THAI FOR. BULL. (BOT.) 37: 15–26. 2009.

A review of *Pothos* L. (Araceae: Pothoideae: Pothoeae) for Thailand

PETER C. BOYCE[1]

ABSTRACT. An account of *Pothos* for Thailand is presented as a precursor of the forthcoming Flora of Thailand treatment. Eight species are recognized of which two (*P. wallichii* Hook.f. and *P. neoroxburghii* P.C.Boyce) represent new records for Thailand; the latter name is a *nomen novum* for long-overlooked and much obfuscated *P. roxburghii* de Vriese, *nom. illeg*. (non *P. roxburghii* Schott).

KEY WORDS: Araceae, *Pothos*, taxonomy, key, Flora of Thailand.

INTRODUCTION

Pothos L. is a genus of ca 65 species of subtropical and tropical, predominantly forest-dwelling, root-climbing hemiepiphytes distributed from Madagascar to Western Oceania (east to Vanuatu) and China (north to Hubei) to Australia (south to Queensland, New South Wales). Recent revisions have established an alpha-taxonomy for Malesia (Hay, 1995; Boyce & Hay, 2001), Thailand, and Indochina (Boyce, 2000).

Boyce (2000) published a precursory account for the Flora of Thailand but then, for a variety of reasons, final collation of the Thai Araceae account was delayed until last year. While undertaking updating and final compilation of the aroids, the author discovered two new Thai records for *Pothos*, including a necessary *nomen novum*. Given that these two additional species represent a more than 30% increase in the number of *Pothos* for Thailand an updated precursor account is provided here.

POTHOS

L., Sp. Pl. 968. 1753; Hook.f., Fl. Brit. India 6: 551. 1893; Ridl., Fl. Malay Penins. 5: 127. 1925; Gagnep. in H.Lecomte (ed.), Fl. Indo-Chine 6: 1082. 1942; Mayo et al., Gen. Araceae, 98–99, Pl. 5 & 108A, 1997; P.C.Boyce, Blumea 45: 147–204. 2000; P.C.Boyce & A.Hay, Telopea 9: 449–571. 2001.— *Tapanava* Adanson, Fam. Pl. 2: 470. 1763.— *Batis* Blanco, Fl. Filip. 791. 1837.— *Goniurus* Presl, Epimel. Bot. 244. 1851, '1849'.— *Potha* Kuntze, Rev. Gen. Pl. 2: 742. 1891, *orth. var.*

Small to very large, slender to rather robust hemiepiphytes. *Stems* rather woody, lower branches rooting, upper ones free and hanging in most species, nodes rarely bearing short, clustered spines, buds of lateral shoots sometimes perforating the leaf sheath or ±

[1] phymatarum@googlemail.com

infra-axillary. *Leaves* distichous, juvenile plants of some species with a shingle form. *Petiole* pulvinate apically, either broad, completely flattened and usually auriculate apically, or morphology normal with a long sheath, sometimes sheath reduced to a pair of hyaline ridges. *Lamina* linear-lanceolate to ovate or elliptic, mostly sometimes oblique; *primary lateral veins* either mostly arising near base of blade, long arcuate, and running into marginal vein near apex, or pinnate, weakly differentiated, forming submarginal collective vein, 1–2 marginal veins also present and these crossing the primary lateral veins to produce a distinctive 'pothoid' venation; *higher order venation* reticulate. *Inflorescence* morphologically axillary or infra-axillary, solitary or forming short free, very rarely elongating and rooting, synflorescences of several inflorescences, bearing 4–6, or more rigid, coriaceous cataphylls at the base. *Peduncle* very short to very long, sometimes reflexed. *Spathe* ovate to linear, rarely very long, persistent into fruiting. *Spadix* globose, ovoid, cylindric, ellipsoid or obovoid, sessile to long-stipitate, densely or laxly flowered. *Flowers* bisexual, perigoniate; tepals 4–6, usually fornicate, free or partially to completely connate. *Stamens* 4–6, free, filaments oblong, flattened, connective slender, thecae ellipsoid, dehiscing by a slit. *Gynoecium* with ovary ovoid-oblong or depressed, (2?–)3-locular; ovules 1 per locule, anatropous, funicle short, placenta axile at base of septum, stylar region sometimes as broad as ovary, stigma discoid-hemispheric to umbonate. *Fruit* an ellipsoid to ovoid, berry 1(–3)-seeded, usually red or rarely whitish or dull purple when ripe. *Seed* ellipsoid, testa smooth, embryo large, endosperm absent.

Distribution.— Ca 75 species distributed from Madagascar through to India, the subtropical eastern Himalayas, throughout subtropical and tropical Asia into the tropical western Pacific and tropical eastern Australia. Eight species in Thailand, none endemic.

