NOTES ON ZEUXINE LINDL. (ORCHIDACEAE: GOODYERINAE)

PAUL ORMEROD

Abstract. Notes are supplied on various species of the Jewel Orchid genus Zeuxine, particularly those taxa found in western Malesia, nearby Thailand, and Cambodia. Narrower circumscriptions are proposed for Z. gracilis and Z. parvifolia, whereas Z. flava is expanded into a broader concept. Zeuxine leucochila is reinstated, and the identities of Z. exilis and Z. rupestris are clarified. Zeuxine leucochila var. cambodiana is raised to species status as Z. cambodiana, and three new species are proposed, namely, Z. eryliae, Z. pseudogracilis, and Z. subquadrata.

Keywords: Zeuxine, new species, synonymy, Malesia

Zeuxine Lindl. is a genus of 90–100 tender, delicate terrestrial herbs, growing among leaf litter on the floors of various types of forest. Only a few species (Z. strateumatica [L.] Schltr. and its allies) grow in open places like fields and lawns. The plants have rather small (sepals 3–8 mm long) flowers, usually with greenish sepals, white petals and lip. Because of the superficial similarity (stems with wilted leaves at anthesis, usually with greenish sepals, white petals and lip. Because of the similarity [stems with wilted leaves at anthesis, usually with greenish sepals, white petals and lip.] It is intimated that more attention needs to be paid to certain floral parts of Zeuxine, especially the glands in the labellum, the profile of the column, placement of the stigma lobes, and shape of the rostellum lobes. Unfortunately, these parts can be difficult to study in old or poor herbarium material and may shrink or deteriorate.

Zeuxine cambodiana (Gagnep.) Ormerod, comb. et stat. nov. Basionym: Zeuxine leucochila Schltr. var. cambodiana Gagnep., in Lecomte, Fl. Gen. Indo-Chin. 6: 555. 1934. TYPE: CAMBODIA. Kep, 18 November 1904, Gagnepain (Holotype: L, not seen). Fig. 1.

Terrestrial herb. Rhizome terete, slender, short, to 16 mm long. Roots terete, pubescent, emerging from nodes. Stems erect, terete, 5–10 leaved, 47–75 × 2 mm; internodes to 24 mm long. Leaves obliquely oblong-lanceolate to ovate-elliptic, acute, 21–49 × 10–16 mm; petiole and sheath 9–16 mm long. Inflorescence pubescent, 87–173 mm long; peduncle 52–107 mm long; sheathing bracts two to three, lax to scattered, 12–18 mm long; rachis subdensely to densely many-flowered, 35–81 mm long; floral bracts ovate-lanceolate, acute, to 9 mm long. Flowers white, rose, slightly fragrant. Pedicel with ovary fusiform, laxly pubescent, ca. 7.5 mm long. Dorsal sepal ovate-lanceolate, acute, concave, forming a galea with the petals, ca. 5.0 × 2.5 mm. Lateral sepals obliquely ovate-lanceolate, acute, ca. 4.8 × 2.0 mm. Petals oblong-oblancoate, subacute, 2 veined, ca. 4.80 × 1.75 mm. Labellum ca. 4 mm long; hypochile saccate, ca. 2 mm long and wide, inside each side with a single, obliquely triangular gland with a short, decurved free tip; mesochile semitubular, ca. 1 mm long; epichile bilobed, ca. 1.0 × 4.5–5.0 mm, lobules cuneate, obtuse to truncate, ca. 2.25 × 1.50 mm. Column 2.0–2.1 mm long.

Distribution: Cambodia.

Gagnepain (1934) distinguished this taxon from the Thai Zeuxine leucochila by its broader leaves and inflorescence with more flowers. However, the isotype of Z. leucochila in Paris is a small specimen, thus these differences are somewhat artificial. Zeuxine cambodiana may be distinguished from Z. leucochila by the glands in the lip that are obliquely triangular with only a short, free apex (vs. subulate-lanceolate and mostly free), and the ligulate (vs. spathulate) arms of the rostellum.

