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Four newly recorded species of orchidaceae from China

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Abstract: Four newly recorded species of Orchidaceae from Yunnan, China, *Bulbophyllum careyanum* (Hook.) Spreng., *B. nipondhii* Seidenf., *Dendrobium bicameratum* Lindl. and *Habenaria amplexicaulis* Rolfe ex Downie were reported. Brief morphological descriptions and photos of the species were also provided.

Key words: *Bulbophyllum*; *Dendrobium*; *Habenaria*; Orchidaceae; new records; China

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中国兰科植物四新记录种

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摘要: 报道了中国兰科植物四新记录种, 即尾瓣石豆兰(*Bulbophyllum careyanum* (Hook.) Spreng.), 拟泰国卷瓣兰(*B. nipondhii* Seidenf.), 双槽石斛(*Dendrobium bicameratum* Lindl.) 和绿梢玉凤花(*Habenaria amplexicaulis* Rolfe ex Downie), 并提供描述和图片。

关键词: 石豆兰属; 石斛属; 玉凤花属; 兰科; 新记录; 中国

During our botanical expeditions in Yunnan Province from 2009—2010, four orchid species were discovered new to the Chinese flora (Chen *et al.*, 1999; Chen *et al.*, 2009) based on extensive morphological comparison and protologue research. They are *Bulbophyllum careyanum* (Hook.) Spreng., *B. nipondhii* Seidenf., *Dendrobium bicameratum* Lindl. and *Habenaria amplexicaulis* Rolfe ex Downie, respectively. Names, localities, data on types, general distribution and illustration are given for each newly recorded species and listed below in alphabetical order. Voucher specimens of mentioned collections are housed at IBSC Herbaria and original plant photos are additionally provided.

1. *Bulbophyllum careyanum* (Hook.) Spreng., Syst. Veg. 3: 732. 1826; Lindl., Gen. Sp. Orchd. 51. 1830; Hook. f., Fl. Brit. Ind. 5: 760. 1890; King & Pantling, Ann. Roy. Bot. Gard. Calcutta 8: 71. Pl. 97. 1898; Seidenf., Dansk Bot. Ark. Dansk Bot. Ark. 33(3): 145. 1979—*Anisopetalon careyanum* Hook., Exot. Fl. 2: Pl. 149. 1825. Type: Nepal; cult. Botanic Garden Liverpool, Shepherd, Carey sine no. (holo, probably lost); Nepal: Thoka, Wallich 1990/1 (lecto, K-LINDL)

尾瓣石豆兰 (新拟) (Fig. 1: A-B)

Epiphytic plant. Rhizome stout, 2.5—3.5 mm thick. Pseudobulbs globose-ovoid to narrowly ovoid, 3

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—5.5 cm by 2—3.5 cm, 4—6 lightly ribbed, enveloped in fibrous sheaths, borne on terete rhizome at an interval of 5—8 cm; leaf apical, single, oblong to linear-oblong, 10—18 by 2—3.5 cm, tapering at each end, subacute, notched, shortly petiolate at base. Inflorescence arising from the base of pseudobulb, 8—10 cm long; raceme cylindric, 4.5—7 cm, decurved, densely flowered; floral bracts lanceolate, 5—6 mm by 1.5—2 mm, longer than the ovary. Flowers imbricate, 7—8 mm long, orange-yellow to greenish, spotted or suffused with red-brown or purple, dark red shining. Sepals subequal, oblong-ovate, acute, 4.5—8 mm by 2.5—3.5 mm, dorsal sepal shorter than lateral sepals, greenish, netted with brownish-red wart-like blotches; petals small, broadly ovate, apex caudate-aristate, margins slightly setaceous, 1-veined, 2.5—3 mm by 1.5—2 mm, orange-yellow with dark reddish-brown blotches. Lip oblong-ovate, auriculate at base, recurved, 3.5—4.5 mm by 1.4—1.8 mm, dark reddish-brown, disk with a median groove, obtuse at apex. Column 1.3—1.5 mm long, with two apical, slightly curving arms, orange-yellow; stolidia raising well above the top of operculum, somewhat forwards curved, acute; column foot 1 mm long, curved. Fl. Oct–Feb.

