

NEW SPECIES OF PODOCHILUS AND TRICHOGLOTTIS (ORCHIDACEAE) FROM BORNEO

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SUMMARY

The new species *Podochilus marsupialis* Schuit. and *Trichoglottis tinekeae* Schuit., both from Borneo, are described and illustrated. The new name *Podochilus* sect. *Sarganella* is proposed to replace the illegitimate *Podochilus* sect. *Eu-Podochilus* Schltr.

Key words: Orchidaceae, *Podochilus*, *Trichoglottis*, Sarawak, Borneo.

INTRODUCTION

During recent expeditions to Sarawak, jointly undertaken by the Rijksherbarium/Hortus Botanicus, Leiden, and the Sarawak Forest Department, Kuching, living material was collected of several undescribed orchid species. Two of these are described below.

PODOCHILUS Blume

Podochilus is a poorly studied genus of c. 40 species. Most have dorsiventrally flattened leaves and only very few possess bilaterally flattened leaves. One of these, which was found to be an undescribed species, occurs in Borneo, where it is widespread.

Podochilus marsupialis Schuit., *spec. nov.* — Fig. 1

Podochilo cultrato Lindl. similis sed labellum apice integrum, petala lineare-oblonga, columna lateraliter sepalis lateralibus adnata, viscidia 2. — Typus: *Leiden cult.* (Schuiteman, Mulder & Vogel) 933227 (holo SAR, spirit material; iso K, L), Sarawak, Gg. Selantik, 1° 3' N, 111° 4' E, 500 m.

Podochilus malabaricus auct. non Wight: J.J. Wood & P.J. Cribb, *Checkl. Orch. Borneo* (1994) 233 [see note 3 below].

Stems tufted, spreading in all directions, 7–18 cm long, rooting at their base, or sometimes also where in contact with the substratum, usually unbranched, sometimes branching by adventitious shoots, densely many-leaved. *Leaves* bilaterally flattened, narrowly obliquely triangular-subfalcate, 6–11 by 1.5–2 mm, imbricating with their sheathing bases, not articulated, acute-acuminate. *Inflorescences* apical, sometimes lateral, 1–3-flowered, 3–4 mm long, sometimes rooting at their base. *Peduncle* c. 2 mm long, rachis c. 1 mm long. *Floral bract* broadly ovate, abruptly acuminate, c. 1.3 mm

