

## Notulae Goodyerinae (II)

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**ABSTRACT:** Continuing herbarium and literature studies of orchids belonging to Subtribe Goodyerinae has revealed a variety of new and noteworthy data. Aside from first records and additional synonymy the following new combinations and species are proposed, viz. *Anoectochilus dewildeorum*, *A. falconis*, *Aspidogyne gigantea*, *Goodyera sumbawana*, *Odontochilus asraoa*, *O. duplex* and *Zeuxine reginasilvae*.

**KEY WORDS:** Orchidaceae, Goodyerinae, new combinations, species.

The first part of this paper (Ormerod, 2004) dealt with Goodyerinae from Africa, the Americas and Asia. However this second part deals with only one South American species and several Asiatic entities. The intention (as with the first part) is to bring together the various observations that the author has gathered during his travels and researches.

The Goodyerinae currently comprise 37 genera with about 630 species of which the Asiatic area has 29 genera and about 500 species. The largest genera are *Goodyera* R. Br. (ca. 80 mostly pantropical species), *Microchilus* Presl (45 neotropical species but the number will double) and *Zeuxine* Lindl. (ca. 90 paleotropical species).

### *Anoectochilus* Blume

This genus of 40 species was until now rather poorly understood in the west Malesian (Malaysia, Western Indonesia) part of its distribution. In light of this fact I undertook the task of examining specimens of the west Malesian taxa. Some of the results of my studies are presented below.

### *Anoectochilus albolineatus* Par. & Rchb.f., Trans. Linn. Soc., Bot. 30: 141, 1874.

Type: Burma - Moulmein, *Parish 325* (holotype: K!, isotype: W-R 26214).

*Anoectochilus siamensis* Schltr., Fedde Rep. 2: 83, 1906 syn. nov.

Type: Thailand - Doi Suthep, 12 December 1904, *Hosseus 218* (holotype: B\*, lectotype: WRSL, isolectotype: BM!).

Distribution: Burma; Thailand; Vietnam.

Specimens examined: BURMA - Mt. Victoria, 2135 m, 18 November 1956, *Kingdon Ward 22872* (BM). THAILAND - Doi Suthep, 1650 m, 3 January 1915, *Kerr 361* (K); 1575 m, *Kerr 224A, B, C* (K); 1300 m, 20 November 1922, *Kerr s.n.* (K); 1600 m, 22 December 1920, *Kerr s.n.* (K); 1000 m, 18 December 1969, *van Beusekom & Phengkklai 2599* (L); 1160 m, 1 December 1959, *L.B. Abbe et al. 9266* (AMES); Khun Mae Lan, 1600-1700 m, 24 January 1964, *Hansen et al. 10911* (K); Kao Pawta Luang Kio, Ranawng, 1100 m, 1 February 1929, *Kerr s.n.* (K).

Notes: The name *A. albolineatus* has been quite often misapplied (e.g. Seidenfaden, 1978) to material of the variable *A. reinwardtii* Blume. An examination of the holotype of *A.*

*albolineatus* shows that it is most certainly the same as the species later described as *A. siamensis*. Records of *A. albolineatus* from Peninsula Malaysia are also referable to *A. reinwardtii*.

The best available figure of *A. albolineatus* is that published by Seidenfaden (1978) under the synonym *A. siamensis*.

***Anoectochilus dewildeorum* Ormd., sp. nov.**

Fig. 1

Type: INDONESIA - Sumatra, Atjeh, Gunung Leuser Nature Reserve, above Penosan, 1600-1800 m, 31 March 1975, *de Wilde & de Wilde-Duyffjes 15909* (holotype: L!).

*Anoectochilus setaceus* auct. non Blume: Comber, Orch. Sumatra:45, photo., 2001.

*Affinis A. geniculato* Ridl. sed mesochilo labello recto (non geniculato), lobis epichilo obovato-ellipticis (non ligulatis-obcuneatis ad obdeltatis) et aliis columna posterioribus ad medio membrana connatis (non membrana ad basi connatis) differt.