Zeuxine clandestina Blume, Coll. Orch. Arch. Ind.: 70. 1858; Fl. Javae Ins. Adj. n.s. 1: 57. 1858. TYPE: INDONESIA. Java, Eastern part, F.A.C. Waitz s.n. (Holotype: L, not seen). Fig. 2.


Distribution: Indonesia (Java); Singapore; Malaysia (Peninsula).


Seidenfaden (1978) reported Zeuxine clandestina from Thailand, Peninsular Malaysia, and Singapore. However, the specimen from Peninsular Malaysia (Haniff 2405) is referable to Z. pseudogracilis, and the one from Singapore to Z. parvifolia. The collection from Thailand I haven’t seen, but it needs to be critically restudied. Nevertheless Z. clandestina likely occurs in Peninsular Malaysia since Holttum’s 1957 drawing agrees well the characters of the

I wish to thank herbarium and library staff at AMES, BM, and K for their help and hospitality during my visits. K, L, P, and SING also loaned material for this study. Paul Leong (SING) kindly sent images and drawings of Singaporean material of Z. clandestina.

1 P.O. Box 8210, Cairns 4870, Queensland, Australia; wsandave1@bigpond.com

© President and Fellows of Harvard College, 2018
ISSN: 1938-2944, DOI: 10.3100/hpib.v23iss2.2018.n10, Published online: 31 December 2018
Figure 1–4. 1, Zeuxine cambodiana (Gagn.) Ormerod. A, plant; B, flower; C, flower minus tepals; D, petal; E, labellum; F, column, ventral. Drawn from holotype. 2, Zeuxine clandestina Blume. A, flower; B, lateral sepal; C, G, petals; D, H, labella; E, F, columns. A–E from Bakhuizen van der Brink 6852 (L); F–H from Hassan & Leong SING 2011-523 (SING). 3, Zeuxine eryliiae Ormerod. A, plant; B, flower; C, flower minus tepals; D, dorsal sepal; E, lateral sepal; F, petal; G, labellum; I, H, column, lateral and ventral. Drawn from holotype. 4, Zeuxine exilis Ridl. A, flower; B, flower minus tepals; C, lateral sepal; D, petal; E, labellum; F, column. Drawn from lectotype.
species. Unfortunately, I have not seen any collections from Malaysia, though it is apparently common in the lowlands.

The specimens collected after the year 2000 from Singapore represent a new record for that country. Yet specimens collected from 1898 to 1917 by Ridley all represent Zeuxine parvifolia. I am not sure if the latter has become extinct in Singapore, but it does seem that the recent collections of Z. clandestina in Singapore represent a relatively new colonization event.

Zeuxine clandestina may be characterized by the leaves being green (not wilted) at anthesis, the relatively small, bilobed labellum epichile (1.7 mm wide, lobules 0.8 mm long), the short column (1.6 mm long) with a very short basal part, an elongate anther, and seemingly elongate rostellum bractia (this is due to the much reduced clinandrium, which exposes the pollinia and therefore ensures self-pollination).

The Singapore specimen illustrated had an aberrantly shaped labellum epichile, but other flowers agree in lip shape with the Javanese specimens.

Zeuxine eryliae Ormerod, sp. nov. TYPE: THAILAND. Khao Rum, 455 m, February 1922, E.G. Smith 578 (Holotype: K). Fig. 3.

Similar to Zeuxine clandestina Blume but differing in the labellum, which has a lateral flange on the mesochile, and subterete (vs. lanceolate) glands in the hypochile.

