

**Studies on Monstereae (Araceae) of
Peninsular Malaysia III:
Scindapsus lucens, a New Record for Malaysia, and a Key
to Peninsular Malaysian *Scindapsus***

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Abstract

Scindapsus lucens Bogner & P.C.Boyce is a species of considerable horticultural potential, arguably rivalling the commercially important *S. pictus*, originally described from cultivated material of unknown provenance and only later found wild in Sumatera. It has recently been discovered and collected from several localities in southern Peninsular Malaysia, representing both a new record for Malaysia, and through clonal propagation via various tissue culture techniques would supply a sustainable potential source of a local commercial ornamental horticultural product. An enlarged description of *S. lucens*, and a key to the Peninsular Malaysian *Scindapsus* are offered. A plate illustrating the diagnostic characters of *S. lucens* is given.

Introduction

Scindapsus has not been revised in its entirety since 1908 (Engler & Krause, 1908), and not treated for Malaysia since Ridley's accounts for the flora (Ridley, 1907, 1925), when he recognized 5 species: *Scindapsus beccarii* Engl., *S. hederaceus* Miq., *S. perakensis* Hook.f., *S. pictus* Hassk., and *S. scortechinii* Hook.f. Since Ridley, fieldwork has revealed two further species: *S. treubii* Engl., a widespread species from Sumatera to Borneo, and *S. lucens* reported here.

Scindapsus lucens Bogner & P.C.Boyce (1994) was described based on material of unknown origin cultivated in the Botanischer Garten München, Germany, with a note added late in proof that it had subsequently been located in Kabupaten Tapanuli, western Sumatera Utara. Since publication,

consultation of all the major herbaria in Peninsular Malaysia, and other herbaria with significant Malaysian and Indonesian collections (K, L, SING) has not revealed a single collection of this distinctive and horticulturally promising species. It was thus with some considerable surprise that during a recent series of fieldwork in Peninsular Malaysia *S. lucens* proved to be a widespread species in Johor Bahru, Melaka, Negeri Sembilan, and Pahang. Plants seemingly favour the drier facies of perhumid podzolic shady lowland peatforest, although on occasions occurring with no less vigour in lowland mixed dipterocarp forest.

These new collections have revealed additional morphological details that were unavailable at the time of original publication, and have also shown that the leaf colour is more variable than was initially reported, with the leaf blade ranging from pale grey (as per the typical collection) to an unusual (for Araceae) shade of jade green.

Key to Peninsular Malaysian *Scindapsus*

1. Short-climbing to perching epiphyte or scandentsemi-terrestrial.....2
1. Lianes.....3
2. Stout, short-climbing to perching epiphyte; leaves large, up to 75 × 25 cm, carried in litter-trapping fan, glossy deep-green, oblanceolate. Spathe white. Lowlands.....***S. beccarii***
2. Scandent semi-terrestrial, leaves small, up to 15 × 9 cm, scattered along a sprawling stem, medium green, slightly glossy, ovate. Spathe yellow. Highlands.....***S. scortechinii***
3. Leaf blade oblong lanceolate, primary lateral veins impressed adaxially and raised abaxially; petiole broadly conspicuously open-winged to the pulvinus.....4
3. Leaf blade mostly cordiforme, if oblong-lanceolate then primary lateral veins irtually invisible; petiole not or only very obscurely winged to the pulvinus.....5
4. Spadix at anthesis *ca* 3.5 cm long.....***S. hederaceus***
4. Spadix at anthesis 10-15cm long.....***S. perakensis***
5. Stems smooth; leaf blade sub-succulent, markedly oblique, oblongo-lanceolate, concolorous deep green, less often with jagged grey markings in juvenile plants***S. treubii***
5. Stems scabrid or verruculose; leaf blade coriaceous but not markedly succulent, not markedly oblique, cordiforme.....6

6. Leaf blade conspicuously bullate, glossy pale grey to pale jade green; stems verruculose, older portions remaining green.....*S. lucens*
6. Leaf blade smooth, adaxially matte to somewhat scintillating, medium green, usually with silvery jagged spots or with these coalescing into larger areas; stems at most scabrid, older portions with conspicuous orange-brown, brittle epidermis..... *S. pictus*

