



Annotated checklist of the native orchids of Taiwan and their type information

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ABSTRACT: The orchid flora of Taiwan is very rich, and the Orchidaceae is the largest plant family with 97 genera and 493 species (including varieties, subspecies, and natural hybrids) in the current list. Thorough knowledge was accumulated through a long history of orchid study in Taiwan since the early 1850s. This is a revised name list of a previous report in 2016 (Lin *et al.*, 2016). Type information, selected references, and diagnostic notes for each species are reported herein for reference.

KEY WORDS: endemic, flora, orchid, scientific name, Taiwan, type.

INTRODUCTION

Orchid exploration in Taiwan was initiated more than 175 years ago when European collectors, especially from the Kew Herbarium of the Royal Gardens in the UK, came to Formosa in the early 1850s. Great achievements were also carried out by Japanese plant taxonomists in the Japanese colonial period, from 1895 to 1945. After WWII and a long period of interruption, Taiwanese students were able to begin only in early 1970s to pick up the study of native orchids. A previous effort to list all of the native Taiwanese orchids was made in 2016 (Lin *et al.*, 2016), where 455 species, subspecies, varieties, and natural hybrids were reported. In this revised annotated checklist 493 species, subspecies, varieties, and natural hybrids in 97 genera are documented, a 8 % increase in species number from 8 years ago. In fact, about 30% of names changes were made because numerous nomenclatural works were proposed by recent revisionary taxonomic studies. Digitalization of many old journals and herbarium collections has largely facilitated the accuracy of taxonomic works. Activities of natural resource surveys occurring around the world, but especially in Southeast Asian countries, have generated a large number of publications. Fortunately, the creation of Plants of the World Online (POWO, using WCVP names as the backbone) by the Royal Botanic Gardens at Kew, and The World Flora Online (WFO, transformed from the Plant List website) provide updated information on scientific names.

Herein, plant generic names are arranged alphabetically, as are species names under each genus. Names of accepted taxa appear on the far left-hand margin in boldface. Synonyms of accepted taxa are indented below each accepted taxon, the same as was done in the 2016 list. Homotypic names are listed first,

followed by one or more heterotypic names. Approximately 150 diagnostic notes are included in this list to elaborate various taxonomic issues, to separate closely related species, or to indicate questions that future research must address. Systematic positions of genera according to phylogenetic relationships, based on DNA sequences, are also provided in Table 1.

Because orchids and all the other plants are actively evolving, many intraspecific and hybrids may exist which are inconsistent with the present situation. A checklist comprised of species only at the species level would give an artificial impression of the taxonomy. Because speciation is a continual process, it is not surprising to find that many orchids are similar but distinguishable, or even sometimes only have qualitative differences but which are difficult to clearly depict. At the specific and infraspecific levels, taxonomic delineation often differs between taxonomists assessing variations or between different time periods. Since localized variations are not evaluated in the context of global variations, a proliferation of heterotypic synonyms typically subsequently occurs. We attempted not to compile this list *sensu lato*; we sought to respect the existence of natural variations by recording possible variations at intraspecific ranks. For example, we treat simplified labellum or peloria plants as intraspecific species because in some cases, only several individuals exist in a normal population.

Based on this and previous publication (Lin, 2019, 2023), of the listed species, 152 species or 31% are considered endemic, 33% are epiphytes, and 13% are mycoheterotrophic. Species endemic to Taiwan are indicated with a dot (●). Among the endemic species, 26% are at the infraspecific rank, with many of these merely variants of widespread species, while 40% are rare species indicating that active evolution or speciation is occurring. *Haraella* and *Papilisia* are the only two endemic genera.



Table 1. Subfamilies and lower ranks of the Orchidaceae represented in Taiwan and their systematic position, after Chase *et al.* (2015, 2020, 2021a,b). The number of species recognized in Taiwan is given in brackets after the genus name. Doubtful and unplaced names are not included.

Subfamily **VANILLOIDEAE**
 Tribe Pogonieae *Pogonia* (1)
 Tribe Vanilleae *Cyrtosia* (4), *Erythrorchis* (1), *Lecanorchis* (15), *Vanilla* (1)

Subfamily **CYPRIPEDIOIDEAE** *Cypripedium* (4)

Subfamily **ORCHIDOIDEAE**
 Tribe Cranichideae
 Subtribe Goodyerinae *Anoectochilus* (3), *Cheirostylis* (13), *Erythrodes* (3), *Goodyera* (25), *Hetaeria* (2), *Hylophila* (1), *Odontochilus* (8), *Rhomboda* (1), *Vrydagzynea* (1), *Zeuxine* (15)
 Subtribe Spiranthinae *Spiranthes* (4)
 Tribe Diurideae
 Subtribe Acianthinae *Corybas* (4), *Stigmatodactylus* (1)
 Subtribe Cryptostylidinae *Cryptostylis* (2)
 Subtribe Prasophyllinae *Microtis* (1)
 Tribe Orchideae Small.
 Subtribe Brownleeinae *Disperis* (1)
 Subtribe Orchidinae *Amitostigma* (1), *Brachycorythis* (2), *Cynorkis* (1), *Dactylorhiza* (1), *Habenaria* (11), *Hemipilia* (1), *Herminium* (2), *Peristylus* (6), *Platanthera* (13), *Ponerorchis* (6)

Subfamily **EPIDENDROIDEAE**
 Tribe Neottieae *Aphyllorchis* (3), *Cephalanthera* (2), *Epipactis* (2), *Neottia* (16)
 Tribe Gastrodieae *Didymoplexiella* (1), *Didymoplexis* (2), *Gastrodia* (23)
 Tribe Nervilieae
 Subtribe Nerviliinae *Nervilia* (12)
 Subtribe Epipogiinae *Epipogium* (6), *Stereosandra* (1)
 Tribe Tropidieae *Corymborkis* (1), *Tropidia* (6)
 Tribe Arethuseae
 Subtribe Arethusinae *Arundina* (1)
 Subtribe Coelogykinae *Bletilla* (1), *Coelogyne* (2), *Pleione* (1)
 Tribe Malaxideae
 Subtribe Dendrobiinae *Bulbophyllum* (41), *Dendrobium* (21)
 Subtribe Malaxidinae *Crepidium* (7), *Liparis* (30), *Malaxis* (1), *Oberonia* (9), *Oberonioides* (1)
 Tribe Collabieae *Acanthophippium* (3), *Ania* (2), *Calanthe* (29), *Chrysoglossum* (1), *Collabium* (2), *Hancockia* (1), *Nephelaphyllum* (1), *Pachystoma* (1), *Spathoglottis* (1), *Tainia* (3)
 Tribe Podochileae
 Subtribe Podochilinae *Appendicula* (4)
 Subtribe Eriinae *Aeridostachya* (1), *Eria* (3), *Pinalia* (4)
 Subtribe Elasiinae *Phreatia* (4), *Thelasis* (1)
 Tribe Vandaeae
 Subtribe Aeridinae *Acampe* (1), *Arachnis* (1), *Chiloschista* (2), *Cleisostoma* (2), *Diploprora* (1), *Gastrochilus* (11), *Haraella* (1), *Holcoglossum* (2), *Luisia* (4), *Phalaenopsis* (2), **Papilisia* (2), *Pomatocalpa* (1), *Saccolabiopsis* (1), *Schoenorchis* (1), *Taeniophyllum* (9), *Thrixspermum* (9), *Trichoglottis* (2), *Tuberolabium* (1), *Vanda* (1)
 Tribe Epidendreae
 Subtribe Calypsoinae *Cremastra* (1), *Oreorchis* (6), *Tipularia* (2), *Yoania* (2)
 Subtribe Agrostophyllinae *Agrostophyllum* (1)
 Tribe Cymbidieae
 Subtribe Cymbidiinae *Cymbidium* (14)
 Subtribe Eulophiinae *Eulophia* (8)

There are 14 genera with more than 10 species in each genus, viz., *Bulbophyllum* (41), *Liparis* (29), *Calanthe* (29), *Goodyera* (25), *Gastrodia* (23), *Dendrobium* (21), *Neottia* (16), *Zeuxine* (15), *Cymbidium* (14), *Lecanorchis* (14), *Cheirostylis* (13), *Platanthera* (13), *Nervilia* (12), and *Habenaria* (11). The largest genus is *Bulbophyllum*, followed by *Liparis* and *Calanthe*. The taxa scope and composition of native orchids are similar to those of Nepal (Rokaya *et al.*, 2013). *Bulbophyllum*, however, with 25 species considered endemic, is taxonomically the most difficult genus, and we strived to determine how many true species exist in the wild. The problem of species or variety delimitation is especially disturbing in the following 2 species and their varieties, i.e., *B.*

albociliatum and *B. kuanwuensis*. These 2 species and several other species have characteristic of dense hairs along the lateral sepal margins, all of which evolved only in Taiwan, and formed a unique “CIRR II” group in a molecular phylogenetic study by Hu *et al.* (2020). This problem of morphological confusion will not be resolved without performing a comprehensive study.

In this list, most information about voucher type specimens is referenced from the Plants of Taiwan (PoT) database (<https://tai2.ntu.edu.tw>) and the TAIIF (https://taif.tfri.gov.tw/taif_en/), and digital collections in many herbaria. Accessing old publications and specimens was aided using the digitalized Biodiversity Heritage Library website. Of course, much type information was



derived from earlier publications. In this case, the type material information that we collected has not been validated, and we are not responsible for its accuracy. Usually only the first publication of a specific species native to Taiwan is cited. Influential references showing clear descriptions and images are also included.

We believe the survey in Taiwan is almost done because most of our native orchids have been reported. It is worthwhile mentioning the overarching complete survey and discoveries were promoted by orchid hobbyists and many website platforms established using Facebook, a social medium and social networking service, for example the “Taiwan Native Orchids Ecological group”. Such a platform has been publishing photos taken by hobbyists on a daily basis for years. In the future, increases in the taxa number will largely occur in the aspects of intraspecific rank and natural hybrids. To achieve a greater understanding of the content of natural variations at the species level, more investigations in larger areas or covering many countries are needed. Thus, the conflict between a global view and local views needs to be eliminated to reach a more-consistent viewpoint.

Annotated checklist

“●” indicates an endemic species.

This is a revised name list of a previous report in 2016, to see the scientific name change please refers to *Taiwania* 61(2): 78–126.

Acampe praemorsa (Roxb.) Blatt. & McCann var. *longepedunculata* (Trimen) Govaerts, Skvortsova 4(3): 75. 2018; Lin, Ill. Native Taiwan Orch. 266, f.132. 2022. *A. wightiana* var. β Thwaites, Enum. Pl. Zeyl. 303. 1864. *A. wightiana* var. *longepedunculata* Trimen, Syst. Cat. Fl. Pl. Ceylon: 90. 1885. **Type:** Sri Lanka: Central Province, Ambagamowa and Hunnasingiriya districts, *G. H. K. Thwaites, Ceylon Plant no. 3392.* 蕉蘭

Acampe praemorsa var. *rigida* (Buch.-Ham. ex Sm.) Barbhuiya, D.Verma & Vik.Kumar, Phytotaxa 303(3): 274, f.3. 2017. *Aerides rigida* Buch.-Ham. ex Sm., Cycl. 39: 12. 1818. *Acampe rigida* (Buch.-Ham. ex J.E. Sm.) P.F. Hunt, Kew Bull. 24: 98. 1970; Seidenf., Bot. Mus. Leaflets Harv. Univ. 25(2): 49–69. 1977; Lin, Native Orch. Taiwan 2: 42, Coloured pl.1–2. 1977; Lin *et al.*, *Taiwania* 61(2): 79. 2016. **Type:** Nepal: Buchanan-Hamilton drawing (holotype: LINN MS/401D/1/2 *Epidendrum rigidum*).

Acampe rigida → *Acampe praemorsa* var. *longepedunculata*

Acanthophippium pictum Fukuy., Bot. Mag. (Tokyo) 49(586): 666–668. 1935. 延齡蟻花蘭

Acanthophippium striatum Lindl., Edwards’s Bot. Reg. 24(Misc.): 41. 1838. 一葉蟻花蘭

Acanthophippium sylhetense Lindl., Gen. Sp. Orch. Pl. 177. 1833 & J. Linn. Soc. 3: 21. 1859. 台灣蟻花蘭

Aeridostachya robusta (Blume) Brieger, Schltr.,

Orchideen Beschreib. Kult. Zücht., ed. 3, 1 (11–12): 714. 1981; Lin, Ill. Native Taiwan Orch. 441, f. 264. 2022. *Dendrobium robustum* Blume, Bijdr. Fl. Ned. Ind. 7: 347. 1825. *Eria robusta* (Blume) Lindl., Gen. Sp. Orch. 69. 1830; Liu & Su, Fl. Taiwan 5: 987, pl. 1593. 1978; Lin *et al.*, *Taiwania* 61(2): 96. 2016. *Pinalia robusta* (Blume) Kuntze, Revis. Gen. Pl. 2: 679. 1891. **Type:** Indonesia: Java, Borgor and Cianjur, Jun. 1, 1893, *C.L. Blume s.n.* (syntypes HBG506662, L0059900). 細花絨蘭

Note: *Aeridostachya* was recognized as a distinct genus by Ng *et al.* (2018).

Agrostophyllum formosanum Rolfe, Ann. Bot. (Oxford) 9(33): 157. 1895. 台灣榛穗蘭

Agrostophyllum saccatilabium Ames & Quisumb., Philipp. J. Sci. 49: 487. 1932. **syn. nov. Type:** The Philippines: cult. in B.S. orchid house, May 6, 1931. *E. Quisumbing 82229* (AMES38147).

Amitostigma alpestre → *Ponerorchis alpestris*

Amitostigma gracile (Blume) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 93. 1919. 小雛蘭

Note: Jin *et al.* (2014) proposed combining the genera *Amitostigma* and *Neottianthe* with *Ponerorchis*. *Amitostigma gracile* is the type species for the *Amitostigma* which is characterized by having naked viscidia (viscidia enclosed in a bursicle in *Ponerorchis*) and 2 raised lateral stigma lobes (2 separate complete bursicles and 1 concave stigma lobe in *Ponerorchis*) (Bhattacharjee, 2015).

Androcorys pusillus → *Herminium pusillum*

Ania hongkongensis (Rolfe) Tang & F.T. Wang, Acta Phytotax. Sin. 1: 88. 1951; Lin, Ill. Native Taiwan Orch. 2nd ed. 272, f.137. 2023. *Tainia hongkongensis* Rolfe, Kew Bull. 195. 1896. **Syntype:** China: Hong Kong, *C. Wright 522* (lectotype, designated by H. Turner in Orch. Monogr. 6: 54. 1992. K; isolectotypes: NY, P); *Wilford 384* (K); *Hance s.n.*(1670?) (K); *Ford s.n.* (12/79?) (K). 香港安蘭

Note: New record with specimen (TAI289913, Lin, 2023).

Ania penangiana (Hook. f.) Summerh., Bot. Mag. 161: t.9553. 1939. 綠花安蘭

Anoectochilus formosanus Hayata, Icon. Pl. Formosan. 4: 101, pl.53. 1914. 台灣金線蓮

Anoectochilus koshunensis Hayata, Icon. Pl. Formosan. 4: 104, f.54. 1914. 恆春金線蓮

Anoectochilus tetsuoi Ohwi ex Hatus. & T. Amano, Fl. Okinawa S. Ryukyu 1: 148. 1958. **nom. inval. Type:** Ryukyus. *Anoectochilus semiresupinata* T.C. Hsu & S.W. Chung, Ill. Fl. Taiwan 1: 294. 2016. **Type:** Taiwan. Ilan County: Mt. Tochiashen,



- ca. 1300 m, Jul. 12, 2011, *Hsu 4300* (holotype TAIF).
Anoectochilus lalashanensis S.S. Ying, New Taxa New Names 6: 537–543. 2023. **syn. nov.** **Type:** Taiwan: Taoyuan, Fuhsin, Lalashan, 1989 m, Oct. 9, 2023 (holotype, NTUF).
- Anoectochilus roxburghii* (Wall.) Lindl., Ill. Bot. Himal. Mts.: 368. 1839; Henry, Trans. Asia. Soc. Jpn. 24(Suppl): 92. 1896; Masam., Trop. Hort. 3: 23. 1933; Seidenf., Opera Bot. 114: 32, 1992; Lin, Orch. Fl. Taiwan 124. 2022; Yu, Orchids Taiwan: A Field Guide 65, ph. 2024.
Chrysobaphus roxburghii Wall., Tent. Fl. Nepal. 2: 37, t.27. 1826. **Syntype:** India: Mt. Silhet, NAPAUL. WALLICH”, *Wallich s.n.* (lectotype, designated by Bhattacharjee & Chowdhery in Taxon 63(5): 1116. 2014. WU No. 044614, photo); India: Sylhet, *M.R. Smith s.n.*; Ceylon, *T. Hardwick s.n.* **金線蓮**
- Note:** Specimen examined: Taiwan: New Taipei City: Happen, 670 m, Nov. 19, 2019, *T.C. Hsu 12283* (TAIF524641). Images were best presented by Yu (2024).
- Aphyllorchis montana* Rchb. f., Linnaea 41: 57. 1876. **紫紋無葉蘭**
- Note:** *Aputuria montana* Lindl. is a synonym of *Pachystoma pubescens* (POWO).
- Aphyllorchis montana* var. *membranacea* T.C. Hsu, Ill. Fl. Taiwan 1: 296. 2017 [Mar. 2017], ed. 2.; Lin, Orch. Fl. Taiwan 311, f.137-2. 2019. **Type:** Taiwan: Pingtung: Shouka, Sept. 3, 2016. *T.C. Hsu 8546* (holotype: TAIF). **●薄唇無葉蘭**
- Aphyllorchis montana* forma *pingtungensis* T.P. Lin, Taiwania 62(2): 205–210, f.1A, B, 2. 2017. **Type:** Taiwan: Pingtung: Shouka, 400 m, Sept. 9, 2016. *T.P. Lin s.n.* (holotype TAI286815, isotypes TAI286816, TAI286817).
- Aphyllorchis montana* var. *rotundatipetala* (C.S. Leou, S.K. Yu & C.T. Lee) T.P. Lin, Taiwania 61(2): 80. 2016. **圓瓣無葉蘭**
- Note:** Both *Aphyllorchis simplex* Tang et F.T. Wang, found in Vietnam and southern China, and *A. rotundatipetala* are peloric forms of *A. montana*.
- Appendicula fenixii* (Ames) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 1: 336. 1912. **長葉竹節蘭**
- Appendicula lucbanensis* (Ames) Ames, Philipp. J. Sci., C 8: 415. 1913 publ. 1914. **多枝竹節蘭**
- Appendicula reflexa* Blume, Bijdr. 301. 1825. **台灣竹節蘭**
- Appendicula reflexa* var. *kotoensis* (Hayata) T.P. Lin, Taiwania 61(2): 81. 2016. **●蘭嶼竹節蘭**
- Arachnis labrosa* (Lindl. & Paxton) Rchb. f., Bot. Centralbl. 28: 343. 1886. **龍爪蘭**
- Arundina graminifolia* (D. Don) Hochr., Bull. New York

- Bot. Gard. 6: 270. 1910. **竹葉蘭/烏仔花**
Limodorum graminifolium Buch.-Ham. ex Hook. f., Fl. Br. India [J.D. Hooker] 5(16): 857. 1890, **pro syn.**
- Bletilla formosana* (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. 10: 256. 1911. **台灣白及**
- Brachycorythis galeandra* (Rchb. f.) Summerh., Kew Bull. 10: 241. 1955. **寬唇芭葉蘭**
- Brachycorythis peitawuensis* T.P. Lin & W.M. Lin, Taiwania 54(4): 323–325, f.1. 2009. **北大武芭葉蘭**
- Bulbophyllum affine* Lindl., Gen. Sp. Orchid. Pl. 48. 1830. **紋星蘭**
- Bulbophyllum albociliatum* (T.S. Liu & H.J. Su) C. Naczej., Biol. Mag. (Okinawa) 10: 36. 1973. **●白毛捲瓣蘭**
- Bulbophyllum taialpinum* S.S. Ying, New Taxa New Names 6: 519–524. 2023. **syn. nov.** **Type:** Taiwan: Miaoli, Taian, Guanwu [觀霧], 2350 m, S.S. Ying s.n. May 30, 2023 (holotype, NTUF).
- Bulbophyllum albociliatum* var. *brevipedunculatum* (T.C. Hsu & S.W. Chung) W.M. Lin & Y.F. Wang, Wild Orch. Taiwan: 126 (ph.) 2014. **●短梗豆蘭**
- Bulbophyllum albociliatum* var. *remotifolium* (Fukuy.) T.P. Lin, Orch. Fl. Taiwan 333, f.144-3-1. 2019.
Cirrhopetalum remotifolium Fukuy., Bot. Mag. (Tokyo) 49(586): 669–670. 1935; Lin *et al.*, Taiwania 61(2): 84. 2016. *B. remotifolium* (Fukuy.) S.S. Ying, Bull. Exp. For. Natl. Taiwan Univ. 114: 156. 1974. *B. remotifolium* (Fukuy.) C. Naczej., Biol. Mag. (Okinawa) 10: 36. 1973. **Type:** Taiwan: Karenko, Nogogoe, Sakahen, July 1933, *J. Ohwi 4710* (not in TAI or TI). **●長萼白毛捲瓣蘭**
- Bulbophyllum albociliatum* var. *shanlinshiense* T.P. Lin & Y.N. Chang, Taiwania 58(4): 260–262, f.2F, 4. 2013. **●杉林溪捲瓣蘭**
- Note:** Flower morphology of *B. pingnanense* (Liu *et al.*, 2016) of Fujian, China is the same to that of var. *shanlinshiense* but can be distinguished by having a shorter peduncle (10–11 vs. 55–62 mm).
- Bulbophyllum albociliatum* var. *weiminianum* T.P. Lin & L.L.K. Huang, Taiwania 50(4): 290–294, f.1, 4a–b. 2005. **●維明豆蘭**
- Note:** This species is similar to *B. kuanwuensis* var. *luchuensis* but with a long inflorescence axis.
- Bulbophyllum aureolabellum* → *Bulbophyllum curranii*
- Bulbophyllum cilisepalum* T.C. Hsu & S.W. Chung, Taiwania 53(1): 26–27, f.2d–f, 3, 4. 2008. **●毛緣萼豆蘭**
- Note:** *B. cilisepalum* has the most complicated hair morphology. Each unit of hair on the lower margins



consists of several long, yellow hairs grouped together, and each individual hair is branched (Lin, 2023).

Bulbophyllum confragosum → *Bulbophyllum setaceum* var. *confragosum*

Bulbophyllum cryptomeriicola T.P. Lin & S.K. Yu, *Taiwania* 67(3): 361–365, f.1, 2. 2022. **Type:** Taiwan: Chiayi Co., Alishan Township, 2200 m, Oct. 19, 2018, S.K. Yu s.n. (holotype TNM, S206748); Oct. 1, 2021, S.K. Yu s.n. (paratype TAI289896). ●柳杉捲瓣蘭

Bulbophyllum curranii Ames, *Philipp. J. Sci. C* 7: 130. 1912; Lin, *Ill. Native Taiwan Orch.* 295, f.146-2. 2022. **Type:** Philippines: Luzon, Benguet Subprovince, summit of Mt. Tonglon, Aug. 8, 1906, H.M. Curran, *For. Bur.* 4953 (holotype AMES8348 illustration on the label).

小豆蘭

Bulbophyllum gracillimum Hayata, *Icon. Pl. Formosan.* 2: 132–133. 1912. *non* Rolfe 1907, **Type:** Taiwan: Nokozen [能高], Jan. 16, 1908, T. Kawakami et U. Mori [6260] (holotype TI, photo T00879 in PoT).

Bulbophyllum calophyllum L.O. Williams, *Bot. Mus. Leafl.* 6: 98. 1938. **Type:** Philippines: Luzon, Prov. Rizal, Sept. 1909, *Loher* 14649 (holotype AMES45900; isotype Herb. Bur. Sci., Manila).

Bulbophyllum aureolabellum T.P. Lin, *Native Orch. Taiwan* 1: 38–39. 1975; Lin et al., *Taiwania* 61(2): 82. 2016; Lin, *Orch. Fl. Taiwan* 334, f.145. 2019 **Type:** Taiwan: Lintienshan 1200 m, Apr. 2, 1974, T.P. Lin 63 (syntypes TAI183952, TAI203898). **Note:** Lin (1975: 38) surmised that *Bulbophyllum aureolabellum* and *B. curranii* are conspecific.

Bulbophyllum drymoglossum Maxim. ex Ôkubo, *Bot. Mag. (Tokyo)* 1(1): 14, t.3. 1887; Lin, *Native Orch. Taiwan* 1: 40, ph.9. 1975; Lin, *Ill. Native Taiwan Orch.* 296, photo. 2022. **Type:** Japan: Awanokuni (south of Chiba ken), Mt. Kiyosumi [澄清山], 350 m, June, 1882.

日本狹萼豆蘭

Note: This species has been confirmed by a specimen from Taitung Co., May 1933, *Ohwi J. s.n.* (G01070-image in POT) (Lin, 2022: 296).

Bulbophyllum drymoglossum var. *somai* (Hayata) T.P. Lin, *Ill. Native Taiwan Orch.* 297, f.147-2. 2022. *B. somae* Hayata, *Icon. Pl. Formosan.* 9: 109, f.37. 1920; Masam., *J. Geobot.* 19(1–2): 1, pl.166. 1971; Lin et al., *Taiwania* 61(2): 84. 2016. **Type:** Taiwan: Taipei, Uraisha, June 1916, T. Soma, s.n. (holotype TI, photo T00885 in PoT).

●狹萼豆蘭

Note: *B. somae* resembles *B. drymoglossum* but is distinguishable from it because *B. somae* has substantially longer and narrower sepals, and a longer peduncle compared to *B. drymoglossum*. (Lin, 2022)

Bulbophyllum electrinum var. *calvum* → *Bulbophyllum hirundinis* var. *calvum*

Note: Based on phylogenetic information (Lin, 2010) *Bulbophyllum electrinum* var. *calvum* belongs to the

clade *B. hirundinis*.

Bulbophyllum electrinum Seidenf. var. *sui* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 324–325, f.2A. 2009.

●長軸捲瓣蘭

Bulbophyllum fimbriperianthium W.M. Lin, L.L.K. Huang & T.P. Lin, *Taiwania* 51(3): 162–163, f.1, 5A. 2006.

●流蘇豆蘭

Note: Phylogenetic framework based on DNA markers demonstrated that *B. fimbriperianthium*, *B. electrinum* and others of the Section CIRRII is in the terminal position to Asian *Bulbophyllum* with connate lateral sepals and longer lateral sepal lengths (Hu et al., 2020; Thawara et al., 2024).

Bulbophyllum flaviflorum (T.S. Liu & H.J. Su) Seidenf., *Bull. Mus. Paris* 3. s.71: 109. 1973.

●翠華捲瓣蘭

Note: Seidenfaden (1992) reduced *B. flaviflorum* to a synonym of *B. pectenvenensis* (Seidenfaden, 1973), but we consider *B. flaviflorum* to be non-conspecific with *B. pectenvenensis*. This orchid has been awarded by the American Orchid Society in 2019 (Award no.: 20196358).

Bulbophyllum griffithii (Lindl.) H. G. Rchb. F., *Ann. Bot. Syst.* 6: 247. 1861.

溪頭豆蘭

Bulbophyllum hirundinis (Gagnep.) Seidenf., *Dansk Bot. Ark.* 29: 76. 1973; Lin, *Native Orch. Taiwan* 1: 44–45, ph.11. 1975. Lin, *Ill. Native Taiwan Orch.* 302, f.152-1-1. 2022. *Cirrhopetalum hirundinis* Gagnep. *Bull. Soc. Bot. France* 78: 5. 1931. **Type:** Vietnam, Tonkin, Mt. Bavi, pagoda de Dein-touan, Sept. 11, 1886, M. Balansa 2032. (P00348062).

朱紅冠毛蘭/花蓮捲瓣蘭

Bulbophyllum remotifolium auct. *non* (Fukuy.) C. Nackej., *Seidenf., Dansk. Bot. Ark.* 29(1): 76. 1973.

Bulbophyllum karenkoensis var. *punicum* (T.P. Lin & Y.N. Chang) T.P. Lin, Lin et al., *Taiwania* 61(2): 83. 2016. *B. hirundinis* var. *punicum* T.P. Lin & Y.N. Chang, *Taiwania* 58(4): 260–261. 2013. **Type:** Taiwan: Taoyun: Xicun, N. Cross-Island Highway, 800 m, June 2013, cult. to flower, L.Z. Chang s.n. (holotype TAI283127).

Bulbophyllum hirundinis var. *rubriflorum* W.M. Lin & Y.F. Wang, *Wild Orch. Taiwan* 149(ph.) 2014. **nom. nud.** **Note:** Found in N. Taiwan at elevations of about 200 m.

Bulbophyllum hirundinis var. *pinlinianum* W.M. Lin & Y.F. Wang, *Wild Orch. Taiwan* 148(ph.) 2014. **nom. nud.** **Note:** The lateral sepals are only 2 cm long.

Bulbophyllum karenkoensis T.P. Lin, *Taiwania* 61(2): 83. 2016. **nom. superfl.** **Type:** Taiwan: Taitung: Mt. Tulan, 900 m, Aug. 10, 2004, T.C. Hsu & S.W. Chung 109 (holotype TAI211529). **Note:** TAI122351 (Nantou: Lienhuachih, 600–700 m, Aug. 1, 1975, T.P. Lin 182) was the original specimen presented in the *Native Orchids of Taiwan* (1975, p44) and is badly damaged.

Bulbophyllum hirundinis var. *calvum* (T.P. Lin & W.M. Lin) T.P. Lin, *Ill. Native Taiwan Orch.* 304, f.152-2. 2022. *B. electrinum* var. *calvum* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 325, f.2B. 2009; Lin et al., *Taiwania* 61(2): 82. 2016. *B. karenkoensis* var. *calvum* (T.P. Lin & W.M. Lin) T.P. Lin, *Orch. Fl. Taiwan* 351, f.152-2. 2019. **Type:** Taiwan:



Pingtung, Shouka, 350 m, May 25, 2009, *W.M. Lin s.n.* (holotype TAI268955).
●無毛捲瓣蘭

Bulbophyllum hirundinis × *B. setaceum* var. *confragosum* T.P. Lin in Ill. Native Taiwan. Orch. 2nd ed. 46 & 306, ph.35. 2023. *Type*: Taiwan: *I.F. Wang s.n.*, Apr. 26, 2022 (TAI289906).
●富貴捲瓣蘭

Note: This artificial hybrid was made by Mr. Mr. I-Fu Wang in 2017, and it blossomed 4.5 years later.

Bulbophyllum insulsoides Seidenf., Dansk Bot. Ark. 29(1): 89, f.41. 1973.
●穗花捲瓣蘭

Bulbophyllum japonicum (Makino) Makino, Bot. Mag. (Tokyo) 24: 31. 1910.
●瘡唇捲瓣蘭

Bulbophyllum karenkoensis → *Bulbophyllum hirundinis*

Bulbophyllum karenkoensis var. *punicum* → *Bulbophyllum hirundinis*

Bulbophyllum kuanwuensis S.W. Chung & T.C. Hsu, *Taiwania* 51(2): 139–142, f.1–5. 2006.
●觀霧豆蘭

Bulbophyllum kuanwuensis var. *luchuensis* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 325–326, f.2C. 2009.
●克森豆蘭

Bulbophyllum kuanwuensis var. *rutilum* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 327, f.2D. 2009.
●石仙桃豆蘭

Bulbophyllum linearibractium S.S. Ying, *New Taxa New Names* 6: 514–518, f.637–641. 2023. *Type*: Taiwan. Miaoli County, Taian Townshap [泰安鄉], Guanwu 2150 m, May 16, 2023, *S.S. Ying s.n.* (holotype NTUF).
●線苞石豆蘭

Note: *B. linearibractium* is characterized by a long peduncle, pale brownish-yellow flowers, and hairless sepals and petals.

