

Vanilla shenzhenica Z. J. Liu & S. C. Chen, the first new species of Orchidaceae found in Shenzhen, South China

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Abstract *Vanilla shenzhenica* Z. J. Liu & S. C. Chen, a new species of Orchidaceae, is described and illustrated. This is the first new species of Orchidaceae found in Shenzhen, South China. It is akin to *Vanilla somai* Hayata, from which it differs by having 4-flowered inflorescences, not fully opening flowers with their unlobed lip joined 3/4 of its length to the column, and a retrorse tuft of fimbriate appendage in the upper part of the lip.

Key words *Vanilla*, *Vanilla shenzhenica* Z. J. Liu & S. C. Chen, Orchidaceae, new species, Shenzhen, China.

Vanilla Plumier ex P. Miller is a pantropical genus of some 70 species. There have been many specimens collected from southern China since last century, though only two species were recognized in this country (Chen, 1999). Until recently most of the specimens remained unidentified due to lacking any flower available. This is the third species of *Vanilla* known from China and the first new orchid found in Shenzhen city. It was collected from a thinly wooded slope along a valley in Longgang of Shenzhen at an altitude between 300 and 400 meters. The plants were found climbing over the rocks or tree trunks in more or less shaded places. They flowered in February and March, each flower lasting 7–10 days. The new species is akin to *V. somai* Hayata, from which it differs by having 4-flowered inflorescences, not fully opening flowers with their purple-red lip joined 3/4 of its length to the column and a retrorse tuft of fimbriate appendage in the upper part of the lip. A description of the new species and a key to three Chinese species are provided as follows:

***Vanilla shenzhenica* Z. J. Liu & S. C. Chen, sp. nov.** Fig. 1

Species nova *Vanilla somai* Hayata affinis, a qua inflorescentiis 4-floris, floribus non perfecte aperientibus, labello non trilobato purpureo-rubro 3/4 ipsius columna connato, appendice fimbriata supra medium inserta bene differt.

A climbing plant. Stem usually 1–1.5 m long, branching, distichously many-leaved, internodes 5–10 cm long. Leaves coriaceous, elliptic, 13–20 cm long, 5.5–9.5 cm wide, deep green, acute at apex, base short-petioled. Inflorescences arising from the axils of the leaves, racemose, 3–5 cm long, spreading horizontally, usually 4-flowered; bracts large, coriaceous, oblong, 1.8–2.1 cm long; pedicel and ovary greenish, 2.3–2.6 cm long; flowers not fully opening, yellowish-green with purple-red lip and white appendages on it, not fragrant; dorsal sepal nearly oblong-lanceolate, concave, 4.5–4.7 cm long, 1.6–1.8 cm wide, obtuse-acute and incurved at apex; lateral sepals elliptic, concave, 4.6–4.8 cm long, 1.8–1.9 mm wide, acute at apex; petals elliptic, 4.6–4.8 cm long, 2.6–2.8 mm wide, obtuse at apex, with a raised mid-vein dorsally; lip tubular, very broadly obovate when spreading, 4.4–4.6 cm long, 3–3.2 cm wide, fused basally 3/4 of its length to the column, unlobed, strongly undulate-margined, above the middle with a retrorse tuft of white fimbriate appendage composed of many thin pieces, and 3–5 rows of small horn-shaped appendages, and 2 lamellae extending from the

