

50. SATYRIUM Swartz, Kongl. Vetensk. Acad. Nya Handl. 21: 214. 1800, nom. cons., not Linnaeus (1753).

鸟足兰属 niao zu lan shu

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Herbs, terrestrial, slender or robust. Tubers solitary or paired, ellipsoid, fleshy; roots few, fasciculate, filiform. Stem erect, with a few sheaths at base and 1 to few leaves above, glabrous. Leaves basal or cauline, ovate to lanceolate, membranous to slightly fleshy, amplexicaul at base. Inflorescence terminal, with several scattered, sheathing foliaceous or reduced sterile bracts along peduncle, laxly to densely few to many flowered above; floral bracts reflexed, usually foliaceous, ovate to lanceolate, often longer than ovary. Flowers not resupinate, bisexual or unisexual; ovary fusiform, shortly pedicellate, usually glabrous. Sepals and petals free, spreading, subequal. Petals often slightly smaller than sepals; lip superior, deeply hooded, adnate to column at base, with 2 elongate or saccate spurs at base, or rarely spurless. Column short to elongate, usually incurved, with 2 prominent auricles near anther base; anther on ventral surface of column, with 2 parallel locules, base entirely connate with column, usually with well-developed connective; pollinia 2, granular-faraceous, sectile, each attached to a viscidium by a short, slender caudicle; rostellum spreading, rather large, 3-lobed; stigma lobes confluent, large, flat or concave.

About 90 species: mainly in Africa (especially S Africa), with a few species also found in S Asia; two species (one endemic) in China.

- 1a. Rachis 2–4.5 cm, subdensely to densely flowered; flowers yellow 2. *S. yunnanense*
- 1b. Rachis 4–20 cm, laxly to subdensely flowered; flowers whitish, pink, or pale rose-purple 1. *S. nepalense*

1. *Satyrium nepalense* D. Don, Prodr. Fl. Nepal. 26. 1825.

鸟足兰(原变种) niao zu lan (yuan bian zhong)

鸟足兰 niao zu lan

Satyrium albiflorum A. Richard; *S. henryi* Schlechter; *S. pallidum* A. Richard; *S. perrottetianum* A. Richard.

Plants (11–)20–70 cm tall. Tubers oblong-ellipsoid to ellipsoid, 2–5 × 0.5–1.5 cm. Stem with 1–3 membranous sheaths at base, 1–3-leaved. Leaves usually basal and subopposite, or sometimes cauline and widely spaced and alternate, broadly ovate, ovate-lanceolate, or lanceolate-oblong, 4–19 × 2–5.5(–8) cm, slightly fleshy, margin somewhat crisped, apex acute or acuminate. Peduncle 6–30 cm, slender to stout, with several large, foliaceous, tubular bracts, glabrous; rachis 4–20 cm, laxly 10- to subdensely more than 20-flowered; floral bracts reflexed, ovate-lanceolate, 8–35 × 4–10 mm. Flowers fragrant, widely spreading, whitish, pink, or pale purple, glabrous, hermaphroditic or with reduced stamen and functionally female; pedicel and ovary 6–10 mm, glabrous. Dorsal sepal narrowly oblong-elliptic, 4–6 × 1–1.8 mm, apex obtuse; lateral sepals oblong to subovate, slightly oblique, 4–6 × 1.5–2 mm, apex obtuse. Petals narrowly oblong to narrowly elliptic, 3.5–5 × 1–1.2 mm, outer surface carinate, margin sometimes finely ciliate, apex acute to obtuse and sometimes incised; lip hooded, subglobose, 5–6 × 4–6 mm, outer surface carinate, 2-spurred, margin sometimes irregularly dentate, apex acute or obtuse and often deflexed; spurs parallel, slender and cylindrical, to stout and conic, curving downward, 3–13 mm, or reduced and saclike, or rarely absent altogether. Column incurved, 4–5 mm.

Plants usually robust, 25–60 cm tall. Stem 2- or 3-leaved. Leaves basal or rarely cauline, broadly ovate to ovate-lanceolate, 7–19 × 2–5.5(–8) cm, apex acute. Peduncle 10–30 cm, stout; rachis 7–20 cm; floral bracts to 35 mm. Flowers hermaphroditic. Dorsal sepal 4–5 × 1–1.8 mm; lateral sepals oblong to subovate, slightly oblique, ca. 4 × 2 mm. Petals narrowly oblong to narrowly elliptic, ca. 3.5 × 1 mm, glabrous; spurs downcurved, cylindrical, 8–13 mm, ca. as long as or exceeding ovary, slender. Fl. Sep–Dec. *2n* = 82, 123, 164.

