

25. HOYA R. Brown, Prodr. 459. 1810.

球兰属 *qiu lan shu*

Centrostemma Decaisne; *Otostemma* Blume.

Subshrubs or lianas, epiphytic or epilithic, often twining or climbing by adventitious roots. Leaves opposite, fleshy, papery, or membranous. Inflorescences extra-axillary or sometimes terminal, umbel-like, producing a succession of globose or flat-topped clusters; old rachis thick, with contiguous pedicel scars. Calyx small, with basal glands. Corolla fleshy, rotate, reflexed, [or campanulate]; lobes valvate, often densely hairy or scurfy inside. Corona lobes 5, depressed patent or adnate vertically to gynostegium, fleshy, glossy when dried, inner angle a tooth incumbent on anthers, outer angle rounded or acute; margin revolute, longitudinally grooved basally. Stamens short connate, apical membrane of anthers appressed against stigma head; pollinia 2 per pollinarium, oblong, erect, with raised, translucent margin. Stigma head discoid, rounded or subapiculate. Follicles often solitary, cylindrical-fusiform.

At least 100 species: SE Asia to Oceania; 32 species in China.

- 1a. Leaves 3-veined from base 2. *H. pottsii*
- 1b. Leaves pinnately veined, or veins obscure.
 - 2a. Inflorescences 4- or 5-flowered, terminal; leaves 1–1.5 cm 32. *H. chinghungensis*
 - 2b. Inflorescences many flowered, usually extra-axillary, rarely terminal (*H. lii*); leaves more than 2 cm.
 - 3a. Outer angle of corona lobes rounded.
 - 4a. Leaves villous or pubescent.
 - 5a. Leaf blade broadly oblong or long quadrate, villous, apex mucronate; corolla lobes as long as tube 23. *H. villosa*
 - 5b. Leaf blade elliptic, oblong, elliptic-lanceolate, or rarely suborbicular, pubescent, apex short acuminate to obtuse; corolla lobes longer than tube 24. *H. lyi*
 - 4b. Leaves glabrous.
 - 6a. Leaf blade orbicular to widest above middle, 3–6 cm wide.
 - 7a. Leaf blade spatulate to oblanceolate, 10–21 cm, lateral veins 10 or more pairs; flower clusters flat topped; corolla white with purple spots 21. *H. radicalis*
 - 7b. Leaf blade obovate to orbicular, 4–8 cm, lateral veins ca. 4 pairs or obscure; flower clusters globose; corolla uniformly white.
 - 8a. Apex of leaf blade retuse or concave, lateral veins obscure 20. *H. kerrii*
 - 8b. Apex of leaf blade entire, lateral veins conspicuous, ca. 4 pairs 22. *H. liangii*
 - 6b. Leaf blade of other shapes, if more than 3 cm wide then widest below middle.
 - 9a. Leaf blades often pandurate, sometimes oblong; peduncle 0.3 cm; corolla yellow or reddish 27. *H. pandurata*
 - 9b. Leaf blade lanceolate or oblong-lanceolate to oblong-oblanceolate; peduncle 1–8 cm; corolla white.
 - 10a. Branchlets and petiole hairy; peduncle 1–4 cm; corolla reflexed; corona lobes erect.
 - 11a. Branchlets and petiole setose; lateral veins of leaf blade conspicuous adaxially; inflorescences terminal 25. *H. lii*
 - 11b. Branchlets and petiole minutely puberulent at least when young; lateral veins of leaf blade ill defined adaxially; inflorescences extra-axillary 26. *H. mekongensis*
 - 10b. Branchlets and petiole glabrous; peduncle 5–8 cm; corolla rotate; corona lobes spreading-stellate.
 - 12a. Leaf blade 1.5–2 cm wide; flower clusters flat topped; corolla 1–1.5 cm in diam., villous inside 28. *H. mengtzeensis*
 - 12b. Leaf blade 2.5–4.5 cm wide; flower clusters globose; corolla ca. 3 cm in diam., obscurely puberulent inside 29. *H. griffithii*
 - 3b. Outer angle of corona lobes acute.
 - 13a. Corolla purple; inflorescences on hanging leafless branches (leaves not known) 11. *H. commutata*
 - 13b. Corolla white, pink, yellow, or yellowish; inflorescences always on normal leafy branches.
 - 14a. Leaf blade linear, 0.4–0.7 cm wide.
 - 15a. Leaf blade 2.5–5 cm, hirsute abaxially; inflorescences terminal; corolla lobes glabrous 31. *H. linearis*
 - 15b. Leaf blade 10–20 cm, glabrous; inflorescences extra-axillary; corolla lobes pubescent 30. *H. longifolia*
 - 14b. Leaf blade not linear, 1–6.5 cm wide.
 - 16a. Corolla strongly reflexed; corona distinctly stalked, lobes spurred at base 1. *H. multiflora*
 - 16b. Corolla not reflexed; corona sessile, lobes not spurred.

