Studies on Schismatoglottideae (Araceae) of Borneo XXXXII: Additional new species of *Aridarum*

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ABSTRACT

Three new species of *Aridarum* are described and illustrated: *Aridarum perplexum* S. Y. Wong, S. L. Low & P. C. Boyce from Kalimantan Barat, Indonesian Borneo, *Aridarum sabahense* S. Y. Wong, S. L. Low & P. C. Boyce from Sabah, Malaysian Borneo, and *Aridarum spissum* S. Y. Wong, S. L. Low & P. C. Boyce from Sarawak, Malaysian Borneo. Together these novelties take the genus *Aridarum* to 24 accepted, described species. The new species inserted into an updated identification key to *Aridarum* species.

KEY WORDS

Araceae, *Aridarum,* Borneo, Malaysia, Sarawak, Sabah, Indonesia, Kalimantan, rheophytic.

INTRODUCTION

Recent fieldwork and flowering of hitherto un-flowered plants in our research

collection has revealed three taxonomically new species of *Aridarum* additional to those comprising the most recent publications for *Aridarum* (Boyce & Wong, 2013; Wong et al., 2012, 2014). We describe these three novelties below.

KEY TO THE SPECIES OF *ARIDARUM*

1. Staminate flowers each comprised of one stamen; thecae on the proximal side of the flower (with respect to spadix axis) 2

– Staminate flowers each comprised of two stamens; thecae on the longitudinal ends, or the inner face of each anther of the stamen pair 12

2. Thecae attached to ventral side of connective, globose-ellipsoid; interstice staminodes spathulate . . . . . ***Aridarum sabahense***

– Thecae embedded in connective; interstice staminodes not spathulate 3

3. Connective not expanded, individual staminate flowers horseshoe-shaped; staminodes of interstice horseshoe-shaped, expanding laterally post pistillate anthesis; spathe limb caducous, falling by lesion from the lower, persistent spathe; primary lateral veins not conspicuously raised 4

– Connective expanded on the distal side (with respect to the spadix axis) into a rim; staminodes of interstice (if present) never horseshoe-shaped and never expanding; spathe limb deliquescing acroscopically from the junction with the lower persistent part; leaf blades with the primary lateral veins raised conspicuously adaxially 9

4. Leaf blades quilted, abaxially with conspicuous pellucid interprimary veins; adaxially with primary lateral veins impressed; petioles scabrous; staminate flowers completely verruculose; appendix staminodes deeply and irregularly fissured. Central northern Schwaner Mountains (Melawi and Sanggau, Kalimantan Barat), sandstones . . . . . ***A. rostratum***

– Leaf blades smooth, lacking pellucid interprimary veins, or these veins obscure 5

5. Leaf blades abaxially with obscure pellucid interprimary veins; primary lateral veins visible; petioles microscopically scabridulous; staminate only connective having a verruculose margin. Sintang, granites . . . . ***A. perplexum***

– Leaf blades abaxially without pellucid interprimary veins; primary lateral veins barely visible; petioles smooth; staminate flowers glabrous, or with only connective having a verruculose margin 6

6. Thecae horns stout. Gunung Sepangin (Putussibau, Kalimantan Barat), granites . . . . . ***A. uncum***

– Thecae horns very slender 7

7. Leaf blades adaxially slightly velvety very dark green; spathe ca 5.5 cm long; spadix ca 2.5 cm long; interpistillar staminodes absent; interstice staminodes rather weakly differentiated from the staminate flowers; appendix staminodes lacking glands. Western Muller Mountains, Nanga Suruk (Kapuas Hulu, Kalimantan Barat), volcanics . . . . ***A. surukense***

– Leaf blades semi-glossy medium to dark green; spathe ca 7 cm long; spadix 3.5 – 4 cm long; interpistillar staminodes present at the base of the spadix; interstice staminodes well differentiated from the staminate flowers; appendix staminodes with conspicuous pellucid glands 8

8. Staminate flowers in ca 3 rows, white. Nanga Taman (Kalimantan Barat), sandstones . . . . . ***A. hippocrepis***

– Staminate flowers in ca 6 rows, pale orange. Schwaner Mountains, Gunung Alat (Sintang, Kalimantan Barat), metamorphics . . . . . ***A. alatense***

9. Pistillate and staminate flower zones separated by a naked interstice equalling the staminate flower zone in length; staminodes few, cylindric-clavate, at base of staminate flower zone; stamens and appendix staminodes verrucate. Loreh (Malinau Selatan, Kalimantan Utara), shales . . . . . ***A. kazuyae***

– Pistillate and staminate flower zones not separated by a naked interstice, or if interstice present then very short; staminodes at base of staminate zone absent or globose; stamens and appendix staminodes smooth 10

10. Leaf blades linear-lanceolate, adaxially with strong marginal veins; pistillate flower zone with a few vermiform staminodes at the base. Muller Range (Kalimantan Tengah), volcanics . . . . ***A. minimum***