Scindapsus lucens Bogner & P.C.Boyce, Kew Bull. 49: 789 (1994). – **Type:** Origin unknown, cultivated in Botanischer Garten München, *Bogner 2113* (holo,M!; iso,B!, K! (spirit)). **Plate 1.**

Slender, sparsely branched trunk climber to *ca* 4 m; **primary axis** sterile, physiognomically monopodial, comprising superposed sympodia; lateral branches fertile, rather few and short in wild plants, producing sub-terminal continuation shoots after flowering. **Stem** up to 4 mm diam., terete, epidermis markedly verruculate, glossy medium-green, verrucate similarly coloured, internodes of primary axis 3-8 cm long with one or two roots at each node; **roots** 1-2 mm diam., with grey, spongy epidermis. **Leaves** of primary axis rather distant, very regularly arranged, appressed to the substrate, those of lateral branches, somewhat densely grouped, petiole terete, adaxial surface slightly canaliculate; 3-5.5 cm × 2-3 mm, smooth, greyish to light green; pulvinate apically, pulvinus 1-1.5 cm, usually visible only on older leaves when the blade has moved its position relative to light; petiolar sheath 2-5 cm, almost reaching pulvinus; leaf blade 7-14 × 5-9.5 cm, cordiforme, conspicuously bullate, coriaceous, base cordate, posterior lobes sometimes overlapping, apex cuspidate to acuminate, margin entire, narrowly hyaline, lamina adaxially glossy greyish to jade green with the raised parts of bullae often paler, or in green forms tinged grey, paler and glossy abaxially; primary lateral veins 5-7 on each side of the middle vein, ascending towards apex; interprimary veins barely less prominent; secondary and tertiary venation reticulate, much less conspicuous. **Inflorescence** solitary on the tips of lateral branches: peduncle 5 cm × 4 mm diam., terete, green; subtending cataphyll with very small lamina, *ca* 1-2 cm × 5 mm, otherwise resembling petiole; spathe caducous during male anthesis, 5 × 15 cm, coriaceous, cuspidate, exceeding spadix, somewhat constricted above spadix apex and thence rostrate, very pale yellow, apical rostrum *ca* 7 mm long, pale green prior to anthesis, all except the very tip becoming same colour as spathe during anthesis; **spadix** *ca* 2.7 × 1 cm diam., oblong-ellipsoid, fusiform, pale yellow, shortly stipitate, stipe *ca* 2 mm long. **Flowers** bisexual, naked, truncate; gynoecium rhombohexagonal in plan view, 3.5-4.2 × *ca* 2 mm; stylar region broader than ovary, *ca* 1 mm thick, pale yellow; stigma longitudinal-linear, 1- 1.8 mm long, brown; ovary *ca* 3 mm diam., unilocular, locule globular,

ca 1.2 mm diam.; ovule solitary, *ca* 1 mm long, funicle short, placentation basal; stamens shorter than gynoecium, not extending markedly at pistillate anthesis; filaments flat, *ca* 1 × 1-1.2 mm; thecae ellipsoid, *ca* 0.8 × 0.5 mm, opening by a subapical slit. **Infructescence** unknown.

Specimens seen: MALAYSIA, **Johor Bahru:** Mersing, Kluang – Mersing road, km 39, Lenggong F.R., 02° 15.727', 103° 43.767', 18 April 2010, *P.C.Boyce, Siti Nurfaizilah bt Abdul Rahman & Ooi Im Hin AR-3056* (KEP); Kota Tinggi, Panti F.R., 01° 52.226', 103° 54.755', 19 April 2010, *P.C.Boyce, Siti Nurfaizilah bt Abdul Rahman & Ooi Im Hin AR-3057* (KEP); Kota Tinggi, Hutan Lipur Panti; 01° 48.077', 103° 57.202', 19 April 201, *P.C.Boyce, Siti Nurfaizilah bt Abdul Rahman & Ooi Im Hin AR-3060* (KEP). **Melaka:** Machap, Hutan Simpan Bukit Sedana, 02° 24' 00.6"; 102° 20' 91.7", 11 May 2010, *P.C.Boyce & Ng Kiaw Kiaw AR-3059* (KEP); **Negeri Sembilan:** Pasoh Forest Reserve, 3° 0' 0"; 102° 19' 60, 13 May 2010, *P.C.Boyce & Ng Kiaw Kiaw AR-3058*(KEP); **Pahang:** Kuala Rompin, Taman Negeri Endau Rompin, Waterfall trail, 02° 37' 08.9"; 103° 20' 81.3", 12 May 2010, *P.C.Boyce & Ng Kiaw Kiaw AR-3063* (KEP); Jerantut, Krau Wildlife Centre, main trail to river, 03° 49' 39.2"; 102° 13' 03.1", 13 May 2010 *P.C.Boyce & Ng Kiaw Kiaw AR-3054* (KEP).