Bulbophyllum macraei (Lindl.) Rehb. f., *Ann. Bot. Syst.* 6: 263. 1861.
●一枝瘤/烏來捲瓣蘭

Bulbophyllum maxi W.M. Lin & Y.F. Wang ex. T.P. Lin, *Orch. Fl. Taiwan* 359, f.155. 2019, *emend.* *Taiwania* 66(1): 17–19, f.6. 2021. *Bulbophyllum* sp. Lin, W.M., *Field Guide Wild Orch. Taiwan* 3: 26. 2006. *B. maxii* W.M. Lin & Y.F. Wang, *Wild Orch. Taiwan* 162–163. 2014. *nom. nud.* *Type*: Taiwan: Kaohsiung, Tienchih, Southern Cross-island Highway, 2000–2100 m, Apr. 1, 2008, cult. *W.M. Lin s.n.* (holotype TAI268962).
●天池捲瓣蘭

Note: This species is similar to *B. electricum* var. *sui* but has wavy white hair (unlike the yellow clavate hairs of the later species), and a shorter peduncle.

Bulbophyllum melanoglossum Hayata, *Icon. Pl. Formosan.* 4: 49, pl.10. 1914.
●紫紋捲瓣蘭

Bulbophyllum omerandrum Hayata, *Icon. Pl. Formosan.* 4: 50. 1914.
●毛藥捲瓣蘭

Bulbophyllum × *omerumbellatum* T.P. Lin, *Taiwania* 67(2): 461–464, f.1, 2. 2022. *Type*: Taiwan: Chiayi Co., Alishan Township, 1650 m, Mar. 13, 2022, *K.C. Yueh s.n.* (holotype TAI289902).
●樂氏捲瓣蘭

Bulbophyllum pauciflorum Ames, *Philipp. J. Sci. C* 7: 132. 1912.
●非豆蘭

Bulbophyllum pectinatum Finet, *Bull. Soc. Bot. France* 44: 268. 1897.
●百合豆蘭/阿里山豆蘭

Bulbophyllum pingtungense S.S. Ying & S.C. Chen, *Coloured Ill. Fl. Taiwan* 1: 499. 1985.
●屏東捲瓣蘭

Bulbophyllum remotifolium → *Bulbophyllum albociliatum* var. *remotifolium*

Bulbophyllum retusiusculum Rehb. f., *Gard. Chron.* 1869: 1182. 1869.
●黃萼捲瓣蘭

Bulbophyllum rubrolabellum T.P. Lin, *Taiwania* 20(2): 163, 1975.
●紅心豆蘭

Bulbophyllum tengchongense Z.H. Tsi, *Bull. Bot. Res.*, Harbin 9(2): 29. 1989; Pengyue *et al.*, *Taiwania* 69(1): 127, f5. 2024. *Type*: China: Yunnan: Tengchong County, Mar. 16, 2007, *X.H. Jin 8922* (PE).

Note: Flowers of *Bulbophyllum linzhiense* (Ma *et al.*, 2020) of Tibet, China are identical to those of *B. rubrolabellum* except for an apparent distance of 6–10 mm between the pseudobulbs (vs. aggregate pseudobulbs).

Bulbophyllum sasakii (Hayata) J.J. Verm., Schuit. & de Vogel, *Phytotaxa* 166(2): 105. 2014; Lin, *Ill. Native Taiwan Orch.* 319, f.165. 2022. *Ione sasakii* Hayata, *Icon. Pl. Formosan.* 2: 139–140. 1912. *Sunipia sasakii* (Hayata) P.F. Hunt, *Kew Bull.* 26: 184. 1971; Lin, *Native Orch. Taiwan* 1: 208, ph.131. 1975. *Type*: Taiwan: Chiayi, Alisan, Jan. 1912, B. Hayata *et S. Sasaki s.n.* (holotype TI, photo T00987 in PoT).
●綠花寶石蘭

Sunipia andersonii (King & Pantl.) P.F. Hunt, *Kew Bull.* 26: 183. 1971; Seidenf., *Opera Bot.* 89: 172, f.113. 1986; Lin *et al.*, *Taiwania* 61(2): 118. 2016; Lin, *Orch. Fl. Taiwan* 806, f.389. 2019. *Ione andersonii* King & Pantl., *Ann. Roy. Bot. Gard. (Calcutta)* 8: 159. pl.217. 1898. *Type*: Bhutan: above Buxa, *Anderson s.n.*, not found.

Note: *Bulbophyllum andersonii* J.J. Sm. (1912) refers to another plant. *Sunipia flavescens* (Rolfe) P.F. Hunt, *Kew Bull.* 26: 184. 1971. *Sunipia andersonii* var. *flavescens* (Rolfe) T.P. Lin, *Native Orch. Taiwan* 2: 28A. 1977. *Ione andersonii* var. *flavescens* (Rolfe) Tang & F.T. Wang, *Acta Phytotax. Sin.* 1: 90. 1951. *Ione flavescens* Rolfe, *Bull. Misc. Inform. Kew* 1914: 373. 1914. *Type*: Burma: Mount Victoria, flowered in Royal Botanic Garden, Glasnevin, Sept. 1914, *Mrs. Wheeler* Cuffe.

Bulbophyllum bifurcatoflorens (Fukuy.) J.J. Verm., Schuit. & de Vogel, *Phytotaxa* 166: 104. 2014. *Sunipia bifurcatoflorens* (Fukuy.)



- P.F. Hunt, Kew Bull. 26: 183. 1971. *Ione bifurcatoflorens* Fukuy., Bot. Mag. (Tokyo) 49(583): 440. 1935. **Type:** Taiwan: Takao, Naihonroku-goe, in silvis prope Fujieda, 1300 m, [藤枝] Oct. 21, 1934, *Fukuyama 4560* (holotype KPM-NA0105550, photo T00060 in PoT; isotype KPM-NA0105551, photo T00061 in PoT).
- Note:** Phylogenetic framework based on DNA markers demonstrated that Section *Ione* is basal to Asian *Bulbophyllum* with solitary leaf, distinct pseudobulb, 1- to many-flowers inflorescence, free lateral sepals and similar sepal lengths (Thawara *et al.*, 2024).
- Bulbophyllum setaceum*** T.P. Lin, Native Orch. Taiwan 1: 55–57 (f). 1975. ●鸛冠蘭
- Bulbophyllum setaceum* var. *confragosum*** (T.P. Lin & Y.N. Chang) T.P. Lin, Orch. Fl. Taiwan 373, f.162–2. 2019. *B. confragosum* T.P. Lin & Y.N. Chang, Taiwania 58(4): 257, f.1, 2A. 2013; Lin *et al.*, Taiwania 61(2): 82. 2016. **Type:** Taiwan: Taichung: forest above the Techi Reservoir, 1900 m, Apr. 1, 2008, *W.M. Lin s.n.* (holotype TAI283130). ●斷尾捲瓣蘭
- Bulbophyllum setaceum* var. *pilusiense*** T.C. Hsu, Ill. Fl. Taiwan 1: 318. 2016. **Type:** Nantou, Pilusi Workstation, 2200 m, June 23, 2013, *S.K. Yu 8* (holotype TAIIF). ●畢祿溪豆蘭
- Bulbophyllum somae* → ***Bulbophyllum drymoglossum*** var. *somai*
- Bulbophyllum taiwanense*** (Fukuy.) C. Nackej., Biol. Mag. (Okinawa) 10: 36. 1973 (Pub. Date: May 1974). ●台灣捲瓣蘭
- Bulbophyllum tenuislinguae*** T.P. Lin & Shu H. Wu, Taiwania 57(4): 377–378, f.1A, 2. 2012. ●金枝雙花豆蘭
- Bulbophyllum tokioi*** Fukuy., Bot. Mag. (Tokyo) 49(583): 439. 1935. ●小葉豆蘭
- Bulbophyllum umbellatum*** Lindl., Gen. Sp. Orch. Pl. 56. 1830. 繖形捲瓣蘭
- Calanthe alismatifolia*** Lindl., Fol. Orch. 6–7 (*Calanthe*): 8. 1855. 細點根節蘭
- Calanthe alpina*** Hook. f. ex Lindl., Fol. Orch. 6–7 (*Calanthe*): 4. 1855. 羽唇根節蘭
- Calanthe angustifolia*** (Blume) Lindl., Gen. Sp. Orch. pl.251. 1833; Su, Q. J. Exp. For. Natl. Taiwan Univ. 4(3): 85, pl.1. 1990; T.P. Ill. Native Taiwan. Orch. 331, f-174, 2022. *Amblyglottis angustifolia* Blume, Bijdr. Fl. New. Ind. 369. 1825. *Styloglossum angustifolium* (Blume) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B 40(4): 147. 2014; Lin *et al.*, Taiwania 61(2): 118. 2016; Lin, Orch. Fl. Taiwan 795, f.384. 2019. **Type:** Java: Crescit, in umbrosis montium Provinciae Buitenzorg. *Blume s.n.*, not found. 矮根節蘭
- Calanthe arcuata*** Rolfe, Bull. Misc. Inform. Kew 1896: 196. 1896; Chen *et al.*, Fl. Reipubl. Popularis Sin. 18: 295. 1999; Lin, Orch. Fl. Taiwan 388, f.172. 2019. **Type:** China: Hubei, Hsingshan, Mar. 1889, *A. Henry 6514* (holotype K000810936). 尾唇根節蘭
- Calanthe arcuata* subsp. *caudatilabella* (Hayata) T.P. Lin, Taiwania 61(2): 85. 2016. *C. caudatilabella* Hayata, Icon. Pl. Formosan. 4: 66, pl.13. 1914; Masam., J. Geobot. 17(4): 29, pl.154. 1969; Lin, Native Orch. Taiwan 1: 78, ph.32–33. 1975. **Type:** Taiwan Nantou, Rinkihō [林杞埔, Chushan]: Gosarin, 7000 ped., Aug. 1912, *H. Inaba s.n.* (holotype TI, photo T00892 in PoT).
- Calanthe arcuata* var. *caudatilabella* → ***Calanthe arcuata***
- Calanthe arisanensis*** Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 327–328. 1911. ●阿里山根節蘭
- Calanthe aristulifera*** Rchb. f., Bot. Zeitung (Berlin) 36: 74. 1878. 潤葉根節蘭
- Calanthe clavata*** Lindl., Gen. Sp. Orch. Pl. 251. 1833; Seidenf., Dan. Bot. Ark. 29(3–4): 22, t.7. 1975; Su, Q. J. Exp. For. Natl. Taiwan Univ. 4(3): 86, pl.2. 1990; Lin, Ill. Native Taiwan. Orch. 339, f-182, 2022. *Styloglossum clavatum* (Lindl.) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B 40(4): 148. 2014; Lin *et al.*, Taiwania 61(2): 118. 2016; Lin, Orch. Fl. Taiwan 797, f.385–1. 2019. **Type:** India/Bangladesh border, Sylhet, collected by F. De Silva, Wallich Number. List7343 (holotype K 001127202). 棒距根節蘭
- Styloglossum pseudodendiflorum* T.C. Hsu, Ill. Fl. Taiwan 2: 193. 2016 [Oct 2016]. **Type:** Taiwan: Pingtung, Mt. Kutzulun, *T.C. Hsu 7287* (TAIF474796).
- Calanthe davidii*** Franch., Nouv. Arch. Mus. Hist. Nat., sér. 2, 10: 85. 1888. 長葉根節蘭
- Calanthe densiflora*** Lindl., Gen. Sp. Orch. Pl. 250. 1833; Masam., J. Geobot. 19(4): 10, pl.173, 1971; Lin, Nat. Orch. Taiwan 2: 67, ph17–18. 1977; Liu & Su, Fl. Taiwan 5: 908. 1978. *Styloglossum densiflorum* (Lindl.) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B 40(4): 148. 2014; Lin *et al.*, Taiwania 61(2): 118. 2016; Lin, Orch. Fl. Taiwan 797, f.386. 2019. **Type:** India: Sylhet, Pandua, 4000 ft, collected by F. De Silva, *Wallich 7344* (holotype K001127203). 竹葉根節蘭
- Calanthe dolichopoda*** Fukuy., Bot. Mag. (Tokyo) 49(581): 296. 1935; Lin, Ill. Native Taiwan. Orch. 340, f-183, 2022. *Cephalantheropsis dolichopoda* (Fukuy.) T.P. Lin, Taiwania 59: 363, f.2. 2014; Lin *et al.*, Taiwania 61(2): 86. 2016; Lin, Orch. Fl. Taiwan 412, f.184. 2019. **Type:** Taiwan: Taipei: prope Shinten, Daitoozan [大桶



山], Nov. 10, 1933, *N. Fukuyama* 4536 (KPM-NA0105513-photo T00018 in PoT). ●**白花肖頭蕊蘭**

Cephalantheropsis calanthoides auct. non (Ames): Liu & Su, Fl. Taiwan 5: 918. 1978.

Calanthe tungyuanshanensis S.S. Ying, New Taxa New Names 7: 515–521. 2024. **syn. nov.** **Type:** Taiwan: Taoyuan City, Fuhsin District, Tungyuanshan, 1355 m, Nov. 23, 2023, *S.S. Ying s.n.* (holotype TPRCH).

Calanthe × *dominyi* Lindl., Gard. Chron. 1858: 4. 1858. **長距白鶴蘭**

Calanthe graciliflora Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 329–330. 1911. **織花根節蘭**

Calanthe × *hsinchuensis* Y.I. Lee, Bot. Stud. 54: 25. 2013. ●**新竹根節蘭**

Calanthe × *insularis* S.H. Oh, H.J. Suh & C.W. Park, Phytotaxa 218(1): 69–76. 2015; Lin, Orch. Fl. Taiwan 396, f.177. 2019. **Type:** Korea: Jeollanam-do: Sinan-gun, Heuksan-myeon, Gageodo Isl., 386 m, May 18, 2013, *Suh 5580* (holotype KB; isotype BH, TUT). **黃曉距根節蘭**

Calanthe × *kibanakirishima* F. Maek. Wild Orch. Jpn. Colour 363. 1971 *nom. nud.*; Lin & Wang, Wild Orch. Taiwan, Ill. Guide 208 and (ph.) 2014. Flowers orange-yellow.

Calanthe kinabaluensis auct. non Rolfe: Lin *et al.*, Taiwania 61(2): 85. 2016.

Note: We suppose *Calanthe* × *insularis* to be a natural hybrid between *C. aristulifera* and *C. striata*.

Calanthe × *kinabaluensis* → *Calanthe* × *insularis*

Calanthe kooshunensis Fukuy., Annu. Rep. Taihoku Bot. Gard. 3: 85. 1933; Lin, Ill. Native Taiwan. Orch. 343, f-186, 2022. **Type:** Taiwan: Pingtung, prope Kooshun, Manritoku-zan [萬里得山], Jan. 1, 1932, *N. Fukuyama 4101* (holotype KPM-NA0105514, photo T00019 in PoT).

細葉肖頭蕊蘭

Cephalantheropsis halconensis (Ames) S.S. Ying, Coloured Ill. Fl. Taiwan 3: 622. 1988; Lin *et al.*, Taiwania 61(2): 86. 2016. *Phaius halconensis* Ames Philipp. J. Sci., C 2: 323 1907. **Type:** Philippines: Mindora Isl., Mt. Halcon, 1950 m, Nov. 16, 1906, *E.D. Merrill 5513* (holotype AMES00102891; isotype NMNH 710763.2138713 & K000829037). **Note:** *Calanthe halconensis* Ames (1907) refers to a different species. Specimen examined: Taiwan: Taitung: Mt. Tulan, Jan. 3, 1989, *J.L. Tseng 11505* (TAIF 61141).

Phaius calanthoides Ames, Orchidaceae 2: 153. 1908. **Types:** Philippines: Luzon, Benguet, Baguio. Oct. 25, 1904, *R.S. Williams 1947* (syntypes NY9150, NY9151; isosyntype AMES00102888, line drawing on the label); Feb 1903, *D.L. Topping 20* (syntype). **Note:** In addition to small plant size, midlobe of lip and lamellate ridges on lip disc presented in the protologue and line drawing (from type *Williams 1947*) of *P. calanthoides* are almost identical to *Calanthe kooshunensis*. *Calanthe calanthoides* (A.Rich. & Galeotti) Hamer & Garay (1974) is an independent species.

Calanthe longipes Hook.f., Fl. Br. India 6: 195. 1890; Lin, Ill. Native Taiwan. Orch. 344, f-187, 2022. *Phaius longipes* (Hook. f.) Holttum, Gard. Bull. Singapore 11: 286. 1947. *Cephalantheropsis longipes* (Hook. f.)

Ormerod., Orch. Digest 62: 156. 1998; Lin, Taiwania 59: 360, f.1A, 2A, 3. 2014; Taiwania 61(2): 86. 2016; Lin, Orch. Fl. Taiwan 414, f.186, 2019. **Type:** Indonesia, Sumatra, Aceh Province, above Takengon, 1290 m, Aug. 1934, *C.G.G.J. van Steenis 6041* (holotype BO; floral sketch L, copy K). **三伯肖頭蕊蘭**

Calanthe lyroglossa Rchb. f., Otia Bot. Hamburg. 1: 53. 1878. Seidenf., Dansk Bot. Ark. 29(1): 22, f.8. 1973; Lin, Native Orch. Taiwan 1: 88, ph.41. 1975; Lin, Ill. Native Taiwan. Orch. 345, f-188-1, 2022. *Styloglossum lyroglossum* (Rchb.f.) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B 40(4): 147. 2014; Lin *et al.*, Taiwania 61(2): 118. 2016; Lin, Orch. Fl. Taiwan 803, f.388-1. 2019. **Type:** Philippines, Luzon, Mt. Mahahai, 1838, Wilkes' expedition, without collector and number (holotype specimen image not found in IDC microfiche 8802 Reichenbach Herbarium; isotypes GH00106341; AMES00106343, possible drawing of isotype).

黃芭(連翹)根節蘭

Note: Trimorphic flowers were found in *Calanthe lyroglossa* (Lin, 2021).

Calanthe lyroglossa var. *actinomorpha* (Fukuy.) P.J. Cribb & D.A. Clayton, The Genus *Calanthe*: 85. 2013; Lin, Ill. Native Taiwan. Orch. 345, f-188-2, 2022. *Calanthe actinomorpha* Fukuy., Bot. Mag. (Tokyo) 49(586): 668. 1935. *Phaius actinomorphus* (Fukuy.) T.P. Lin, Native Orch. Taiwan 1: 224. 1975. *Styloglossum lyroglossum* var. *actinomorphum* (Fukuy.) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B 40(4): 149. 2014; Lin, Orch. Fl. Taiwan 803, f.388-2. 2019. *S. formosanum* var. *actinomorphum* (Fukuy.) T.P. Lin, Lin *et al.*, Taiwania 61(2): 118. 2016. *S. actinomorphum* (Fukuy.) T.C. Hsu, Ill. Fl. Taiwan 2: 191. 2016 [Oct 2016]. **Type:** Taiwan: Taipei, Syoagyokusan. Jan. 17, 1935, *N. Fukuyama 4690* (holotype KPM-NA0105508 without Fukuyama's no., photo T00017 in PoT).

●**輻射根節蘭**

Calanthe masuca (D. Don) Lindl., Gen. Sp. Orch. 249. 1833. **長距根節蘭**

Calanthe mishmensis (Lindl. & Paxton) M.W. Chase, Christenh. & Schuit., Phytotaxa 472: 163. 2020. *Limatodes mishmensis* Lindl. & Paxt., Fl. Gard. 3: 36. 1852. *Phaius mishmensis* (Lindl. & Paxt.) Rchb. f., Bonplandia 5: 43. 1857; Garay & Sweet, Orch. S. Ryukyu Isl. 127. 1974; Lin, Native Orch. Taiwan 1: 228, ph.142. 1975; Lin *et al.*, Taiwania 61(2): 113. 2016. **細距鶴項蘭**

Calanthe obcordata (Lindl.) M.W. Chase, Christenh. & Schuit., Phytotaxa 472: 164. 2020. *Bletia obcordata* Lindl. in Gen. Sp. Orch. Pl.: 123. 1831. *Cephalantheropsis obcordata* (Lindl.) Ormerod, Orch. Digest 62: 157. 1998; Lin *et al.*, Taiwania 61(2): 87. 2016; Lin, Orch. Fl.



Taiwan 415, f.187. 2019. **Type:** India/Bangladesh border: Sylhet, *Wallich s.n.*, no specimen image found in Herbarium Lindley IDC microfiche no. 7395.

綠花肖頭蕊蘭

Calanthe puberula Lindl., Gen. Sp. Orch. 252. 1833.

反捲根節蘭

Calanthe speciosa (Blume) Lindl., Gen. Sp. Orch. Pl. 250. 1833; Su, Q. J. Expt. Forest. Natl. Taiwan Univ. 4(3): 87, pl.3. 1990 & Fl. Taiwan 2nd ed. 5: 789. 2000. *Amblyglottis speciosa* Blume, Bijdr. Fl. Ned. Ind.: 371. 1825. *Styloglossum speciosum* (Blume) T. Yukawa & P.J. Cribb, Bull. Natl. Mus. Nat. Sci., Tokyo, B. 40: 150. 2014. **Type:** Indonesia: Java, Batam and Buitenzorg, *Blume s.n.* lectotype P00353007, isolectotype P00353008 designed by Averyanov *et al.* (2023).

台灣根節蘭

Calanthe formosana Rolfe, Ann. Bot. (Oxford) 9(33): 157. 1895; Lin, Native Orch. Taiwan 1: 82, ph.36. 1975. *Styloglossum formosanum* (Rolfe) T.P. Lin, Lin *et al.*, Taiwania 61(2): 118. 2016; Lin, Orch. Fl. Taiwan 798, f.387. 2019. *C. pulchra* var. *formosana* (Rolfe) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 430. 1977. **Type:** Taiwan: South Cape, *Henry 1347* (holotype K000810932; isotype MO, NY8614).

Calanthe yushuni K. Mori & Yamam., J. Soc. Trop. Agric. 4(2): 188. 1932. **Type:** Taiwan: Taitung, Shussuiha [出水坡 (達仁)], Dec. 27[29], 1930, *Y. Kudo et K. Mori s.n.* (holotype TAI118706).

Note: Type material was indicated to be stored in BO and L but not found, and new types were designated by Averyanov *et al.* (2023): lectotype P00353007, isolectotype P00353008.

Calanthe striata R. Br. ex Spreng., Syst. Veg. ed. 16. 3: 743. 1826.

黃根節蘭

Calanthe takeoi Hayata, Icon. Pl. Formosan. 9: 111. 1920. *Paraphaius takeoi* (Hayata) J.W. Zhai, Z.J. Liu et F.W. Xing, Mol. Phylogenet. Evol. 77: 221. 2014; Lin *et al.*, Taiwania 61(2): 112. 2016; Lin, Orch. Fl. Taiwan 756, f.364. 2019. *Phaius takeoi* (Hayata) H.J. Su, Q. J. Exp. For. 3(4): 77. 1989. **Type:** Taiwan: Taipei, Urai. Oct. [24], 1917, *I. Takeo s.n.* (holotype TI, photo T00905 in PoT).

粗莖鶴頂蘭

Calanthe tankervilleae (Banks) M.W. Chase, Christenh. & Schuit., Phytotaxa 472: 165. 2020. *Limodorum tankervilleae* Banks, Limodorum Tankervilleae [plate] 1788; Masam., List Vasc. Pl. Taiwan 164. 1954. *Bletia tankervilleae* (Banks) R.Br., Bot. Mag. 44: t. 1924. 1817. *Phaius tankervilleae* (Banks) Blume, Mus. Bot. 2: 177. 1856; Lin *et al.*, Taiwania 61(2): 114. 2016; Lin, Orch. Fl. Taiwan 762, f.366. 2019. *Phaius tancarvilleae* (L'Her.) Blume, Mus. Bot. Lugduno-Batavum 2(12): 1856. *Limodorum tancarvilleae* L'Hér., Sert. Angl. 1: 28. 1789 [Jan. 1789], orth. var. **Type:** J. Sowerby, 'Limodorum Tankervilleae', engraving by MacKenzie from Sowerby's original drawing dated 1787 and now at BM, later published in W. Aiton, Hort. Kewensis 3: t.12 [Aug.–Oct.

1789] (lectotype BM, designated by Mabberley in Kew Bull. 66(3): 476. 2011).

鶴頂蘭

Calanthe tricarinata Lindl., Gen. Sp. Orch. Pl. 252. 1833.

綉邊根節蘭

Calanthe triplicata (Willemet) Ames, Philipp. J. Sci., C 2: 326. 1907.

白鶴蘭

Calanthe woodfordii (Hook.) M.W. Chase, Christenh. & Schuit., Phytotaxa 472(6): 166. 2020; Lin, Ill. Native Taiwan Orch. 2nd ed. 343, f.188. 2023. *Bletia woodfordii* Hook., Bot. Mag. 54: t.2719. 1827. *Phaius woodfordii* (Hook.) Merr., J. Arnold Arbor. 29: 211. 1948. **Type:** Trinidad, 1820, collected by R. Woodford, not found. The plate of the original publication was made from a drawing in the possession of W.T. Aiton.

黃花鶴頂蘭

Phaius flavus (Blume) Lindl., Gen. Sp. Orch. Pl. 128. 1831; Garay & Sweet, Orch. S. Ryukyu Isl. 126. 1974; Lin, Native Orch. Taiwan 1: 226, ph.140, 141. 1975. *Paraphaius flavus* (Blume) J.W. Zhai, Z.J. Liu & F.W. Xing, Mol. Phylogenet. Evol. 77: 221. 2014; Lin *et al.*, Taiwania 61(2): 112. 2016. *Limodorum flavum* Blume, Bijdr. Fl. Ned. Ind. 375. 1825. *Bletia flava* Wall. ex Lindl., Gen. Sp. Orch. Pl. 127. 1831. **Type:** Java: Jawa Barat, Mount Gede, Java Gedeh, *Blume s.n.* (syntypes L0061867, L0061868).

Cephalanthera alpicola → *Cephalanthera longifolia*

Cephalanthera erecta (Thunb.) Blume, Coll. Orchid.: 188. 1859; Iwatsuki *et al.*, in Fl. Japan IVb: 255. 2016; Chung & Hsu, Ill. Fl. Taiwan 2: 19. 2016; Yu, Orchids Taiwan: A Field Guide 150, ph. 2024. *Serapias erecta* Thunb., Syst. Veg., ed. 14 (J. A. Murray). 816. 1784; Icones Plantatum Japonicarum Fasc. 1: 4. 1794. *Epipactis erecta* (Thunb.) Sw., Neues J. Bot. 1(1): 65. 1805. *Cymbidium erectum* (Thunb.) Sw. J. Bot. (Schrader) 1799(2): 226. 1800. **Type:** Japan: Kutji rawa itzigo, *Thunberg 21322* (holotype UPS V-134017)

銀蘭

Note: Specimen: Taiwan: Yilan: Datong Township, Nanshan Village, May 24, 2016. *T.C. Hsu 8489* (TAIF497075). Images were best presented by Yu (2024).

Cephalanthera longifolia (L.) Fritsch, Oesterr. Bot. Z. 38: 81. 1888; Yukawa, Bull. Natl. Mus. Nat. Sci., Tokyo, B 42(3): 104. 2016; Lin, Orch. Fl. Taiwan 409, f.183, pl.19. 2019. *Serapias helleborine* var. *longifolia* L., Sp. Pl. 950. 1753. *S. longifolia* (L.) Huds., Fl. Angl.: 341. 1762. **Neotype:** Herb. Linn. No. 1057.4 (LINN), designated by Renz in Nasir & Ali (ed.), Fl. Pakistan 164: 12.1984.

高山頭蕊蘭/高山金蘭

Cephalanthera elegans Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 58. 1919. **Type:** Japan, Hokkaido, Hakodate, *Miyabe s.n.* (holotype B, destr. by fire in 1943).

Cephalanthera alpicola Fukuy., Bot. Mag. (Tokyo) 52(617): 242. 1938; Masam., J. Geobot. 14(1): pl.109. 1965; Liu & Su, Fl. Taiwan 5: 916. 1978; Lin *et al.*, Taiwania 61(2): 86. 2016; Lin, Orch. Fl. Taiwan p.409. 2019.

Cephalanthera taiwaniana S.S. Ying, Mem. Coll. Agric. Natl. Taiwan Univ. 28(2): 37, pl.3, ph.7, 8. 1988; Lin *et al.*, Taiwania 61(2): 86. 2016.



Cephalanthera taiwaniana → *Cephalanthera longifolia*

Cephalantheropsis dolichopoda → *Calanthe dolichopoda*

Cephalantheropsis halconensis → *Calanthe kooshunensis*

Cephalantheropsis longipes → *Calanthe longipes*

Cephalantheropsis obcordata → *Calanthe obcordata*

Cheirostylis chinensis Rolfe, Ann. Bot. (Oxford) 9(33): 158. 1895. 台灣指柱蘭

Cheirostylis chinensis var. *clibborndyeri* → *Cheirostylis monteiroi* var. *clibborndyeri*

Cheirostylis chinensis var. *takeoi* (Hayata) T.P. Lin, *Taiwania* 66(2): 353–359, f.3A, B. 2021. *Arisanorchis takeoi* Hayata, Icon. Pl. Formosan. 4: 110, pl.57. 1914; Masam., J. Geobot. 16(4): 31, pl.144. 1968. *Cheirostylis takeoi* (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 171. 1919; Lin, Nat. Orch. Taiwan 2: 80, ph25. 1977; Lin *et al.*, *Taiwania* 61(2): 87, 2016. **Type:** Taiwan: Chiayi: Alishan, inter Karapin et Suisharyo, 3300 ped., Mar. 28, 1914, *Takeo Ito s.n.* (TI, photo T00906 in <https://tai2.ntu.edu.tw/> with Hayata's handwriting. This was collected by U. Mori and the date on the label is Mar. 27, 1914). 全唇指柱蘭

Arisanorchis tairae Fukuy., Acta Phytotax. Geobot. 14: 136. 1952. *C. tairae* (Fukuy.) Masam., Sci. Rep. Kanazawa Univ., Biol. 9(1): 129. 1964. **Type:** Ryukyus: Ins. Okinawahonto, Taniu-take, *Y. Taira 3465* (holotype TAD).

Cheirostylis liukuensis Masam., J. Soc. Trop. Agric. 2(1): 36. 1930. 墨綠指柱蘭

Cheirostylis liukuensis var. *derchiensis* (S.S. Ying) T.P. Lin, *Taiwania* 61(2): 87. 2016 & Orch. Fl. Taiwan 99, f.32-2. 2019. 德基指柱蘭

Cheirostylis acuminata Z.L. Liu & Q. Liu, Phytotaxa 247(2): 138–142, f.1, 2. 2016. **syn. nov.** **Type:** China: Yunnan: Mengla Co., Mengyuan Town, Paozhuqing Village, limestone forest, 800 m, Jan. 7, 2015, *Liu 12* (holotype HITBC). **Note:** Based on the original description and figs (Liu *et al.*, 2016a), *C. acuminata* is identical to *C. liukuensis* var. *derchiensis*.

Cheirostylis liukuensis var. *nantouensis* (T.P. Lin) T.P. Lin, *Taiwania* 65(4): 463–472. 2020. *C. nantouensis* T.P. Lin, *Taiwania* 62(2): 205–208, f.1C, D, 3. 2017 & Orch. Fl. Taiwan 102, f.33. 2019. **Type:** Taiwan: Nantou, Feb. 3, 2017, 1300 m, *P.N. Shen s.n.* (holotype TAI286823).

