

Orchidaceous Additions to the Floras of China and Taiwan (II)

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ABSTRACT: Literature and herbarium studies of Chinese and Taiwanese orchids have revealed a variety of new and noteworthy data such as new records and synonymy. One new species is proposed, viz. *Epigeneium tsangianum*.

KEY WORDS: Orchidaceae, Additions, China, Taiwan.

Like the first part of this paper (Ormerod, 2003), my intention is not only to add new records or species to the floras of China and Taiwan but to also add new and noteworthy information in regard to the synonymy and status of various taxa.

The only new record is that of *Appendicula annamensis* Guill. which is discussed below. On the other hand, it has been necessary to review the status of *Cyrtopera formosana* Rolfe, *Dendrobium guangxiense* S.-J. Cheng & C.-Z. Tang and *Goodyera clavata* Pearce & Cribb. All three of these latter taxa are found to be synonyms respectively of *Eulophia zollingeri* (Rchb. f.) J. J. Sm., *Dendrobium scoriarum* W. W. Sm. and *Goodyera rubicunda* (Blume) Lindl.

Appendicula annamensis Guill., Bull. Soc. Bot. Fr. 77: 340, 1930.

Fig. 1

Appendicula micrantha auct. non Lindl.: Merrill & Metcalfe, Lingn. Sci. J. 21: 6, 1945.

Types: VIETNAM, Annam, Cana Prov., Phanrang, 900 m, 1 April 1923, *Poilane 5969* (syntype: P!); Cana, 1200 m, 2 November 1925, *Evrard 2416* (syntype: P!).

Lithophytic herb. Stems caespitose, densely foliose, to 330 mm long and 1.5 mm thick. Leaves spreading, pale green, drying blackish, ovate-oblong to ovate-elliptic, to elliptic, weakly obtusely bilobed, minutely apiculate, 8-17 mm long, 5-8 mm wide. Inflorescences usually pseudoterminal, 5-20 mm long, 0.9 mm thick, successively ca. 20-flowered but usually with 1-3 flowers open at once; floral bracts ovate, acute, deflexed, 2-2.5 mm long, 1.5-2 mm wide. Capsule green, hexagonal, 6 mm long, 2 mm thick. Flowers white. Dorsal sepal broadly ovate, acute, weakly carinate externally, 2.5 mm long, 1.8 mm wide. Petals oblong-elliptic, obtuse to subacute, 2 mm long, 1-1.1 mm wide. Lateral sepals broadly oblique ovate, subacute, forming a mentum about 1 mm long, 3 mm long, 2.1 mm wide. Labellum 3 mm long, 2 mm wide, semiglobose in basal half, in upper half a broadly ovate, subacute epichile; callus retrorse, varying from fleshy, prostrate, flattish and subquadrate to thinly fleshy, erect, cupulate-concave and transversely elliptic. Column 1.5 mm long including the 0.9 mm long rostellum. Columnfoot 1 mm long.

Distribution: Vietnam; Hainan, China.

Specimens examined: CHINA, Hainan, Chim Shan, Fan Maan Ts'uen and area, 3-20 May 1932, *Fung 20206* (AMES, K); Po-ting, 395 m, 24 April 1925, *How 72125* (AMES).