KEY TO THE SPECIES

1. Leaf with petiole expanded and flattened, the leaf resembling that of many *Citrus* species
  2. Stipe of spadix sharply bent at anthesis, fertile portion of spadix held adjacent to peduncle; inflorescences generally arising in many leaf axils along a flowering branch **7. P. scandens**
  2. Stipe of spadix ± straight at anthesis; inflorescences either few at shoot tips, or arising singly in most axils of a flowering branch
    3. Peduncle not more than 2.5 cm long, green or purple; spathe green or purple; spadix stipe never exceeding 1.5 cm long; fertile portion ovoid, ca 3.5–13 by 3–11 mm, white to cream at anthesis
      4. Inflorescences few per flowering shoot, mostly at the tips; spathe green **1. P. chinensis**
      4. Inflorescences many per flowering shoot; arranged along the entire distal portion; spathe purple **6. P. roxburghii**
    3. Peduncle 4–10 cm long, dull orange-yellow; spathe white; spadix stipe 2.75–4 cm long; fertile portion clavate, 12.5–15 by 10–12 mm, mid-yellow **5. P. macrocephalus**
1. Leaf with petiole slender, canaliculate
  5. Spadix with flowers densely clustered, the whole appearing uniformly cylindrical
    6. Spathe deeply cucullate, deep purple; inflorescence carried below the flowering shoot on a sharply deflexed peduncle **3. P. kingii**
    6. Spathe lorate or lanceolate; inflorescence erect or spreading, peduncle not sharply deflexed
      7. Peduncle less than 1 mm diam., arching, inflorescence spreading; spathe 4–5 cm long, lanceolate **8. P. wallichii**
      7. Peduncle 2–3 mm diam., erect or curving and ultimately ascending, inflorescence held erect, spathe 2.5–10 cm long, lorate **4. P. leptostachyus**
  5. Spadix with flowers scattered along a slender axis **2. P. curtisii**

1. Pothos chinensis (Raf.) Merr., J. Arnold Arbor. 24: 210. 1948; Hook.f., Fl. Brit. India 6: 552 (sub. *P. cathcartii*). 1893; Gagnep. in H.Lecomte, Fl. Indo-Chine, 6: 1086–1087 (sub. *P. cathcartii*, *yunnanensis* & *balansae*). 1942; P.C.Boyce, Blumea 45: 155. 2000.— *Tapanava chinensis* Raf., Fl. Tellur. 4: 14. 1837.— *Pothos seemannii* Schott, Aroid. 22, t. 43. 1856–7; Schott, Bonplandia (Hannover) 5: 45. 1857.— *P. cathcartii* Schott, Aroid. 22, t. 44–45. 1858 (as 'cathcarti').— *P. warburgii* Engl., Bot. Jahrb. Syst. 25: 2. 1898.— *P. balansae* Engl., Bot. Jahrb. Syst. 25: 3. 1898.— *P. yunnanensis* Engl., Pflanzenr. 21(IV.23B): 28. 1905.— *P. chinensis* (Raf.) Merr. var. *lotienensis* C.Y.Wu & H.Li, Acta Phytotax. Sin. 15: 101. 1977. Fig 1 A–B.

Small to very large, slender to robust, homeophyllous root-climbing hemiepiphyte to 10 m. *Stem* weakly four-angled, slightly compressed or terete in cross section, mid-green, becoming greyish brown with age; fertile shoot often branching to three or more orders. *Leaves* many. *Petiole* broadly winged, obovate-oblong to linear-oblong or elongate-triangular, 5–14 by 0.5–2 cm, with 2–3 secondary veins and numerous veinlets per side, base decurrent to clawed, apex truncate, rounded or auriculate; *lamina* ovate to elliptic or lanceolate, 3–21 by 1.5–25 cm, leathery, drying chartaceous. *Flowering shoot* much abbreviated, arising from most of the mid- to distal leaf axils of fertile shoots, bearing a minute prophyll and a few 3–15 mm sequentially longer cataphylls. *Inflorescence* 1–2. *Peduncle* rather stout, 3–25 by 1.5–2.5 mm, erect to variously curved, green to brown-tinged; *spathe* 4–12 by 4–10 mm, ovate, concave, margins in-rolled, base cordate, clasping and slightly decurrent on the peduncle, apex fornicate to recurved, acute to subacute with a rather stout mucro, greenish white to green, occasionally faintly purple-tinged, somewhat waxy; spadix stipitate; stipe , terete in cross section, 5–10 by 1–1.25 mm, erect, straight, green; fertile portion globose to ovoid, 3.5–13 by 3–10 mm, pale green to white. *Flowers* ca 1–2 mm diam. *Infructescence* with 1–5 berries; *fruit* obclavate to ovoid or ellipsoid, 1–1.8 by 1–1.4 mm, mid-green ripening to scarlet, often with basal chartaceous tepal remains.

Thailand.— NORTHERN: Chiang Mai, Nan, Lampang, Phrae, Tak, Phitsanulok, Phetchabun; NORTH-EASTERN: Loei; EASTERN: Nakhon Ratchasima; SOUTH-WESTERN: Kanchanaburi; CENTRAL: Saraburi; SOUTH-EASTERN: Prachin Buri, Chanthaburi; PENINSULAR: Phangnga.

Distribution.— Nepal through NE India and Bhutan, Bangladesh, Burma to SW China, including Hong Kong (type), Cambodia, Lao P.D.R., Vietnam, Taiwan.

Ecology.— On rocks and trees and in clearings in tropical or subtropical primary or disturbed lowland wet or dry evergreen forest, rainforest, sandstone, limestone, granite, clay, loam or sandy soil; altitude: 250–1970 m.