●南投指柱蘭

Cheirostylis monteiroi S.Y. Hu & Barretto, Chung Chi J. 13(2): 15, f.7. 1976. 雉尾指柱蘭

Cheirostylis monteiroi var. *clibborndyeri* (S.Y. Hu & Barretto) T.P. Lin, **com. nov.** *C. clibborndyeri* S.Y. Hu &

Barretto, Chung Chi J. 13(2): 15. 1976; Ormerod, *Taiwania* 47(4): 240. 2002. *C. chinensis* var. *clibborndyeri* (S.Y. Hu & Barretto) T.P. Lin, *Taiwania* 61(2): 87. 2016. **Type:** Hong Kong: Victoria Peak, Mar. 6, 1973, *S.Y. Hu 13055* (holotype K000942814; isotypes A00106686, CUHK, PE00271157, HK). 斑葉指柱蘭
Cheirostylis cochinchinensis var. *clibborndyeri* (S.Y. Hu & Barretto) T.P. Lin, Orch. Fl. Taiwan 97, f.31-2. 2019.

Note: Su (2000) reported that the column appendages of *C. hungyehensis* are variable, and some individuals have well-developed column appendages which are parallel to the rostellum or reflexed downward (Lin, 2019).

Cheirostylis octodactyla Ames, Philipp. J. Sci., C, 2: 314. 1907. 羽唇指柱蘭

Cheirostylis wenshanensis J.B. Chen, L.J. Chen & W.H. Rao, Phytotaxa 404 (2): 74–78, f.1, 2. 2019. **syn. nov.** **Type:** China: Yunnan: Wenshan, 2000 m, Sept. 27, 2018, *Z.J. Liu 11312* (holotype NOCC). **Note:** Based on the original description and figures (Chen *et al.*, 2019), *C. wenshanensis* is almost identical to *C. octodactyla*. The lip lobe is usually with 4–5 laciniae in *C. octodactyla*, but it can go up to 7 laciniae in *C. wenshanensis*.

Cheirostylis octodactyla f. *cymbiformes* T.P. Lin, *Taiwania* 64(1): 43–51, f.2, 3E, F. 2019; *Cheirostylis sp.* in Chung and Hsu, Ill. Fl. Taiwan 2: 348. 2016. **Holotype:** Taiwan: Hsinchu, Jianshi Township, 1500 m, Sept. 2, 2018, *D.M. Huang s.n.* (TAI287433). ●舟形指柱蘭

Note: The lip of f. *cymbiformes* is partially petalized from that of *C. octodactyla*.

Cheirostylis pusilla Lindl. var. *simplex* T.P. Lin, *Taiwania* 62(2): 205–210, f.1E, F, 4. 2017. **Type:** Taiwan: Nantou, 1500 m, Nov. 2, 2016, *P.N. Shen s.n.* (holotype TAI286822). ●沈氏指柱蘭

Cheirostylis rubrifolia → *Cheirostylis tortilacinia* var. *rubrifolia*

Cheirostylis takeoi → *Cheirostylis chinensis* var. *takeoi*

Cheirostylis tortilacinia C.S. Leou, Q. J. Exp. For. Natl. Taiwan Univ. 4(4): 71–76, f.1, 2. 1990. 和社指柱蘭

Cheirostylis tortilacinia var. *rubrifolia* (T.P. Lin & W.M. Lin) T.P. Lin, *Taiwania* 65(4): 463–472. 2020. *C. rubrifolia* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 327, f.2E, 3. 2009; Lin *et al.*, *Taiwania* 61(2): 87. 2016. **Type:** Taiwan: Pingtung: Shantimen Township, Feb. 16, 2009, *W.M. Lin s.n.* (holotype TAI268960). ●紅衣指柱蘭

Note: The lip morphology of *C. tortilacinia* var. *rubrifolia* is similar to that of *C. liukuensis* var. *nantouensis*. This might indicate that same process of lip petalization of both species.

Cheirostylis tortilacinia var. *wutaiensis* T.P. Lin, *Taiwania* 65(4): 463–472, f.3D–F, 5, 6. 2020. **Type:**



Taiwan: Pingtung Co. Wutai Township, 1050 m, Jan. 5, 2020, *S.H. Tseng s.n.* (holotype TAI289755).

●擬紅衣指柱蘭

Note: This variety is a peloria of *C. tortilacinia*.

Chiloschista parishii Seidenf., Opera Bot. 95: 176. 1988.

寬囊大蜘蛛蘭

Note: This plant is similar to *C. segawai* in every aspect but exhibits a round sac instead of the conical sac exhibited by *C. segawai*.

Chiloschista segawae (Masam.) Masam. & Fukuy., Bot. Mag. (Tokyo) 52: 247. 1938.

大蜘蛛蘭

Chrysoglossum ornatum Blume, Bijdr. Fl. Ned. Ind. 7: 338. 1825.

金蟬蘭

Cleisostoma paniculatum (Ker Gawl.) Garay, Bot. Mus. Leaf. Harv. Univ. 23: 173. 1972.

虎紋隔距蘭

Cleisostoma uraiense (Hayata) Garay & H.R. Sweet, Orch. S. Ryukyu Isl. 156. 1974.

綠花隔距蘭

Coelogyne cantonensis (Rolfe) R. Rice, Photo Intro. Asian *Bulbophyllum Coelogyne Dendrobium* Orch. 171. 2019. *Pholidota cantonensis* Rolfe, Bull. Misc. Inform. Kew 1896: 196. 1896; Su, Fl. Taiwan 5: 1005. 2000; Lin *et al.*, Taiwania 61(2): 114. 2016; Lin, Orch. Fl. Taiwan 768, f.369. 2019. *Type:* China: Guangdong, North River. Collected by native collector in 1888, Feb. 9, 1889, flower cult. *C. Ford 139* (holotype K000943708).

烏來石山桃

Coelogyne uncata (Rchb. f.) M.W. Chase & Schuit., Phytotaxa 510: 130. 2021; Lin, Ill. Native Taiwan. Orch. 370. 2022. *Dendrochilum uncatum* Rchb. f., Bonplandia 3: 222. 1855; Su, Q. J. Chin. For. 21(1): 116, pl.1. 1988; Lin *et al.*, Taiwania 61(2): 94. 2016; Lin, Orch. Fl. Taiwan 504, f.233. 2019. *Type:* Philippines, 1841? *H. Cuming 2103* (holotype GOET013907; isotype K000943726).

穗花蘭/黃穗蘭

Note: Based on DNA sequence research, Chase *et al.* (2021b) proposed lumping 14 genera of Coelogyninae into *Coelogyne*, including the genera *Pholidota* and *Dendrochilum*.

Collabium chinense (Rolfe) Tang & F.T. Wang, Fl. Hainan. 4: 217, f.1101. 1977.

柯麗白蘭

Collabium formosanum Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 319–320. 1911.

臺灣柯麗白蘭

Corybas puniceus T.P. Lin & W.M. Lin, Taiwania 54(4): 329. f.2F. 2009.

艷紫盞蘭

Corybas purpureus J. Joseph & Yogan., Indian For. 93:

815, pl.1. 1967; Lin, Ill. Native Taiwan Orch. 2nd ed. 143, f.37-1-1. 2023. *Type:* India: Assam, United Khasi and Jaintia Hills, Shillong, Elephant Falls, 1500 m, June 27, 1966, *J. Joseph 36892A* (holotype in CAL); Elephant Falls, *J. Joseph 36892B–J* (isotype in Kanjilal' Herbarium, Botanical Surveys of India, Assam); Oct. 1965, *J. Joseph 36891A* (CAL), *B–H* (Kanjilal' Herbarium, Botanical Surveys of India, Assam) (paratype).

杉林溪盞蘭

Corybas himalaicus auct. non (King & Pantl.) Schltr.: Chung & Hsu, Taiwan J. For. Sci. 23(1): 99–103, f.1–3. 2008 & Rao *et al.*, NeBIO 4(2): 34–36, fl. Apr. 2013 *Note:* The figures presented in Rao *et al.* (2013) are *Corybas purpureus*. *Corybas himalaicus* has never occurred to Taiwan (Rao *et al.*, 2013).

Corybas shanlinshiensis W.M. Lin, T.C. Hsu & T.P. Lin, Taiwania 52(4): 281–282, f.1, 2A. 2007. *Type:* Taiwan: Nantou, Shanlinshi, 1750 m, July 2007, *Weimin Lin s.n.* (holotype TAI259402). *Note:* *C. shanlinshiensis* was wrongly synonymized with *C. himalaicus* many times.

Corybas taliensis auct. non T. Tang & F.T. Wang: Lin *et al.*, Taiwania 61(2): 88. 2016.

Corybas shanlinshiensis f. *hsinchui* D.M. Huang & T.P. Lin, Orch. Fl. Taiwan 114. 2019. *Type:* Taiwan: Hsinchu Co.: Mt. Dahun, 1400 m, *D.M. Huang s.n.* (TAI288985). *Note:* Habit of this forma is identical to that of f. *shanlinshiensis* except that it has a much smaller upper sepal (16 × 5.5 mm) and parallel not divaricate spurs.

Corybas sinii Tang & F.T. Wang, Acta Phytotax. Sin. 1(2): 186. 1951.

辛氏盞蘭

Corybas taiwanensis T.P. Lin & S.Y. Leu, Taiwania 20(2): 162. 1975.

●紅盞蘭

Corybas taliensis please see *Corybas purpureus*

Corymborkis veratrifolia (Reinw.) Blume, Coll. Orch. Arch. Ind. 125, pl.43, 44. 1858.

管花蘭

Cremastra appendiculata var. *variabilis* please see *Cremastra appendiculata* var. *appendiculata*

Cremastra appendiculata (D. Don) Makino var. *appendiculata* Bot. Mag. (Tokyo) 18: 24. 1904; Lin, Native Orch. Taiwan 1: 110, ph.58. 1975; Liu & Su, Fl. Taiwan 5: 935, pl.1569. 1978; Lund, Nord. J. Bot. 8(2): 197–203, Trop. 169, f.1. 1988; Kumar, Feddes Repert. 135: Mar. 29. 2024. *Cymbidium appendiculatum* D. Don, Prodr. Fl. Nepal.: 36. 1825. *Cremastra wallichiana* Lindl., Gen. Sp. Orchid. Pl.: 173. 1833. *nom. superfl. Aplectrum appendiculatum* (Blume) F. Maek., Wild Orch. Jpn. Colour 60, without basionym ref. 1971. *Type:* Nepal: Kathmandu District, Bagmati Zone, Shivapuri, 1821, *N. Wallich 7349* p.p. [W-Reichenbach 25222, lectotype designated by Lund (1988); W0149572]. Isolectotypes: BM-BM000526057, BM000526058; K-K000894433, K001127212; L).

馬鞭蘭

Cremastra triloba Hayata, Icon. Pl. Formosan. 2: 135–136. 1911. *C. appendiculata* var. *triloba* (Hayata) S.S. Ying, Chin. Fl. 26: 4. 1976. *Type:* Mt. Nashitanzan (T00913), Mt. Rontabunzan (TAIF6623), Jiogsha, Apr. [17], 1910, *U. Mori s.n.* (holotype TI, photo T00913 in PoT; isotype Apr. [17], 1910, TAIF6623).



Cremastra appendiculata (D. Don) Makino var. *variabilis* auct. non (Blume) I.D. Lund: Lin *et al.*, *Taiwania* 61(2): 89. 2016.

Note: The key feature to the var. *appendiculata* is a big, clavate, verrucose process on the mid-lobe of the labellum (Lund, 1988). Taiwanese plants agree with the characteristic of var. *appendicula*.

Crepidium bancanoides (Ames) Szlach., *Fragm. Florist. Geobot. Suppl.* 3: 124. 1995. 涼草/蘭嶼小柱蘭

Crepidium ×cordilabium T.P. Lin, *Taiwania* 66(1): 11–19. 2021. **Type:** Taiwan: Taoyuan City, Fuxing Township, July 6, 2020, *J.Y. Wang s.n.*, 900 m (TAI289768).

心唇小柱蘭

Note: *Crepidium ×cordilabium* is supposedly a natural hybrid between *C. ophrydis* and *C. matsudae*.

Crepidium matsudae (Yamam.) Szlach., *Fragm. Florist. Geobot. Suppl.* 3: 129. 1995. 四唇小柱蘭

Crepidium ophrydis (J. Koenig) M.A. Clem. & D.L. Jones, *Lasianthera* 1: 38. 1996; Lin, *Orch. Fl. Taiwan* 436, f.199. 2019. *Epidendrum ophrydis* J. Koenig in A.J. Retzius, *Observ. Bot.* 6: 46. 1791. *Malaxis ophrydis* (J. Koenig) Ormerod, *Seidenf., Descr. Epidendrorum* J.G. König: 18. 1995; Ormerod, *Fl. Taiwan* 2nd ed. 6: 136. 2003. *Dienia ophrydis* (J. Koenig) Seidenf., *Contr. Orch. Fl. Thai.* 13: 18. 1997; Lin *et al.*, *Taiwania* 61(2): 95, 2016. **Type:** Thailand: Phuket region, *J. König s.n.* (lectotype LHS specimen labelled type, K, designated by M.A. Clem. & D.L. Jones in *Lasianthera* 1: 38. 1996; isotype LIV). 花柱蘭/貓尾蘭

Malaxis congesta (Lindl.) Deb, *Bull. Bot. Surv. India* 3: 128. 1962.

Microstylis congesta (Lindl.) Rchb. f., *Ann. Bot. Syst.* 6: 206. 1861.

Dienia congesta Lindl., *Bot. Reg.* 10: t.825. 1824. **Type:** Nepal, Lambert s/n., specimen not found. **Note:** Specimen examined: Taiwan: Banksing, S. Cape, *Henry 835, 1342*.

Dienia shuicae (S.S. Ying) T.P. Lin, *Taiwania* 61(2): 95. 2016.

Malaxis shuicae S.S. Ying, *J. Jpn. Bot.* 62(3): 70, as 'shuicai'. 1987.

Type: Taiwan: Kaohsiung, Shouka, Feb. 14, 1986, flowering Aug. S.S. Ying s.n. (holotype NTUF, photo F00008223 in PoT).

Malaxis sampoae T.P. Lin & W.M. Lin, *Taiwania* 56(4): 319. 2011.

Type: Taiwan: Pingtung, Shouka. S.S. Lin s.n. (holotype TAI274758).

Note: A DNA phylogenetic study found that *Dienia* is embedded within *Crepidium* (Tang *et al.*, 2015). I see no reason to separate *Dienia* as an independent genus from *Crepidium*.

Crepidium purpureum (Lindl.) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 131. 1995. 紫花軟葉蘭

Crepidium ramosii (Ames) Szlach., *Fragm. Florist. Geobot. Suppl.* 3: 131. 1995; Lin, *Orch. Fl. Taiwan* 438, f.201. 2019. *Malaxis ramosii* Ames, *Philipp. J. Sci. C* 6: 45. 1911; Lin & Hu, *Q. J. Chin. For.* 9(1): 53, pl.3. 1976. **Type:** Philippines: Bosoboso, Luzon Isl., Aug. 12, 1907, *M. Ramos BS 4567* (holotype AMES00101163).

圓唇小柱蘭

Pseudoliparis moluccana non (J.J. Sm.) H.B. Marg., Lin *et al.*, *Taiwania* 61(2): 117. 2016.

Note: T.P. Lin received a letter from L.A. Garay of AMES Herbarium in the beginning of 1976 to confirm that *T.P. Lin 46* was *Malaxis ramosii*. Even though *T.P. Lin 46* was diagnosed as *Pseudoliparis moluccana* by Margonska (2003: 363, f4), I suspect that they are conspecific because flower morphology differs between them (Lin, 2019). Specimen examined: Taiwan: Lanyu. 300–400 m, Aug. 1972, *T.P. Lin 46 & 216* (TAIF).

Crepidium roohutuensis (Fukuy.) T.P. Lin, *Taiwania* 61(2): 89. 2016. *Crepidium roohutuense* (Fukuy.) T.C. Hsu, *Ill. Fl. Taiwan* 1: 359. 2016. ●紫背小柱蘭

Cryptostylis arachnites (Blume) Hassk., *Cat. Hort. Bot. Bogor. Alt.*: 48. 1844; *Zosterostylis arachnites* Blume, *Bijdr. Fl. Ned. Ind.* 8: 419. 1825, *nom. invalid. sine descript.* *C. arachnites* (Blume) Blume, *Coll. Orch.* 133, ill.46. 1858 with description & illustration; Lin, *Native Orch. Taiwan* 1: 112, ph.59, 60. 1975; Lin *et al.*, *Taiwania* 61(2): 89. 2016; Lin, *Orch. Fl. Taiwan* 123, f.43. 2019.

滿綠隱柱蘭

Note: *Zosterostylis arachnites* might not be validly published as Blume (1825) only indicated its geographical range and flowering period, figure indicated in Blume 1959 publication is not found in *Bijdr.* The combination made by Hasskarl (1844) is therefore illegitimate as it is based on an invalid name. Blume (1858) name meets the requirement and can be used.

Cryptostylis taiwaniana Masam., *Trans. Nat. Hist. Soc. Formosa* 23(126): 208. 1933. 蓬萊隱柱蘭

Note: *Cryptostylis taiwaniana* is also native to the Philippines (POWO).

Cymbidium cochleare Lindl., *J. Proc. Linn. Soc., Bot.* 3: 28. 1858. 香莎草蘭

Cymbidium dayanum Rchb. f., *Gard. Chron.* 1869: 710. 1869. 鳳蘭

Cymbidium ensifolium (L.) Sw., *Nova Acta Regiae Soc. Sci. Upsal., ser. 2*, 6: 77. 1799. 焦尾蘭/四季蘭

Cymbidium faberi Rolfe, *Bull. Misc. Inform. Kew* 1896: 198. 1896. 一莖九華

Cymbidium floribundum Lindl., *Gen. Sp. Orch. Pl.* 162. 1833. 金稜邊蘭

Cymbidium formosanum Hayata, *J. Coll. Sci. Imp. Univ. Tokyo* 30(1): 335. 1911. 台灣春蘭

Cymbidium goeringii auct. non (Rchb. f.) Rchb. f.: Puy & Crib, *Genus Cymbidium*. 182–183. 1988; Su, *Fl. Taiwan* 5: 826. 2000.

Note: Only some photos under the name “*Cymbidium goeringii*” (e.g., Emeishan, Sichuan) look similar to *C. formosanum* (www.iPlant.cn) but majority are



conspecific with *C. goeringii* of Japan indicating that both species occur to China but differ in abundance.

Cymbidium kanran Makino, Bot. Mag. (Tokyo) 16: 10. 1902. 寒蘭

Cymbidium lancifolium Hook., Exot. Fl. 1: t.51. 1823. **Types:** Nepal, cult. Liverpool Botanic Gardens, Shepherd ex 'East Indies', 1821, *Wallich s.n.* (holotype K000395361). 竹柏蘭

Note: There are two other specimens collected by Wallich from Nepal found in Kew herbarium (K000891129, & K001127214); however, these were not mentioned in Hooker paper and cannot be regarded as type material.

Cymbidium lancifolium var. *aspidistrifolium* (Fukuy.) T.P. Lin, Native Orch. Taiwan 2: 122, ph.49, 50. 1977. 綠花竹柏蘭

Note: The plant size, flower color, and flower morphology of *Cymbidium lancifolium* can vary significantly (Lin, 2022). We view these differences as examples of continuous variation within the species. One specific form, *C. lancifolium* f. *aspidifolium*, has a larger plant size and produces green flowers.

Cymbidium lancifolium var. *syuntianum* (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 439. 1977. ●大竹柏蘭

Note: Plants of this species are 40–66 cm in height, and sepals are linear.

Cymbidium macrorhizon Lindl., Gen. Sp. Orch. Pl. 162. 1833. 大根蘭

Note: This plant reported from Taitung is a peloric form or radially symmetrical flowers in which the petals are lip-like.

Cymbidium ×oblancifolium Z.J. Liu & S.C. Chen, For. Stud. China 3(1): 23–25, f. 2001; *Taiwania* 65(4): 463–472, f.3A–C, 4. 2020. **Type:** China: Guangdong, Shenzhen, Nov. 24, 1999, cult. *Zhongjian Liu 100* (Herbarium, Shenzhen City Wutongshan Nurseries, Guangdong). 四季竹柏蘭

Cymbidium sinense (Andrews) Willd., Sp. Pl. 4: 111. 1805. 拜歲蘭

Cymbidium tortisepalum Fukuy., Bot. Mag. (Tokyo) 48(569): 304, f.1. 1934. 菅草蘭

Cynorkis fastigiata Thouars, Hist. Orch. t.13. 1822; Chung & Hsu, Ill. Fl. Taiwan 2: 369. 2016; Lin, Ill. Native Taiwan Orch. 150, f.42. 2022. *Orchis fastigiata* (Thouars) Spreng., Syst. Veg. 3: 687. 1826. *Gymnadenia fastigiata* (Thouars) A. Rich., Mém. Soc. Hist. Nat. Paris 4: 23. 1828. **Type:** Madagascar, *Du Petit-Thouars L.M.A.*

s.n. (holotype P00102259, designated by Hermans & Cribb, Lankesteriana 21 (2): 103. 2021). 非洲紅蘭

Note: Two Thouars' Madagascar specimens are in Paris. As no collection information was recorded in the original description, the lectotypification by Hermans and Cribb (2021) is followed. Specimen examined in Taiwan: Taichung: Mt. Don-Mao, 1600 m, July 1, 2017, *F.S. Ho s.n.* (TAI287439).

Cypripedium debile Rchb. f., Xenia Orch. 2: 223. 1874. 小喜普鞋蘭/小老虎七

Cypripedium formosanum Hayata, Icon. Pl. Formosan. 6: 66, f.9. 1916. ●台灣喜普鞋蘭

Cypripedium segawae Masam., Trans. Nat. Hist. Soc. Formosa 23: 209. 1933. ●寶島喜普鞋蘭

Cypripedium taiwanalpinum Y.I. Lee, P.C. Liao, & T.P. Lin, *Taiwania* 64(4): 339–346, f.11, J, 3, 6. 2019. *C. macranthos auct. non Sw.*: Hayata, Icon. Pl. Formosan. 2: 136. 1912; Su, Fl. Taiwan 5: 834, pl. 352. 2000. **Type:** Taiwan: Nantou Co., Hohuanshan East Peak, 3394 m, June 4, 2012, *C.F. Chen 3522* (TAIF390875).

●奇萊喜普鞋蘭

Cypripedium taiwanianum Masam., Trop. Hort. 3: 31. 1933. *nom. nud.* *C. macranthos* Sw. var. *taiwanianum* (Masam.) F. Maek., Wild Orch. Jpn. Colour 80. 1971, *nom. illeg.* Taiwan: Taitung, Hsiangyang [向陽], May 6, 1936, *K. Segawa s.n.* (KPM, photo G00975 in PoT).

Cyrtosia falconeri (Hook. f.) Aver., Turczaninowia 14(2): 38. f.15, 24c, d. 2011; Wang *et al.*, *Taiwania* 63(4): 321–326, 2018; Lin, Orch. Fl. Taiwan 27, f.1. 2019. *Galeola falconeri* Hook. f., Fl. Br. India 6: 88. 1890; King & Pantl., Ann. Roy. Bot. Gard. Calcutta 8: 265, t.353. 1898; Su, *Taiwania* 45(3): 244. pl.2B. 2000 & Fl. Taiwan 5: 882, pl.376. 2000; Lin *et al.*, *Taiwania* 61(2): 97. 2016. **Syntypes:** NE. India: Garhwal, *Falconer s.n.*; Sikkim, *T. Thomson s.n.* 直立山珊瑚/小囊山珊瑚

Cyrtosia javanica please see *Cyrtosia taiwanica*

Cyrtosia lindleyana Hook. f. & Thomson, Ill. Himal. Pl. t.22. 1855; Wang *et al.*, *Taiwania* 63(4): 321–326. 2018; Lin, Orch. Fl. Taiwan 28, f.2. 2019. *Erythrorchis lindleyana* (Hook. f. & Thomson) Rchb. f., Bonplandia (Hannover) 5: 37. 1857. *Galeola lindleyana* (Hook. f. & Thomson) Rchb. f., Xenia Orch. 2: 78. 1865; Ying, Coloured Ill. Indig. Orch. Taiwan 1: 456. 1977; Su, *Taiwania* 45(3): 243. pl.2A. 2000 & Fl. Taiwan 5: 884. 2000; Lin *et al.*, *Taiwania* 61(2): 97. 2016. **Type:** NE. India ("India, Khasia"), 1219 m, *J.D. Hooker 357* (K000387590); Sikkim: July 7, 1857, 1524–2134 m, *T. Thomson s.n.* (K000387588 fruit only). 山珊瑚

Cyrtosia septentrionalis (Rchb. f.) Garay, Bot. Mus. Leaflet. 30: 233. 1986; Wang *et al.*, *Taiwania* 63(4): 321–



326, f.2C–E, 4. 2018. *Galeola septentrionalis* Rchb. f. Xenia Orch. 2: 78. 1865. **Type:** Japan. (W-R, Reichenbach Herbarium IDC microfiche 8802:36/9).

血紅肉果蘭

Note: Recorded specimen: Taiwan: Hualien Co., in the middle of the Coastal Mountain Range, 1000 m, May 22, 2018, *W.J. Wang s.n.* (TAI287420); same as above, Aug. 15, 2017. *H.C. Tsai & M.S. Yeh s.n.* (TAI286843, fruit only). Flowers found in Mioli Co. are peloric.

Cyrtosia taiwanica K.H. Wang & T.P. Lin, *Taiwania* 64(4): 339–346, f.1G, H, 2. 2019; Lin, *Orch. Fl. Taiwan* 34, f.4. 2019. **Type:** Taiwan: Nantou: between Chitou and Shanlinchi, June 6, 2011, *L.H. Yang 197* (TAIE28272).

●肉果蘭

Cyrtosia javanica auct. non Blume: C.S. Leou & N.J. Chung in Q. J. Exp. For. Natl. Taiwan Univ. 9(4): 20, f.1, 2. 1995; Su, *Fl. Taiwan* 2nd ed. 5: 835. pl.354. 2000. Specimen: Taiwan: Nantou: Chitou, in artificial bamboo forest. *C.S. Leou 5830* (NTUF, not found).

Dactylorhiza viridis (L.) R.M. Bateman, Pridgeon & M.W. Chase, *Lindleyana* 12: 129. 1997.

窩舌蘭

Dendrobium aphyllum (Roxb.) C.E.C. Fisch., *Fl. Madras*: 1416. 1928; Lin, *Ill. Native Taiwan Orch.* 402, f.231. 2022. *Limodorum aphyllum* Roxb., *Pl. Coromandel* 1: 34, 1795. *Cymbidium aphyllum* (Roxb.) Sw., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 2, 6: 73. 1799. **Type:** India: Coromandel Coast, cult. in W. Roxburgh Garden and dead. 天宮石斛

Note: This could be invasive species.

Dendrobium catenatum → *Dendrobium officinale*

Dendrobium chameleon Ames, *Orchidaceae* 2: 174. 1908.

長距石斛/巒大石斛

Dendrobium chryseum Rolfe, *Gard. Chron.*, ser. 3, 3: 233. 1888.

金草

Dendrobium comatum (Blume) Lindl., *Gen. Sp. Orch. Pl.* 76. 1830.

木斛

Dendrobium crumenatum Sw., *J. Bot. (Schrader)* 2: 237. 1799.

鑊石斛

Dendrobium equitans Kraenzl., Engler (ed.), *Pflanzenr.*, IV. 50. II. B. 21: 228. 1910.

燕石斛

Dendrobium falconeri Hook., *Bot. Mag.* 82: t.4944. 1856.

紅鸞石斛/新竹石斛

Dendrobium furcatopedicellatum Hayata, *Icon. Pl. Formosan.* 4: 39, f.14. 1914.

●雙花石斛

Dendrobium goldschmidtianum Kraenzl., *Repert. Spec. Nov. Regni Veg.* 7: 40. 1909.

紅石斛

Dendrobium leptocladum Hayata, *Icon. Pl. Formosan.* 4: 43. 1914.

●細莖石斛

Dendrobium linawianum Rchb. f., *Ann. Bot. Syst.* 6: 284. 1861.

金石斛/櫻石斛

Dendrobium luzonense Lindl., *Edwards's Bot. Reg.* 30(Misc.): 54. 1844.

呂宋石斛

Dendrobium moniliforme (L.) Sw., *Nova Acta Regiae Soc. Sci. Upsal.*, ser. 2, 6: 85. 1799.

石斛

Dendrobium moniliforme subsp. *okinawense* (Hatus. & Ida) T.P. Lin, *Taiwania* 61(2): 93. 2016. *D. okinawense* Hatus. & Ida, *J. Geobot.* 18: 77. 1970; Chung & Lu, *Taiwania* 52(1): 106. 2007. **Type:** Ryukyu Is., Okinawa (Japan). **Note:** Based on S.W. Chung & S.Y. Lu (2007), *D. okinawense* is identical to *D. moniliforme* except with longer stems and larger flowers. Specimen: Taiwan: Taitung: Taimali, Kueinashan, 900–1150 m, Mar. 12, 2004, *S.W. Chung 6987* (TAIF).

Dendrobium moniliforme subsp. *okinawense* →

Dendrobium moniliforme

Dendrobium nakaharae Schltr., *Repert. Spec. Nov. Regni Veg.* 2 (24): 169. 1906.

臘石斛

Dendrobium nobile Lindl. var. *formosanum* Rchb. f., *Gard. Chron.*, n.s. 19: 432. 1883.

●台灣石斛

Dendrobium officinale Kimura & Migo, *J. Shanghai Sci. Inst. Sec. 3*, 3: 122. 1936; Jin & Huang, *Taxon* 64(2): 385–386. 2015. **Type:** China, Zhejiang, Fenghua Co., *Kimura & Migo s.n.* (TI). **Note:** This species is widespread in E. China. *D. officinale* is conserved (ICN Shenzhen Code, Appendix IV) against *D. stricklandianum*, *D. tosaense*, and *D. pere-fauriei*. 黃石斛

Dendrobium catenatum Lindl., *Gen. Sp. Orch. Pl.* 84. 1830, *nom. rej. prop.*; Ormerod, *Taiwania* 47(4): 241. 2002; Lin, *Orch. Fl. Taiwan* 469, f.214. 2019. **Type:** China: icon *Reeves s.n.* (v. ic. pict. sinens. in *Bibl. Hort. Soc.*) (lectotype RHS, designated by Ormerod in *Oasis (Dora Creek)* 1(4): 14. 2000); Japan: *Thunberg s.n.* **Note:** icon *Reeves* was lectotypified; however, that included different *Dendrobium* species, the identity of *D. catenatum* needs future scrutiny.

Dendrobium pere-fauriei Hayata, *Icon. Pl. Formosan.* 6: 70. 1916. *D. tosaense* var. *pere-fauriei* (Hayata) Masam. *J. Soc. Trop. Agric.* 4: 196. 1933. **Type:** Taiwan: Kwarenko, July 1915, *U. Faurie s.n.* (isotype TAI6695, no flower).

Dendrobium stricklandianum Rchb. f., *Gard. Chron.*, n.s., 7: 749. 1877. **Type:** Japan, *Strickland s.n.* (holotype W, Reichenbach Herbarium IDC microfiche 8802:155/22; isotype PE).

