

Additional notes on Orchidaceae from Yunnan, China

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Abstract Four new species, *Cheirostylis calcarata* X. H. Jin & S. C. Chen, *C. malipoensis* X. H. Jin & S. C. Chen, *Gastrochilus alatus* X. H. Jin & S. C. Chen, and *G. malipoensis* X. H. Jin & S. C. Chen, together with seven new records, *Bulbophyllum rolfei*, *B. ovatilabellum*, *Eria cristata*, *G. affinis*, *Listera micrantha*, *Luisia macrotis*, and *Oberonia teres*, of Orchidaceae are reported from Yunnan, China. *Cheirostylis calcarata* differs from its ally *C. spathulata* by having a vertical rhizome, a spurred lip, and stylidia much longer than rostellum arms; *Cheirostylis malipoensis* from *C. yunnanensis* by its internodes with constricted ends, hypochile with a longitudinal septum, and stylidia shorter than rostellum arms; *Gastrochilus alatus* from *G. distichus* by having yellow flowers, and wider and membranous epichile with longitudinal ridge centrally; *Gastrochilus malipoensis* from *G. calceolaris* by its racemose inflorescences, and glabrous and semicircular epichile. The new record, *Bulbophyllum rolfei*, is characterized by its dorsal sepal half as long as the lateral sepals, inflorescence equaling or exceeding leaves, lateral sepals connate for at least part of their length; *Bulbophyllum ovatilabellum* by its forked lateral veins in dorsal sepal and a U-shaped callus on the lip; *Eria cristata* by its purple and reflexed bracts, white to cream lip with three calli adaxially; *Gastrochilus affinis* by its dentate-margined epichile with two ridges ranging from base to apex; *Listera micrantha* by its trilobed-tipped lip; *Luisia macrotis* by lateral sepals as long as lip, petals less than 5 mm wide, and lip dark purple with cordate epichile; *Oberonia teres* by its terete leaves and emarginated midlobe.

Key words new species, new record, Orchidaceae, Yunnan, China.

During our botanical trips to Yunnan Province, South China from 2003 to 2006, some new and little known species of Orchidaceae were observed (such as Jin et al., 2004; Jin, 2005, 2006; Jin & Li, 2006, 2007; Jin et al., 2007a, b). Among them are four new species of *Cheirostylis* Bl. and *Gastrochilus* D. Don, and seven new records as follows.

Cheirostylis comprises about 50 species distributed from tropical Africa to the Pacific Asia (Seidenfaden, 1978; Lang, 1999; Pearce & Cribb, 2002; Pridgeon et al., 2003). This is a very distinct genus, characterized by its sepals connate to form a sepaline tube, lip with a saccate base containing a few papillae, claw entire on either side, column with two stylidia (Seidenfaden, 1978; Lang, 1999; Pearce & Cribb, 2002; Pridgeon et al., 2003). There are about 15 species distributed in China (Lang, 1999; Ormerod, 2003; Jin et al., 2007b), most of which are restricted in Taiwan and Hong Kong.

Gastrochilus are small to medium-size epiphytes consisting about 46 species restricted to East Asia, Southeast Asia and South Asia with its centre in southern China and northeast

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India (Tsi, 1996). This is a distinct genus characterized by its immobile lip firmly adnate to the column, saccate hypochile, short and bifid rostellum, and porate pollinia (Tsi, 1996; Pearce & Cribb, 2002). It is the largest genus of Aeridinae in China with 28 species (Tsi, 1999).

1. *Cheirostylis calcarata* X. H. Jin & S. C. Chen, sp. nov. Figs. 1, 2: A

短距叉柱兰

Habitu *Cheirostyli spathulatae* J. J. Sm. subsimilis, sed rhizomate verticali, labello calcarato, stylidiis rostellii brachiis multo longioribus.

Terrestrial or epiphytic plants, 15 cm tall. Rhizome vertical, moniliform, 3.5 cm long, 1 cm in diam. Stem 5 mm long. Leaves 4–5, cauline, clustered, lanceolate, withered at anthesis, 1.5–4.5 cm long, 0.7–1.2 cm wide. Inflorescence pubescent, sheathed, 1- to 5-flowered; sheaths 2–3, lanceolate. Floral bracts ovate to lanceolate, 0.5–1 cm long, 2 mm wide, glabrous. Flowers white; ovary and pedicel 8 mm long, with glandular hairs. Sepals 6.6 mm long, subsimilar, connate for two thirds of their length forming a tube more or less arching, puberulous; lobes triangular, 2 mm long. Petals spathulate, oblique, adnate to dorsal sepal, more or less reflexed, 1 cm long, 1 mm wide. Lip 1.6 cm long; hypochile 2 mm long, saccate into a conical spur, with two 3- to 4-lobed glands inside; mesochile clawed, 6 mm long; epichile widened, with 2 prominent green dots at base, deeply bilobed; lobelets parallel to each other, 1 cm long, 7 mm wide, margin long-dentate. Column 2.5 mm long; rostellum arms 3 mm long; stylidia 4 mm long.

China. Yunnan (云南): Mengla (勐腊), Menglun (勐仑), Paozhuqing (泡竹箐), alt. 1200 m, on limestone under forest, 2006-03-05, X. H. Jin (金效华) 8061 (holotype, PE); Menglian (孟连), on limestone in forest, alt. 1200 m, 2006-03-13, X. H. Jin (金效华) 8090 (paratype, PE).

Cheirostylis calcarata is distinguished from its relatives by its vertical rhizome, spurred lip and stylidia much longer than rostellum arms. This species is found in two sites, about a distance of 200 km from each other, where it is sympatric with *C. thailandica* Seidenf. and *C. yunnanensis* Rolfe. These three species flower at the same time, and all have moniliform and fleshy rhizome, white and scentless flowers with two prominent green spots at the base of epichile (Fig. 2), though there is great difference between them. Until recently almost nothing has been known about the pollination biology of *Cheirostylis* (see van del Cingel, 2001; Pridgeon et al., 2003), it will be of great interest to know the differentiation of pollination systems of these three species due to their similarities in many aspects of flowers, especially the color (Fig. 2: A, C, D).