Vernacular.— Kho kio yan (คอกิ่วย่าน) (Surin); tong ngum (ตองงุม), cak khep (คักเข็บ), tun wa (ตุนวา), wai takhep (หวายตะเข็บ) (Chiang Mai); wai tamoi (หวายตะมอย) (Nakhon Ratchasima); ta khap khio (ตะขาบเขียว) (Loei); phlu chang (พลูช้าง) (Peninsular); Hmab Ntsua Nees (Hmong dialect, Nan).

Uses.— Used fresh and applied topically on insect and animal bites [*Brun et al*. 502]; decoction from entire plant used in bath to treat tumours [*Brun et al*. 704] and drinking for anti-cough [*Anderson* 5572].

Notes.— Confusion between *P. chinensis* and *P. scandens* is possible. In flower *P. chinensis* is immediately recognizable by the straight, not bent, stipe and the generally larger, paler, fewer, more scattered inflorescences. Additionally, *P. scandens* produces solitary inflorescences whereas *P. chinensis* frequently produces inflorescences in pairs. Generally *P. scandens* has flowering shoots arising at many of the leaf axils of long pendent fertile shoots, thus there are often numerous inflorescences. By contrast, *P. chinensis* tends to produce flowering shoots only in the most distal leaf axils of short spreading fertile shoots, thus inflorescences are rather few. Inflorescence colours also differ; purple spathe and cream fertile spadix in *P. scandens*, green spathe and white to yellow fertile spadix in *P. chinensis*. Field observations have detected a faint sweet odour from inflorescences of *P. chinensis* but no detectable odour from *P. scandens*.

Sterile material of *P. chinensis* can be difficult to differentiate from *P. scandens*. Generally the petioles are less than half as long as the lamina, and the lamina is twice or more as broad as the petiole, narrower and with an attenuate apex. However, variation is such that intermediates are common. A feature noted in *P. chinensis*, but yet to be recorded for *P. scandens*, is the occurrence of flagelliform foraging shoots.

2. Pothos curtisii Hook.f., Fl. Brit. India 6: 554. 1893; Ridl., Fl. Malay Penins. 5: 1279 (sub *P. latofolius*). 1925; P.C.Boyce, Blumea 45: 186. 2000; P.C.Boyce & A.Hay, Telopea 9: 547. 2001.— *P. peninsularis* Alderw., Bull. Jard. Bot. Buitenzorg 3, 1: 381. 1920.— *P. latifolius* Hook.f., Fl. Brit. India 6: 554. 1893, *nom. illeg.*, *non P. latifolius* L.— *P. kunstleri* Hook.f., Fl. Brit. India 6: 554. 1893.— *P. maingayi* Hook.f., Fl. Brit. India 6: 554. 1893.

Slender, heterophyllous, root-climbing hemiepiphyte to 3 m. *Stem* (juvenile) ca 1.5 mm diam., terete to slightly angled in cross section, shingle-leaved; stem (mature) ca 6 mm diam., terete in cross-section. *Leaves* scattered, spreading. *Petiole* slender, canaliculate, rounded abaxially, 2–10.5 cm by 1–6 mm, base decurrent, apex prominently pulvinate; *petiolar sheath* distinct, prominent, erect, apically ligulate in young growth, ligule later disintegrating, base amplexicaul or decurrent to almost free; *lamina* broadly to narrowly oblong-elliptic, 8–26 by 1.6–9.5 cm. *Flowering shoot* much abbreviated to rarely rather elongated through reiteration, leafless or occasionally bearing developed but undersize foliage leaves. *Inflorescence* solitary on each reiterating flowering shoot but many such shoots arising sequentially; peduncle somewhat robust, strongly curving or straight, the inflorescence held erect, 2.5–6.5 cm by 1–4 mm, mid green; *spathe* linear-triangular to narrowly oblong, 3.4–6.7 by ca 1 cm, base rounded, annulately inserted onto peduncle, apex acuminate, slightly rough to smooth, pale brown tinged reddish pink; spadix stipitate; *stipe* 3–19 by 1–2 mm, terete; *fertile portion* 3.5–13.5 cm by 0.5–3 mm, very slender-cylindric, occasionally sterile at the tip, pale greyish pink, older inflorescences blackish red. *Flowers* 3 by 2.1 by 1.6 mm diam., widely scattered, arranged in a lax spiral along the spadix. *Infructescence* not observed.

Thailand.— PENINSULAR: Narathiwat.

Distribution.— Peninsular Malaysia (type), Singapore, Indonesia (Sumatra).

Ecology.— Wet hill and lowland evergreen forest; altitudes 60–600 m.

Vernacular.— None recorded.

Uses.— None recorded.

Notes.— *Pothos curtisii* is the only species of the *luzonensis* group (see Boyce & Hay 1998) occurring in Thailand. Fertile material is unmistakable by the slender spadix and scattered flowers. Sterile specimens may be confused with other species of the *Allopothos* supergroup, especially those occurring in the same region of peninsular Thailand (e.g. *P. kingii* and *P. leptostachyus*). *Pothos leptostachyus* and *P. kingii* have thinly chartaceous leaves, while *P. curtisii* has more coriaceous leaves.

