

NEW NAMES IN INDIAN AND SRI LANKAN ORCHIDS

PAUL ORMEROD^{1,2} AND C. SATHISH KUMAR³

Abstract. A reinstatement, three new combinations, and one new species are proposed for orchids that occur in India and Sri Lanka. The name that is reinstated is *Dendrobium crispum*, with *D. peguanum* treated as a synonym; the new combinations are *Cylindrolobus lindleyi*, *Peristylus caranjensis*, and *Trichotosia thwaitesii*; and *Dendrobium turbinatum* is proposed as a new species.

Keywords: India, new names, *Cylindrolobus*, *Dendrobium*, *Peristylus*, *Trichotosia*

Literature and herbarium studies of various Indian and Sri Lankan orchids have revealed the need to update the nomenclature of some entities, especially in tribe Podochileae. The latter group has been subjected to an extensive molecular study (Ng et al., 2018), which we follow here. The other taxon that bears some discussion is *Habenaria caranjensis* Dalz.; it had already been treated as an imperfectly known species in the 19th century (Hooker, 1890). However, we believe it can be identified now that Indian orchids are better understood.

Cylindrolobus Blume, Fl. Javae Praef.: 6. 1828.

Type species: *Ceratium compressum* Blume.

A genus of subtribe Eriinae with about 80 species distributed from Sri Lanka and India, through Malesia to Papua New Guinea. A synopsis of the Malesian species was published by Ormerod (2014), from where 57 taxa were recorded.

Cylindrolobus lindleyi (Thwaites) Ormerod & C. Sathish Kumar, *comb. nov.*

Basionym: *Eria lindleyi* Thwaites, Enum. Pl. Zeyl.: 299. 1861. TYPE: SRI LANKA. Mt. Nuera Ellia, August, *J. Macrae s.n.* (Holotype: K-L; drawing K-L).

Homotypic synonyms: *Dendrobium bicolor* Lindl., Gen. Sp. Orch. Pl.: 90. 1830 *nom. illeg.* [non (Ruiz & Pav.) Pers. 1807].

Eria bicolor (Lindl.) Lindl., J. Proc. Linn. Soc., Bot. 3: 58. 1858 *nom. illeg.* (non Lindl. 1830).

Eria ephemera Rchb.f., Ann. Bot. Syst. 6, 2: 272. Oct.–Dec. 1861.

Pinalia lindleyi (Thwaites) Kuntze, Rev. Gen. Pl. 2: 679. 1891.

Cylindrolobus bicolor (Lindl.) Rauschert, Rep. Sp. Nov. Regni Veg. 94: 445. 1983. *nom. illeg.*

Distribution: India, Sri Lanka.

The name *Eria lindleyi* is the first valid available name for this taxon, which we here transfer to *Cylindrolobus* following Ng et al. (2018). The earlier *Dendrobium bicolor*

Lindl. is a homonym of the Peruvian *D. bicolor* (Ruiz & Pav.) Pers., the latter now known as *Cyrtochilum bicolor* (Ruiz & Pav.) Ormerod.

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

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

The sole genus of subtribe Dendrobiinae, with about 1600–1800 species distributed from Sri Lanka and India to Tahiti. The two taxa discussed below belong to section *Stachyobium* Lindl., a group of about 48 species distributed from Sri Lanka and India to Lombok in central Indonesia. The plants are mostly only a few centimetres tall, but *Dendrobium venustum* Teijsm. & Binn. may reach to about 50 cm tall. The pseudobulbs vary from ovoid to cylindrical, bearing two to several usually deciduous leaves, with axillary to pseudoterminal inflorescences bearing few to many smallish to midsized (sepals 4–15 mm long) flowers that are colored white to green, often with some purple on the lip; the lip varies from entire to trilobed, usually with a keel between the sidelobes.

Dendrobium crispum Dalz., J. Bot. Kew Gard. Misc. 4: 111. 1852 (excl. descr.).

Basionym: *Dendrobium humile* R. Wight, Icon. Pl. Ind. Orient. 5, 1: 5, t. 1643. 1851 *nom. illeg.* [non (J.E. Sm.) J.E. Sm. 1808]. TYPE: INDIA. Tamil Nadu: Iyamally Hills, July and August, *R. Wight s.n.* (Holotype: K, image seen). Fig. 1.

Heterotypic synonyms: *Dendrobium pygmaeum* Lindl., Gen. Sp. Orch. Pl.: 85. 1830 *nom. illeg.* (non J.E. Sm. 1804). *syn. nov.* TYPE: MYANMAR. Prome, January 1827, *N. Wallich Catal. No. 1999* (Holotype: K-L, image seen).

