

Studies on Schismatoglottideae (Araceae) of Borneo XXXXIV: *Piptospatha nivea*, a new species from Kalimantan Tengah, Indonesian Borneo

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ABSTRACT

Piptospatha nivea is described and illustrated as new species, unique among Bornean *Piptospatha* by possessing a white spathe limb, and compared with the nearest most similar species, *Piptospatha colata* S.Y.Wong & P.C.Boyce. Aside from possessing a striking and unique inflorescence *P. nivea* represents

an almost 300 km southerly extension to the known range of the genus.

KEY WORDS

Rheophytic, Quaternary sediments

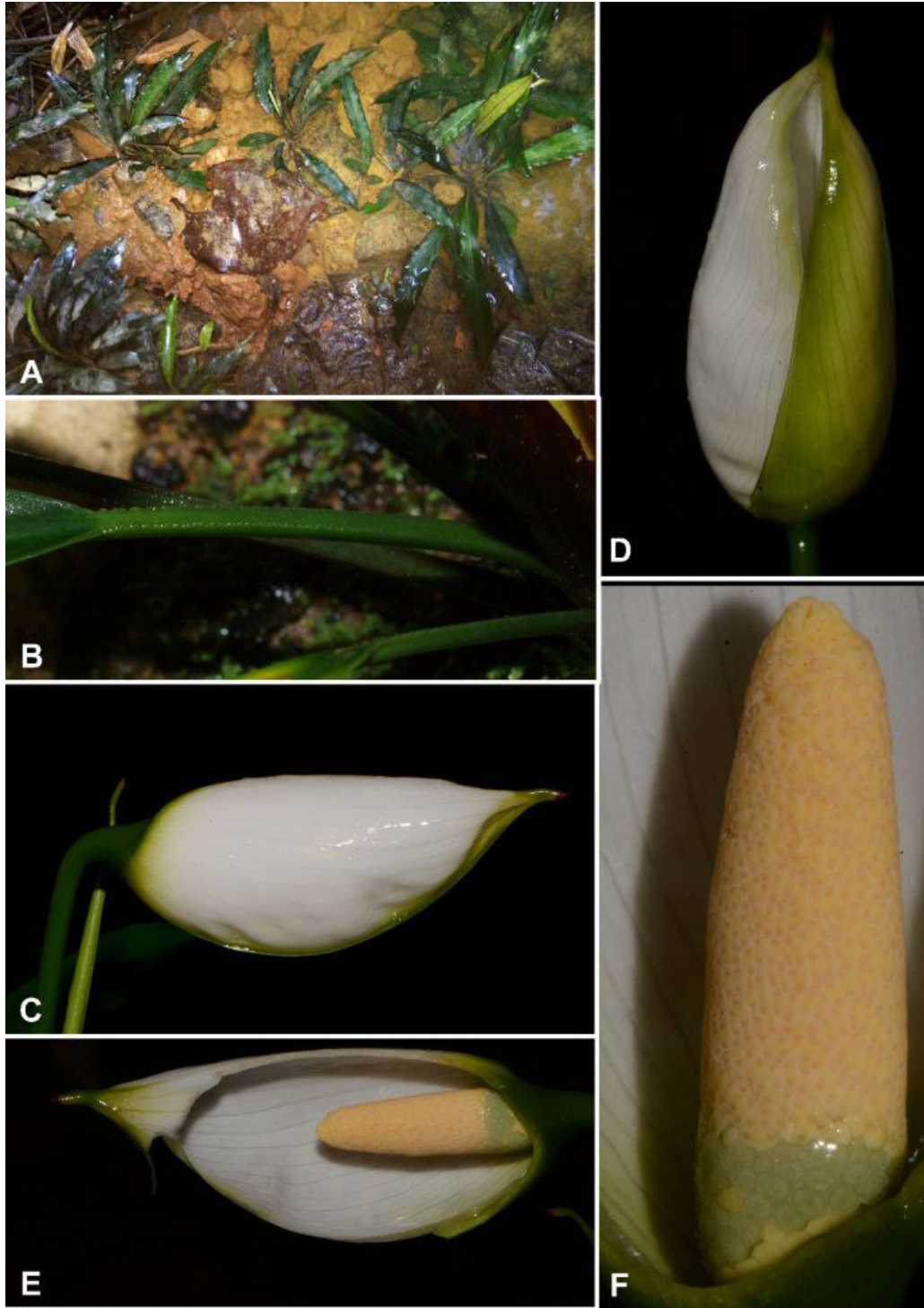


Figure 1. *Piptospatha nivea* P. C. Boyce, S. Y. Wong & Sahal

A. Plants in habitat, Type locality. **B.** Detail of the alate-scabrous petiole. **C.** Inflorescence at pistillate anthesis. **D.** Inflorescence at pistillate anthesis, ventral view to show the difference in colour of the overlapping (green) and overlapped (white) portions of the spathe limb. **E.** Inflorescence at pistillate anthesis, nearside spathe artificially removed. **F.** Spadix at pistillate anthesis. All from *AR-4300*. Image A © Abdul Sahal; images B – F © P. C. Boyce.