Pridgeon et al. (2003) stated that *Cheirostylis* is spurless, but we observed *C. calcarata* has a distinct spur 2 mm long, a character greatly different from that in all other species of *Cheirostylis*. However, many other diagnostic characters of *Cheirostylis* show that this species belongs to *Cheirostylis*.

2. *Cheirostylis malipoensis* X. H. Jin & S. C. Chen, sp. nov. Figs. 2: B, 3

麻栗坡叉柱兰

Habitu *Cheirostyli yunnanensi* Rolfe subsimilis, sed nodis rhizomatis constrictis, hypochilo longitudinaliter septato, rostellii brachiis stylidiis longioribus, glandibus stellatis.

Terrestrial or epiphytic, plant up to 10 cm long. Rhizome creeping, fleshy, with constricted nodes, 0.8–1 cm long, 2–2.5 mm in diam. Roots usually clustered in the middle of the internodes. Stem 0.5–1 cm long. Leaves 1–4, cordate, acute, 1.2 cm long, 0.9 cm wide; petiole tubular, 0.8 cm long. Inflorescence 2- to 4- flowered; peduncle terete, pubescent, sheathed, 7–9 cm long; sheaths 2–3, lanceolate, pubescent, 1.2–1.5 cm long; floral bracts ovate-lanceolate, acuminate, 0.7–0.9 cm long, longer than ovary and pedicel. Flowers white, 1

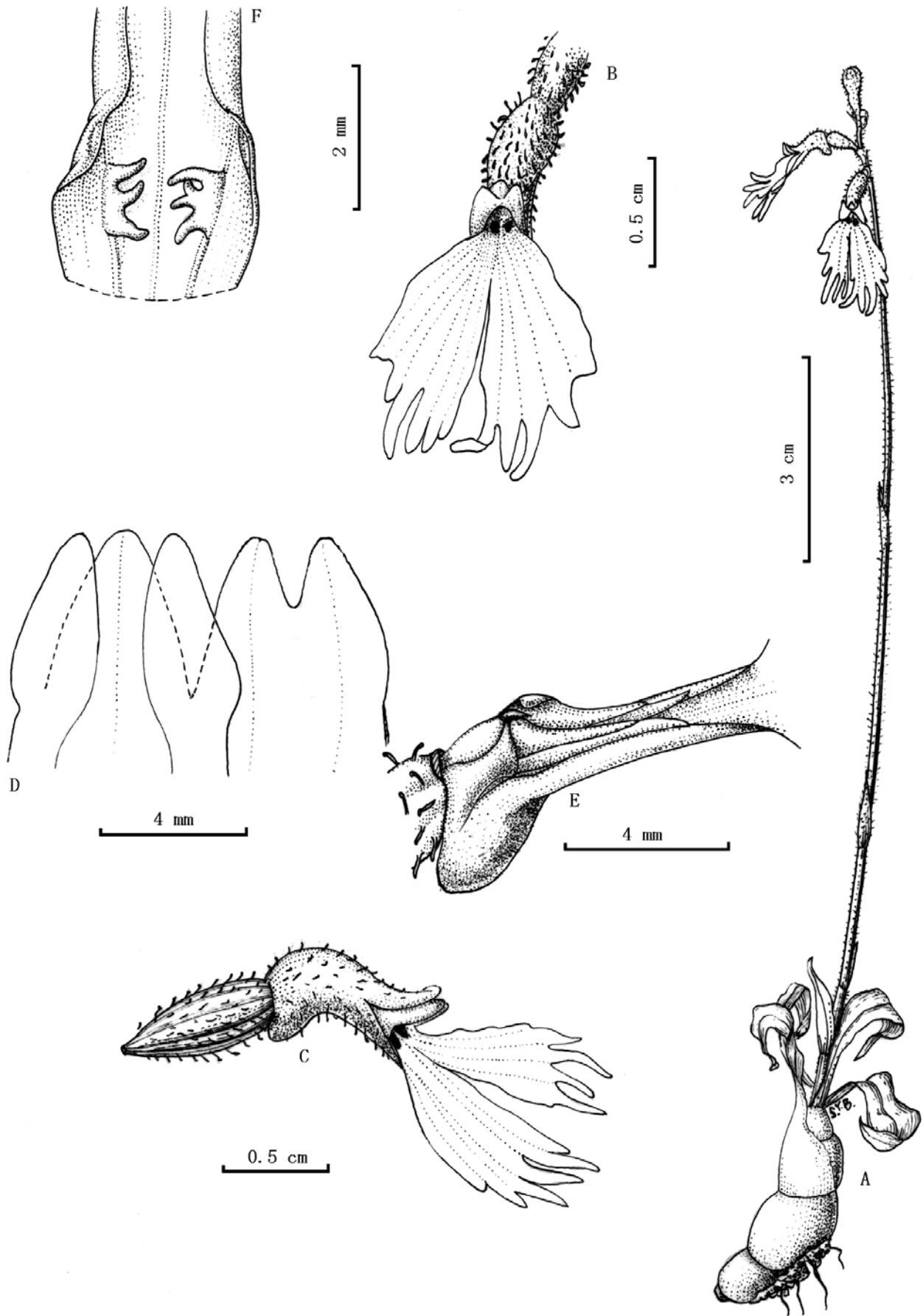


Fig. 1. *Cheirostylis calcarata* X. H. Jin & S. C. Chen. A, habit; B, front view of a flower; C, lateral view of a flower; D, petals and sepals; E, lateral view of column arms, stylidia and hypochile; F, hypochile. Drawn by Y. B. Sun from the holotype, X. H. Jin 8061, PE.



