

32. STROPHANTHUS de Candolle, Bull. Soc. Philom. Paris 3: 122. 1802.

羊角拗属 yang jiao niu shu

Lianas or erect or stolon-bearing shrubs, rarely trees, with latex. Leaves opposite or in whorls of 3. Cymes mostly dichasial, terminal, pedunculate or sessile. Flowers large. Sepals free or connate at base, imbricate or quincuncial, basal glands 5 to many. Corolla funnellform, usually turning darker and dark streaked at anthesis; tube short, throat wide; lobes overlapping and mostly twisted to right, distal portions mostly forming filiform, involute long tails; corona 10-lobed, inserted at base of corolla lobes. Stamens inserted at apex of corolla tube; filaments short; anthers sagittate, connivent, adherent to pistil head, spurred at base; disc absent. Ovaries 2, ± connate at base; ovules numerous in each locule. Style filiform. Follicles 2, divaricate. Seeds numerous, with beaked apical coma.

Thirty-eight species: tropical Africa, Asia; six species in China.

- 1a. Apex of corolla lobes rounded 1. *S. gratus*
- 1b. Apex of corolla lobes long tailed.
 - 2a. Plant densely hispid throughout 2. *S. hispidus*
 - 2b. Plant glabrous except for flowers.
 - 3a. Anther connectives included.
 - 4a. Corolla tube puberulent outside; ovary glabrous; latex clear or yellowish 3. *S. divaricatus*
 - 4b. Corolla tube glabrous outside; ovary puberulent; latex clear or white 4. *S. sarmentosus*
 - 3b. Anther connectives exserted.
 - 5a. Sepals linear, recurved, densely puberulent; bracts 2 or 3 pairs, puberulent; corolla lobes including tails 1.8–5.5 cm; style 6–8.5 mm 5. *S. wallichii*
 - 5b. Sepals ovate or narrowly triangular, erect or suberect, glabrous; bracts 1 pair, glabrous or puberulent; corolla lobes including tails 4.3–25.5 cm; style 9–15 mm 6. *S. caudatus*

1. *Strophanthus gratus* (Wallich & Hooker) Baillon, Hist. Pl. 10: 171. 1889.

旋花羊角拗 xuan hau yang jiao niu

Roupellia grata Wallich & Hooker, Bot. Mag. 75: t. 4466. 1849; *Strophanthus gratus* (Wallich & Hooker) Franchet.

Lianas woody, to 25 m, latex white. Trunk to 10 cm in diam.; branches dark or purplish brown, densely lenticellate, branchlets glabrous. Petiole 0.5–3.2 mm; leaf blade ovate, elliptic, or obovate, 5–18 × 2–9 cm, leathery, glabrous; lateral veins 5–11 pairs. Cymes 3–32-flowered, glabrous. Flowers fragrant. Sepals obovate or broadly so, 0.7–1.8 cm. Corolla white, turning yellow at base, reddish or purple above, throat reddish; tube 2.5–4.5 cm, inflated in distal half; lobes orbicular or nearly so, 1.5–3.5 × 1.5–3.2 cm, apex rounded; corona lobes pink, awl-shaped, 0.5–1.5 cm, exserted. Filaments pubescent adaxially, connective glabrous, extending into a tail 6–12 mm. Follicles divergent at 180°, cylindric, 23–41 × 3–4.3 cm. Seeds to 2 cm, beak 1.6–6.2 cm, coma to 5 cm. Fl. Feb. $2n = 18$.

Taiwan [native to W and WC Africa].

Cultivated for medicine. The juice is used as an arrow poison.

2. *Strophanthus hispidus* de Candolle, Bull. Soc. Philom. Paris 3: 123. 1802.

箭毒羊角拗 jian du yang jiao niu

Lianas or stolon-bearing shrubs when cut, to 5 m tall, densely hispid; latex clear, reddish or white. Petiole 1–5 mm; leaf blade ovate to obovate, 3–22 × 1.5–12 cm, base rounded

or subcordate; lateral veins 6–11 pairs. Cymes 3–72-flowered. Sepals ovate, inner ones often linear, 1.3–3.5 cm. Corolla yellow, tube 1–2.2 cm; lobes including tails 15–22.5 cm, proximal part ovate, tail pendulous, puberulent on both sides, to 1 mm wide; corona lobes yellow spotted with red, purple, or brown, tongue-shaped. Anthers included, glabrous. Ovary hispid. Style to 1.2 cm. Follicles very narrowly oblong, to 54 × 3 cm, densely lenticellate. Seeds narrowly ellipsoid, beak 2.3–7.7 cm, coma to 5 cm. Fl. Feb-Apr, fr. Jun-Dec. $2n = 18$.

S Guangdong, S Guangxi, Hainan, S Yunnan [native to WC Africa].

Cultivated for medicine. All parts of the plant are deadly poisonous. The juice is used as an arrow poison and the seeds as heart stimulant and diuretic.

3. *Strophanthus divaricatus* (Loureiro) Hooker & Arnott, Bot. Beechey Voy. 199. 1837.

羊角拗 yang jiao niu

Pergularia divaricata Loureiro, Fl. Cochinch. 1: 169. 1790; *Emericia divaricata* (Loureiro) Roemer & Schultes; *Nerium chinense* Hunter ex Roxburgh; *Periploca divaricata* (Loureiro) Sprengel; *Strophanthus chinensis* (Hunter ex Roxburgh) G. Don; *S. dichotomus* de Candolle var. *chinensis* Ker Gawler; *S. divergens* Graham; *Vallaris divaricata* (Loureiro) G. Don.

