



中国纤细蛇根草(茜草科)的订正

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中国纤细蛇根草(茜草科)的订正

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摘要: 通过标本考证和野外研究, 证实中国文献记载的纤细蛇根草(*Ophiorrhiza gracilis* Kurz)实为尾瓣蛇根草(*O. caudipetala* Deb & Monda)错误鉴定, 而后者之前仅被报道分布于印度, 因此为中国新记录。尾瓣蛇根草具有明显不等大的对生叶片, 花冠裂片背部具长 0.6~1 mm 的角状突起, 易与中国蛇根草属其它种类区分。

关键词: 纤细蛇根草; 尾瓣蛇根草; 新记录; 错误鉴定

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Critical Notes on *Ophiorrhiza gracilis* Kurz (Rubiaceae) from China

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Abstract: *Ophiorrhiza gracilis* Kurz was reported from China by several authors previously. Relevant specimen examination and field investigations revealed that it is actually a misidentification of *O. caudipetala*, which is known to be only distributed in India. Thus, its new record for the flora of China is reported here. *Ophiorrhiza caudipetala* can be distinguished from other species of the genus in China by its leaves usually in distinctly unequal pairs and corolla lobes with 0.6–1 mm long dorsal horns.

Key words: *Ophiorrhiza caudipetala*; *O. gracilis*; New record; Misidentification

Ophiorrhiza L. (Rubiaceae) is an Indo-Malesian genus consisting of approximately 319 species worldwide^[1]. Most representatives of the genus are annual or perennial herbs or rarely sub-shrubs and generally distributed in wet places under dense evergreen forests^[2–6]. They can be easily distinguished from other genera of the family by their obcordate, compressed fruits that are dehiscent with two valves along a transverse slit at the top^[2,7–10]. However, species delimitation is sometimes very difficult due to their high morphological variation and insufficient knowledge of flowers in most species^[9–12]. Thus, misidentification occurs often in the genus^[12].

Ophiorrhiza gracilis Kurz was firstly reported as a new record for China by Luo in 1990 based on several specimens collected from southern and south-eastern Yunnan, China^[3]. Later, it was also recognized in some floras of China^[4,13–15]. However, it was found that the descriptions made by Luo did not match with the protologue or the type specimen of *O. gracilis* in several characters. For example, Luo described leaf blade shape as ovate-lanceolate to elliptic, leaf blade apex as acute or acuminate, corolla tube as 9–10 mm long, corolla lobes as with dorsal horns 0.6–1 mm long, while *O. gracilis* has oblong-lanceolate to lanceolate leaf blades, caudate to long acuminate leaf

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blade apex, 7.5 mm long corolla tube, and corolla lobes without dorsal horn. Hooker noted that the most distinct character of *O. gracilis* was its leaf blade apex with very long slender points^[11]. Subsequently, Deb and Mondal made a detailed description of *O. gracilis* and provided an illustration, which showed that the corolla of the species was 6–8 mm long and there was no horn at the apex of dorsal part of the corolla lobes^[16]. Thus, we assumed that the specimens of *O. gracilis* from China were probably misidentified. After studying the relevant literature, carefully examining specimens in the herbarium and observing populations in the wild, we confirmed that the species described as *O. gracilis* by Luo is not the “real” *O. gracilis* but identical with *O. caudipetala* Deb & Mondal in many characters, such as leaves usually in distinctly unequal pairs, similar leaf blade shapes, cymose inflorescences, heterostylous flowers, tubular corollas, the same indumentum inside the corolla and corolla lobes with a horn on the back. *Ophiorrhiza caudipetala* is reported to be only distributed in India and never recorded in China^[3]. Therefore, it represents a new record for the flora of China, so we hereto provide a detailed description and line drawing based on collections from China as well as a color plate.