Fig. 2. Four species of *Cheirostylis*. **A**, *Cheirostylis calcarata*. **B**, *Cheirostylis malipoensis*. **C**, *Cheirostylis yunnanensis*. **D**, *Cheirostylis thailandica*.

cm long; ovary and pedicel pubescent, 0.5–0.6 cm long; sepals subsimilar, puberulous, united half of their length to form a sepaline tube; dorsal sepal elliptic, 5 mm long, 2.5 mm wide; lateral sepals elliptic, 5 mm long, 1.8 mm wide, acute. Petals oblique, falcate, 4 cm long, 1.5 mm wide, acute. Lip 7 mm long, 6 mm wide; hypochile saccate, oblong, glabrous, 2 mm long, 1.5 mm wide, divided by a tall longitudinal septum into two parts, each part with a somewhat stellate gland; mesochile 1 mm long, 1 mm wide; epichile semi-circular, deeply 2-lobed, with 2 prominent green spots at base; lobelets flabellate, 4 mm long, 4 mm wide, greatly diverged, margins 3- to 5-dentate. Column 1 mm long; stylidia 1 mm long, longer than rostellum arms. Anther cap obtuse apically.

China. Yunnan (云南): Malipo (麻栗坡), Donggua (冬瓜), alt. 1100 m, on limestone in forest, 2005-12-31, X. H. Jin (金效华) 8051 (holotype, PE).

Cheirostylis malipoensis is similar to *C. yunnanensis*, differing by its rhizome with constricted nodes and superposed, longitudinal-septate hypochile, and stellate-lobed glands. Furthermore, *C. malipoensis* is sympatric with *C. yunnanensis*, but their anthesis is different. *Cheirostylis yunnanensis* flowers from March to April, while *C. malipoensis* flowers from December to January.

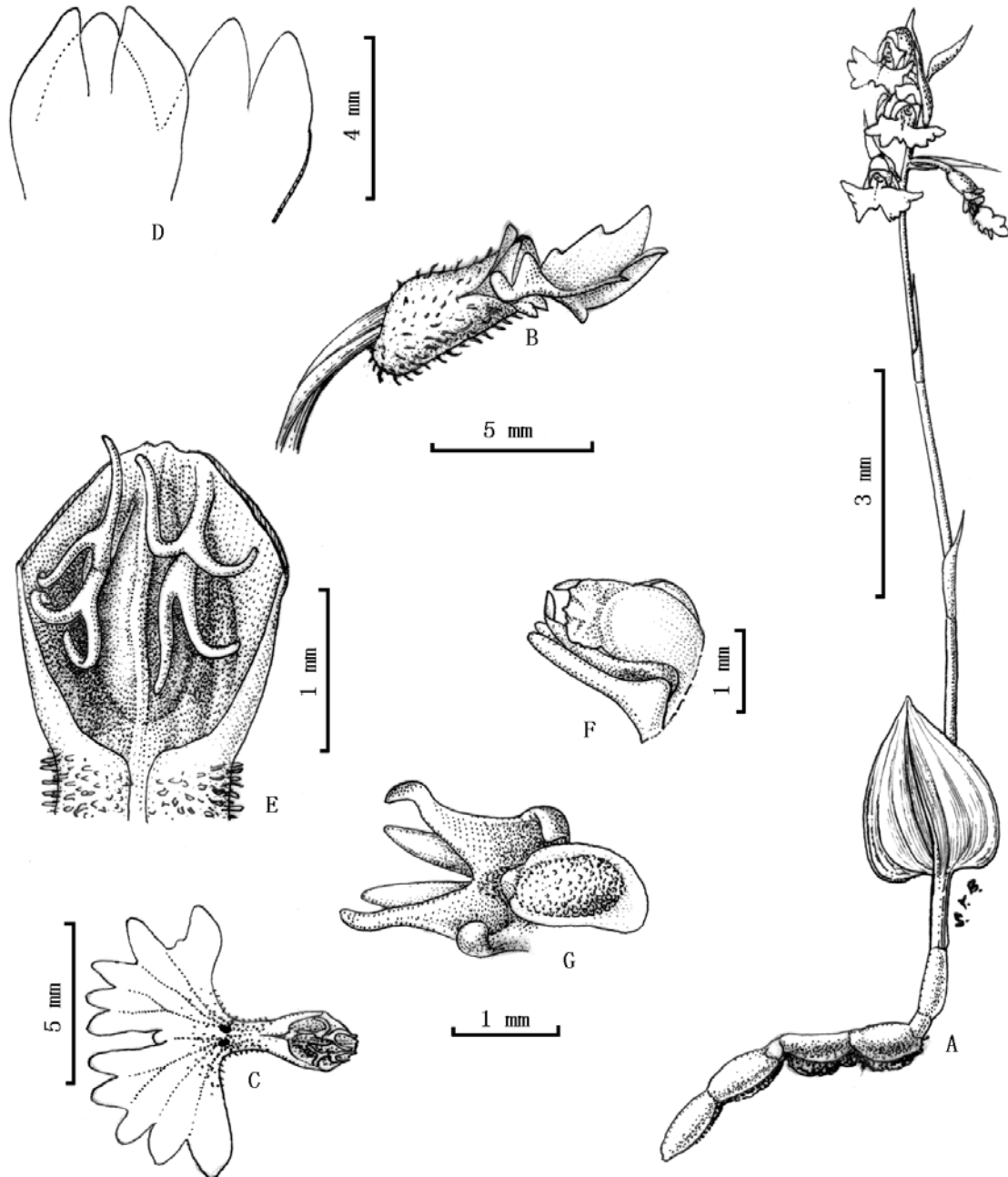


Fig. 3. *Cheirostylis malipoensis* X. H. Jin & S. C. Chen. A, habit; B, lateral view of a flower; C, lip; D, petals and sepals; E, hypochile; F, lateral view of column arms and stylidia with anther in its position; G, lateral view of column and stylidia with anther turned up. Drawn by Y. B. Sun from the holotype, X. H. Jin 8051, PE.

