

A new species of *Homalomena* (Araceae) from Belitung Island, Sumatra, Indonesia

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Abstract

Homalomena belitungensis A.S.D.Irsyam & M.R.Hariri (Araceae) is described as a new species endemic to Gunung Tajam, Belitung Island, Indonesia. It resembles *H. consobrina* (Schott) Engl. but differs from several distinct vegetative and generative characters. A full morphological description, comparisons with allied taxa, habitat notes, and photographic documentation are provided.

Abstrak

Homalomena belitungensis A.S.D.Irsyam & M.R.Hariri (Araceae) dideskripsikan sebagai spesies baru yang endemik di Gunung Tajam, Pulau Belitung, Indonesia. Spesies ini mirip dengan *H. consobrina* (Schott) Engl., tetapi berbeda dalam beberapa ciri vegetatif maupun generatif. Deskripsi morfologi lengkap, perbandingan dengan taksa yang berkerabat, catatan habitat, dan dokumentasi foto disajikan dalam manuskrip ini.

Introduction

Sumatra is recognized as one of the major centres of diversity for the genus *Homalomena* Schott in Malesia (Hay 1999). In contrast, species diversity declines markedly to the east, with only eight species recorded in Java, two in the Lesser Sunda Islands, three in both the Philippines and Sulawesi, and two in Maluku (Hay 1999, Kurniawan et al. 2011, Irsyam et al. 2023, POWO 2025). Paradoxically, despite its high species richness, Sumatra has been identified as a global plant dark spot, a region where botanical data and research remain limited (Ondo et al. 2024).

In 2025, five new species of *Homalomena* have been recently described: *H. amarii* A.S.D.Irsyam & M.R.Hariri, *H. chikmawatiae* M.R.Hariri & A.S.D.Irsyam, *H. pistioides* A.S.D.Irsyam, M.R.Hariri & Raynalta, *H. renda* A.S.D.Irsyam & M.R.Hariri, and *H. siaisensis* A.S.D.Irsyam, M.R.Hariri & Raynalta (Hariri & Irsyam 2025, Irsyam et al. 2025a, Irsyam et al. 2025b, Irsyam et al. 2025c, Irsyam et al. 2025d). This further emphasizes Sumatra's importance as a biodiversity hotspot for the genus. These recent discoveries not only expand our understanding of Sumatran *Homalomena* but also underscore the island's vast, yet still underexplored, botanical wealth. The continued identification of new taxa strongly suggests that Sumatra remains a promising frontier for future taxonomic exploration and discovery within the Araceae family.

In this paper, we formally describe a new species of Sumatran *Homalomena*, based on a specimen collected from Belitung Island. This discovery adds to the growing number of *Homalomena* species documented in the region (e.g. Boyce & Wong 2013), further emphasizing Sumatra's importance as a center of diversity for the genus. The newly described species exhibits several morphological features that are closely aligned

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with *H. consobrina* (Schott) Engl. but can be distinguished by a unique combination of vegetative and reproductive characters, as detailed below.

Taxonomic Treatment

Homalomena belitungensis A.S.D.Irsyam & M.R.Hariri, sp. nov.

Diagnosis: *Homalomena belitungensis* exhibits notable morphological similarity to *H. consobrina*, but can be distinguished by the following characters: leaf blade oblong to

narrowly elliptic (vs elongate lanceolate), primary lateral veins 4–12 on each side of the midrib (vs 5–6), pistillate floret zone occupying approximately 1/3 the length of the spadix (vs 1/2), pistils lageniform (vs depressed ovoid), staminodes strongly claviform (vs weakly claviform), and staminate floret zone stoutly cylindric (vs conical).

Type: INDONESIA: BANGKA BELITUNG PROVINCE: Belitung Island, Belitung Regency, Gunung Tajam, 200 m, 18 July 2025, MR Hariri 1075 (holotype: FIPIA, isotype: BO, UIDEP).