Dendrobium tosaense Makino, *J. Bot.* 29: 383. 1891; *Bot. Mag. (Tokyo)* 19: 136. 1905; Lin, *Native Orch. Taiwan* 1: 144, ph.83–84. 1975. **Type:** Japan: Shikoko I., Tosa, Kochi, Nov. 1895, *Makino s.n.* (holotype TI n.v.). *Lectotype:* the icon in Makino, *Ill. Fl. Jpn.* 1(8): 1, t.46. 1891 was designated by Jin and Huang (2015). **Note:** This species was found by Mr. S. Okubo on Mt. Hachi jo-Fuji in Hachijō Isl. 1887.

Dendrobium tosaense Makino var. *chingshuishanianum* S.S. Ying, *J. Jpn. Bot.* 64(5): 151, f.2. 1989. **Type:** Taiwan: Hualien, Chingshuishan [清水山] 800 m, Apr. 5, 1988, *S.S. Ying s.n.* (NTUF). not found.



- Dendrobium parietiforme* J.J. Sm., Icon. Bogor. 2: 92, t.117c. 1904. 士富暫花蘭
- Dendrobium sanseiense* Hayata, Icon. Pl. Formosan. 6: 70–71. 1916. ●小攀龍
- Dendrobium somae* Hayata, Icon. Pl. Formosan. 6: 71–72. 1916. ●小双花石斛
- Dendrobium xantholeucum* Rchb. f., Xenia Orch. 2: 73. 1865. 淺黃暫花蘭
- Dendrobium xantholeucum* var. *tairukounia* (S.S. Ying) T.P. Lin, Taiwania 61(2): 94. 2016 & Orch. Fl. Taiwan 499, f.232-2. 2019. ●尖葉暫花蘭
- Dendrochilum uncatum* → *Coelogyne uncatata*
- Didymoplexiella siamensis* (Rolfe ex Downie) Seidenf., Bot. Tidsskr. 67: 99. 1972. 錨柱蘭
- Didymoplexis micradenia* (Rchb. f.) Hemsl., J. Linn. Soc. Bot. 20: 311. 1883. 鬼蘭/小鬼蘭
- Didymoplexis pallens* Griff., Calcutta J. Nat. Hist. 4: t.17. 1844. 吊鐘鬼蘭
- Dienia ophrydis* → *Crepidium ophrydis*
Dienia shuicae → *Crepidium ophrydis*
- Diploprora championii* (Lindl.) Hook. f., Fl. Br. India 6: 26. 1890. 黃吊蘭
- Disperis neilgherrensis* Wight, Icon. Pl. Ind. Orient. 5(1): t.1719. 1851. 蘭嶼草蘭
- Epipactis fascicularis* T.P. Lin, Taiwania 60(4): 169, f.2A, B. 2015. ●余氏鈴蘭
- Epipactis ohwii* Fukuy., Bot. Mag. (Tokyo) 48(569): 298. 1934. ●台灣鈴蘭
- Epipogium aphyllum* Sw., Summa Veg. Scand. 32. 1814. 無葉上鬚蘭
- Epipogium japonicum* Makino, Bot. Mag. (Tokyo) 18: 131. 1904. 日本上鬚蘭
- Epipogium kentingense* T.P. Lin & Shu H. Wu, Taiwania 57(4): 378–379, f. 1B, C, 3. 2012. 墾丁上鬚蘭
- Epipogium ×meridianum* T.P. Lin, Taiwania 63(3): 241–247, f.1C, D, 2A, B, 3. 2018. **Type:** Taiwan: Pingtung Co., Tahanshan 1050 m, Mar. 24, 2012, *S.H. Lin s.n.* (holotype TAI281145). Specimen: Nantou Co., Hsinyi, 1000 m, Apr. 11, 2018. *P.N. Shen s.n.* (TAI287419). ●間型上鬚蘭
- Note:** A putative hybrid between *E. kentingense* and *E. roseum* can be found in central and southern Taiwan.
- Epipogium roseum* (D. Don) Lindl., J. Proc. Linn. Soc. Bot. 1: 177. 1857. 泛亞上鬚蘭
Epipogium lalashanense S.S. Ying, New Taxa New Names 5: 472–477. 2022. **syn. nov.** **Type:** Taiwan: Taoyuan, Fuhsin, Lalashan 1953 m, *S.S. Ying s.n.* June 17, 2022 (holotype, NTUF).
Note: *E. roseum* should be a selfing orchid because the anther is approximate to the stigma, the clinandrium and rostellum are lacking, and the movable anther can easily promote contact between the pollinia and stigma.
- Epipogium taiwanense* T.C. Hsu, Ill. Fl. Taiwan 2: 26. 2016; Lin, Orch. Fl. Taiwan 528, f.245. 2019. **Type:** Hsinchu, Jianshih, Sept. 18, 2012, *S.K. Yu s.n.* (holotype TAIF). 台灣上鬚蘭
Epipogium aphyllum auct. non Swartz: Chung, Orch. Taiwan 146. 2008.
- Eria corneri* → *Eria scabrilinguis*
Eria herklotsii → *Eria gagnepainii*
- Eria gagnepainii* A.D. Hawkes & A.H. Heller, Lloydia 20: 130. 1957; Hu *et al.*, Taiwan J. For. Sci. 25(4): 369–375. 2010. **Type:** China: Yunnan, Szemao (Simao), *Simond 96* (P). 香港毛蘭
Eria herklotsii P.J. Cribb, Orch. Rev. 84: 131. 1976; Barretto *et al.*, Wild Orch. Hong Kong 498. 2011. **Type:** Hong Kong: S. of Ma On Shan, *G.A.C. Herklots s.n.* (holotype K000827413).
Note: This is a new name for *Trichotosia simondii*, mistaken for *Trichosma simondii* Gagnep. (Barretto *et al.* 2011). *Trichosma simondii* Gagnep., Bull. Mus. Natl. Hist. Nat., ser. 2, 22: 505. 1950, *non Eria simondii* Gagnep. Bull. Mus. Natl. Hist. Nat., ser. 2, 22: 503. 1950. Specimen records: Taiwan: Taitung: Chinfeng, Chienchingshan, 900 m, Mar. 5, 2009, *H.M. Chang 7319* (TNU).
- Eria javanica* (Sw.) Blume, Rumphia 2: 23. 1836. 大葉絨蘭
- Eria robusta* → *Aeridostachya robusta*
- Eria scabrilinguis* Lindl., J. Proc. Linn. Soc. Bot. 3: 51. 1858; Lin, Orch. Fl. Taiwan 535, f.249. 2019. *Pinalia scabrilinguis* (Lindl.) Kuntze, Revis. Gen. Pl. 2: 679. 1891. **Type:** Sikkim, *Cathcart s.n.* (K000396193 illustration only). 黃絨蘭
Eria corneri Rchb. f., Gard. Chron. 10: 106. 1878; Masam., J. Geobot. 14(1): pl.108. 1965; Lin, Native Orch. Taiwan 2: 154, ph.72. 1977; Lin *et al.*, Taiwania 61(2): 95. 2016. **Type:** Taiwan: *A. Corner s.n.* (W-R, Reichenbach Herbarium IDC microfiche 8802:158/2).
Eria goldschmidtiana Schltr., Orchis 4: 107. 1910. **Type:** Taiwan, cult. H. Goldschmidt, *Unger s.n.* (holotype B?).
Eria septemlamella Hayata, Icon. Pl. Formosan. 4: 56, f.24. 1914. **Type:** Taiwan: Rinkihō [竹山], Aug. 1911 [flowering Oct. 9, 1914], *H. Inaba s.n.* (holotype TI with Hayata's handwriting, photo T00956 in PoT).
Eria yakushimensis Nakai, Bot. Mag. (Tokyo) 36: 20. 1922. **Type:** Japan: ins. Yakushima, collected by M. Kishida and cult. in Bot. Garden & blossomed in Nov. 1921.



Erythrodes aggregata (T.P. Lin & W.M. Lin) T.P. Lin, *Taiwania* 61(2): 96. 2016. ●密花小唇蘭

Erythrodes chinensis (Rolfe) Schltr., *Orch. Beschreib. Kult. Zücht.* 117, f.3C–F. 1914. 小唇蘭

Erythrodes chinensis var. *triantherae* (C.L. Yeh & C.S. Leou) T.P. Lin, *Taiwania* 61(2): 96. 2016 & *Orch. Fl. Taiwan* 130, f.48-2. 2019. ●三藥細筆蘭

Erythrorchis altissima (Blume) Blume, *Rumphia* 1: 200. 1837. 倒吊蘭/蔓莖山珊瑚

Eulophia brachycentra Hayata, *Icon. Pl. Formosan.* 4: 72, f.36a. 1914. ●台東芋蘭/短裂芋蘭

Eulophia bicallosa auct. non (D. Don) P.F. Hunt & Summerh.: *Lin, Orch. Fl. Taiwan* 537. 2019.

Note: Mid lobe of lip of *Eulophia brachycentra* is round with an entire and undulate margin that differs from the bilobed midlobe of *E. bicallosa*.

Eulophia dentata Ames, *Philipp. J. Sci.*, C 6: 51. 1911 (March); Ormerod, *Taiwania* 48(2): 89. 2003; *Lin, Orch. Fl. Taiwan* 537, f.250. 2019. **Type:** Philippines: Luzon Isl. Jan. 1909, *H.M. Curran 17035* (holotype AMES00099441; isotype K000078343). 紫芋蘭

Eulophia taiwanensis Hayata, *J. Coll. Sci. Imp. Univ. Tokyo* 30(1): 333–334. 1911; *Lin, Native Orch. Taiwan* 3: 80, ph.39–40. 1987; *Lin et al.*, *Taiwania* 61(2): 96. 2016. **Type:** Taiwan: Taito: Takai, Jan. 1906, *T. Kawakami et G. Nakahara 684* (lectotype TL, photo T00964 in PoT, designated by *Lin et al.*, *Taiwania* 61(2): 96. 2016); isosyntypes: Ako, Feb. 1906, *T. Kawakami 1087* (TL-photo T00963 in PoT); *T. Kawakami s.n.* (K000078311).

Eulophia kitamurai Masam., *J. Soc. Trop. Agric.* 4(2): 192. 1932. *E. graminea* var. *kitamurae* (Masam.) S.S. Ying, *Coloured Ill. Indig. Orch. Taiwan* 1(2): 455. 1977. *E. taiwanensis* var. *kitamurai* Masam. *Bot. Mag. (Tokyo)* 46(552): 803. 1932. **Type:** Taiwan: Taitung, Tamari, Mar. 12, 1932, *S. Kitamura s.n.* not found.

Eulophia graminea Lindl., *Gen. Sp. Orch. Pl.* 182. 1833. 美冠蘭

Eulophia picta (R.Br.) Ormerod, *Checkl. Papuanian Orch.*: 293. 2017; *Naive et al.*, *Phytotaxa* 548(2): 288–294. 2022. *Cymbidium pictum* R. Br., *Prodr. Fl. Nov. Holland.*: 331. 1810. *Geodorum pictum* (R. Br.) Lindl., *Gen. Sp. Orch. Pl.* 175. 1833 *nom. illeg. non Link & Otto* (1821). **Type:** Australia: Northern Territory: Dec. 1802, R. Brown [*Bennett No. 5507*] (lectotype BM000525343, designated by Hallé, *Fl. Nouv. Caledonie* 8: 250. 1977 as ‘holotype’; isolectotype K000890997). 垂頭地寶蘭

Geodorum densiflorum (Lam.) Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 4: 259. 1919; *Lin, Native Orch. Taiwan* 1: 164, ph.96, 97. 1975; *Lin et al.*, *Taiwania* 61(2): 99, 2016; *Lin, Orch. Fl. Taiwan* 601, f.283. 2019 (*non Eulophia densiflora* Lindl. 1858); *Limodorum densiflorum* Lam., *Encycl.* 3: 516. 1792. **Type:** India, Kerala, Malabar coast H.A. van. Rheede tot Draakestein’s ‘Bela pola’ in *Hort. Malab.* 11: 69, t.35. 1692 (lectotype, designated by Seidenfaden 1983: 61).

Eulophia cernua (Wild.) T.C. Hsu, in *Hsu & Chung, Ill. Fl. Taiwan*

2: 36. 2016. *Malaxis cernua* Willd., *Sp. Pl. ed. 4*, 4: 93. 1805. *nom. illeg. Otandra cernua* Salisb., *Trans. Hort. Soc. London* 1: 298. 1812, *not validly publ.* **Type:** India, Kerala, Malabar coast, H.A. van. Rheede tot Draakestein’s ‘Bela pola’ in *Hort. Malab.* 11: 69, t.35. 1692. **Note:** *Geodorum densiflorum* and *Malaxis cernua* were based on the same type, making the combination *Eulophia cernua* illegitimate (*Naive et al.*, 2022).

Geodorum semicristatum Lindl., *Fol. Orch.* 6: 2. 1855. **Type:** Philippines: *Cuming s.n.* Taiwan: Takow, Ape’s Hill. *Playfair* 96. *Geodorum formosanum* Rolfe, *Ann. Bot. (Oxford)* 9(33): 157. 1895; Henry, *Trans. Asia. Soc. Jpn.* 24(Suppl.): 92. 1896. **Type:** Taiwan: Takow, *A. Henry 1137* (syntypes K000891008 & K000891006); South Cape, *A. Henry 1375* (syntypes K000891006 & K000891007); syntypes: BM000525309, CAL, NY00008850; isosyntypes BM, L.

Eulophia pulchra (Thouars) Lindl., *Gen. Sp. Orch. Pl.* 182. 1833. 大芋蘭

Eulophia pulchra var. *pelorica* (D.L. Jones & M.A. Clem.) T.P. Lin, *Taiwania* 61(2): 97. 2016. 輻射芋蘭

Eulophia segawae Fukuy., *Bot. Mag. (Tokyo)* 48(571): 437, f.1. 1934. ●瀨川氏芋蘭

Eulophia taiwanensis → *Eulophia dentata*

Eulophia zollingeri (Rchb. f.) J.J. Sm., *Orch. Java*, 228. 1905. 山芋蘭

Galeola faconeri → *Cyrtosia falconeri*

Galeola lindleyana → *Cyrtosia lindleyana*

Gastrochilus ciliaris Maek., *J. Jpn. Bot.* 12: 92. 1936.

緣毛松蘭

Gastrochilus deltoglossus T.C. Hsu, S.I. Hsieh, J.H. Wu & H.C. Hung, *Taiwania* 63(4): 360–365, f.1–3. 2018. *G. ciliaris* auct. non Maek.: *Lin, W.M.*, *Field Guide Wild Orch. Taiwan* 1: 164, f. 2006. **Type:** Taiwan: Nantou Co.: Renai Township, 2000–2500 m, June 8, 2018, *J.H. Wu 525* (holotype TCF; isotype TAIF, TNM). ●三角唇松蘭

Note: We surmise that *G. deltoglossus* could be a hybrid between *G. ciliaris* and *G. raraensis* because flower features are in between both species. *G. deltoglossus* and another possible hybrid *G. yehii* occur to the same location.

Gastrochilus formosanus (Hayata) Hayata, *Icon. Pl. Formosan.* 4: Add. & Corr. 1914 & *Icon. Pl. Formosan.* 6(Suppl.): 78. 1917. 台灣松蘭

Gastrochilus shaolinchianus S.S. Ying, *New Taxa New Names* 6: 497–502. 2023. **syn. nov.** **Type:** Taiwan: Miaoli, Taian, Guanwu 2180 m, S.S. Ying s.n. Mar. 30, 2023 (holotype, NTUF).

Gastrochilus loshanensis S.S. Ying, *New Taxa New Names* 7: 522–527. 2024. **syn. nov.** **Type:** Taiwan: Miaoli Co., Guanwu, Loshan Forest Road, 2340 m, Mar. 14, 2024, S.S. Ying s.n. (holotype TPRCH).

Gastrochilus rotundifolius S.S. Ying, *New Taxa New Names* 7: 528–533. 2024. **syn. nov.** **Type:** Taiwan: Miaoli Co., Guanwu, Talu Forest Road, 2440 m, Mar. 14, 2024, S.S. Ying s.n. (holotype TPRCH).



Note: Flowers of *Gastrochilus sinensis* are identical to those of *G. formosanus* but with smaller measurements. Results of a molecular analysis showed that they were grouped together (Cheng *et al.* 2022).

Gastrochilus fuscopunctatus (Hayata) Hayata, Icon. Pl. Formosan. 6(Suppl.): 78. 1917. **紅斑松蘭**

Gastrochilus integriellus S.S. Ying, New Taxa New Names 7: 534–539. 2024. **syn. nov.** **Type:** Taiwan: Miaoli Co., Guanwu, 2140 m, Apr. 30, 2024, S.S. Ying *s.n.* (holotype TPRCH).

Gastrochilus ×*hsuehshanensis* T.P. Lin & S.K. Yu, Taiwania 64(4): 343, f.1A–F, 5. 2019. **Type:** Taiwan: Taichung City, 1800 m, Mar. 12, 2019, S.K. Yu *s.n.* (holotype TAI288270). **●雪山松蘭**

Note: The type specimen exhibits feature similar to those of either *G. formosanus* or *G. rantabunensis*.

Gastrochilus hoi → *Gastrochilus matsudae* var. *hoi*

Gastrochilus japonicus (Makino) Schltr., Repert. Spec. Nov. Regni Veg. 12: 315. 1913. **黃松蘭**

Note: *G. japonicus* and *G. somae* have identical flower morphology but with minor difference in molecular data (Zhang *et al.*, 2024, and articles cited).

Gastrochilus linii → *Gastrochilus matsudae* var. *hoi*

Gastrochilus matsudae Hayata, Icon. Pl. Formosan. 9: 116, pl.40. 1920; Lin, Native Orch. Taiwan 3: 107, (f.). 1987 & Orch. Fl. Taiwan 552, f.258-1. 2019. *Saccolabium matsudae* (Hayata) Makino & Nemoto, Fl. Jpn., ed. 2: 1674. 1931. **Type:** Taiwan: Daibusan, Nov. 20, 1918, Y. Matsuda *s.n.* (holotype TI, photo T01205 in PoT; isotype TAI 032825). **●寬唇松蘭**

Gastrochilus matsudae var. *hoi* (T.P. Lin) T.C. Hsu, Ill. Fl. Taiwan 2: 42. 2016; Lin, Orch. Fl. Taiwan 552, f.258-2-1, 258-2-2. 2019. *G. hoi* T.P. Lin, Native Orch. Taiwan 3: 103. 1987; Lin *et al.*, Taiwania 61(2): 98. 2016. **Type:** Taiwan: Nanhutashan, Jan. 5, 1979, T.P. Lin 434 (holotype TAIF). **●何氏松蘭**

Gastrochilus linii Ormerod, Taiwania 47(4): 242. 2002. Lin *et al.*, Taiwania 61(2): 98. 2016. *Gastrochilus flavus* T.P. Lin, Native Orch. Taiwan 3: 95. 1987, *non* (Hook. f.) Kuntze 1891. **Type:** Taiwan: Nantou, Wang Hsiang [望鄉], 2300 m, May. 15, 1978, Y.P. Young *s.n.* (TAIF).

Gastrochilus guanwuensis S.S. Ying, New Taxa New Names 6: 503–508. 2023. **syn. nov.** **Type:** Taiwan: Miaoli, Taian, Guanwu [觀霧], 2180 m, S.S. Ying *s.n.* Sept. 21, 2023 (holotype, NTUF).

Note: *Gastrochilus hoi* is like *G. matsudae*; however, it differs in having a barely upturned conical sac.

Gastrochilus rantabunensis C. Chow. ex T.P. Lin, Native Orch. Taiwan 3: 109, ph.61, 62. 1987. **合歡松蘭**

Gastrochilus raraensis Fukuy., Bot. Mag. (Tokyo) 48(571): 441. 1934; Lin, Orch. Fl. Taiwan 556, f.260.

2019. *Saccolabium raraense* (Fukuy.) S.S. Ying, Bull. Exp. For. Natl. Taiwan Univ. 114: 154. 1974. *S. raraense* (Fukuy.) S.Y. Hu, Q. J. Taiwan Mus. 26: 395. 1973.

●紅檜松蘭

Gastrochilus yehii S.I. Hsieh, C.T. Lee & J.H. Wu, Phytotaxa 587(1): 9. 2023. **Type:** Taiwan: Nantou Co., Renai Township, 2000–2500 m, Sept. 20, 2021, J.H. Wu 538 (holotype PPI, isotype TCF). **●葉氏松蘭**

Note: We surmise that *G. yehii* could be a hybrid between *G. matsudae* var. *hoi* and *G. raraensis* because flower features are in between of both species. The epichile of lip of *G. yehii* (2.0–2.5 mm long × 4.0–4.5 mm wide) which is sitting in the middle of *G. raraensis* (1.5–2.0 × 3.0–3.5 mm) and *G. matsudae* var. *hoii* (3–4 × 4.9–8 mm). The hypochile shapes of *G. yehii* are identical to *G. matsudae* var. *hoii* but the coloration mimics *G. raraensis*.

Gastrodia albida T.C. Hsu & C.M. Kuo, Ann. Bot. Fenn. 48: 272–274. 2011. **白赤箭**

Gastrodia appendiculata C.S. Leou & N.J. Chung, Q. J. Exp. For. Natl. Taiwan Univ. 5(4): 138, f.2. 1991.

●無蕊喙赤箭

Gastrodia callosa J.J. Sm., Repert. Spec. Nov. Regni Veg. 29: 248. 1931. **緋赤箭**

Gastrodia clausa T.C. Hsu, S.W. Chung & C.M. Kuo, Taiwania, 57(3): 271, f.1A–D, 2. 2012. **開花赤箭**

Gastrodia qingyunshanensis J.X. Huang, H. Xu et H.J. Yang in S. Shi *et al.*, Phytotaxa 483 (2): 177–182, f. 2021. **syn. nov.** **Type:** China: Guangdong: Shaoguan City, Wengyuan Co., Qingyunshan, Mar. 21, 2019, H.J. Yang & J.X. Huang QYS20190321015 (holotype CANT, isotype CANT).

Note: *Gastrodia amamiana* Suetsugu of Ryukyu (Suetsugu, 2019) has a well-developed labellum but otherwise is morphologically identical to and an ancestral form of the *G. clausa*, which is a peloric form with petalized lip fused to perianth tube. Also *G. amamiana* doesn't have column ventral appendage.

Gastrodia confusa Honda & Tuyama, J. Jpn. Bot. 15: 659. 1939. **八代赤箭**

Gastrodia confusoides T.C. Hsu, S.W. Chung & C.M. Kuo, Taiwania 57(3): 273, f.1E–H, 3. 2012. **●擬八代赤箭**

Gastrodia elata Blume, Mus. Bot. 2: 174. 1856; Tuyama, J. Jpn. Bot. 41(11): 339. 1966. **高赤箭**

Gastrodia flavilabella S.S. Ying, Q. J. Chin. For. 17(4): 83. 1984. **●夏赤箭**

Gastrodia flexistyla T.C. Hsu & C.M. Kuo, Taiwania 55(3): 243–244, f.1. 2010. **摺柱赤箭**

Gastrodia flexistyloides Suetsugu, Phytotaxa 175(5): 270–274, f.1, 2.



2014. **Type:** Japan: Kyushu, Kagoshima Pref., Takashima Isl., Mar. 25, 2014, *K. Suetsugu s.n.* (holotype KYO; isotype TNS). **Note:** *Gastrodia flexistyloides* and *G. flexistyla* have identical flower morphology. Suetsugu (2014) considered it to be a new species because of its taller stature, cleistogamous flowers, and narrower perianth tube. These differences become blurred as similar features are also found in Taiwan's population.

Note: Dimorphic flower was reported in *Gastrodia flexistyla* (Lin, 2021)

Gastrodia fontinalis T.P. Lin, Native Orch. Taiwan 3: 129–130, (f.). 1987 & Orch. Fl. Taiwan 575, f.270. 2019.
春赤箭

Gastrodia fontinalis var. *suburceolata* T.C. Hsu, Ill. Fl. Taiwan 2: 55. 2016. **Type:** Taiwan: Hualien, Tatong Village, 900–1100 m, Apr. 4, 2011, T.C. Hsu 3800 (holotype TAI496967).

Gastrodia gracilis Blume, Mus. Bot. 2: 174. 1856.

山赤箭

Gastrodia javanica (Blume) Lindl., Gen. Sp. Orch. Pl. 384. 1840; Garay and Sweet, Orchids S. Ryukyu Islands, 1974;; Liu & Su, Fl. Taiwan 5: 1004, 1978; Lin, Native Orch. Taiwan 3: 134, ph.78–79. 1987; Lin, Orch. Fl. Taiwan 560, f.262. 2019. *Epiphanes javanica* Blume, Bijdr. Fl. Ned. Ind. 8: 421. f.4. 1825. **Type:** Java: Jawa Barat, Salak, Seribu, in humid forest, unknown collector (holotype L0061310).
黃赤箭/爪哇赤箭

Gastrodia stapfii Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 347–348. 1911; Tuyama, J. Jpn. Bot. 17(10): 579–586. 1941; Masam., J. Geobot. 16(4): 29, pl.142. 1968; Lin, Orch. Fl. Taiwan 280, f.593. 2019. **syn. nov.** **Type:** Ryukyus: Yaeyama, Jun. 1891, *S. Tanaka s.n.*
Note: The line drawing of *G. stapfii* by Masamune appeared in J. Geobot. 16(4): 29, pl.142. 1968 is conspecific with *G. javanica*.

Gastrodia lutea Fukuy., Bot. Mag. (Tokyo) 49(586): 666. 1935. **syn. nov.** **Type:** Taiwan: Kotosyo, Mt. Omori-yama [大森山 (望南峰)], July 3, 1934, *N. Fukuyama 4681* (holotype KPM-NA0105542 without Fukuyama's no., photo T00053 in PoT).

Gastrodia kaohsiungensis T.P. Lin, Taiwania 63(4): 321–326, f.1, 2A, B. 2018. **Types:** Taiwan: Kaohsiung City, June 26, 2018, 210 m, *K.H. Wang s.n.* (holo: TAI287423)
●高雄赤箭

Note: *G. kaohsiungensis* is characterized by the thickened orangish papillose in a large area inside the perianth tube.

Gastrodia leucochila T.C. Hsu & Z.H. Chen, Ill. Fl. Taiwan 2: 58. 2016; Lin, Orch. Fl. Taiwan 581, f.273. 2019. **Type:** Pingtung: Shouka, 300 m, Nov. 6, 2012, *T.C. Hsu 6093* (holotype TAI496963).
●白唇赤箭

Gastrodia nantoensis T.C. Hsu & C.M. Kuo ex T.P. Lin, Taiwania 61(2): 99. 2016.
●南投赤箭

Gastrodia nipponica (Honda) Tuyama, Bot. Mag. (Tokyo) 53: 4. 1939.
日本赤箭

Gastrodia peichatieniana S.S. Ying, Coloured Ill. Fl. Taiwan 2: 690. 1987.
北插天赤箭/秋赤箭

Note: *Gastrodia longistyla* Q. Liu, J.D. Ya & X.H. Jin (Liu *et al.*, 2021) of Yunnan, China is similar to *G. peichatieniana* with minor differences.

Gastrodia pubilabiata Y. Sawa, Res. Rep. Kôchi Univ., 2, Nat. Sci. 29: 65. 1980.
冬赤箭

Gastrodia rubinea T.P. Lin, Taiwania 64(1): 43, f.1, 3A–D. 2019. **Type:** Taiwan: Nantou Co., Zhongliao Township, 300 m, June 7, 2018, *P.N. Shen s.n.* (holotype TAI287421).
●紅寶石赤箭

Gastrodia shimizuana Tuyama, Acta Phytotax. Geobot. 33: 380–382. 1982.
清水氏赤箭

Gastrodia stapfii → ***Gastrodia javanica***

Gastrodia sui C.S. Leou, T.C. Hsu & C.L. Yeh, Nordic J. Bot. 29: 417, f. 2011.
●蘇氏赤箭

Gastrodia theana Aver., Rheedeia 15(2): 90, f.6, 8c–e. 2005 & Turczaninowia 14(2): 70, f.34. 2011. 短柱赤箭

Gastrodia uraiensis T.C. Hsu & C.M. Kuo, Taiwania 55(3): 244–245, f.2. 2010.
烏來赤箭

Geodorum densiflorum → ***Eulophia picta***

Goodyera biflora (Lindl.) Hook. f., Fl. Br. India 6: 114. 1894.
長花斑葉蘭

Goodyera bomiensis → ***Goodyera brachystegia***

Goodyera brachystegia Hand.-Mazz., Symb. Sin. 7: 1345. 1936; Liu *et al.*, Phytotaxa 395(1): 28, f.1. 2019; Lin, Orch. Fl. Taiwan 143, f.55. 2019. **Type:** China: Yunnan: Yunnanfu, 1915–1916, *S. Schoch, s.n.* [1915] (holotype WU0061596); China: Yunnan, 2000 m, June 9, 1917, *Handel-Mazzetti, H.R.E. von, 10156* (1914–1918) (paratype WU0061597).
波密斑葉蘭

Goodyera bomiensis K.Y. Lang, Acta. Phytotax. Sin. 16(4): 128, f.3. 1978; Chung & Hsu, Taiwania 54(2): 175–177, f.1, 2. 2009; Lin *et al.*, Taiwania 61(2): 100. 2016. **Type:** China: Tibet, Tangmai, 2000 m, July 22, 1965, *Y.T. Chang & K.Y. Lang 858* (holotype PE00805756)
Goodyera rosulacea Y.N. Lee, Bull. Korea Pl. Res. 4: 2. 2004. **Type:** S. Korea: Mt. Dobong, June 18, 2002, *Y.N. Lee & Y.S. Kim s.n.* (holotype Korea Plant Research Institute).

Goodyera daibuzanensis Yamam., J. Soc. Trop. Agric. 4(3): 305. 1932.
大武斑葉蘭

Note: Herbarium specimens from Southeast Asia labeled as *G. schlechtendalianum* may have been mistaken for *G. daibuzanensis*. Fresh leaves and flowers are required for diagnosis.

Goodyera foliosa (Lindl.) Benth. ex C.B. Clarke, J. Linn. Soc., Bot. 25: 73. 1889.
高嶺斑葉蘭



Goodyera foliosa var. *taoana* T.C. Hsu, Ill. Fl. Taiwan 2: 70. 2016, **Type:** Taitung: Lanyu, Hungtoushan, Nov. 12, 2006, *T.C. Hsu 663* (holotype TAIIF).

Goodyera foliosa var. *maximowicziana* (Makino) S.S. Ying, Coloured Ill. Orch. Taiwan 2: 535. 1990. Lin, Ill. Native Taiwan Orch. 162. 2023; Yu, Orchids Taiwan: A Field Guide 352, ph. 2024. *G. maximowicziana* Makino, Bot. Mag. (Tokyo) 23: 37. 1909. *Peramium maximowiczianum* (Makino) Makino, J. Jpn. Bot. 6: 36. 1929. **Type:** Japan: Tosa, T, *Makino s.n.*

短高嶺斑葉蘭

Note: No specimen is available in Taiwan.

Goodyera fumata Thwaites, Enum. Pl. Zeyl. 314. 1864. 尾唇斑葉蘭

Goodyera hachijoensis Yatabe var. *matsumurana* (Schltr.) Ohwi, Fl. Jpn., ed. Rev.: 1438. 1965.

假金線蓮/銀線蓮

Goodyera henryi Rolfe, Bull. Misc. Inform. Kew 1896: 201. 1896; Lang *et al.*, Fl. Reipvsl. Popul. Sin. 17: 143, f.19, 5–7. 1999; Lin, Orch. Fl. Taiwan 143, f.55. 2019. **Type:** China: Hupeh, Ichang, Mar. 1885–1888, *A. Henry 6878* (lectotype K000079089 was designated by P.G. Efimov (2021); isoelectotypes K000079088, GH00090579, NY8857). Taiwan: Hsinchu, Yufeng [尖石], Oct. 25, 1928, *S. Suzuki s.n.* (TAI115390).