3. Pothos kingii Hook.f, Fl. Brit. India 6: 553. 1893; Ridl., Fl. Malay Penins. 5: 131. 1925; P.C.Boyce, Blumea 45: 189. 2000; P.C.Boyce & A.Hay, Telopea 9: 515. 2001.— *P. grandispathus* Ridl., J. Straits Branch Roy. Asiat. Soc. 41: 48. 1904 ('*grandispatha*').— *P. ridleyanus* Furtado, Gard. Bull. Singapore 8: 150. 1935.— *P. ellipticus* Ridl., J. Straits Branch Roy. Asiat. Soc. 41: 48. 1904, *nom. illeg*., *non P. ellipticus* Moon ex Miq. Fig. 1C.

Moderate, slender, heterophyllous, root-climbing hemiepiphyte to 7 m. *Stem* (juvenile) ca 3 mm diam., terete in cross section, shingle-leaved; stem (mature) to 8 mm diam., terete in cross section. *Leaves* dense. *Petiole* slender, 4–12 cm by 2–2.5 mm; *petiolar sheath* extending to pulvinus, clasping basally on juvenile and mature sterile shoots, prominent and sheathing to 4/5 of its length on fertile shoots; *lamina* ovate to elliptic or lanceolate, 5–25 by 2.5–9 cm, stiffly chartaceous, air drying dull green with the midrib pale yellow and prominently raised. *Flowering shoot* elongated, leafy, arising from most of the mid to distal leaf axils of fertile shoots. *Inflorescence* solitary; *peduncle* reflexed by ca 90° at the base, the inflorescence held inverted beneath the shoot, 2–5 cm by 1.5– 2.5 mm, stout, yellow to orange-brown; *spathe* ovate, deeply cucullate, 4–10 by 2.5–6 cm, base slightly decurrent on the peduncle, apex acute, deep purple inside and out, softlyleathery and rather prominently net-veined; *spadix* sessile, cylindrical, 2.5–7 cm by 3–8 mm, deep purple-brown. *Flowers* ca 1 mm diam. *Infructescence* not observed.

Thailand.— PENINSULAR: Ranong, Surat Thani, Nakhon Si Thammarat, Songkhla, Narathiwat.

Distribution.— Peninsular Malaysia (type).

Ecology.— Shady to open areas in wet primary evergreen forest, often on steep slopes. Frequently, but not exclusively, associated with limestone; altitudes 50–450m.

Vernacular.— None recorded.

Uses.— None recorded.

Notes.— Unique due to its deeply cucullate, softly leathery, deep purple spathe, *P. kingii* is restricted to southern Peninsular Thailand and a few localities in Peninsular Malaysia where it occurs in wet forest. Fertile specimens are instantly recognizable but sterile material could be confused with vegetatively similar *P. lorispathus* (to which *P. kingii* is allopatric), and *P. curtisii*. The last is known from one locality in Peninsular Thailand but is widespread and locally common in Peninsular Malaysia.

4. Pothos leptostachyus Schott, Prodr. Syst. Aroid.: 71. 1860; Ridl., Fl. Malay Penins. 5: 130 (sub. *P. lorispathus* (‘*lorispatha*’). 1925; P.C.Boyce, Blumea 45: 195 (sub. *lorispatha*). 2000; P.C.Boyce & A.Hay, Telopea 9: 498. 2001.— *P. lorispathus* Ridl., J. Straits Branch Roy. Asiat. Soc. 86: 310. 1922 (‘*lorispatha*’). Fig. 1D.

Moderate, robust, (heterophyllous?), root-climbing hemiepiphyte to 8 m. *Stem* (mature) to 6 mm diam., terete in cross-section; fertile shoots seldom branching, stem of fertile shoot to 4 mm diam., densely clothed with leaves. *Leaves* dense. *Petiole* slender, 3–7 m long; *petiolar sheath* somewhat prominent, extending to just below apical pulvinus, basally clasping, apically briefly auriculate to slightly ligulate; *lamina* oblong-elliptic, often falcate, unequal, occasionally quite strongly so, 10–34 by 2.5–10 cm, base rounded, apex acute to acuminate, very briefly tabulate, stiffly but thinly chartaceous, air drying dull greenish. *Flowering shoot* arising from below the leaf axils of fertile shoots, abbreviated, usually leafless but with 1–several well-developed cataphylls, very occasionally with one or more fully developed but reduced leaves. *Inflorescence* solitary but flowering shoots almost always reiterating and thus several inflorescences at varying degrees of developmental maturity often present; *peduncle* moderately stout, 3–5 cm by 2–3 mm, erect or curving and ultimately ascending and the inflorescence held erect, dull green; *spathe* lorate, 2.5–10 cm by 5–15 mm, spreading, base auriculate, auricle margins inrolled, barely decurrent on the peduncle, apex obtuse, acuminate, mid green; *spadix* stipitate; stipe 8–15 by ca 2 mm, slender, terete, lime green; *fertile portion* 5–6.5 cm by 3–4 mm, cylindrical to tapering slender–cylindrical, straight to slightly curved, base unequal, slightly cochleate, creamy yellow. *Flowers* ca 1.5 mm diam. *Infructescence* with numerous berries; fruit 1–1.5 cm by 5–8 mm, obclavate to ellipsoid, ripening deep scarlet, with basal chartaceous tepal remains.

Thailand.— PENINSULAR: Yala.

Distribution.— Peninsular Malaysia (type), Indonesia (Sumatra, Aceh), Borneo.