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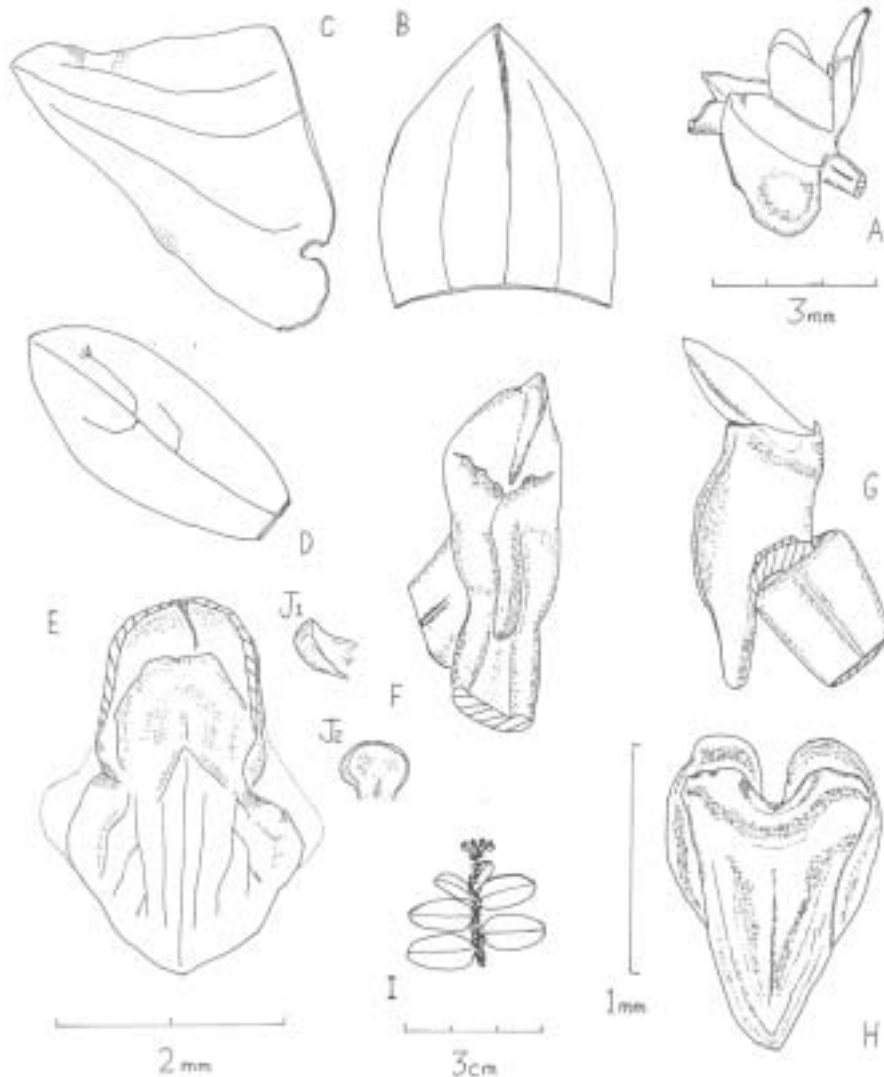


Fig. 1. *Appendicula annamensis* Gagn. A: Flower. B: Dorsal sepal. C: Lateral sepal. D: Petal. E: Labellum (dotted lines indicate width when fully spread). F & G: Column, ventral and lateral views. H: Anther cap. I: Apex of stem. J1 & J2: Lateral and frontal views of another callus. A, B-G, H and I to respective scales. J not to scale. A-I drawn from How 72125 (AMES), J drawn from Fung 20206 (K).

Notes: This species has been considered a synonym of *A. hexandra* (J. G. Koen.) J. J. Sm. by Averyanov (1990) but it differs from that entity in its generally broader black-drying leaves and almost exclusively pseudoterminal inflorescences.

In October 1937 the famous Chinese orchidologists T. Tang and F.-T. Wang determined the Fung collection cited above to be the Philippine *A. micrantha* Lindl. Their determination was eventually published by Merrill and Metcalfe (1945).

Indeed *A. annamensis* is quite close to *A. micrantha* but it differs from the latter in its black-drying leaves, flowers with a slightly more tapered (not squarish) mentum, oblong-elliptic (not obliquely obovate-elliptic) petals, much broader dorsal sepal and the anther cap lacking a distinct median umbone.

Since there are not any previously published drawings of *A. annamensis* I have provided a figure and description of it based on the Hainanese specimens cited above.