Distribution: Western Himalaya, Nepal, Bhutan, Sikkim, Myanmar and Thailand. New record to China.

China: Yunnan: Dehong Prefecture, Yingjiang County, Tongbiguan Nature Reserve, alt. 500 m, epiphytes in evergreen lowland forests, alt. 500—600 m. 2009-10-27, L. Li 109, (spirited specimen, IBSC).

This species is similar to *B. crassipes* Hook. f., but the latter has shorter inflorescence (2.5—4 cm long); narrowly elliptic petals (0.5—1 mm broad), longer and slender column (2.5—3 mm tall) and shorter stolidia, which is not taller than the top of operculum (Seidenfaden, 1979; Seidenfaden, 1992; Pearce & Cribb, 2002).

2. *Bulbophyllum nipondhii* Seidenf. in Nordic J. Bot. 5: 162. Fig. 5. 1985. Type: Thailand; Phu Luang, Loei 1 200—1 450 m, GT 8926 (holo, C)

拟泰国卷瓣兰 (新拟) (Fig. 1: E-F)

A small-sized epiphytic plant with creeping rhizome. Pseudobulbs globose to conical, glossy, 9—10 mm

high, 15—18 mm distant from each other. Leaf apical, single, oblong to elliptic-oblong, fleshy, 23—25 mm by 6—9 mm, sessile, slightly notched at apex. Inflorescence arising from the base of pseudobulb, subumbellate, scape 18—32 mm, 2—5 flowers. Floral bract 4—5 mm, pedicel plus ovary slightly longer. Dorsal sepal oblong-linear, tapering slightly, 3.5—3.7 mm by 1.5 mm, white or yellowish-white with purple stripes; lateral sepals narrowly linear, 15—18 mm, purple or red-violet, more or less connate except at base. Petals obliquely ovate or elliptic-ovate, 2.3—2.5 mm by 1.3 mm, with 3 veins, white or yellowish with purple stripes. Lip ligulate, about 3—4 mm by 1.5 mm, purple, bent outwards at middle part, deeply longitudinally furrowed between the very fleshy edges. Column 2.5 mm high including the short, triangular acute stylids, columnfoot uncinately upwards bent. Pollinia 2, obovoid. Fl. Oct–Dec.

Distribution: Thailand. New record to China.

China: Yunnan, East Simao, Shigaoqing, epiphytes in the tropical montane rainforest, alt. 1 250—1 300 m. 2009-10-25, L. Li 111, (spirited specimen, IBSC).

This species shares the floral traits with *B. thaiorum* J. J. Smith (Seidenfaden, 1985a), the other species also occurred in Yunnan, but the surface of the lateral sepals are glossy in *B. nipondhii* against the very papillose surface in *B. thaiorum*.

3. *Dendrobium bicameratum* Lindl. in Bot. Reg. 25: 85, misc. 59. 1839; King & Pantling, Ann. Roy. Bot. Gard. Calcutta 8: 42. Pl. 56. 1898; Seidenf., Opera Bot. 83: 97. 1985. Type: India; Khasia, Gibson sine no., sketch in Herb. Lindl. (holo, K-LINDL)

双槽石斛 (新拟) (Fig. 1: C-D)

Epiphytic plant. Stem subclavate, fusiform and elongate, 28—35 cm by 0.3—0.6 cm, curved to wavy, ridged, yellowish, tapered towards base and upper half enveloped in tubular remnant of sheaths. Leaves 2—4, closely placed towards apex, oblong-lanceolate to elliptic-lanceolate, acute, 4—8 cm by 1.8—2.5 cm, obliquely emarginate. Inflorescence arising from the nodes of leafless pseudobulbs, subcapitate, 1.5—2 cm long; rachis 0.6—0.8 cm long, subdensely with 4—6 flowers; floral bracts 3—4 mm by 2.5—3 mm, persistent.