Distribution: Malaysia (Johor Bahru, Melaka, Negeri Sembilan & Pahang). Indonesia, (western Sumatera Utara).

Habitat: Drier facies of perhumid lowland shady peatforest; less often in lowland mixed dipterocarp forest (e.g., at Pasoh F.R., Krau W.R.). 20-125 masl.

Notes: *Scindapsus lucens* appears to be a widespread species in southern Peninsular Malaysia, with occurrences so far recorded in four states. Curiously, given the complete absence of herbarium specimens, it appears to be more abundant than *S. pictus*, despite the abundance of material of the latter species in herbaria.

Potential of *Scindapsus lucens* as a sustainably-produced ornamental horticulture subject

Scindapsus lucens is a widespread species in the southern Peninsular, and although never abundant appears to be more prevalent than *S. pictus* Hassk., the species to which *S. lucens* is most similar. The very attractive

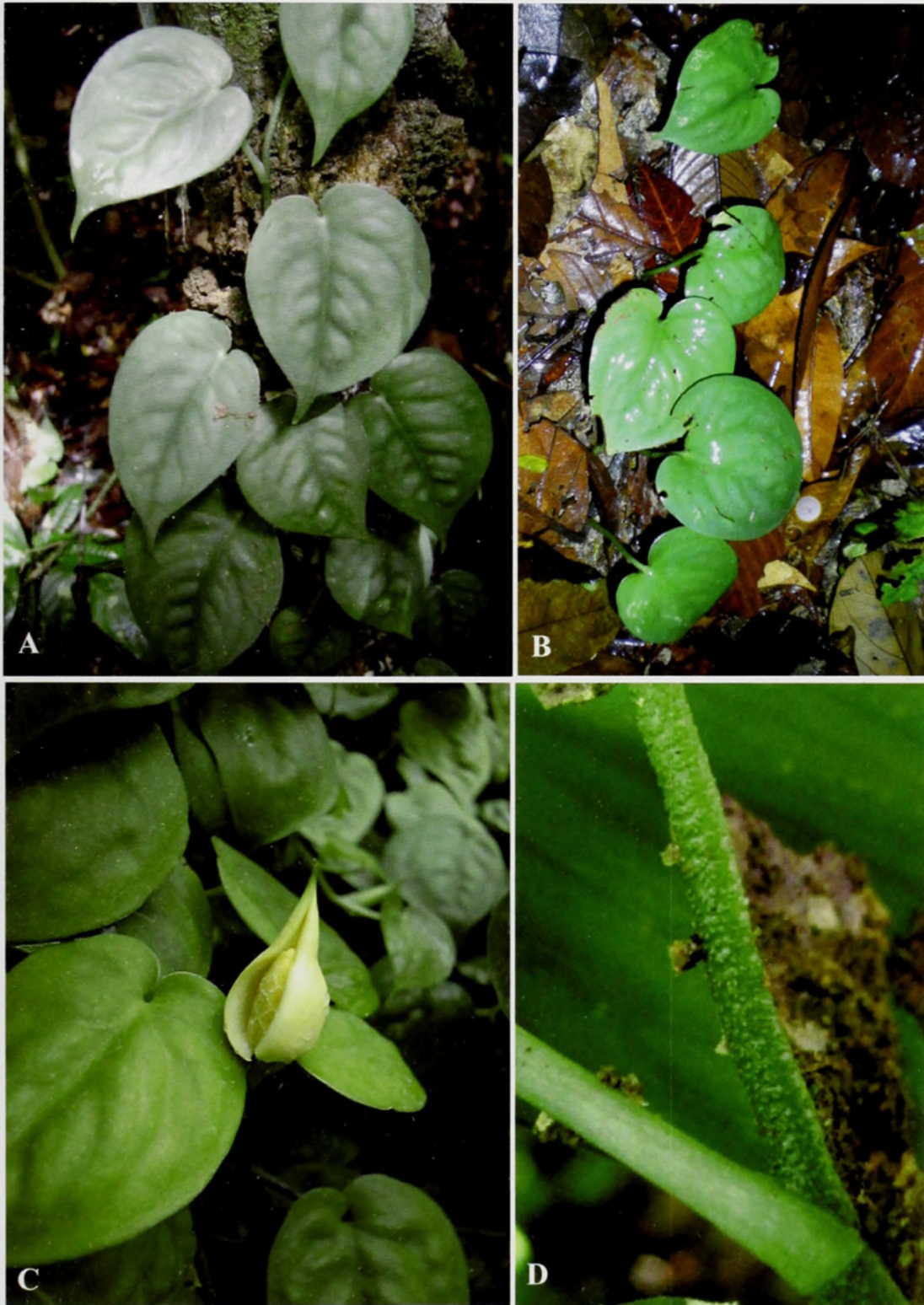


Plate 1. *Scindapsus lucens* Bogner & P.C.Boyce. A. Juvenile primary axis. Note the glossy quality of the leaf blade (P.C.Boyce & Ng Kiaw Kiaw AR-3054). B. Juvenile plant, jade-green type.(P.C.Boyce & Ng Kiaw Kiaw AR-3063). C. Type clone in cultivation, Jardin Botanique du Montet, Nancy, France (Bogner 2311). D. Detail of stem showing the diagnostic verrucate surface (P.C.Boyce & Ng Kiaw Kiaw AR-3054). Images A & B, D © P.C.Boyce; Image C © David Scherberich, used with permission.



Plate 2. A. *Scindapsus treubii* Engl. Note the subsucculent, strongly oblique leaf blade, and smooth stem. B-E. *Scindapsus pictus* Hassk. B. Primary axis showing the diagnostic and older portions with conspicuous orange, brittle scabrid epidermis. C-E. A selection of leaf markings typical of *S. pictus*. Notes the somewhat scintillating quality particularly in C & E. Images © P.C.Boyce.