Forests, open forests, grassy slopes; 1000–3200 m. SW Guizhou, S Xizang, S and SE Yunnan [Bhutan, India, Myanmar, Nepal, Sri Lanka].

1b. *Satyrium nepalense* var. *ciliatum* (Lindley) J. D. Hooker, Fl. Brit. India 6: 168. 1890.

缘毛鸟足兰 yuan mao niao zu lan

Satyrium ciliatum Lindley, Gen. Sp. Orchid. Pl. 341. 1838; *S. aceras* Schlechter ex Limpricht; *S. mairei* Schlechter; *S. setchuenicum* Kraenzlin; *S. tenii* Schlechter; *S. tschangii* Schlechter.

Plants usually slender, 12–35 cm tall. Stem slender, 1- or 2-leaved. Leaves basal, lanceolate-oblong to narrowly ovate, 4–15 × 2–5 cm, apex acuminate to acute. Peduncle 6–17 cm; rachis 4–13 cm; floral bracts to 2 cm. Flowers usually hermaphroditic or rarely with stamen abortive or absent. Dorsal sepal 5–6 × ca. 1.3 mm; lateral sepals oblong-spatulate, 5–6 × ca. 1.5 mm. Petals narrowly oblong-obovate, 4–5 × ca. 1.2 mm, margin often ciliate; spurs conic, 3–6 mm, shorter than ovary, stout,

Open forests, alpine slopes; 1000–4000 m. SW Guizhou, NW Hunan, SW and W Sichuan, S and SE Xizang, NW, S, and SE Yunnan [Bhutan, India, Myanmar, Nepal, Sri Lanka].

- 1a. Spurs slender, cylindrical, 8–13 mm, ca. as long as or exceeding ovary 1a. var. *nepalense*
- 1b. Spurs stout, conic, not more than 6 mm, shorter than ovary, rarely saclike or absent altogether 1b. var. *ciliatum*

1a. *Satyrium nepalense* var. *nepalense*

rarely saclike or absent altogether (in spurless or shortly spurred flowers, male organs reduced to varying degrees; in extreme cases column entirely pistillate and lip absent). Fl. and fr. Aug–Oct.

Alpine *Pinus* forests, open forests, grassy slopes; 1200–4000 m. SW Guizhou, NW Hunan, SW and W Sichuan, S and SE Xizang, NW and SE Yunnan [Bhutan, India (Sikkim), Nepal].

2. *Satyrium yunnanense* Rolfe, Notes Roy. Bot. Gard. Edinburgh 8: 28. 1913.

云南鸟足兰 yun nan niao zu lan

Satyrium microcephalum Kraenzlin; *S. nepalense* D. Don subsp. *yunnanense* (Rolfe) Soó; *S. pycnostachyum* Schlechter.

Plants 11–35 cm tall. Tubers ellipsoid to subovoid, 1–2.5 × 0.5–1.4 cm. Stem with 1 or 2 membranous sheaths at base, 1- or 2-leaved. Leaves basal and subopposite, or cauline, somewhat spaced and alternate, broadly ovate to subelliptic, 3.5–11 × 2–5 cm, margin sometimes crisped, apex obtuse to acute. Peduncle 5–25 cm, stout, with 1 or 2 foliaceous sheathing bracts, glabrous; rachis 2–4.5 cm, subdensely to densely 10- to more than 20-flowered; floral bracts reflexed, ovate, 8–15 × 5–7 mm. Flowers usually widely spreading, yellow to golden yellow, glabrous, hermaphroditic; pedicel and ovary 5–7 mm, glabrous. Dorsal sepal oblong, 4–6 × 1.5–2 mm, apex obtuse; lateral sepals oblong, slightly oblique, ca. 5 × 2 mm, apex obtuse to acute. Petals suboblong-spatulate, ca. 3.5 × 1.2 mm, apex obtuse; lip subglobose, 4–5.5 × 3.5–5 mm, outer surface somewhat carinate, inner surface pubescent at base, 2-spurred, apex obtuse to slightly apiculate; spurs parallel, straight or slightly curved downward, cylindric, 3.5–6 mm, slender. Column erect, 2–3.5 mm. Fl. Jul–Sep, fr. Nov.

• Open forests, rocky places; 2000–3700 m. SW Sichuan, C and NW Yunnan.

