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Homalomeneae (Araceae) of Borneo XXVIII – *Homalomena bengohensis* [Chamaecladon Clade] a new species endemic to the Bengoh Range, Sarawak

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Abstract. A new species of *Homalomena* Chamaecladon Clade is described from the Bengoh Range, Kuching Division, Sarawak, and compared with the two most similar described species from Kuching: *H. paucinervia* from the Matang Massif, and *H. santubongensis* from Gunung Santubong. The three species are illustrated from living plants and differentiated in an identification key.

Keywords: Araceae, Borneo, Chamaecladon clade, *Homalomena*, Kuching Division, Malaysia, Palaeogene sandstones.

INTRODUCTION

Homalomena Chamaecladon Clade (*sensu* Wong et al. 2013) with major centres of species diversity in Peninsular Malaysia and especially Sumatera is relatively poorly represented on Borneo. The first species described for NW Borneo was *Homalomena paucinervia* Ridl. (Ridley 1905). Since then, species names for the clade on Borneo have been comprehensively misapplied and only recently has the taxonomy begun to be addressed (Boyce et al. 2010; Wong & Boyce 2020, 2021; Wong et al. 2020). Problems stem partly from the species tending to be outwardly rather similar in appearance, especially as preserved specimens, and partly from most of the key diagnostic data present in the usually tiny blooms being lost in herbarium specimens. A further factor is that wild plants are most often encountered sterile or with the blooms post-anthesis, by which time the staminate florets and the staminodes associated with the pistillate florets, the most useful diagnostic portions of the spadix, have rotted. Consequently, the only practicable means to study these plants is by a combination of fieldwork and maintaining living plants.

At present we recognize four described species for the Chamaecladon Clade in NW Borneo, two mesophytes in humid forest belonging to the Griffithii complex — *Homalomena acuminata* (Ridl.) S.Y.Wong & P.C.Boyce and *H. ridleyi* S.Y.Wong & P.C.Boyce (Wong & Boyce 2020); and two rheophytes: *H. paucinervia* and *H. santubongensis* S.Y.Wong & P.C.Boyce (Wong & Boyce 2021). Here we describe a novelty for NW Sarawak, *Homalomena bengohensis*, that most closely resembles *H. paucinervia* and *H. santubongensis* in the form of the blooms but differs by characteristics of the leaf blades and spadix as well as by occurring on earth banks along small streams although not as a rheophyte. Geology in this paper is specified based on Hutchinson (1989, 2005) and Tate (2001).

**Key to differentiate *Homalomena bengohensis*,
H. paucinervia and *H. santubongensis***

1. Leaf blades oblong-spathulate; base of spathe truncate. Muddy streamlet banks. Bengoh.....
.....*Homalomena bengohensis*
- Leaf blades lanceolate to obanceolate; base of spathe not truncate. Bare rocks.....2
2. Spathe opening wide to reveal the pistillate florets; spadix 4 mm × 19 mm [diam.:length ratio 1:4.5]; stigma about half as wide as the ovary; pistillate florets each with an oblong staminode, petioles entirely green; leaf blades abaxially semi-glossy pale green. Palaeogene sandstones. Santubong.....
.....*Homalomena santubongensis*
- Spathe not opening wide enough to reveal the pistillate florets; spadix 3 mm × 19.5 mm [1:6.5], stigma equalling the ovary in width, pistillate florets lacking staminodes, petioles stained deep red in the lower half, leaf blades abaxially slightly glaucous. Cretaceous sandstones. Matang Massif.....
.....*Homalomena paucinervia*

***Homalomena bengohensis* S.Y.Wong & P.C.Boyce, sp. nov.**

Type: Malaysian Borneo. Sarawak, Kuching, Padawan, Bengoh Dam reservoir, hills along the lake, 1°14'54.9"N 110°10'12.5"E, 85 m asl. 27 Jan 2021, *Wong Sin Yeng & P.C.Boyce AR-3452* (holotype SAR!; isotype SAR - spirit!). (Figures 1 & 2A).