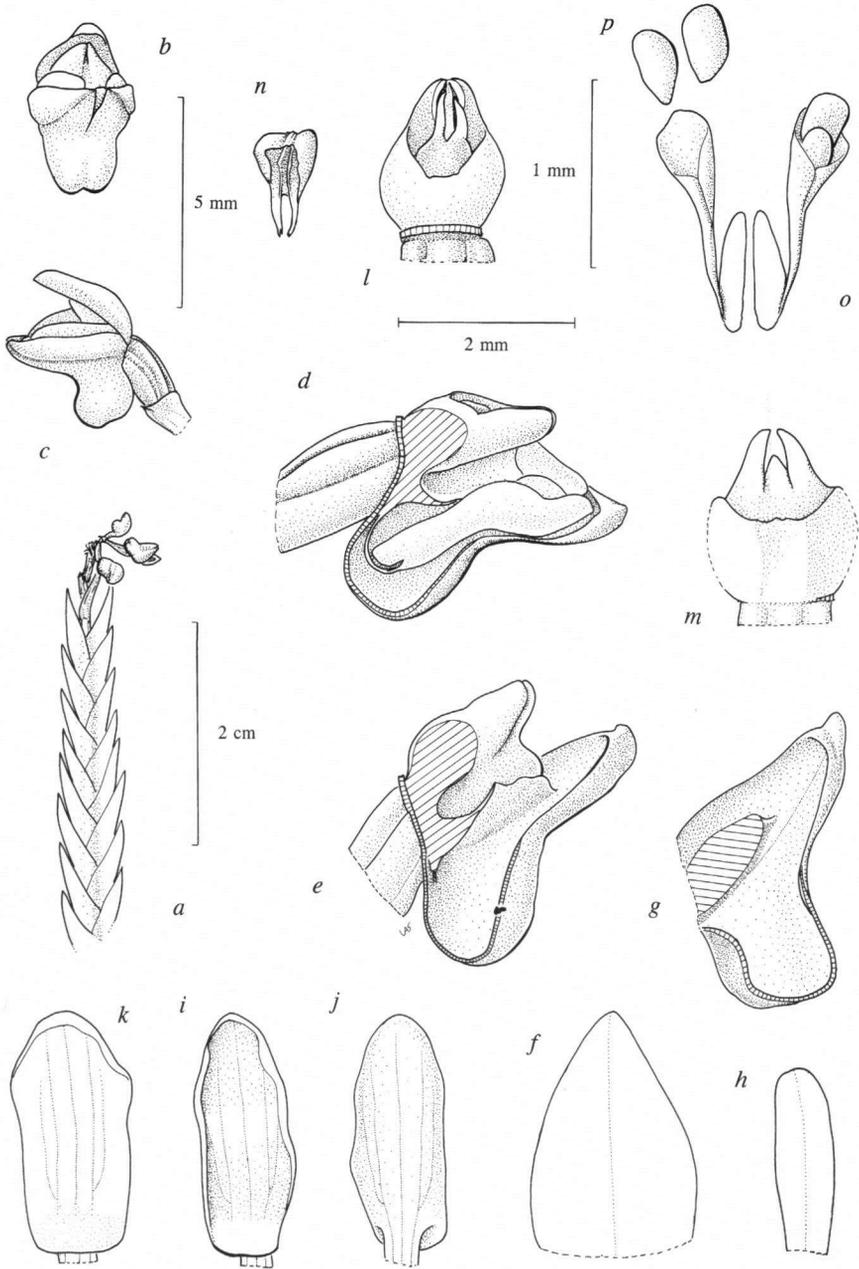


Fig. 1. *Podochilus marsupialis* Schuit. a. Habit; b, c. flower; d. flower (dorsal sepal, right lateral sepal and right petal removed); e. column and left lateral sepal; f. dorsal sepal; g. lateral sepal; h. petal; i. lip from above; j. lip from below; k. lip, flattened; l. column, dorsal view; m. column, ventral view; n. anther; o. pollinarium; p. pollinia [all from *Leiden cult.* (Schuiteman, Mulder & Vogel) 933227].

long. *Flower* only slightly opening. *Median sepal* triangular-ovate, 2.8 by 1.9 mm, obtuse. *Lateral sepals* 3.1 mm long, connate in basal half, strongly oblique, free part triangular-ovate, median adnate to the lateral side of the column, outside with a crest along the midvein. *Mentum* subglobose, obscurely bilobulate, 1.4 mm long. *Petals* linear-oblong, slightly oblique, 2 by 0.5 mm, obtuse. *Lip* strongly concave, when flattened narrowly obovate, 2.8 by 1.4 mm, obscurely 3-lobed in upper third, apex cucullate, entire, at the base with a fleshy backwards protruding extension 0.4 mm long. *Column* 1.7 mm long, laterally adnate to the lateral sepals for 1 mm, stelia absent, rostellum 3-dentate, the central tooth much shorter than the lateral ones; column-foot (see note 2) incurved, c. 1 mm long, 0.4 mm wide. *Anther* cucullate, 1.2 by 0.5 mm, bifid at the elongated apex. *Pollinia* 4 in two pairs, obliquely ovoid, somewhat flattened, 0.4 mm long, each pair enveloped in a funnel-shaped sheath 1 mm long; viscidia two, narrowly lanceolate-oblong, 0.7 mm long. *Ovary* and pedicel glabrous, 6-ribbed, c. 2.4 mm long. *Fruit* not seen.

Colours — Flower white, sepals and petals with magenta apices, apex of lip deeper magenta.

Habitat & Ecology — Gregarious epiphyte on large tree trunks or rotting logs in primary forest. Altitude 130–800 m.

Distribution — Borneo. Sabah: Taman Tawau, alt. ?, *Lim Weng Hee* 1.26 (K). — Sarawak: Ieneong, 550 m, *Brooke* 9182 (SAR); Gg. Selantik, 500 m, *Leiden cult.* (*Schuiteman, Mulder & Vogel*) 933227 (Type); Kapit, Batang Balleh, Sg. Mengiong, 350 m, *S. (B. Lee)* 54538 (SAR); Bah. Sibuh: Bt. Entimau, 800 m, *Leiden cult.* (*Schuiteman, Mulder & Vogel*) 932914 (L). — Kalimantan: Kal. Barat: Serawai, Sg. Merah, 700 m, *Church, Mahyar & Afriastini* 2095 (AMES, BO n.v.; L); Kal. Timur: W. Kutai, Long Hut, 130–200 m, *Endert* 2723 (BO n.v.; L, sterile).

