: This new species is found on stream-side slopes within lowland mixed dipterocarp forest, where it grows under dense canopy cover

at elevations of approximately 20–50 m a.s.l. In the wild, the species grows as solitary individuals, although populations often occur in close proximity, giving the appearance of clustered growth (Fig. 1).

Distribution: *Homalomena randii* is currently known only from its type locality in the northwestern part of West Kalimantan Province, Indonesia.

Etymology: The specific epithet *randii* is dedicated to Agusti Randi, an Indonesian plant taxonomist, in recognition of his discovery of this species in 2016 at the Sabong Village.

Conservation status: The species is presently assessed as undetermined under the IUCN Red List criteria as of 2025 and is therefore assigned to the Data Deficient (DD) category. This assessment reflects the very limited information currently available on its distribution, population size, habitat requirements, and potential threats. The species is known only from one population, and no comprehensive field surveys have been conducted to evaluate its abundance or extent of occurrence. As a result, there is insufficient evidence to make a reliable evaluation of its conservation status. Further targeted field investigations and ecological studies are required to clarify its geographic range, population trends, and potential risks, which will enable a more accurate conservation assessment in the future.

Note: The new species is assigned to the Cyrtocladon Supergroup based on a combination of morphological characters, including typically hastate leaf blades with pronounced posterior lobes; staminate flowers consisting of (3–)4(–5) truncate stamens, each surmounted by a large, flat, cream-colored connective; and the presence of conspicuous resin droplets secreted between

Fig. 1.*Homalomena randii* sp. nov. *in situ* (Photographed by A. Randi).

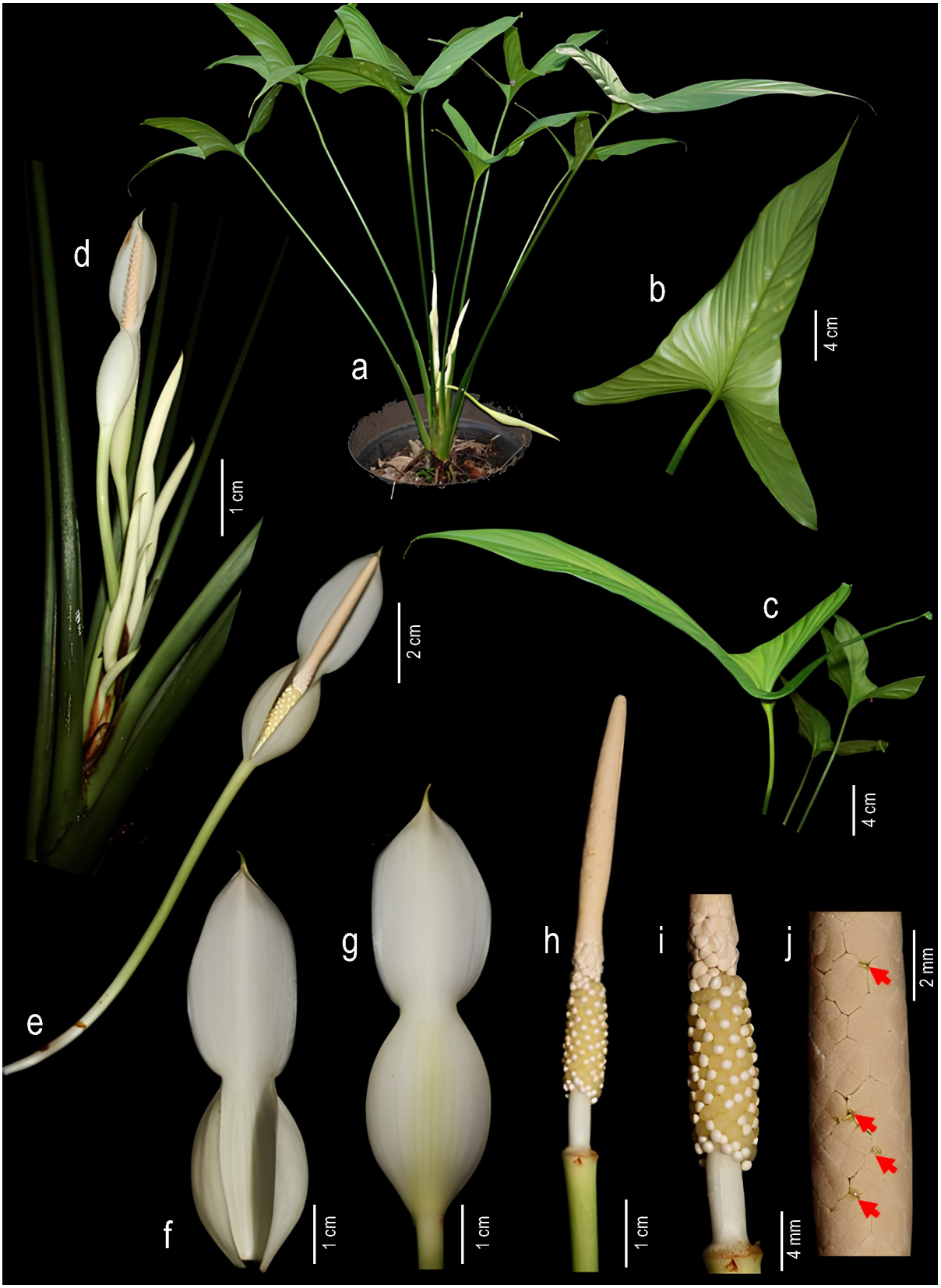

Fig. 2.*Homalomena randii* A.S.D.Irsyam & M.R.Hariri: **a**. Habit; **b**. Leaf, abaxial surface; **c**. Leaf–lateral view, showing posterior lobes directed upwards and the anterior lobe directed downwards; **d**. Synflorescence; e. Inflorescence; **f**. Spathe(artificially removed from spadix)– adaxial surface; **g**. Spathe–abaxial surface; **h**. Spadix; **i**.Pistillate flower zone; **j**. Staminate flower zone, showing resin droplets (red arrows) (Photographed by A. Randi; compiled by A.S.D. Irsyam).

the staminate flowers, as defined by Ng *et al.* (2011) and Wong and Boyce (2020a). Within this Supergroup, the species is further attributable to the Hanneae complex, a lineage that is largely restricted to Borneo. However, recent taxonomic work has demonstrated that the complex is not exclusively Bornean, as at least three newly described species are now known from Peninsular Malaysia. This broader distribution highlights a more complex biogeographic pattern within the Hanneae complex than previously recognized (Ng *et al.* 2011).

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