



Panisea moi, a new species (Orchidaceae: Epidendroideae) from Hainan, China

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Abstract

A new species, *Panisea moi* (Orchidaceae: Epidendroideae: Coelogyninae) from Mount Wuzhi and Mount Jianfengling of Hainan Island is described and illustrated. The most significant differences from the closest species, *P. vinhii*, are that *P. moi* has subentire labellum, two longitudinal labellum keels that extend from middle of the hypochile to 2/3 of the length of the epichile and thickened at the ends; the rachis is also straight.

Key words: Chinese Orchidaceae, Coelogyninae

Introduction.

Panisea (Lindley) Lindley (1854: 1) belongs to the subtribe Coelogyninae (Orchidaceae); in the genus there are about 11 species, ranging from northern part of tropical Asia almost to Indochina and the Himalayas (Seidenfaden 1975, Chen 1980, Lund 1987, Averyanov & Averyanova 2006, and Subedi *et al.* 2011). *Panisea* differs from its allies by its subequal perianth segments and a more or less sigmoid labellum base.

There are five *Panisea* species in China, one endemic (Chen *et al.* 2009). During our botanical expedition to Hainan Island in March 2011, we found a new species described below.

Panisea moi M.Z.Huang, J.M.Yin & G.S.Yang, *sp. nov.* (Fig. 1–2)

Species P. vinhii Aver. et Averyanova *affinis*, sed *labello subintegro, carinis longioribus, e medio hypochili ad 2/3 epichili extenso, extrama carinarum inflatis differt.*

Type:—China: Hainan: Wuzhishan City, Mount Wuzhi, tree trunk near crest of hill, 1550 m, 16 March 2011, Huang 747938 (holotype: IBSC!).

Epiphytic herb. Pseudobulbs densely caespitose, ovoid to subspherical, 1.0–1.2 cm tall, 0.8–1.0 cm wide, with 2 apical leaves, smooth when young, with 2–4 brown cataphylls at base, coarsely wrinkled at old age. Leaves narrowly elliptic to broadly lanceolate, 3.0–6.0 cm × 0.8–1.0 cm, base conspicuously contracted to 3–5 mm. Inflorescence a short apical raceme, synanthous, 3–6 flowered; with a 1.5–2.0 cm stalk, and a 1.0–2.5 cm rachis. Bracts persistent at least to the end of flowering, broadly ovate, yellowish, 6–8 × 3–4 mm. Flowers white, odorless, labellum with a Y-shaped yellow spot. Sepals with longitudinal raised keels, triveined, 8.0–9.0 × 2.5–3.0 mm, dorsal sepal ovate, lateral sepals oblique, slightly flexuose, elliptic. Petals narrowly ovate to oblong, trinerved, 8–9 mm × 2–3 mm. Labellum 7.0–8.0 × 3.5–4.0 mm, sigmoid, curved to the right for the first third to form a hypochile and epichile; hypochile ca. 3 × 2 mm, concave at base, with two unobscured triangular side-lobes at the end; epichile oblong, ca. 5 × 3 mm, with undulate or serrate margin,



FIGURE 1. *Panisea moi*. **A, B.** Habit. **C.** Flowers. Photograph by Ming-Zhong Huang.