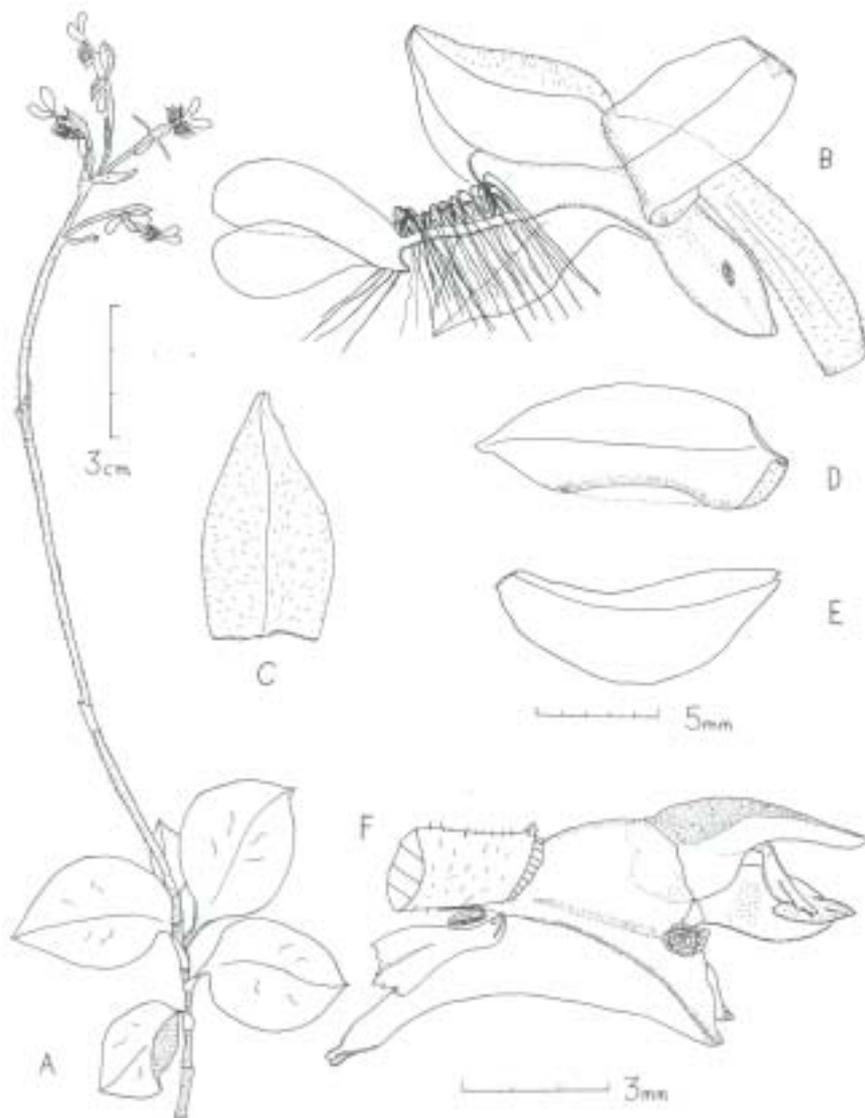


Fig. 1. *Anoectochilus dewildeorum*. A: Plant. B: Flower. C: Dorsal sepal. D: Lateral sepal. E: Petal. F: Column. A, B-E, and F to respective scales. Drawn from holotype.

Erect terrestrial herb, to 24.1 cm high in flower. Stem dull purplish, terete, 4-5-leaved in upper half, to 6.5 cm long, 0.2 cm thick; internodes 0.4-1.3 cm long. Leaves velvety brown to greenish with indistinct pink or golden reticulation above, pink-lilac below, obliquely ovate-suborbicular, acute, 2.5-3.6 cm long, 1.8-2.75 cm wide; petiole and sheath 0.7-1.2 cm long. Inflorescence pubescent, 17.6-19.2 cm long; peduncle 15.2-16 cm long; sheathing bracts two, remote, 1.5 cm or more long; rachis 4-6-flowered, 1.6-4 cm long; floral bracts pinkish, ovate-lanceolate, acute, 10-12 mm long, 4 mm wide. Pedicellate ovary dull purplish, cylindrical-subfusiform, pubescent, 14 mm long. Flowers resupinate, externally pubescent, pinkish outside, petals and lip white. Dorsal sepal ovate-elliptic, subobtuse, 10 mm long, 6 mm wide. Lateral sepals obliquely elliptic, subacute, 10 mm long, 4-4.5 mm wide. Petals weakly falcate-elliptic, subacute, 11 mm long, 4 mm wide. Labellum spurred, trilobed; spur fusiform, inside with two carunculate appendages, 6 mm long, 3 mm wide laterally; hypochile subquadrate-obcuneate, 5 mm long medially, 4.5-6 mm wide; sidelobes involute, semiorbicular, obtuse, 1 mm long; mesochile tubular, 3 mm long, each side crowded with slender fimbriae to 8.5 mm long; epichile bilobed, lobules obovate-elliptic, obtuse, 7.5 mm long, 3.4 mm wide. Column 7 mm long; columnwings with anterior part triangular, the 4 mm long posterior part lanceolate with half of the dorsal area connate to two membranes which connect to the spur wall.