Callista pygmaea Kuntze, Rev. Gen. Pl. 2: 654. 1891.

Dendrobium wallichii Hawkes & Heller, Lloydia 20, 2: 125. 1957.

Dendrobium peguanum Lindl., J. Proc. Linn. Soc., Bot. 3: 19. 1858 *syn. nov.* TYPE: MYANMAR. Pegu, Hlain Dirt, 5 January 1854, *J. McClelland*

The first author would like to thank the herbarium and library staff at the Harvard University Herbaria for their help and hospitality during his visits. We also wish to thank K. Gandhi (GH) for nomenclatural advice.

¹P.O. Box 8210, Cairns 4870, Queensland, Australia

²Corresponding author: wsandave1@bigpond.com

³Tropical Botanical Garden & Research Institute, Pacha Palode, Trivandrum 695 562, India; sathishkumar_57@rediffmail.com

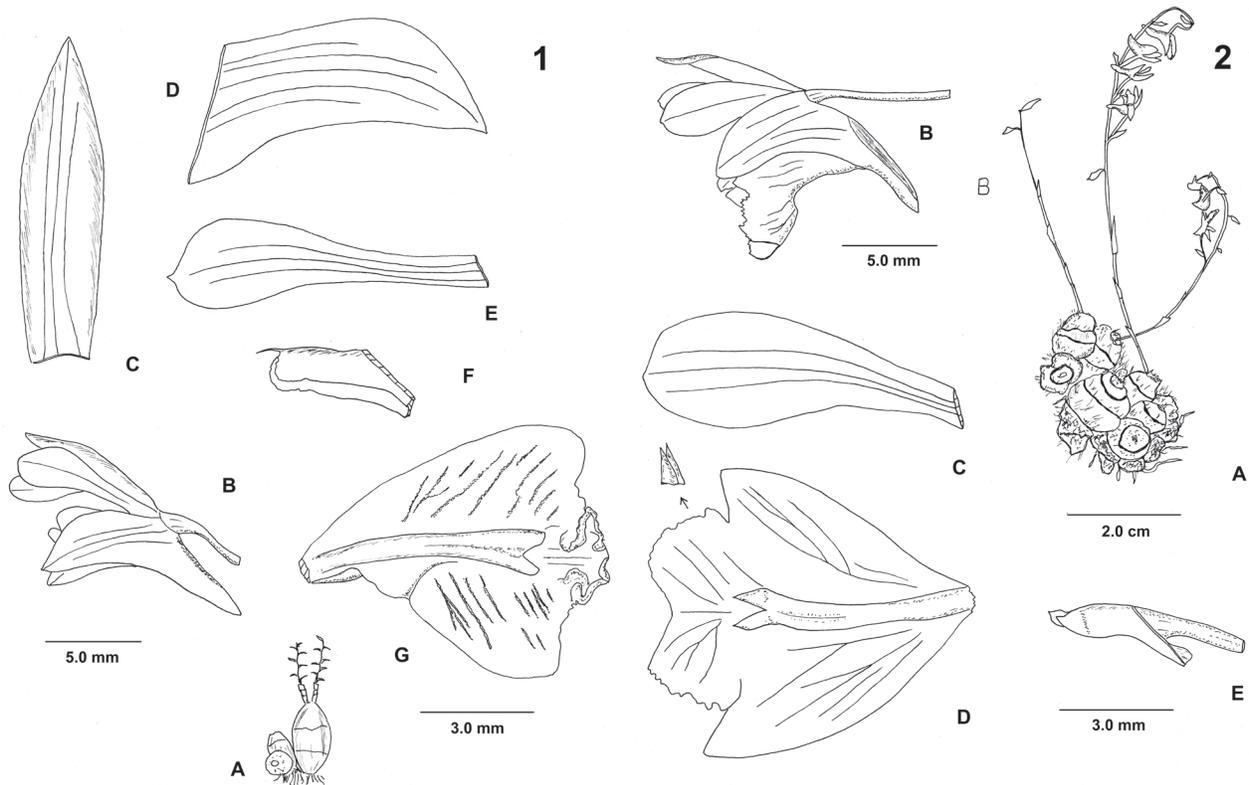


FIGURE 1–2. 1, *Dendrobium crispum* Dalz. A, plant (no scale); B, flower; C, dorsal sepal; D, lateral sepal; E, petal; F, column; G, labellum. Drawn from *Ritchie 1413* (GH). 2, *Dendrobium turbinatum* Ormerod & C. Sathish Kumar. A, plant; B, flower; C, petal; D, labellum (calli indicated with an arrow); E, column. Drawn from holotype.

s.n. (Syntype: K-L, image seen); “Borneo” [prob. Myanmar], *T. Lobb s.n.* (Syntype: K-L, not seen).