Ophiorrhiza caudipetala Deb & Mondal in Kew Bull. **37**(3): 483. 1982; Deb & Mondal, Bull. Bot. Surv. India **39**: 36, f. 16. 1997. (Figs. 1 & 2)

O. gracilis auct. non Kurz: Luo in Bull. Bot. Res., Harbin **10**(2): 77. 1990 et in Fl. Reipubl. Popularis Sin. **71**(1): 169. 1999; Chen & Taylor in Fl. China. **19**: 269. 2011; Wang et al. Species Catal. China. **1**: 1388. 2019.

Type: India, Meghalaya, Khasi Hills, alt. 1830 m, 4 June, 1886, C. B. Clarke 44072 (holotype CAL; isotypes A, BM, K-K000173151! & E)

Herbs, weak at base, sub-erect above, to 30 cm tall; stems slender, sparsely pubescent to sub-glabrous. Leaves usually in distinctly unequal pairs; petioles 3–30 mm long, glabrous or sub-glabrous; blade drying papery, adaxially olive-green, abaxially pale-green, ovate-lanceolate to elliptic, 2.5–12 cm×1.5–4 cm, adaxially glabrous, abaxially sub-glabrous, pubescent

to sub-glabrous along the veins, base obtuse to rounded, shortly decurrent or attenuate, apex acute or acuminate, entire; secondary veins 6–9 pairs; stipules ovate-triangular, small, 0.5–1 mm long, sub-glabrous, caducous. Inflorescence terminal, corymbose helicoid cyme, puberulent; peduncles 1.5–3 cm long; bracts and bracteoles similar, linear, 1.5–8 mm long, persistent. Flowers distylous, subsessile or pedicellate, pedicels to 2 mm long. Calyx campanulate; hypanthium 1–1.5 mm long; lobes ovate-triangular, 0.4–0.8 mm long. Corolla white, tubular; tube 8–10 mm long, outside glabrous, inside with a pubescent ring of long hairs above the middle in the long-styled form, densely villous at the throat in both form; lobes triangular-ovate, 1.2–2.0 mm long, densely scaly puberulent abaxially, dorsally with a horn 0.6–1 mm long. Stamens 5, epipetalous; filaments in long-styled flowers adnate below the middle of the corolla tube, in short-styled ones adnate above the middle of the tube, 0.5–1.5 mm long; anthers at the throat of the corolla, 1.5–1.8 mm long, linear, 2-lobed, dorsifixed, dehiscent longitudinally. Capsule 2.5–3.5 mm×5–7 mm, obcordate, transversely compressed, sub-glabrous. Seeds numerous, angular. Flowering March to June; fruiting June to August.

New Chinese vernacular name: 尾瓣蛇根草 (wěi bàn shé gēn cǎo)

Habitat: *Ophiorrhiza caudipetala* often grows in the valley or on the mountain slopes under dense forests from limestone areas at altitudes of 150 to 1 000 m. They are mainly accompanied by tree species of *Beilschmiedia* Nees, *Cyclobalanopsis* Oerst., *Manglietia* Blume, *Sinopora* J. Li, N. H. Xia & H. W. Li and *Swida* Opiz, shrub species of *Ardisia* Sw., *Callicarpa* L. and *Lonicera* L., and herb species of *Begonia* L., *Leptomischus* Drake and *Elatostema* J. R. Forst. & G. Forst.

Distribution: China: Yunnan (Hekou County, Maguan County, Malipo County and Pingbian County). India: Meghalaya (Khasi hills) (Fig. 3).

Discussion: Plants of *Ophiorrhiza caudipetala* from China are somewhat different from those from the type locality in having longer corolla tubes (8–10 mm vs. 4–6.25 mm). However, the length of corolla tubes

