Rhaphidophora tenuis (Araceae: Monstereae) Resurrected

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Abstract

Rhaphidophora tenuis Engl., a species considered synonymous with the widespread and variable *R. korthalsii* Hassk. in the most recent revision of Bornean species is resurrected as an endemic to Sarawak and Brunei. A full description of *R. tenuis* is presented together with a modification to the most recent published key to *Rhaphidophora* in Borneo and photographs. This reinstatement takes to 15 the number of *Rhaphidophora* species recognized for Borneo.

Introduction

In the revision of *Rhaphidophora* for Borneo Boyce (2001) treated *Rhaphidophora korthalsii* Hassk. as a polymorphic species. Since that publication, the author has been able to undertake extended and on-going fieldwork in Sarawak which has revealed that at least one element of Bornean *R. korthalsii* sensu Boyce 2001 is a morphologically stable taxon with a suite of characters consistently separating it from *R. korthalsii s. s*. In particular the smaller stature, slender leaflets and solitary, slender inflorescence, and most strikingly in the form of the leaves in the juvenile shingling plant which are ovate and spreading in *R. korthalsii s. s*. (Plate 1 c & d), but strongly falcate-lanceolate and ascending in the segregate taxon. Such plants match incontrovertibly *R. tenuis* Engl. based on Beccari collections from Matang, Kuching Division.

Rhaphidophora tenuis Engl.

Rhaphidophora tenuis Engl., Bot. Jahrb. Syst. 1 (1881) 181; Beccari, Malesia 1 (1882) 271–272; Engl. & K. Krause in Engl., Pflanzenr. 37 (IV.23B) (1908) 53. –Type: Malaysia, Sarawak, Kuching Division, Matang, *Beccari PB 1977*

(lecto, FI; isolecto, B; selected by Boyce, 1999).
Rhaphidophora korthalsii var. angustiloba Ridl. ex Engl. & K. Krause in Engler, Pflanzenr. 37 (IV.23B) (1908) 49. – Type: Malaysia, Sarawak, Kuching Division, Matang, Jul 1903, *Ridley s.n.* (lecto, SING; selected by Boyce, 1999). **Plate 1 (a & b)**.

Moderate slender heterophyllous liana to 5 m; ***seedling stage*** a non-skototropic shingling juvenile shoot; ***pre-adult plants*** never forming terrestrial colonies; ***adult shoot architecture*** comprised of elongated, clinging, physiognomically unbranched, moderately leafy fertile stems; ***stems*** smooth, medium green, with sparse prophyll, cataphyll and petiolar sheath fibre, especially at the stem tips, internodes to 11 x 2 cm, separated by prominent oblique leaf scars, older stems subwoody; ***flagellate foraging stems*** absent; ***clasping roots*** densely arising from the nodes and internodes, prominently pubescent; ***feeding roots*** abundant, adherent and free, very robust, densely ramentose-scaly; ***leaves*** distichous; *cataphylls* and *prophylls* membranous, soon drying and degrading to intricately reticulate fibres, these only very slowly falling; *petiole* shallowly grooved, upper part ± terete, (1–) 9–65 x 0.2–1.5 cm, smooth, apical and basal genicula prominent; *petiolar sheath* prominent, membranous, strongly to slightly unequal on one side, extending almost to or reaching the apical geniculum, of ± short-duration, soon degrading into persistent netted fibres, these eventually falling leaving a prominent, slightly corky scar; *shingling lamina* entire, ascending falcate-lanceolate, 5–11x 3.5–6 cm, base slightly cordate, *pre-adult* and *adult lamina* spreading, entire, pinnatipartite to pinnatisect, 10–30 x 14–45 cm, broadly oblong-elliptic to oblong lanceolate, slightly oblique, subcoriaceous, base truncate and very briefly decurrent, apex acute to acuminate, individual pinnae 1–2 cm wide, perforated basally adjacent to the midrib, thus appearing stilted; *midrib* very prominently raised abaxially, slightly sunken adaxially; *primary venation* pinnate, raised abaxially, somewhat impressed adaxially, 2–4 primary veins per pinna; *interprimaries* sub-parallel to primaries, slightly raised abaxially, slightly impressed adaxially; *secondary venation* strongly reticulate, slightly raised; *tertiary venation* invisible; ***inflorescence*** solitary subtended by a membranous prophyll and one or more cataphylls, these swiftly degrading to netted fibres; *peduncle* slightly laterally compressed to terete, 6–26 x 1–1.5 cm; *spathe* narrowly canoe-shaped, stoutly beaked, 10–15 x 3–3.5 cm, stiffly fleshy, dull yellow, gaping at female anthesis and then caducous leaving a large straight scar at the base of the spadix; *spadix* cylindrical, sessile, inserted ± level on peduncle, 9–13 x 1–1.5 cm, dirty white; *stylar region* well developed, mostly rhombohexagonal, 1.5–2 x c. 2 mm, very slightly conical; *stigmas* slightly elliptic, mostly longitudinally oriented, c. 0.3–0.5 x 0.2–0.4 mm; *anthers* barely exserted at male anthesis; *infructescence*

