

NEW NAMES IN INDONESIAN ORCHIDS

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Abstract. New names, synonymy, and two new species are proposed for the orchid flora of Indonesia. Thus *Habenaria undatifolia* and *Odontochilus buruensis* are proposed as replacement names; *Dendrobium babiense* is reduced to *D. nycteridoglossum*; *Kalimantanorchis* is found to be a synonym of *Tropidia*, requiring the combination *T. nagamasui*; *Aerides zollingeri* is transferred to *Tuberolabium* with *Saccolabium odoratissimum* as a new synonym; and two new species are proposed, namely, *Dendrobium asahanense* and *Styloglossum morotaiense*.

Keywords: Indonesia, new names, *Dendrobium*, *Habenaria*, *Odontochilus*, *Styloglossum*, *Tropidia*, *Tuberolabium*

This paper is an attempt to address a few taxonomic and nomenclatural problems the authors found during their research on the orchid flora of Indonesia. The flora of Indonesia shows great diversity because of the mixture of climatic conditions, geographic form (large and small islands), and the influence of different floristic zones (Indo-Malaysian and Australasian). An updated enumeration of the Indonesian orchid flora is sorely needed, even though most of the nation has been covered by a patchwork of local treatments, for example, Sumatra (Comber, 2001), Java (Comber, 1990), Maluku and Sulawesi (Thomas and Schuiteman, 2002), and Timor (Silveira et al., 2008). The Lesser Sunda Islands (Lombok, Sumbawa, Flores, and Sumba) are the last major area of Indonesia not covered by any modern floristic treatment. And even those places with some form of floristic census, such as Papua Province, Sulawesi, and Kalimantan, are tropical biodiverse areas from which hundreds of new taxa and records could be expected.

Dendrobium Swartz, Nova Acta Regiae Soc. Sci. Upsal. ser. 2, 6: 82. 1799 *nom. cons.*

Type species: *Dendrobium moniliforme* (L.) Swartz *typ. cons.*

A large genus with about 1600–1800 species distributed from Sri Lanka to Tahiti. Many members of the genus have some horticultural merit, and therefore they are often cultivated. The number of species in Indonesia is uncertain but is probably around 800 taxa. Plants of the genus have quite a variety of vegetative forms, varying from pea-shaped pseudobulbs and pendulous “chandeliers” of terete leaves to leafy canes up to 5 m long. Some species are exclusively terrestrial, but mostly they are epiphytes. The flowers have a column foot that forms a mentum with the lateral sepals, and the labellum is simple to multilobed, often adorned with calli and various keels. The column bears four pollinia.

Dendrobium asahanense Ormerod & Juswara, *sp. nov.*

TYPE: INDONESIA. Sumatra, Asahan, vicinity of Hoeta Bagasan, 7 September 1934 to 4 February 1935, R. Si Boeea 7797 (Holotype: MICH). Fig. 1.

Affinis *D. spathipetalum* J.J. Sm. *sed foliis angustioribus* (5.5 vs. 14.5 mm), *petalis floribus ligulato-oblancoelatis* (vs. *spathulatis*), *lobis lateralibus labello subevolutis* (vs. *evolutis*), *et mentum longioribus* (5.9 vs. 3 mm) differt.