It is rather curious that the flowers of *A. annamensis* appear to be variable in the form of the labellum appendage or callus. At first I found the callus was rather fleshy, squarish and flattish which is how Guillaumin has interpreted it in unpublished drawings on one of the syntypes. However an examination of further flowers shows that the callus can also be thinner, erect and concave-cupulate. I have no ready explanation for this variation which is perhaps an artifact of preservation.

Dendrobium scoriarum W. W. Sm., Not. Roy. Bot. Gard. Edinb. 13: 201, 1921.

Type: CHINA, Yunnan, West of Tengyueh, 1525 m, June 1912, *Forrest 8517* (holotype: E, isotype: K!).

Dendrobium guangxiense S.-J. Cheng & C.-Z. Tang, Orch. Digest 50, 3: 95, fig., photo's, 1986. syn. nov.

Type: CHINA, Guangxi, sine loc., ex Shanghai Medicine Co., 4 May 1978, *S.-J. Cheng 780116* (holotype: SCBI).

Distribution: China in Guangxi, Guizhou and Yunnan.

Specimens examined: CHINA, Yunnan, sine loc., 1830-2135 m, June 1924, *Forrest 24433* (K).

Notes: *Dendrobium scoriarum* was overlooked by Tsi (1999) when he treated *Dendrobium* in volume 19 of the Flora Reipublicae Popularis Sinicae. I have been unable to distinguish *D. scoriarum* from *D. guangxiense* after studying an isotype of the former and one later collection by Forrest. Therefore *D. scoriarum* and *D. guangxiense* are here treated as conspecific.

Epigeneium tsangianum Ormd., sp. nov.

Fig. 2

Affinis Epigeneio clemensiae sed floribus labello hypochilo ca. 7.5 mm (non 8-9 mm) lato, epichilo ca. 10 mm (non 8-9 mm) lato et callis duobus collateralibus convergentibus (non separatis et plusminusve divergentibus), et sepalis lateralis ca. 9 mm (non 6 mm) differt.

Typus: CHINA, Guangxi, Guangdong border, Shap Man Taai Shan, Nam She Village, 19 November 1934, *Tsang 24684* (holotypus: AMES 56278!, isotypus: AMES 111361!).

Creeping herb in swampy thicket, forming chains 15-26 cm long. Rhizome terete, occasionally branching, rooting, 1-1.5 mm thick. Pseudobulbs prostrate, apex raised, mostly covered by a red-brown drying sheath, subcylindric-fusiform, unifoliate, 2-10 mm apart, 10-15 mm long, 3-5 mm thick. Leaves stiffly coriaceous, erect, oblong-elliptic, apex entire to shortly and obtusely inequally bilobulate, 27.5-46 mm long, 10.5-13.5 mm wide; petiole short, 2-4 mm long. Inflorescence subterminal, one-flowered; peduncle 11-13.5 mm long. Pedicellate ovary terete, 18.5-21 mm long. Flowers brown, odourless. Dorsal sepal ovate, acute, 7-veined, 8 mm long from apex of ovary, 5 mm wide. Petals oblong-ligulate, dilated basally, acute, 3-veined, 9 mm long, 3.5 mm wide basally, 2.5 mm wide medially. Lateral sepals obliquely ovate-elliptic, acute, 7-veined, 15 mm long, 9 mm wide. Labellum trilobed, 19 mm long, 10 mm wide; hypochile obcordate-cuneate, at apex with two convergent, semidisoid, fleshy calli, 10 mm long, 7.5 mm wide; lateral lobes short, truncate, 3 mm wide; epichile broadly cordate-trapeziform, deeply emarginate-bilobulate, 9 mm long, 10 mm wide. Column short, 3 mm long; columnfoot 14.5 mm long, forming with the lateral sepals a mentum 9 mm long.

Distribution: China (Guangxi).