Ecology.— Damp to rather dry evergreen hill forest on limestone; altitude 50–100 m.

Vernacular.— None recorded.

Uses.— None recorded.

Notes.— Confusion with *P. wallichii* is possible although the stout (2–3 mm diam.) erect peduncles and longer, lorate spathe readily distinguishes *P. leptostachyus*.

5. Pothos macrocephalus Scort. ex Hook.f., Fl. Brit. India 6: 553. 1893; Ridl., Fl. Malay Penins. 5: 128. 1925; P.C.Boyce, Blumea 45: 172. 2000; P.C.Boyce & A.Hay, Telopea 9: 476. 2001. Fig. 2A.

Large, robust, homeophyllous, root-climbing hemiepiphyte to 15 m. *Stem* (juvenile) to 8 mm diam., weakly angled or subterete in cross section; stem (mature) 12 mm diam. *Leaves* dense. *Petiole* broadly winged, oblong to obovate-oblong, 5–14 cm by 5–15 mm, with 4–5 secondary veins per side, base decurrent to clawed, apex truncate, rounded or auriculate; *lamina* ovate to elliptic or lanceolate, 3–18 by 1.5–20.5 cm, with 2–4 intramarginal veins per side, base rounded to acute, apex attenuate-mucronate to acute or attenuate, minutely tabulate, leathery. *Flowering shoot* much abbreviated,

arising from mostly the middle to distal leaf axils of fertile shoots, sometimes arising on older leafless parts, bearing a minute prophyll and a few 5–35 mm, sequentially longer cataphylls. *Inflorescence* solitary; *peduncle* rather stout, 4–10 cm by 1.5–2 mm, erect, dull orange-yellow; *spathe* ovate, 2.5-3 by 2–2.5 cm, flat to convex, base cordate, clasping the peduncle, apex slightly raised, acute to subacute with a stout mucro, white, somewhat waxy; *spadix* stipitate; stipe terete in cross section, 2.5–4 cm by 2–2.5 mm, erect, straight, pale green; *fertile portion* ovoid-clavate, 1.25–1.5 by 1–1.5 cm, mid-yellow. *Flowers* ca 1–2 mm diam. *Infructescence* with 1–5 berries; fruit obclavate to ovoid or ellipsoid, 1–1.75 by 1–1.4 cm, deep green ripening to scarlet, epidermis of upper part of ovary roughened in sub-mature fruits, more or less smooth when ripe.

Thailand.— PENINSULAR: Yala, Narathiwat.

Distribution.— Peninsular Malaysia (type), Indonesia (Sumatra).

Ecology.— Rainforest on rock along streams, moist evergreen forest on moderate slopes. Frequently associated with limestone or granite; altitude 50–300 m.

Vernacular.— Thao phan dong (เถาพันดง) (Peninsular).

Uses.— None recorded.

Notes.— A large distinctive hemiepiphyte which, for the area under review, has so far been collected only in Yala and Narathiwat provinces of peninsular Thailand where its occurrence is sporadic. The large yellow and white inflorescences are most similar in appearance to those of *P. gigantipes* (S. Vietnam & Cambodia). However, the form of the mature and juvenile leaves of these species is quite different. Sterile *P. macrocephalus* can be confused with *P. scandens* although in the latter the petiole is generally shorter than the lamina and overall *P. macrocephalus* is a more massive plant.

6. Pothos neoroxburghii P.C.Boyce, **nom. nov.**— *P. roxburghii* de Vriese in F.A.W.Miquel, Pl. Jungh.: 103 (1851), non Schott, Aroideae: 22 (1856).— *P. longipedunculatus* Engl., Pflanzenr., IV, 23B: 27 (1905), *nom. illeg.*, *non*. Ridl., Bull. Misc. Inform. Kew 1925: 93 (1925), *nom. illeg*. Lectotype (selected here): Malaysia, Penang, *Porter s.n., sub Wallich* E.I. Cat. No. 4435D (**K-WAL!**) This is the only physical specimen cited by de Vriese. The other syntype is: *Wight Icones III:* 776. Fig. 2B.

Large moderately robust, homeophyllous, root-climbing hemiepiphyte to 15 m. *Stem* to 15 mm diam., four-angled or slightly compressed-terete in cross section; fertile shoot branching to ca two orders, stem to 10 mm diam. *Leaves* dense. *Petiole* 2–20 cm by 5–20 mm, broadly winged, obovate-oblong to linear-oblong, with 2–3 secondary veins and numerous veinlets per side, base decurrent, apex truncate, rounded or auriculate; *lamina* 2–10 by 1–4 cm, ovate to elliptic or lanceolate with 2 intramarginal veins per side, base rounded to acute, apex attenuate-mucronate, leathery. *Flowering shoot* much abbreviated, arising from most of the mid- to distal leaf axils of fertile shoots, bearing a minute prophyll and a few 3–10 mm, sequentially longer, cataphylls. *Inflorescence* solitary; peduncle slender, 3–15 by 0.5–2 mm, erect to spreading, green to purple-tinged; *spathe* 4–10 by 4–10 mm, ovate, concave, margins flate to slightly concave, base short, apex rounded to acute with a tiny, rather stout mucro, maroon; *spadix* long-stipitate; stipe terete in cross section, 10–15 by ca 1 mm, erect, white; *fertile portion* globose or ovoid

to subclavate, 9–12 by 3.5–10 mm, white. *Flowers* ca 1–2 mm diam. *Infructescence* with 1–5 berries; fruit obclavate, 1–1.75 by 1–1.5 cm, mid-green ripening to deep scarlet.