Distribution: Indonesia (Sumatra).

Additional specimen examined: INDONESIA - Sumatra, Atjeh, Gunung Leuser Nature Reserve, Putjuk Angasan to Penosan, 1750 m, 14 April 1975, *de Wilde & de Wilde-Duyffes 16428* (L).

Notes: This species is closely related to *A. geniculatus* Ridl. but it differs from that species in having flowers with a much more densely fimbriate lip claw, obovate-elliptic (not ligulate-obcuneate to obdeltate) epichile lobules and columnwings which are halfway connate (not basally connate) to two membranes which connect to the inner walls of the spur.

***Anoectochilus falconis*** Ormd., sp. nov.

Fig. 2

Type: Peninsula Malaysia - Kedah Peak, 29 November 1915, *H. C. Robinson 5977A* (holotype: AMES!).

*Affinis A. reinwardtii* Blume sed aliis columna coalitum (non liberatum) differt.

Erect terrestrial herb, 14.5 cm tall in flower. Rhizome terete, creeping, rooting at nodes, 60 mm long, 1-2 mm thick; internodes 15-20 mm long. Stem short, terete, 3-leaved, 20 mm long, 1-1.5 mm thick. Leaves rosulate, ovate-elliptic to suborbicular, acute, 17-25 mm long, 13-17 mm wide. Inflorescence 1-2-flowered, pubescent, *ca.* 100 mm long; sheathing bracts two, remote, 13-17 mm long; floral bracts ovate-elliptic, acute, 7 mm long, 3 mm wide. Pedicellate ovary cylindrical-fusiform, pubescent, 13 mm long. Flowers resupinate, externally pubescent. Dorsal sepal ovate-elliptic, acute, 12 mm long, 5.5 mm wide. Lateral sepals obliquely elliptic, acute, 12 mm long, 4.5 mm wide. Petals dimidiately obovate-elliptic, acute, 12 mm long, 4 mm wide. Labellum spurred, trilobed; spur subcylindric-conical, obtuse, apex bilobed, inside with two shortly stalked caruncular appendages, 7 mm long; hypochile rectangular-subquadrate, 8 mm long, 6.5 mm wide; sidelobes involute, semicircular, obtuse, 1 mm long; mesochile tubular, 4 mm long, each side with about eight filaments 0.5-8 mm long; epichile bilobed, lobules ligulate-obcuneate, obliquely truncate, each 8 mm long, 3 mm wide. Column 8 mm long; substigmatic columnwings slightly decurved, broadly elliptic-semicircular, obtuse, externally with a weak medial ridge, free from main medial wings; main columnwings connate along lower margin, shortly free at posterior, obliquely truncate