Notes: This new species is closely related to *E. clemensiae* Gagnep. from Laos and

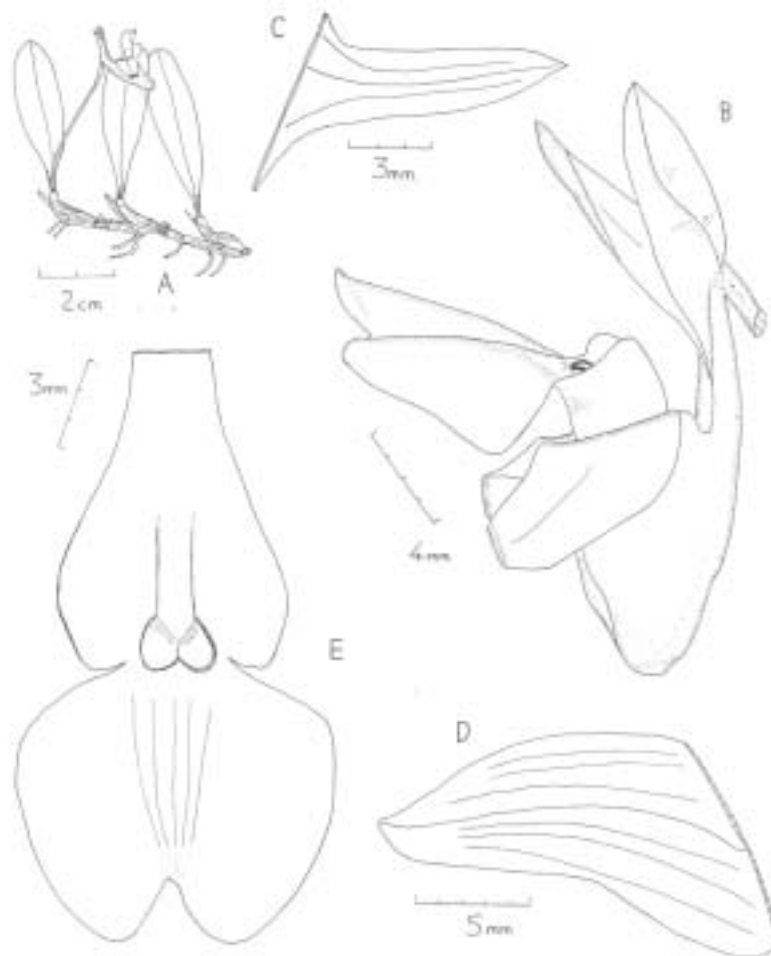


Fig. 2. *Epigeneium tsangianum* Ormd. A: Plant. B: Flower. C: Petal. D: Lateral sepal. E: Labellum. A-E to respective scales. Drawn from holotype.

Vietnam but it differs from that entity in having broader lateral sepals, a labellum with convergent calli and in having the epichile distinctly wider than the hypochile.

Another similar species is *E. fargesii* (Finet) Gagnep. but the labellum of that species also has parallel separated calli and the epichile is almost twice as wide as long.

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

Basionym: *Cyrtopera zollingeri* Rchb. f., Bonpl. 5: 38, 1857.

Types: INDONESIA, Java, Lampung Province, September 1845, *Zollinger s. n.* (syntype: W); Gebbok Klakka, November 1844, *Zollinger 585* (syntype: W).

Cyrtopera formosana Rolfe, Bull. Misc. Inf. Kew: 198, 1896. syn. nov.

Eulophia formosana (Rolfe) Rolfe, J. Linn. Soc., Bot. 36: 28, 1903.

Type: TAIWAN, South Cape, *Henry 1974* (holotype: K!).

Distribution: Sri Lanka; India; Thailand; Vietnam; SE China; Taiwan; Japan; Philippines; Malaysia; Indonesia; Papua New Guinea; NE Australia.

Specimen examined: THAILAND, Sriracha, Nawng Kaw, 23 May? 1923, *Put s. n.* (K).