INTRODUCTION

Fieldwork on Borneo continues to reveal remarkable levels of novel taxonomic diversity. Here we describe an unusual species of the genus *Piptospatha* N.E.Br. which is unique on Borneo by possessing a white spathe limb, and metallic deep blue-green leaf blades. The plant originates from the Quaternary sandstones of Kuala Kapuas in southern Kalimantan Tengah, close to the border with Kalimantan Selatan, making it as extension of almost 300 km south of the known range of the genus.

Piptospatha nivea P. C. Boyce, S. Y. Wong & Sahal, **sp. nov.** Type: Indonesian Borneo, Kalimantan Tengah, Kapuas, Kuala Kapuas, exact locality withheld, 1 Nov. 2013, *A. Sabal AR-4300* (holo BO!). **Figure 1.**

Diagnosis

Piptospatha nivea is overall most similar to *Piptospatha colata* S.Y.Wong & P.C.Boyce differing by the pure white spathe limb and deep glossy green lower spathe, and by the glossy metallic deep blue-green leaf blades with the primary lateral veins barely impressed.

Description

Solitary rheophytic herb to 15 cm tall. **Roots** strong, ca 2 mm in diameter. **Stem** short, condensed, to 20 mm in diameter, all except oldest portions obscured by leaf bases. **Leaves** many together, spreading or

arching, forming a sparse rosette; **petiole** 3.5–8 cm long, up to 2.5 mm in diameter, bases clasping stem, D-shaped in cross-section with dorsal angles narrowly alate-scabrous, dark green; **petiolar sheath** attached only at the extreme base, the remainder a free narrowly triangular ligular portion, ca 5 cm long, this marcescent and ultimately deciduous, dark reddish brown; **leaf blades** narrowly elliptic, 8–15 cm long × 2–2.5 cm wide, base cuneate, apex acute with stout tubule ca 5 mm long, in life glossy dark metallic blue-green adaxially, light green abaxially; mid-rib bluntly slightly raised adaxially, weakly rounded-raised and; **primary lateral veins** ca 7 per side, parallel pinnate, barely impressed adaxially, very slightly raised abaxially; **interprimary lateral veins** weaker than primary laterals although still quite conspicuous, interprimary veins joining a weakly defined sub-marginal collecting vein; all other venation obscure. **Inflorescence** solitary or up to 3 in sequence; **peduncle** ca 15 cm long (at anthesis), ca 3.5 mm in diameter, minutely scabrous, medium green. **Spathe** held at ca 90° to peduncle at anthesis, not constricted, glossy medium green in late bud, spathe limb opening with portion overlapped in bud pure white and the overlapping portion stained lime green along the margin and above the lower persistent lower spathe, limb interior uniformly pure white, persistent lower portion and terminal rostrum deep green; **spathe limb** ca 5 cm long, base ca 1.5 cm wide, mid-way inflated to ca 2.5 cm, ventrally constricted and terminating in a rostrum ca 6 mm long, internally lacking