– Leaf blades not linear-lanceolate; pistillate flower zone with none or prismatic staminodes at the base 11

11. Stamen connective convex, distal rim rounded, smooth or slightly sulcate; staminodes at base of staminate flower zone absent or closely resembling staminate flowers; thecae horns long, stiff, arching. Gunung Rian, (Tana Tidung, Kalimantan Utara), shales . . . . . ***A. orientale***

– Stamen connective concave, distal rim serrate-dentate; staminodes at base of staminate flower zone globose; thecae horns rather soft, short, straight. Hose Mountains (Kapit, C. Sarawak), limestones . . . . . ***A. burttii***

12. Thecae on each end of each anther 13

– Thecae on the inner face of each member of the stamen pair 19

13. Horns of thecae very long and thin, with the tips overlapping; stamen connective not excavated 14

– Horns of anther thecae short and stubby; stamen connective excavated or not 15

14. Leaf blades linear-lanceolate, stiffly coriaceous, up to 10 cm long × 4.5 mm wide; stems very slender (ca 3–4 mm diam.), trailing, clothed in netted persistent fibers; spathe ca 2 cm long; spadix ca 1.5 cm long; staminate flower connective umbonate. Scattered localities in Sri Aman & Sarikei (W. Sarawak), shales . . . . . ***A. montanum***

– Leaf blades elliptic, softly coriaceous, up to 22 cm long × 5 cm wide; stems stout. (ca 2.5 cm diam.), erect, naked; spathe ca 9 cm long; spadix ca 4.5 cm long; staminate flower connective flat with a shallow central longitudinal groove. Nanga Taman (Kalimantan Barat) & Kudangan (Kalimantan Tengah), granites . . . . . ***A. zygosetum***

15. Stamen connective deeply excavated; thecae horns slender with a narrow base . . . 16

– Stamen connective not excavated; thecae horns stout, their bases occupying the whole upper surface of the anther 22

16. Thecae horns blunt, peg-like, erect; interstice staminodes oblong in plan outline, with a deep, oblong excavation filled at pistillate anthesis with a yellowish sticky substance. Riam Marthin Billa (Malinau Selatan, Kalimantan Utara), very hard shales . . . . . ***A. hebe***

– Thecae horns pointed, triangular, directed into the cavity of the connective; interstice staminodes ± circular in plan outline, with an empty circular excavation. W Sarawak .. 17

17. Leaf arrangement strictly distichous. Matang (NW Sarawak), sandstones and granodiorite . . . . ***A. borneense***

– Leaf arrangement not so 18

18. Leaf blade very stiffly coriaceous, glossy deep green adaxially when fresh; stigma 2/3 of ovary diameter; thecae horns very short, rounded at the end. Gunung Gaharu & Batu Balau ('Bukit Lingga') (Sri Aman–SW Sarawak), alkaline volcanics . . . . ***A. crassum***

– Leaf blade rubbery-coriaceous, matte medium green adaxially when fresh; stigma as wide as ovary; thecae horns long, pointed at the end. Bako & Santubong (NW Sarawak), sandstones . . . . . ***A. nicolsonii***

19. Staminate flowers pubescent 20

– Staminate flowers glabrous 23

20. Leaf blades very stiff, sharply V-shaped in cross-section with the tip acicular (sharply pointed); mid-rib and marginal veins equally prominent; stems very short, naked. Similaju (Sarawak: Bintulu), lowland sandstones . . . . . ***A. velutandrum***

– Leaf blades leathery, blade flat, tip not acicular 21

21. Leaf blades elliptic to elliptic-lanceolate, ca 1 cm wide; cataphyll, ligule, and leaf base remnants degrading completely; spadix ca 2 cm long, appendix staminodes dome-shaped, very densely pubescent. Lawas (Sarawak), lowland sandstones . . . . .. ***A. spissum***

– Leaf blades very narrowly linear with undulate-crispulate margins, ca 2–2.5 mm wide; cataphyll, ligule, and leaf base remnants fibrous-netted; spadix up to 8 mm long; appendix staminodes, mostly flat-topped, occasionally more or less excavated, only very slightly pubescent. Loagan Bunut (Sarawak: Miri–Marudi), upper hill forest sandstones . . . . ***A. orestum***

22. Plants 10–20 cm tall; leaves erect, 9–17 cm long, leaf blades lanceolate-elliptic; peduncle 6–9 cm long; spathe 2.5–4 cm long; spadix 1–1.5 cm long. Gunung Niut (NW Kalimantan Barat), basalts . . . . . ***A. incavatum***

– Plants 2 cm tall; leaves appressed, ca 3 cm long, leaf blades oblanceolate; peduncle ca 5 mm long; spathe ca 1.5 cm long; spadix ca 4.5 mm long. Batang Balleh (Kapit – C. Sarawak), shales . . . . . ***A. pendek***