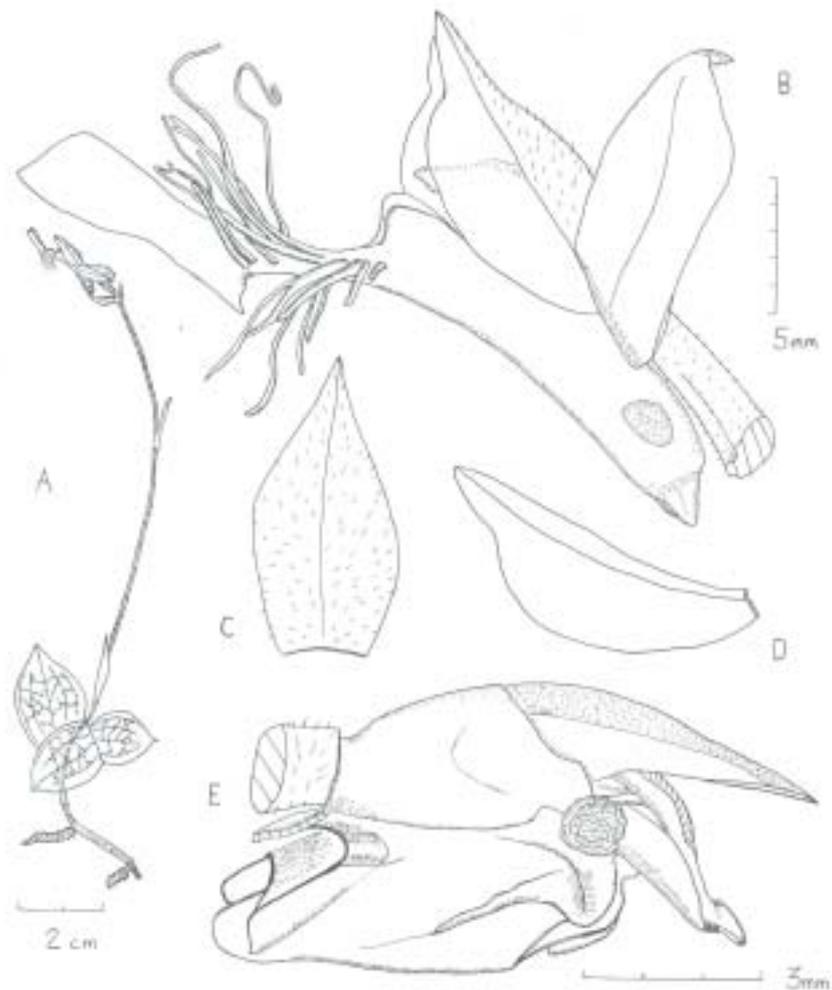


Fig. 2. *Anoectochilus falconis*. A: Plant. B: Flower. C: Dorsal sepal. D: Petal. E: Column. A, B-D, and E to respective scales. Drawn from holotype.

apically, posterior portion of wings oblong-elliptic and covered dorsally by a W-shaped saddle, the inside of the spur is connected to the exterior of these wings by a flap-like membrane.

Distribution: Peninsula Malaysia.

Notes: This species is closely related to *A. reinwardtii* Blume and occurs sympatrically with it on Kedah Peak. It differs from *A. reinwardtii* in that the smaller substigmatic columnwings are free from the main columnwings and that the main columnwings are united along the lower margin. In *A. reinwardtii* the columnwings are not divided into two pairs but each form a single wing that is free from the other.

***Anoectochilus geniculatus*** Ridl., J. Linn. Soc., Bot. 32: 406, 1896.

Types: Peninsula Malaysia - Johore, Gunong Panti, *Ridley s. n.* (syntype: lost?); Penang, West Hill (= Government Hill), 610 m, October 1886, *Curtis 1063* (syntype: SING!, isosyntype: K!); Malacca, Mt. Ophir, June 1892, *Ridley 3146* (syntype: SING!, isosyntype: BM!); SINGAPORE, Toas, *Ridley s. n.* (syntype: lost?); Chan Chu Kang, November 1890, *Goodenough s. n.* (syntype: SING!).

Distribution: Thailand; Malaysia; Indonesia (Sumatra).

Specimens examined: MALAYSIA - Sarawak, Matang, February 1908, *Hewitt 50* (SING); Sabah, near Menggis, 23 March 1995, *Rumuton 6* (K). INDONESIA - Sumatra, sine loc., 18 October 1900, *Daud s. n.* (SING); central part, Alahan Pandjang, Sarik, 610 m, 13 August 1904, *Micholitz s. n.* (K).

Notes: *Anoectochilus geniculatus* is more widespread than previously thought as indicated by the new records from Borneo and Sumatra cited above. It has been confused with the Sumatran endemic *A. longicalcaratus* J. J. Sm. in both the herbarium and literature (e.g. Beaman *et al.*, 2001) but it can be distinguished from that species in having flowers with cuneate to obdeltate (not suborbicular) epichile lobules and much longer columnwings which extend nearly to the spur apex.