Notes: Seidenfaden (1983) appears to have been the first to consider *Cyrtopera formosana* conspecific with *Eulophia bicallosa* (D. Don) P. F. Hunt & Summerh. An examination of the type of *Cyrtopera formosana* however shows this to be incorrect and that it belongs instead in the synonymy of *Eulophia zollingeri*, a taxon already known from Taiwan.

I have cited above a collection from Thailand because this is a new record for that country.

Goodyera rubicunda (Blume) Lindl., Bot. Reg. 25: 61, misc. 92, 1839.

Basionym: *Neottia rubicunda* Blume, Bijdr.: 408, 1825.

Types: INDONESIA, Java, Mt. Salak and Mt. Gede, *Blume s. n.* (syntypes: L, isosyntypes: P).

Goodyera grandis King & Pantl., Ann. Roy. Bot. Gard. Calc. 8: 284, t. 379, 1898 [non (Blume) Lindl. ex D.Dietr. 1852].

Epipactis grandis A. A. Eaton, Proc. Biol. Soc. Wash. 21: 64, 1908.

Goodyera clavata Pearce & Cribb, Edinb. J. Bot. 58, 1: 116, 2001.

Type: INDIA, Sikkim, Teesta Valley, Rumtek, 1220 m, *Pantling 460* (holotype: CAL, isotypes: BM!, K!).

Distribution: NE India; SW China; Taiwan; Japan; Philippines; Malaysia; Indonesia; Papua New Guinea; NE Australia; Solomon Islands; Vanuatu; New Caledonia; Fiji; Samoa and Tonga.

Specimens examined: INDIA, Assam, Naga Hills, Perrenmi, 1525 m, 4 September 1935, *Bor 6300* (K). CHINA, Yunnan, Che-li Co., Dah-meng-leng, 1100 m, August 1936, *C. W. Wang 77897* (AMES). TAIWAN, Ilan Co., Nanao Hsiang: Piyahao trail, 300-345 m, 18 August 1995, *T. Y. Liu 856* (AMES); Taipei Co., Urai, 150 m, *C. G. G. J. van Steenis 20589* (K). JAPAN, Southern Ryukyu Islands, Yaeyama Islands, Ishigaki Island, Miyara River, near foot of Mt. Fukai-moto, 19 August 1973, *Furuse 3453* (K); same area, 23 July 1973, *Furuse 3674* (K); same area, Tomino, 9 August 1973, *Furuse 3758* (K); same area, high slopes of Takama Yama above Tomino, 200-300 m, 23 July 1956, *F. R. Fosberg 38078* (K).

Notes: I have cited above specimens relevant to the Transhimalayan and Taiwanese floristic districts though material from throughout the range of this species was studied.

In Ormerod (2003) I accepted the Sikkimese taxon *G. clavata* as distinct from *G. rubicunda* and found the former to also occur in China and Taiwan. The main distinguishing character of *G. clavata* is a raised ventral callosity on the column. However I now find such a thickening to be variable in prominence and present in all the material I have examined including that from Java [*Comber 1075* (K)], Sumatra [*Robinson & Kloss s. n.* (K)], Borneo [several in (K)], Philippines [*Marziah et. al. s. n.* (SING)] and elsewhere.

Goodyera rubicunda is also variable in the colour its dried leaves, shape and deflection of the labellum apex and in the distribution and thickness of the appendages in the labellum.

Apart from accepting the placement of *G. clavata* in the synonymy of *G. rubicunda* I also accept that *G. longibracteata* Hayata, *G. longicolumna* Hayata and *G. yaeyamae* Ohwi also belong here.

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which I am most grateful. The author is also indebted to herbarium and library staff at AMES and K for their hospitality during visits whilst P kindly loaned material.

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中國與台灣蘭科植物誌新見聞(II)

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摘 要

研究中國與台灣野生蘭之文獻與標本，發現了許多新的與值得注意的資料，例如新紀錄種與異名。本文提出一個新種，即：*Epigeneium tsangianum*。

關鍵詞：蘭科、新見聞、中國、台灣。

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