23. Horns of thecae shorter than width of stamen. E Sarawak and Brunei, mainly sandstones . . . . ***A. caulescens***

– Horns of thecae longer than width of stamen. NE Sarawak, shales . . . ***A. purseglovei***

Figure 1. *Aridarum perplexum* S. Y. Wong, S. L. Low & P. C. Boyce
A. & B. Plants in habitat, Type locality. **C.** Inflorescence at pistillate anthesis – spathe limb inflates but does not open wide. **D.** Inflorescence at late staminate anthesis – spathe limb shed with basal portion reflexing. **E.** Spadix at pistillate anthesis, spathe limb artificially removed/ **F.** Inflorescence post-anthesis – the retained portion of spathe limb deliquescing. **A–D** from *AR-4299*. Images A & B © K.Nakamoto; C–F © P. C. Boyce.

Aridarum perplexum S. Y. Wong, S. L .Low & P. C. Boyce, **sp. nov.** Type**:** Indonesian Borneo, Kalimantan Barat, Sintang, Sepauk, Kayu Lapis, Nanga Pari, 68 km south of Kayu Lapis, 00°00'2.38"S 111°00 '33.99"E, 23 Oct 2013, *K. Nakamoto AR-4299* (holo BO–alcohol!; iso SAR–alcohol!). **Figure 1.**

Diagnosis

On the basis of spadix structure *Aridarum perplexum* is most similar to *A. rostratum* although readily differentiated by the smooth leaf blades (vs leaf blades quilted) with, abaxially, only slightly conspicuous (vs very conspicuous) pellucid interprimary veins. Ecologically *A. perplexum* is distinguished from *A. rostratum* by being a plant of lowland granites, as opposed to a mid-elevation plant confined to sandstones.

Description

Small to medium-sized obligate clumping rheophytes to ca 12 cm tall. **Stem** condensed, sub-erect, ca 1.5 cm in diam., with copious strong roots. **Leaves** many together, arching; **petiole** 5–8 cm long, weakly D-shaped, ca 3 mm wide × ca 3 mm high, sheathing at extreme base, almost microscopically scabridulous matte medium green; **petiolar sheath** with wings extended into a very narrowly triangular ligular portion up to 3 cm long, ligule margins in-rolled and almost tubular, persistent; **blade** softly coriaceous, narrowly-elliptic, 11–15 cm long × 3–5 cm wide, base cuneate, apex acute acuminate, apiculate for ca 3 mm, adaxially matte dark olive green, paler green; *midrib* abaxially somewhat sharply prominent, adaxially bluntly raised; **primary lateral veins** ca 4 per on each side, weakly raised abaxially, slightly impressed adaxially, diverging at ca 30°; **interprimary veins** twice as numerous as primaries, much less conspicuous and slightly translucent; **secondary venation** adaxially invisible, abaxially nearly invisible. **Inflorescence** solitary; **peduncle** slender, exceeding petioles, 12–15 cm long × 1.2–3 mm in diam. **Spathe ca** 7 cm long, ca twice length of spadix, broadly lanceolate, upper part extended into a short beak ca 2 mm long, barely opening at pistillate anthesis, lower persistent part of spathe dark, remainder white, limb caducous by deliquescence at junction with persistent lower part at staminate anthesis, falling in ragged, adhering strips. **Spadi**x sub-cylindric, ca 3.5 cm long; **pistillate flower zone** slender slightly obconic, markedly thinner than rest of spadix, comprising ca ⅓ of spadix, ca 8mm long × ca 3 mm in diam., adnate to spathe in lower ¼, with few clavate-cylindrical yellow-tipped staminodes at base; **pistils** crowded, sub-globose, ca 1 mm in diam., pale greenish white; **stigma** sessile, discoid, narrower than pistil, drying dark brown, rather coarsely papillate; **sterile interstice ca** 2 mm long × distally 5–6 mm in diam., with 1 whorl of staminodes from ca 0.5 mm long, these triangular-cordate from above, aligned with points facing spadix apex, truncate, smooth; **staminate flower zone** slightly less than ⅓ of entire spadix length, ca 1 cm long × 5–7 mm in diam., creamy yellow; **staminate flowers**

