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**NOTE**

# A New Synonym of *Odontochilus saprophyticus* (Goodyerinae: Orchidoideae: Orchidaceae)

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ABSTRACT: *Zeuxine hainanensis* H. Xu, H. J. Yang & Y. D. Li is treated as a heterotypic synonym of *Odontochilus saprophyticus* (Aver.) Ormerod in the present communication. Detailed description and relevant photographs are provided to facilitate identification of the species.

KEY WORDS: China, heteromycotrphic, orchids, taxonomy, Vietnam.

## INTRODUCTION

The genera *Odontochilus* Blume and *Zeuxine* Lindl. are members of subtribe Goodyerinae Ridl. which is predominantly represented by small, terrestrial orchids and very unique in their floral as well as vegetative morphology. *Odontochilus* is represented by ca. 40 species, distributed in North India and the Himalayas, through SE Asia, as far north as Japan, east to the SW Pacific islands, of which 11 species have been found in China (Chen *et al*., 2009a). *Zeuxine* consists of ca. 80 species, distributed from tropical southern Africa across the Indian Ocean to tropical and subtropical Asia, New Guinea, north-eastern Australia, and the south-western Pacific islands (Chen *et al.*, 2009b). These two genera are similar in lacking of shining golden reticulations on the upper surface of leaves (but sometimes with white to silvery-grey bands on veins or only on mid-vein), stigmas with two lobes (sometimes connivent as one stigma in *Odontochilus*) and lip with saccate base, but *Zeuxine* differs from *Odontochilus* in having much shorter mesochile which lacks any filament or dentate flange. Moreover, the column, anther cap and also the pollinia are not twisted and the stigma lobes are lateral (not frontal) in *Zeuxine*.

*Pristiglottis saprophytica* Aver. was described by Averyanov from Vietnam (Averyanoy and Averyanova, 2003) which was transferred to *Odontochilus* and kept under the sect. *Evrardia* Ormerod mainly due to its column-structure and mycoparasitic (or "saprophytic") habit by Ormerod (2003). This treatment was later supported by Averyanov (Averyanov, 2008) where he reported the species as endemic in Vietnam. Subsequently, the species was reported in China by Song *et al*. (2009) from Hainan Island, and by Wu *et al.* (2011) from Guangxi.

*Zeuxine hainanensis* H. Xu, H. J. Yang & Y. D. Li was described based on specimens collected from Hainan Island (Xu *et al.*, 2012). The authors compared this 'new species' with *Z. membranacea* and discriminated it in having pubescent petals, and a Y-shaped and 10–12 mm long lip. With critical study of types and protologue of *Z. hainanensis*, we found that it is not at all a *Zeuxine* member but a species of *Odontochilus*, viz. *O. saprophyticus* which is evident by its relatively long mesochile with papillate flanges. Both *Z. hainanensis* and *O. saprophyticus* are saprophytic and sharing similar vegetative as well as reproductive features. Comparing the morphological characteristics of these two species we concluded that *Z. hainanensis* and *O. saprophyticus* are indistinguishable. The diagnostic characters of these two species are overlapping and both of them possess 3-partite lip, saccate hypochile with 2 large lateral simple glands, involute mesochile with numerous fat warts and papillae on flanges and the spreading bilobed epichile. Therefore, on applying the 'Principle of Priority' of Melboume Code (McNeill *et al.*, 2012), *Z. hainanensis* is treated as a heterotypic synonym of *O. saprophyticus* in the present communication.

## TAXONOMIC TREATMENT

***Odontochilus saprophyticus*** (Aver.) Ormerod (Fig. 1) in Taiwania 48 (3): 141. 2003. Types: Vietnam. Lam Dong Prov., Lac Duong Distr., Nui Gia Rich ridge, Averyanov *et al. VH 3977a* (holotype: HN, photo!; isotype: LE). *Pristiglottis saprophytica*



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**Fig. 1.** ***Odontochilus saprophyticus*****. A: Holotype. B: Close-up of flowers. C: A flowering twig (shoot). (B–C were taken in Yinggeling, Hainan Island).**

Aver., Updated Checklist Orchid Vietnam: 54, 90, fig. 9. 2003.

*Zeuxine hainanensis* H. Xu, H. J. Yang & Y. D. Li in Ann. Bot. Fenn. 49 (2): 134–136. 2012, ***syn. nov.*** Types: China. Hainan Prov., Jianfengling National Nature Reserve, 18°48′N, 108°56′E, 980 m, in tropical rainforest, 17 June 2008, *H. Xu JFL 01128* [Holotype: CANT, photo!]; China. Hainan Prov., Jianfengling National Nature Reserve, 18°48′N, 108°56′E, 980 m, in tropical rainforest, 17 June 2008, *H. Xu JFL 01129* [Paratype: IBSC, photo!].