leaves and, for a lianescent aroid, small habit make *S. lucens* an ideal subject for consideration as a commercial ornamental product with via various in vitro culture technology. The ease with which *S. pictus* is globally produced in tens of millions for the ornamental horticulture market augers well that *S. lucens* should also prove similarly amenable. In many respects *S. lucens* is a far more attractive plant than *S. pictus*, not in the least because it has a much more compact habit, and is not a heteroblastic species and thus the attractive juvenile stage is retained into adult-hood, unlike that situation with *S. pictus*, which requires regular pruning to retain the commercially desirable leaf form of the juvenile. Since *S. lucens* has a high potential as an attractive ornamental plant, it may be over-collected by irresponsible individuals to fulfil the public demand for new ornamental plant in the market. This may lead to the eventual extinction of this plant. To conserve the germplasm and prevent over-collection from its natural habitat, *S. lucens* can be mass propagated via induction of multiple shoots formation using shoot culture technique or the production of somatic embryogenesis using the leaf as explants. Millions of plantlets can then be produced to fulfil the market demand.

Acknowledgements

This work is funded under the Research University Grant of Universiti Sains Malaysia (1001/PBIOLOGI/811132)

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Ahmad Sofiman Othman., Boyce, Peter C., and Chan, Lai Keng. 2010. "Studies on Monstereae (Araceae) of Peninsular Malaysia III: Scindapsus lucens, a New Record for Malaysia, and a Key to Peninsular Malaysian Scindapsus." *The Gardens' bulletin, Singapore* 62, 9–16.

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