童山白蘭/短穗斑葉蘭

Goodyera maximowicziana auct. non Makino: Lin, Native Orch. Taiwan 1: 176, ph.109. 1975. **Note:** *G. maximowicziana* is similar to *G. henryi* but with a pubescent ovary, pedicel, and sepals (versus glabrous flowers).

Note: Flowers on *Goodyera henryi* and flowers on *G. bifida* (Blume) Blume (Coll. Orchid.: 40. 1858) look identical but with minor difference; the latter usually has longer inflorescence and peduncle (Juswara, 2010). These 2 species, however, were grouped together in a DNA analysis (Chen *et al.* 2019).

Goodyera kwangtungensis → *Goodyera schlechtendaliana*

Goodyera longirostrata Hayata, Icon. Pl. Formosan. 4: 115, f.61i, j. 1914. *Peramium longirostratum* (Hayata) Makino, J. Jpn. Bot. 6: 35. 1929. *Eucosia longirostrata* (Hayata) T.C. Hsu, in Chung & Hsu, Ill. Fl. Taiwan 2: 35. 2016; Suetsugu & Hsu, Phytotaxa 520(2): 215–224. 2021. **Type:** Taiwan: Akocho, Buisan (Wuweishan), 7000 ped., [Mar. 24, 1910], *T. Kawakami & S. Sasaki s.n.* (holotype TI, photo T00978 in PoT).

歌綠懷蘭

Goodyera seikoomontana Yamam., J. Soc. Trop. Agric. 4(2): 187. 1932; Lin *et al.*, Taiwan 61(2): 101. 2016; Lin, Orch. Fl. Taiwan 159, f.64. 2019. *Eucosia seikoomontana* (Yamam.) M.C. Pace, Brittonia 72: 263. 2020. *G. viridiflora* var. *seikomontana* (Yamam.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 198. 1977. **Type:** Taiwan: Taitung, Mt. Seikoo [成廣澳山], 4000 ped. July 1931, *Yamamoto s.n.* (holotype TAI118722).

Goodyera youngsayei Hu & Barretto, Chung Chi J. 13(2): 10. 1976. **Type:** China. Hong Kong: Pat Sin Range, Mar. 12. 1975, *G. Barretto 107* (holotype: K000942761; isotype: AMES00074539).

Goodyera maculata T.P. Lin, Taiwan 66(2): 353–359, f.1, 2A–C. 2021. *G. schlechtendaliana* auct. non Rchb. f.: Lin, Native Orch. Taiwan 1: 186, ph.115. 1975. **Type:** Taiwan: Nantou Co., Piluchi, 2400 m, Sept. 3, 2018, *P.N. Shen s.n.* (TAI288180).

●高山斑葉蘭

Goodyera nankoensis Fukuy., Bot. Mag. (Tokyo) 48(571): 432. 1934. 南湖斑葉蘭

Goodyera nantoensis Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 343–344. 1911. 袖珍斑葉蘭/阿里山斑葉蘭

Goodyera pendula Maxim., Bull. Acad. Imp. Sci. Saint-Petersbourg, sér. 3, 32: 623. 1888. 垂葉斑葉蘭

Note: *Goodyera recurva* Lindl. has a similar gross morphology to *G. pendula* but differs in flower features based on the line drawing given on K000387614 (Type from India).

Goodyera procera (Ker Gawl.) Hook., Exot. Fl. 1: t.39. 1823. 穗花斑葉蘭

Goodyera pusilla Blume, Coll. Orch. Arch. Ind. 36, t.96. 1858. 小小斑葉蘭

Goodyera robusta Hook. f., Fl. Br. India 6: 113. 1890. 長葉斑葉蘭

Goodyera rubicunda (Blume) Lindl., Edwards's Bot. Reg. 25(misc.): 61. 1839. 長苞斑葉蘭

Goodyera schlechtendaliana Rchb. f., Linnaea 22: 861. 1849; *Georchis schlechtendaliana* (Rchb. f.) Rchb. f., Bonplandia (Hannover) 5: 36. 1857. 斑葉蘭/花格斑葉蘭

Goodyera japonica Blume, Coll. Orchid. 38. 1858. *Anoectochilus japonicus* (Blume) Linden, Nursery Cat. (Linden), Suppl. Pl. Serre: 34. 1884. **Type:** Japan. Specimen: Japan: Kino Ahosima. Oct. 1861, *R. Oldham 358* (K000363096).

Goodyera kwangtungensis C.L. Tso, Sunyatsenia 1: 134. 1933; Lin, Native Orch. Taiwan 2: 168, ph.78, 79. 1977 & Orch. Fl. Taiwan 144, f.56, Pl. 7. 2019. **Type:** China: Kwangtung, Lochong, Tatung, Nov. 16, 1931, *N.K. Chun 42963* (IBSC0005433).

Goodyera rontabunensis T. Chow., Taiwan Orch. 68. 1968. *nom. nud.*

Note: I reported *G. schlechtendalianum* in 1975 as being from Taiwan in my early work (Lin, 1975) which I mistakenly applied to *G. maculata*. This error, however, escaped attention until recently when I learned of the true *G. schlechtendaliana* of Japan (Lin 2021).

Goodyera seikoomontana → *Goodyera longirostrata*

Goodyera similis Blume, Coll. Orch. 39, pl.9, f.2, pl.11, f.D. 1858. 鳥嘴蓮

Goodyera similis f. *albonervosa* (T.P. Lin & Y.N. Chang)



T.P. Lin, Orch. Fl. Taiwan 162, f.65-2. 2019. *G. similis* Blume var. *albonervosa* (T.P. Lin & Y.N. Chang) T.P. Lin, *Taiwania* 61(2): 101. 2016. *G. velutina* var. *albonervosa* T.P. Lin & Y.N. Chang, *Taiwania* 58(4): 263–266, f.7. 2013. ●斑紋鳥嘴蓮

Goodyera similis var. *similoides* T.P. Lin, *Taiwania* 66(1): 11–19. 2021. **Type:** Taiwan: Hsinchu Co., Chienshih Township, 1650 m, Sept. 25, 2020, *Michelle M.S. Yeh s.n.* (holotype TAI289813). 葉氏斑葉蘭

Note: Since characteristics of var. *similoides* are consistent with *Goodyera ×tamnaensis* of Japan (Suetsugu *et al.*, 2021), I presume that this is a natural hybrid between *G. schlechtendaliana* and *G. similis*.

Goodyera ×tanakae Suetsugu, *Taiwania* 66(3): 277–286, f. 2021; Yu, *Orchids of Taiwan: A Field Guide* 363, ph. 2024. **Type:** Japan: Fukuoka Prefecture, Kitakyushu City, Kokura-minami-ku, Dobaru, Sept. 22, 2016, *K. Tanaka KS818* (holotype: KYO). 高嶺鳥嘴蓮

Note: No specimen is available in Taiwan.

Goodyera viridiflora (Blume) Lindl. ex D. Dietr., *Syn. Pl.* 5: 165. 1852. 鳥喙斑葉蘭

Note: Suetsugu and Hsu (2021) tried very hard to reinstate *Eucosia cordata* as being separable from *E. viridiflora*, two plants with identical vegetative and flower morphologies which were historically considered conspecific, by using several characteristics of the leaf and flower. Unfortunately, most of the features they listed overlap.

Goodyera viridiflora var. *hengchunensis* (T.C. Hsu) T.P. Lin, Orch. Fl. Taiwan: 163, f.66-2. 2019. *Eucosia hengchunensis* T.C. Hsu, Chung & Hsu, *Ill. Fl. Taiwan* 2: 34, 2016. **Type:** TAIWAN: Pingtung: Shouka, 300 – 400 m, 3 Jan 2016, *T.C. Hsu 8166* (holotype: TAI496951!) 恆春鳥喙斑葉蘭

Eucosia carnea Blume, *Bijdr. Fl. Ned. Ind.* 415. 1825. *Goodyera carnea* (Blume) Schltr. In Schumann & Lauterbach, *Fl. Schutzgeb. Südsee*, Nachtr. 93. 1905, *nom. illeg.* **Type:** Indonesia. Monti Salak prope Passir Java, June–Aug., *C. Blume s.n.* (holotype L0061220).

Goodyera yamiana Fukuy., *Bot. Mag. (Tokyo)* 50(589): 18. 1936. ●蘭嶼金銀草

Habenaria alishanensis T.P. Lin & D.M. Huang, *Taiwania* 62(4): 349–355, f.1A–C, 2. 2017. **Type:** Chiayi Co., Alishan Township, 700 m, Aug. 13, 2017, *K.C. Yueh s.n.* (holotype TAI286844). ●樂氏玉鳳蘭

Habenaria ciliolaris Kraenzl., *Bot. Jahrb. Syst.* 16: 169. 1892 玉蜂蘭

Habenaria dentata (Sw.) Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 4: 125. 1919. 白鳳蘭

Habenaria ×furcata T.P. Lin, *Ill. Native Taiwan Orch.* 192, ph. 2022. *Habenaria* sp., Chung & Hsu, *Ill. Fl. Taiwan* 2: 84, ph. 2016. **Type:** Taiwan: New Taipei City, 700–800 m, Nov. 1, 2021, *D.M. Huang s.n.* (holotype TAI289897). ●新竹玉鳳蘭

Note: *Habenaria ×furcata* exists as a small population and possibly has a hybrid origin between *H. pantlingiana* and *H. polytricha*.

Habenaria iyoensis (Ohwi) Ohwi ex C.S. Lee & N.S. Lee, *Korean J. Pl. Taxon.* 37: 398. 2007. 岩坡玉鳳蘭

Habenaria longiracema Fukuy., *Bot. Mag. (Tokyo)* 49(587): 758. 1935. ●翹唇玉鳳蘭

Habenaria noriakii Masam., *J. Geobot.* 26(2): 10, f.251. 1978. *nom.nud.*

Habenaria pantlingiana Kraenzl., *Orchid. Gen. Sp.* 1: 892. 1900. 冠毛玉鳳蘭

Habenaria petelotii Gagnep., *Bull. Soc. Bot. France* 78: 73. 1931. 毛唇玉鳳蘭

Habenaria polytricha Rolfe, *Hooker's Icon. Pl.* 25, pl.2496. 1896. 裂瓣玉鳳蘭

Habenaria stenopetala Lindl., *Gen. Sp. Orch. Pl.* 319. 1835. 線瓣玉鳳蘭

Habenaria ×tsaiana T.P. Lin, *Taiwania* 59(4): 363–364, f. 2014. 蔡氏玉鳳蘭

Note: The flower of *H. tsaiana* shows a combination of characteristics of both *H. stenopetala* and *H. polytricha*.

Hancockia uniflora Rolfe, *J. Linn. Soc., Bot.* 36(249): 20, f.1E. 1903. 漢考克蘭

Note: Characteristics of lip of plants from Taiwan slightly differ from those of Yunnan, China (Rolfe, 1903)

Haraella retrocalla (Hayata) Kudo, *J. Soc. Trop. Agric.* 2: 27. 1930. 香蘭

Gastrochilus odoratus (Kudô) J.J. Sm., *Bull. Jard. Bot. Buitenzorg*, sér. 3, 14: 168. 1937. *Saccolabium odoratum* (Kudô) Makino & Nemoto, *Fl. Japan*, ed. 2: 1675. 1931. *Haraella odorata* Kudô, *J. Soc. Trop. Agric.* 2: 26. 1930.

Note: *Haraella retrocalla*, *Pomatocalpa* and *Gastrochilus* species are similar in general vegetative morphology but different in the inflorescence and flower morphology (Lin, 2019). Recent molecular study using whole plastome genome supported that *H. retrocalla* was a sister to *Gastrochilus* species with high supporting values, and *Pomatocalpa* was a sister to *H. retrocalla* and *Gastrochilus* group also with high supporting values (Zhou *et al.*, 2024). Thus, the phylogenetic result failed again to support *H. retrocalla* is a member of the *Gastrochilus*. It is reasonable to speculate that *Haraella* maybe evolved from a hybrid origin.



Hayata tabiyahanensis → *Zeuxine tabiyahanensis*

Hayata tabiyahanensis var. *merrilli* → *Zeuxine tabiyahanensis* var. *merrilli*

Hemipilia cordifolia Lindl., Gen. Sp. Orchid. Pl. 296. 1835
玉山一葉蘭

Herminium lanceum (Thunb. ex Sw.) Vuijk var. *longicrure* (C. Wight ex A. Gray) H. Hara, J. Jpn. Bot. 44: 60. 1969.
腳根蘭

Aceras angustifolium Lindl., Edwards's Bot. Reg. 18: t. 1525. 1832.
Monorchis angustifolia (Lindl.) O. Schwarz, Mitt. Thüring. Bot. Ges. 1: 95. 1949. *Platanthera angustifolia* (Lindl.) Rchb. f., Otia Bot. Hamburg.: 39. 1878. *Herminium angustifolium* (Lindl.) Benth. ex Ridl., Naturalist's Wanderings E. Archipel.: 519. 1885; Forbes & Hemsl, J. Linn. Soc. Bot. 36: 50–51. 1903. **Note:** Specimen examined: Taiwan: Tamsui, 1864, *R. Oldham 248 & 560*.

Herminium pusillum Ohwi & Fukuy., Bot. Mag. (Tokyo) 48(571): 430. 1934. *Androcorys pusillus* (Ohwi & Fukuy.) Masam., Hokuriku J. Bot. 12: 88. 1963; Lin, Native Orch. Taiwan 3: 36. 1987 & Orch. Fl. Taiwan 84, f.25. 2019. **Type:** Taiwan: monte Niitaka-yama [新高山] inter Shuzan [主山] et Niitaka-chuuzaisho, collected by J. Ohwi, July 1933, *Fukuyama 4119* (holotype KPM-NA0105548, Masamune handwriting on envelope label, without Fukuyama's no., photo T00058 in PoT; isotype KYO, with Fukuyama's no. in pencil).
小兜蕊蘭

Note: The phylogenetic tree shows that *Androcorys* inserts within the *Herminium* clade (Raskoti *et al.* 2015).

Hetaeria anomala Lindl., J. Proc. Linn. Soc. Bot. 1: 185. 1857.
圓唇伴蘭

Hetaeria oblongifolia Blume, Bijdr. Fl. Ned. Ind. 410. t.14. 1825.
長橢圓葉伴蘭

Holcoglossum pumilum (Hayata) X.H. Jin, PLoS ONE 7(12): e52050. 2012.
●小鹿角蘭

Holcoglossum quasipinifolium (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 285. 1919.
●擬唇蘭

Hylophila nipponica (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1: 469. July 1977.
●蘭嶼光唇蘭

Lecanorchis albidus → *Lecanorchis ohwii*

Lecanorchis bihuensis → *Lecanorchis multiflora* var. *bihuensis*

Lecanorchis cerina → *Lecanorchis japonica*

Lecanorchis flavicans var. *acutiloba* → *Lecanorchis vietnamica*

Lecanorchis japonica Blume, Mus. Bot. 2: 188. 1856; T. Hashimoto, Ann. Tsukuba Bot. Gard. 9: 3–13, f.1–9. 1990; Lin, Ill. Native Taiwan Orch. 2nd ed. 96, f.6. 2023.

Type: Japan: Honshu, Mino, in montibus oppido Gunsjo v. Takasu vicinis querceta inter saxa incolens (holotype L? not found).
紫血柱蘭/黃血柱蘭

Lecanorchis cerina Fukuy., Bot. Mag. (Tokyo) 49(581): 291. 1935; Masam., J. Geobot. 15(1–3): 16, f.132. 1966; Nackej., Biol. Mag. (Okinawa) 13: 29. 1975; Lin, Native Orch. Taiwan 3: 144, ph.82–84. 1987 & Orch. Fl. Taiwan 38, f.6. 2019. **Type:** Taiwan: Taihoku, Shinten, Daitoozan [大桶山], Apr. 11, 1934, *N. Fukuyama 4534* (holotype KPM-NA0105552, photo T00063 in PoT).

Note: Morphological features between *Lecanorchis cerina* and *L. japonica* largely overlap. Midlobe of lip from quadrate to transversely rectangular, margins of column-wing from entire, erose to apparent incision all have been found in Taiwan's populations. Also *L. cerina* is most closely related to *L. japonica* according to a recent molecular analysis (Hwang *et al.*, 2022).

Lecanorchis latens T.P. Lin & W.M. Lin, Taiwania 56(4): 315. 2011.
●士賢血柱蘭

Lecanorchis multiflora J.J. Sm., Bull. Jard. Bot. Buitenzorg II 26: 8. 1918 & Bull. Jard. Bot. Buitenzorg III 5: t.25, f.2. 1922; Seidenf., Bot. Tidsskr. 67: 98, f.19. 1972 & Dansk Bot. Ark. 32(2): 127, f.78. 1978; Lin, Taiwania 64(1): 43–51, 2019 & Orch. Fl. Taiwan 43, f.8-1, 2019. **Type:** Indonesia: Java. Bantam, Goenoeng Malang, 400 m, 1913. *C.A. Backer 7158* (isosyntypes L0426579, L0061477). Taiwan: Pingtung: Shouka 400 m, Dec. 5, 2006, *T.C. Hsu 682, 684*, (TAIF).
三裂血柱蘭

Lecanorchis flavicans Fukuy., Trans. Nat. Hist. Soc. Formosa 32: 241–244. 1942; Suetsugu *et al.*, Phytotaxa 306(3): 217–222. 2017. **Type:** Japan: Ryukyu, Iriomote Isl., along Nakara River, May 30, 1938, *N. Fukuyama s.n.* (lectotype KPM-NA0105553, isolectotypes KPM-NA0105554, KPM-NA0105555, designated by Suetsugu *et al.* 2017). (*Fukuyama 7120* was cited in the original type in TAD).

Lecanorchis triloba auct. non. J. J. Sm.; Hsu & Chung, Taiwania 54(1): 83. 2009; Lin *et al.*, Taiwania 61(2): 105. 2016.

Note: This is not conspecific with *L. javanica*.

Lecanorchis multiflora var. *bihuensis* (T.P. Lin & Shu H. Wu) T.P. Lin, Taiwania 64(1): 43–51, f.5, 6. 2019 & Orch. Fl. Taiwan 43, f.8-2. 2019. *L. nigricans* auct. non Honda: Lin, Native Orch. Taiwan 3: 150. 1987. *L. bihuensis* Lin & Wu, Taiwania 57(4): 381. 2012. **Type:** Taiwan: Hsinbei City: Pinglin, Feb. 17, 1980, *T.P. Lin 455* (holotype TAIF122114).
●全唇血柱蘭

Lecanorchis multiflora var. *subpelorica* (T.C. Hsu & S.W. Chung) T.P. Lin, Taiwania 64(1): 43–51, 2019; Lin, Orch. Fl. Taiwan 44, f.8-3. 2019; *L. subpelorica* T.C. Hsu & S.W. Chung, Taiwania 55(4): 363–365. f.1C, D, 3. 2010. **Type:** Taiwan: Pingtung Co.: Shizi Township, Shouka, ca. 400 m, July 4, 2008, *T.C. Hsu 1438* (holotype TAIF).
●亞輻射血柱蘭

Lecanorchis nigricans Honda, Bot. Mag. (Tokyo) 45: 470. 1931; *emend.* Tuyama, J. Jpn. Bot. 30: 184, f.3, A & B. 1955; Hashim., Ann. Tsukuba Bot. Gard. 9: 29,



f.20–22. 1990; Suetsugu *et al.*, *PhytoKeys* 92: 17–35. 2018a. **Type:** Japan: Honshu, Iwada, Prov. Kii, anno 1931, *K. Kashiyama s.n.* (TI).

黑莖皿柱蘭

Lecanorchis nigricans var. *yakushimensis* T. Hashim., *Ann. Tsukuba Bot. Gard.* 9: 31, f.23, 24. 1990; Chung, *Orch. Taiwan* 51: 2008; Hsu & Chung, *Taiwania* 55(4): 366, f.1G, H. 2010; Lin, *et al.*, *Taiwania* 61(2): 104, 2016. **Type:** Japan: Kyushu, Kagoshima, Yakushima Isl., July 21–27, 1986, *Y. Hanei s.n.* (holotype TNS). *Lecanorchis oligotricha* Fukuy., *Trans. Nat. Hist. Soc. Formosa* 32: 242. 1942; *Acta Phytotax. Geobot.* 14:124. 1952. **Type:** Ryukyus: Ins. Iriomote, June 4, 1938, *N. Fukuyama 7127* (Herb. Univ. Imp. Taihokensis); *N. Fukuyama 7107 & 7125*.

Note: *Lecanorchis nigricans* var. *yakushimensis* is like var. *nigricans* except that it has a ventrally puberulent column (Hashimoto, 1990). Differentiation between var. *nigricans*, var. *yakushimensis*, and others was revised by Suetsugu *et al.* (2018a) based on plants only native to Japan. Cleistogamous or chasmogamous, column curvature, pubescence on the ventral surface of the column, and branching of glandular hairs on the apical part of the lip disc show some differences among varieties of *L. nigricans*. However, several characteristics appear to be continuous after reviewing the *L. nigricans* of Indonesia, and Suetsugu *et al.* (2021) concluded that it may be appropriate to treat all varieties of *L. nigricans* as 1 broadly variable taxon.

Lecanorchis nigricans var. *yakushimensis* →

Lecanorchis nigricans

Lecanorchis ohwii Masam., *Trans. Nat. Hist. Soc. Formosa* 23(126): 208. 1933; Suetsugu *et al.*, *Phytotaxa* 309(3): 259–264. 2017; Lin, *Orch. Fl. Taiwan* 51, f.10. 2019. **Type:** Taiwan: Inter Takomi et Rarasan, [達觀山–札亞孔], Apr. 13, 1933, *J. Ohwi 847* (lectotype KYO-00022233, lectotype designated by Suetsugu *et al.* 2017, Photo T01668 in PoT).

●白皿柱蘭

Lecanorchis cerina Fukuy. var. *albidus* T.P. Lin, *Native Orch. Taiwan* 3: 147, ph.85–88. 1987. *L. albidus* (T.P. Lin) T.P. Lin, *Taiwania* 61(2): 103. 2016. *L. kiusiana* var. *albia* (T.P. Lin) T.C. Hsu, *Ill. Fl. Taiwan* 2: 100. 2016. *L. cerina* f. *albidus* (T.P. Lin) S.S. Ying, *Coloured Ill. Orch. Taiwan* 2: 562. 1990. **Type:** Taiwan: Taipei, Mt. Pataoerh. 700–1100 m, Apr. 1, 1979, *T.P. Lin 439* (holotype TAIFF74168), *T.P. Lin 414* (paratype TAIFF127050).

Lecanorchis purpurea Masam., *Prelim. Rep. Veg. Yakus.* 60. 1929; Suetsugu *et al.*, *Phytotaxa* 360(2): 145–152. 2018; Lin, *Orch. Fl. Taiwan* 54, f.11. 2019. **Type:** Japan: Kagoshima Pref., Yakushima Isl., along the Futamata River, 300 m, July 30, 1988, *S. Hatusima 43695* (neotype KAG-073201, designated by Suetsugu *et al.* 2018).

糙莖皿柱蘭

Lecanorchis trachycaula Ohwi, *Fl. Jpn.*, rev. ed. 1438. 1965; Hsu & Chung, *Taiwania* 55(4): 367, f.1E, F, 5. 2010; Lin *et al.*, *Taiwania* 61(2): 104. 2016. **Type:** Japan: Shikoku, Awa: Shishikui-cho, June 18, 1964, *C. Abe 15387* (holotype TNS381701).

Lecanorchis purpurea var. *actinomorpha* T.P. Lin, *Taiwania* 69(3): 384, fig.3. 2024. **Type:** Taiwan: Taoyuan Co., Fuxin Township, Balung, Lalashan, c. 1400 m, Jul.

14, 2024, *H.C. Tsai s.n.* (TAI289923). ●輻射糙莖皿柱蘭
Note: This plant has a lip-petalized flower.

Lecanorchis subpelorica → ***Lecanorchis multiflora***
var. *subpelorica*

Lecanorchis suginoana (Tuyama) Seriz., *Bunrui* 5(1): 38. 2005. 杉野氏皿柱蘭

Note: Divergence of nucleotide sequences supported independent status of three close relatives, viz., *L. suginoana*, *L. kiusiana*, and *L. japonica*, and did not support infraspecific placement of *L. suginoana* in *L. japonica* (Takashima *et al.*, 2019). Flowers of *Lecanorchis suginoana* are similar to but can be distinguished from those of *L. thalassica* by features discussed (Lin, 2019).

Lecanorchis tabugawaensis Suetsugu & Fukunaga, *PhytoKeys* 73: 125–135. 2016; Lin, *Orch. Fl. Taiwan* 55, f.13. 2019. **Type:** Japan: Kyushu: Kagoshima Pref., Yakushima Isl., Yakushima Town, Koseda, along Tabu River, 170 m, July 16, 2015, *H. Yamashita s.n.* (holotype KYO; isotype OSA).

新北皿柱蘭

Note: Taiwan: New Taipei City: Pinglin Township, 400 m, July 30, 2018. *K.H. Wang s.n.* (TAI287425).

Lecanorchis taiwaniana S.S. Ying, *Q. J. Chin. For.* 20(4): 133, f.5. 1987. 台灣皿柱蘭

Lecanorchis thalassica T.P. Lin, *Native Orch. Taiwan* 3: 153, ph.89. 1987. 紋皿柱蘭

Note: *L. thalassica* var. *laoensis* Suetsugu & T.C. Hsu was reported from Laos (Suetsugu *et al.*, 2018b)

Lecanorchis triloba please see ***Lecanorchis multiflora***

Lecanorchis vietnamica Aver., *Rheedea* 15: 92. 2005; Suetsugu *et al.*, *Phytotaxa* 306(3): 217–222, 2017; Lin, *Orch. Fl. Taiwan* 62, f.16, 2019. **Type:** Vietnam, Thua Thien-Hue Province, A Luoi District, A Roang Municipality, Tra Lenh Forestry Department Station, 700–800 m, Apr. 20, 2005, *L. Averyanov, P.K. Loc, N.T. Vinh.*, etc. *HAL 724* (holotype, HN; isotype LE). 白髭皿柱蘭

Lecanorchis flavicans Fukuy. var. *acutiloba* T. Hashim., *Ann. Tsukuba Bot. Gard.* 8: 8, f.3. 1989; Hsu *et al.*, *Taiwan J. Biodivers.* 18(1): 115–121, f.2, 3. 2016; Lin *et al.*, *Taiwania* 61(2): 104. 2016. **Type:** Japan: Yakushima Isl., Mt. Motchomu, July 24, 1979, *Y. Hanei s.n.* (holotype TNS950453).

Lecanorchis virella T. Hashim., *Ann. Tsukuba Bot. Gard.*, 8: 1. 1989. 綠皿柱蘭/彩虹皿柱蘭

Liparis amabilis Fukuy., *Bot. Mag. (Tokyo)* 52(617): 245. 1938. ●卡保山羊耳蘭

Liparis barbata Lindl., *Gen. Sp. Orch. Pl.* 27. 1830.