Terrestrial herb. Rhizome terete, creeping, fragment 16 mm long. Roots terete, pubescent, emerging from nodes. Stem erect, 4–5 leaved, 35–40 × 1 mm. Leaves obliquely lanceolate, acute, wilted at anthesis, 25–30 × 8 mm; petiole and sheath 4–5 mm long. Inflorescence pubescent, 140 mm long; peduncle 110 mm long; sheathing bracts 1, ca. 8.5 mm long; racis few (ca. 6), flowered, 30 mm long; floral bracts ovate-lanceolate, subacuminate, ca. 6 mm long. Flowers purplish, externally laxly pubescent. Pedicel plus ovary fusiform, laxy pubescent, 4–5 mm long. Dorsal sepal ovate-lanceolate, obtuse, concave, 3 veined, forming a galea with the petals, ca. 4.0 × 2.2 mm. Lateral sepals broadly oblong-lanceolate, obtuse, 3 veined, 3.40 × 1.25 mm. Petals oblong, obtuse, 1 veined, 3.7 × 1.0 mm. Labellum ca. 3.2 mm long; hypochile ca. 1.0 × 1.9 mm, inside each side with a retorose, subulate gland; mesochile semi-elliptic, externally papillose, ca. 1.2 mm long; epichile bilobed, transversely rectangular, ca. 1.2 × 3.1 mm, lobules subquadrate, 1.5–1.6 × 1.6 mm. Column 1.8 mm long, ca. 0.9 mm wide laterally.

Distribution: Australia (Christmas Island).

This species is closely related to Zeuxine gracilis, which occurs nearby on Java. It has been included in the synonymy of the latter (Barretto et al., 2011) but differs in having a flesher labellum mesochile, and narrower profile of the column with the stigma lobes set slightly further back. Zeuxine exilis was for 105 years known only from the type, despite several attempts to relocate it. It was apparently rediscovered in 2009 (Green et al., 2010). I have not seen the modern collections but would like to point out the case in Singapore where Z. clandestina taxon has apparently superseded Z. parvifolia, and the colonization of Verlaten Island by Z. pseudogracilis. A short description of the floral parts with a figure is provided to augment further studies of this enigmatic species.


Figure 5–8. 5, Zeuxine flava (Wall. ex Lindl.) Benth. ex J.D. Hook. A, flower; B, flower minus tepals; C, dorsal sepal; D, petal; E, labellum; F, column. Drawn from Carr 3177 (AMES). 6, Zeuxine parvifolia (Ridl.) K. Schum. & Fedde. A, flower; B, flower minus tepals; C, dorsal sepal; D, lateral sepal; E, petal; F, labellum; G, column. Drawn from Ridley s.n. (K). 7, Zeuxine parvifolia (Ridl.) K. Schum. & Fedde. A, flower; B, flower minus tepals; C, dorsal sepal; D, lateral sepal; E, petal; F, labellum; G, column. Drawn from Lamb AL 1208A/90 (K). 8, Zeuxine gracilis (Breda) Blume. A, flower; B, flower minus tepals; C, dorsal sepal; D, lateral sepal; E, petal; F, labellum; G, column. Drawn from Docters van Leeuwen 2328 (L).


Distribution: Nepal; India; Bhutan; China (Yunnan, Hong Kong); Myanmar; Thailand; Vietnam; Taiwan; Japan (Ryukyu); Philippines; Malaysia (Sabah).

Select specimens examined: THAILAND. Nan District, Hue Sala, 400 m, 10 March 1921, A.F.G. Kerr 396 (AMES). CHINA. Hong Kong, leg. S.C. Tse, April 1976, cult. G. Barretto 173 (K). MALAYSIA. Sabah: Mt. Kinabalu, Kadamaian River, Menetendok Gorge, 255 m, March 1933, C.E. Carr 3177 (AMES, K, SING); Menetendok River, 305 m, 25 March 1933, C.E. Carr SFN 26756 (SING).