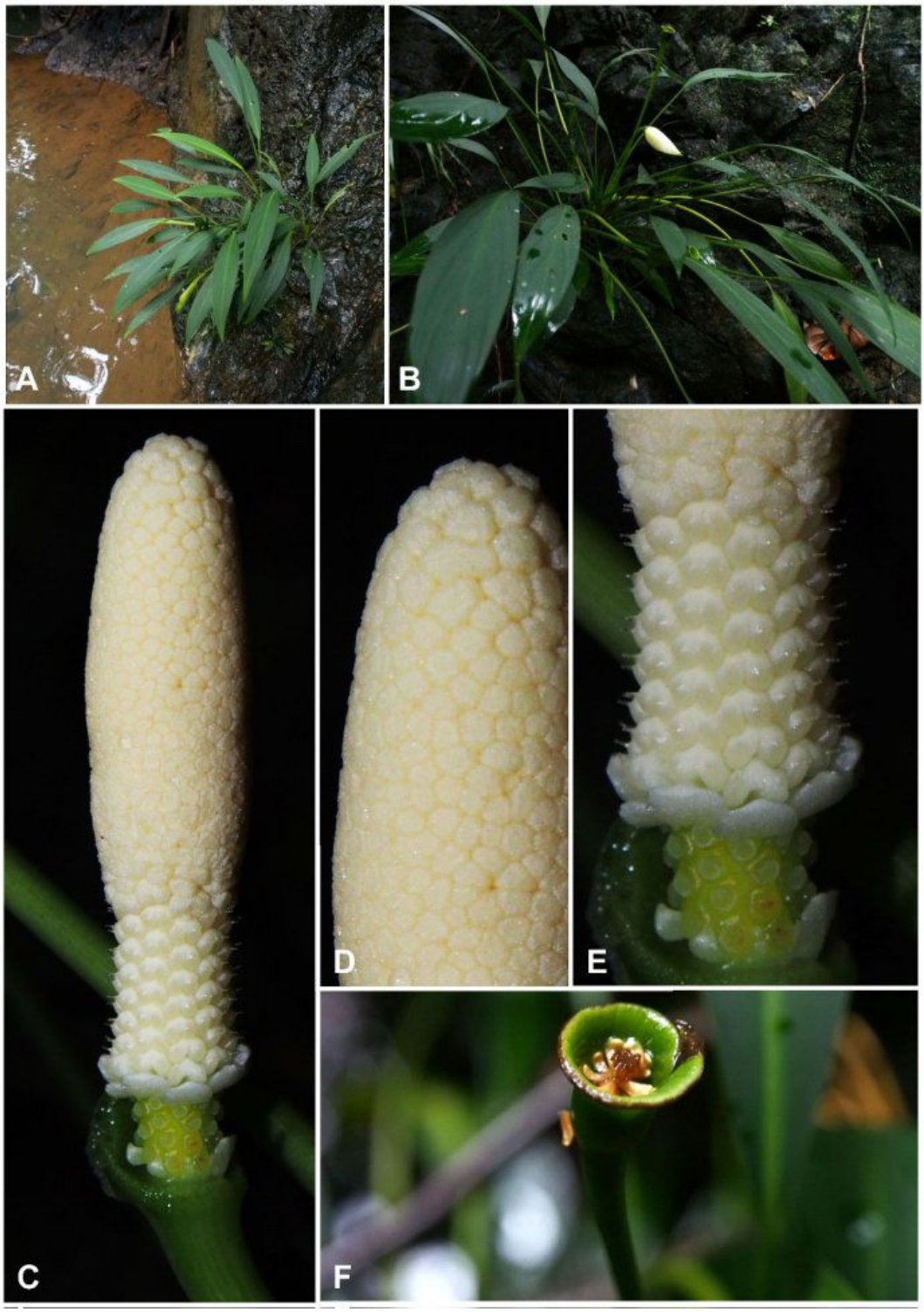

Figure 2. *Aridarum sabahense* S. Y. Wong, S. L. Low & P. C. Boyce
A & B. Plants in habitat, Type locality. **C.** Spadix at onset of staminate anthesis, spathe artificially removed. **D**. Detail of appendix staminodes. **E.** Detail of fertile flower zones and interpistillar staminodes. **F**. Sub-mature infructescence; note that the interpistillar staminodes are beginning to be lost. **A–F** from *AR-4093*. Images A, B & F © M.Lo; C–E © P. C. Boyce.

large, spirally arranged, truncate, circular-rhomboid from above, apically verruculose, 1.2–1.4 mm in diam.; **thecae** together on proximal (with respect to spadix axis) side of anther, separated by a conspicuous narrow suture, with obscure 0.8–1.2 mm long upturned horns each ending in a very narrow pore; **appendix** ca 14 mm long × 5–6 mm in diam., slightly tapering, obtuse; **appendix staminodes** with lowermost ones resembling stamens without thecae, uppermost more columnar with verrucate tops. **Infructescences** pendulous. **Fruiting spathe** campanuliform, ca 2 cm long × ca 1 cm wide, medium green with a scar along rim; persistent staminodes initially glossy white, later becoming green; **fruits and seeds** not seen.

Distribution — *Aridarum perplexum* is so far known only from the Type locality.

Ecology — *Aridarum perplexum* is rheophytic on riverside granite rocks and boulders under open perhumid lowland at ca 40m asl.

Etymology — From Latin, *perplexus* [*perplexum*–neut.], puzzling, coined by way of reference to our initial surprise when examining living plants and alcohol-preserved of this species. Initially we were convinced that the inflorescences belonged to a different species, *A. rostratum* Boner & A. Hay. Only later did plants flower in our research collection, confirming the origin of the inflorescences.