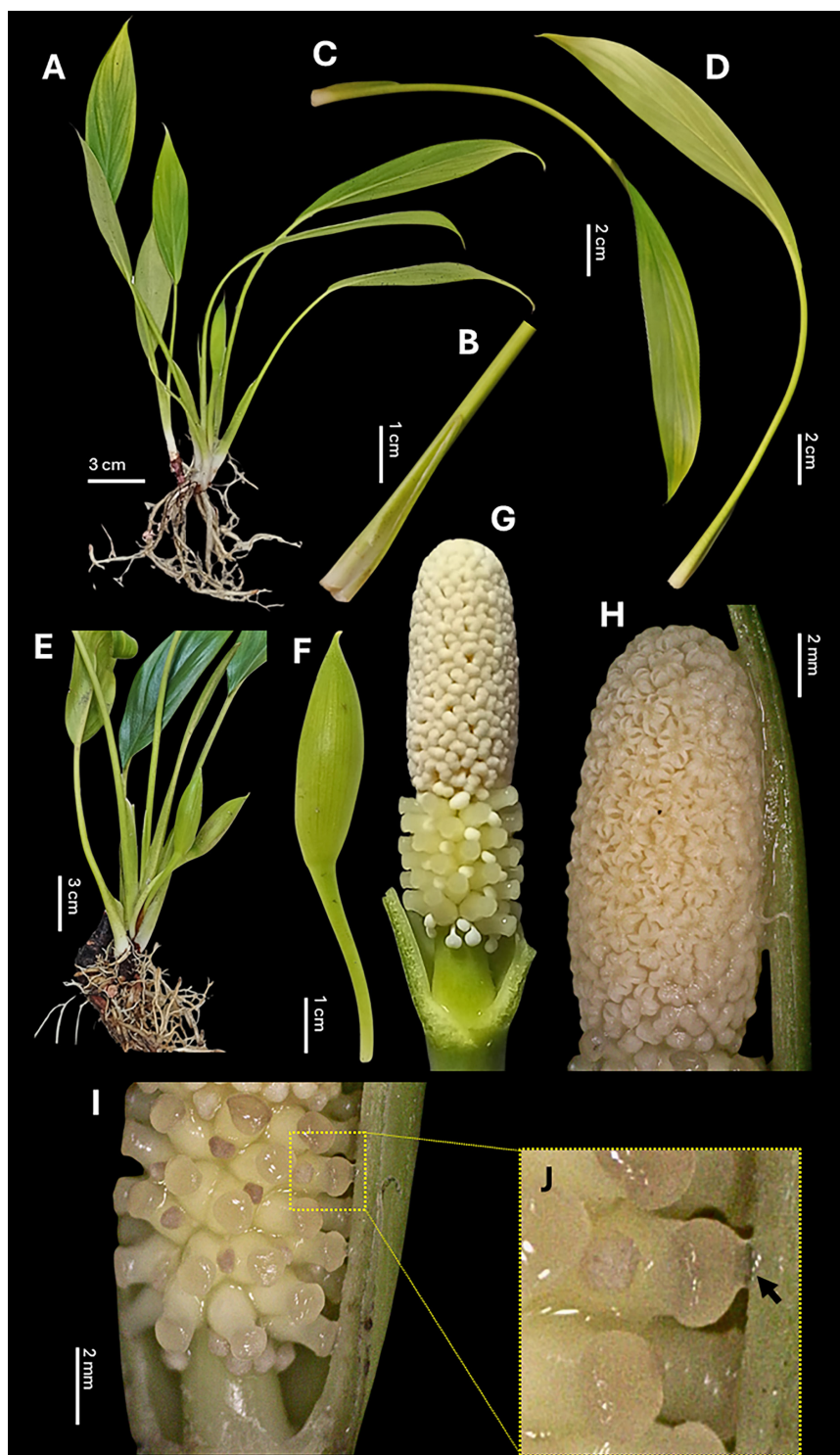


Figure 1. Morphology of *Homalomena belitungensis* A.S.D.Irsyam & M.R.Hariri, sp. nov. A. Habit. B. Leaf sheath. C. Leaf, adaxial surface. D. Leaf, abaxial surface. E. Inflorescences. F. Spathe. G. Spadix. H. Close-up view of staminate florets; I. Close-up view of pistils and staminodes. J. Stigmatic fluid at anthesis (arrow).