Description: Herb, terrestrial achlorophyllous, up to 22 cm tall. Rhizome rootless, 2–4.5 cm long. Stem erect, pink-brown, glabrous, with 6–7 sheathing scales; scales overlapping, membranous, pubescent outside. Rachis pubescent, terminal with 3–16 flowers. Floral bracts elliptic-ovate to ovate-lanceolate, 6–11.5 × 2–5.7 mm long, acuminate at apex, pubescent on outer surface. Flowers resupinate; ovary plus pedicel 7–11 mm, pubescent. Sepals sub-similar, olive pinkish-brown, sparsely hairy on outer surface; doral sepal appressed to petals, forming a hood, ovate, 4.5–6 × 2–3.2 mm, obtuse at apex, 1-veined; lateral sepals slightly oblique, spreading, 6.2–9 × 2–3.3 mm, subacute at apex, 1-viend. Petals white, with pinkish brown tinge on lower half part, lanceolate, oblique, 4–6 × 1–2 mm, acute at apex, 1-veined. Lip white, T-shaped, 9–12 × 7–7.5 mm; hypochile concave-saccate, aseptate, containing 2 sessile ligulate calli inside at either side; mesochile 4–6 mm long, with numerous warts and papillae on the flanges; epichile spreading, 2-lobed;



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lobules more or less diverging, subquadate-obvate to suborbicular, 3–5 × 3.5–4.5 mm, margins crenulate. Column 1.5–4 mm long, narrowing to base with 1 large swelling stigma, with 1.5–2.4 mm long twisted restellar arms and 2 semicircular to cordate wings at front; anther cap narrowly ovate, 2–3 mm long, pinkish brown, acute, twisted at apex; pollinia 2, yellow, curved. Fl. May–July.

Ecology: under broad-leaved forests, altitude from 450 m to 1500 m.

Distribution: China (Guangxi, Hainan), Vietnam (Lam Dong, Thua Thien–Hue).

Specimens examined: **CHINA.** Guangxi: Shiwandashan National Nature Reserve, under forests, 550 m, 14 July 2010, *Shiwandashan collection team 3319* (IBK); Hainan: Qiongzhong, Limushan, in a thick litter-fall layer with rich organic matter under mountain tropical forest, 900–1100 m, 30 May 2008, *X. Q. Song 08016* (PE); DiaoLuo Mountain, 800 m, under evergreen broad-leaved forest, shaded, by the stream, 5 July 2007, *A. Q. Hu 187* (TAIE).

Conservation status: This species is just recorded from China and Vietnam. Judging from the size of the known populations and the collection records of specimens, *Odontochilus saprophyticus* should be classified as EN (B2ab(i, ii, iii)) based on the IUCN Red List Categories and Criteria (IUCN 2001).

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## LITERATURE CITED

**Averyanov, L. V.** 2008. The Orchids of Vietnam illustrated survey Part 1. Subfamilies Apostasioideae, Cypripedioideae and Spriranthoideae. Turczaninowia **11:** 5–168.

**Averyanoy, L. V. and A. L. Averyanova.** 2003. Updated checklist of the orchids of Vietnam: 90–92. Vietnam National University Publishing House, Hanoi.

**Chen, S.-C., S. W. Gale, P. J. Cribb and P. Ormerod.** 2009a. *Odontochilus* Blume. In: Wu, Z. Y., Raven P. H. and Hong, D. Y. (eds.), Flora of China 25: 80–84. Science Press, Beijing, China and Missouri Botanical Garden Press, St. Louis, USA.

**Chen, S.-C., S. W. Gale, P. J. Cribb and P. Ormerod.** 2009b. *Zeuxine* Lindley. In: Wu, Z. Y., Raven, P. H. and Hong, D. Y. (eds.), Flora of China 25: 71–76. Science Press, Beijing, China and Missouri Botanical Garden Press, St. Louis, USA.

**International Union for Conservation of Nature and Natural Resources (IUCN).** 2001. IUCN Red List Categories and Criteria, Version 3.1. IUCN, Gland, Switzerland & Cambridge, United Kingdom.

**McNeill, J., F. R. Barrie, W. R. Buck, V. Demoulin, W. Greuter, D. L. Hawksworth, P. S. Herendeen, S. Knapp, K. Marhold, J. Prado, W. F. Prud'homme Van Reine, G. F. Smith, J. H. Wiersema and N. J. Turland (eds.)**, 2012. International Code of Nomenclature for algae, fungi, and plants (Melbourne Code). Adopted by the Eighteenth International Botanical Congress, Melbourne, Australia, July 2011. Regnum Vegetabile. Ruggell: Gantner.

**Ormerod, P.** 2003. Orchidaceous additions to the floras of China and Vietnam. Taiwania **48:** 139–146. doi: 10.6165/tai.2003.48(3).139

**Song, X.-Q., Q.-W. Meng and Y.-B. Luo.** 2009. New Records of Orchids from Hainan, China (Ⅱ). Acta Bot. Yunnan **31:** 32–34.

**Wu, L., Y.-F. Huang, D.-X. Nong and W.-B. Xu.** 2011. New records of orchids from Guangxi, China. Journal of Guangxi Normal University (Natural Science Edition) **29:** 57–59.

**Xu, H., H.-J. Yang and Y.-D. Li.** 2012. *Zeuxine hainanensis* (Orchidaceae), a new species from Hainan Island, China. Ann. Bot. Fennici **49:** 134–136.

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# 腐生齒唇蘭（蘭科、蘭亞科、斑葉蘭亞族）一新異名

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摘要：本文指定海南線柱蘭（*Zeuxine hainanensis*）為腐生齒唇蘭（*Odontochilus saprophyticus*）的新異名，並提供了詳細描述和圖片。

關鍵詞：中國、蘭花、腐生、分類、越南。



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