鬚唇羊耳蘭



- Liparis bootanensis* Griff., Not. Pl. Asiat. 3: 278. 1851.
摺疊羊耳蘭
- Liparis campylostalix* Rchb. f., Linnaea 41: 45. 1877.
彎柱羊耳蘭
- Liparis cespitosa* (Lam.) Lindl., Bot. Reg. 11, t.882. 1825.
桶後羊耳蘭/叢生羊耳蘭
- Liparis condylobulbon* Rchb. f., Hamburger Garten-
Blumenzeitung 18: 34. 1862. 長耳蘭
- Liparis cordifolia* Hook. f., Hooker's Icon. Pl. 19: t.1811.
1889; Fl. Br. India 5: 692. 1890. 銀鈴蟲蘭
- Liparis derchiensis* S.S. Ying, Mem. Coll. Agric. Natl.
Taiwan Univ. 31(1): 21, ph.3, 4. 1991. ●德基羊耳蘭
- Liparis elliptica* Wight, Icon. Pl. Ind. Orient. 5: 17, t.1735.
1852. 扁球羊耳蘭
- Liparis elongata* Fukuy., Annu. Rep. Taihoku Bot. Gard.
3: 82. 1933. ●長穗羊耳蘭
- Liparis ferruginea* Lindl., Gard. Chron. 1848: 55. 1848.
明潭羊耳蘭
- Liparis formosamontana* T.C. Hsu, Ill. Fl. Taiwan 2: 111,
f. 2016; Yu, Orchids Taiwan: A Field Guide 422, ph. 2024.
Type: Taiwan: Yilan: Taipingshan, 1600 m, Apr. 18, 2007,
T.C. Hsu 767 (TAIF303574). ●玉簪羊耳蘭
- Liparis amabilis* auct. non Fukuy.: Chung, Orch. Taiwan 56, f. 2008.
Liparis auriculata auct. non Blume ex Miq.: Liu & Su, Q. J. Taiwan
Mus. 28: 270, f.2. 1975; Lin, Native Orch. Taiwan 2: 210, ph.97.
1977.
Liparis monoceros T.P. Lin, Taiwania 63(3): 241–247, f.2C, 4. 2018
& Orch. Fl. Taiwan 640, f.306. 2019. **syn. nov.** **Type:** Taiwan:
Nantou Co., May 7, 2012, 2050 m, P.N. Shen s.n. (holotype
TAI281150).
Liparis petiolata auct. non. (D. Don) P.F. Hunt et Summerh.: Lin et
al., Taiwania 61(2): 107. 2016.
Liparis pulchella auct. non Hook. f.: Chung, Orch. Taiwan II: 75.
2008.
Liparis yakusimensis auct. non Masam.: Su, Fl. Taiwan 5: 938. 2000.
- Liparis formosana* Rchb. f., Gard. Chron. n.s. 13: 394.
1880. 寶島羊耳蘭
- Liparis gigantea* C.L. Tso, Sunyatsenia 1: 136. 1933.
羊耳草/大花羊耳蘭
- Liparis grossa* Rchb. f., Gard. Chron., n.s., 19: 110. 1883.
紅鈴蟲蘭
- Liparis henryi* Rolfe, Bull. Misc. Inform. Kew 1896(119):
193. 1896. 齒唇羊耳蘭
- Liparis kawakamii* Hayata, Icon. Pl. Formosan. 4: 28, f.5.
1914. ●川上氏羊耳蘭
- Liparis laurisilvatica* Fukuy., Ann. Rep. Taihoku Bot.
Gard. 3: 83. 1933. ●小花羊耳蘭
- Liparis liangzuensis* → *Liparis mannii*
- Liparis mannii* Rchb. f., Flora 55: 275. 1872; Seidenf.,
Dansk Bot. Ark. 31(1): 60, f.36. 1976; id., Opera Bot. 114:
138. 1992; Aver., Turczaninowia 16(1): 104, f.51g, h.
2013; Hsu, Forestry Research Newsletter 20(3): 22, 2013;
Lin, Orch. Fl. Taiwan 640, f.305. 2019. **Type:** India:
Assam. Dec. 1889 (holotype W “Assam, G. Mann 27,
Herb. Reichenbach 46235” according to Turczaninowia
19 (2): 34–49. 2016); isotype: G. Mann # s.n.
(G00354689). 良如羊耳蘭
- Liparis liangzuensis* T.P. Lin & W.M. Lin, Taiwania 56(4): 315–316.
2011. **Type:** Taiwan: Taipei, Fushan, Mar. 18, 2011, L.Z. Chang s.n.
(holotype TAI276924). **Note:** *Liparis liangzuensis* has been suggested
to be conspecific with *L. mannii* (Hsu, 2013).
- Liparis nakaharuae* Hayata, J. Coll. Sci. Imp. Univ.
Tokyo 30(1): 310–311. 1911. ●虎頭石
- Liparis nervosa* (Thunb.) Lindl., Gen. Sp. Orch. Pl. 26.
1830. *Ophrys nervosa* Thunb., Syst. Veg. ed. 14, 814.
1784; Icones Plantatum Japonicarum Fasc. 1: 10. 1794.
Epidendrum nervosum (Thunb.) Thunb., Trans. Linn. Soc.
London 2: 327. 1794. **Type:** E. Japan: between Osaka and
Yedo, collected by C.P. Thunberg, unknown date, UPS-
Thunb 21373 (*Ophrys nervosa*, *Cymbidium nervosum* and
Epidendrum nervosum written on label, Bot. Mus.
Uppsala) is designated as holotype here. 脈羊耳蘭
- Liparis nokoensis* Fukuy., Bot. Mag. (Tokyo) 48(571):
435. 1934. ●能高羊耳蘭
- Liparis odorata* (Willd.) Lindl., Gen. Sp. Orchid. Pl.: 26.
1830; Henry, Trans. Asia. Soc. Jpn. 24(Suppl): 91. 1896;
Yu, Orchids Taiwan: A Field Guide 433, ph. 2024.
Malaxis odorata Willd., Sp. Pl., ed. 4. 4: 91. 1805.
Empusa odorata (Willd.) T.C. Hsu, Ill. Fl. Taiwan 2: 19.
2016. **Type:** India. Orientali (not located). **Note:** No
specimen image is found in Herbarium Willdenow IDC
microfiche. Description is probably based on Rheede,
Hort. Malab. 12:55. t. 28. 1693. 香花羊耳蘭
- Note:** One specimen, *A. Henry* 896, from Bankinsing,
S. Cape of Taiwan was recorded (see above). Images
were best presented by Yu (2024: 433).
- Liparis petiolata* → *Liparis formosamontana*
- Liparis reckoniana* T.C. Hsu, Taiwania 58(1): 1–4, f.1A–
C, 2. 2013. ●雲頂羊耳蘭
- Liparis rubrotincta* T.C. Hsu, Taiwania 58(1): 4, f.1D–F,
3. 2013. ●絳唇羊耳蘭



- Liparis sasakii* Hayata, Icon. Pl. Formosan. 4: 32, f.9. 1914. ●尾唇羊耳蘭
- Liparis somae* Hayata, Icon. Pl. Formosan. 4: 33, f.6. 1914. 高士佛羊耳蘭
- Liparis sootenzanensis* Fukuy., Ann. Rep. Taihoku Bot. Gard. 3: 84. 1933 黃花(插天山)羊耳蘭
- Liparis viridiflora* (Blume) Lindl., Gen. Sp. Orch. Pl. 31. 1830. 長腳羊耳蘭
- Luisia lui* T.C. Hsu & S.W. Chung, Taiwania 55(4): 363, f.1A, B, 2. 2010. ●呂氏金釵蘭
Note: *Luisia* ×*lui* is considered a hybrid between *L. tristis* and *L. teres*, as both exist at the same location.
- Luisia megasepala* Hayata, Icon. Pl. Formosan. 4: 85, f.41. 1914. ●台灣釵子股
- Luisia teres* (Thunb.) Blume, Rumphia 4: 50. 1849. *Epidendrum teres* Thunb., Syst. Veg. ed. 14: 818. 1784 (July); Icones Plantatum Japonicarum Fasc. 1: 7. 1794. *Type:* E. Japan: collected by C.P. Thunberg, unknown date, UPS-Thunb 21386 (no flower, Bot. Mus. Uppsala) is designated as holotype here. 牡丹金釵蘭
- Luisia tristis* (G. Forst.) Hook. f., Fl. Brit. India 6: 25. 1890. 心唇金釵蘭
- Malaxis monophyllos* (L.) Sw., Kongl. Vetensk. Acad. Nya Handl. 21: 234. 1800. 阿里山小柱蘭
- Microtis unifolia* (G. Forst.) Rchb. F., Beitr. Syst. Pflanzenk. 62. 1871. 韭葉蘭
- Myrmechis drymoglossifolia* → *Odontochilus drymoglossifolius*
- Neottia acuminata* Schltr., Acta Hort. Gothob. 1: 141. 1924. 烏巢蘭
Note: The plant in Taiwan has not been formally published, and the Ilan collection is about 16 cm tall above the tuberoid.
- Neottia atayalica* T.C. Hsu, Ill. Fl. Taiwan 2: 120. 2016. *Type:* Taiwan: Hsinchu, between Mayangchih and Chungpaping, July 4, 2007, *T.C. Hsu 878* (holotype TAI496965). ●泰雅雙葉蘭
Note: We suppose that *Neottia atayalica* is just a variation of *N. japonica*.
- Neottia cinsbuensis* T.P. Lin & D.M. Huang, Taiwania 62(4): 349–355, f.1D, E, 3. 2017. *Type:* Taiwan: Hsinchu Co., Cinsbu, 2450 m, July 8, 2017, *H.C. Tsai s.n.* (holotype TAI286832). ●鎮西堡雙葉蘭
- Neottia deltoidea* → *Neottia suzukii*
Neottia fukuyamae → *Neottia wardii*
- Neottia hohuanshanensis* T.P. Lin & Shu H. Wu, Taiwania 57(4): 381, f.1D, 4. 2012. ●合歡山雙葉蘭
- Neottia japonica* (Blume) Szlach., Fragm. Florist. Geobot., Suppl. 3: 117. 1995; Lin, Orch. Fl. Taiwan 673, f.325. 2019. *Listera japonica* Blume, Coll. Orch. 136, pl.38, f.2, pl.48. 1859; Masam., Pl. Jpn. 8: 200. 1969. *Type:* Japan not located. Described from Japan after Siebold's collection. 小雙葉蘭
Listera shaoii S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 236. 1977. *Neottia shaoii* (S.S. Ying) Szlach., Fragm. Florist. Geobot., Suppl. 3: 118. 1995. *Type:* Taiwan: Ssuyuan yakou [思源啞口], 1400–1600 m, Apr. 2, 1977, *S.S. Ying 5910* (holotype NTUF, photo F00008214 in PoT); *S.S. Ying 5925*.
- Neottia kuanshanensis* (H.J. Su) T.C. Hsu & S.W. Chung, Taiwania 54(1): 83. 2009. ●關山雙葉蘭
- Neottia meifongensis* (H.J. Su & C.Y. Hu) T.C. Hsu & S.W. Chung, Taiwania 54(1): 83. 2009. ●梅峰雙葉蘭
- Neottia morrisonicola* (Hayata) Szlach., Fragm. Florist. Geobot. Suppl. 3: 118. 1995. ●玉山雙葉蘭
- Neottia nankomontana* (Fukuy.) Szlach., Fragm. Florist. Geobot., Suppl. 3: 118. 1995. ●南湖雙葉蘭
- Neottia piluchiensis* T.P. Lin, Taiwania 60(4): 169, f.3, 4A. 2015. ●碧綠溪雙葉蘭
- Neottia pseudonipponica* (Fukuy.) Szlach., Fragm. Florist. Geobot. Suppl. 3: 118. 1995. 假日本雙葉蘭
Neottia microauriculata T.C. Hsu, Ill. Fl. Taiwan 2: 127. 2016. *Type:* Hsinchu, Takechin Stream, 3000 m, July 23, 2012, *T.C. Tsu 6066* (holotype TAI496969).
Note: Based on the original description and figure (Jin and Heng, 2007) and later by Jin and Pang (2016). *N. fugongensis* is almost identical to *N. pseudonipponica*.
- Neottia ruisuiensis* T.P. Lin, Taiwania 70(1): 31–36, 2025. *Type:* Taiwan: Hualien Co.: Ruisui, 2300 m, July 5, 2024, *Fang-Mei Hsieh s.n.* (holotype TAI289924). ●瑞穗雙葉蘭
- Neottia shenlengiana* T.C. Hsu, Ill. Fl. Taiwan 2: 129. 2016; Lin, Orch. Fl. Taiwan 688, f.332. 2019. *Type:* Hsinchu, Takechin Stream, 2900–3100 m, July 23, 2012, *T.C. Hsu 6075* (holotype TAI496949). ●聖陵雙葉蘭
- Neottia suzukii* (Masam.) Szlach., Fragm. Florist. Geobot., Suppl. 3: 119. 1995; Lin, Orch. Fl. Taiwan 688, f.333. 2019. *Listera suzukii* Masam., Trop. Hort. 3: 42. 1933. *nom. nud.* & Trans. Nat. Hist. Soc. Formosa 23(126): 209. Aug. 1933 (description and 2 specimens



were provided) & J. Geobot. 19(4): 11, pl.174. 1971; Liu & Su, Fl. Taiwan 5: 1052. 1978. **Syntype:** Taiwan: Taiheizan, *S. Suzuki s.n.*; Taito, Kaimosu, *Segawa s.n.* Neither one found.

●三角雙葉蘭

Neottia deltoidea (Fukuy.) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 117. 1995; Lin *et al.*, *Taiwania* 61(2): 108. 2016. *Listera deltoidea* Fukuy., *Bot. Mag. (Tokyo)* 49(587): 759, 1935. **Type:** Taiwan: Sintiku, monte Sotenzan, 1000 m [插天山], collected by K. Segawa, Feb. 15, 1935, *N. Fukuyama 4730* (holotype KPM-NA0105559 without Fukuyama's no., photo T00006 in PoT). *Listera uraiensis* S.S. Ying, *Coloured Ill. Indig. Orch. Taiwan* 1(2): 240. 1977. *Neottia uraiensis* (S.S. Ying) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 119, 1995. **Type:** Taiwan: Patouershan, 1000 m, Apr. 13, 1975, *S.S. Ying 3582* (syntypes NTUF, photos F00008218 & F00008219 in PoT).

Neottia taizanensis (Fukuy.) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 119. 1995.

●大山雙葉蘭

Neottia wardii (Rolfe) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 119. 1995. Lin, *Orch. Fl. Taiwan* 695, f.335. 2019. *Listera wardii* Rolfe, *Notes Roy. Bot. Gard. Edinburgh* 8: 127. 1913. *Listera grandiflora* Rolfe, *Bull. Misc. Inform. Kew* 1896: 200. 1896. *Neottia grandiflora* (Rolfe) Szlach., *Fragm. Florist. Geobot., Suppl.* 3: 117. 1995. not Hooker (1830), nor (A. Richard) Kuntze (1891), nor Schlechter (1912). **Type:** China: N.W. Yunnan, Salwen, Mekong divide, E. slope, 1000 ft, June 1911, *F. Kingdon-Ward 149* (holotype E00383567). 大花雙葉蘭

Neottia fukuyamae T.C. Hsu & S.W. Chung, *Taiwan J. For. Sci.* 24(1): 77. 2009. *Listera macrantha* Fukuy., *Annu. Rep. Taihoku Bot. Gard.* 3: 86. 1933 non *Neottia macrantha* Sweet 1830; Masam., *J. Geobot.* 14(4): pl.116. 1966; Lin, *Native Orch. Taiwan* 3: 160, ph.93. 1987. *Neottia formosana* S.C. Chen, S.W. Gale & P.J. Cribb, *Fl. China* 25: 192. 2009, *nom. superfl.* (Date of publication of the printed volume: Sept. 28, 2009). **Type:** Taiwan: Nankotaizan, inter Kirittoi et Bunakkei, July 1933, *Fukuyama 4140* (holotype KPM-NA0105560 without Fukuyama's no., photo T00067 in PoT).

Neottia fukuyamae var. *chilaiensis* T.C. Hsu, *Ill. Fl. Taiwan* 2: 123. 2016. **Type:** Taiwan: Hualien, Hsiao-chilai trail, 2800–3100 m, July 1, 2012, *T.C. Hsu 5972* (holotype TAI496966).

Listera longiflora W.M. Lin & I.F. Wang, *nom. nud.* *Wild Orch. Taiwan* 618, f.2014.

Neottia breviscapa T.C. Hsu, *Ill. Fl. Taiwan* 2: 121. 2016. **Type:** Taiwan: Hualien, Tzuen, June 15, 2011, *T.C. Hsu 4162* (holotype TAI496959). **Note:** Same as *N. fukuyamae* but with a shorter inflorescence.

Neottia tatakaensis T.C. Hsu & H.C. Hung, *Ill. Fl. Taiwan* 2: 130. 2016. **Type:** Taiwan: Nantou Co., Mt. Lulin, 2600–2700 m, July 15, 2015, *T.C. Hsu 7925* (holotype TAI496957).

Note: Some flower morphotypes of *Neottia fukuyamae* share but do not exactly overlap with those of *N. wardii*.

Nephelaphyllum tenuiflorum Blume, *Bijdr. Fl. Ned. Ind.* 8: 373. 1825; Seidenf., *Opera Bot.* 89: 21, f.6, pl.2a. 1986; id., *Opera Bot.* 114: 82. 1992; Wood, *Orch. Malay. Singapore*: 151, f.64g–k. 1992; Aver., *Ident. Guide Vietnam. Orch.*: 91. 1994 & *Turczaninowia* 16(1): 29, f.12c, d. 2013; Lin & Huang, *Taiwania* 62(4): 352–355, f.1F–H, 4. 2017. *Tainia tenuiflora* (Blume) Gagnep., *Bull. Mus. Natl. Hist. Nat., ser. 2, 4*: 706. 1932. **Type:** Indonesia: Jawa Barat (W. Java) (“Salak”), *Blume s.n.*,

(K000943501, L0940460, NY1104662, all are possible types).

雲葉蘭

Note: Recorded specimen: Taiwan: Hsinchu Co., 1200 m, July 27, 2017, *D.M. Huang s.n.* (TAI286833).

Nervilia alishanensis T.C. Hsu, S.W. Chung & C.M. Kuo, *Taiwania* 57(3): 274, f.1E–H, 3. 2012. 阿里山脈葉蘭

Nervilia brevilobata C.S. Leou, C.L. Yeh & S.W. Gale, *Nordic J. Bot.* 31: 403–407. 2013; Gale *et al.*, *Syst. Bot.* 40(2): 413–425. 2015. **Type:** Taiwan: Pingtung, Lilungshan, 600 m, Mar. 10, 2012, *S.I. Hsieh 001* (holotype PPI).

Nervilia brevilobata → *Nervilia alishanensis*

Nervilia concolor (Blume) Schltr., *Bot. Jahrb. Syst.* 45: 404. 1911. 東亞脈葉蘭/一點癢

Nervilia crociformis → *Nervilia simplex*

Nervilia cumberlegii Seidenf. & Smitinand, *Orch. Thail.* 4(2): 729, f.541. 1965. 古氏脈葉蘭

Nervilia dilatata please see *Nervilia purpureotincta*

Nervilia falcata please see *Nervilia hungii*

Nervilia hungii T.C. Hsu, *Ill. Fl. Taiwan* 2: 134. 2016. **Type:** Taiwan: Pingtung: Mt. Laofou, 300 m, May 16, 2010, *H.C. Hung s.n.* (holotype TAI4F). ●鑷唇脈葉蘭

Nervilia falcata *auct. non* (King & Pantl.) Schltr.: C.L. Yeh *et al.*, *BioFormosa* 45(1): 39–44. 2010.

Nervilia lanyuense S.S. Ying, *Mem. Coll. Agric. Natl. Taiwan Univ.* 29(2): 55. 1989. ●蘭嶼脈葉蘭

Nervilia linearilabia T.P. Lin, *Taiwania* 59(4): 363, f.1E, F, 5. 2014. ●小麥脈葉蘭

Nervilia plicata (Andrews) Schltr., *Bot. Jahrb. Syst.* 45: 403. 1911. 紫背一點癢/紫花脈葉蘭

Nervilia purpureotincta T.C. Hsu, *Ill. Fl. Taiwan* 2: 135. 2016; Lin, *Orch. Fl. Taiwan* 710, f.344. 2019. **Type:** Pingtung, Kueitien, 50 m, June 6, 2012, *T.C. Hsu 5850* (holotype TAI4F). ●寬唇脈葉蘭

Nervilia dilatata *auct. non* (Blume) Schltr.: Chung, *Orch. Taiwan* 2: 109. (ph.). 2008.

Nervilia ratis → *Nervilia taitoensis* var. *ratis*

Nervilia septemtrionarius T.P. Lin, *Taiwania* 63(3): 241–247, f.2D–F, 5. 2018. **Type:** Taiwan: Taoyuan City, Fuxing District, 1100 m, *F.M. Hsieh and C.H. Liu s.n.* leafy plant collected on Aug. 23, 2017, cult. flower on Mar. 16 and Apr. 18, 2018 (holotype TAI287416).

●鐵形脈葉蘭

Nervilia simplex (Thouars) Schltr., *Bot. Jahrb. Syst.* 45: 401. 1911 & Feddes *Repert. Spec. Nov. Regni Veg. Beih.*



33: 120. 1925; Bosser, *Adansonia* sér. 3, 26(1): 56–59. 2004 (*N. crociformis* synonymized); Atthanagoda *et al.*, *Rheedea* 31(3): 170, f. 2021. *Arethusa simplex* Thouars, *Hist. Orch.*: t.24. 1822. *nom. inval.* (ICN Art. 36.1, author did not accept the genus). *Epidendrum simplex* Spreng., *Syst. Veg.* ed. 16. 3: 736. 1826. *Pogonia simplex* (Spreng) Rchb. f., *Xenia Orch.* 2: 92. 1865. *Type*: Mauritius: *s. loc.*, 1793–1796; *Hist. Orchid.*: Plate G [=pl. 24]. 1822 (lectotype, designated by B. Pettersson in *Acta Univ. Ups.*, *Comp. Sum. Upps. Diss. Fac. Sci.* 281:19. 1990).

四重溪脈葉蘭

Nervilia crociformis (Zoll. & Moritz) Seidenf., *Dansk Bot. Ark.* 32(2): 151, f.92. 1978; Lin, *Taiwania* 52(4): 281–286, f.2C, 3. 2007; Lin *et al.*, *Taiwania* 61(2): 109. 2016; Lin, *Orch. Fl. Taiwan* 700, f.339. 2019. *Type*: Java: Tjikoya. Oct. 11, 1842, *Zollinger 762* (holotype P00337729; isotypes P00337728, LE). Taiwan: Pingtung, Syhchurngshi and Chechen. May 16, 2006, *W.M. Lin s.n.* (TAI259404).

Nervilia taitoensis (Hayata) Schltr., *Repert. Spec. Nov. Regni Veg.* 10: 6. 1911; Lin, *Taiwania* 66(1): 19, f.7. 2021. *Pogonia taitoensis* Hayata, *J. Coll. Sci. Imp. Univ. Tokyo* 30(1): 346. 1911. *Type*: Taiwan: Taito: Rino, *T. Kawakami s.n.* (TI T01158).

●單花脈葉蘭

Nervilia punctata (Blume) Schltr. var. *nipponica auct. non* (Makino) F. Maek.: Lin, *Native Orch. Taiwan* 3: 174, ph.99. 1987. *Note*: Specimen: Taiwan: Tashuehshan, Aug. 23, 1973, *T.P. Lin 49* (TAIF).

Nervilia taiwaniana S.S. Ying, *Q. J. Chin. For.* 11(2): 104. 1978; Lin *et al.*, *Taiwania* 61(2): 110. 2016; Lin, *Orch. Fl. Taiwan* 712, f.346. 2019. *Type*: Taiwan: Nantou: Tungpu, Yuan-lung Falls, July 5, 1973, *S.S. Ying 1915* (holotype NTUF, photo F00006905 in PoT).

Nervilia tahanshanensis T.P. Lin & W.M. Lin, *Taiwania* 54: 329–330, f.2H. 2009. *N. taiwaniana* var. *tahanshanensis* (T.P. Lin & W.M. Lin) T.P. Lin, *Taiwania* 61(2): 110. 2016. *Type*: Taiwan: Pingtung: Mt. Tahan, 1000 m, July 20, 2009, *W.M. Lin s.n.* (holotype TAI269081).

Nervilia taitoensis var. *ratis* (T.P. Lin & Y.N. Chang) T.P. Lin, *Ill. Native Taiwan Orch.* 561, f.364-2. 2022. *Nervilia ratis* T.P. Lin & Y.N. Chang, *Taiwania* 58(4): 260–264, f.2G, H, 5. 2013. *Nervilia taiwaniana* var. *ratis* (T.P. Lin & Y.N. Chang) T.P. Lin, *Orch. Fl. Taiwan* 719, f.364-2. 2019. *Type*: Taiwan: Pingtung: Mt. Tahan, 900 m, Apr. 2013, *S.S. Lin s.n.* (holotype TAI282381).

●三伯脈葉蘭

Nervilia taiwaniana → *Nervilia taitoensis*

Nervilia taiwaniana var. *tahanshanensis* → *Nervilia taitoensis*

Oberonia arisanensis → *Oberonia japonica*

Oberonia caulescens Lindl., *Gen. Sp. Orch. Pl.* 15. 1830.
二裂唇莖白蘭

Oberonia costeriana J.J. Sm., *Orch. Java* 244. 1905; D.L. Geiger, *Blumea* 64: 127, f.4. 2019; Lin, *Orch. Fl. Taiwan* 723, f.348. 2019. *Type*: Indonesia: Java, Mt. Gede, at the waterfall, 1903, *Blume s.n.* (syntypes L0061736, L0061737); *FW Junghuhn s.n.* (syntype L0063834); Java,

Buitenzorg [= Bogor], Bobodjong, unknown collector (syntype); Krawang, *De Monchy s.n.* (syntype); Pekalongan, Djolotigo, *J.J. Smith s.n.* (syntype).

大莖白蘭

Oberonia elmeri Ames, *Leafl. Philipp. Bot.* 5: 1564, 1912. *Type*: Philippines: Benguet, Baguio, Luzon Isl., Mar. 1907, *ADE Elmer 8434* (syntype AMES 00101962).

Oberonia gigantean Fukuy., *Bot. Mag. (Tokyo)* 49(581): 295. 1935; Masam., *J. Geobot.* 17(1): 6, pl.146, 1969; Lin, *Native Orch. Taiwan* 3: 193, ph.105, 1987; Lin *et al.*, *Taiwania* 61(2): 110, 2016. *Type*: Taihoku, Shooagyokusan [小阿玉山], collected in Aug. 1933 & flowering Dec. 1933, *Fukuyama 4543* not found.

Oberonia formosana → *Oberonia japonica*

Oberonia gigantean → *Oberonia costeriana*

Oberonia insularis Hayata, *J. Coll. Sci. Imp. Univ. Tokyo* 30(1): 310. 1911.
小騎士蘭

Oberonia insularis f. *rotundum* (T.P. Lin & W.M. Lin) T.P. Lin, *Orch. Fl. Taiwan* 730, f.350-2. 2019. *O. pumila* var. *rotundum* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 330, f.5, 2009; Lin *et al.*, *Taiwania* 61(2): 110. 2016. *O. insularis* var. *rotundum* (T.P. Lin & W.M. Lin) T.P. Lin, *Taiwania* 61(2): 110. 2016. *Type*: Taiwan: Hualien: between Lungshi and Lungchien, 900 m, May 2009, *W.M. Lin s.n.* (holotype TAI 268956).
圓唇小騎士蘭

Oberonia insularis var. *rotundum* → *Oberonia insularis* f. *rotundum*

Oberonia kusukusensis → *Oberonia japonica*

Oberonia japonica (Maxim.) Makino, *Ill. Fl. Jpn.* 1: pl.41. 1891; Lin, *Ill. Native Taiwan Orch.* 567, f.371. 2023. *Malaxis japonica* Maxim., *Bull. Acad. Imp. Sci. Saint-Petersbourg*, ser. 3, 22: 257. 1876. *Type*: Japan: Kyushu, Asosan, *Siebold s.n.* (syntype); Yokosuka. 1866–1867, *Savatie 3062* (syntype LE; photos TNM).
台灣莖白蘭

Oberonia formosana Hayata, *J. Coll. Sci. Imp. Univ. Tokyo* 30(1): 309–310. 1911 & *Icon. Pl. Formosan.* 4: 25, f.3f, g, 1914; Masam., *J. Geobot.* 19(3): 5, pl.169. 1971; Lin *et al.*, *Taiwania* 61(2): 110, 2016.; Lin, *Orch. Fl. Taiwan* 723, f.349, 2019. *Type*: Taiwan: Nantou, Randaizan, June [July 30], 1907, *T. Kawakami et U. Mori 3474* (holotype TI, photo T01160 in PoT; isotype TAI22343; K000943012).

Oberonia arisanensis Hayata, *Icon. Pl. Formosan.* 4: 23, f.3a–e, h. 1914. *Oberonia anthropophora* Lindl. var. *arisanensis* (Hayata) T. Hashim., *Proc. 12th Orch. Conf.* 122. 1987; Lin, *Native Orch. Taiwan* 3: 178, ph.100. 1987; Lin *et al.*, *Taiwania* 61(2): 110, 2016. *Type*: Taiwan: Alisan, inter Taroyen et Funkiko [奮起湖—哆羅焉], 6000 ped. Mar. [29], 1914, *B. Hayata et T. Ito s.n.* (holotype TI, photo T01153 in PoT).

Oberonia kusukusensis Hayata, *Icon. Pl. Formosan.* 4: 26, f. 3i–k. 1914; Lin *et al.*, *Taiwania* 61(2): 110, 2016. *Type*: Taiwan: Kusukusu, July 1912, *B. Hayata et S. Sasaki s.n.* (holotype TI, photo T01162 in PoT; isotype TAI26896).

Oberonia falcata auct. non King & Pantling: Lin, *Native Orch. Taiwan* 3: 191, ph.104. 1987.

Oberonia japonica f. *viridescens* (Makino) Honda [Nom. Pl. Jpn. ed. *emend.*: 382. 1957, *comb. nud.*] ex M. Nakaj. et H. Ohba, *Fl. Jpn.* 4b: 281. 2016. *O. japonica* var. *viridescens* Makino, *J. Jpn. Bot.* 4: 10. 1927; Lin, *Ill. Native Taiwan Orch.* 567. 2023. *Type*: Japan:



- Suruga Province, June 10, 1927, *S. Muramatsu s.n.*
Oberonia formosana f. *viridiflora* T.P. Lin, *Taiwania* 65(4): 463–472, f.3G–I. 2020. **Type:** Taiwan: Hsinchu Co., Jianshi Township, Lidongshan, 1500–1600 m, Apr. 20, 2020, *D.M. Huang s.n.* (TAI289764).
- Oberonia linguae*** T.P. Lin & Y.N. Chang, *Taiwania* 58(4): 263–265, f.2C, 6. 2013. ●圓唇莖白蘭
- Oberonia microphylla*** (Blume) Lindl. *Gen. Sp. Orch. Pl.*: 17. 1830; Bunpha *et al.*, *Phytotaxa* 420 (2): 140, f.9 A–B. 2019; T.P. Lin, *Ill. Native Taiwan Orch.* 568, f.370. 2022. *Malaxis microphylla* Blume, *Bijdr. Fl. Ned. Ind.*: 395. 1825. **Type:** Indonesia: Jawa Barat: Gunung Salak, without year, *Blume 1896* (syntypes L0061761, L0061194). Taiwan: Pingtung: Nanjenshan, Luliaoyueh, May 24, 1987, *H.J. Su 7020, 7880* (HAST104811).
 裂瓣莖白蘭
Oberonia rosea Hook. f., *Hooker's Icon. Pl.* 21: t.2005. 1890; Seidenf., *Dansk Bot. Ark.* 25(3): 83, f.53. 1968 & *Opera Bot.* 114: 159, f.101. 1992; Su, Q. J. *Chin. For.* 20(4): 104, pl.5, 1987; Lin *et al.*, *Taiwania* 61(2): 111. 2016; Lin, *Orch. Fl. Taiwan* 730, f.352, 2019. **Type:** Malayan Peninsula, *W. Norris s.n.* (syntype K000943000); Perak, *L. Wray, Jr. 1246* (syntype K000943001), *Dr. King's Collector 2664* (syntype K000943002). Type not designated.
Note: *O. kusukusensis* Hayata is not conspecific with *O. rosea* but was synonymized by Chen *et al.* (2009), and this was followed by later authors. The most important characteristic of *O. rosea* is the subrectangular mid-lobe of the lip and subtruncate apex, but the mid-lobe of lip is deeply bilobed in *O. kusukusensis*.
- Oberonia rosea* → ***Oberonia microphylla***
- Oberonia segawae*** T.C. Hsu & S.W. Chung, *Taiwania* 53(2): 165–169, f.1–3. 2008. 齒唇莖白蘭
- Oberonia seidenfadenii*** (H.J. Su) Ormerod, *Taiwania* 47: 242. 2002. 密花小騎士蘭
- Oberonioides pusillus*** (Rolfe) Marg. & Szlach., *Ann. Naturhist. Mus. Wien B* 112: 507. 2010. 小軟葉蘭
- Odontochilus bisaccatus* → ***Odontochilus lanceolatus***
- Odontochilus brevistylis*** Hook. f. subsp. *candidus* (T.P. Lin & C.C. Hsu) T.P. Lin, *Taiwania* 61(2): 111. 2016
 ●白齒唇蘭
Odontochilus humilus S.S. Ying, *New Taxa New Names* 6: 525–530. 2023. **syn. nov.** **Type:** Taiwan: Taoyuan, Fuhsin, Tungyuanshan (東眼山), 1345 m, Sept. 14, 2023 (holotype, NTUF).
Note: *Odontochilus brevistylis* was used by H.J. Su (2000).
- Odontochilus drymoglossifolius*** (Hayata) Yukawa, *Bull. Natl. Sci. Mus. Tokyo, B* 42(3): 107. 2016. *Myrmechis drymoglossifolia* Hayata, *Icon. Pl. Formosan.* 6: 90, f.20. 1916; Lin, *Native Orch. Taiwan* 3: 168, ph.96. 1987; Lin *et al.*, *Taiwania* 61(2): 108. 2016; Lin, *Orch. Fl. Taiwan* 203, f.85. 2019; Ormerod *et al.*, *Phytotaxa* 481(1): 167. 2021. 阿里山全唇蘭
Note: *Odontochilus drymoglossifolius* was also reported from Myanmar (Ormerod *et al.*, 2021).
- Odontochilus elwesii*** C.B. Clarke ex Hook. f., *Fl. Br. India* 6: 100. 1890. 紫葉齒唇蘭
- Odontochilus inabae* → ***Odontochilus tortus*** ssp. *tashiroi*
- Odontochilus integrus*** (Fukuy.) T. Yukawa, *Bull. Natl. Sci. Mus. Tokyo, B* 42(3): 107. 2016; Lin, *Orch. Fl. Taiwan* 209, f.88. 2019. *Pristiglotis integra* Fukuy., *Bot. Mag. (Tokyo)* 50: 20. 1936; Masam., *J. Geobot.* 17(2): 15, pl.150. 1969. *Vexillabium integrum* (Fukuy.) S.S. Ying, *Coloured Ill. Indig. Orch. Taiwan* 1: 509. 1977. *Kuhlhasseltia integra* (Fukuy.) T.C. Hsu & S.W. Chung, *Taiwania* 54(1): 82–87. 2009. **Type:** Taiwan: Lanyu, insl. Koto-syo, Kotozan, 400 m, Aug. 3, 1934, *N. Fukuyama 4779* (holotype KPM-NA0105574 without Fukuyama's no., photo T00038 in PoT; isotype KPM-NA0105575, photo T00039 in PoT). ●綠葉旗唇蘭
- Odontochilus lanceolatus*** (Lindl.) Blume, *Coll. Orch.*: 80. 1859; Liu & Su, *Fl. Taiwan II* 5: 988. 2000; T.P. Lin, *Orch. Fl. Taiwan* 211, f.89-1, 89-2A–H. 2019. *Anoectochilus lanceolatus* Lindl., *Gen. Sp. Orch. Pl.*: 499. 1840; Liu & Su, *Fl. Taiwan* 5: 876. 1978. **Type:** India: Assam, *J. Mack s.n.* (K000880294); India: Churra, Khasia, *J.D. Hooker & T. Thomson 2179* (K000880295); India: East Bengal, *W. Griffith #5352* (NY00009114). 二囊齒唇蘭
Odontochilus bisaccatus (Hayata) Hayata ex T.P. Lin, *Native Orch. Taiwan* 1: 214, ph.135. 1975; Lin *et al.*, *Taiwania* 61(2): 111. 2016. *Anoectochilus bisaccatus* Hayata, *Icon. Pl. Formosan.* 4: 99, pl.15. 1914. *Odontochilus bisaccatus* Hayata, *Icon. Pl. Formosan.* 4: 99, pl.15. 1914. *nom. nud., in sched.* *Pristiglotis bisaccata* (Hayata) C. Nackej., *Biol. Mag. (Okinawa)* 13: 33. 1981. **Type:** Rinkihō [林杞埔 (竹山)], 5000 ped., Aug. 19, 1911, collector unknown (holotype TI, photo T00872 in PoT).
- Odontochilus nanlingensis*** (L.P. Siu & K.Y. Lang) Ormerod, *Taiwania* 48(2): 91. 2003. 南嶺齒唇蘭
- Odontochilus poilanei*** (Gagnep.) Ormerod, *Lindleyana* 17(4): 225. 2002. 齒爪齒唇蘭
Note: Flower morphology of *Chamaegastrodia* does not differ from that of *Odontochilus* (Ormerod, 2002a). Phylogenetically, the separation of both genera received weak support (Chen *et al.*, 2019b). Synonymizing *Chamaegastrodia* with *Odontochilus* is a reasonable choice.
- Odontochilus tortus*** King & Pantl. ssp. *tashiroi* (Maxim.) T.P. Lin, *Ill. Native Taiwan Orch.* 210, f.90. 2022; *Anoectochilus tashiroi* Maxim., *Bull. Acad. Imp. Sci. Saint-Petersbourg, sér. 3*, 31: 103. 1886. *Odontochilus*



tashiroi (Maxim.) Makino, Bot. Mag. (Tokyo) 14(164): 141. 1900. *Cystopus tashiroi* (Maxim.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 169. 1919. **Type:** Japan: Ryukyus, *Tashiro s.n.* **單囊齒唇蘭**

Odontochilus tortus subsp. *inabae* (Hayata) T.P. Lin, Orch. Fl. Taiwan 216, f.91. 2019. *Odontochilus inabai* (Hayata) Hayata ex T.P. Lin, Native Orch. Taiwan 1: 216, ph.136, 137. 1975; Lin *et al.*, Taiwania 61(2): 111. 2016. *Anoetochilus inabai* Hayata, Icon. Pl. Formosan. 4: 102–104, pl.16. 1914. *Odontochilus inabai* Hayata, Icon. Pl. Formosan. 4: 104. 1914. *pro syn.* **Type:** Taiwan: Nantou, Rinkihō [林杞埔] 5000 ped., Aug. 19, 1911, *H. Inaba s.n.* (holotype TI, photo T00870 in PoT).