Thailand.— SOUTH-WESTERN: Kanchanaburi, Phetchaburi; SOUTH-EASTERN: Prachin Buri, Chachoengsao, Chon Buri, Rayong, Chanthaburi, Trat; PENINSULAR: Surat Thani, Phangnga, Phuket, Krabi, Nakhon Si Thammarat, Trang, Songkhla, Pattani.

Distribution.— NW India through Burma.

Ecology.— On trees and rocks in primary and secondary wet lowland to hill evergreen tropical forest; altitude 150–450 m.

Vernacular.— Thao phan dong (เถาพันดง) (Peninsular).

Uses.— None recorded.

Notes.— de Vriese erected *Pothos roxburghii* seemingly unaware that the name was preoccupied for a Sumatra species now known as *Pothos junghuhnii* de Vriese. Later uncritical synonymization of de Vriese's epithet into *P. scandens*, along with the illegitimacy of Engler's attempt at renaming de Vriese's concept (as *P. longipedunculatus*) but based upon a new type (thus rendering Engler's epithet illegitimate) has long obfuscated the status of plants that while resembling *P. scandens*, differ markedly in the larger inflorescences with the stipe not reflexing. The new epithet is chosen to continue in some way to reflect that Roxburgh, as so often, actually got the taxonomy correct but simply failed to get the name published in accordance with modern rules.

7. Pothos scandens L., Sp. Pl.: 698. 1753; Hook.f., Fl. Brit. India 6: 551. 1893; Ridl., Fl. Malay Penins. 5: 127. 1925; Gagnep. in H.Lecomte, Fl. Indo-Chine 6: 1083. 1942; P.C.Boyce, Blumea 45: 180. 2000; P.C.Boyce & A.Hay, Telopea 9: 461. 2001.— *Batis hermaphrodita* Blanco, Fl. Filip. ed. 1: 791. 1837.— *Pothos hermaphroditus* (Blanco) Merr., Sp. Blancoanae: 90. 1918.— *P. angustifolius* C.Presl, Epimel. Bot.: 243. 1849.— *P. chapelieri* Schott, Aroideae: 22, t. 35. 1856–1857.— *P. exiguiflorus* Schott, Aroideae: 21, t. 41. 1856–1857.— *P. cognatus* Schott, Aroideae: 22, t. 42. 1856–1857.— *P. scandens* L. var. *cognatus* (Schott) Engl. in A.L.P de Candolle & A.C.P. de Candolle, Monogr. Phan. 2: 84. 1879.— *P. zollingerianus* Schott, Oesterr. Bot. Wochenbl. 5: 19. 1855.— *P. horsfieldii* Miq., Fl. Ned. Ind. 3: 178. 1856.— *P. decipiens* Schott, Bonplandia (Hannover) 7: 165. 1859.— *P. fallax* Schott, Prodr. Syst. Aroid.: 560. 1860. Fig. 2 C.

Moderate to rather large, slender to moderately robust, homeophyllous, root-climbing hemiepiphyte to 6 m. *Stem* 10 mm diam., weakly four-angled or slightly compressed-terete in cross section; fertile shoot often branching to four or more orders, stem to 5 mm diam. *Leaves* dense. *Petiole* 2–14 cm by 5–20 mm, broadly winged, obovate-oblong to linear-oblong, with 2–3 secondary veins and numerous veinlets per side, base decurrent, apex truncate, rounded or auriculate; *lamina* 2–10 by 1–4 cm, ovate to elliptic or lanceolate with 2 intramarginal veins per side, base rounded to acute, apex attenuate-mucronate, leathery. *Flowering shoot* much abbreviated, arising from most of the mid- to distal leaf axils of fertile shoots, bearing a minute prophyll and a few 3–10 mm, sequentially longer, cataphylls. *Inflorescence* solitary; peduncle slender, 3–15 by 0.5–2 mm, erect to spreading, green to purple-tinged; *spathe* 4–8 by 4–7 mm, ovate, concave,

margins variously inrolled, base short or somewhat long-clawed, apex rounded to acute with a tiny rather stout mucro, greenish to maroon; *spadix* stipitate; stipe terete in cross section, 5–10 by ca 1 mm, erect, the distal part erect to bent through 270°, greenish to maroon; *fertile portion* globose or ovoid to subclavate, 4–10 by 3.5–10 mm, yellow green to off white. *Flowers* ca 1–2 mm diam. *Infructescence* with 1–5 berries; fruit obclavate, 1–1.75 by 1–1.5 cm, mid-green ripening to deep scarlet.

Thailand.— NORTHERN: Chiang Mai, Chiang Rai, Nan, Lampang, Phrae, Sukhothai, Phitsanulok; NORTH-EASTERN: Phetchabun, Loei, Nakhon Phanom; EASTERN: Chaiyaphum; SOUTH-WESTERN: Kanchanaburi, Phetchaburi; CENTRAL: Nakhon Nayok; SOUTH-EASTERN: Prachin Buri, Chachoengsao, Chon Buri, Rayong, Chanthaburi, Trat; PENINSULAR: Surat Thani, Phangnga, Phuket, Krabi, Nakhon Si Thammarat, Trang, Songkhla, Pattani.