### *Aspidogyne* Garay

This neotropical genus contains about 30 accepted species though further studies will most likely increase this number to about 50. The following new combination is required for the genus.

### *Aspidogyne gigantea* (C. H. Dodson) Ormd., comb. nov.

Basionym: *Erythrodes gigantea* C.H. Dodson, *Orquidologia* 22, 3: 196, fig. 216, 2003.

Type: Ecuador - Pastaza, Rio Zunag, north of Rio Topo, 2700 m, 23 February 1990, *Hirtz et al. 4653* (holotype: RPSC).

Distribution: Ecuador.

Notes: This remarkable species is said to be nearly three metres tall, making it the tallest plant among the Goodyerinae. However some doubt must be attached to the stated height of the plant because the illustration accompanying the description indicates a height of about 1.8 metres.

### *Goodyera* R. Br.

A pantropical and circumboreal genus of about 80 species with about 60 taxa in the Asian region, about 7 in the African-Madagascan area and 14 in Central and North America. I add one more species to the genus below.

### *Goodyera sumbawana* Ormd., sp. nov.

Fig. 3

Type: INDONESIA - Sumbawa, Mt. Batulanteh, near Brangbossang, 900 m, April 1961, *Kostermans 18820* (holotype: K!, isotype: BO, L).

*Affinis G. ruttonii* J. J. Sm. *sed foliis concoloribus (non alboreticulatis), pedunculo longioribus (6.9-11 vs. 2 cm) et epichilo labello ad medio in lineas crasse papilloso (vs. medio glabro) differt.*

Erect terrestrial herb, 20 cm or more tall in flower. Stem terete, laxly 3-5-leaved, 4.5-8 cm long, 0.1-0.3 cm thick. Leaves probably dark brownish, obliquely ovate, ovate-oblong to ovate-elliptic, acute, 3.1-5.3 cm long, 1.3-2.2 cm wide; petiole and sheath 1-1.1 cm long. Inflorescence glabrous, 14-15.5 cm long; peduncle 6.9-11 cm long; sheathing bracts 3-8, ovate-lanceolate, acute, 0.9-2 cm long; rachis densely many-flowered, 3.5-6 cm long; floral bracts ovate-lanceolate, acute, margins minutely erose-subciliate, 9-11 mm long, 2.8-3 mm wide. Pedicellate ovary cylindrical-fusiform, glabrous, 6.5 mm long. Flowers glabrous, greenish (immature?) or ivory white, lip with green stripes. Dorsal sepal ovate-elliptic, obtuse, concave, 3.3 mm long, 2 mm wide. Lateral sepals obliquely ovate-elliptic, obtuse, 4 mm long, 2 mm wide. Petals obliquely obovate-oblancheolate, obtuse, 3 mm long, 0.8-0.9 mm wide. Labellum