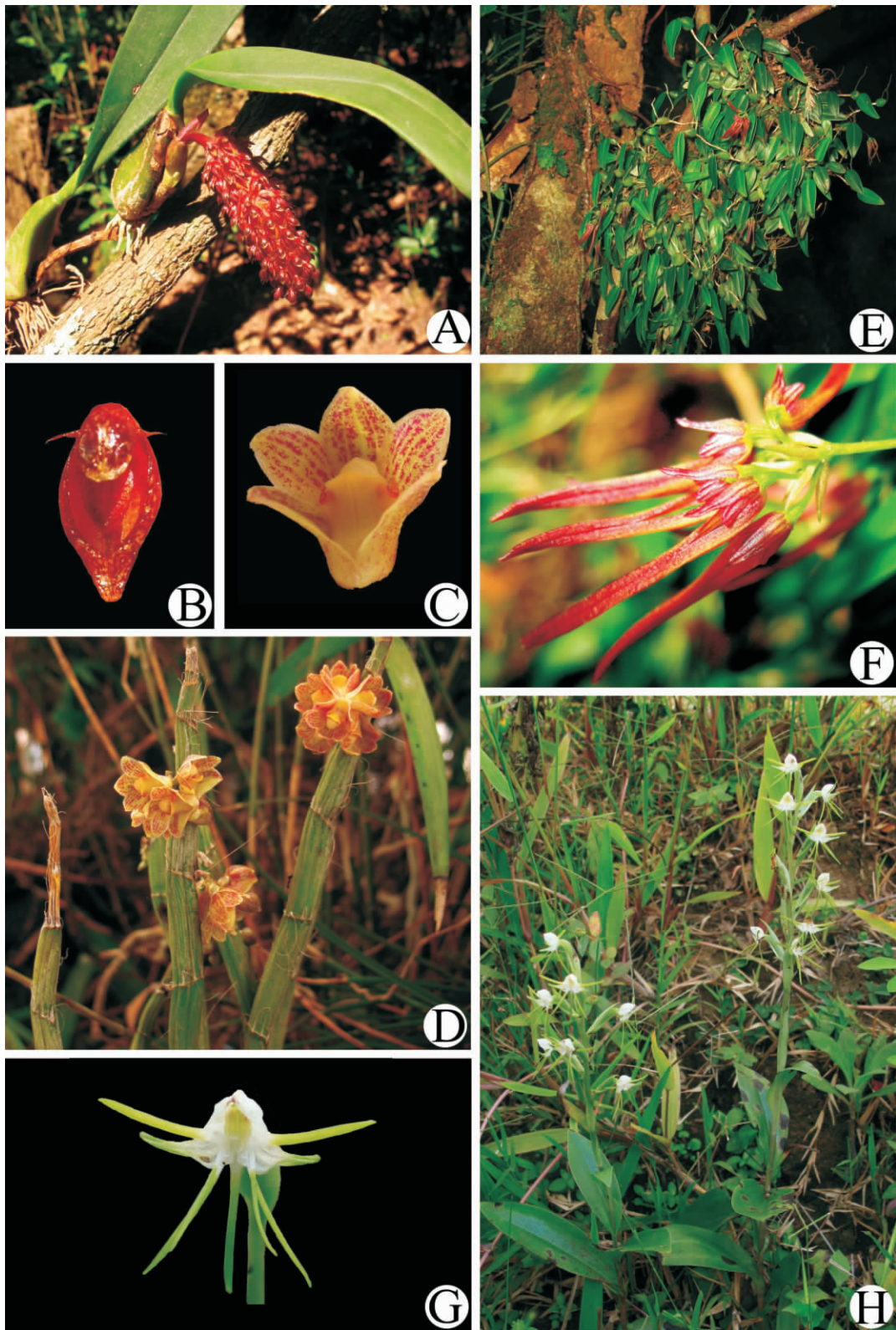


Fig. 1 *Bulbophyllum careyanum* (A-B); *B. nipondhii* (E-F); *Dendrobium bicameratum* (C-D); *Habenaria amplexicaulis* (G-H).