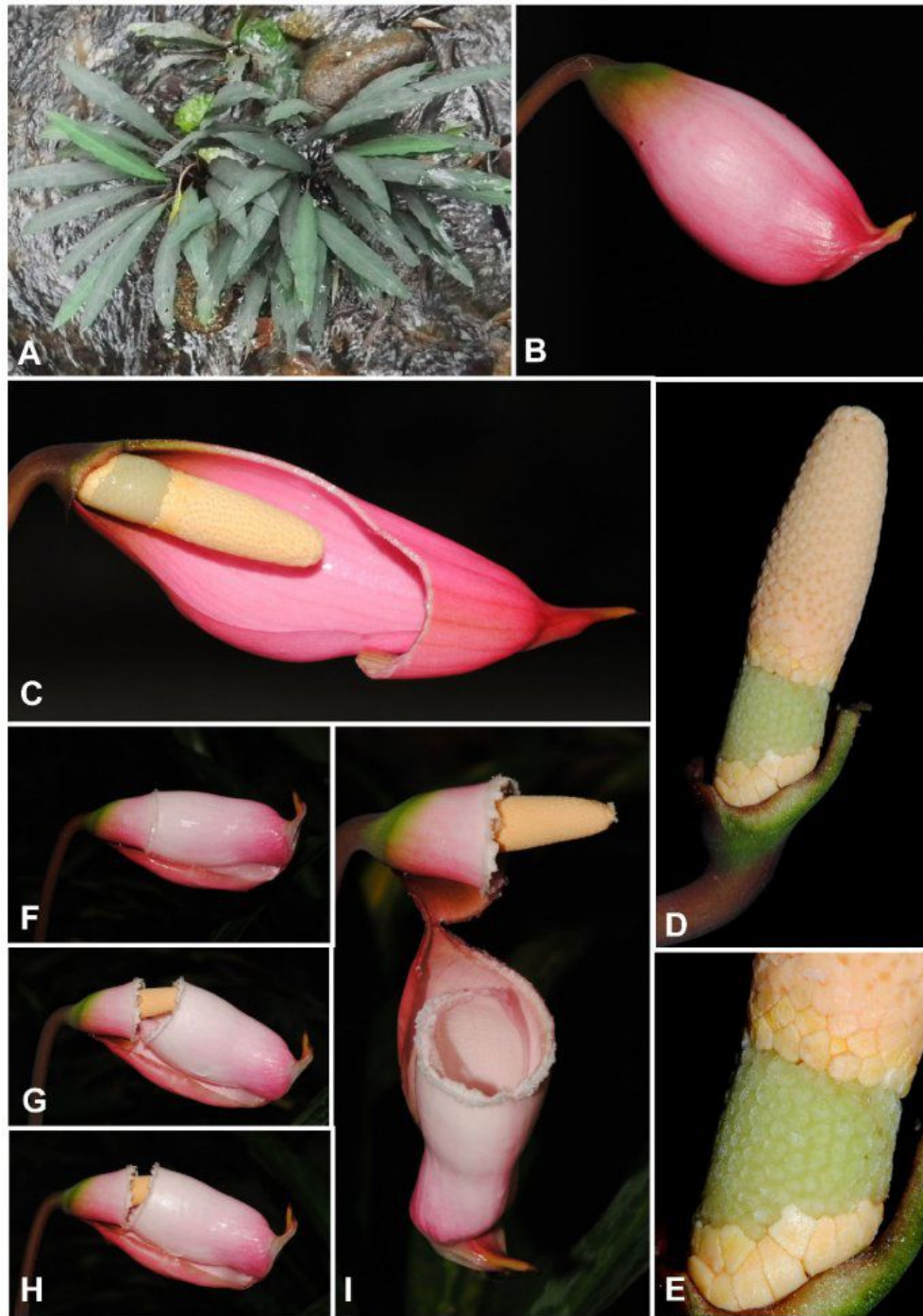


Figure 2. *Piptospatha colata* S. Y. Wong & P. C. Boyce

A. Plant in habitat, Type locality. **B.** Inflorescence at staminate anthesis. Detail of the alate-scabrous petiole. **C.** Inflorescence at pistillate anthesis, window artificially cut in nearside spathe. **D.** Spadix at pistillate anthesis. **E.** Detail of pistillate flower zone, staminodes, and lower part of staminate flower zone. **F – I.** Inflorescence at staminate anthesis showing the abscission, separation, and falling of the spathe limb. All from *AR-3665*. Image A © Nakamoto Kazuya; images B – I © P. C. Boyce.

rostral keels. **Spadix** ca 2 cm long \times ca 7 mm in diam. at the base, slightly tapering-cylindrical, base slightly obliquely inserted onto spathe/peduncle; **pistillate flower zone** jade-green with 1 rows of rhomboidal truncate pale yellow staminodes inserted basally, weakly barrel-shaped, ca 1 cm long \times 1 cm in diam.; **pistils** cylindrical, truncate, very congested, ca 0.6 mm diameter; **stigma** weakly umbonate, papillate, as wide as ovary; pistillate and staminate zones separated by a zone ca 1 mm long comprised of ca 1 whorls of staminodes, these rhomboidal-polygonal, truncate, pale yellow; **staminate flower zone** cream, equalling pistillate zone in width at base, distally tapering, ca 1.6 cm long \times 5 mm in diam. at base, apex blunt; **staminate flowers** congested and irregularly arranged, comprised of paired stamens, irregularly oblong and very weakly butterfly shaped, ca 0.5 mm wide \times ca 1 mm long, connective truncate, glabrous; thecae lateral, ca 0.3 mm, ellipsoid with a wide rim, sunken into a shallow pit. **Infructescence** salverform, ca 1.5 cm wide, medium green. **Fruits** and **seeds** not observed.

Distribution — *Piptospatha nivea* is so far known only from the Type locality where it is locally abundant.

Ecology — *Piptospatha nivea* is rheophytic on Quaternary sediments open perhumid lowland forest at ca 55m asl.

Etymology — From Latin, *niveus*, snowy, selected to emphasize the diagnostic white spathe limb.

Notes — *Piptospatha nivea* is thus far unique among Bornean species by the white spathe limb. Combined with the metallic deep blue-green leaf blades, the white inflorescence renders *P. nivea* a highly ornamental species. Only one other *Piptospatha* is known with a white spathe, the West Malaysian and far southern Thai *P. perakensis* (Engl.) Engl., which differs considerably from *P. nivea*.

The overall form of the inflorescence structure, and notably the spadix, of *Piptospatha nivea* is most closely reminiscent of *P. colata* (**Figure 2**), although the spathe limb colour readily differentiates them. In the form and colour of the leaf blades, as well as ecology (*P. colata* is obligated to granite), and distribution, *P. nivea* and *P. colata* are readily distinguished.

Owing to the ornamental potential of this plant we are withholding the exact locality in order to protect wild populations from commercial poaching.

References

Boyce, P.C. & Wong S.Y. 2013. Studies on Schismatoglottideae (Araceae) of Borneo XXIII: *Piptospatha colata* and *P. deceptrix*, taxonomic novelties from Borneo. *Gard. Bull. Singapore* 65(1): 7–17.

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