Epiphytic (?) *herb.* Roots terete, to 1.5 mm thick. Stems caespitose (?), terete, weakly flexuous, laxly 7–9 leaved, 33.5 cm long, 0.2 cm thick. Leaves linear-lanceolate, apex strongly unequally subacutely bilobulate (lobules 0.5–4.5 mm long), thinly coriaceous, 62–90 × 4.5–5.5 mm. Inflorescence axillary, slender, flexuous; peduncle 3 mm long; rachis 3–4 flowered, 7 mm long; floral bracts ovate, acute, to 2 mm long. Flower color unknown. Pedicel with ovary clavate, 10 mm long. Dorsal sepal ovate-lanceolate, acute, 5 veined, 10.0 × 3.5 mm. Lateral sepals obliquely oblong-lanceolate, acute, 5 veined, ca. 10.9 × 7.0 mm; forming with the column foot a retrorse, narrowly conical, subacute, mentum to 5.9 mm long. Petals ligulate-oblancoelate, acute, 3 veined, upper half with minutely irregularly papillose margins, 9 × 2 mm. Labellum trilobed, ca. 14.75 × 4.20 mm; hypochile oblong-oblancoelate, each side ending in a short, triangular sidelobe, 10.5 × 4.2 mm; main carinae 2, rounded, farinose (except at clavate apices), extending from base of hypochile to base of epichile, a third carina interposed between the apices of the outer 2; epichile elliptic-oblong, obtuse, rigid, rugulose, sides upcurved (between which a single thick carina), 4.25 × 2.50 mm. Column semiterete, each side with an obliquely ovate, acute to subacute stolid, ca. 3.8 mm long; anther cap subglobose, bilobulate, front finely papillose.

Distribution: Indonesia (Sumatra).

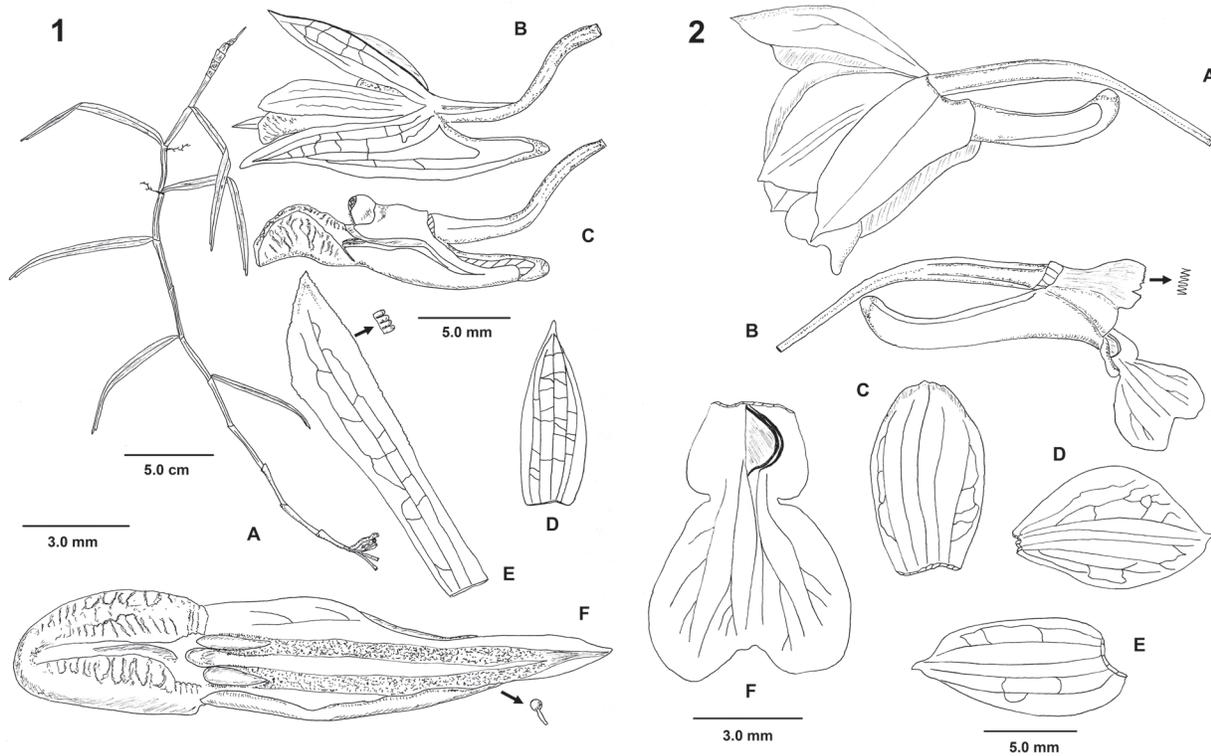
Etymology: named after the former Sultanate of Asahan, the type locality.