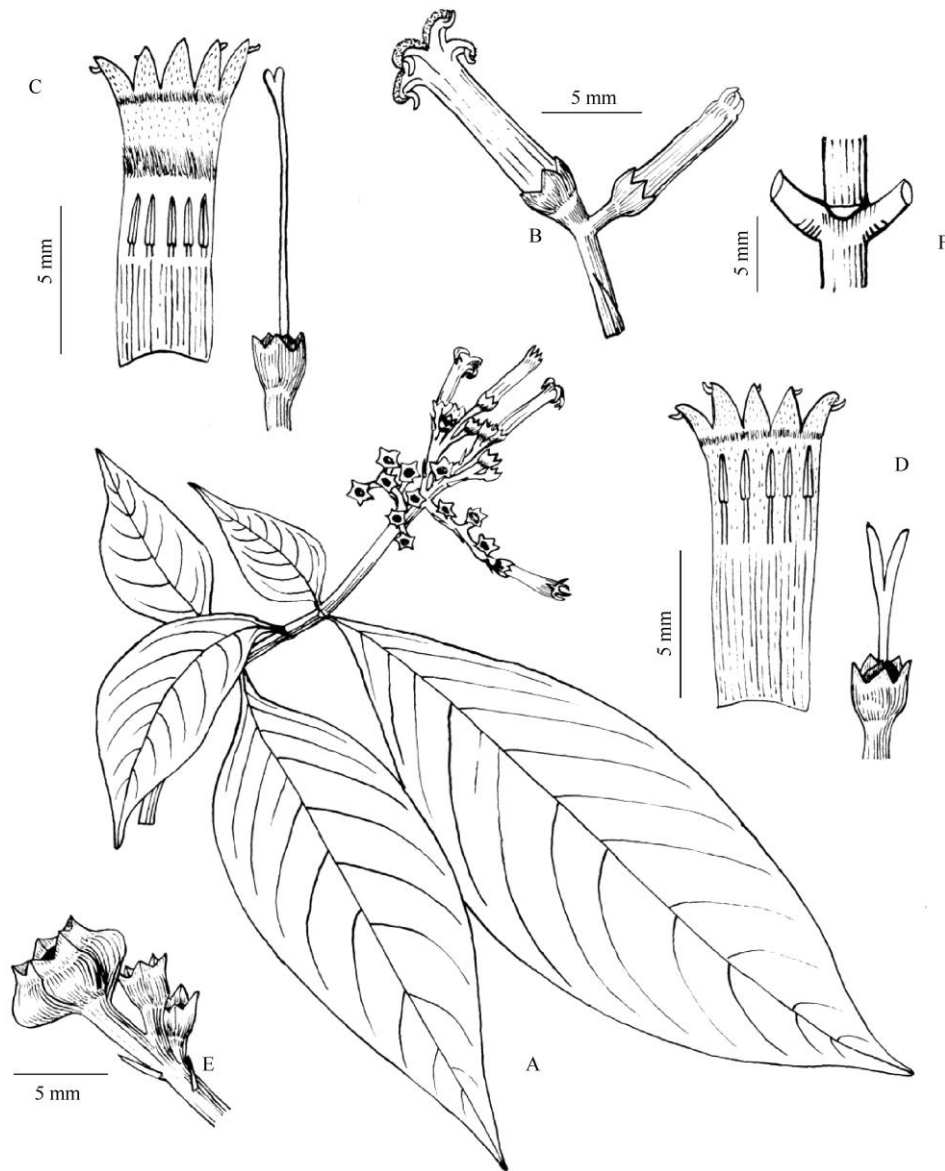


Fig. 1 *Ophiorrhiza caudipetala*. A: Flowering branch; B: Flowers, side view; C: Long-styled flower; D: Short-styled flower; E: Fruits, side view; F: Stipule. [Based on Lei Wu & Xi-Bin Guo 3874 (BNU)]

is usually with a great variable range in most species of the genus. *Ophiorrhiza japonica* Blume, for example, bears corollas with a tube length from 9 mm to 14 mm, and this variation could sometimes be found among individuals within a population. *Ophiorrhiza caudipetala* is morphologically close to *O. repens* (Wall. ex G. Don) Bennet by sharing similar leaf blade shape, cymose inflorescences, and the special horn on the back of each corolla lobe.

However, it can be distinguished from the latter by the shape of the stipules, indumentum of corolla and the length of corolla tube and lobes. The detailed

morphological differences between the two species are presented in Table 1.

