

seems promising in the cold arid region of Ladakh. Extensive studies need to be conducted to popularize the crop in Ladakh.

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Received 21 January 2016; accepted 3 March 2016

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## New orchids record in the flora of China

China is an orchid-rich country with 194 genera and 1388 species recorded, mainly in the tropical and subtropical regions of the south and southwest<sup>1</sup>. Many new species are still being found and reported<sup>2–7</sup>. In 2012–14, during a study in southwest China, three more species were collected and are being reported here.

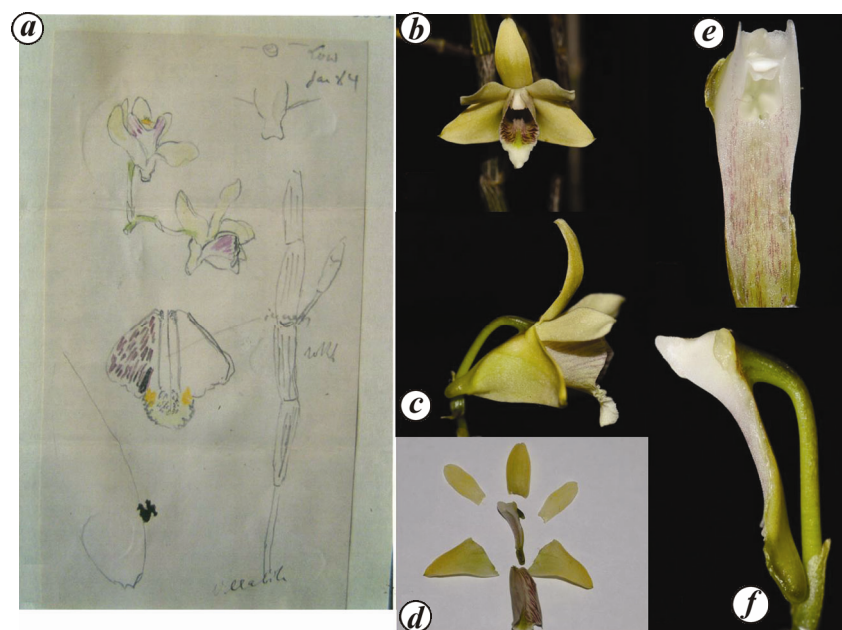
1. *Dendrobium vexabile* Rchb. f. in *Gard. Chron.*, 1:271. 1884; Kraenzlin in *Engler, Pflanzenr.* 45:309.1910.

Chinese name: 反唇石斛 (Figure 1)

Plant epiphytic, pendent, 30–60 cm long. Stems slender, branching from nodes, internodes covered by sheaths, yellowish, 1.8–4.8 cm long. Leaves lanceolate, acute to acuminate, entire, sessile, distichous, 5–7.2 × 1.4–1.9 cm. Inflorescence leaf-opposed, 1–2 flowered; peduncle short, sheathed at base, 0.9–1.3 cm long; sheaths membranous, overlapping, 4–5 mm long; floral bracts broadly lanceolate, three-veined membranous, 4–5 × 2.5–3.5 mm. Flower fragrant, 2 cm across, pale primrose-yellow to cream, lip with numerous radiating streaks of brown–purple and yellow, disc on lip green; pedicel and ovary slender, 0.6–1 cm long. Sepals sub-similar, seven-veined, 1.1–2.2 × 0.5–0.8 cm; dorsal sepal elliptic, obtuse; lateral sepals broadly elliptic, weakly falcate, widening towards base; mentum broad, with a short bifid pouch, 3–4 mm

long. Petals oblong, subspathulate, obtuse, 0.9–1.1 × 0.3 cm. Lip three-lobed, deeply concave to hooded, obovate to rhombic (when spread), 1.3–1.6 × 1.2–1.8 cm; lateral lobes large, broad, convolute; mid-lobe suborbicular, bifid, deflexed, margins crisped; disc with an elongate, villous crest, extending from base to near apex. Column with foot, 8–9 mm.

Flowering: February to May  
Distribution: India, Myanmar, Bhutan and China (Tibet: Linzhi, Motuo).  
Habitat: Tropical monsoon forest, epiphytic on the tree along the Yalung Zangbo River, about 800 m.  
Specimens examined: China: Tibet province, Linzhi district, Motuo county, 14. Sep. 2014, *Q. Liu 205* (HITBC); India: Sikkim Himalaya, *R. Pantling 117* (P).



**Figure 1.** *Dendrobium vexabile* Rchb. f. *a*, Illustration of type specimen from herbarium of Naturhistorisches Museum Wien (W) *b*, Front view of flower; *c*, Lateral view of flower; *d*, Parts of flower; *e*, Front view of column and *f*, Lateral view of column.