3. *Gastrochilus alatus* X. H. Jin & S. C. Chen, sp. nov. Fig. 4

膜翅盆距兰

Habitu *Gastrochilo disticho* (Lindl.) Kuntze subsimilari, sed flore flavo, epichilio latiore et membranaceo et cristo longitudinali centro.

Epiphytic plants, pendulous from trunk. Stem slender, 10 cm long, 1–2 mm in diam., covered by leaf sheaths; sheaths tubular, apex obtuse, 6–8 mm long, with many brownish-purple spots. Roots white, arising from the stem. Leaves lanceolate, fleshy, apically acuminate and tri-fid, with many brownish-purple spots, middle vein long-aristaed, sessile, jointed, 1.6 cm long, 0.4 cm wide. Inflorescence umbellate, 2- to 3-flowered; bracts rhombic, 1 mm long. Flowers yellow, basal parts of petals and sepals reddish. Pedicel and ovary 1.3 cm long. Dorsal sepal elliptic, obtuse, 3 mm long, 1 mm wide; lateral sepals elliptic, oblique at base, acute, 3.5 mm long, 1 mm wide; petals elliptic, slightly oblique, apically obtuse, 2.5 mm long,

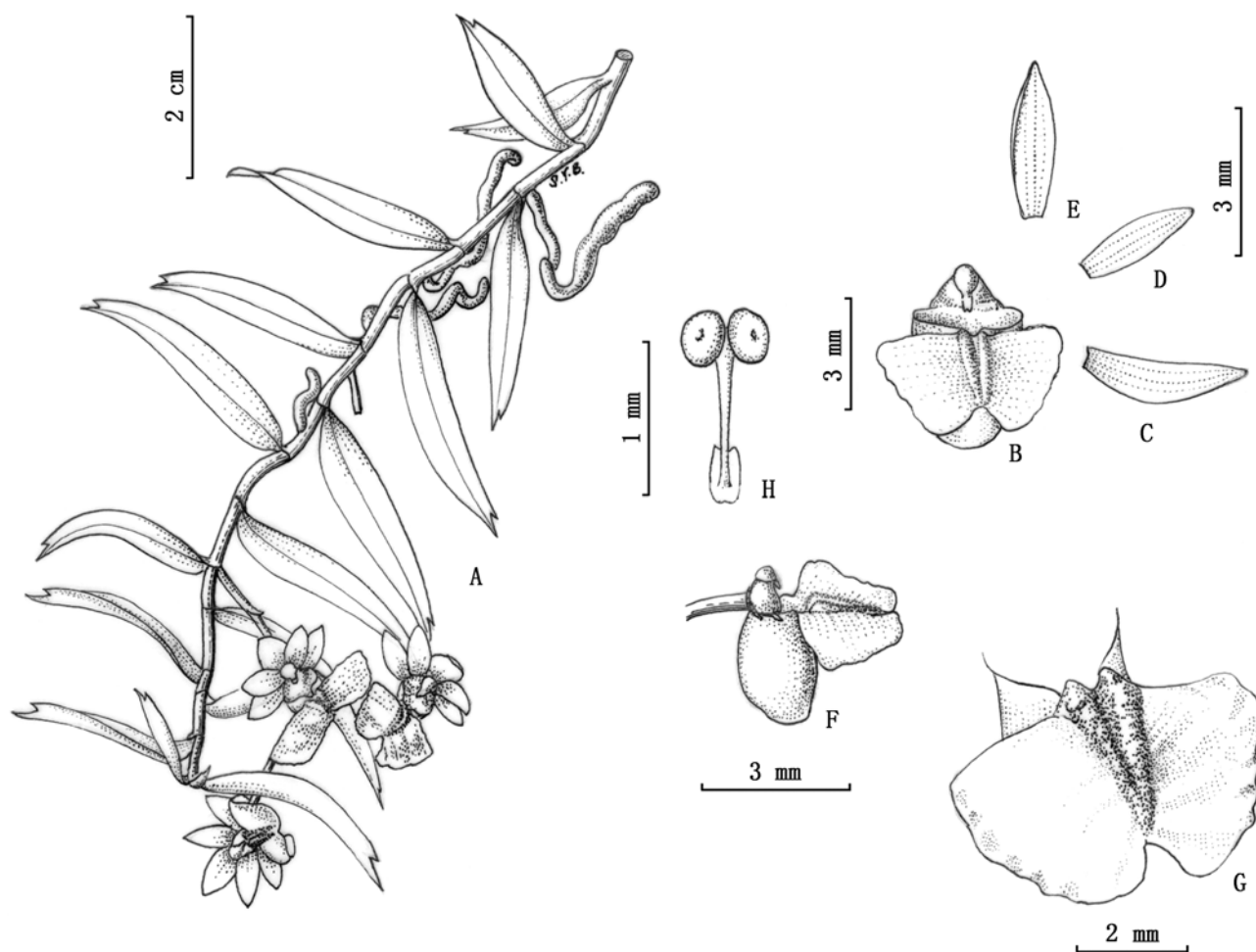


Fig. 4. *Gastrochilus alatus* X. H. Jin & S. C. Chen. A, habit; B, column and lip; C, lateral sepal; D, petal; E, dorsal sepal; F, lateral view of lip and column; G, lip; H, pollinarium. Drawn by Y. B. Sun from paratype, X. H. Jin 8151, PE.

1 mm wide. Lip adnate to column base, fleshy; hypochile conical, 4 mm long, 2 mm wide; epichile broad elliptic, membranous, 5 mm long, 8 mm wide, disc with two longitudinal ridges, entire. Column red, 1 mm long. Anther cap yellow.