Distribution.— Madagascar to India and Sri Lanka (type), through Bangladesh to SW China, south Indonesia through Peninsular Malaysia to Borneo and the Philippines.

Ecology.— On trees and rocks in primary and secondary wet to dry lowland to hill evergreen tropical to subtropical forest, occasionally on sea cliffs, on a variety of substrates including clay, limestone or granite; altitude 0–2100 m.

Vernacular.— Kho kio (คอกิ่ว) (Surat Thani, Yala); cha khep (จะเข็บ) (Central, Lao), ta khep (ตะเข็บ) (Central); kao kin bai-lek, kao kin bai noi (Trang), ta khap (Chon Buri), wai mai (Myanmar: Shan, Shan dialect), wai so toi (Chon Buri), wai tamoi (หวายตะมอย) (Trat, Uttaradit); wai saloi (หวายสะลอย) (Nong Khai); wai nu (หวายหนู) (Chiang Rai); na-mae-ka-ting (นะแมะกะติง) (Malay–Pattani).

Uses.— In China the plants are used as blood coagulant, principally for wounds. Fruits and leaves made into a compress [*Keenan et al*. 3281 (GH)].

Notes.— *Pothos scandens* is unmistakable in its typical aspect, carrying rather small inflorescences on bent peduncles. However, the species is highly variable. Some populations comprise high-climbing plants bearing tiny inflorescences (*Beusekom & Smitinand* 2150, *Geesink et al*. 7250, *Larsen et al*. 44267 and *Smitinand* 2959 are representative of this element). Other populations (collections include e.g. *Phusomsaeng* 188, *Larsen* 9524, *Kasin* 366) produce rather large inflorescences not exhibiting the bent peduncle until very late anthesis or during early infructescence development.

8. Pothos wallichii Hook.f., Fl. Brit. India 6: 553. 1893; Ridl., Fl. Malay Penins. 5: 129 (sub. *P. barberianus* var. *wallichii*). 1925; P.C.Boyce & A.Hay, Telopea 9: 521. 2001.— *Pothos barberianus* Schott var. *wallichii* (Hook.f.) Ridl., Mat. Fl. Malay Penins. 3: 49. 1907 & Fl. Malay Penins. 5: 129. 1925. Fig. 2 D–E.

Slender, (heterophyllous?), root-climbing hemiepiphyte. *Stem* ca 6 mm diam., subterete. *Leaves* dense. *Petiole* slender, 6–9 cm long; *petiolar sheath* margins inrolled and thus sheath not prominent, extending to just below pulvinus, basally clasping, apically briefly ligulate; *lamina* lanceolate to lanceolate-elliptic, 6–16 by 2–5 cm, base acute to obtuse, apex acute to acuminate, very briefly apiculate; primary lateral veins arising at ca 80°, very fine, stiffly but thinly chartaceous, drying dull greenish. *Flowering shoot* leafy,

arising from the distalmost portions of fertile shoots. *Inflorescence* solitary. *Peduncle* very slender, 4–11 cm by ca 0.75 mm, arching, very rarely reflexed. *Spathe* lanceolate, 4–5 by 0.5–1 cm, spreading to weakly reflexing, base auriculate, auricle margins inrolled, barely decurrent on the peduncle, apex acute to acuminate, dull reddish purple with paler longitudinal streaks. *Spadix* briefly stipitate; *stipe* ca 2 mm long; *fertile portion* slender, cylindrical, 5–7.5 cm by ca 2 mm, straight to slightly curved, base unequal, slightly cochleate, creamy yellow. *Flowers* ca 1.2 mm diam. Infructescence with rather few berries, these mostly carried on the basal half of spadix. *Fruit* ellipsoid, 1–1.2 cm by 4–5 mm, with a prominent stigmatic remnant, ripening deep scarlet.

Thailand.— PENINSULAR: Phatthalung.

Distribution.— Peninsular Malaysia (type), Java.

Ecology.— Evergreen forest; altitudes 100–200 m.

Vernacular.— None recorded.

Uses.— None recorded.

Notes.— A new record for Thailand. *Pothos wallichii* is immediately recognizable by the inflorescences pendent from leafy shoot tips and the slender (less than 1 mm diam.) peduncle. It is similar to *P. leptostachyus* but readily separated by the much more slender arching, not erect, peduncles and the generally shorter lanceolate spathe and the glossy reddish purple with paler longitudinal streaks, not green, spathe limb.

ACKNOWLEDGEMENTS

This work was supported by the TRF/BIOTEC Special Program for Biodiversity Research and Training grant BRT R-151008.

REFERENCES

Boyce, P.C. (2000). The genus *Pothos* (Araceae: Pothoideae: Potheae) of Thailand and Indochina. Blumea 45: 147–204.

Boyce, P.C. & A. Hay. (1998). Current advances in the taxonomy of *Pothos*. In: H. Li et al. (eds), Current Advances in Araceae Studies. Acta Botanica Yunnanica Supplement X: 43–47.

_____. (2001). A taxonomic revision of Araceae tribe Potheae (*Pothos*, *Pothoidium* and *Pedicellarum*) for Malesia, Australia and the tropical Western Pacific. Telopea 9: 449–571.