Note: When this was originally published, H.G. Reichenbach f. questioned its status as a species or natural hybrid: 'I was, in April 1878, with my excellent friend Mr H. Low and amidst a multitude of *Dendrobium luteolum* appeared a plant which made me think of *Dendrobium ruckerii*. It had, however, light sulphur yellow-ochre coloured flowers, partly white; the side laciniae of the lip with numerous narrow lines, the anterior laciniae very wavy, sulphur-coloured, with an orange blotch at each side of the tuft of hairs. The stem was not like that of *Dendrobium ruckerii*, but more like that of *Dendrobium luteolum*, reddish, thicker, with a strong tendency to constriction at joints'. Kraenzlin<sup>8</sup> included it under the group of hybrids. In both World checklist of Orchidaceae and the Plant List this has been treated as a natural hybrid, possibly between *D. falconeri* and *D. ruckerii*. Apparently unaware of this status assigned by the original author, *Dendrobium vexabile* was reported from Arunachal Pradesh, India as a true species<sup>9</sup>.

2. *Acampe joiceyana* (J. J. Sm.) Seidenf., in *Nord. J. Bot.*, 22: 532 (2002). *Trichoglottis joiceyana* J. J. Sm., in *Repert. Spec. Nov. Regni. Veg.* 26: 166 (1929). *Staurochilus joiceyanus* (J. J. Sm.) Seidenf., in *Opera Bot.* 95: 96 (1988). *Acampe thailandica* Seidenf., in *Contrib. Orchid Fl. Thailand XIII*: 49 (1997).

Chinese name: 美花脆兰 (Figure 2)

Plant epiphytic. Stem 35 cm or longer, 8–10 mm in diam. Leaves blade oblong, thick, about 30 × 3 cm, base amplexicaul sheathing, apex obtuse and unequally bilobed. Inflorescence often several, opposite to leaves, ascending, paniculate, ca. 25 cm long, often branching, densely many flowered, peduncle about 3 mm, floral bracts minute, less 1 mm. Flowers slightly fragrant; sepals and petals white with pink blotches medially, all fading to light yellowish, epichile of lip violet, hypochile white. Dorsal sepal ovate, 4.6–7.5 × 2.1–4.3 mm, obtuse; lateral sepals, slightly oblique, obovate, slightly smaller than dorsal sepal, 4.4–6.3 × 2.2–3.5 mm obtuse; petals oblanceolate, 4.5–6.9 × 2.0–3.1 mm, obtuse; lip slightly three-lobed; lateral lobes erect, oblong, with stiff-hair and only leaving a narrow entrance to spur; mid-lobe triangular,

1.5 mm long, obtuse; spur straight, conic, 1.6–2.9 mm long, inside with dense white hairs. Column ca. 1.8 mm, stout, with small vertical raising stelidia with short stiff hairs; anther cap subglobose; caudicle oblanceolate, ca. 1 mm; viscidium oblong. Capsules narrowly fusiform, ca. 2 cm.

Flowering: March

Distribution: Burma, Thailand and China (Yunnan, Pu'er, Menglian).

Habitat: Subtropical monsoon evergreen broadleaved forest, epiphytic on the tree, 1500 m.

Specimens examined: China: Yunnan Province, Pu'er district, Menglian county, 6 March 2012, Q. Liu & J.W. Li 143 (HITBC); Thailand: Doi Chiang Dao, north ridge of Doi Nhang, Maxwell, 96-386 (CMU!).

Note: When J. J. Smith received a specimen from Messrs Sanders for naming flowered by Mr J. J. Joicey he called it *Trichoglottis joiceyana*<sup>10</sup>. Seidenfaden<sup>11</sup> established *Acampe thailandica* based on Thai collections. Christensen (in litt. 1997) suggested that the species described as *A. thailandica* Seidenf. was conspecific with *Trichoglottis joiceyana* J.J. Sm. But, after further studies, Seidenfaden<sup>12</sup> himself found that *T. joiceyana* was best placed in *Acampe* based on details of the ornaments of lip and general habit of the plant, thereby reducing his

own *A. thailandica* to a synonym. This species is significantly different from other species of *Acampe* by the white flowers with pink blotches and vertically rising stelidia with short stiff hairs.