China. Yunnan (云南): Fugong (福贡), Zhuminglin (珠明林), alt. 2758 m, 2005-05-16, X. H. Jin (金效华) 6998 (holotype, PE); Gongshan (贡山), alt. 2685 m, 2006-04-16, X. H. Jin (金效华) 8151 (paratype, PE).

Gastrochilus alatus was first collected in Fugong County in 2005, but it couldn't be identified as any known species of *Gastrochilus*. In April 2006, we collected it again in Gongshan County, about 150 km from Fugong. Specimen comparison and field observation indicated that it is a new species, somewhat related to *Gastrochilus distichus* (Lindl.) Kuntze in having pendulous stem and glabrous epichile. However, it is very easy to distinguish it from *G. distichus*. The latter has greenish flowers and semicircular epichile 5 mm wide with two conical calli centrally (Tsi, 1999; Pearce & Cribb, 2002), while *G. alatus* has yellow flowers, broad elliptic and membranous epichile 8 mm wide with ridge centrally.

4. *Gastrochilus malipoensis* X. H. Jin & S. C. Chen, sp. nov. Fig. 5

麻栗坡盆距兰

Habitu *Gastrochilo calceolari* (Buch.-Ham ex J. E. Smith) D. Don subsimilari, sed inflorescentia racemosa, epichilio glabrato et semiorbiculato.

Epiphytic, erect plants 10–15 cm long. Stem 2 mm in diam., covered by leaf sheaths. Leaves jointed, lanceolate, slightly oblique, apex unequally bilobed, 15–20 cm long, 1 cm wide. Inflorescence racemose, 3 cm long; peduncle 1–2 cm long; bracts elliptic, 4 mm long,

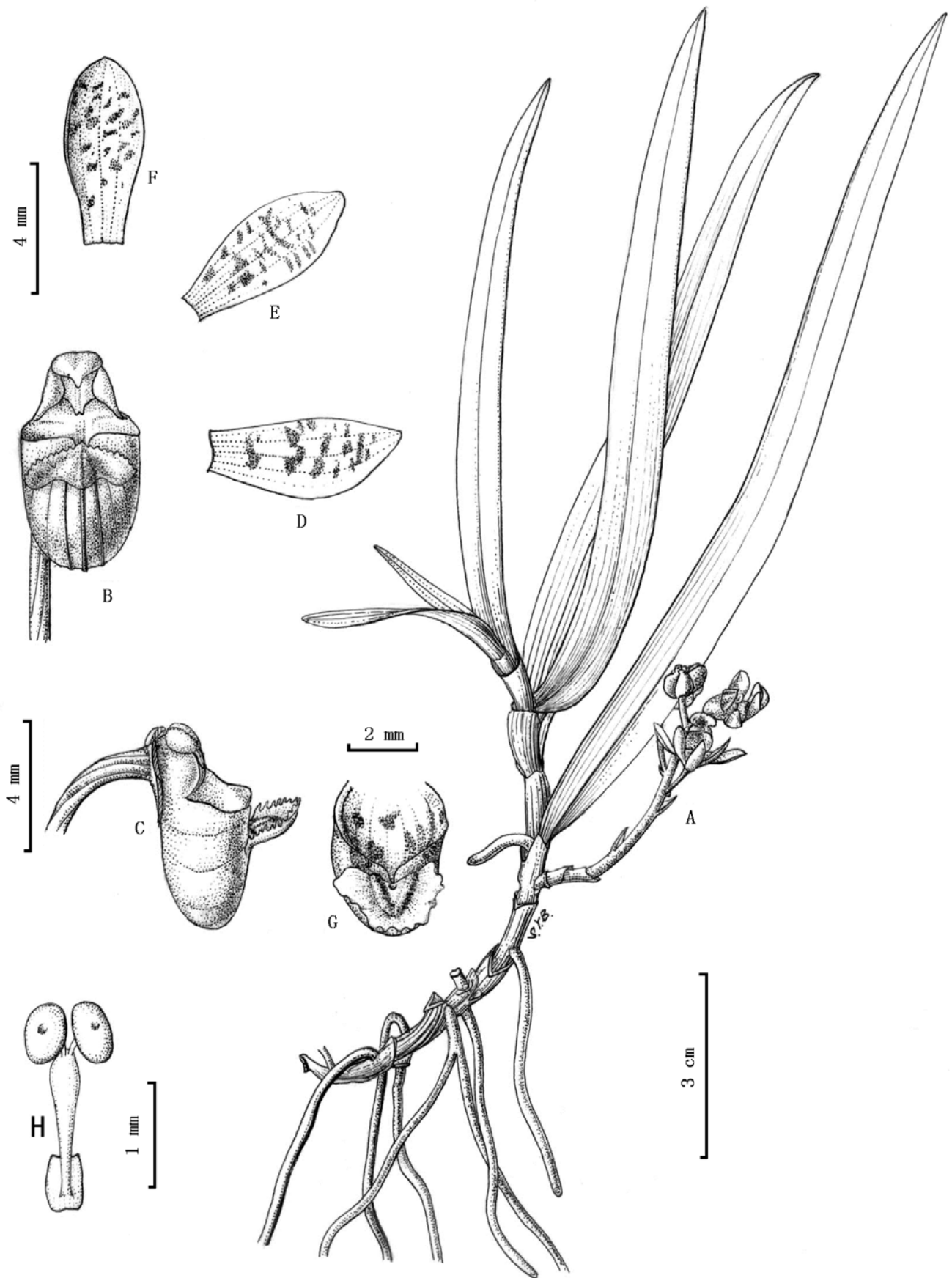


Fig. 5. *Gastrochilus malipoensis* X. H. Jin & S. C. Chen. A, habit; B, front view of column and lip; C, lateral view of column and lip; D, lateral sepal; E, petal; F, dorsal sepal; G, lip; H, pollinarium. Drawn by Y. B. Sun from the holotype, X. H. Jin 8145, PE.