Notes —The spadix of *Aridarum perplexum* is extremely similar to that of *A. rostratum* although the species are readily distinguishable vegetatively. In its association with lowland granite *Aridarum perplexum* is ecologically differentiated from *A. rostratum*, a plant of sandstone waterfalls under hill or upper hill forest.

Aridarum perplexum is the sixth described species of the Rostratum Complex.

Aridarum sabahense S. Y. Wong, S. L. Low & P. C. Boyce, **sp. nov.** Type: Malaysian Borneo, Sabah, Sandakan, Kinabatangan, Telupit, Gunung Tawai, 05°35'45.6"N, 117°04'36.7"E, 18 Dec. 2012, *M.Lo AR-4093* (SAN!; isotype SAR!). **Figure 2.**

Diagnosis

Aridarum sabahense is unique in the genus by combination of globose thecae and spathulate interpistillar staminodes. In overall aspect, by the nodding spathe on a long, slender peduncle, and by the spathe limb hardly opening at pistillate anthesis and deliquescing acroscopically during staminate anthesis *A. sabahense* appears allied to the *Aridarum* Rostratum Complex, from which it differs, in addition to the aforementioned characteristics, by possessing an erect salver-form (vs nodding, narrowly campanuliform) persistent lower spathe.

Description

Medium-sized clumping obligate rheophytes to 40 cm tall but mostly half this size. **Stem** erect and somewhat condensed, ca 2 cm in diam., active portions obscured by dense leaf bases, older parts naked with conspicuous scars. **Leaves** many, several together, petioles erect with blades very slightly arching; individual modules with 3–5 leaves, modules subtended by a linear-triangular 2-keeled persistent prophyll to 5 cm long and ca 5 mm wide; **petiole** 12–17 cm long, basally weakly D-shaped in cross section, ca 3 mm wide × ca 2.5 mm high, sheathing at extreme base, matte medium green; **petiolar sheath** with wings extended into a narrowly triangular somewhat twisted persistent ligular portion ca 9 cm long; **blade** softly coriaceous, elliptic, 18–23 cm long × 2.5–3.5 cm wide, base cuneate to slightly decurrent, apex acuminate, apiculate for ca 3 mm, adaxially semi-glossy medium green, matte and paler green abaxially; **midrib** abaxially prominent, adaxially slightly bluntly raised; **primary lateral veins** ca 4 on each side, adaxially well-defined, these diverging at ca 30°, adaxially merging into slightly raised marginal vein running very close to leaf margin; **interprimary veins** invisible adaxially, abaxially slightly darker than primaries**; secondary venation** forming a slightly obscure tessellate reticulum. **Inflorescence** solitary, nodding on an erect peduncle, subtended by a ca 5 cm long, very narrowly triangular somewhat leathery cataphyll; **peduncle** slender, more-or-less erect, shorter than leaves, up to 17 cm long, ca 3 mm in diam., terete, matte medium green, inserted slightly obliquely on spathe; **spathe** narrowly ovate with an acuminate tip, not constricted, ca 7 cm long, lower part campanuliform at anthesis, medium green, ultimately persistent through fruiting, long-apiculate for up to 1.5 cm, limb exterior glistening white, interior greenish in lower 1/3, remainder white, apicule distally green; **limb** inflating and then gaping at pistillate anthesis, prior to staminate anthesis limb caducous from above junction with persistent lower part, limb falling more-or-less intact with basal portion remaining, recurving and then deliquescing to leave erect salverform persistent lower spathe, with a scarred regular rim. **Spadix** cylindric, 3.5–4 cm long × ca 8 mm in diam. sessile; **pistillate flower zone** weakly obconic, narrower than other fertile parts of spadix, comprising about 1/5 of spadix, ca 8 mm long × ca 5 mm in diam.; **pistils** rhombic, truncate, ca 1.1 mm in diam., bright pale green; **stigma** sessile, capitate, papillose, narrower than ovary medium green, producing a conspicuous stigmatic droplet at anthesis, turning brownish at post anthesis; **sterile interstice** equalling base of staminate zone in width, with 1–2 whorls of spathulate staminodes, these ca 1.5 mm long × 0.75 mm wide, white; **staminate flower zone** *ca* 1/3 of total spadix length, ca 1 cm long, lower part equalling width of sterile interstice; **staminate flowers** densely packed, each comprised of two stamens, ivory, ± horseshoe-shaped, ca 2 × 1 mm, connective excavated; **thecae** globose-ellipsoid, ventral on connective, each ca 1 mm long; **thecae horns** two per stamen, *ca* 0.5 mm long, very narrow, spreading.

