Studies on Homalomeneae (Araceae) of Peninsular Malaysia V: *Homalomena wallichii*, refound after over 190 years

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ABSTRACT

Homalomena wallichi, collected just once since 1822 has long languished in taxonomic obscurity. It has recently been refound in the wild after more than 190 years and is here reinstated as a taxonomically sound species and as endemic to Peninsular Malaysia. Images of Wallich's original collection, and of the living plant in flower, are provided.

KEY WORDS

Araceae, *Homalomena*, Homalomena Supergroup, Peninsular Malaysia, Pinang.

INTRODUCTION

Among the first major listing of plants including aroids, collected from "Malaya" (that is to say modern Peninsular Malaysia and Singapore) was that of Danish surgeon Nathaniel Wallich (1786–1854). Wallich came to the then-Danish settlement of Frederiksnagore, near Serampore, Bengal, India in 1807 as a Medical Attaché. During the Napoleonic Wars, in which Denmark sided with Napoleon, the British East India Company took over Frederiksnagore, and Wallich was briefly imprisoned. On his release, and after spell as an Assistant Surgeon in the British East India Company's service, Wallich was appointed Assistant to William Roxburgh, the East India Company's botanist in Calcutta. Then in 1817 Wallich was temporarily appointed Superintendent of the Calcutta garden, a post that was later confirmed. Wallich served until 1846, during which time he traveled extensively on botanical explorations, and compiled a catalog of more than 20,000 specimens entitled *A Numerical List of Dried Specimens of Plants in the East India Company's Museum* - known informally as the 'Wallich Catalog'. Wallich's catalog includes plants from virtually all of the Asian part of the then British Empire, including not only his own collections from Pinang and Singapore made in 1822, but also specimens collected mainly in 1819 on Pinang by William Jack (1795–1822), and by George Porter of the East India Company's Garden at Calcutta, who accompanied Wallich to Singapore in 1822 and later (1823–1834) remained in Pinang, at first as a schoolmaster and latterly in charge of the newly founded Botanic Garden near Ayer Hitam, the modern Penang Botanic Gardens.

Some of the aroids listed in Wallich's Catalog were worked up by Roxburgh (1820, 1832) and Jack (1820), while the pioneering aroid botanist Heinrich Schott also took a hand, in 1859 describing a new species of *Homalomena* in honor of Wallich based on material collected 37 years previously on Pinang. In the main it was left to Joseph Dalton Hooker (1817–1911), with considerable (and for the record not at all generously acknowledged) assistance from Nicholas Edward Brown (1849–1934), to incorporate them into a cohesive account within the *Flora of British India* (Hooker, 1893). In so doing they produced the first ever account of the aroids of modern West Malaysia.

Plate 1. ***Homalomena wallichii*** **Schott.** Holotype, K-W. Image © The Trustees, Royal Botanic Gardens, Kew. Used with permission.