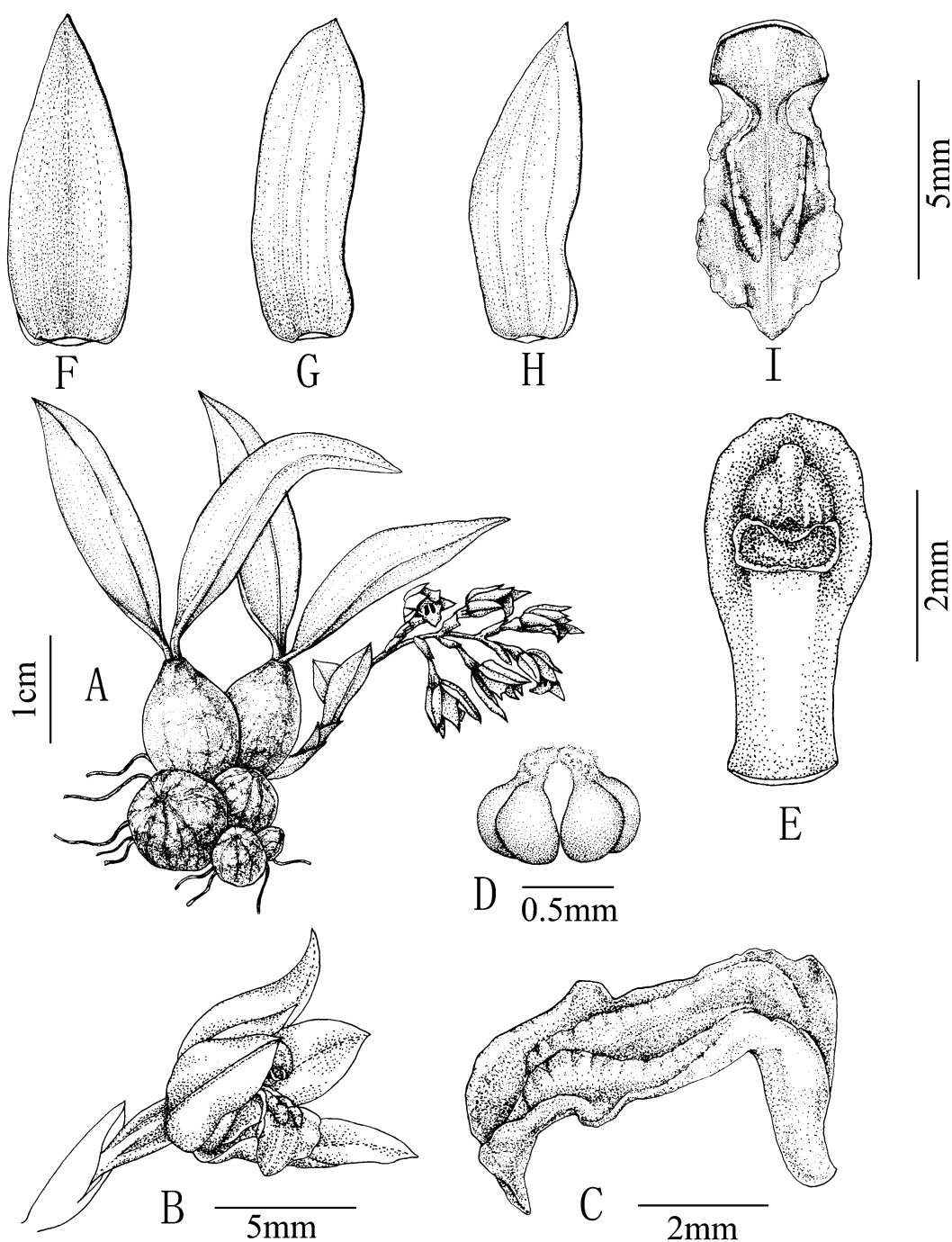


FIGURE 2. *Panisea moi*. **A.** Habit. **B.** Lateral view of flower. **C.** Lateral view of labellum. **D.** Pollinia. **E.** Column. **F.** Dorsal sepal. **G.** Petal. **H.** Sepal. **I.** Flattened labellum. Illustration by Wang-Bo Chen and Lu-Ping Luo based on the holotype.

recurved, mucronate; callus with 2 longitudinal lamellae extending from the mid-hypochile to 2/3 of the epichile; lamellae slightly crenulate, thickened terminally. Column 4.5–5.0 mm long, 2.0–2.5 mm wide, with conspicuous lateral wings, broadening apically. Anther cap hemispherical, ca. 1 mm across; pollinia 4, in 2 pairs, unequal, subspherical. Pedicel and ovary 7–8 mm long. Capsule ellipsoidal, ca. 1.7 × 0.7 cm, triridged, shallowly winged; fruiting pedicel 3–5 mm. Flowering March. Fruiting September.

Distribution and habitat:—*Panisea moi* grows on trunks of tall trees in the jungle or on shrubs on hill crests at 1200–1850 m elevation. It is known from Mount Wuzhi and Mount Jianfengling on Hainan Island.

Phenology:—The new species is in flower in March with fruiting in September.

Etymology:—The specific epithet honors the first author's tutor Prof. Rao Mo (1963–2012), who focused his life on the breeding of orchids and other tropical ornamental plants on Hainan Island.

Relationships:—*Panisea moi* is closely related to *P. vinhii* Aver. et Averyanova (2006: 27) from Vietnam and shares similar sepals and petals. *Panisea vinhii* has a distinctly tripartite labellum, two short keels along the epichile and a hysteranthous inflorescence with a zigzag rachis (Averyanov & Averyanova, 2006), whereas *Panisea moi* has subentire labellum and two keels with dilated ends extending from hypochile to epichile and a synanthous inflorescence with a rachis straight. *Panisea moi* is also morphologically similar to *P. albiflora* (Ridley) Seidenfaden (1975: 87), but can be distinguished by the following characters: an entire labellum, a colourless callus at the base of labellum and sepal with five veins (Lund, 1987). Table 1 shows differences of the three species.

TABLE 1. Differences between *P. moi*, *P. vinhii* and *P. albiflora*.

Character	<i>P. moi</i>	<i>P. vinhii</i>	<i>P. albiflora</i>
Rachis	straight	zigzag	straight
Labellum type	subentire	distinctly trilobed	entire
Callus position	hypochile and epichile	epichile	hypochile
Epichile margin	undulate	undulate	neat
Labellum disc color	yellow	yellow	colourless
Sepal vein number	3	3	5
Elevation	1200–1850 m	800–950 m	1900–2300 m

Additional specimen examined (paratype):—CHINA: Hainan: Ledong Country, Mount Jianfengling, tree trunk near crest of hill, 1380m, 12 March 2012, *Huang 143272* (HITBC!).

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References

- Averyanov, L.V. & Averyanova, A.L. (2006) New orchids from Vietnam. *Komarovia* 4: 1–35.
- Chen, S.C. (1980) The orchid genus *Panisea* Lindl. in China. *Acta Botanica Yunnanica* 2: 300–305.
- Chen, S.C. & Jeffrey, J.W. (2009) *Panisea* (Lindley) Lindley. In: Wu, Z. Y., P. H. Raven & D. Y. Hong (eds.), *Flora of China*. 25. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis. 333–334 pp.
- Lindley, J. (1854) *Folia orchidacea* 5:1. Mathews, London. 2 pp.
- Lund, I.D. (1987) The genus *Panisea* (Orchidaceae), a taxonomic revision. *Nordic Journal of Botany* 7: 511–527.
- Seidenfaden, G. (1975) Contributions to a revision of the orchid flora of Cambodia, Laos, and Vietnam. *Fredensborg*. 87 pp.
- Subedi, A., Chaudhary, R.P., Vermeulen, J.J. & Gravendeel, B. (2011) *Panisea panchaseensis* sp. nov. (Orchidaceae) from central Nepal. *Nordic Journal of Botany* 29: 361–365.