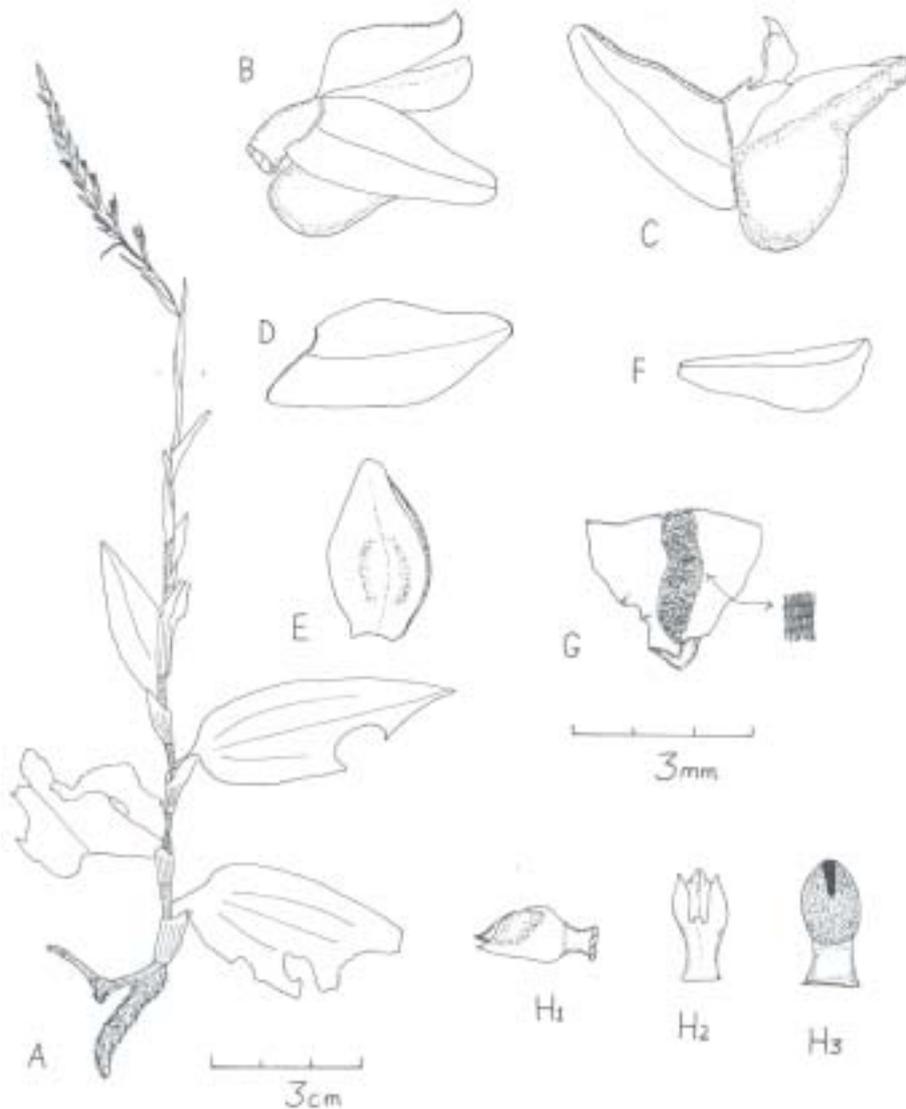


Fig. 3. *Goodyera sumbawana*. A: Plant. B: Flower. C: Labellum, column and lateral sepal. D: Lateral sepal. E: Dorsal sepal. F: Petal. G: Labellum epichile. H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>: Column-lateral, dorsal and ventral views. A and B-G to respective scales. H not to scale. Drawn from holotype.

spurred, trilobed, 3.25 mm long above; spur or sac semiglobose, shortly bilobed, inside with a few subulate appendages, about 2 mm wide laterally, with about 0.8 mm exposed beyond the base of the lateral sepals; epichile sessile, broadly ovate-deltate, apex obtuse-cucullate, medially with a dense band of papillae, 1.5-1.6 mm long, 2 mm wide. Column 2 mm long.

Distribution: Indonesia (Sumbawa).

Specimens examined: INDONESIA - Sumbawa, Mt. Batulanteh, 800-900 m, 22 April 1961, *Kostermans 18405* (K); l.c., *Kostermans 18406* (K); 700-1000 m, 27 April 1961, *Kostermans 18525* (K). Habitat: Moist forest on Andesite rock, 700-1000 m.

Notes: This species is related to *G. rutenii* J. J. Sm. from Seram in the Moluccas but it differs from that plant in the plain brown (not white reticulated) leaves, longer peduncle (6.9-11 vs. 2 cm), longer rachis (3.5-6 vs. 1.6 cm) and flowers in which the labellum epichile has a dense band of papillae along the centre.

***Odontochilus* Blume**

A genus of about 40 species when considered to include *Pristiglottis* Cretz. & J. J. Sm. and a few mycoparasitic taxa such as *O. poilanei* (Gagn.) Ormd. and *O. saprophyticus* (Averyanov) Ormd. A further two species are transferred to the genus below.

***Odontochilus asraoa* (Joseph & Abbareddy) Ormd., comb. nov.**

Basionym: *Evrardia asraoa* Joseph & Abbareddy, Bull. Bot. Surv. India 25: 232, 1983.

*Chamaegastrodia asraoa* (Joseph & Abbareddy) Seidenf. & A. Nageswara Rao, Nord. J. Bot. 14, 3: 299, 1994.