Flowers 0.8 – 0.9 cm across, light dirty yellow, marked with reddish purple dots and stripes. Dorsal

sepal broadly ovate-oblong, 6–6.5 mm by 3–4 mm, acute, 5-veined; lateral sepals broadly triangular, fal-

cate, 5—7.5 mm by 3—5.5 mm, acute, adnate at base to form a short mentum; petals oblong-ovate, 5.5—6 mm by 2.5—3.5 mm, obtuse. Lip 3-lobed, fleshy, concave, broadly oblong ovate, 4.5—5.5 mm by 4—4.5 mm; side lobes triangular, erect, acute toward apex and slightly curved inside, reddish-purple, midlobe short, fleshy caruncled, golden yellow. Column stout, 4—5 mm long with column foot, biloculate or parted in two halves. Fl. Jun-Aug.

Distribution: NW Himalaya, NE India, Nepal, Bhutan, Sikkim and Myanmar. New record to China.

China: Yunnan, South Simao, epiphytes in the tropical broadleaf evergreen rainforest, alt. 1 200—1 250 m. 2010-06-30, L. Li 150, (spirited specimen, IBSC).

This species is closely related to *Dendrobium dataniense* Guill. (Seidenfaden, 1985b), but the latter shows conspicuously smaller and obtuse lateral lobes of lip, which is more orange against golden yellow. Further study will be required to clarify the relationships of these taxa.

4. *Habenaria amplexicaulis* Rolfe ex Downie, Kew Bull. 417. 1925; Seidenf. & Smitinand, Orch. Thail. Prelim. List 26. 1959; Seidenf., Dansk Bot. Ark. 31 (3):74. Fig. 41. 1977. Type: Thailand; Chiang Mai, Doi Suthep, Kerr 211 (holo, K)

绿梢玉凤花 (新拟) (Fig. 1: G-H)

Terrestrial herb, glabrous. Stems 19—45 cm tall. Leaves 6—9, alternate and scattered on the stem, largest in the middle of the stem and getting smaller towards the base and the top, elliptic-ovate or elliptic-obovate, to 8—11 cm by 2—3 cm, acute or obtuse. Bract-like leaves erect, lanceolate-elliptic, acute, 1—2.5 cm long. Inflorescences lax, 7—10-flowered; rachis 8—12 cm long; floral bracts ovate-lanceolate, acuminate, 15—20 mm by 6—9 mm, slightly shorter to longer than the pedicel plus the ovary, margins entire. Flowers 15—18 mm across; green and white, sepals white with greenish tips. Ovary plus pedicel 17—19 mm long. Sepals subacute to obtuse, 5-veined from the base; dorsal sepal erect, suborbicular, 5.7—9 mm by 6—8 mm; lateral sepals obliquely ovate, 8—10 mm by 3—4 mm, basally united with the petals and the lip. Petals suberect, deeply bipartite to near the base; posterior lobe narrowly strap-like, 3-veined, 8—10

mm by 0.8—1.6 mm; anterior lobe filiform, 1-veined, 6—10 mm by 0.5—0.7 mm. Lip deeply and equally 3-lobed to about 1 mm from the base, 10—13 mm long, green, all lobes filiform to narrowly linear, 9—12 mm by 0.5—0.8 mm; spur cylindrical, swollen in the distal half, slightly curved forwards, 13—15 mm long. Column 2—4 mm long, white. Anther ca 2.5 mm long, yellow. Fl. Aug-Sept.

Distribution: Thailand and Vietnam. New record to China.

China: Yunnan, West Simao, in the open areas with grass or broad-leaved herbaceous cover at mixed forest edge, and a few also in the grassland, alt. 1 200—1 250 m. 2010-08-20, L. Li 151, (spirited specimen, IBSC).

This species can be easily recognized by its green and white flower which has bilobed petals with narrow and elongate segments (Kurzweil, 2009). It's similar to *H. thailandica* Seidenf. (Seidenfaden, 1977), but differs mainly by its much larger flowers (lip midlobe 9—12 mm in *H. amplexicaulis*, 5—7 mm in *H. thailandica*).

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