We wish to thank the curators of AMES and BO for giving us access to the collections under their care. MICH kindly loaned material for study. Norbert Holstein located and imaged the isosyntype of *Platanthera undulata* at BM and graciously made an image available. Curators at Vienna (W) also kindly checked their institution for type material of *Aerides zollingeri*.

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FIGURES 1–2. 1, *Dendrobium asahenense* Ormerod & Juswara. **A**, plant; **B**, flower; **C**, flowers minus tepals; **D**, dorsal sepal; **E**, petal (with an arrow indicating the irregularly papillose margin); **D**, dorsal sepal; **E**, petal; **F**, labellum (with an arrow indicating a glandular trichome from the keel). Drawn from the holotype. 2, *Styloglossum morotaiense* Ormerod & Juswara. **A**, flower; **B**, flower minus tepals (with an arrow indicating the minutely denticulate margin); **C**, dorsal sepal; **D**, petal; **E**, lateral sepal; **F**, labellum. Drawn from the holotype.

This species is a member of section *Distichophyllae* J.D. Hook., a group that is distributed from Myanmar to New Caledonia but best represented in Indonesia. It is related to *D. spathipetalum* J.J. Sm. from Indonesian Borneo but differs in having much narrower leaves, flowers with ligulate-oblongate (vs. spatulate) petals, a longer mentum, and much smaller sidelobes on the hypochile, which has three (not two) keels.

Dendrobium nycteridoglossum Rchb.f., Gard. Chron. n.s. 26: 616. 1886.

TYPE: "PAPUAN." *Cult. Messrs. Linden s.n.* (Holotype: W-R 40406, image seen).

Homotypic synonym: *Aporum nycteridoglossum* (Rchb.f.) Rauschert, Rep. Sp. Nov. Regni Veg. 94: 441. 1983.

Heterotypic synonyms: *Dendrobium babiense* J.J. Sm., Bot. Jahrb. Syst. 48: 98. 1912 *syn. nov.*

TYPE: INDONESIA. Kalimantan: Schwaner Range, Batu Babi, July 1908, *H. Winkler 2804* (Holotype: B, destroyed).

Aporum babiense (J.J. Sm.) Rauschert, Rep. Sp. Nov. Regni Veg. 94: 438. 1983.

Distribution: Malaysia (Terengganu, Sarawak, Sabah); Indonesia (Kalimantan).

This species is a member of section *Aporum* Blume, which in the narrow sense can be recognized by its slender,

wiry stems that have fleshy, laterally compressed, and ensiform to triangular leaves. The flowers are small and usually produced on the upper parts of the stems from nodes covered with small chaffy bracts. *Dendrobium nycteridoglossum* belongs to a group within section *Aporum* that produces a terminal leafless section (sometimes called a "pseudoraceme") from which the flowers appear from various nodes. It is further distinguished from its relatives by its distinctive "bat-shaped" lip, hence the rather appropriate name. The later *D. babiense* is identical to *D. nycteridoglossum* and therefore must be reduced to its synonymy. A full account of the species under the former named can be found in Wood (2014).

Habenaria Willd., Sp. Pl. ed.4, 4: 5, 44. 1805.

Type species: *Habenaria macroceratitis* Willd. (= *Orchis habenaria* L.).

In its current circumscription a genus of about 900 species distributed throughout the world except in the Arctic regions. The plants occupy a variety of terrestrial habitats from grasslands to montane forests. The plants often arise annually from tubers, with the leaves forming a rosette at various heights above the ground, or with leaves scattered along the stem. The inflorescence is terminal, few to many flowered, the flowers in shades of white to green, sometimes yellows and oranges. The flower structure is somewhat

complicated in that the pollinia are contained in thecae on each side of the column. The lip is entire to intricately fimbriate, and nearly always spurred.