Type: NE India - Meghalaya, Khasia Hills, Pynursla, 1500m, *Joseph 73556* (holotype: CAL, isotype: ASSAM, MH).

Distribution: India (Meghalaya); Bhutan.

Notes: The floral characters (e.g. twisted column and flanged lip claw) of this plant are identical to those found in *Odontochilus*. It is most closely related to *O. poilanei* (Gagn.) Ormd. which is also a leafless mycoparasitic (i.e. "saprophytic") taxon.

***Odontochilus duplex* (Holt.) Ormd., comb. nov.**

Basionym: *Anoectochilus duplex* Holt., Gard. Bull. Singap. 12: 275, 1947.

Type: Peninsula Malaysia - Selangor, Semangkok Pass, February 1904, *Napier s. n.* (holotype: SING!).

Distribution: Thailand; Peninsula Malaysia.

Notes: Seidenfaden (1971) wrongly reduced this species to synonymy of *Anoectochilus repens* (Downie) Seidenf. & Smitin., believing the latter to have a double flange on each side of the claw of the lip like in *A. duplex*. Careful examination of the holotype of *A. repens* in Kew shows the lip to have only a single flange on each side and that it is conspecific with the widespread *Odontochilus tortus* King & Pantl.

Seidenfaden's (1971, 1978) illustrations called *Anoectochilus repens* actually depict *Odontochilus duplex* which in Thailand is found only in the peninsula and not in the north of the country.

***Zeuxine* Lindl.**

It is quite surprising that new taxa continue to be discovered and added to this large genus now consisting of about 90 species. The plant described below is one of five members of the genus now found in Sri Lanka.

***Zeuxine reginasilvae* Ormd., sp. nov.**

Fig. 4

Type: SRI LANKA - Ambagamuwa, 580 m, 18 January 1960, *Jayaweera 48* (holotype: AMES 88410!, isotype: AMES 89004!).

*Zeuxine regia* auct. non (Lindl.) Trimen: Jayaweera, Rev. Handb. F1. Ceylon 2: 320, fig. 141, 1981 pp.

*Affinis Z. parvifolia* (Ridl.) Seidenf. sed foliis argenteostriatibus (non concoloribus) et appendicibus labello erecto-cornutis (non prostrato-connatis et lamelliformis) differt.

Erect terrestrial herb, 16-26.5 cm tall in flower. Stem terete, laxly 3-5-leaved, rooting from lower internodes, 2-9.5 cm long, 0.1-0.15 cm thick; internodes 0.5-1.3 cm long. Leaves reddish-brown with a median silver-grey band, ovate to oblong-lanceolate, acute, 1.7-5.2 cm long, 0.7-1.85 cm wide; petiole and sheath 1-1.5 cm long. Inflorescence reddish-green,