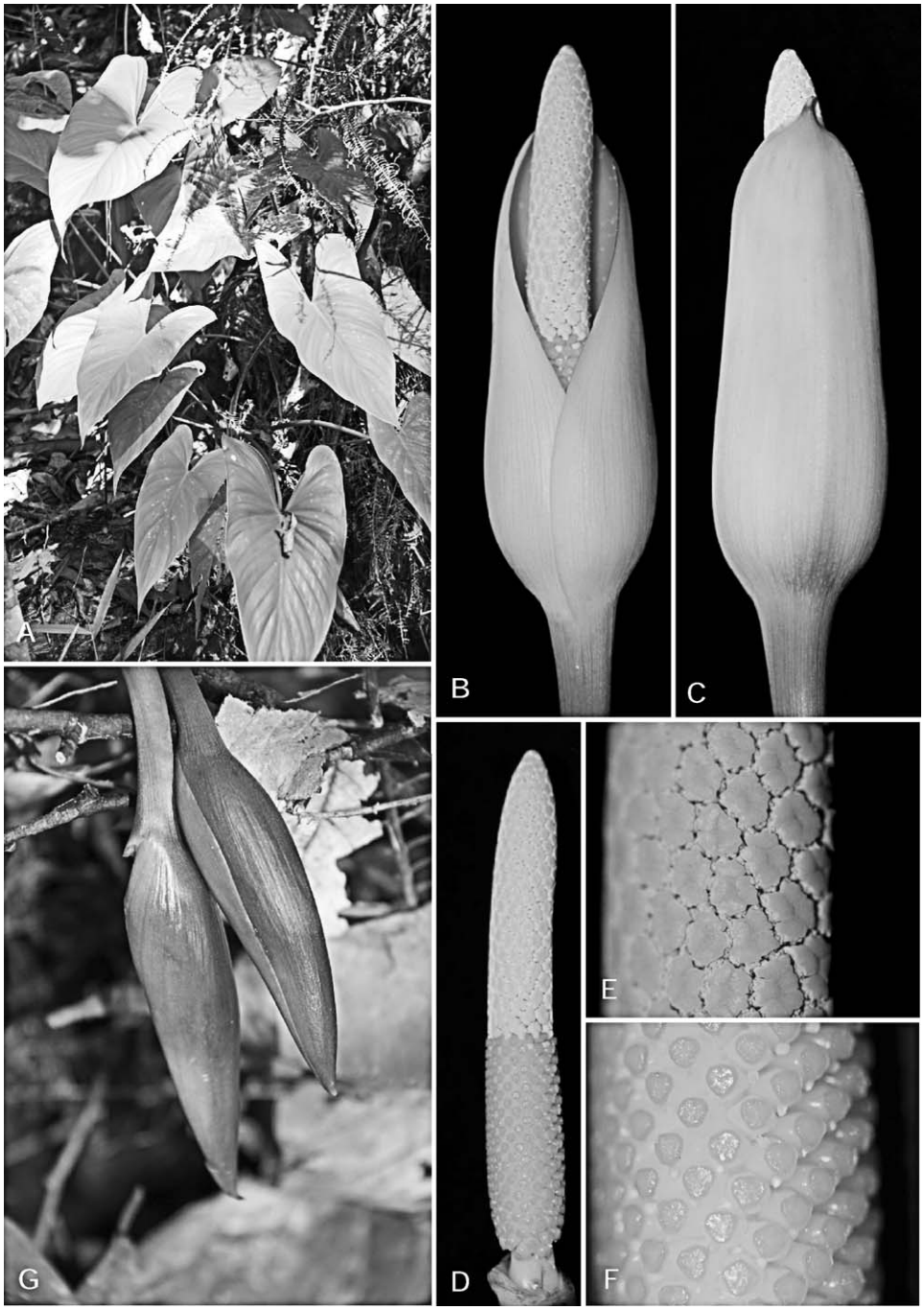

Plate 2. ***Homalomena wallichii*** **Schott. A.** Plant in habitat, Pinang. **B.** Inflorescence at pistillate anthesis. Ventral view. **C.** Inflorescence at pistillate anthesis. Dorsal view. **D.** Spadix at pistillate anthesis with spathe artificially removed. **E.** Detail of pistillate flower zone. **F.** Detail of staminate flower zone. **G.** Developing infructescences. Note that the persistent spathe has turned glossy reddish brown. A-G from *Baharuddin S. 4933.*

The *Homalomena* that Schott described in 1859 was called *H. wallichii*. The specimen upon which he based the name was collected by Wallich on Pinang in August 1822. It is highly distinctive species, not least owing to the remarkably long peduncle and the posture of the leaf blades, and unusually for the time, the herbarium material is in excellent condition (**Plate 1**). Given that at that time there were only 13 *Homalomena* species described in total, and that only two were originated for 'Malaya' there should not have been cause of confusion. However, this was not to be the case.

Engler (1879) maintained *H. wallichii*, but the origins of the taxonomic demise of *H. wallichii* may be traced to Hooker (1893). For reasons that are still far from clear, in particular since Hooker would have had unlimited access to the type specimen, Hooker included *H. wallichii*, (together with *H. major* Griff., *H, minor* Griff., both now *species dubiae*) in the synonymy of Javan *H. coerulescens* Jungh. ex Schott, a species not present in the Peninsula. Notwithstanding that *H. minor* and *H. major* (both Griffith, 1851a, 1851b) have priority over *H. coerulescens* (Schott, 1856), it is worth here relating that virtually all material determined by Hooker as *H. coerulescens* represent novel taxa.

Ridley's precursory account for Peninsula Malaysia (Ridley, 1907) aroid treatment follows that of Hooker (1893) with a few exceptions, including the reduction of *H. pontederiifolia* Griff. ex Hook. f. to a synonym of *H. coerulescens*.

Engler (1912), still the only complete revision of *Homalomena* to date, generally also follows those of Hooker (1893) and Ridley (1907) in listing *H. coerulescens* including *H. major*, *H, minor*, and *H. wallichii* as synonyms. Ridley (1925) continued the trend of ignoring *H. wallichii*.

Lastly there is Furtado's (1939) hopelessly muddled treatment of Javan *H. rubra* Hassk. (=*H. pendula* (Blume) Schott), a species absent from the Peninsula, but into which Furtado subsumed five Peninsular taxa: *H. curvata* Engl., *H. major*, *H. minor*, *H. pontederiifolia*, and *H. wallichii*.

One can only speculate as to how such a distinctive species could have been so treated. The habit of the sterile plant – with proportionately long-petiolate pendent leaf blades (leaf tip directed somewhat downwards) recalls that of an *Alocasia* – while fertile plants are unmistakable by the exceptionally long peduncle, with the inflorescence often equaling the preceding petiole. The spathe color is also highly distinctive; dorsally the spathes are rich ochre yellow with a reddish brown median band and a green rostrum, while ventrally and internally they are pale yellow, externally with faint darker longitudinal veining. At anthesis they produce a powerful menthol-like smell reminiscent of *Eugenia* (Myrtaceae). The persistent fruiting spathes are also striking, turning to glossy reddish brown.