Dendrobium fesselianum M. Wolff, *Orchidee* (Hamburg) 41, 3: 97. 1990 *syn. nov.* TYPE: THAILAND. Without locality, *cult. H. Fessel 90002* [Holotype: D.O.G. (Deutsch Orchideen-Gesellschaft herbarium), not seen].

Distribution: India, Nepal, Bhutan, Myanmar, Thailand.

Specimen examined: INDIA. “S. India,” *D. Ritchie 1413* (GH). Kerala: Paulghautcherry (= Palakkad), November 1849, *R. Wight s.n.* (K, image seen).

When describing *Dendrobium crispum*, Dalzell said it was the same as *D. humile* R. Wight. Thus *D. crispum* is a superfluous name for *D. humile*, but since the latter is a homonym, the name *D. crispum* becomes its valid substitute. Therefore, the type of *D. humile* is also the type of *D. crispum*. This is important to remember because the description accompanying *D. crispum* applies to another species, which we here describe as *D. turbinatum*.

Wight’s figure of *Dendrobium humile* shows plants that flower either with or without leaves. Those depicted as having leaves during flowering appear to have slightly longer inflorescence peduncles, but this may be artistic licence as one of the leafless plants has a rather long peduncle.

Lindley (1858) declared *Dendrobium crispum* and

D. humile to be conspecific with *D. microbulbon* A. Rich. He has been followed by all later authors. However, *D. crispum* differs from *D. microbulbon* in having much shorter inflorescence peduncles fully covered by sheaths, a narrowly conical, straight mentum, and a lip with a short, crispate-margined midlobe. The Herbarium Stocks specimen cited by Lindley (1858) as *D. microbulbon* belongs to *D. turbinatum*.

After further study we also find that *Dendrobium peguanum* and its synonyms must be reduced to *D. crispum*. There are some slight differences in the apex of the labellum callus of eastern populations (e.g., in Myanmar and Thailand) of *D. crispum*. In the eastern forms the callus is not so retuse apically but can be weakly tridentate or almost truncate.

Dendrobium crispum is characterized by having ellipsoid pseudobulbs forming a dense mat or patch, 1–2 apical linear-ligulate leaves, 1–2 apical inflorescences, a short peduncle (to 7 mm long) covered by sheaths, the rachis about 15 mm long with patent floral bracts, the flowers greenish yellow, tipped with pink, the lip pink with darker crimson lines, a narrowly conical, straight, acute mentum, an obtriangular labellum with veins inside the obtuse sidelobes forming low serrulate ridges, a short midlobe with crispate margins that when spread out is transversely oblong (1 x 3 mm), and a bidentate to almost truncate callus.

Dendrobium turbinatum Ormerod & C. Sathish Kumar, *sp. nov.*

TYPE: INDIA. "W. India," without locality, *sine coll.*, *s.n.* (Holotype: GH 4663). Fig. 2.

Affinis *D. crispum* Dalz. *sed inflorescentiis longe pedunculatis* (vs. *brevipedunculatis*), *lobis lateralibus acutis* (vs. *obtusis*), *et dentae callus erectus* (vs. *prostratis*) *differt.*

Usage synonyms: *Dendrobium microbulbon auct. non* A. Rich., Lindl., Proc. J. Linn. Soc., Bot. 3: 19. 1858; J.D. Hook., Fl. Brit. Ind. 5: 716. 1890 *p.p.*; Gammie, J. Bomb. Nat. Hist. Soc. 16: 567. 1905; Fischer, in Gamble, Fl. Madras 3: 1412. 1928; Santapau & Kapadia, Orch. Bombay: 87, Pl. 19. 1966; Seidenf., in Matthew, Fl. Tamil Nadu Carnat. 3: 1588. 1983; Pande, Sant, Vishwasrao & Datar, Wild Orch. North. West. Ghats: 208–209. 2010.

Dendrobium crispum auct. non Dalz., Dalz., J. Bot. Kew Gard. Misc. 4: 111. 1852 (descr. only).