Odontochilus yakushimensis (Yamam.) T. Yukawa, Bull. Natl. Mus. Nat. Sci., Tokyo, B, 42(3): 108. 2016; Lin, Orch. Fl. Taiwan 218, f.92. 2019. *Anoetochilus yakushimensis* Yamam., Bot. Mag. (Tokyo) 38: 131. 1924. *Vexillabium yakushimense* (Yamam.) Maek., J. Jpn. Bot 11: 459. 1935; Lin, Native Orch. Taiwan 2: 332, ph.170. 1977; Su, Fl. Taiwan (2nd eds) 5: 1067, pl.459, 2000; Lin *et al.*, Taiwania 61(2): 121. 2016. *Pristiglottis yakushimensis* (Yamam.) Masam., Coloured Ill. Fl. Nippon 8: 218. 1970. *Kuhlhasseltia yakushimensis* (Yamam.) Ormerod, Lindleyana 17(4): 209. 2002. **Type:** Japan: Kiusiu: Oosumi, Isl. Yakushima, 1000 m, Aug. 1922, *A. Kimura s.n.* (holotype TI). **旗唇蘭**

Odontochilus shaolinchianus S.S. Ying, New Taxa New Names 7: 504–509. 2024. **syn. nov.** **Type:** Taiwan: Taitung Co., Haiduan Township, Between Xiangyang and Lidao, 1691 m, June 22, 2024, *S.S. Ying s.n.* (holotype TPRCH)

Vexillabium gouanyuanensis S.S. Ying, New Taxa New Names 4: 309–315. 2021. **syn. nov.** **Type:** Taiwan: Hualien, Xiulin, Guanyuan [關原] 2455 m, *S.S. Ying s.n.* Aug. 19, 2021 (holotype, NTUF).

Vexillabium humilis (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 509. 1977. *V. humillum* (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1: 509. 1977. *Pristiglottis humilis* (Fukuy.) Fukuy., Bot. Mag. (Tokyo) 39: 666. 1935. *Cystopus humilis* Fukuy., Bot. Mag. (Tokyo) 48(569): 307. 1934. **Type:** Taiwan: Shinchu, inter Sensui et Kaminoshima, prope Taiko [上島 (泰安溫泉)], July 1932, *N. Fukuyama 3986* (holotype KPM-NA0105531 without Fukuyama's no., photo T00026 in PoT).

Vexillabium nakaianum auct. non Maekawa: Lin, Taiwania 54(4): 323–333, f.2J. 2009.

Oreorchis bilamellata Fukuy., Bot. Mag. (Tokyo) 48(571): 436. 1934. **大霸山蘭**

Oreorchis fargesii Finet, Bull. Soc. Bot. France 43: 697, t.13. 1896. **密花山蘭**

Oreorchis foliosa (Lindl.) Lindl., J. Proc. Linn. Soc. Bot. 3: 27. 1858; Lin, Ill. Native Taiwan Orch. 577, f.380. 2022. *Corallorhiza foliosa* Lindl. in Royle, 111. Bot. Himal. 1: 362. 1839 *nom. nud.* & Gen. Sp. Orch. Pl.: 535. 1840. *Kitigorhiza foliosa* (Lindl.) Maek., Wild Orch. Jpn. Colour 469. 1971. *Oreorchis indica auct. non* (Lindl.) Hook. f.: Yukawa *et al.*, Bot. Bull. Acad. Sin. 44: 345–351. 2003; Lin *et al.*, Taiwania 61(2): 112. 2016. **Type:** India: Mussoree, *Royle s.n.* (holo. K-LINDL).

合歡山山蘭

Tainia gokanzanensis Masam., Humbert, Notul. Syst. (Paris) 6: 38.

1937. **Type:** Taiwan: Gokanzan (Hohuanshan) 3300 m, July, collected by Ipse, *Masam. s.n.* (TAI) not found.

Tainia hohuanshanensis S.S. Ying, New Taxa New Names 3: 14–19. 2020. **syn. nov.** **Type:** Taiwan. Hualien: Xiulin Township [秀林鄉], Hohuanshan, 3150 m, *S.S. Ying s.n.* June 4, 2020 (holotype, NTUF).

Note: *O. indica* is easily distinguished by the lack of a callus in the lip, and lateral lobes of lip being auriculate, reduced, or absent, whereas *O. foliosa* is characterized by the presence of a callus, and distinct lateral lobes of the lip (Pearce and Cribb, 1997).

Oreorchis indica please see ***Oreorchis foliosa***

Oreorchis micrantha Lindl., J. Proc. Linn. Soc. Bot. 3: 27. 1858. **南湖山蘭**

Oreorchis patens (Lindl.) Lindl., J. Proc. Linn. Soc. Bot. 3: 27. 1858. **細花山蘭**

Oreorchis wumaniae T.P. Lin, Taiwania 65(4): 463–472, f.1, 2. 2020. **Type:** Taiwan: Hualien Co., Xiulin Township, Dowmung, Mar. 16, 2020, *C.H. Liu s.n.*, 1900–2000 m (TAI289760). **•吳厝山蘭**

Pachystoma pubescens Blume, Bijdr. Fl. Ned. Ind. 376. t.29. 1825. **粉口蘭**

×*Papilisia pseudotaiwaniana* (T.C. Hsu) T.P. Lin, Ill. Native Taiwan Orch. 2nd ed. 584, f.385. 2023.

×*Papilionanthe pseudotaiwaniana* T.C. Hsu, Ill. Fl. Taiwan 2: 157. 2016 [Oct 2016]. ×*Holcosia pseudotaiwaniana* (T.C. Hsu) Ormerod & Kurzweil, Harv. Pap. Bot. 27: 69. 2022. **Type:** Taiwan: Hengchun, Apr. 21, 2010, *W.M. Lin s.n.* (holotype: TAI, not seen).

•台灣蝶花蘭/擬台灣鳳蝶蘭

Note: It is believed that this species was derived from hybridization of *Luisia megasepala* × *Papilionanthe teres* as it is identical to the artificial hybrid *Luisia megasepala* “TC” × *Papilionanthe teres* “Jumbo”. This and *Papilisia taiwaniana* were found in low-elevation forests by accident. *Luisia megasepala* is common in the wild, while *Papilionanthe teres* is an introduced orchid and commonly grown in southern Taiwan.

×*Papilisia taiwaniana* (S.S. Ying) J.M.H. Shaw, Orch. Rev. 112(1257, Suppl.): 47. 2004 **•台灣萬代蘭**

Note: Motes (1997) considered *Vanda taiwaniana* to be a hybrid between *Papilionanthe* sp. and *Luisia cf. megasepala*.

Paraphaius flavus → ***Calanthe woodfordii***

Paraphaius takeoi → ***Calanthe takeoi***

Peristylus formosanus (Schltr.) T.P. Lin, Native Orch. Taiwan 2: 274, ph.138, 139. 1977 & Orch. Fl. Taiwan 221, f.93. 2019. **台灣鷲草**



- Peristylus goodyeroides* (D. Don) Lindl., Gen. Sp. Orch. Pl. 299. 1835. 南投玉鳳蘭
- Peristylus gracilis* Blume, Bijdr. Fl. Ned. Ind. 8: 404. 1825. 纖細闊蕊蘭
- Peristylus intrudens* (Ames) Ormerod, Taiwania 56(1): 46. 2011. 短裂闊蕊蘭
- Peristylus lacertifer* (Lindl.) J.J. Sm., Bull. Jard. Bot. Buitenzorg, sér. 3, 9: 23. 1927. 裂唇闊蕊蘭/細花玉鳳蘭
- Peristylus monticola* (Ridl.) Seidenf., Dansk Bot. Ark. 31: 35, f.13. 1977. 貓鬚蘭
- Phaius mishmensis* → *Calanthe mishmensis*
Phaius tankervilleae → *Calanthe tankervilleae*
- Phalaenopsis aphrodite* Rchb. f. subsp. *formosana* Christenson, Phalaenopsis Monogr. 197. 2001. 蝴蝶蘭
Phalaenopsis babuyana Miwa, Pract. Hort. 27: 117. 1941. *nom. illeg.*
Phalaenopsis aphrodite Rchb. f., Masam. in J. Geobot. 15(1–3): 7, f.123. 1966; Lin, Native Orch. Taiwan 2: 280, ph.141–143. 1977; Su, Fl. Taiwan, 2nd ed. 5: 1003, pl.426. 2000.
Note: Phylogenetically, ssp. *formosana* and ssp. *aphrodite* are indistinguishable based on the nuclear *ITS* gene and the chloroplast *trnH-psbA* spacer (Tsai *et al.* 2015). *Phalaenopsis aphrodite* subsp. *formosana* was reported from the Philippines by Christenson (2001).
- Phalaenopsis equestris* (Schauer) Rchb. f., Linnaea 22: 864. 1849. 桃紅蝴蝶蘭
- Pholidota cantonensis* → *Coelogyne cantonensis*
- Phreatia caulescens* Ames, Orchidaceae 2: 200. 1908. 垂莖笑樂蘭
- Phreatia formosana* Rolfe, Ann. Bot. (Oxford) 9(33): 156. 1895. 蓬萊笑樂蘭
Note: *Phreatia formosana* was also reported from Vietnam by Averyanov *et al.* (2016).
- Phreatia morii* Hayata, Icon. Pl. Formosan. 4: 58, f.25. 1914. ●大芙樂蘭
- Phreatia taiwaniana* Fukuy., Bot. Mag. (Tokyo) 49(583): 441. 1935. ●白芙樂蘭/台灣笑樂蘭
- Pinalia amica* (Rchb. f.) Kuntze, Revis. Gen. Pl. 2: 679. 1891. 小腳筒
- Pinalia formosana* (Rolfe) Ormerod, Malesian Orch. J. 7: 85. 2011. 赤色毛花蘭
- Pinalia japonica* (Maxim.) Ormerod, Taiwania 57: 124. 2012. 高山絨蘭
- Pinalia ovata* (Lindl.) W. Suarez & Cootes, Orchideen J. 16(2): 71. 2009. 大腳筒
- Platanthera brevicarata* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 350. 1911. 短距粉蝶蘭
Platanthera alboflora S.S. Ying, New Taxa New Names 6: 509–513. 2023. *syn. nov.* **Type:** Taiwan: Miaoli, Taian, Guanwu [觀霧] 2250 m, S.S. Ying *s.n.* June 20, 2023 (holotype, NTUF).
Platanthera wulinensis S.S. Ying, New Taxa New Names 7: 540–545. 2024. *syn. nov.* **Type:** Taiwan: Nantou Co., Jenai Townshai, Hohuanshan, 3220 m, Jul. 18, 2024, S.S. Ying *s.n.* (holotype TPRCH).
Platanthera wulinensis S.S. Ying, New Taxa New Names 7: 540–545. 2024. *syn. nov.* **Type:** Taiwan: Nantou Co., Jenai Townshai, Hohuanshan, 3220 m, Jul. 18, 2024, S.S. Ying *s.n.* (holotype TPRCH).
Note: Based on DNA analysis, *Platanthera stenoglossa* is closely related to *P. brevicarata* (Lin *et al.*, 2024).
- Platanthera concinna* (Hook. f.) Kraenzl., Orchid. Gen. Sp. 1: 621. 1899; Efimov, Phytotaxa 254 (1): 166, f.83B. 2016; Lin, Ill. Native Taiwan Orch. 221, f.99. 2022.
Habenaria concinna Hook. f. Fl. Br. India 6: 155. 1890. **Type:** India: Khasia, J.D. Hooker & T. Thomson 283 (lectotype K000247396, designated by Efimov, 2016; isolectotype K000974191). 惠粉蝶蘭
Platanthera dyeriana (King & Pantl.) Kraenzl., Orch. Gen. Sp. 1: 636. 1899. Efimov, Phytotaxa 254 (1): 166, f.83B. 2016. *Habenaria dyeriana* King & Pantl., J. Asiat. Soc. Bengal Pt. 2 Nat. Hist. 65: 133. 1896. **Type:** India: Sikkim, Lachen Valley, 11,000 ft, Aug. 1895, Pantling 407 (lectotype CAL744, designated by Singh *et al.*, Ann. Bot. Fennici 51: 267–271. 2014; isolectotypes AMES00099830, CAL741, CAL742, CAL743, CAL745, K000247397, K000247398, LE, W).
Platanthera hibinoi Masam., J. Geobot. 26(1): 3, f.249. 1978. *nom. nud.*
Platanthera formosana (T.P. Lin & K. Inoue) Efimov, Phytotaxa 254(1): 82. 2016. *P. mandarinorum* var. *formosana* (T.P. Lin & K. Inoue) Ying, Coloured Ill. Indig. Orch. Taiwan 2: 644. 1990.
Platanthera mandarinorum Rchb. f. subsp. *formosana* T.P. Lin & K. Inoue, J. Phytogeogr. Taxon. 28(1): 12, f.10. 1980; Lin *et al.*, Taiwania 61(2): 115. 2016; Lin, Orch. Fl. Taiwan 238, f.102-1. 2019. **Type:** Taiwan: Mt. Chilan [棲蘭山], 1200 m, May 7, 1975, Lin 223 (syntypes TAI 105796 & 122237).
- Platanthera devolii* (T.P. Lin & T.W. Hu) T.P. Lin & K. Inoue, J. Phytogeogr. Taxon. 28: 5. 1980. ●長葉蜻蛉蘭
Platanthera kudoii Masam., J. Geobot. 25(4): 15, f.246. 1978. *nom. nud.*
Platanthera hohuanshanensis S.S. Ying, New Taxa New Names 3: 24–28. 2020. *syn. nov.* **Type:** Taiwan. Hualien: Xiulin Township, Hohuanshan 3050 m, S.S. Ying *s.n.*, Aug. 13, 2020 (holotype, NTUF).
- Platanthera longicalcarata* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 350–351. 1911. ●長距粉蝶蘭
- Platanthera mandarinorum* subsp. *formosana* →
Platanthera concinna
Platanthera mandarinorum ssp. *ophrydioides* →
Platanthera mandarinorum var. *ophrydioides*
- Platanthera mandarinorum* var. *ophrydioides* (F. Schmidt) Finet, Bull. Soc. Bot. France 47: 282. 1900. P.



ophrydioides F. Schmidt, Reis. Amur-Land., Bot. 182. 1868; Efimov, Phytotaxa 254 (1): 99, f.35A. 2016. *P. mandarinorum* Rehb. f. subsp. *ophrydioides* (F. Schmidt) K. Inoue, J. Fac. Sci. Univ. Tokyo, sec. 3, Bot. 13: 184. 1982; Chung, Orch. Taiwan 2: 156, (ph.). 2008; Lin, Orch. Fl. Taiwan 238, f.102-2. 2019. **Type:** Russia: Sakhalin, July 15, 1860, *F. Schmidt s.n.* (isosytype K000796982); Insula Sachalin, *F. Schmidr s.n.*; Sakhalin: Nuburi Cap, July 29, 1861, *Glehn s.n.* (lectotype designated by Efimov [Botanicheskij Zhurnal 92: 408. 2007, LE]). Taiwan: Yilan, Taipinshan 1900 m, June 4, 2014, *T.P. Lin s.n.* (TAI284123).
千鳥粉蝶蘭

Platanthera mandarinorum subsp. *pachyglossa* (Hayata) T.P. Lin & K. Inoue, J. Phytogeogr. Taxon. 28(1): 10. 1980
●厚唇粉蝶蘭

Platanthera minor (Miq.) Rehb. f., Bot. Zeitung (Berlin) 36: 75. 1878.
卵唇粉蝶蘭

Habenaria henryi Rolfe, Bull. Misc. Inform. Kew 1896: 202. 1896. *Platanthera henryi* (Rolfe) Kraenzl., Orch. Gen. Sp. 1: 632. 1901. **Type:** China: Hupeh: Patung, 1885–1888, *Henry 6148* (lectotype designated by Efimov & Jin in Taxon 63: 1117. 2014, K; isolectotypes BM, E).

Platanthera yangmeiensis T.P. Lin, J. Phytogeogr. Taxon. 28(1): 7, f.6. 1980; Efimov, Phytotaxa 254(1): 155. 2016; Lin *et al.*, Taiwania 61(2): 116. 2016; Lin, Orch. Fl. Taiwan 249, f.108. 2019. **Type:** Taiwan: Miaoli: Yangmeishan, 1200 m, July 13, 1975, *Lin 280* (holotype TAIIF). **Note:** Based on DNA analysis, *Platanthera yangmeiensis* is closely related to *P. minor* (Lin *et al.* 2024).

Platanthera lalashaniana S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 2: 311–313, f.37. 1990. **syn. nov.** **Type:** Taiwan: Taoyuan: Lalashan, 1700 m, July 11, 1988, *S.S. Ying s.n.* (holotype NTUF, photo F00000389 in PoT; isotype F00008288 in PoT).

Platanthera nantousylvatica T.P. Lin, Taiwania 60(4): 173, f.2E–G, 5. 2015.
●南投蜻蛉蘭

Note: Based on DNA analysis, *Platanthera nantousylvatica* (misidentified as *P. taiwanensis*) is closely related to *P. devolii* (Lin *et al.*, 2024).

Platanthera peichiatiensiana → Doubtful and excluded names

Platanthera quadricarata T.P. Lin, Taiwania 66(1): 11–19. 2021. **Type:** Taiwan: Hsinchu Co., Chienshih Township, Takazin Creek, 2800 m, July 25, 2020, *K.C. Yueh s.n.* (TAI289769). **Note:** This species may be conspecific with *P. nematocaulon* (Efimov, 2016:150).

●聖稜粉蝶蘭

Platanthera sachalinensis → *Platanthera transnokoensis*

Platanthera sonoharae Masam., Sci. Rep. Kanazawa Univ. 9(1): 121. 1964.
琉球蜻蛉蘭

Platanthera stenoglossa Hayata, Icon. Pl. Formosan. 4: 123–124. 1914.
狹瓣粉蝶蘭

Platanthera taiwanensis (S.S. Ying) S.C. Chen, S.W. Gale & P.J. Cribb, Fl. China 25: 114. 2009.

●臺灣蜻蛉蘭

Platanthera transnokoensis Ohwi & Fukuy., Bot. Mag. (Tokyo) 48(569): 297. 1934. *Tulotis ussuriensis* var. *transnokoensis* (Ohwi & Fukuy.) Liu & Su, Fl. Taiwan 5: 1126. 1978. **Type:** Taiwan: Nokogoe, monte Kiraishunampoo [能高越嶺], collected by J. Ohwi, June 13–15, 1933, *N. Fukuyama 3971* (holotype KPM-NA0105615, photo T00037 in PoT; isotype KYO).
●高山粉蝶蘭

Platanthera longibracteata Hayata, Icon. Pl. Formosan. 4: 122–123. 1914. *non* Lindl. 1835. **Type:** Taiwan: Mt. Morrison 8500 ped. [*T. Kawakami* &] *S. Sasaki s.n.* (isotype TAIIF6929).

Platanthera sachalinensis auct. *non* F. Schmidt; Lin, Native Orch. Taiwan 2: 20. 1977; Inoue & Lin, J. Phytogeogr. Taxon. 28(1): 6, f.5. 1980; Lin *et al.*, Taiwania 61(2): 115. 2016.

Note: *Platanthera sachalinensis* F. Schmidt (1868) was considered conspecific with *P. longibracteata* by Inoue and Lin (1980). Efimov (2016) however indicated that *P. longibracteata* differs from *P. sachalinensis* in its relatively larger inflorescence and a shorter spur (6–9 mm vs. 10–20 mm). Efimov also indicated that type of *P. mearnsii* (Ames) Schltr. (1919) of the Philippines ("Hights in the oaks" 7000 ft, E.A. Mearns no. 4313, K000827075) has a similar image as *P. longibracteata* but different in their shorter inflorescence, smaller lower bracts and smaller flowers with shorter spur (about 5 mm).

Platanthera yangmeiensis → *Platanthera minor*

Pleione formosana Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 326–327. 1911
台灣一葉蘭

Pogonia minor (Makino) Makino, Bot. Mag. (Tokyo) 23: 137. 1909.
小鬚唇蘭

Pomatocalpa undulatum (Lindl.) J.J. Sm. subsp. *acuminatum* (Rolfe) S. Watthana & S.W. Chung, Harv. Pap. Bot. 11: 249. 2007.
黃繡球蘭

Ponerorchis alpestris (Fukuy.) X.H. Jin, Schuit. et W.T. Jin, Mol. Phylogenet. Evol. 77: 51. 2014; Lin, Orch. Fl. Taiwan 253, f.109. 2019. *Amitostigma alpestre* Fukuy., Bot. Mag. (Tokyo) 49(586): 664–665. 1935; Liu & Su, Fl. Taiwan 5: 870, pl.1543. 1978; Lin, Native Orch. Taiwan 3: 34, ph9. 1987; Lin *et al.*, Taiwania: 61(2): 79, 2016. *Hemipilia alpestris* (Fukuy.) Y. Tang & H. Peng, BMC Evol. Biol. 15: 27. 2015. *Orchis alpestre* (Fukuy.) S.S. Ying, Q. J. Chin. For. 8(4): 140. 1975.
●高山雜蘭

Note: Tang *et al.* (2015a) treated the East Asian clade as a single supergenus *Hemipilia*. We still accept the conventional concept that *Amitostigma*, *Hemipilia*, and *Ponerorchis* are 3 different genera (Lin, 2019).

Ponerorchis ×alpestroides (T.C. Hsu) T.P. Lin, Orch. Fl. Taiwan 254, f.110. 2019. *Hemipilia ×alpestroides* T.C.



Hsu, Ill. Fl. Taiwan 2: 89. 2016. **Type:** Taiwan: Hualien, Nanhutashan, Nenfong, *T.C. Hsu 201* (holotype TAIF, left-sided plant). ●雜蝶蘭

Ponerorchis kiraishiensis (Hayata) Ohwi, Acta Phytotax. Geobot. 5: 146. 1936. ●奇萊紅蘭/紅小蝶蘭

Ponerorchis taiwanensis (Fukuy.) Ohwi, Acta Phytotax. Geobot. 5: 146. 1936. ●台灣小蝶蘭

Ponerorchis takasago-montana (Masam.) Ohwi, Acta Phytotax. Geobot. 5: 146. 1936. ●高山小蝶蘭

Ponerorchis tominagae (Hayata) H.J. Su & J.J. Chen, Fl. Taiwan 5: 1029, pl.439. 2000. ●紅斑蘭

Pseudoliparis moluccana please see *Crepidium ramosii*
Rhomboda tokioi → *Rhomboda yakusimensis*

Rhomboda yakusimensis (Masam.) Ormerod, Orchadian 11: 331. 1995; Lin, Orch. Fl. Taiwan 263, f.115. 2019. *Zeuxine yakusimensis* Masam., J. Soc. Trop. Agric. 3: 393. 1931. *Hetaeria yakusimensis* (Masam.) Masam. ex Ohwi, Fl. Jpn. 370. 1953. *Hetaeria yakusimensis* (Masam.) Masam. ex E. Walker, Fl. Ryukyu 356. 1976. **Type:** Japan: Insl. Yak., Sept. 1, 1931, *Masamune 1436* (holotype TAI118756). 白肋角唇蘭

Rhomboda tokioi (Fukuy.) Ormerod, Taiwania 47(4): 243. 2002; Lin *et al.*, Taiwania 61(2): 117. 2016. *Hetaeria cristata* var. *tokioi* (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 468. 1977. *Hetaeria tokioi* Fukuy., Bot. Mag. (Tokyo) 48(571): 434. 1934; Lin, Native Orch. Taiwan 1: 204, ph.127–129. 1975. **Type:** Taiwan: Taihoku, Urai, Syo-agyku-san, collected by Suzuki-Tokio, Sept. 1932, *N. Fukuyama 4128* (holotype KPM-NA0105549, photo T00059 in PoT). **Note:** *Rhomboda cristata* (Blume) Ormerod is a distinct species (Ormerod, 2002). *R. cristata* differs from *R. tokioi* in that *R. cristata* has a labellum in which the internal glands are each circular, and the median keel is large and fleshier.

Rhomboda lalashanensis S.S. Ying, New Taxa New Names 5: 478–483. 2022. **syn. nov.** **Type:** Taiwan: Taoyuan, Fuhsin, Lalashan 1940 m, S.S. Ying *s.n.* Sept. 15, 2022 (holotype, NTUF).

Note: I consider *Hetaeria tokioi* and *Zeuxine yakusimensis* to be conspecific. In *H. tokioi* (Fukuyama in Bot. Mag. (Tokyo) 48: 434. 1934), at the base of the lip there are 2 horn-like ornaments, whereas in *Z. yakusimensis* (Masamune, 1931), at the base of the labellum there are 2 oblong and hook-like (oblong-falcate) glands.

Saccolabiopsis viridiflora Aver., Rheedea 15(2): 97. 2005. 假囊唇蘭

Schoenorchis vanoverberghii Ames, Orchidaceae 5: 242. 1915. 羞花蘭

Spathoglottis plicata Blume, Bijdr. Fl. Ned. Ind. 6: pl.76; 8: 401. 1825. 紫芭舌蘭

Spiranthes × *hongkongensis* → *Spiranthes suishaensis*

Spiranthes nivea T.P. Lin & W.M. Lin, Taiwania 56(4): 320. 2011; Lin, Orch. Fl. Taiwan 266, f.117. 2019. Pace *et al.*, Bot. J. Linn. Soc. 20: 23. 2018. **Type:** Taiwan: Pingtung, Tahanshan, 1500 m, May 20, 2009, *Y.F. Wang s.n.* (holotype TAI 270634). ●義富綬草

Spiranthes suishaensis auct. non (Hayata) Schltr., Lin *et al.*, Taiwania 61(2): 117. 2016.

Spiranthes nivea var. *papillata* T.C. Hsu & Suetsugu, Phytotaxa 578(1): 6. Jan. 4, 2023. *S. minutiflora* T.C. Hsu, Ill. Fl. Taiwan 2: 187. 2016 (non *S. minutiflora* A. Rich. & Galeotti 1845); Chung & Hsu., Illu. Fl. Taiwan 2: 187. 2016. **Type:** Taiwan: Ilan, Tsuifeng Lake, 1800–1900 m, June 3, 2015, *T.C. Hsu 7743* (holotype TAIF496968). ●小花綬草

Note: This name is unplaced. This variety is similar to either *S. sinensis* or *S. hongkongensis*, and no clear boundary can be defined.

Spiranthes sinensis (Pers.) Ames, Orchidaceae 2: 53. 1908. 綬草

Note: Specimen in Taiwan: Bankinsing, *A. Henry s.n.*, 1892–1895 (under the name *Spiranthes australis* R. Br.).

Spiranthes suishaensis (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 161. 1919; Lin, Orch. Fl. Taiwan 265, f.116. 2019. 香港綬草

Spiranthes × *hongkongensis* S.Y. Hu and Baretto, Chung Chi J. 13(2): 2. 1976; Hsu & Chung, Taiwan J. Biodivers. 16(4): 405–408. 2014.

Type: Hong Kong: Tai Po, Apr. 4, 1975, *S.Y. Hu 13658* (holotype K000942682; isotype A, CUHK). **Note:** Taiwan: New Taipei City: Xichi, Chepingliao, 300–400 m, Apr. 20, 2014, *T.C. Hsu 7079* (TAIF).

Spiranthes pitouchaensis S.S. Ying, New Taxa New Names 3: 19–23. 2020. **syn. nov.** **Type:** Taiwan. New Taipei City: Ruifang, Pitouchao [鼻頭角], 46 m, S.S. Ying *s.n.* June 28, 2020 (holotype, NTUF).

Note: The assumption that *S. suishaensis* is conspecific with *S. hongkongensis* is based on morphological features described in the protologue of Hayata (1916). Differences among *Spiranthes suishaensis*, *S. nivea*, *S. sinensis*, and *S. hongkongensis* were presented in Lin (2019: 266). The morphological evidence does not support *S. suishaensis* being conspecific with *S. sinensis* (Suetsugu and Hsu, 2023). Essentially no evidence that the specimen *S. suishaensis* (holotype T01195) has rostellum and viscidium (Phytotaxa 578(1): 4, f.2J. 2023).