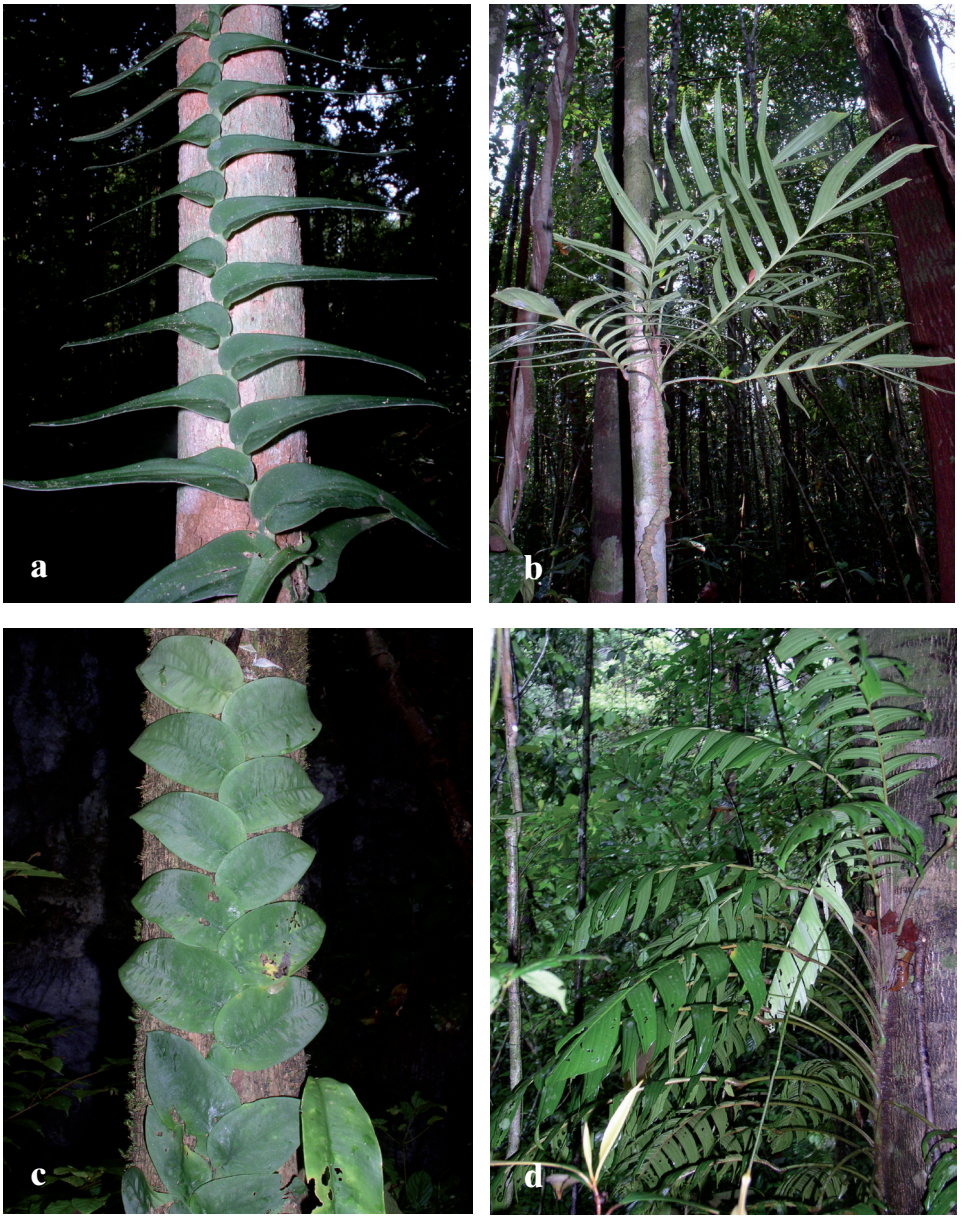


Plate 1. ***Rhaphidophora tenuis*** Engl.

a. Juvenile shingling stage showing diagnostic ascending falcate-lanceolate leaves.
b. Adult plant showing narrow pinnae.

Rhaphidophora korthalsii **Hassk.**
c. Juvenile shingling stage with ovate, spreading and overlapping leaves.
d. Adult plant showing broad pinnae.

14–18 x 2– 3cm, dark green ripening to dull orange, stylar tissue abscissing to reveal pale orange ovary cavity pulp.

Distribution: Sarawak, Brunei. Endemic.
Habitat: Primary to disturbed secondary lowland and hill forest, on trees and rocks on a variety of substrates including limestone. 20–650 m altitude.

Other specimens examined: SARAWAK. Kuching Division: Three miles from Kuching, *Haviland & Hose 3605* (K); Semengoh F.R., 6 miles west of Kuching, *Nicolson 1252* (US); Padawan, Subang, 7 Dec 2004, *M.Gibernau AR-837* (SAR); Bau, Kampung Segong, 26 Jun 2005, *Jeland ak Kisai & A. Shafreena AR-1262* (SAR); Padawan, Gunung Braang, 2 May 2001, *C.Lee AR-68.1* (SAR). Samarahan Division: Tebedu, mile 15, *Mohtar et al. S 49245* (K, SAR, US); Serian, G. Penrissen; *Paie S 16001* (K, LE, SAR). Bintulu Division: Eastern ridge of Bt. Kans, Bintulu district, *Hirano & Hotta 1432* (KYO); Sg. Ma'au, Dataran Tinggi Merurong, Tubau, *Othman et al. S 49050* (K, SAR); Bukit Sarang, Ulu Kakus, 02° 39' 21.08"; 100° 02' 61.09", *R.Kiew, Julia anak Sang & S.Lee* AR-729 (SAR). BRUNEI DARUSSALAM. Belait: Ulu Ingei, Bt. Batu Patam, lower slopes near Sg. Ingei, *Boyce 312* (BRUN, K).