Conservation status: Although having a relatively narrow distribution, most distribution areas of this species are located in nature reserves, such as Daweishan National Nature Reserve, Gulinqing Provincial Nature Reserve of Maguan and Laoshan Provincial Nature Reserve of Malipo, or in places protected by local governments, so the risk of being endangered seems to be low. Thus, following the IUCN (2019) redist categories and criteria, the conservation status of this species is classified as NT^[17].

Specimens examined: China. Yunnan: Hekou county, Nanxi town, Baisha River, in valley, under dense forests, alt. 150 m a.s.l., 28 May 2013 (fl.), Lei

Wu 3919 (BUN, CSH & CSFI); Hekou county, Nanxi town, Longyinchong village, on limestone slopes under dense forest, alt. 840 m a.s.l., 29 May 2013 (fr.), Lei

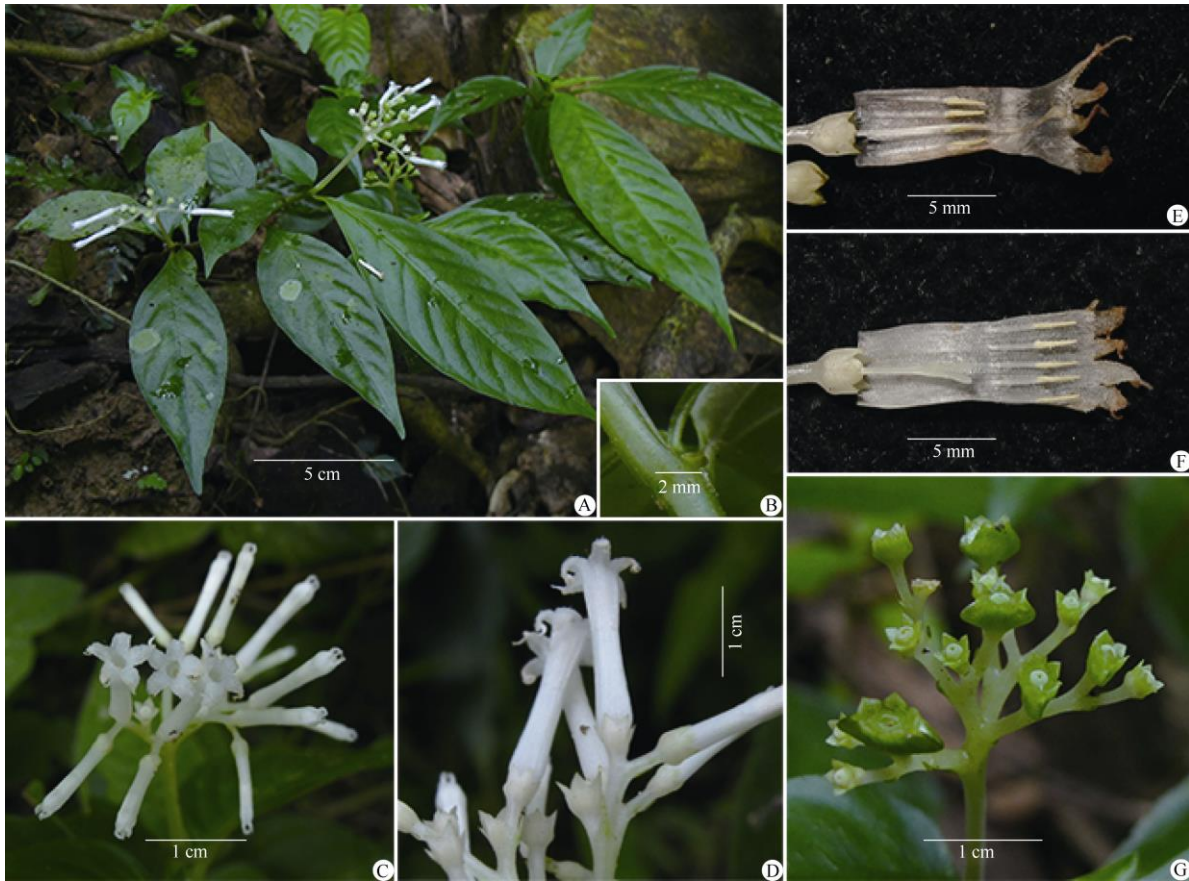


Fig. 2 *Ophiorrhiza caudipetala*. A: Habit; B: Stipule; C: Flowers, face view; D: Flowers, side view; E: Long-styled flower; F: Short-styled flower; G: Infructescence.