1.5 mm wide. Flowers whitish green, spotted with purple. Pedicel and ovary 1 cm long. Dorsal sepal elliptic, concave, 5 mm long, 3 mm wide; lateral sepals ovate, oblique, 6 mm long, 4 mm wide; petals elliptic, 6 mm long, 3 mm wide. Lip 8.5 mm long; hypochile saccate, slightly compressed, 5 mm long; epichile semicircular, margins white and dentate, 3.5 mm long, 3.5 mm wide, with a thickened callus centrally. Column 3 mm long, robust. Pollinia 2; stipe tapering; viscidium narrowly elliptic.

China. Yunnan (云南): Malipo (麻栗坡), Nanwenhe (南温河), alt. 1322 m, 2006-04-11, X. H. Jin (金效华) 8145 (holotype, PE).

Gastrochilus malipoensis is sympatric with *G. bellinus* (Rchb. f.) Kuntze and *G. calceolaris* (Buch.-Ham ex J. E. Smith) D. Don and similar to them in having nearly erect stems, a dentate epichile with cavity at its base and callus centrally. *Gastrochilus calceolaris* is characterized by its corymbose inflorescence, and triangular and hairy epichile (Seidenfaden, 1992; Tsi, 1999); *G. bellinus* is characterized by its larger size, corymbose inflorescence, much larger flowers, and whitish and triangular epichile (Seidenfaden, 1992; Tsi, 1999). *Gastrochilus malipoensis* is easy to distinguish by having racemose inflorescence, smaller flowers, and semicircular and glabrous epichile.

These three species are sympatric and flowering nearly at the same period, and whether there are hybrids between them needs further investigation.

5. *Bulbophyllum rolfei* (Kuntze) Seidenf. in Dansk. Bot. Ark. 33 (3): 149. 1979.—*Phyllorchis rolfei* Kuntze, Revis. Gen. Pl. 2: 276. 1891. Type: India. Darjeeling, *Griffith 5174* (K).

高山卷瓣兰 新拟

Epiphytic, clustered plants. Rhizome 0.8–1 mm in diam., rooting only at the base of pseudobulbs. Pseudobulbs 0.1–2.4 cm apart, ovoid to falcate-ovoid, 0.7–1.5 cm long, 0.3–0.9 cm in diam. Leaf 1, oblong-elliptic, subacute to acute, 2–3.5 cm long, 0.8–1.2 cm wide; petiole 3–5 mm long. Inflorescences erect from nodes of pseudobulbs, shortly racemose, 1- to 5-flowered. Peduncle with tubular-lanceolate sheaths at base, glabrous, 4–5.5 cm long. Floral bracts narrowly lanceolate, acuminate, 6–8 mm long, 0.8–1 mm wide. Sepals and petals red-purple to yellow, with deep purple spots; lip deep red-purple. Pedicel and ovary glabrous, 4–7 mm long. Dorsal sepal ovate, acute, three-veined, 5–6 mm long, 1.5–2 mm wide. Lateral sepals linear-oblong, acuminate, three-veined, 1–1.6 cm long, 2–3 mm wide, connate at least part of their length. Petals ovate, acute, margins erose, three-veined, 4 mm long, 1.2 mm wide. Lip unlobed, fleshy, elliptic, subacute apically, decurved, upper surface grooved from base to apex, apex finely papillose, 3–4 mm long, 0.5–0.8 mm wide. Column 1–1.5 mm long, stelia shortly dentate, erect. Column foot curved, 3 mm long. Anther cap papillose.

China. Yunnan (云南): Fugong (福贡), Jiakedi (架科底), east slope of Gaoligongshan Mts., alt. 2422 m, 2005-08-28, X. H. Jin (金效华) 7920 (PE).

This species is somewhat related to *Bulbophyllum retusiusculum* Rchb. f., but differs by its inflorescence equaling or exceeding leaves, dorsal sepal half as long as lateral sepals, and lateral sepals connate for at least part of their length.

Distribution: Nepal, India, China.

6. *Bulbophyllum ovatilabellum* Seidenf. in Dansk Bot. Ark. 33 (3): 53. 1979. Type: Thailand. Doi Ngao, Mae Chem, alt. 1200–1300 m, *Kerr 420* (BK, C, K).

卵唇石豆兰 新拟

Epiphytic, tiny plants. Pseudobulbs narrowly ellipsoid, 4–6 mm long, 1–2 mm in diam., prostrate on the rhizome with ends slightly upturned. Leaf 1, terminal, ovate, obtuse, shortly petioled, 5–10 mm long, 2–4 mm wide. Inflorescence 15–20 mm long, 1-flowered. Flower orange. Dorsal sepal oblong, acute, 3.5–4 mm long, 1.2 mm wide, with 3 veins (the lateral

two forked). Lateral sepals ovate, acute, 4.5 mm long, 1.8–2 mm wide, 5-veined. Petals linear, 1.5 mm long, obtuse, 1-veined. Lip deep orange, more or less sigmoid, 1.8 mm long, 1.2 mm wide, basal sides semicircular and recurved, the median part fleshy with a U-shaped callus, apex truncate. Column with linear stadia 1.2 mm long, column foot 1 mm long.

China. Yunnan (云南): Lushui (泸水), Liuku (六库), east slope of Gaoligongshan Mts., epiphytic on trunks, alt. 2400 m, 2005-05-26, X. H. Jin (金效华) 7024 (PE).

This species belongs to the section *Monilibulbus* and it is close to *Bulbophyllum hastatum* T. Tang & F. T. Wang. It can be distinguished from its relatives by forked lateral veins in dorsal sepal and a U-shaped callus on the lip.

Distribution: Thailand, China.