Stereosandra javanica Blume, Mus. Bot. Lugduno-Batavum 2: 176. 1856. 肉藥蘭

Stigmatodactylus sikokianus Maxim. ex Makino, Ill. Fl. Japan 1(7): 70, t.43. 1891. 彎指柱蘭/絲柱蘭

Styloglossum angustifolium → *Calanthe angustifolia*

Styloglossum × *clavatum* → *Calanthe clavata*

Styloglossum densiflorum → *Calanthe densiflorum*

Styloglossum formosanum → *Calanthe speciosa*



Styloglossum formosanum var. *actinomorphum* →

Calanthe lyroglossum var. *actinomorphum*

Styloglossum lyroglossum → *Calanthe lyroglossum*

Sunipia andersonii → *Bulbophyllum sasakii*

Taeniophyllum aphyllum (Makino) Makino, Phan. Pter. Jpn. Icon. 1(3): t.11. 1899; Masam., List Vasc. Pl. Taiwan 169. 1954; Suetsugu & Hsu, Acta Phytotax. Geobot. 74 (1): 41. 2023. *Sarcochilus aphyllus* Makino, Bot. Mag. (Tokyo) 6: 48 1892, *nom. nud.* *Cryptorchis aphylla* Makino, Bot. Mag. (Tokyo) 7: 118. 1893, *nom. nud.* & Bot. Mag. (Tokyo) 9: 231. 1895. **Type:** Japan: Tosa: Ikenouchi, Apr. 4, 1887, *T. Makino s.n.* (lectotype TNS01014224, designated by Suetsugu & Hsu (2023); isolectotype TNS01014225). **蜘蛛蘭**

Taeniophyllum aphyllum var. *sawadae* *nom. nud.* In sched. Taiwan: Pingtung: Kaosufu. Collector and date unknown (TAI118752, line drawing on label).

Taeniophyllum glandulosum *auct. non* Blume: Garay & Sweet, Orch. S. Ryukyu Isl. 159. 1974.

Taeniophyllum chitouensis S.S. Ying, Coloured Ill. Fl. Taiwan 1: 799, ph.987. 1992. **Type:** Taiwan: Nantou: Chitou, Mar. 21, 1992, S.S. Ying *s.n.* (NTUF). Not found. **●溪頭蜘蛛蘭**

Taeniophyllum glandulosum *auct. non* Blume: Su, Fl. Taiwan 2nd ed. 5: 753. pl.320. 2000.

Taeniophyllum compactum Ames, Orchidaceae 2: 247. 1908. **假蜘蛛蘭**

Note: Based on the line drawing that appeared in the Vietnam Plant Data Center (<https://www.botanyvn.com/?lg=en>) and *Taiwania* 61(4): 350 (2016), *T. compactum* and *T. javanicum* (1918) are probably conspecific.

Taeniophyllum complanatum Fukuy., Bot. Mag. (Tokyo) 49(583): 443. 1935. **扁蜘蛛蘭**

Note: *Fukuyama 4551*, type of *T. complanatum*, is characterized by a slender, flattened, twisting root (to 5 cm long, 1.8–3.1 mm wide), a raceme 1–4 cm long with 3–10 dense flowers, a glabrous pedicel, and terete capsules (1 cm long). In fact, peduncle and rachis are covered with dense papillae (Suetsugu and Hsu, 2023).

Taeniophyllum crassipes Fukuy., Bot. Mag. (Tokyo) 52(617): 247. 1938. **Type:** Taiwan: Sintiku: Inoue [清泉 (五峰)] 600 m, collected on Jan. 1, 1936 & flowering May 1936, *N. Fukuyama 6396* (holotype KPM-NA0105579 without Fukuyama's no., photo T00007 in PoT). **Note:** *Fukuyama 6396* is characterized by a thick, winding slender root (4–9 cm long, 1 mm wide), a short raceme of 1.2–3.7 cm long with a zigzag rachis. Taiwan: Nantou: Lienhuachih, 700 m, Apr. 20, 1980, *T.P. Lin 465* (TAIF121975). **●厚腳蜘蛛蘭/長腳蜘蛛蘭**

Taeniophyllum daxueshanensis T.P. Lin, *Taiwania* 69(3): 380, fig.1. 2024. **Type:** Taiwan: Taichung Co.,

Daxueshan, 1945 m, Jun. 26, 2024, S.K. Yu *s.n.* (TAI0289921). **●大雪山蜘蛛蘭**

Taeniophyllum glandulosum → *Taeniophyllum aphyllum*

Taeniophyllum lishanianum T.P. Lin & G.X. Zhu, *Taiwania* 69(3): 303, fig. 1. 2024. **Type:** Taiwan: Taichung Co., Lishan, 1945 m, May 6, 2024, G.X. Zhu 63 (TAI289916). **●玉惠蜘蛛蘭**

Taeniophyllum radiatum → *Taeniophyllum taiwanensis*

Taeniophyllum taiwanensis T.P. Lin, *Taiwania* 69(3): 382, fig.2. 2024. **Type:** Taiwan: Taoyuan Co., Fuxin Township, Xiayunping, 300–400 m, Jul. 26, 2024, T.P. Lin *s.n.* (TAI289922). **●大扁根蜘蛛蘭**

Taeniophyllum radiatum *auct. non* J.J. Sm.: W.M. Lin & I.F. Wang,

Wild Orch. Taiwan, Ill. Guide 812 & ph. 2014.

Taeniophyllum sp. T.C. Hsu, Ill. Fl. Taiwan 2: 197 ph. 2016.

Taeniophyllum tumulusum T.P. Lin & G.X. Zhu, *Taiwania* 69(3): 303, fig. 2. 2024. **Type:** Taiwan: Chiayi Co., Alishan Township, Shimeng Valley, 1300 – 1400 m, Mar. 20, 2024, G.X. Zhu 64 (TAI289917). **●塔山蜘蛛蘭**

Tainia cordifolia Hook. f., Hooker's Icon. Pl. 19, pl.1861. 1889. **葵蘭**

Tainia dunnii Rolfe, J. Linn. Soc. Bot. 38: 368. 1908.

長葉杜鵑蘭

Tainia hualienia S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 321, f.146. 1977. **Type:** Taiwan: Hualien: Taipalung 600 m, Feb. 2–4, 1975, S.S. Ying 3509.

Tainia dunnii var. *caterva* (T.P. Lin & W.M. Lin) T.P. Lin, *Taiwania* 61(2): 119. 2016. *T. caterva* T.P. Lin & W.M. Lin, *Taiwania* 54(4): 330–331, f.21. 2009. *T. dunnii* f. *caterva* (T.P. Lin & W.M. Lin) T.P. Lin, Orch. Fl. Taiwan 814. 2019. **Type:** Taiwan: Taipei, Jurluhshan, 600 m, May 25, 2009, L.R. Chang *s.n.* (holotype TAI268957).

Tainia dunnii var. *caterva* → *Tainia dunnii*

Tainia elliptica Fukuy., Bot. Mag. (Tokyo) 49(581): 293. 1935. **●橢圓杜鵑蘭**

Tainia latifolia *auct. non* (Lindl.) Rehb. f.: Su, Fl. Taiwan 5: 1045. 2000.

Tainia hualienia → *Tainia dunnii*

Thelasis pygmaea (Griff.) Lindl., J. Proc. Linn. Soc. Bot. 3: 63. 1858. **閉花八粉蘭**

Thrixspermum annamense (Guillaumin) Garay, Bot. Mus. Leaf. Harv. Univ. 23: 206. 1972. **鈎唇風鈴蘭**

Thrixspermum eximium L.O. Williams, Bot. Mus. Leaf. Harv. Univ. 6: 84–85. 1938. **異色瓣**

Thrixspermum fantasticum L.O. Williams, Bot. Mus. Leaf. Harv. Univ. 6: 82. 1938; T.P. Lin, Orch. Fl. Taiwan



824, f.399. 2019.

金唇風鈴蘭

Chamaeanthus wenzelii auct. non Ames: Hsieh, Q. J. Taiwan Mus. 8: 224. 1955. **Note:** Specimen examined: Taiwan: Lanyu, June 14, 1926, S. Sasaki s.n. (TAI032225). This specimen has oblong leaves and was renamed *Thrixspermum fantasticum* by T.C. Hsu on the label.

Thrixspermum formosanum (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 273. 1919. **台灣風鈴蘭**

Thrixspermum musciflorum A.S. Rao & J. Joseph, Bull. Bot. Surv. India 11 (1 & 2): 204–205, f.1–6. 1969 publ. 1971. **Type:** India: Meghalaya, Nongpoh, between Umran & Umsaw beside the Gauhati-Shillong highway, July 26, 1966, *Joseph 45621A* (holotype CAL); *Joseph 45621 B–G* (isotype); *A.S. Rao 45638A–G* (paratype).

Thrixspermum musciflorum var. *nilagiricum* J. Joseph & Vajr., Indian For. 107(10): 648. 1981. **Type:** India: Nilgiri Hills.

Thrixspermum laurisilvaticum → ***Thrixspermum pygmaeum***

Thrixspermum merguense (Hook. f.) Kuntze, Revis. Gen. Pl. 2: 682. 1891. **高士佛風鈴蘭**

Thrixspermum pensile Schltr., Bot. Jahrb. Syst. 45(Beibl. 104): 59. 1911. **懸垂風鈴蘭**

Thrixspermum pygmaeum (King & Pantl.) Holttum, Kew Bull. 14: 275, f.1C, D. 1960; Yukawa, Bull. Natl. Sci. Mus. Tokyo, ser. B 42(3): 103–111, f.1C, D. 2016; T.P. Lin, Orch. Fl. Taiwan 833, f.403. 2019. *Sarcochilus pygmaeus* King & Pantl., Ann. Roy. Bot. Gard. (Calcutta) 8: 207. 1898. **Type:** Sikkim, Pemiongtzi (Pemayangtse), *Pantling 472* (holotype CAL). **黃蛾蘭**

Thrixspermum laurisilvaticum (Fukuy.) Garay, Bot. Mus. Leaf. Harv. Univ. 23: 207. 1972; Lin, Native Orch. Taiwan 2: 312, ph.154, 155. 1977; Lin *et al.*, Taiwania 61(2): 120. 2016. *Thrixspermum laurisilvaticum* (Fukuy.) S.S. Ying, Bull. Exp. For. Natl. Taiwan Univ. 114: 157. 1974. *T. laurisilvaticum* (Fukuy.) S.Y. Hu, Q. J. Taiwan Mus. 28(1–2): 171. 1975. *T. laurisilvaticum* (Fukuy.) T.S. Liu & H.J. Su, Encycl. Nat. Sci. Bot. 8: 898. 1972. *Sarcochilus laurisilvaticus* Fukuy., Bot. Mag. (Tokyo) 52(617): 246. 1938; Lin & Hsu, Taiwania 22(1): 62, f.5. 1977. **Type:** Taiwan: Sintiku, prop. Inoue 600 m, collected Jan. 1, 1936 & flowering Apr. 1936. *N. Fukuyama 6106*, not found.

Thrixspermum xanthanthum Tuyama, J. Jpn. Bot. 16: 523. 1940. **Type:** Taihiku, Taiheizan, Apr. 2, 1940, *Y. Kobayashi* [小林義雄]s.n. (holotype TI, photo T01200 in PoT).

Thrixspermum saruwatarii (Hayata) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 275. 1919. **小白蛾蘭/溪頭風蘭**

Thrixspermum subulatum (Blume) Rchb. f., Xenia Orch. 2: 122. 1868. **厚葉風蘭/肥垂蘭**

Tipularia cunninghamii → ***Tipularia josephi*** var. ***cunninghamii***

Tipularia josephi Rchb. f. ex Lindl. f. ***cunninghamii*** (King & Prain) Suetsugu, Acta Phytotax. Geobot. 70: 187. 2019. *Didicicia cunninghamii* King & Prain, J. Asiat. Soc. Bengal, Pt.2, Nat. Hist. 65: 119. 1896; Seidenf. & Arora,

Nord. J. Bot. 2: 14. 1982; Su, Taiwania 47(3): 232–238. 2002. *Tipularia cunninghamii* (King & Prain) S.C. Chen, S.W. Gale & P.J. Cribb, Fl. China 25: 251. 2009; Lin, Orch. Fl. Taiwan 839, f.406. 2019. **Type:** India: Sikkim Himalaya: Lachen Valley, 12,000 ft., July 1895, *R. Pantling 396* (syntypes BM, BR0000008578761, K000387845, P00420867). **細花軟葉蘭**

Note: *T. cunninghamii* is considered a peloric of *T. josephi* in the above paper. It is less likely that *T. cunninghamii* was derived from *T. odorata* of Taiwan because the morphologies of the above 2 species differ.

Tipularia odorata Fukuy., Bot. Mag. (Tokyo) 52(617): 243. 1938. **南湖蠅蘭**

Trichoglottis luchuensis (Rolfe) Garay & H.R. Sweet, Bot. Mus. Leaf. Harv. Univ. 23: 209. 1972. **屈子花/豹紋蘭**

Trichoglottis rosea (Lindl.) Ames in E.D. Merrill, Enum. Philipp. Fl. Pl. 1: 440. 1925. **鳳尾蘭**

Tropidia angulosa (Lindl.) Blume, Coll. Orch. 122. 1859; Henry, Trans. Asia. Soc. Jpn. 24(Suppl): 92. 1896; Matsum. & Hayata, J. Coll. Sci. Univ. Tokyo 22: 414. 1906; Garay & Sweet, Orch. S. Ryukyu Isl. 92. 1974; Liu & Su, Fl. Taiwan 5: 1122. 1978; Ormerod, Harv. Papers Bot. 23(1): 77. 2018; Lin, Orch. Fl. Taiwan 846, f.410. 2019. *Cnemidia angulosa* Lindl., Edwards's Bot. Reg. 19: sub t.1618. 1833, *nom. inval.* & Gen. Sp. Orch. Pl. 463. 1840. **Type:** India. Mountains of Sylhet, W. Gomez in *Wallich Number. List 7388* (syntype K001127272); Courtallum, *R. Wight 928* (syntype K000895726). **相馬氏摺唇蘭**

Tropidia somae Hayata, Icon. Pl. Formosan. 6: 85, pl.13. 1916; Nackej., Biol. Mag. Okinawa 13: 34. 1975. **Type:** Taiwan: Ako: Datestu, July 1912, *T. Soma s.n.* (holotype TI, photo T01208 in PoT).

Tropidia angustifolia → ***Tropidia nipponica***

Tropidia curculigoides Lindl., Gen. Sp. Orch. Pl. 497. 1840. **Type:** India. Sylhet, 1827, collected by F. de Silva & W. Gomez, N. Wallich Number. List 7386A (lectotype K000079515, here designated). **仙茅摺唇蘭**

Note: Ormerod in Harv. Papers Bot. 23(1): 79. 2018 designated specimen in K-LINDL as lectotype; however, according to Herbarium Lindley IDC microfiche 7395, there are four specimens in Lindley herbarium, and a single specimen is selected here.

Tropidia formosana Rolfe, Ann. Bot. (Oxford) 9(33): 158. 1895. **南化摺唇蘭**

Note: Also reported from Assam, India by K. Gogoi (2016, 2017).

Tropidia namasiae C.K. Liao, T.P. Lin & M.S. Tang, Novon 22 (4): 424–427, f.1, 2. 2013. **拉瑪夏摺唇蘭**



Note: Also reported from India by Kumar et al. (2015).

Tropidia nipponica Masam., Bot. Mag. (Tokyo) 43: 249. 1929 & Coloured Ill. Fl. Jpn. 8: 219, f.1969. 狹葉摺唇蘭

Tropidia angustifolia C.L. Yeh & C.S. Leou, *Taiwania* 54(2): 140–144, f.1–3. 2009; Lin et al., *Taiwania* 61(2): 121. 2016. **Type:** Pingtung: Mt. Lilung, 600–700 m, July 19, 2008, C.R. Yeh s.n. (holotype PPI).

Note: *Tropidia nipponica* is similar to *T. sui* but can be distinguished by the epichile of the lip which is covered with uniform yellow flesh but without a yellow callus only in the center.

Tropidia somae → *Tropidia angulosa*

Tropidia sui T.C. Hsu, Ill. Fl. Taiwan 2: 210. 2016; Lin, Orch. Fl. Taiwan 853, f.415. 2019. **Type:** Taiwan: New Taipei City, Pihu, June 9, 2010, T.C. Hsu 2816 (holotype TAIIF). 蘇氏摺唇蘭

Tropidia nipponica auct. non Masam.: H.J. Su, Q. J. Chin. For. 20(4): 104, pl.6. 1987. **Note:** Taiwan: Pingtung: Nanjenshan, Su 7762.

Tropidia nipponica auct. non Masam.: Gale et al., Bull. Natl. Mus. Nat. Sci., ser. B 47(3): 119–130, f.1, 2. 2021. **Note:** Hong Kong S.A.R., Lantau Isl., Lantau Peak, 700–800 m, June 6, 2015, S.W. Gale SG1355 (KFBG). The plant in Hong Kong is conspecific with *Tropidia sui*. The most important characteristic is 2 yellow to orange parallel crests (or calli) located in the center of epichile of the lip which are always accompanied by a white and wide rim on both sides.

Tuberolabium kotoense Yamam., Bot. Mag. (Tokyo) 38: 209. 1924. 紅頭蘭

Vanda lamellata Lindl., Edwards's Bot. Reg. 24 (Misc.): 66. 1838 雅美萬代蘭

Vanda lamellata var. *tawuensis* S.S. Ying, New Taxa New Names 5: 465–470. 2022. **syn. nov.** **Type:** Taiwan: Taitung, Tawu, 421 m, cult. Taipei, S.S. Ying s.n. Mar. 22, 2022 (holotype, NTUF).

Vanilla somae Hayata, Icon. Pl. Formosan. 6: 88, pl. 14. 1916. 台灣梵尼蘭

Vexillabium integrum → *Odontochilus integrus*

Vexillabium yakushimense → *Odontochilus yakushimensis*

Vrydagzynea nuda Blume, Coll. Orch. 74, t.17. f. 3, 8–13. 1858; Lin, Native Orch. Taiwan 3: 277. 1987 & Orch. Fl. Taiwan 274, f.120. 2019. *Hetaeria nuda* (Blume) Miq., Fl. Ned. Ind. 3: 726. 1859. **Type:** Java: Bantam Prov., Harriang, collected by v. Hasselt. not found. 二尾蘭

Vrydagzynea formosana Hayata, Icon. Pl. Formosan. 6: 88 1916.; Masam., J. Geobot. 25(4): 14, f.245. 1978; Lin et al., *Taiwania* 61(2): 122. 2016. *V. albida* var. *formosana* (Hayata) T. Hashim., Proc. World Orch. Conf. 12: 122. 1987. **Type:** Taiwan: Inter Urai et Agioku. May [6], 1916, B. Hayata s.n. (holotype TI, photo T01213 in PoT; isotype TAIIF7007).

Yoania amagiensis Nakai & F. Maekawa var. *squamipes* (Fukuy.) C.L. Yeh & C.S. Leou, Q. J. For. Res. 28(3): 17–

24. 2006.

●密鱗長花柄蘭

Note: *Yoania squamipes* of Taiwan and *Y. amagiensis* of Japan differ in color and marks on the flowers. The former is also distinguished from the latter by the equal length of the anther and stamens, and hairs only restricted to the surface inside the depression of the lip limb; whereas the Japanese counterpart has a longer anther (Nakai and Maekawa, 1931) and is hairy all over the midrib of the lip limb (Nakajima, 2012).

Yoania japonica Maxim., Bull. Acad. Imp. Sci. Saint-Petersbourg, sér. 3, 18: 69–70. 1873. 長花柄蘭

Zeuxine affinis (Lindl.) Benth. ex Hook. f., Fl. Br. India 6: 108. 1890. 白花線柱蘭

Zeuxine flava please see *Zeuxine boninensis*

Zeuxine agyokuana Fukuy., Bot. Mag. (Tokyo) 48(571): 433. 1934. 綠葉角唇蘭/阿玉線柱蘭

Zeuxine lalashanensis S.S. Ying, New Taxa New Names 6: 531–536. 2023. **syn. nov.** **Type:** Taiwan: Taoyuan, Fuhsin, Lalashan, 1994 m, Sept. 30, 2023 (holotype, NTUF).

Zeuxine arisanensis please see *Zeuxine reflexa*

Zeuxine boninensis Tuyama, Bot. Mag. (Tokyo) 49: 369. 1935; Yukawa et al., Bull. Natl. Mus. Nat. Sci., ser. B 44(3): 127–134. 2018; Lin, Ill. Native Taiwan Orch. 253, f.124-1. 2022. **Type:** Japan: Ogasawara Isls., Hahajima Isl., Mt. Sekimon, April 9, 1934, T. Tuyama s. n. (TI).

寬葉線柱蘭/黃花線柱蘭

Zeuxine kantokeiensis Tatew. & Masam., Bot. Mag. (Tokyo) 46(552): 772. 1932; Lin et al., *Taiwania* 61(2): 124. 2016. **Type:** Taiwan: Kantokei, Taityusyu, Apr. 9, 1932, *Tatewaki 18663*. **Type** not found. *Zeuxine sakagutii* Tuyama, Bot. Mag. (Tokyo) 50: 26, f.19, 20. 1936; Su, Fl. Taiwan 5: 1080, pl.465. 2000; Liu et al., *Phytotaxa* 202(3): 207–213. 2015. **Type:** Ryukyu: Ins. Isigakizima, Aug. 4, 1922, S. Sakacuti s.n. (holotype TI).

Zeuxine affinis auct. non Benth. ex Hook. f.: Lin, Native Orch. Taiwan 3: 280 (f.) 1987.

Zeuxine taiwaniana S.S. Ying, Q. J. Chin. For. 20(2): 57. 1987. **Type:** Taiwan: Taitung, Chipen [知本], Apr. 1, 1987, S.S. Ying s.n. (holotype NTUF, photo F00000324 in PoT, fruit only).

Zeuxine uraiensis S.S. Ying, Coloured Ill. Fl. Taiwan 3: 620, f.927. 1988. **Type:** Taiwan: Taipei, Urai [烏來], Apr. 10, 1988, S.S. Ying s.n. (holotype NTUF).

Zeuxine flava auct. non (Wall. ex Lindl.) Benth. ex Hook. f.: Lin, in Manual Taiwan Vasc. Pl. 5: 292. 2001; Lin et al., *Taiwania* 61(2): 122. 2016; Lin, Orch. Fl. Taiwan, 280, f.124-1, 2019.

Zeuxine boninensis var. *pingtungensis* (T.C. Hsu) T.P. Lin, Ill. Native Taiwan Orch. 254, f.124-2. 2022. *Zeuxine pingtungensis* T.C. Hsu, Ill. Fl. Taiwan 2: 218. 2016. *Zeuxine flava* var. *pingtungensis* (T.C. Hsu) T.P. Lin, Orch. Fl. Taiwan 281, f.124-2. 2019. **Type:** Taiwan: Pingtung, Tahanshan logging trail, Mar. 13, 2013, T.C. Hsu 6338 (holotype TAIIF). 屏東線柱蘭

Zeuxine boninensis var. *actinomorpha* T. Yukawa, Bull. Natl. Mus. Nat. Sci., Tokyo, B 44(3): 133. 2018. **Type:** Japan, Ryukyu Isl.:



Kagoshima Pref. Amami-oshima Isl., Amami-shi, Sumiyo-cho, Wase, ca. 200 m, Apr. 18, 2018, *H. Yamashita 18-1* (holotype TNS).

Zeuxine integrilabella C.S. Leou, Q. J. Exp. For. Natl. Taiwan Univ. 8(4): 1–2, f.1, 2. 1994. **全唇線柱蘭**

Note: Lin (2019: 285) suspected that the petalized lip of *Z. integrilabella* might indicate that this taxon is a peloric mutant of an unknown species. *Z. integrilabella* also reported from China and Nepal (Huang *et al.*, 2017; Raskoti and Ale, 2023).

Zeuxine nervosa (Wall. ex Lindl.) Benth. ex Trimen, J. Ceylon Br. Roy. Asiat. Soc. 9: 90. 1885. **芳線柱蘭**

Zeuxine nijimae Tatew. & Masam., Bot. Mag. (Tokyo) 46(552): 772. 1932; Lin *et al.*, Taiwania 61(2): 124. 2016. **syn. nov.**
Type: Taiwan: Taityu, Nogo, Baibara Apr. 5, 1932, *Tatewaki 18662*. not found.

Zeuxine odorata Fukuy., Bot. Mag. (Tokyo) 50(589): 20. 1936. **香線柱蘭**

Note: I have no doubt that *Zeuxine rolfiana* King & Pantl. (1897) could be the same as *Z. odorata* but with much smaller vegetative parts and flowers (Manudev *et al.* 2014).

Zeuxine philippinensis (Ames) Ames, Schedul. Orch. Corrig. 37. 1938. **菲律賓線柱蘭**

Zeuxine reflexa King & Pantl., Ann. Roy. Bot. Gard. (Calcutta) 8: 291. 1898; S.S. Ying, Col. Ill. Indig. Orch. Taiwan 1: 510. 1977; Kumar *et al.*, Richardiana 13: 283–294, f. 1–2. 2013. **Type:** India: Sikkim, Mungphoo, 3500 ft, April 1895, *Pantling 361* [lectotype, CAL (CAL0000000604), designated by Bhattacharjee *et al.* (2011); isoelectotypes: CAL; BM000076420, K000942793]. **阿里山線柱蘭**

Adenostylis arisanensis (Hayata) Hayata, Icon. Pl. Formosan. 4: Add. & Corr. 1915. *Zeuxine arisanensis* Hayata, Icon. Pl. Formosan. 4: 106, f.55. 1914; Masam., J. Geobot. 22(2): 7, f.204. 1974; Lin *et al.*, Taiwania 61(2): 122. 2016; Lin, Orch. Fl. Taiwan 280, f.123. 2019. **Type:** Taiwan: Alisan, Mar. 1911, *Sasaki s.n.* (holotype TI, photo T01214 in PoT).

Zeuxine strateumatica (L.) Schltr. in Engl., Bot. Jahrb. Syst. 45: 394. 1911. **線柱蘭**

Zeuxine strateumatica* var. *rupicola (Fukuy.) S.S. Ying, Coloured Ill. Indig. Orch. Taiwan 1(2): 512. 1977.

舌唇線柱蘭

Zeuxine tabiyahanensis Hayata, Icon. Pl. Formosan. 6: 89–90. 1916; Liu & Su, Fl. Taiwan 5: 1136. 1978. *Adenostylis tabiyahanensis* Hayata *nom. nud. in sched.* *Cheirostylis tabiyahanensis* (Hayata) N. Pearce & P.J. Cribb, Edinburgh J. Bot. 56: 278. 1999. *Hayata tabiyahanensis* (Hayata) Aver., Taiwania 54(4): 311–316. 2009; Lin *et al.*, Taiwania 61(2): 102. 2016; Lin, Orch. Fl. Taiwan 189, f.78. 2019. **裂唇線柱蘭**

Zeuxine nemorosa (Fukuy.) T.P. Lin, Native Orch. Taiwan 2: 69. 1977 & 3: 232, ph.160, 161. 1987. *Cheirostylis nemorosa* Fukuy., Bot. Mag. (Tokyo) 49(587): 760. 1935; Masam., J. Geobot. 19(1–2): 2, pl.167. 1971. **Type:** Taiwan: Taihoku: Agyoku, collected by Suzuki-T, Mar. 29, 1932, *N. Fukuyama 4723* (holotype KPM-NA0105518, photo T00022 in PoT; isotype KPM-NA0105519).

Note: Phylogenetic study based on combined nuclear and plastid DNA sequences showed that *Hayata* is weakly associated with *Zeuxine* but is more distant from *Cheirostylis* (Chen *et al.*, 2019a).

Zeuxine tabiyahanensis* var. *merrillii (Ames & Quisumb.) T.P. Lin, Ill. Native Taiwan Orch. 261. 2022. *Adenostylis merrillii* Ames & Quisumb., Philipp. J. Sci. 44: 370. 1931. *Cheirostylis merrillii* (Ames & Quisumb.) Ormerod, Austr. Orch. Rev. 63(4): 10. 1998. *Hayata merrillii* (Ames & Quisumb.) T.C. Hsu & S.W. Chung, Taiwania 55(4): 365–366, f.4. 2010. *Hayata tabiyahanensis* var. *merrillii* (Ames & Quisumb.) T.P. Lin, Taiwania 61(2): 103. 2016.

全唇早田蘭

Note: A peloric of *Zeuxine tabiyahanensis*.

Zeuxine tenuifolia Tuyama, Bot. Mag. (Tokyo) 50: 427. 1936. **毛鞘線柱蘭**

Zeuxine yehii T.C. Hsu, Ill. Fl. Taiwan 2: 221(f). 2016. **Type:** Taiwan: Lanyu, 50 m, Apr. 20, 2011, *T.C. Hsu 3900* (holotype TAI496958). **蘭嶼線柱蘭**

Doubtful and excluded names

Calanthe brevicolumna Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 328. 1911. **Type:** Taiwan: Hualien: Bataian [馬太鞍(光復)], Apr. 5, 1907, *T. Kawakami s.n.* (TI-photo T00891 in PoT). **短柱根節蘭**

Eulophia bicallosa → excluded from Taiwan

Flickingeria pallens (Ridl.) Hawkes, Orch. Weekly 2, 46: 457. 1961; *Dendrobium pallens* Ridl., J. Linn. Soc. Bot. 32: 241. 1896; A.T. Hsieh, Q. J. Taiwan Mus. 8(3): 239. 1955. **Note:** This species does not occur in Taiwan.

Platanthera peichiatiensiana S.S. Ying, Coloured Ill. Fl. Taiwan 2: 691, ph.405. [Feb 1987]. **Type:** Taiwan: Peichiatienshan [北插天山三毛櫟林] 1100 m, Oct. 11, 1985, *S.S. Ying s.n.* **北插天粉蝶蘭**

Note: This species has a longer lip than the spur. Only *Platanthera stenoglossa* and *P. minor* can grow at such low elevations.

Renanthera coccinea Lour., Fl. Cochinch. 521 1790. (*Oldham 557*, AMES, only fruit). Ormerod: this is not a *Renanthera* but could be *Cleisostoma paniculatum* or a related species (Taiwania 47: 241. 2002).

Sarcanthus taiwanianus Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 337–338. 1911. *Cleisostoma taiwaniana*



(Hayata) Hayata, Icon. Pl. Formosan 4: 98, f.51. 1914. **Type:** [Hayata mounted, flowering Apr. 20, 1912], *T. Uchiyama 1899* (TI-photo T01193 in PoT; isotype: K000942454 only 1 flower).

Acampe hayatae Szlach., Ann. Bot. Fennici 40: 67. 2003, a new name for *Sarcanthus taiwanianus*. Lin. T.P. 867. 2019 (excluded species).

Taeniophyllum formosanum Hayata, Icon. Pl. Formosan. 6(Suppl.): 81. 1917. *nom nud.* Specimen examined: Banchoryo: Koryohei, Nov. 1907, *T. Kawakami et U. Mori 5505* (TI-photo T01196 in PoT); Nantou: Sun Moon Lake, *Masamune 1373* (TAI115495).

Zeuxine kantokeiensis → *Zeuxine boninensis*

Zeuxine nijimae → *Zeuxine nervosa*

Unplaced species

Spiranthes australis × *S. sinensis*, Acta Phytotax. Geobot. 71 (2): 177–184. 2020.

Note: An individual *Spiranthes* plant from Tahanshan, S. Taiwan with slightly pubescent stems and ovaries was incidentally found in 2017. This plant has pink flowers with high morphological similarity to *S. sinensis*. Indeed, the rostellum and oblong viscidium of this individual plant are also identical to those of *S. sinensis*. Suetsugu *et al.* (2020) speculated that *S. australis* and *S. sinensis* could be the parental sources. Unfortunately, their molecular data do not exclude *S. hongkongensis* being the parental source. At present, this slightly pubescent plant from Tahanshan could be a rare variant of *S. sinensis*.

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