Hay, A. (1995). The genus *Pothos* L. (Araceae-Potheae) in New Guinea, Solomon Islands and Australia. Blumea 40: 397–419.

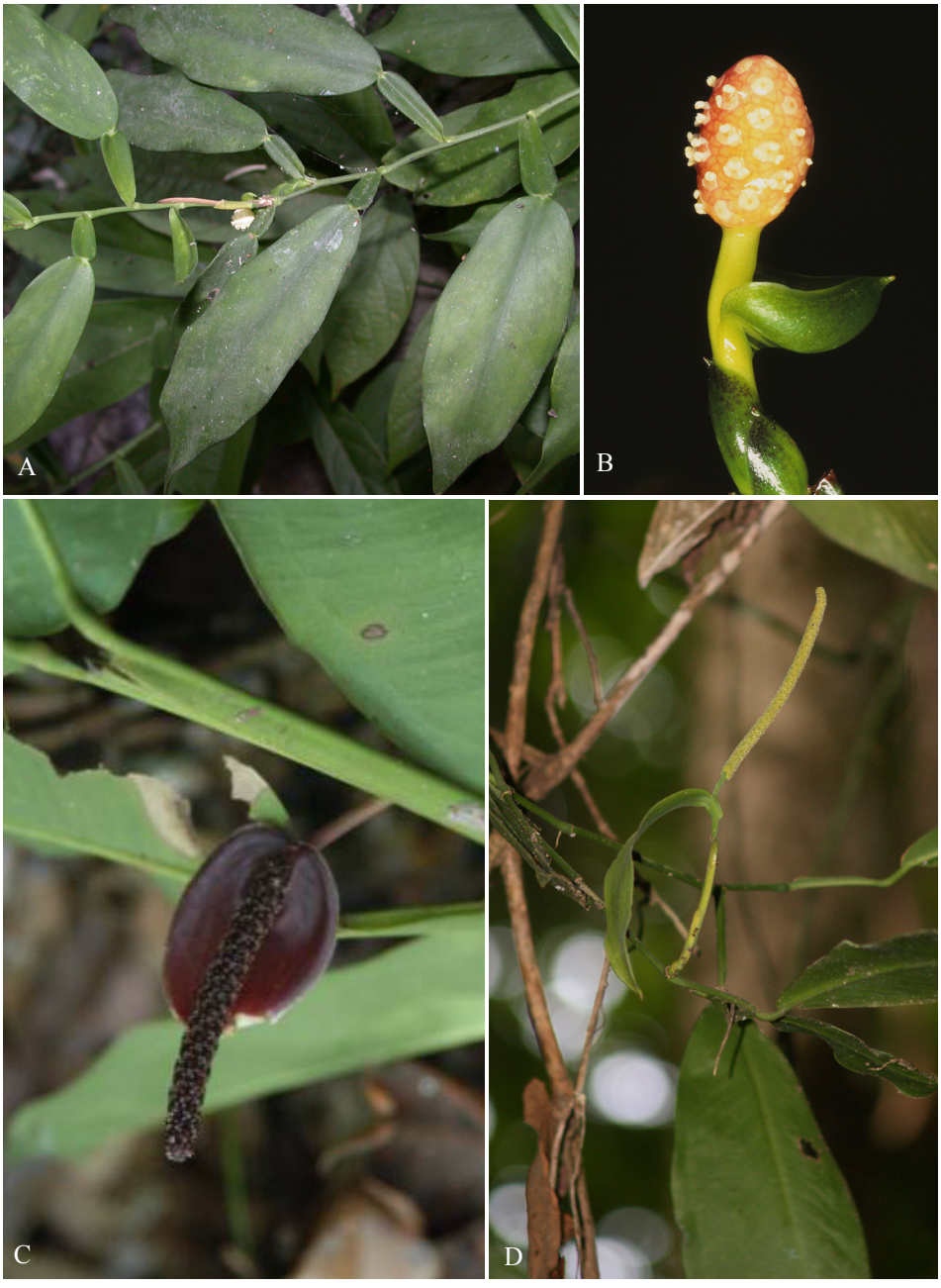

Figure 1. *Pothos chinensis*: A-B. note the inflorescence situated at the tip of the flowering shoot; *P. kingii*: C. showing the diagnostic hooded deep purple spathe; *P. leptostachyus*: D. the erect inflorescences and green, lorate spathe distinguish this from the somewhat similar *P. wallichii*. Images: A–B: © Rachun Pooma; C: © Dept. Plant Sciences, Faculty of Research Science and Technology, Unimas; D: © Peter Boyce. Used with permission.

Figure 2. *Pothos macrocephalus*: A. the most spectacular *Pothos* in Thailand; the large white and yellow inflorescences are immediately diagnostic; *P. neoroxburghii*: B. long confused with *P. scandens*, but immediately separable by the straight, not reflexed stipe; *P. scandens*: C. note the inflorescences in each of the leaf axils and the reflexed stipe; *Pothos wallichii*: D-E. the deflexed peduncle and reddish purple, white-striped spathe readily separate this from *P. leptostachyus*. Images: A–B: © Rachun Pooma; C: © David Scherberich; D–E: © Peter Boyce. Used with permission.