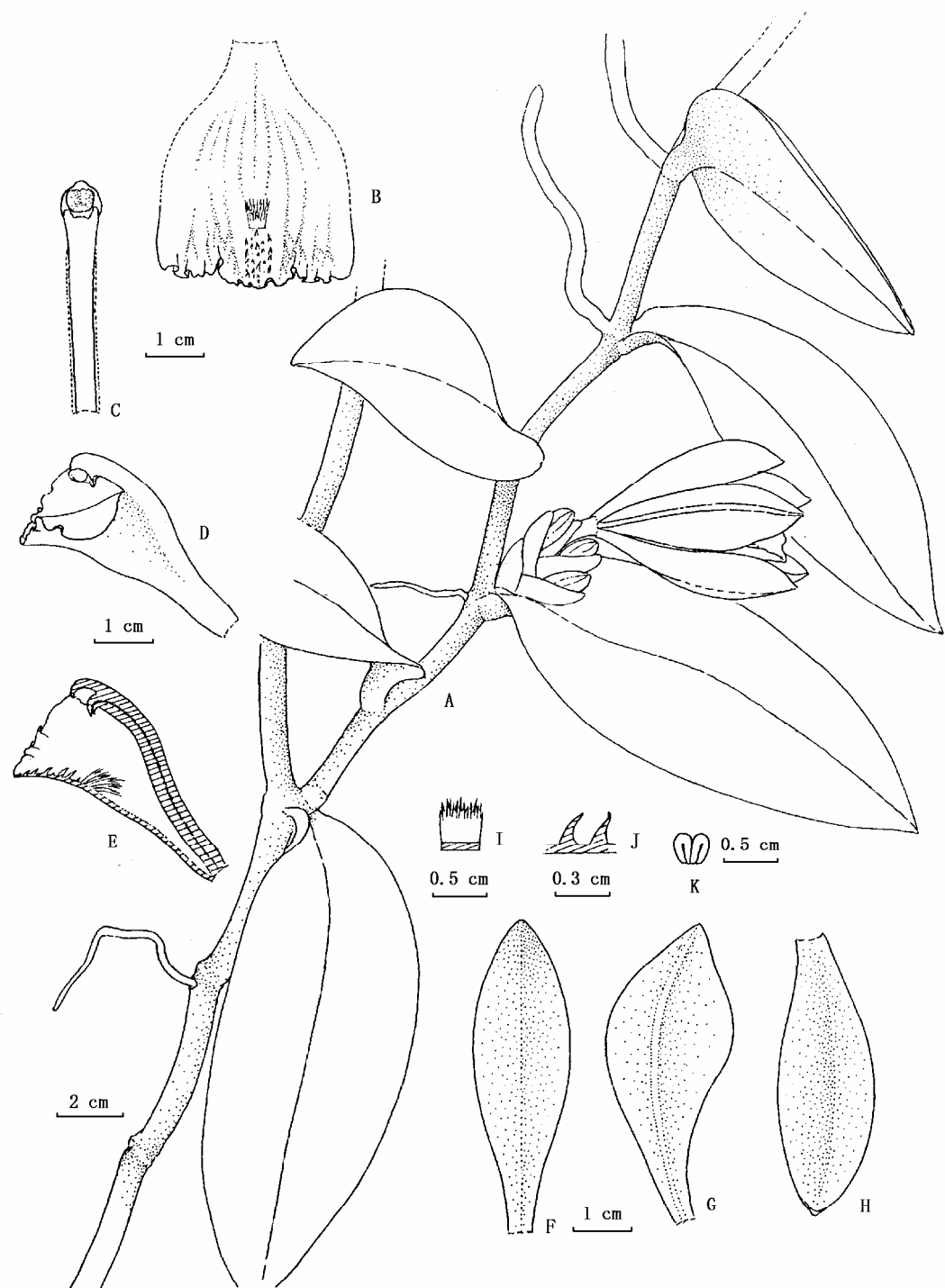


Fig. 1. *Vanilla shenzhenica* Z. J. Liu & S. C. Chen. A, flowering plant; B, lip; C, column, front view; D, column and lip, side view; E, column and lip, longitudinal section; F, dorsal sepal; G, petal; H, lateral sepal; I, fimbriate appendage, transverse section; J, horn-shaped appendages, longitudinal section; K, pollinia. Drawn by L. J. Chen from Z. J. Liu 3025.

base up to the fimbriate appendage; column 3.8–4.2 cm long; pollinia 4, powdery. Fl. Feb.–Mar.

China. Guangdong (广东): Shenzhen (深圳), Longgang (龙岗), Meishajian (梅沙尖), alt. 300 m, on tree trunk and rock along a valley, 22 Feb. 2005, Z. J. Liu (刘仲健) 3025 (holotype, NOCC) (NOCC=Herbarium, The National Orchid Conservation Center, China).

Distribution: China, Guangdong (广东), Shenzhen (深圳), Longgang (龙岗) (22°37′–22°39′ N, 114°17′–114°22′ E), alt. 300–400 m, on tree trunks or rocks along a shaded valley.

This species can be easily distinguished from *V. somai* by having 4-flowered inflorescence, not fully opening flowers with their unlobed lip joined 3/4 of its length to the column and a retrorse tuft of fimbriate appendage in the upper part of the lip.

It was said that three species of *Vanilla*, *V. planifolia* G. Jackson, *V. pompona* Schiede and *V. tahitensis* J. W. Moore, were once introduced into China, but only *V. planifolia* has fruited. None of them has been known escaping or being naturalized in China. The new species differs from *V. planifolia* by having purple-red lip and not fully opening flowers, from *V. pompona* by elliptic petals up to 2.6–2.8 cm broad and from *V. tahitensis* by not fully opening flowers and a fimbriate appendage composed of many thin pieces on the upper part of the lip.

Key to three Chinese species

- 1. Inflorescences 10–14 cm long, with 10 or more flowers (Yunnan).....**V. siamensis** Rolfe ex Downie
- 1. Inflorescences 3–5 cm long, with 2–4(–5) flowers.
 - 2. Inflorescences usually 2-flowered; flowers white-green with pink or yellow lip (Taiwan).....**V. somai** Hayata
 - 2. Inflorescences usually 4-flowered; flowers yellowish-green with purple-red lip (Shenzhen).....**V. shenzhenica** Z. J. Liu & S. C. Chen

Acknowledgements We thank Miss L. J. Chen for the preparation of the illustration.

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深圳香荚兰，首次发现于华南深圳的兰科新种

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摘要 对兰科新种深圳香荚兰 *Vanilla shenzhenica* Z. J. Liu & S. C. Chen作了描述与绘图。此新种为深圳发现的第一个兰科新种，与台湾香荚兰 *V. somai* Hayata有亲缘关系。但是，本新种花序具4花，花较大，不完全开放；唇瓣不裂，紫红色，基部与蕊柱合生长度达3/4，刷状附属物位于唇盘的上部，甚易区别于台湾香荚兰。

关键词 香荚兰属；深圳香荚兰；兰科；新种；深圳；中国