- 17a. Leaf apex caudate; flowers yellow or yellowish.
- 18a. Leaf blade 4.5–7 cm, base rounded, lateral veins 4 or 5 pairs, obscure; peduncle ca. 0.4 cm; pedicel 1–1.2 cm; corolla lobes glabrous 5. *H. lasiognostegia*
- 18b. Leaf blade 9–13 cm, base cuneate, lateral veins 10–12 pairs, conspicuous; peduncle 1.5–2.5 cm; pedicel 2–2.5 cm; corolla lobes puberulent inside.
- 19a. Leaf blade symmetrical at base, lateral veins at right angle to midvein, uniformly colored 3. *H. fusca*
- 19b. Leaf blade oblique at base, lateral veins obliquely ascending, midrib with pale zone on both sides 4. *H. lipoensis*
- 17b. Leaf apex obtuse to acuminate; flowers white or reddish.
- 20a. Lateral veins of leaf blade obscure or obsolete.
- 21a. Leaf blade oblong or widest above middle.
- 22a. Petiole and abaxial surface of leaf blade pubescent; corolla ca. 1.2 cm in diam. 6. *H. thomsonii*
- 22b. Petiole and leaf blade glabrous; corolla 2–4 cm in diam. 30. *H. longifolia*
- 21b. Leaf blade widest below middle.
- 23a. Pedicel longer than peduncle.
- 24a. Leaf blade lanceolate to ovate-lanceolate, apex acuminate; peduncle 1–5 cm; sepals puberulent outside 7. *H. siamica*
- 24b. Leaf blade elliptic or elliptic-oblong, apex obtuse; peduncle ca. 0.3 cm; sepals glabrous outside 8. *H. revolubilis*
- 23b. Pedicel shorter than or as long as peduncle.
- 25a. Corolla 0.6–0.7 cm wide, violet dotted, base conspicuously white villous inside, lobes much longer than tube 9. *H. lacunosa*
- 25b. Corolla 1.5–2 cm wide, not violet dotted, densely papillate inside, lobes as long as tube 10. *H. carnosa*
- 20b. Lateral veins of leaf blade conspicuous.
- 26a. Flower clusters flat topped.
- 27a. Leaf blade cordate at base; petiole and abaxial side of midvein puberulent; peduncle shorter than pedicel; calyx outside and corolla puberulent 12. *H. cordata*
- 27b. Leaf blade rounded at base; petiole and midvein glabrous; peduncle much longer than pedicel; calyx and corolla glabrous 13. *H. nervosa*
- 26b. Flower clusters globose.
- 28a. Petiole up to 0.4 cm.
- 29a. Lateral leaf veins numerous, parallel; peduncle shorter than pedicel; corolla lobes papillate inside 14. *H. polyneura*
- 29b. Lateral leaf veins 4 or 5 pairs, not parallel; peduncle longer than pedicel; corolla mealy inside 15. *H. dasyantha*
- 28b. Petiole 1–3 cm.
- 30a. Leaves pubescent abaxially, especially along veins.
- 31a. Leaf blade short acuminate at apex, cuneate at base; calyx glabrous; corolla ca. 1 cm in diam. 16. *H. silvatica*
- 31b. Leaf blade obtuse or rounded at apex, rounded or broadly cuneate at base; calyx puberulent outside; corolla ca. 1.5 cm in diam. 17. *H. salweenica*
- 30b. Leaves glabrous.
- 32a. Lateral leaf veins ca. 7 pairs; peduncle to 5 cm; calyx pubescent outside; corolla densely pale scurfy inside 18. *H. fungii*
- 32b. Lateral leaf veins ca. 4 pairs; peduncle ca. 2 cm; calyx glabrous; corolla sparsely pubescent inside 19. *H. ovalifolia*

1. *Hoya multiflora* Blume, Catalogus 49. 1823.

蜂出巢 feng chu chao

Centrostemma multiflora (Blume) Decaisne; *C. platypetalum* Merrill.

Plants glabrous throughout except for corolla throat. Stems erect or decumbent, to 2.5 m tall, pale gray, yellowish when dry, with persistent leaf scars. Petiole 1–2 cm; leaf blade oblong-lanceolate, 8–18 × 2–6 cm, thick papery when dried, base cuneate, apex obtusely acuminate; lateral veins obscure. Inflorescences extra-axillary, subterminal, or termi-

nal, hemispherical, many flowered; peduncle stout, 1.5–3 cm. Pedicel 3.5–7 cm. Sepals ovate, ca. 2.5×1.7 mm; glands many, linear. Corolla yellowish white with orange lobe apices, 1.6–1.8 cm, strongly reflexed from base; limb ca. 6 mm, throat white villous; lobes oblong-triangular, ca. 1.2×0.8 cm. Corona on distinct stalk; lobes yellow, narrowly lanceolate, 8–9 mm, outer angles extended into acuminate spurs, inner angles acuminate, higher than stigma head. Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4×2 mm; coma to 5 cm. Fl. May-Jul, fr. Sep-Dec.