7. *Eria cristata* Rolfe, Kew Bull. 1892 139. 1892. Type: Myanmar. Moulmein, *Peche s.n.* (K).

三脊毛兰 新拟

Epiphytic, clustered. Stem cylindrical, about 25 cm tall, 3 mm in diam., sheathed. Leaves 2–5, terminal, narrowly lanceolate, 10–15 cm long, 1.5–2 cm wide. Inflorescence subterminal with two flowers; rachis white-hairy. Floral bracts purple, more or less reflexed, elliptic, 8 mm long, 5 mm wide. Pedicel and ovary 1 cm long, hairy. Flowers white tinged with pale yellow. Sepals hairy outside. Dorsal sepal elliptic, 1 cm long, 0.7 cm wide, acute; dorsal sepal oblique at base, narrowly elliptic, acuminate, 1 cm long, 0.4 cm wide at base; petals falcate, 1 cm long, 2 mm wide. Lip white to cream, 3-lobed, 7 mm long, 5 mm wide, with 3 keels (the middle one longer and hairy). Lateral lobes semi-orbicular. Middle lobe acuminate, 3–3.5 mm long, 1–1.3 mm wide. Mentum 4 mm long. Column 3 mm long.

China. Yunnan (云南): Gongshan (贡山), Cikai (茨开), east slope of Gaoligongshan Mts., epiphytic on trunks, alt. 1300–1700 m, 2005-05-19, X. H. Jin (金效华) 7005 (PE).

This species is morphologically similar to *E. marginata* Rolfe, but it is characterized by having a white to cream lip, and purple and reflexed bracts.

Distribution: Myanmar, China.

8. *Gastrochilus affinis* (King & Pantl.) Schltr., Fedds Repert. Spec. Nov. Regni Veg. 12: 314. 1918.—*Saccolabium affine* King ex Pantl. in Ann. Bot. Gard. (Calcutta) 8: 228, t304. 1898. Type: Sikkim. Pemiongtsi, *Pantling 444* (CAL).

二脊盆距兰 新拟

Plants clustered, 3–5 cm tall, slender. Roots white and slender. Stem enclosed in leaf sheaths. Leaves several, distichous, fleshy, narrowly oblong, purple-spotted, apex minutely 2- or 3-dentate, 1.5 cm long, 0.5 cm wide. Inflorescence subterminal, racemose, 2–3-flowered. Peduncle sheathed, 1–1.5 cm long. Sheaths broadly triangular, about 1.2 mm long. Floral bracts triangular to ovate, 1 mm long. Flowers about 6 mm across. Sepals, petals and epichile green flushed with brown; hypochile yellow. Pedicel and ovary 0.5 cm long, slender. Dorsal sepal elliptic, concave, obtuse, 3.5 mm long, 1 mm wide. Lateral sepals spreading, elliptic, obtuse, about 3.5 mm long, 1 mm wide. Petals spreading, elliptic, obtuse, 3.5 mm long, 1 mm wide. Lip 3-lobed; hypochile saccate, 3.5 cm long, 2.5 cm wide. Lateral lobes narrow. Middle lobe triangular, subacute, decurved, basal margins dentate, with two thick median ridges ranging from base to apex. Sac conical, spur-like, slightly bifid at apex. Column very broad, 2 mm long.

China. Yunnan (云南): Fugong (福贡), Jiakedi (架科底), east slope of Gaoligongshan Mts., epiphytic on trunk, alt. 2555 m, 2005-05-16, X. H. Jin (金效华) 6984 (PE).

This species resembles *Gastrochilus distichus* (Lindl.) Kuntze, but can be differentiated from the latter by dentate-margined epichile with two ridges ranging from base to apex.

Distribution: India, China.

9. *Listera micrantha* Lindl., J. Proc. Linn. Soc., Bot. 1: 176. 1857. Type: Sikkim. *Hooker* 353 (K).

三裂对叶兰 新拟

Terrestrial plants, 6–13 cm tall. Stem glabrous, bearing a single, oblong, obtuse sheath. Leaves 2, subbasal, opposite, cuneate or ovate, obtuse to subacute, sessile, 0.5–1.1 cm long, 0.4–0.9 cm wide. Inflorescence sparsely 4- to 10-flowered; peduncle minutely hairy, 5–10 cm long; rachis 3–5 cm long. Floral bracts ovate, acute, concave, 1 mm long. Flowers pale green, column whitish. Pedicel and ovary 2–5 mm long, glabrous. Sepals and petals subequal, elliptic, subacute, 1-veined, 2–3.3 mm long, 1–1.5 mm wide. Lip rectangular, deflexed, 3-veined, 2–2.5 mm long, 0.5–1.7 mm wide, with two semi-orbicular auricles at base; apex 3-lobed; lobes triangular, the middle lobe exceeding the lateral two. Column straight, 0.8–1 mm long; anther depressed; rostellum short.

China. Yunnan (云南): Gongshan (贡山), Cikai (茨开), east slope of Gaoligongshan, alt. 2800–3100 m, 2005-09-09, X. H. Jin (金效华) 7976 (PE).

This is a distinct species and can be distinguished from all other Chinese species of *Listera* R. Br. by having trilobed-tipped lip.

Distribution: India, China.

10. *Luisia macrotis* Rchb. f. in Gard. Chron. 1110. 1869; Seidenf. in Dansk Bot. Ark. 27 (4): 18. figs. 3, 4. 1971. Type: India. Assam. Herb. Rchb. 51720 (W).