Epiphytic *herb.* *Pseudobulbs* caespitose, ovoid to turbinate, 2–3 noded, 2–3 leaved apically, usually leafless at flowering time, to 20 x 10 mm. *Leaves* linear-ligulate, acute, 20–140 x 3–13 mm. *Inflorescences* 1–3, apical, 15–100 mm long; peduncle 10–60 mm long; peduncular sheaths up to 3, 2–7 mm long; rachis straight to slightly flexuous, 2 to many flowered, 26–40 mm long; floral bracts oblong-lanceolate, subacute, to 4 x 2 mm. *Flowers* white, the lip marked with purple. *Pedicel* with ovary terete, dilated only at apex, 7.5–10.0 mm long. *Dorsal sepal* oblong, subacute, 3 veined, midvein externally low carinate, 7.20 x 2.75 mm. *Lateral sepals* obliquely oblong from a wide base, midvein low carinate, 6.5 mm long, 3 mm wide medially, forming with the column foot an infundibuliform, straight, subacute, 6.9–7.0 mm long mentum, front of mentum closed and spur-like for 3–4 mm. *Petals* obliquely oblanceolate, obtuse, 3 veined, 7.5 x 2.8 mm. *Labellum* trilobed, 7 mm long; hypochile obdeltate with triangular, truncate sidelobes, 5.0 x 6.5 mm; epichile transversely rectangular, broadly retuse, side margins irregular, 2.0 x 4.9 mm; callus a broad, thickened, sulcate medial ridge, terminating below apex of hypochile as two erect teeth. *Column* relatively slender, semiterete, apically with 2 ovate, apiculate brachia, 1.9–2.0 mm long.

Distribution: India.

Additional specimens examined: INDIA. Malabar, 1896, *T. Cooke s.n.* (K, drawing seen). Without locality, *N.A. Dalzell 34* (K, image seen); *N.A. Dalzell s.n.* (K, image seen); *J.S. Law s.n.* (K, image seen).

Etymology: from the Latin *turbinatus*, cone-shaped, in reference to the shape of the pseudobulbs.

As noted above this species was first described under the name *Dendrobium crispum*, but because of the laws of nomenclature that name must be applied to the homonym *D. humile* R. Wight. Therefore we have described it anew. Unfortunately Lindley (1858) united *D. crispum* and *D. humile* with *D. microbulbon*, a mistake that has been followed ever since.

Dendrobium turbinatum may be distinguished from *Dendrobium crispum* by its elongate (vs. abbreviated) inflorescence peduncle that is laxly three-sheathed, larger labellum midlobe (2.0 x 4.9 vs. 1.0 x 3.0 mm), and medial labellum callus that ends in two erect (vs. prostrate) horns.

Dendrobium microbulbon differs from *D. turbinatum* in being leafy (vs. leafless) at flowering time, flowers with a conical, obtuse, incurved (vs. infundibuliform, acute, almost straight) mentum, and a suborbicular (vs. transversely rectangular) labellum midlobe.

Peristylus Blume, Bijdr. Fl. Ned. Ind.: 404. 1825.

Type species: *Peristylus grandis* Blume.

A genus of about 100 species related to *Habenaria* Willd. In India and Sri Lanka there are respectively about 18 and 8 species, with four shared between the two nations. The genus is generally distinguished from *Habenaria* by technical details of the flowers, such as the stigmatophores being united (vs. free) to the sides of the labellum.

Peristylus caranjensis (Dalz.) Ormerod & C. Sathish Kumar, *comb. nov.*

Basionym: *Habenaria caranjensis* Dalz., J. Bot. Kew Gard. Misc. 2: 262. 1850 as *caraujensis*. TYPE: INDIA. "Insula Carauja," near Bombay, *N.A. Dalzell s.n.* (Holotype: lost, but see note). NEOTYPE (here designated): INDIA. Dronagheree, July 1848, "*J.E. Stocks*" *s.n.* (Holotype: K 000387524, image seen).

Heterotypic synonyms: *Habenaria stocksii* J.D. Hook., Fl. Brit. Ind. 6: 158. 1890 *syn. nov.* TYPE: INDIA. Mysore, *J.E. Stocks 173* (Lectotype, here designated: K 0000387526, image seen); Dronagheree (= Dronagiri), July 1848, "*J.E. Stocks*" *s.n.* (Syntype: K 000387524, image seen); Concan, "*23. Platanthera*," *J.S. Law s.n.* (Syntype: K 000974268; Isosyntype: P, images seen); Ram Ghaut, July, *D. Ritchie 1398* (Syntype: K 0000387525, image seen).

Peristylus stocksii (J.D. Hook.) Kraenzl., Orch. Gen. Sp.: 513. 1898.

Distribution: India.