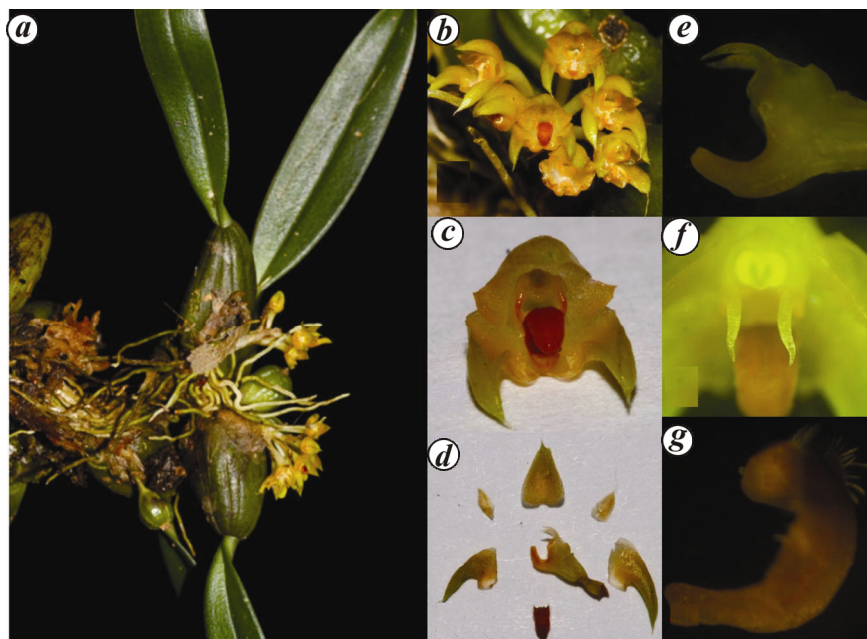
3. *Bulbophyllum echinulus* Seidenf., in *Nord. J. Bot.* 22: 193 (1982).

Chinese name: 钻柱石豆兰 (Figure 3)

Rhizome creeping, roots spreading. Pseudobulbs contiguous, pyriform, 15–18 mm long, 6–10 mm in diameter, with a terminal leaf. Leaf subsessile, blade oblong or oblong-ligulate, 3.5–5.2 × 0.8–1.2 cm, leathery, base cuneate, apex acute or sub-obtuse. Scape 1 or 2, from base of pseudobulb, slightly shorter than pseudobulb, glabrous; raceme with shortened rachis, umbel-like, often 4–7 flowers; peduncle less than 5 mm, enclosed in 3–4 membranous sheaths; floral bracts ovate-lanceolate, 4.1–4.6 mm, apex acute. Flower yellow, lip coral-red, with free sepals. Dorsal sepal ovate, concave, 3.1–3.5 × 2.2–2.6 mm, entire, apex caudate; lateral sepals obliquely lanceolate, 4.1–4.3 × 2.1–2.2 mm, entire, base free to column foot, apex caudate; petals ovate, 2.1–2.2 × 1.3–1.4 mm, membranous, margins entire, apex acuminate; lip recurved, base connected to end of column foot by a mobile joint, nearly ovate-triangular, slightly shorter than petals, three-lobed; lateral lobes erect, deltoid, apex with



Figure 2. *Acampe joiceyana* (J. J. Sm.) Seidenf.: a, Habitat; b, Inflorescence; c, Flowers; d, Front view of lip; e, Lateral view of lip; f, Front view of column; g, Abaxial side of anther cap; h, Adaxial side of anther cap and i, Pollinia.



**Figure 3.** *Bulbophyllum echinulus* Seidenf.: *a*, Plant; *b*, Inflorescence; *c*, Front view of flower; *d*, All parts of a flower; *e*, Lateral view of column; *f*, Front view of column and *g*, Abaxial side of lip.

sparse hairs; mid-lobe narrowly oblong, apex obtuse; disk with three keels. Column ca. 1.3 mm, foot ca. 1.5 mm; steliidia subulate, ca. 1.0 mm; anther cap subglobose.

Flowers: January–February.

Distribution: Vietnam, Thailand and China.

Habitat: Subtropical monsoon evergreen broadleaved forest, epiphytic on the tree, 1450 m.

Specimens examined: China: Yunnan Province, Pu'er district, Lancang county, 10 January 2014, Q. Liu160 (HITBC); Thailand: Phu Luang, Loei 8544 (holotype, C!).

Note: Morphologically, *B. echinulus* should belong to the sect. *Desmosan-*

*thes*<sup>13</sup>, and is most similar to *B. sute-pense*, but differs from the latter by yellow flowers with coral-red on the labellum, lateral sepals almost equal with dorsal sepal, apex with sparse hairs on the lateral lobes and significantly subulate steliidia.

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**ACKNOWLEDGEMENTS.** This work was supported by the National Natural Science Foundation of China grant no. 31500164 to Q.L. and 31170358 to J.Y.G. We thank J. W. Li (Xishuangbanna Tropical Botanical Garden) and Y. L. Li (South China Botanical Garden) for help in field work and useful literatures.

Received 10 October 2015; revised accepted 15 March 2016

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