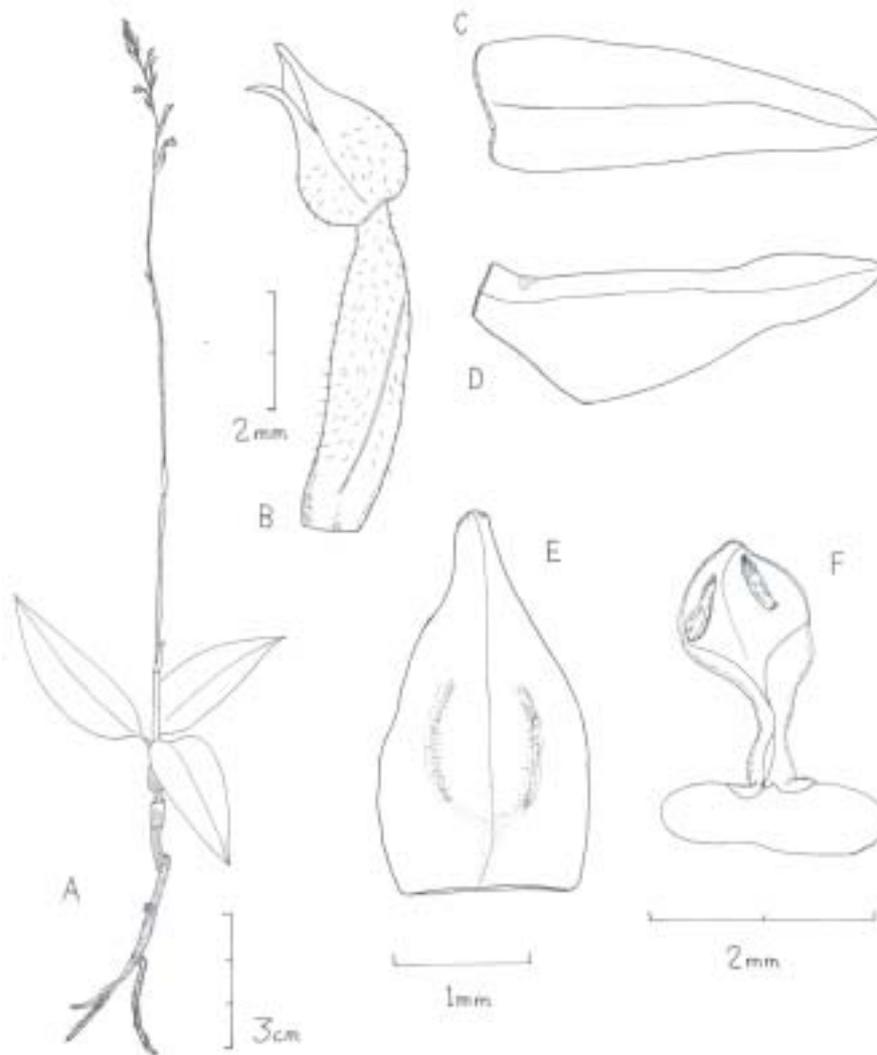


Fig. 4. *Zeuxine reginasilvae*. A: Plant. B: Flower. C: Lateral sepal. D: Petal. E: Dorsal sepal. F: Labellum. A, B, C-E and F to respective scales. A drawn from isotype, B-F from holotype.

pub-escant, 13-20.3 cm long; peduncle 10.7-17 cm long; sheathing bracts three, scattered, ovate-lanceolate, acute, 0.5-0.9 cm long; rachis laxly 4-10-flowered, 2-4 cm long; floral bracts reddish, ovate-lanceolate, acute or broadly ovate, acuminate, 4-5 mm long, 1-3 mm wide. Pedicellate ovary cylindric-fusiform, pubescent, 5-6 mm long. Flowers resupinate, externally lax pubescent in lower half, sepals reddish-green with margins and apex whitish, petals and lip white. Dorsal sepal concave, broadly ovate, obtuse, 3 mm long, 2 mm wide. Lateral sepals ovate-lanceolate, subacute, 3 mm long, 1 mm wide. Petals dimidiately ovate-rhombic, subacute, 3 mm long, 1 mm wide. Labellum trilobed, 2.8 mm long; hypochile saccate, ca. 1 mm long, 1 mm wide, inside each side with an erect, fleshy, cornute appendage; mesochile tubular, ca. 1 mm long; epichile transversely oblong, ca. 0.7 mm long, 2 mm wide. Column slender, ca. 1.5 mm long.

Distribution: Sri Lanka.

Additional specimen examined: SRI LANKA - sine loc., cult. Hort. Kew., 21 January 1954, ex Ballard s. n. (K).

Notes: This species is not related to its Sri Lankan congener *Z. regia* (Lindl.) Trimen as that taxon has glabrous flowers nearly three times the size those of *Z. reginasilvae*. It seems that *Z. reginasilvae* is much more similar to *Z. parvifolia* (Ridl.) Seidenf. from which it differs in having red-brown leaves with a silver-grey stripe and a labellum in which the internal appendages are erect, hornlike and joined to the hypochile sides only at the base.

In *Z. parvifolia* the leaves are pale green and the labellum has internal appendages which are connate most of their length to the inside of the hypochile with only a short decurved free part.

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## 斑葉蘭族群 (II)

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### 摘 要

由於持續進行館藏標本與文獻研究蘭科植物之斑葉蘭族而發現一些新的資料。名稱新組合與新種如下：*Anoectochilus dewildeorum* , *A. falconis* , *Aspidogyne gigantea* , *Goodyera sumbawana* , *Odontochilus asraoa* , *O. duplex* 與 *Zeuxine reginasilva*。

關鍵詞：蘭科，斑葉蘭族，新組合。