

天麻属——广东省兰科植物——新记录属

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摘要: 报道广东兰科植物——新记录属——天麻属(*Gastrodia* R. Br.), 提供北插天天麻(*G. peichatieniana* S. S. Ying)的详细形态描述及照片, 该种原记录仅分布于中国台湾。

关键词: 天麻属; 北插天天麻; 兰科; 新记录

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Gastrodia R. Br., A Newly Recorded Genus of Orchidaceae in Guangdong Province

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Abstract: *Gastrodia* R. Br., a newly recorded genus of Orchidaceae in Guangdong Province is reported herein, represented by *G. peichatieniana* S. S. Ying, which was only reported in Taiwan previous. The detailed morphological descriptions and photos of this plant are provided.

Key words: *Gastrodia* R. Br.; *Gastrodia peichatieniana*; Orchidaceae; New record

During a fieldwork in September 2009 in Nanling National Nature Reserve, northern Guangdong, a very small species of the genus *Gastrodia* was found. It is confirmed as *G. peichatieniana* S. S. Ying on the basis of careful examination of the fresh material, literature research^[1-8] and specimen examination. *G. peichatieniana*, which was previously only reported from Taiwan, is reported at the first time in mainland China and the genus is also newly recorded for Guangdong Province.

The genus *Gastrodia* R. Br. (Orchidaceae) is saprophytic. It is characterized by tuberous rhizome, cream-brown to dull brown flowers with united sepals and petals forming a perianth tube, only apical portions free, lip enclosed within perianth tube and two mealy pollinia without caudicles. There are about

20 species in the World, mainly distributed from NE India through the E Himalayas, across S China to Japan and E Siberia, throughout SE Asia to E Australia and the SW Pacific islands, also in tropical Africa, Madagascar, and the Mascarene Islands. There are 15 species (nine endemic) in China^[8].

Gastrodia peichatieniana was published by Ying in February 1987. However, Lin proposed another name *G. autumnalis* with the same species in Native Orchid of Taiwan 3 in May, 1987^[1-3]. Since the name *G. peichatieniana* had the priority to *G. autumnalis* according to the International Code of Botanical Nomenclature^[9], the later name should be treated as synonym.

It is worth mentioning that the two author's descriptions and the color pictures of this plant were

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almost the same, but there was an obvious difference about the lip. “Lip minute or absent”, was in the original description of *Gastrodia peichatieniana*, but without an illustration. “Lip connate the whole length with the lateral sepals except the broad emarginated free tip, strongly undulate, with a small gibbosity at the base of the free portion”, described originally for *G. autumnalis*, and with an illustration for detail. Ying noted in Coloured Illustrations of Indigenous Orchids of Taiwan that *G. autumnalis* was the same plant as *G. peichatieniana*. So which description is right? We examined the holotype of *G. peichatieniana* to check the lip, but there was just one broken flower left. On the basis of the examination of all other flowers that we found in the field in Guangdong and Taiwan and the specimens preserved in HAST and TAIF, each flower had an obvious lip. So, we doubt that Ying shao-shun may have overlooked the lip.

Gastrodia peichatieniana S. S. Ying, Col. Illustr. Fl. Taiwan 2: 690. fig. 404. 1987; Col. Illustr. Indig. Orch. Taiwan 2: 530. 1990; Fl. Reip. Pop. Sin. 18: 35. 1999. TYPE: China. Taiwan, Peichatienshan, 1100 m, under the forest beside a shelter, 10 Oct. 1985. S. S. Ying s.n. (holotype, TAIF!)

G. autumnalis T. P. Lin, Nat. Orch. Taiwan 3: 122 ~ 123 (fig.). 1987; Fl. Reip. Pop. Sin. 18: 36. 1999; Fl. Taiwan 2nd ed. 891. 2000. TYPE: China. Taiwan, Mt. Tatung, Lin 392, 10 Oct. 1976 (holotype, TAIF)