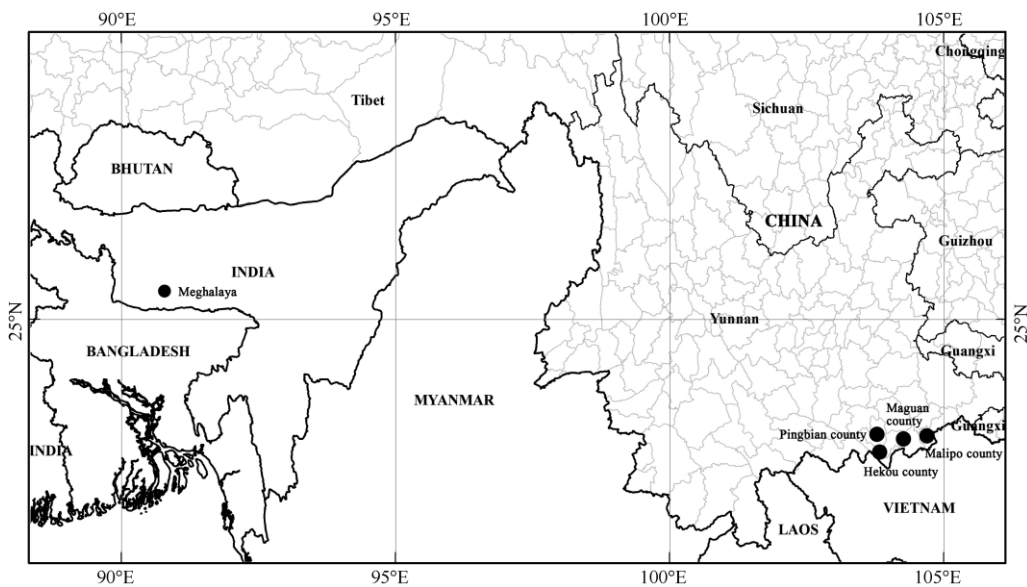


Fig. 3 Distribution of *Ophiorrhiza gracilis* (●)

Table 1 A morphological comparison between *Ophiorrhiza caudipetala* and *O. repens*

Character	<i>O. caudipetala</i>	<i>O. repens</i>
Stipule	Ovate-triangular, sub-glabrous, 0.5–1 mm long	Narrowly lanceolate, pubescent along margin, 3–15 mm long
Corolla outer surface	Glabrous	Puberulent
Corolla inner surface	Pubescent ring of long hairs above the middle in the long-styled form, densely villous at the throat in both forms	Villous at the throat in both forms but no ring of long hairs
Corolla tube length (mm)	8–10	16.75–28.25
Corolla lobe length (mm)	1.2–2.0	0.75–1.0
Capsule	Sub-glabrous	Pubescent

Wu & Xi-Bin Guo 3922 (BUN), s.d., Yunnan University 2421 (KUN); Malipo County, Tianbo Town, Yaoliu Village, on limestone slopes under dense forest, alt. 950 m a.s.l., 25 May 2013 (fr.), Lei Wu & Xi-Bin Guo 3874 (BNU); Maguan County, Qiangou Village, on mountain slopes under dense forest, alt. 900 m a.s.l., 9 June 1956, The Sino-Soviet expedition 3265 (KUN); Pingbian County, Baiyan Town, in valley, alt. 1 100 m a.s.l., 30 June 1953, Pin-Yi Mao 2287 (KUN).

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