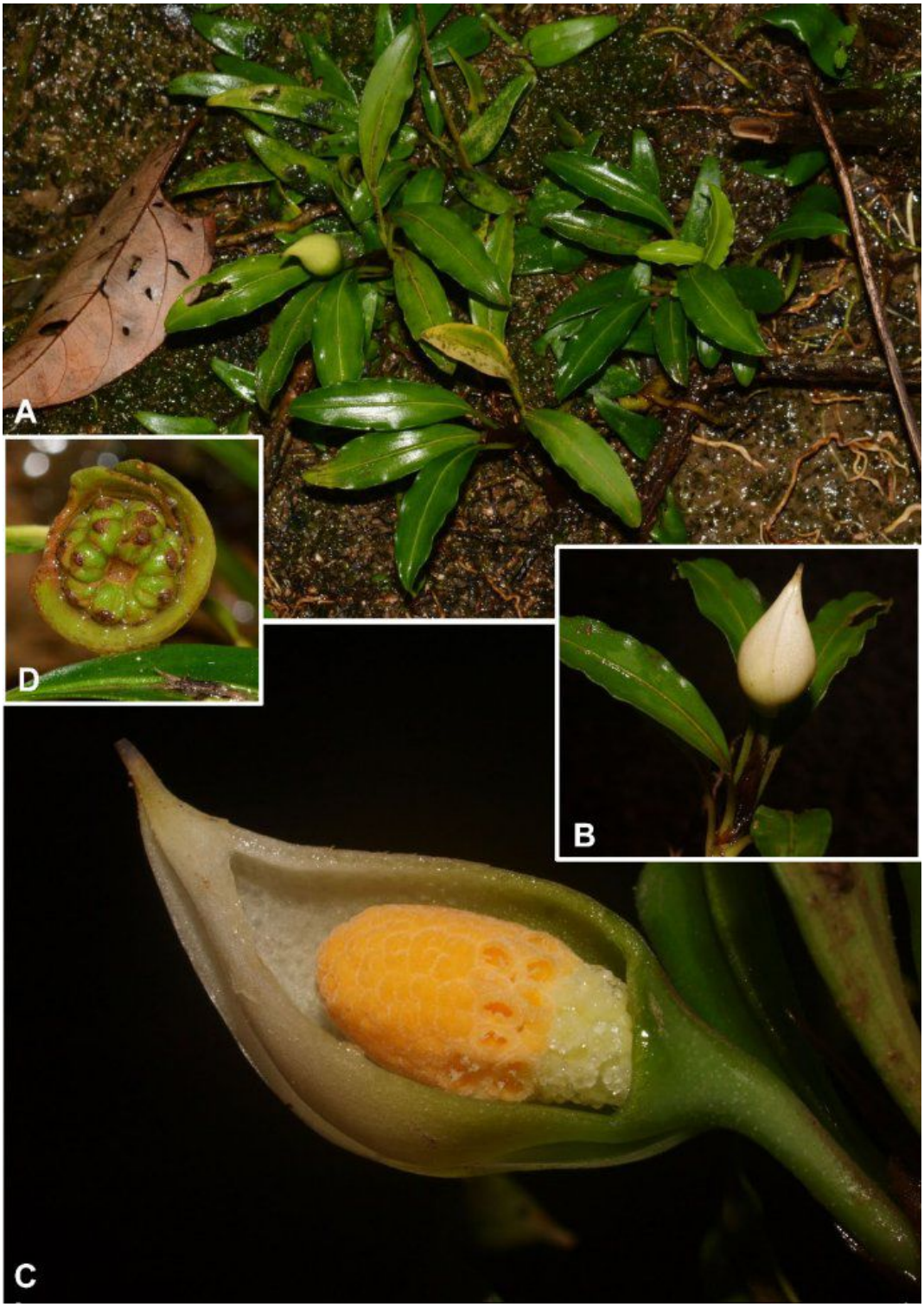

Figure 3. *Aridarum spissum* S. Y. Wong, S. L. Low & P. C. Boyce
A. Flowering plant in habitat, Type locality. **B.** Inflorescence at just prior to pistillate anthesis. **C.** Inflorescence at pistillate anthesis, nearside spathe artificially removed. **D.** Developing infructescence. **A–D** from *AR-4349*. Images © P. C. Boyce.