Habenaria undatifolia Ormerod & Juswara, *nom. nov.*

Basionym: *Platanthera undulata* J.J. Sm., *Orch. Java*: 27. 1905.

TYPE: INDONESIA. Java: Mt. Salak, *C.L. Blume 2303* (Syntype: L, image seen); Slamet, near Djedjek, *H. Zollinger 695* (Syntype: L; Isosyntype: BM, images seen).

Homotypic synonyms: *Habenaria undulata* (J.J. Sm.) J.J. Sm., *Bull. Jard. Bot. Buitenz. s.2*, 14: 10. 1914 *nom. illeg.* (non Frapp. ex Cordem. 1895).

Peteilis undulata (J.J. Sm.) Schltr., *Rep. Sp. Nov. Regni Veg.* 21: 120. 1925.

Distribution: Indonesia (Java).

Etymology: from the Latin *unda*, wave, and *folium*, leaf, in reference to the wavy margins of the leaves.

Because the name *Habenaria undulata* had already been used for a species from Reunion, we have coined a new epithet for the Javanese plant. The syntype collection *Blume 2303* (L) has the name "*Perystylis arcuata*" in Blume's handwriting on it. As far as we can ascertain, it is a name he never published.

Odontochilus Blume, *Coll. Orch. Arch. Ind.*: 79. 1858; *Fl. Javae Ins. Adj. n.s.* 1: 66. 1858.

Type species: *Anoectochilus flavescens* Blume.

A genus of Goodyerinae with about 55–60 species distributed from India to Samoa, and one isolated taxon on Hawai'i. About 20 species have so far been found in Indonesia. *Odontochilus* now includes several former genera such as *Cystopus* Blume, *Ervardia* Gagnep., *Ervardianthe* Rauschert, *Myrmechis* (Lindl.) Blume, *Pristiglottis* Cretz. & J.J. Sm., *Tubilabium* J.J. Sm., and *Vexillabium* F. Maekawa.

One new name is required for a rare Moluccan taxon because of prior homonymy.

Odontochilus buruensis Ormerod & Juswara, *nom. nov.*

Basionym: *Tubilabium aureum* J.J. Sm., *Bull. Jard. Bot. Buitenz. s.3*, 9: 446. 1928.

TYPE: INDONESIA. Maluku Prov., Buru, Fakal Tat Kotim, 1475 m, 11 March 1922, *L.J. Toxopeus s.n.* (Holotype: L, image seen).

Homotypic synonyms: *Myrmechis aurea* (J.J. Sm.) Schuiteman, *Blumea* 41, 2: 401. 1996.

Odontochilus aureus (J.J. Sm.) Yukawa, *Bull. Natl. Mus. Nat. Sci. (Tokyo)*, ser. B, 42, 3: 106. 2016 *nom. illeg.* (non Averyanov 2015).

Distribution: Indonesia (Maluku).

Etymology: named after the island of Buru, the type locality.

As noted above it is necessary to propose a new name for this plant if it is to be treated as a member of the genus *Odontochilus*. The prior entity, the Vietnamese *O. aureus* Averyanov, is probably better placed in *Rhomboda* Lindl.

Styloglossum Breda, *Gen. Sp. Orch. Asclep.*, fasc. 2: t.7. 1829. Type species: *Styloglossum nervosum* Breda.

A genus of about 50 primarily terrestrial plants formerly included in *Calanthe* R. Br., which are distributed from India to Samoa. Their preferred habitat seems to be on the floors of montane forests. They may be distinguished from *Calanthe* by having glabrous inflorescences and usually (rarely not) caducous floral bracts. The flowers are most often in shades of white and yellow. The labellum is spurred basally, usually adorned with lamellae above, and joined to the sides of the column.

Styloglossum morotaiense Ormerod & Juswara, *sp. nov.*

TYPE: INDONESIA. North Maluku Prov., Morotai, Gunung Pare 2, 1000 m, 27 May 1949, *A. Kostermans 1201* (Holotype: AMES). Fig. 2.