Diagnosis

Homalomena bengohensis is unique among Bornean Chamaecladon Clade species in the broadly elliptic, oblong-spathulate or spathulate leaf blades. The spadix most closely resembles that of *H. santubongensis* in the

presence of well-developed staminodes but differs by the truncate base to the spathe and fully sessile spadix.

Description

Small aromatic (terpenoids) terrestrial mesophytes up to c. 15 cm tall. Stem epigeal, erect with internodes somewhat elongated, rooting from the lower-most nodes and through the petiole bases; roots c. 1–3 mm diam., tough, flexuous, medium brown, velvety. Leaves up to c. 10 together per shoot, petioles erect to spreading; petiole 4–10 cm long, c. 2 mm diam. midway, dorsally very narrowly channelled, dull medium green, glabrous; petiolar sheath 1.5–3 cm long, extending c. 1/4 length of the petiole, clasping at the base, width between both margins c. 1 mm, wings persistent; leaf blade broadly elliptic, oblong-spathulate or spathulate, 6–12 cm long by 2–3 cm wide, thinly coriaceous, semi-glossy, glabrous, medium green adaxially, abaxially paler matte green with the higher order veins darker-translucent, base cuneate, apex acute to acuminate with a brief (c. 2 mm long) tubular mucro, margins smooth; midrib adaxially slightly impressed, abaxially prominent; primary lateral veins 5–7 on each side of midrib, adaxially slightly impressed, abaxially alternating with much fainter much more numerous interprimaries, diverging at c. 40°–60° from the midrib; secondary and tertiary venation obscure; all veins running into a very slightly thickened intramarginal vein. Blooms up to 3 together, produced sequentially in a simple synflorescence; peduncle terete, slender, 4–5 cm long by c. 1 mm diam., coloured as for petiole; spathe ca 1.5 cm long, ca 5 mm wide across the truncate-gibbous base, limb dorsally incurved towards the tip, ventrally straight, not constricted, ventrally semiglossy pale green, dorsally medium green, interior shiny pale green, apex with a terminal short brown mucro to 1.5 mm long, spathe inflating at anthesis and opening by a broad slit with the margins recurving and hyaline, later closing and enclosing the spadix, persisting until basal dehiscence at fruit dispersal. Spadix slightly exceeding spathe limb opening at anthesis, c. 1.6 cm long by c. 5 mm diam., sessile and obliquely inserted onto spathe; pistillate florets in two spirals, ovaries compressed-globose very slightly narrowed below the stigma; stigmas about half as wide as ovary, ca. 0.3 mm diam., disc-like, sessile; associated staminodes globose on a very slender stipe, sessile, cream, less than half as tall as the pistil; staminate zone c. 1 cm long, closely resembling the outline of the spathe with a straight ventral side and a curved dorsal side, apex acute; staminate florets each consisting of two stamens, anthers rounded, c. 0.5 mm tall, 1–1.5 mm long by 0.5–0.8 mm wide, creamy white with white tips; post anthesis blooms pendulous by bending of the peduncle. Infructescence



Figure 1. *Homalomena bengohensis* S.Y.Wong & P.C.Boyce. A. Plants in habitat. B–D. Bloom at onset of pistillate anthesis. E. Bloom at pistillate anthesis (nearside spathe artificially removed). All from Wong Sin Yeng & P.C. Boyce AR-3452. Refer to description for dimensions.