I have for some time maintained the belief that Zeuxine benguetensis could be treated as a western sister species of Z. flava, being distinguished by its leaves that are green (vs. wilted) at anthesis, longer inflorescence peduncle, slightly smaller flowers, and T-shaped labellum (epichile lobules at right angles). However, none of these characters really stand up upon an examination of the broader material, and as such I agree with the widened species concept proposed by Lin et al. (2016).

The type material of Adenostylis benguetensis is rather poor, but it was possible to assess its characters from a flower preserved in glycerine at AMES. This showed it to have a number of floral features in common with Zeuxine flava, such as the retrorse glands in the lip, and two minutely papillose, small wings under the column. The same features are present in the Vietnamese Z. tonkinensis. The latter has narrower epichile lobules (1 mm wide), but even on the same plant (e.g., Carr 3177) the lobules can vary from 1.0 to 1.5 mm wide. Analysis of the description of Z. kantokeiensis leads me to place it in synonymy here too.

The main reason that influenced Garay and Sweet (1974) to place Zeuxine benguetensis and Z. sakagutii in the synonymy of Z. leucocilla seems to have been the width of the labellum epichile (3 mm wide). This was further compounded when Seidenfaden (1978) found the earlier name Hetaeria parvifolia Ridl., to which he also added Z. tonkinensis in synonymy, both taxa with a 3-mm-wide epichile. Both Z. leucocilla and Z. parvifolia differ from Z. flava in having white (not yellow) labellum lobules, erect (not retrorse) glands in the labellum hypochile, and glabrous (not papillose) column wings, or even lacking wings under the column.

Thus Zeuxine flava may be recognized by its leaves being either wilted or green at anthesis, the peduncles variable in length, the flowers with a bright yellow labellum epichile, that is Y- to T-shaped, 3–5 mm wide, the lobules 0.95–1.50 mm wide, retrorse glands in the hypochile, and two small papillose, small wings under the column. The type specimens cited from Sabah represent a new record for Borneo (and Malaysia).


Distribution: Indonesia (Java).

Specimen examined: INDONESIA. Java, Preanger Pandang, October 1916, W.M. Docters van Leeuwen 2328 (L).
Zeuxine gracilis has been recorded over a broad area from western India (Santapau and Kapadia, 1962) to Hong Kong, China (Barretto et al., 2011). However, it seems that none of the records outside Java can be substantiated and these are referable to a number of different species.

Thus, some of the Indian records of Zeuxine gracilis were found to belong to Z. blatteri C.C. Fischer, an entity occurring in India and Sri Lanka (Ormerod, 2002). Plants recorded from Odisha State, India (e.g., Misra, 2004) seem to be another entity again, perhaps closer to Z. pseudogracilis judging from the single collection (S. Misra SM 734B [K]) that I have been able to examine.

A record of Zeuxine gracilis from Borneo by Carr (1935) I have found above to represent Z. flava. However the record of Z. gracilis from Hong Kong (Barretto et al., 2011) appears to represent what is called Z. affinis (Lindl.) Benth. ex J.D. Hook. by Taiwanese authors (e.g., Lin et al., 2016), judging from the illustration provided by the former authors.

Seidenfaden (1978) attempted to define the true Zeuxine gracilis on the basis of Indonesian material, but unfortunately the plant he illustrated from Verlaten Island (= Pulau Sertung) is referrable to Z. pseudogracilis.

Zeuxine gracilis can be recognized by its leaves being wilted at anthesis, the labellum epichile bent at right angles to the mesochile, the rectangular lobules 1.4 × 1.0 mm, inside each side of the hypochile a lanceolate-subsulate forward-pointing gland, and the column (minus the rostellum brachia) distinctly obconical in shape (like the headlights of some 1930s cars), with each stigma lobe placed midway laterally.