Affinis S. rutenii (J.J. Sm.) Yukawa & Cribb *sed lobis lateralibus labello obliquis oblongis (vs. late ovatis) et lamellae callus semicircularis (vs. triangularis) differt.*

Common, scattered, terrestrial (?) *herb.* *Rhizome* terete, ca. 5–6 mm thick. *Roots* terete, pubescent, numerous, to 2.5 mm thick. *Stems* very short, 4 leaved, 2–4 cm apart. *Leaves* ligulate-oblongate, acute, plicate, with 5 main veins and up to 8 lesser veins, petiolate, blade 24.5–51.0 × 2.6–4.5 cm; petiole 15.0–17.5 cm long. *Inflorescence* basal, 42.3 cm long; peduncle 23.6 cm long, ca. 0.5 cm thick; rachis densely many-flowered, 18.7 cm long; floral bracts not seen. *Flowers* white, underside yellow. *Pedicel with ovary* clavate, 15 mm long. *Dorsal sepal* elliptic, subacute, 5 veined, 9.5 × 6.0 mm. *Lateral sepals* obliquely ovate-elliptic, subacuminate, 5 veined, 11.0 × 5.0–5.5 mm. *Petals* widely ovate-elliptic, acute, 5–7 veined, 10.0 × 6.5 mm. *Labellum* trilobed, spurred, joined to column for 4.5 mm, free part of blade 5.5–6.1 mm long; spur narrowly infundibuliform-terete, obtuse, weakly recurved, 9 mm long; hypochile (free part) broadly obovate, each side with obliquely oblong, obtuse sidelobes, 1.9 × 2.8–2.9 mm, each sidelobe ca. 0.8–0.9 mm wide; callus of 2 semicircular, closely parallel lamellae placed between the sidelobes; epichile obovate-cuneate, apex emarginate, 3.75–4.30 × 5.10 mm, base ca. 1.8 mm wide. *Column* somewhat infundibuliform, in lateral view the apex appearing trilobed, 4.75 mm long, 2.75 mm wide laterally; clinandrium with minutely denticulate margins.

Distribution: Indonesia (North Maluku).

Etymology: named after the type locality, the island of Morotai.

This new species is related to *Styloglossum rutenii* from the island of Seram in Maluku Province. It differs in having in flowers in which the labellum sidelobes are longer than broad (vs. ovate, subacute, patent, as long as broad), semicircular (vs. triangular) labellum lamellae, and trilobed (vs. bilobed) sides of the column apex.

Our figure presents only a floral analysis because, unfortunately, the vegetative parts of the type were too intricately folded to present a useful illustration. The habit is in any case identical to *Styloglossum rutenii*, which was magnificently illustrated by Matsuko Nakajima in Clayton and Cribb (2013).

Tropidia Lindl., Edwards's Bot. Reg. 19: sub t.1618. 1833.
Type species: *Tropidia curculigoides* Lindl.

Heterotypic synonym: *Kalimantanorchis* Tsukaya, M. Nakajima & H. Okada, Syst. Bot. 36, 1: 52. 2011 *syn. nov.*

Type species: *Kalimantanorchis nagamasui* Tsukaya, M. Nakajima & H. Okada.

Tropidia is a genus of about 30 species distributed from Sri Lanka and India to Samoa, with one or two species in the New World (Ormerod, 2018). Some species resemble small palm seedlings (e.g., taxa related to *T. curculigoides* Lindl.), others form a pseudostem whereby each stem (topped by a pair of leaves) is superposed one on top of the other (e.g., taxa related to *T. hegderaoi* S. Misra), and still another group are mycoheterotrophic herbs without leaves. The latter group is restricted to Borneo, where one member was described as a new genus and species, *Muluorchis ramosa* J.J. Wood (= *T. saprophytica* J.J. Sm.).