Habenaria caranjensis has had a troubled and complicated history. It was described by N. A. Dalzell (1817–1878) from a plant he collected near Bombay during his time as a civil servant there. Dalzell sent his manuscripts from Bombay to William Hooker in England, who duly published them. It is possible that during this process a couple of misinterpretations arose. The first is the locality "Insula Carauja," which doesn't exist, it is rather the Caranja Peninsula. The incorrect spelling "Carauja" was corrected to Caranja (now Karanja) by Joseph Hooker (1890), who also emended the specific epithet. Hooker treated *Habenaria caranjensis* under the imperfectly known species at the end of the *Habenaria* taxa in the *Flora of British India*. The reason for this is that Dalzell said his taxon had cuneate, truncate labellum sidelobes, a rare feature in the genus, so far not found in any Indian member of the genus.

Analysis of the description of *Habenaria caranjensis* reveals an almost perfect match for the later *Habenaria stocksii*, except for the cuneate lip sidelobes. Nevertheless, *Habenaria caranjensis* is the only west Indian species with yellow flowers, a clavate spur, broad semi-ovate petals, and trilobed labellum. Therefore, we think Dalzell made a mistake in his description, which is understandable because the sidelobes can appear cuneate in live material (see photographs in Pande et al., 2010).

Another complicating factor has been the apparent lack of a type specimen of *Habenaria caranjensis*. We believe it is still extant, but like many other Dalzell types not recognized. The specimen chosen as neotype comes from Dronagheree (now Dronagiri), which is a fort on the Karanja Peninsula south of Bombay (now Mumbai), and which was collected in July 1848 and is probably Dalzell's type. The collector has noted the plant is yellow-flowered and is undescribed. A study of the handwriting on the original label is needed. A later hand in black ink and smaller writing has added J. E. Stocks as the collector, but we think incorrectly.

Among the syntypes of *Habenaria stocksii* is a collection by D. Ritchie from Ram Ghaut (= Ram Ghat). There are several places in India with this name, but the one Ritchie is referring to is an area south of Amboli and north of Tinari in Maharashtra State.

Trichotosia Blume, Bijdr. Fl. Ned. Ind.: 342. 1825.

Type species: *Trichotosia ferox* Blume.

This genus of Eriinae contains about 80 species distributed from India and Sri Lanka to Vanuatu in the western Pacific. Most species are found in the Malesian part of the distribution, especially New Guinea where 24 species so far occur. The following taxon requires transfer to the genus, which is done here.

Trichotosia thwaitesii (Trimen) Ormerod & C. Sathish Kumar, *comb. nov.*

Basionym: *Eria thwaitesii* Trimen, J. Ceyl. Br. Roy. As. Soc. 9: 88. 1885. TYPE: SRI LANKA. Central Prov., Dolosbage, 915 m, December 1854, *G.C.K. Thwaites CP 2349* (Holotype: PDA, not seen; Isotypes: GOET, LE, P, 2 sheets, images seen).

Homotypic synonyms: *Eria velutina* Thwaites, Enum. Pl. Zeyl.: 299. 1861 *nom. illeg.* (non Lodd. ex Lindl. 1840). *Pinalia thwaitesii* (Trimen) Kuntze, Rev. Gen. Pl. 2: 679. 1891.

Distribution: Sri Lanka.

This species is clearly a member of the genus *Trichotosia* since its leaves and sheaths are covered with reddish-brown hairs. It is rather odd though that *Trichotosia* does not occur nearby in southern India.

LITERATURE CITED

- HOOKER, J. D. 1890. Orchideae (pp. 1–198). *Flora of British India* 5 (Part 16). L. Reeve & Co., London.
- LINDLEY, J. 1858. Contributions to the Orchidology of India. No. 2. J. Proc. Linn. Soc., Bot. 3: 1–63.
- NG, Y. P., A. SCHUITEMAN, H. A. PEDERSEN, G. PETERSEN, S. WATTHANA, O. SEBERG, A. M. PRIDGEON, P. J. CRIBB, AND M. W. CHASE. 2018. Phylogenetics and systematics of *Eria* and related genera (Orchidaceae: Podochileae). Bot. J. Linn. Soc. 186: 179–201.
- ORMEROD, P. 2014. A synopsis of *Eria* Lindl. section *Cylindrolobus* (Blume) Lindl. (Orchidaceae: Eriinae in Malesia. Harvard Pap. Bot. 19(1): 77–95.
- PANDE, S., N. SANT, V. VISHWASRAO, AND M. DATAR. 2010. *Wild Orchids of Northern Western Ghats*. Ela Foundation, India.