Lianas or sarmentose shrubs, stolon bearing when pruned, to 4.5 m tall, glabrous except for corolla, latex clear or yellowish. Trunk to 4 cm in diam.; branches dark gray, densely lenticellate, branchlets reddish brown. Petiole 5–10 mm; leaf blade elliptic or slightly obovate, 3–10 × 1.5–5 cm;

lateral veins 4–9 pairs. Cymes 3–15-flowered; peduncle to 1.5 cm; bracts linear or narrowly ovate, deciduous. Pedicel to 1 cm. Sepals narrowly triangular, 4–11 mm. Corolla yellow, tube 0.9–1.6 cm, puberulent on both sides or glabrous inside; lobes with a red basal spot inside, ovate, to 10 cm, abruptly narrowed into pendulous tails to 1 mm wide; corona lobes 10, greenish yellow, triangular or awl-shaped, 0.9–3 mm. Anthers included, connective tail to 0.6 mm. Ovary glabrous. Follicles ellipsoid-oblong, 9–15 × 2–3.5 cm, hard, woody, divergent at 180–250°. Seeds fusiform, 1.3–2 cm, beak 1.2–3.4 cm, coma 3.5–5.5 cm. Fl. Mar-Jul. $2n = 18$.

Forests, thickets; 100–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Yunnan [Laos, Vietnam].

Various parts of the plant are used as heart stimulant and to treat injury and snake bites.

4. *Strophanthus sarmentosus* de Candolle, Bull. Soc. Philom. Paris 3: 123. 1802.

西非羊角拗 xi fei yang jiao niu

Shrubs stolon bearing, to 4 m tall, deciduous, latex clear or white. Branches densely lenticellate, branchlets dark or reddish brown. Petiole 0.2–2.1 cm; leaf blade elliptic or ovate, 2–15 × 1.5–7 cm, papery or thinly leathery, apex acuminate, acumen 0.2–2 cm; lateral veins 3–6 pairs, glabrous. Pedicel to 1.2 cm, puberulent. Sepals ovate or elliptic, 0.5–2 cm, puberulent. Corolla yellow-white outside, purple-yellow inside; tube 1.7–4 cm, glabrous outside; lobes including tail to 13.5 cm, pendulous. Anthers included. Ovary puberulent. Follicles 10–28 × 2.2–4.4 cm, apex obtuse. Seeds 0.8–2 cm, beak to 8 cm, coma 2.5–10.5 cm. Fl. Dec-May. $2n = 18$.

S Yunnan [native to WC Africa].

Cultivated for medicine.

5. *Strophanthus wallichii* A. de Candolle, Prodr. 8: 418. 1844.

云南羊角拗 yun nan yang jiao miu

Lianas woody, to 8 m, glabrous except for inflorescences, latex white. Trunk to 8 cm in diam.; branches sparsely to densely lenticellate. Petiole 5–10 mm; leaf blade elliptic or obovate, 4–13 × 2.5–6 cm, papery; lateral veins 5–9 pairs, base cuneate or rarely rounded. Cymes 5–25-flowered, puberulent to glabrous; peduncle to 7.5 cm; bracts 2 or 3 pairs, linear, 4–15 mm, spreading or recurved, puberulent. Pedicel 4–10 mm. Sepals linear or nearly so, 0.6–1.8 cm, puberulent on both sides. Corolla pinkish; tube 1–1.5 cm, puberulent inside, glabrous outside; lobes ovate, abruptly narrowed to tail, 1.8–5.5 cm, tail ca. 1 mm wide, glabrous to sparsely puberulent inside; corona lobes triangular, 2.8–6.5 mm. Stamens puberulent; filaments 6–8.5 mm, connective linear, exerted, 8.5–12.5 mm. Ovary minutely puberulent. Style 6–8.5 mm. Follicles oblong, 11–25 × 2.5–3 cm, woody, densely lenticellate, divergent at 180°. Seeds 1–1.8 cm, beak 2.2–4.4 cm, coma 5.5–9 cm. Fl. Mar-Jun, fr. Jul-Dec. $2n = 22$.

Mixed woods, brushwoods; 500–1500 m. S Yunnan [Bangladesh, India, Laos, Malaysia, Thailand, Vietnam].

6. *Strophanthus caudatus* (Linnaeus) Kurz, J. Asiat. Soc.

Beng., Pt. 2, Nat. Hist. 46: 257. 1877.

卵萼羊角拗 luan e yang jiao niu

Echites caudata Linnaeus, Mant. Pl. 52. 1767; *Nerium caudatum* (Linnaeus) Lamarck.

Lianas woody, to 12 m, glabrous except for flowers, latex clear or white. Trunk to 1.5 cm in diam.; branches dark brown, lenticellate. Petiole 3–13 mm; leaf blade elliptic, obovate, or ovate, 5–24 × 2.5–11 cm, leathery or papery; lateral veins 5–13 pairs. Cymes 5–15 cm, 5–25-flowered; bracts 2, linear, 2–12 mm, deciduous. Pedicel 7–11 mm. Sepals ovate or narrowly triangular, 0.3–1.9 cm, glabrous. Corolla white, turning yellow then red, red or purple streaked inside, glabrous or only distal part puberulent, tube 1.2–2.6 cm; lobes broadly ovate, abruptly narrowed to tail, 4.3–25.5 cm, tail pendulous, 1.5–3.2 mm wide; corona lobes tongue- or awl-shaped, 3–10 mm. Stamens puberulent, connective exerted. Ovary glabrous or puberulent. Style 0.9–1.5 cm. Follicles oblong, 10–30 × 3–4.8 cm, divergent at 150–200°. Seeds 1–2.5 cm, beak 2.3–4.6 cm, coma 5–9 cm. Fl. Apr-Jun. $2n = 20$.

500–900 m. S Guangxi, cultivated in Taiwan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam].