Saprophytic terrestrial herb. Rhizome tuberous, horizontal, cylindric, 1.8 ~ 2.6 cm long, 0.5 ~ 0.8 cm in diam., flesh, villous. Root filar, 4 ~ 8 cm long, 3 ~ 4 emerging from the neck. Peduncle pale whitish brown, 20 ~ 32 cm long, 3 ~ 4 noded and sheathed, and denser at the base; sheaths 4 mm long; rachis 1 ~ 6 cm long, 2 ~ 9-flowered racemose; floral bracts pale brown, ovate 2.5 ~ 4 mm long, acute at the apex, 1-veined. Flowers erect, not widely opened, white, sometimes tinged brown; pedicle and ovary white, tinged pale brown, 7 ~ 9 mm long, obvious in diam.; pedicel elongating from 3 mm to 6 mm long in fruit. Sepals and petals forming a perianth tube, cylindric, 5 ~ 8 mm long, outer surface smooth, apical portions free, strongly undulate; sepal lobes subequal, triangular, 0.8 ~ 1 mm long, acute; petals elliptic or suborbicular, smaller than sepal lobes; lip connate with perianth tube for 3/4 of its length, except the tip; tip exerted at sinus of later sepal lobes, fan-shaped, a little bigger than petal lobes, nearly round at the apex, thickened at the base. Column 4 ~ 6 mm long, semicylindrical, with glandular spots on ventral surface toward base, laterally winged; wings narrow, 1 ~ 1.5 mm wide, decurrently toward the base; column foot nearly absent. Anther terminal on column, orbicular; pollina 2, white, granulose. Capsules ellipsoid, 1.6 ~ 2 cm long, 6 ~ 8 mm in diam. Flowering and fruiting from September to October.

Specimens examined China. Guangdong:



Fig. 1 *Gastrodia peichatieniana* S. S. Ying

A: Anatomized flower (preserved in FAA); B: Inflorescence; C: Fruits.

Ruyuan, Nanling National Nature Reserve, the fourth forest path, 1100 m, 20 Sep. 2009, H. Z. Tian & H. Q. Li 1007 (HSNU); Taiwan: Taipei Hsien, Sanhsia Town, Peichatienshan, 800 m, 21 Sep. 1987, H. J. Su 8075 (HAST); Pataoerhshan, 1000 m, 21 Nov. 2006, T. C. Hsu 674 (HAST); Tatungshan, 8 Dec. 1974, T. P. Lin 184 (TAIF); the same loc. 920 m, 25 Oct. 2006, T. C. Hsu 634 (TAIF); Wulaishan, 28 Sep. 2005, S. W. Chung & T. C. Hsu 8733 (TAIF); Shtstoushan, 850 m, 21 Oct. 2006, T. C. Hsu 633 (TAIF); Shtstoushan, 850 m, 26 Nov. 2006, T. C. Hsu 676, 677 (TAIF); Taoyuan Hsien, Fuhsing Hsiang, Nachiehshan, 1400 m, 16 Sep. 1988, H. J. Su 8527 (HAST); Hsiaowulai to Howei Ancient Tree, 900 ~ 1200 m, 9 Sep. 2006, P. F. Lu s.n. (HAST); Hsiaowulai to Peichatienshan, 1400 ~ 1500 m, 9 Sep. 2006, T. C. Hsu 581 (TAIF); Hsinchu Hsien, Neiniaotsueisjan, 1500 m, 17 Sep. 2006, T. C. Hsu 591 (TAIF); Shangshuitien logging trail, 1500 m, 17 Sep. 2006, T. C. Hsu 592 (TAIF); Miaoli Hsien, Taping, 1200 m, 11 Oct. 2007, T. C. Hsu 1021 (TAIF); Taichung Hsien, Tahsueh logging trail, 1000 m, 9 Sep. 2007, C. K. Yang 1497 (HAST); the same loc. 14 Sep. 2007, T. C. Hsu 964, 965 (TAIF); Pingtung Hsien, Chinshuiying to Chushuipo, 1100 ~ 1300 m, 23 Aug. 2008, T. C. Hsu 1632 (TAIF).

Geographical distribution and habitat

This species has just been found in Taiwan and Guangdong province until now. The natural habitat of this species is in humus-rich soil and evergreen broad-leaved forests. Alt. 900 ~ 1500 m.

Conservation status

The first author did the orchid survey in Nanling National Nature Reserve from 2003, but it is the first time to find this species. It is so inconspicuously leafless that can be easily overlooked. The number of individual is less than 10 as we discovered. So it is rather rare.

Gastrodia elata Bl. of this genus is a notable traditional Chinese medicine and its rhizome has been

widely used for the treatment of rheumatism, epilepsy, paralysis, hemiplegia, lumbago, headache, and vertigo^[10]. *G. peichatiensiana* also has a tuberous rhizome, but there is no report about the medical use of it until now. So the pressure of medicine collection seems not existed now. But they are fastidious to the niche, so the protection of the environment seems more important and urgent.

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