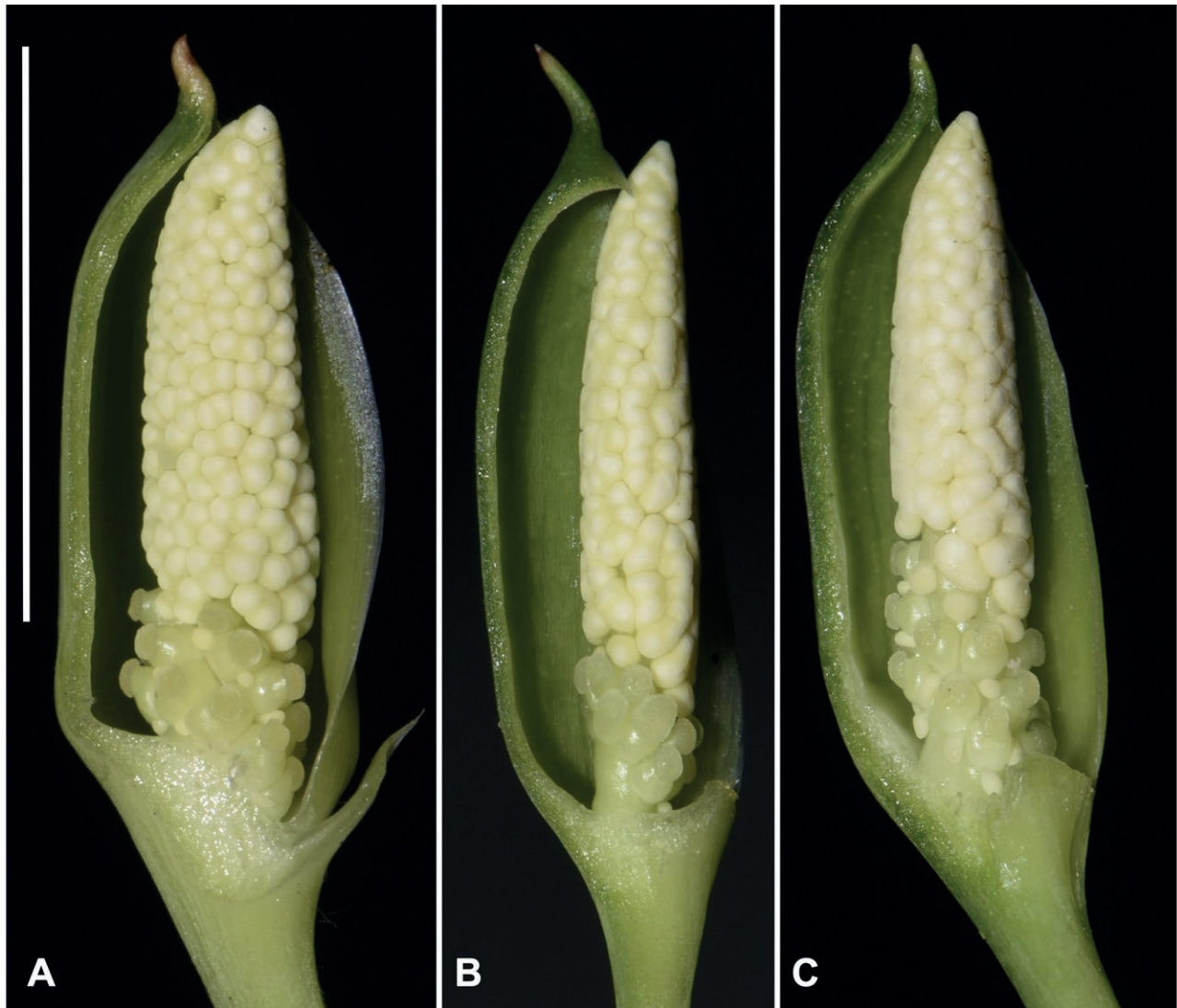


Figure 2. Spadix comparisons A. *Homalomena bengohensis*. B. *Homalomena santubongensis*. C. *Homalomena paucinervia*. Scale bar = 1.5 cm.

ripening within the persistent spathe, ripe fruit and seed not observed.

Etymology

From Bengoh, plus Latin *-ensis*, to indicate originating from.

Distribution

Known only from the type locality where populations are scattered.

Ecology

Banks of muddy streamlets leading into larger streams in rather open perhumid riverine forest on Palaeogene sandstones.

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