Medium rhizomatous, rheophytic *herbs*, forming clustered colonies, up to 23.5 cm in height, very aromatic. *Stem* c. 8 mm long, pinkish to creamy white, glabrous; internodes obscured by overlapping leaf bases. *Leaves* clustered, 2–7 together; petiole equal to longer than the blade, 7.4–19.0 cm long (incl. sheath), canaliculate in upper 1/5, pale green, mottled green in lower 1/5; petiolar sheath fully adnate to petiole, 1/3–1/5 petiole length, 3.2–7.5 cm long, margin entire with hyaline, rolled, apex truncate, pale green with creamy white below; leaf blade oblong to narrowly elliptic, 7.6–19.2 × 1.8–4.7 cm, base cuneate, margin entire, apex apiculate for ca 3.5 mm long, adaxial leaf surface glossy green to glossy medium green, abaxial leaf surface pale green; midrib impressed adaxially, raised abaxially, pale green to green abaxially; primary lateral veins 4–12 on each side. *Inflorescence* 1–2 together, erect; peduncles up to 3.8 cm long, lime green, white at the base, glabrous. *Spathe* without constriction, c. 4 × 1.1 cm, apex mucronate for c. 2 mm long, exterior lime green, slightly ribbed, interior glossy pale lime green with numerous minute paler punctations. *Spadix* up to 21.8 mm long, stipitate for c. 3.2 mm long, stipe green; pistillate floret zone c. 7.4 mm long, c. 1/3 the length of the staminate floret zone; pistils in 4–5 whorls, densely arranged, lageniform, 1.9–2.1 mm in height, creamy white; stigma capitate, 1.1–1.2 mm in diam., pale lime green and turn creamy white to pale greyish-green at anthesis, producing stigmatic fluid at anthesis; interpistillar staminodes 1 each pistillate floret, clavate, 1/4–1/2 the height of the pistil, 0.5–1 mm in height, 0.5–0.7 mm in diam., the lowermost ones pendant, white, greyish-brown at anthesis; staminate floret zone c. 13 mm long, stoutly cylindric, apex obtuse, creamy-white; staminate florets densely arranged, consisting of 1–3 stamens; thecae creamy white, globose, 0.7–0.9 × 0.5–0.6 mm, each opening by a broad terminal pore. *Fruiting* spadix, fruits, and seeds not observed. (Figs 1–2)

Phenology: Flowering and fruiting have been recorded in July.

Etymology: The specific epithet 'belitungensis' refers to Belitung Island, Indonesia, where the species was discovered and to which it is endemic.

Distribution: The species is only known from its type locality, with no additional populations reported. In order to mitigate the risk of over-collection and to promote effective in situ conservation, the precise locality details are intentionally withheld from publication.

Habitat and ecology: *Homalomena belitungensis* is found in lowland tropical rainforest on Belitung Island, Indonesia, occurring in shaded environments at elevations below 500 m. It grows on humus-rich, loamy soils beneath closed-canopy forest, where humidity is consistently high and soil moisture remains stable. The species is restricted to terrestrial microhabitats and does not occur in open or disturbed areas. Field surveys suggest that it is locally uncommon, with populations consisting of more than 100 mature individuals, scattered in small patches. The habitat is increasingly impacted by human activities, particularly land-use change and selective logging, which may threaten the species' persistence in the wild.

Conservation status: *Homalomena belitungensis* is currently known only from its type locality on Belitung Island, Indonesia. Field observations indicate that the total number of mature

individuals exceeds 100, but the species remains highly localized within a small area. Due to its very restricted distribution, limited known extent of occurrence, and potential exposure to habitat disturbance, it is considered to be of conservation concern. Based on the IUCN Red List Categories and Criteria (IUCN 2025), *H. belitungensis* is here provisionally assessed as Vulnerable [VU D2], which applies to species with a very restricted area of occupancy or number of locations. This assessment is preliminary, and further field surveys are needed to obtain detailed data on its population size, distribution, and threats to confirm its conservation status.

Note: Due to its small, unconstricted spathe and interpistillar staminodes that are distinctly shorter than the pistils, *H. belitungensis* is placed within the Chamaecladon Supergroup, as defined by Ng et al. (2011).



Figure 2. *Homalomena belitungensis* in Gunung Tajam. Photograph by Firman Yusnandar.

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