Kalimantanorchis is a small-flowered mycoheterotrophic plant that was compared with *Tropidia* but said to differ in having thick, short roots and bearing tubers. *Tropidia* species conversely have elongate roots and do not bear tubers. However, the latter differences were completely negated by the discoveries of Kikuchi and Tsukaya (2017), who found that the mycoheterotroph *T. connata* J.J. Wood & Lamb produces short roots and subterranean tubers.

Thus we reduce *Kalimantanorchis* to *Tropidia*, since it is no longer vegetatively different; it also agrees with the latter in having dark, scurfy pubescence on the flowers, a labellum with a bisaccate base (a feature of the unspurred species), and an intramarginal labellum ridge (lamellate in some taxa) on each side. The sole remaining difference is that *Kalimantanorchis* is said to have four pollinia, whereas *Tropidia* has two. However, the two pollinia of *Tropidia* are bipartite and could be interpreted as four; we believe this to be the case with *Kalimantanorchis*.

Tropidia nagamasui (Tsukaya, M. Nakajima & H. Okada) Ormerod & Juswara, *comb. nov.*

Basionym: *Kalimantanorchis nagamasui* Tsukaya, M. Nakajima & H. Okada, Syst. Bot. 36, 1: 52. 2011.

TYPE: INDONESIA. West Kalimantan, Betung Kerihun National Park, near Sungai Parii, ca. 380 m, 4 January 2010, H. Okada, H. Nagamsu & H. Tsukaya 31 (Holotype: BO, spirit).

Distribution: Indonesia (West Kalimantan).

Tropidia nagamasui has the smallest flowers in the genus

(sepals 2.0–2.7 mm long); however, *T. namasiae* C.K. Liao, T.P. Lin & M.S. Tang from Taiwan, Thailand, and India has sepals 3.5–5.0 mm long. Other taxa such as *T. curculigoides* can have sepals to 14 mm long, though the average in the genus seems to be 7–11 mm long.

Tuberolabium Yamamoto, Bot. Mag. (Tokyo) 38: 209. 1924.

Type species: *Tuberolabium kotoense* Yamamoto.

Tuberolabium is a showy genus of nine, relatively small-flowered, monopodial epiphytes (Kocyan and Schuiteman, 2014). The plants produce pendent, many-flowered inflorescences of relatively long-lasting flowers (up to several weeks). They are occasionally cultivated in specialist orchid collections.

Tuberolabium zollingeri (Rchb.f.) Ormerod & Juswara, *comb. nov.*

Basionym: *Aerides zollingeri* Rchb.f., Bonplandia 5: 40. 1857.

TYPE: INDONESIA. Java, Bandung Province, H. Zollinger 897 (Holotype: lost).

Heterotypic synonyms: *Saccolabium odoratissimum* J.J. Sm., Orch. Java: 645. 1905 *syn. nov.*

TYPE: INDONESIA. Java, Tjikorai, Goentoe, M. Raciborski *s.n.* (Syntype: BO, not found); Djolotigo, Pekalongan, J.J. Smith *s.n.* (Syntype: BO, not found). *Tuberolabium odoratissimum* (J.J. Sm.) Garay, Bot. Mus. Leaflet Harv. Uni. 23, 4: 210. 1972.

Parapteroceras odoratissimum (J.J. Sm.) J.J. Wood, Nord. J. Bot. 10, 5: 485. 1990.

Distribution: Indonesia (Java, Flores, Sumbawa).

Aerides zollingeri has been neglected by workers on the Javanese flora because of the brief description and the inability to locate type material. However, Reichenbach's brief diagnosis encapsulates several critical characters that allow the plant described to be identified. Thus the narrow leaves (ca. 12.5 × 0.8 cm), multiflowered inflorescence, lip with falcate lateral lobes, bidentate callus on the midlobe, and extincitoriform spur allow for the identification of this plant with *Tuberolabium odoratissimum*.

As noted by Comber (1990) under the name *Tuberolabium odoratissimum*, this species can often be detected before it is seen because of the very fragrant flowers. Unfortunately we have not been able to locate type material of *Saccolabium odoratissimum* in either the dried or spirit collections of BO or L.

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