Notes — 1. *Podochilus marsupialis* belongs to the section that was called *Eu-Podochilus* by Schlechter. This section, which does not contain *Podochilus lucescens* Blume, the type species of *Podochilus*, requires a new name, which is proposed below: *Podochilus* sect. *Sarganella*. The species of this section are characterized by bilaterally flattened, non-articulated leaves. All four species described so far originate from Sri Lanka and/or mainland Asia. Three of these (*P. falcatus* Lindl., *P. saxatilis* Lindl. and *P. malabaricus* Wight) are readily distinguished from *P. marsupialis* by their elongated racemes (among other things). The fourth, *Podochilus cultratus* Lindl., is very similar to *P. marsupialis*, but differs in having an emarginate lip with a much longer basal appendage, much broader, obovate petals, a column that is not laterally adnate to the lateral sepals as in *P. marsupialis*, and which has falcate stelia. In *P. cultratus* the sheaths of the pollinia are united above the base to form a single stalk, and there is only one viscidium (several of these characters after Seidenfaden 1986: 143, f. 93).

2. This inconspicuous species appears to possess a unique character in that the column is laterally adnate to the lateral sepals. I do not recall having seen this in any other orchid. What I have described as the column-foot is probably at least in part to be regarded as the claw of the lip.

3. The Borneo record of *Podochilus malabaricus* Wight, a species from India and Sri Lanka, was based on *Lim Weng Hee* 1.26, which belongs to *P. marsupialis*.

4. The specific epithet alludes to the pouch-like structure formed by part of the column,

Podochilus section Sarganella Schuit., *nom. nov.*

Podochilus sect. *Eu-Podochilus* Schltr., Mém. Herb. Boiss. (1900) 9 [nom. illeg.]. — Lectotype species, here chosen: *Podochilus falcatus* Lindl.

Note — The new name proposed here, a diminutive of the Greek σαργανη, 'a braid,' refers to the habit of these orchids (similar to the neotropical orchid genus *Lockhartia*, among others).

TRICHOGLOTTIS Blume**Trichoglottis tinekeae** Schuit., *spec. nov.* — Fig. 2

Habitu *T. winkleri* J.J. Sm. satis similis, sed labellum ecalcaratum, lobo mediano late elliptico integro glabro caespite basali pilis longissimis mollibus excepto, columno pro genere gracili, c. 6.5 mm longo. — Typus: *Vermeulen & Duistermaat 1117* (holo L; iso K), Sabah, Interior Zone, east of trail Long Pa Sie-Long Miau, 1100 m, Dec. 1986.