Rhaphidophora tenuis can be fitted into the key to Bornean *Rhaphidophora* (Boyce 2001) as follows:

1a. Mature leaf lamina pinnately divided 2

1b. Mature leaf lamina entire, without or without perforations, but never pinnately divided 3

2a. Plants always associated with sandy or rocky forest streams. Flowering plants usually rheophytic, rarely low-climbing on trees beside torrential streams ..... **R. beccarii**

2b. Plants not specifically associated with watercourses.

3a. Juvenile shingling stage falcate-lanceolate non-overlapping ascending leaves; adult plants with leaf pinnae no more than 2 cm wide and frequently much less; inflorescences solitary; spadix slender, not exceeding 13 cm long ..... **R. tenuis**

3b. Juvenile shingling stage with ovate, overlapping spreading leaves; adult plants with leaf pinnae exceeding 3 cm wide; inflorescences several together; spadix stout, up to 25 cm long ..... **R. korthalsii**

3a = 4a, etc., as in Boyce (2001)

References

Boyce, P.C. 1999. The genus *Rhaphidophora* Hassk. (Araceae Monsteroideae-Monstereae) in Peninsular Malaysia, and Singapore. *Gardens*' *Bulletin Singapore* **51**:183–256.

Boyce, P.C. 2001. The genus *Rhaphidophora* Hassk. (Araceae-Monsteroideae-Monstereae) in Borneo. *Gardens*' *Bulletin Singapore* **53**: 19–74.