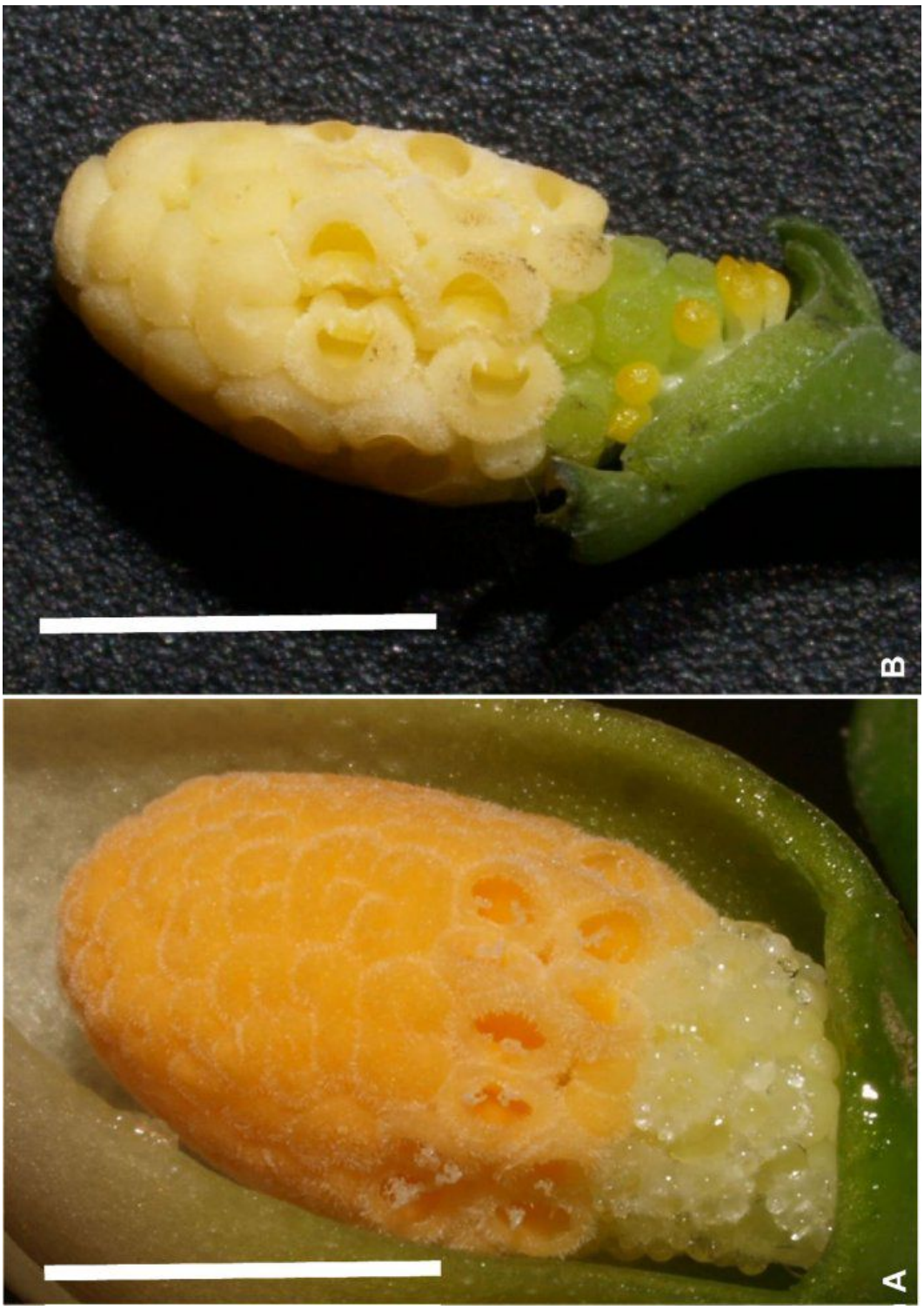

Figure 4. Spadix of *Aridarum spissum* and *Aridarum velutandrum* compared, spathe artificially removed. **A.** *Aridarum spissum* S. Y. Wong, S. L. Low & P. C. Boyce – Scale bar = 1 cm. **B.** *Aridarum velutandrum* S. Y. Wong, S. L. Low & P. C. Boyce – Scale bar = 5 mm. **A** from *AR-4349*; **B** from *AR-1915*. Images © P. C. Boyce.

Infructescence in base of an erect salverform persistent lower spathe; **Fruits and seeds** not seen.

Distribution — *Aridarum sabahense* is known only from the Type locality and nearby Bidu-Bidu F.R.. At the Type locality *A. sabahense* co-occurs with *Bucephalandra ultramafica* S. Y. Wong & P. C. Boyce.

Ecology — *Aridarum sabahense* occurs as an obligate rheophyte on ultramafic (ultrabasic) river boulders and waterfalls under moist lowland forest between 135 and 300 m above sea level.

Etymology — From Sabah + *ensis*, a suffix denoting a place of origin.

Notes — *Aridarum sabahense* has a combination of characteristics that render relationships difficult to determine. In overall aspect *A. sabahense* would appear to belong to the *Aridarum* Rostratum Complex, with which it shares a nodding spathe on a long, slender peduncle, and a spathe limb that hardly opens at pistillate anthesis and which deliquesces acroscopically during staminate anthesis However, the erect salver-form persistent lower spathe, staminate flowers with globose thecae, and spathulate interpistillar staminodes are strongly reminiscent of species of *Bucephalandra*. Molecular analyses is underway to attempt to better elucidate relationships.

Aridarum sabahense is the first species of the genus recorded for Sabah, although several species have been described from neighbouring Kalimantan Utara and Kalimantan Timur, Indonesian Borneo.