Roots 1–2 mm thick, glabrous, sparsely branching. *Stems* elongated, not or sparsely branching, rooting at the base, somewhat flexuose, terete, patent to pendulous, 5–45 cm long, 2.5–3.5 mm wide across the sheaths. *Leaves* 1–1.5 cm apart (measured from apex of sheath to apex of next sheath), blade narrowly lanceolate to linear (index 4.5–11), 4.5–8.5 cm by 6–13 mm, patent, twisted at the base 90° so as to lie in one plane with the stem, coriaceous, apex obliquely short-bilobulate, the shorter lobule apiculate, the longer lobule truncate, mucronate; sheaths tubular, finely transversely wrinkled, at the apex opposite the blade with a subulate appendage 2–6 mm long. *Inflorescences* up to 8 from the base of the node, appearing almost opposite the leaf-blade of the node below, only one or rarely two flowering at a time, sessile, 1-flowered. *Peduncle* c. 1 mm long. *Pedicel and ovary* 5 mm long, terete, curved, glabrous. *Flowers* widely opening, c. 1.5 cm across. *Median sepal* linear-oblong, 9 by 2.4 mm, obtuse, 3-nerved. *Lateral sepals* obliquely ovate, 7.8 by 3.8 mm, obtuse, 3-nerved. *Petals* linear-elliptic to linear-oblong, slightly falcate, 8 by 2 mm, obtuse, 3-nerved. *Lip* 3-lobed, 8 mm long, straight, rigidly adnate to the column, at the base with an erect, rectangular lamella 2.3 by 1.3 mm, which has a short median, longitudinal crest on underside in apical half, and which is very finely and densely pubescent on underside in basal half and on the crest; lateral lobes linear, slightly dilated to the base, 2 mm long, in the middle 0.5 mm wide, truncate, porrect, glabrous, longitudinally along their basal half connected by a transverse septum, which together with the erect basal margins of the lip forms a pocket-like cavity which is covered by the basal lamella like a lid; bottom of the cavity densely pubescent; midlobe broadly elliptic, 7 by 5.5 mm, at the base with a U-shaped patch of soft erect hyaline hairs surrounding a shallow concavity, apex broadly rounded, margins in apical half crenulate. *Column* slender, 6.5 mm long, 2.3 mm wide near the apex, weakly curved, minutely papillose laterally near the apex, otherwise glabrous, stelia absent, foot absent, stigma pyriform. *Anther* helmet-shaped, 2.3 mm high, in the middle with a short transverse crest, glabrous. *Pollinia* 4 in two spherical masses 0.8 mm wide, those of a pair somewhat unequal, with highly elastic caudicles attached to the stipe, the latter spatulate, 1.4 mm long, at the apex with infolded margins; viscidium oblong, 0.8 mm long. *Fruit* oblong in outline, sharply 3-angular in cross section, c. 20 by 7 mm.