Homalomena wallichii is very uncommon in the wild, and furthermore appears to be restricted to a very small area of Pinang, fortunately within the Taman Negara Pulau Pinang ("Muka Head N.P.")

Homalomena wallichii Schott, Bonplandia (Hannover) 7(3): 30 (1859). Type: MALAYSIA, Pulau Pinang, Aug. 1822, *N. Wallich EIC 8951* (holo K-W!). **Plates 1 & 2**.

Medium, solitary to weakly clumping, evergreen, glabrous, weakly aromatic (pinene), herbs to 1.2 m tall, shoots pleionanthic. *Stem* up to 30cm tall, 2.5 cm diam., initially erect, later decumbent, older parts clothed with pale brown papery to fibrous petiole base remains, with the roots penetrating this fibrous layer, ultimately naked, rooting prolifically from the nodes, active tip erect. *Leaves* up to 10 together, spirally

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arranged, clustered towards shoot tips; *petioles* erect, exceeding the blade, up to 85 cm long, non-sheathing portion weakly distally D-shaped in cross section, subterete proximally, .6–1cm diam., above petiolar sheath, base clasping the stem and expanding into a loosely persistent petiolar sheath, weakly glossy medium green with very faint dark green striae, *petiolar sheath* up to 13 cm long, slightly more less than 1/5 of petiole length, persistent, loosely closed, narrowly triangular and briefly decurrent at tip, appreciably paler green than petiole; *leaf blade* held almost perpendicular to the petiole, narrowly triangular to narrowly elliptic-triangular, 15–40 cm × 8–17 cm, base sagittate to hastate, apex attenuate with an apiculate tip ca. 5 mm long, posterior lobes 8–13 cm long, with 3–4 primary lateral veins arising from the same point and narrowly triangular, apex rounded, interior sides (across the sinus) narrowly elliptic, the sinus sub-naked for ca. 1.5 cm in most leaves, blade margins entire, adaxially semi-glossy medium green, abaxially slightly paler green; mid-rib less conspicuously impressed adaxially, prominent abaxially, semi-terete shape at mid-vein cross section; primary lateral veins ca. 7 per side, conspicuously raised abaxially, somewhat impressed adaxially; interprimary veins irregularly alternating with primaries, somewhat less prominent; secondary venation much finer, arising often almost at the base of the primaries; tertiary venation invisible. *Inflorescences* up to 6 together, smelling strongly of *Eugenia* (Myrtaceae), maturing sequentially in a simple synflorescence; peduncle upright at anthesis, fully declinate after anthesis; peduncle ca. 45 cm long, ca. 7 mm diam., weakly 3-angled-terete, medium green more-or-less evenly suffused medium brown, fading to green at the insertion of the spathe, very faintly irregularly pale-striate. *Spathe* unconstricted, narrowly triangular-cylindrical in bud, the base strongly oblique, ca. 7.5 cm long × 2 cm wide just prior to anthesis, at anthesis gaping to ca. 2.5 cm, based rounded and obliquely inserted on peduncle, tip obtuse with an abrupt, stout rostrum to 3 mm, spathe dorsally rich ochre yellow with a reddish brown median band, ventrally and internally pale yellow, externally with faint darker longitudinal veining, rostrum green. *Spadix* ca. 8 × 1.2 cm, obliquely stipitate; stipe 5 mm long × 7 mm wide, very pale green. *Pistillate flower zone* slightly compressed cylindrical, ca. 3 × 1.2 cm, pistils moderately densely arranged, 2 × 1 mm; *ovary* truncate-cylindric, the lowermost ones somewhat compressed, medium yellow; *stigma* sessile, discoid, flat, dirty white, ca. 1.1 mm diam.; *interpistillar staminodes* ca. 2 mm long, very slightly shorter that pistils, stipe very slender, clavate, waxy white, a few staminodes associated with distal-most pistils weakly trapezodial in plan view. *Staminate flower zone* ca. 4.5 × 1 cm, laterally compress-cylindrical, tip bluntly weakly tapering, ivory, almost contiguous with the pistillate zone, the interface marked by a very few scattered trapezoidal staminodes; *staminate flowers* weakly and irregularly rhombohexagonal, most with 4 stamens, 2 × 1.8 × 1.5–2 mm, anthers with 2 distinct thecae, each with a terminal crenate lobe, and overtopped by a large connective. *Fruiting spathe* persistent, turning glossy reddish brown, somewhat yellowish distally. *Fruits & seeds* not observed.

DISTRIBUTION

Malaysia, Pulau Pinang. Endemic, and seemingly restricted to Taman Negara Pulau Pinang ("Muka Head N.P.")

ECOLOGY

Humid lowland dipterocarp forest on granite and granite derived soils; ca. 50 m asl.

SPECIMENS SEEN

MALAYSIA. Pulau Pinang, Aug. 1822, *N. Wallich EIC 8951* (K-W); Pulau Pinang, Taman Negara Pulau Pinang ("Muka Head N.P."), July 2010, *Baharuddin S. 4933* (Herbarium, Universiti Sains Malaysia).

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