Flowers with greenish sepals, white petals, and white labellum, externally pubescent. Pedicel with ovary fusiform, pubescent, 4–6 mm long. Dorsal sepal ovate-elliptic, obtuse, concave, 3 veined, forming a galea with the petals, 4.2 × 2.7 mm. Lateral sepals obliquely oblong-lanceolate, subacute, 3 veined, 3.80 × 1.85 mm. Petals obliquely oblong-ob lanceolate, acute to subacute, 4.0 × 1.3 mm. Labellum 3.5–3.8 mm long; hypochile ca. 1.5 × 2.6–2.7 mm, inside each side with a lanceolate-lanceolate-subsulate gland; mesochile semitubular, ca. 1.2 mm long; epichile ca. 1.0 × 3.6–4.2 mm, lobules oblique to patent, oblong to elliptic-ovate, obtuse, 1.9–2.1 × 1.2–1.3 mm. Column 2.4–2.5 mm long; rostellum brachia spathulate; wings 2, ventral, very low, thin.

Distribution: Thailand.

Specimens examined: THAILAND. Ban Den, near Palunamengo, 40 m, 9 December 1913, A.F.G. Kerr 334 (K); Meh Ping Rapids, 900 m, 15 December 1908, A.F.G. Kerr 212A (K).

Garay and Sweet (1974) recorded this taxon from the Ryukyu Islands and included four other heterotypic names in synonymy. Seidenfaden (1978) then reduced Zeuxine leucochila to Z. parvifolia, and also added Z. tonkinensis to the synonymy. Later authors (e.g., Hashimoto, 1986; Lin et al., 2016) have disputed the extensive list of entities referred to Z. parvifolia, a view with which I agree. Zeuxine leucochila may be generally distinguished from Z. parvifolia by its larger flowers (sepal 3.8–4.2 vs. 2.8–3.3 mm long), longer column (2.4–2.5 vs. 1.5–1.7 mm long) with longer, more spathulate rostellum brachia.

In my opinion Zeuxine leucochila is much more closely related to Z. affinis (Lindl.) Benth. ex J.D. Hook., resembling a small form of the latter. Zeuxine leucochila differs from Z. affinis in having a smaller labellum epichile (3.6–4.5 vs. 7.0–8.0 mm wide), entire (not bifid) glands in the hypochile, and a shorter column (2.4–2.5 vs. 3.0–3.5 mm long) with more distinctly spathulate rostellum brachia.

Thus, Zeuxine leucochila may be characterized by its flowers with a white labellum, small flowers (sepal 3.8–4.2 mm long), the labellum Y- to T-shaped, the epichile lobules oblong to obliquely obovate-elliptic, each 1.9–2.1 × 1.2–1.3 mm, entire, lanceolate to subulate glands in the hypochile, and a 2.4–2.5 mm long column with distinctly spathulate rostellum brachia.


Terrestrial herb. Rhizome terete, creeping, rooting at nodes. Roots terete, pubescent. Stem erect, terete, laxly 3–6 leaved, 49.0–90.0 × 0.5–2.2 mm; internodes 7.0–33.5 mm long. Leaves obliquely lanceolate, oblong-lanceolate to ovate-lanceolate, acute, green at anthesis, 8.0–43.0 × 4.2–11.5 mm; petiole and sheath 97–132 mm long; peduncle 59–100 mm long; sheathing bracts 1–3, 8–20 mm long; rachis subslaxly flowered, 32–38 mm long. Flowers externally pubescent. Pedicel plus ovary fusiform, pubescent, 5–6 mm long. Dorsal sepal ovate-elliptic, subacute, 3 veined, forming a galea with the petals, 3.0 × 1.6–1.8 mm. Lateral sepals obliquely ovate-lanceolate, acute, 2.8–3.0 × 1.0–1.3 mm. Petals oblong, acute, 1 veined, 2.9 × 0.9–1.2 mm. Labellum 2.5–2.7 mm long; hypochile saccate, 1.3–1.4 × 1.5–1.6 mm, inside each side with a subulate gland; mesochile semitubular, 0.5–0.8 mm long; epichile bilobed, 0.6–0.7 × 2.5–3.1 mm, lobules rectangular, 1.0–1.5 × 0.5–0.8 mm. Column 1.5 mm long; rostellum brachia narrowly clavate.