Other material examined: MALAYSIAN BORNEO. Sabah, Sandakan, Labuk & Sugut, Bidu-Bidu F.R., 05°49'05.6"N 117°20'17.0"E, 8 Dec. 2013, *M. Lo AR-4360* (SAN!–alcohol; SAR!–alcohol).

Aridarum spissum S. Y. Wong, S. L. Low & P. C. Boyce, **sp. nov.** Type**:** Malaysian Borneo, Sarawak, Limbang, Lawas, Long Spangan, along the Lawas - Dawit road, 04°43'49.4"N 115°23'55.3"E, 15 Feb. 2014, *P. C. Boyce & Wong Sin Yeng AR-4349* (holo SAR–alcohol!; iso SBC–alcohol!). **Figure 3 & 4A.**

Diagnosis

Aridarum spissum shares pubescent staminate flowers with highland *A. orestum* and lowland *A. velutandrum*, but is readily differentiated from either by longer (ca. 2 cm vs 6–8 mm), much stouter spadix, the longer and much broader leaf blades, and by the dome-shaped, very densely pubescent appendix staminodes. From *A. velutandrum A. spissum* may be further distinguished the globose, sessile, white (vs clavate, stipitate, deep yellow) sub-pistillar staminodes and pale cream (vs bright green) pistils.

Description

Diminutive mat-forming obligate rheophytes to 7 cm tall. **Stem** elongated, eventually sub- decumbent and rooting with active portion sub-erect, 1–6 cm long, 3–4 mm in diam., active portions obscured by leaf bases, older parts becoming bare. **Leaves** few to numerous together, mostly in tufts at tips of shoots; **petiole** ca 2.5 cm long, ca 1.5 mm in diam., adaxially canaliculate, sheathing at extreme base; **petiolar sheath** with wings extended into a very narrowly triangular ligular portion 1 cm long drying dark red-brown and then marcescent; **blade** coriaceous, adaxially dark green, paler abaxially, elliptic to elliptic-lanceolate, 2.5–4 cm long × ca 1 cm wide, base narrowly cuneate, apex acute, apiculate for ca 1 mm, margin somewhat thickened and slightly undulate; **midrib** abaxially very prominent, adaxially prominent, primary lateral veins indistinguishable from interprimary venation, diverging at 20–35° and running to a more or less thick marginal vein; **secondary venation** adaxially and abaxially very faint to completely obscure; **tertiary venation** mostly completely obscure in living material, forming a faint tessellate reticulum in dry material. **Inflorescence** solitary; **peduncle** stout, exceeding petioles, ca 2 cm long × 1.5 mm in diam., terete, pale green; **spathe** more or less ovoid with apex recurved, not constricted, ca 2.5 cm long and apically beaked for 3–4 mm; **lower part** campanulate, green, persistent, upper part gaping at anthesis, glistening white, caducous during or just following staminate anthesis, apical beak medium green. **Spadix** stoutly cylindrical, ca 2 cm long, ca 1 cm in diam.; **pistillate flower zone** *ca* 5 mm long, slightly narrower than remainder of spadix, comprised of 3–4 whorls of pistils; **pistils** crowded, sub-globose, ca 1.5 mm in diam.; **stigma** sessile, discoid, centrally impressed, about same width as ovary; **interpistillar staminodes** confined to a row along spathe/spadix adnation, globose, sessile, white, ca 0.75 mm in diam., about height of pistils; **sterile interstice** absent; **staminate flower zone ca** 5 mm long, composed of ca 2 rows of fertile flowers; **staminate flowers** pubescent, crowded, each composed of two stamens arranged in longitudinally aligned pairs, truncate, deeply excavated with thecae together on inner (with respect to stamen pairs) side of anther, ellipsoid to ellipsoid-oblong from above, ca 1 mm long × 2 mm wide; **thecae** separated by a ridge forming a septum in cavity, very shortly horned, with horns inside lip of anther cavity; **appendix** ca 1 cm long, blunt, equalling staminate flower zone in width; **appendix staminodes** more or less irregularly globular to ellipsoid, dome-shaped, densely pubescent, deep yellow, ca 1 mm diam. **Fruiting** spathe thick-walled, conical; **fruits** irregularly globose, somewhat depressed, deep green with a large conspicuous brown stigmatic remnant.

Distribution — *Aridarum spissum* is known only from the Type locality.

Ecology — *Aridarum spissum* occurs as a rheophyte on sandstone riverside banks under lowland humid forest at about 60 asl.

Etymology — From Latin, *spissus* (neut. *spissum*) – thick, crowded, or dense – and used as a means to describe both the comparatively wide diameter of the spadix, and the congested arrangement of the staminate flowers and the appendix staminodes.

Notes — *Aridarum spissum* is evidently closely related to *A. velutandrum* S. Y. Wong, S. L. Low & P. C. Boyce and *A. orestum* S. Y. Wong, S. L. Low & P. C. Boyce by sharing pubescent staminate flowers, although the three species are very different vegetatively in addition to the morphologies highlighted in the above diagnosis.

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