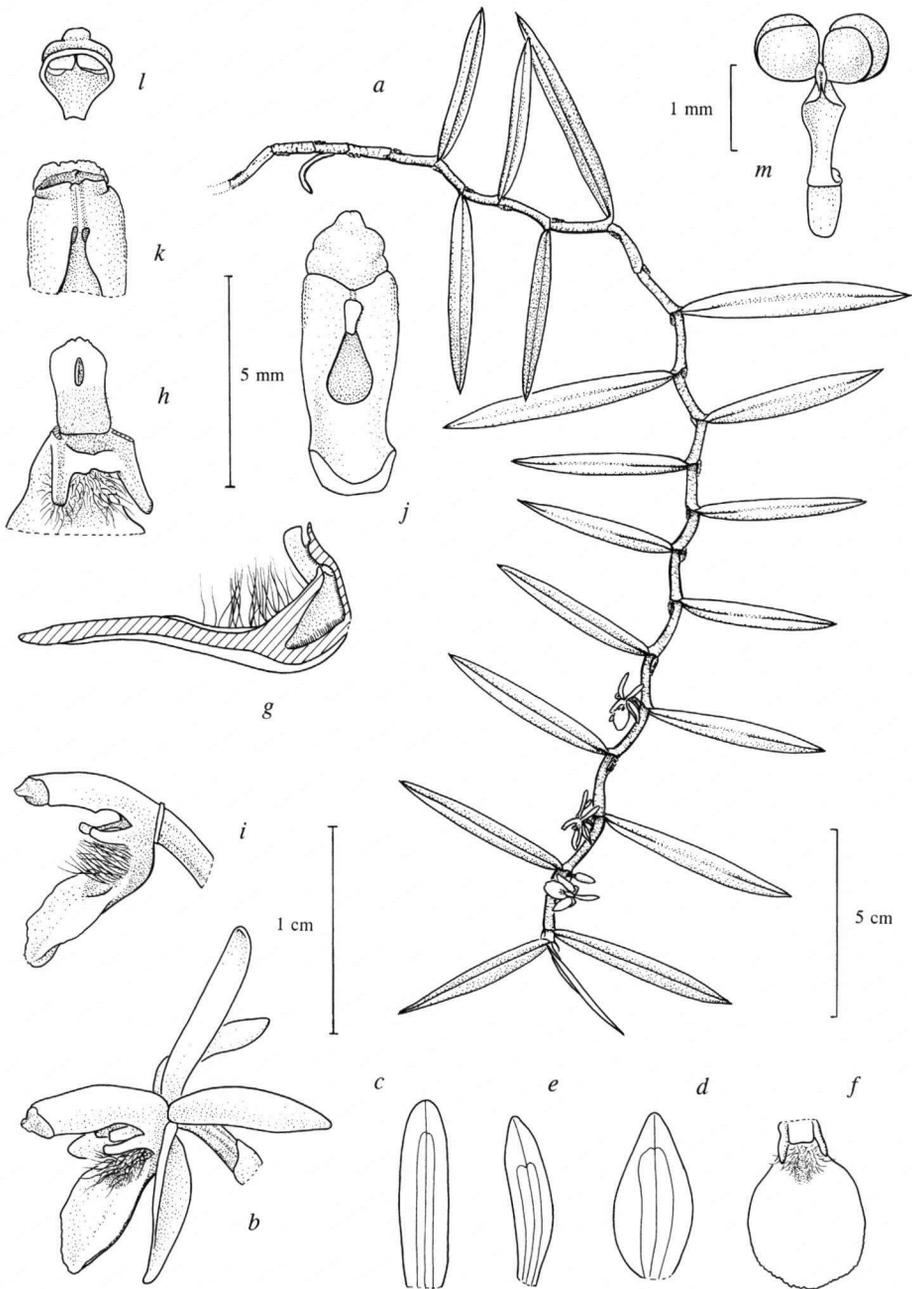


Fig. 2. *Trichoglottis tinekeae* Schuit. a. Habit; b. flower; c. dorsal sepal; d. lateral sepal; e. petal; f. lip; g. lip, longitudinal section; h. base of lip (basal lamella pushed back); i. column and lip; j. column; k. apex of column (anther removed); l. anther; m. pollinia [a from Vermeulen & Duistermaat 1117, b–m from Leiden cult. (Roelfsema, Schuiteman & Vogel) 970292].

Colours — Sepals and petals whitish at the base, yellow to the apex, with one or two orange-brown blotches in basal half. Lip white at the base, at the apex of the mid-lobe with a large yellow to pale orange-brown blotch. Lateral lobes white or orange-brown, front margin violet. Column greenish at base, yellow at apex (type), or dorsally white and ventrally orange, with the lateral margins violet and the margins of the stigma red. Anther yellow. Leaves often suffused with purple.

Habitat & Ecology — Epiphyte in open, undisturbed 'kerangas', primary montane forest with *Agathis*, and forest on limestone, occasionally lithophytic on mossy limestone cliffs. Altitude 450–1700 m.

Distribution — Borneo. Sabah: Interior Zone, east of trail Long Pa Sie-Long Miao, 1100 m, *Vermeulen & Duistermaat 1117* (Type); Sungai Rurun headwaters, 1700 m, *Vermeulen & Duistermaat 1089* (K, L); Pensiangan Distr., Batu Ponggol, 450 m, *Lamb AL 206/84* (sketch, copy at K), *AL 330/85* (K, photocopy seen), *AL 815/87* (K, photocopy seen). — Sarawak: Baram Distr., Kelabit Highlands, 1000 m, *Nooteboom & Chai 2340* (L); same area, between Bario and Pa Berang, 1000 m, *Leiden cult. (Roelfsema, Schuiteman & Vogel) 970164* (L), *970292* (L, SAR), *970399* (L), *970476* (L).

Notes — 1. Like most species in this genus, *Trichoglottis tinekeae* is quite distinctive. In habit, in particular in the possession of appendages to the leaf-sheaths, it resembles *T. winkleri* J.J. Sm. (where this character has apparently been overlooked by previous authors), which is very different because of the distinctly spurred lip with a trilobulate midlobe. The leaf-tips are also different. The flowers (but not the habit) of *T. tinekeae* are superficially similar to those of *T. retusa* Blume, but in the latter the midlobe of the lip is relatively much narrower and hairy throughout, the lateral lobes are not connected by a transverse septum, and the column has hairy stelidia. The large, almost flat, elliptic midlobe of the spurless lip, with its basal tuft of very long hairs, and the slender, virtually glabrous column are diagnostic characters of the new species.

2. Measurements of the flower are exclusively based on spirit material from specimens cultivated in the Hortus Botanicus, Leiden.

3. *Trichoglottis tinekeae* is named after Mrs. Tineke Roelfsema from Wageningen, The Netherlands, who not only helped collect material of this species, but who is also an ardent supporter of the study and cultivation of Orchidaceae at the Rijksherbarium/Hortus Botanicus.

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REFERENCE

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