紫唇钗子股 新拟

Epiphytic on tree. Stem about 30–40 cm tall, 2–3 mm in diam., internodes about 2–3 cm long. Leaves 8–10, terete, not second, 20–30 cm long, 2 mm in diam. Inflorescences lateral and close to the stem, very short, about 1 cm long, 2- or 3-flowered. Bracts 3–5, 2–3 mm long. Ovary with pedicel 12 mm long, green. Flowers fully open; sepals green with purple dots, middle sepals 1.5 cm long, 0.5 cm wide, concave into boat-shaped; lateral sepals 1.2 cm long, boat-shaped with a dorsal keel, dorsal keel round or square cut off or prolong into a small harp dent at apex. Petals pale purple, linear, 2.5 cm long, 4 mm wide. Lip dark purple, 1.2 cm long, 0.8 cm wide, without callus; lateral lobes indistinct, erect, ovate, about 1.5 mm wide at base; hypochile not concave, 3 mm long; epichile cordate, 9 mm long, slightly emarginated, more or less rugose, not uniformly glossy. Column stout, about 3 mm long. Anther cap white. Pollinia 2, porate.

China. Yunnan (云南): Lushui (泸水), east slope of Gaoligongshan Mts., epiphytic on the trunk of tree, alt. 2500 m, 2005-04-25, X. H. Jin (金效华) 6944 (PE).

This is a distinct species, and it is easy to be distinguished from other species of *Luisia* Gaud. from China by its short inflorescences, larger flowers, lateral sepals as long as lip, petals less than 5 mm wide, lip dark purple, lateral lobes indistinct, and the epichile cordate.

Seidenfaden (1971) stated that *Luisia macrotis* from Thailand and Laos were different from those from India in many characters, such as lateral sepals slightly shorter than lip and epichile bifid at apex. Our observation indicated that *Luisia macrotis* from Lushui, Yunnan, are very similar to those from Laos and Thailand. However, we have to point out that the lateral sepals are as long as the lip in plants from Yunnan, and this may be also true in plants from Laos and Thailand.

Distribution: India, Laos, Thailand, China.

11. *Oberonia teres* Kerr, Kew Bull. 1927 214. 1927; Seidenfaden in Dansk Bot. Ark. Bind 33. Nr. 1: 10. 1978. Type: Thailand. Mae Tun, Chiangmai 800 m, *Kerr* 484 (K).

圆柱叶鸢尾兰 新拟

Epiphytic plants, about 4 cm tall. Stem 1 cm tall. Leaves terete, acute, 1.5–3 cm long, 0.3 cm in diam. Inflorescence 1–1.5 cm long. Bracts lanceolate, ciliate, acuminate. Flowers green.

Dorsal sepal ovate, acute, 1 mm long, 0.8 mm wide. Lateral sepals similar to dorsal sepal, 1 mm long, 0.8 mm wide. Petals linear, 0.8 mm long, 0.2 mm wide. Lip oblong, three-lobed, 1.1 mm long, 0.8 mm wide. Lateral lobes auricled, 0.2 mm long, 0.15 mm wide. Middle lobe 0.8 mm long, 0.7 mm wide, bilobed; lobelets irregularly rounded-serrate.

China. Yunnan (云南): Lushui (泸水), Liuku (六库), east slope of Gaoligongshan Mts., alt. 2400 m, 2005-05-28, X. H. Jin (金效华) 7029 (PE).

This species is close to *Oberonia myosurus* Lindl., from which it differs by its greenish flowers, and the midlobe of lip irregularly rounded-serrate on margins and emarginated at apex.

Distribution: Vietnam, China.

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中国兰科植物资料增补

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摘要 报道了中国兰科Orchidaceae植物4个新种——短距叉柱兰*Cheirostylis calcarata* X. H. Jin & S. C. Chen、麻栗坡叉柱兰*C. malipoensis* X. H. Jin & S. C. Chen、膜翅盆距兰*Gastrochilus alatus* X. H. Jin & S. C. Chen、麻栗坡盆距兰*G. malipoensis* X. H. Jin & S. C. Chen和7个新记录种——高山卷瓣兰*Bulbophyllum rolfei*、卵唇石豆兰*Bulbophyllum ovatilabellum*、三脊毛兰*Eria cristata*、二脊盆距兰*Gastrochilus affinis*、三裂对叶兰*Listera micrantha*、紫唇钗子股*Luisia macrotis*、圆柱叶鸢尾兰*Oberonia teres*。短距叉柱兰*C. calcarata*与扇唇叉柱兰*C. spathulata*相似, 但本种的根状茎直立, 唇瓣具距, 蕊柱附属物长于蕊喙等与后者区别; 麻栗坡叉柱兰*C. malipoensis*与云南叉柱兰*C. yunnanensis*相似, 不同之处在于该种的根状茎节间两端收狭, 后唇具纵向的隔膜, 蕊柱附属物短于蕊喙; 膜翅盆距兰*G. alatus*与列叶盆距兰*G. distichus*形态上相似, 但以花黄色, 前唇宽、膜质并且中部具纵向的脊而易与列叶盆距兰区别; 麻栗坡盆距兰*G. malipoensis*与盆距兰*G. calceolaris*相似, 但该种具总状花序, 前唇光滑并为半圆形而易与后者进行分别。高山卷瓣兰*Bulbophyllum rolfei*的中萼片为侧萼片的一半长, 花序与叶等长或超过叶长, 侧萼片至少有一部分贴生; 卵唇石豆兰*Bulbophyllum ovatilabellum*中萼片的侧脉分叉, 唇瓣具一U形的胼胝体; 三脊毛兰*Eria cristata*的花苞片紫色反折, 唇瓣白色到乳黄色并具3条褶片; 二脊盆距兰*Gastrochilus affinis*的前裂片边缘具齿, 并具2条从基部到顶部的脊; 三裂对叶兰*Listera micrantha*的唇瓣前部三裂; 紫唇钗子股*Luisia macrotis*的侧萼片与唇瓣等长, 花瓣不宽于5 mm, 唇瓣紫色, 前唇心形; 圆柱叶鸢尾兰*Oberonia teres*叶子圆柱形, 唇瓣中裂片先端2裂。

关键词 新种; 新记录种; 兰科; 云南; 中国