Distribution: Malaysia; Singapore.
Figure 9–12. 9, *Zeuxine leucochila* Schlr. A, flower; B, flower minus tepals; C, dorsal sepal; D, lateral sepal; E, petal; F, labellum; G, column. Drawn from isotype (K). 10, *Zeuxine pseudogracilis* Ormerod. A, plant; B, leaf; C, flower; D, flower minus tepals; E, dorsal sepal; F, lateral sepal; G, column; H, petal; I, labellum. Drawn from holotype. 11, *Zeuxine rupestris* Ridl. A, flower; B, flower minus tepals; C, dorsal sepal; D, lateral sepal; E, petal; F, column. Drawn from Lobb 434 (AMES). 12, *Zeuxine subquadrata* Ormerod. A, plant; B, flower; C, flower minus tepals; D, dorsal sepal; E, petal; F, lateral sepal; G, labellum; H, column. Drawn from holotype.
**Specimens examined:** MALAYSIA. Penang: Penang Island, dry track from waterfall, 12 March 1915, H.N. Ridley s.n. (K); Garden Jungle, Monday 15 th [no year], sine coll. (H.N. Ridley) s.n. (K); Richmond Road, March 1915, H.N. Ridley s.n. (K); Mt. Olivia, 245 m, 22 March 1923, R.E. Hultén 10284 (K, SING); Highlands Hill, 215 m, 20 January 1918, M. Nur 3033 (SING). Johore: Sungei Tukong Estate, 11 February 1931, G.H. Spare 1018 (SING). Sabah: Interior Zone, Tambunan District, near Batu Bajau, 1500 m, 16 January 1990, A. Lamb AL 1208A/90 (K). SINGAPORE. Garden Jungle, 5 May 1897, H.N. Ridley 8785 (SING); Garden Jungle, 1898, H.N. Ridley s.n. (SING); Garden Jungle, 1904, H.N. Ridley s.n. (AMES); Garden Jungle, January 1917, H.N. Ridley s.n. (K); Bukit Timah, 1899, H.N. Ridley s.n. (SING).

The material available of this species is often in a poor state and difficult to study. I provide two figures, the first is from the type locality (Penang Island), collected by Ridley on the 12 th March 1915. The second is from the Sabah specimen, a new record for Borneo. The identity of the Bornean collection may be questioned when more material is available; it differs from the other specimens in having larger flowers (sepals 3.7–3.9 mm long) and the stigma lobes that are in line with the rostellum brachia.

**Zeuxine parvifolia** may be distinguished from the other material. The plant is somewhat larger (stems to 14 cm long), peduncle 11.7–15.1 cm long, the flowers slightly larger (sepal 3.2–3.4 mm long), the labellum longer (3.2 mm), and the epichile lobules to 1.7 × 1.0 mm. Thus the above description is based on the non-deviating specimens.

**Zeuxine pseudogracilis** Ormerod, sp. nov. TYPE: INDONESIA. Sumatra, Dolok Merangir, 245 m, 6 February 1932, W.N. Bangham & C.M. Bangham 943 (Holotype: AMES). Fig. 10.


Related to **Zeuxine gracilis** (Breda) Blume but the column semi-obconical (vs. obconical) in profile, and the stigma lobes placed at base of rostellum brachia (vs. halfway laterally on column).

**Distribution:** Malaysia (Penang); Indonesia (Sumatra).

**Specimen examined:** MALAYSIA. Penang Island, Government Hill, 760 m, 22 January 1907, M. Haniff 2405 (AMES, K, SING).

**Etymology:** from the Classical Greek prefix pseudo-, false, and the species name gracilis, in reference to the similarity with **Z. gracilis**.

This taxon has been mistaken for **Zeuxine gracilis** but may be distinguished from it by the shape of the column and placement of the stigma lobes. It is also closely related to **Z. exilis** but again differs from that in the profile of the column (gently curved dorsally in basal half vs. abruptly raised from the base), and the obliquely angled down (vs. horizontal) rostellum brachia.

Seidenfaden (1978) illustrated a specimen (as **Zeuxine gracilis** of **Z. pseudogracilis** from Verlarten Island (now Pulau Sertung)). This is a very interesting find because Verlarten Island is next to Krakatau (or Krakatoa) Island in the Sunda Strait between Java and Sumatra. The flora of Verlarten Island was obliterated by the famous eruption of Krakatau in 1883. Therefore, the occurrence of **Z. pseudogracilis** on Verlarten Island appears to be from a later colonization event. In my opinion it is highly likely **Z. pseudogracilis** will also be found on Java.


**Distribution:** Malaysia (Penang Island).

**Specimens examined:** MALAYSIA. Penang: Penang Island, Government Hill, 610 m, 1894, M. Haniff s.n. (K);
Zeuxine subquadrata  

Ormerod, sp. nov.  

TYPE: Malaysia. Sabah: Ranau District, East Mesilau River, between Mt. Kinabalu golf course site and Mesilau Cave, 1700–1900 m, 26 March 1984, J.H. Beaman 9147 (Holotype: K). Fig. 12.

Related to Zeuxine baliensis J.J. Sm. but with larger (20.0–32.0 × 7.5–13.0 mm vs. 19.5 × 8.5–10.0 mm) leaves, rachis longer (vs. much shorter) than the peduncle, bearing more (ca. 23 vs. 3–4) flowers, with a smaller (2.1 vs. 2.6 mm wide) labellum epichile, and oblong (vs. dimidately ovate-ligulate) petals.

Terrestrial herb. Rhizome not seen. Roots terete, pubescent, emerging from nodes. Stem erect, terete, sublaxly 8-leaved, 95 mm long, to 2.5 mm thick; internodes 9–21 mm long. Leaves obliquely ovate-lanceolate, acute, withering during anthesis, 20.0–32.0 × 7.5–13.0 mm; petiole and sheath to ca. 10 mm long. Inflorescence pubescent, 155 mm long; peduncle 65 mm long; sheathing bracts 2, remote, 16 mm long; rachis secundly ca. 23 flowered, 90 mm long; floral bracts lanceolate, acute, to 12 × 3 mm. Flowers externally pubescent, color not known. Pedicel with ovary fusiform, pubescent, to 6 mm long. Dorsal sepals obliquely ovate-lanceolate, obtuse, 3 veined, forming with the petals a galea, ca. 3.5 × 2.5 mm. Lateral sepals obliquely ovate-lanceolate, subacute, 3.8–4.0 × 1.5 mm. Petals oblong, acute to subacute, 2 veined, 4.0 × 1.1 mm. Labellum 3.2–3.5 mm long; hypochile saccate, 1.8 × 2.0 mm, inside each side with a linear-lanceolate gland; mesochile semitubular, 0.8 mm long; epichile bilobed, transversely rectangular, 0.9–1.0 × 2.1 mm, lobules subquadrate, ca. 0.9 × 0.7–0.8 mm. Column ca. 1.8 mm long; rostellum brachia ligulate, truncate.

Distribution: Malaysia (Sabah).

Habitat: oak-laurel forest on Trusmadi Formation and intrusive, 1700–1900 m.

Etymology: from the Classical Latin prefix sub-, below or almost, and quadratus, four-sided, in reference to the shape of the labellum lobules.

This species appears to be related to Zeuxine baliensis J.J. Sm. from Bali, Indonesia. It differs in having larger leaves, a more floriferous rachis longer than the peduncle, flowers with narrower petals, and smaller labellum epichile.

Literature Cited