Open forests, bushland, 500–1200 m. Guangdong (cultivated), Guangxi, Yunnan [Indonesia, Laos, Malaysia, Myanmar, Philippines, acute; basal veins 3, extending more than halfway along blade. Inflorescences extra-axillary, globose; peduncle (2–)5–10 cm. Pedicel 1–1.5 cm. Sepals ovate, ca. 1.5×0.8 mm. Corolla white with reddish center, up to 1 cm in diam., reflexed; lobes broadly ovate, glabrous outside, slightly villous inside. Corona lobes stellate spreading, outer angle acute, margin strongly reflexed to enclose a hollow space, inner angle acute, incumbent over stigma head. Follicles linear-oblong, ca. $11 \text{ cm} \times 8 \text{ mm}$. Seeds linear-oblong ca. 4×1 mm; coma ca. 3.5 cm. Fl. Apr-May, fr. Aug-Oct.

• Dense forests, on tree trunks or rocks; below 500 m. Guangdong, Guangxi, Hainan, Taiwan, Yunnan.

The leaves are used for the treatment of fractures and swellings and for draining off pus and promoting new growth.

3. *Hoya fusca* Wallich, Pl. Asiat. Rar. 1: 68, tab. 75. 1830.

黄花球兰 huang hua qiu lan

Plants glabrous except for corolla. Stems stout, to 3 m. Petiole 1–2 cm; leaf blade oblong to \pm elliptic or lanceolate, $10\text{--}13 \times 2.5\text{--}4.5$ cm, leathery or thick papery when dry, base cuneate or broadly so, apex caudate; lateral veins ca. 10 pairs, nearly at right angles to midvein. Pseudumbels terminal and extra-axillary, globose, many flowered, shorter than leaves; peduncle 1.5–2.5 cm. Pedicel 2–2.5 cm. Sepals elliptic, $1.5\text{--}2 \times 1.2\text{--}1.4$ mm, obtuse. Corolla yellow, ca. 1 cm in diam., often reflexed; lobes triangular-ovate, puberulent inside. Corona lobes short, very thick, outer angle obtuse or acute, inner angle ending in an erect or recurved spur up to as long as anther tips. Follicles linear-lanceolate in outline, $13\text{--}15 \text{ cm} \times 6\text{--}10$ mm. Seeds oblong or oblong-elliptic, ca. 5 mm; coma ca. 3 cm. Fl. May-Sep, fr. Oct-Dec.

Moist forests; 500–2600 m. Guangxi, Guizhou, Hainan, Xizang, Yunnan [Bhutan, Cambodia, India, Laos, Myanmar, Nepal, Thailand, Vietnam].

4. *Hoya lipoensis* P. T. Li & Z. R. Xu, Bull. Bot. Res., Harbin 5(2): 130. 1985.

荔坡球兰 li po qiu lan

Shrubs epiphytic, glabrous throughout. Stems to 1.5 m. Petiole ca. 1 cm; leaf blade oblong-elliptic, $9\text{--}15 \times 3\text{--}5$ cm, base cuneate, oblique, apex caudate with a tail ca. 1.5 cm; lateral veins 10–12 pairs, obliquely ascending, conspicuous adaxially, obscure abaxially. Pseudumbels extra-axillary; peduncle ca. 2.5 cm. Flowers not seen. Fruiting pedicel ca.

Thailand, Vietnam].

2. *Hoya pottsii* Traill, Trans. Hort. Soc. London 7: 25. 1830.

三脉球兰 san mai qiu lan

Hoya angustifolia Traill; *H. obscurinervia* Merrill; *H. pottsii* var. *angustifolia* (Traill) Tsiang & P. T. Li.

Plants glabrous except for corolla. Stems mostly climbing, to 4 m or more. Petiole 0.5–2 cm; leaf blade ovate-oblong to oblong-lanceolate, $6\text{--}12 \times 3\text{--}6$ cm, thin leathery when dry, base rounded, subcordate, acute, or cuneate, apex 2 cm. Follicles linear-lanceolate, ca. $15.5 \text{ cm} \times 4 \text{ mm}$. Seeds ca. 5×2.5 mm; coma ca. 4 cm.

• Limestone forests; 900 m. Guizhou (Lipo).

5. *Hoya lasiogynostegia* P. T. Li, Bull. Bot. Res., Harbin 4(1): 118. 1984.

橙花球兰 cheng hua qiu lan

Epiphytes glabrous except for branchlets and young petiole. Stems to 2 m, pale gray. Petiole 2–4 mm; leaf blade ovate-lanceolate, $4.5\text{--}7 \times 1\text{--}2.7$ cm, base rounded, apex caudate; midvein flattened; lateral veins 4 or 5 pairs, obscure. Pseudumbels flat topped, many flowered; peduncle ca. 4 mm. Pedicel 1–1.2 cm. Sepals ca. 2 mm. Corolla yellowish, rotate, ca. 1 cm in diam.; lobes broadly ovate, $3\text{--}4 \times 3\text{--}4$ mm, apex mucronate. Corona lobes brownish, oblong-ovate, stellate, margin revolute, outer angle acute, inner angle subulate, erect and incurved at apex. Anthers acuminate, gynostegium pubescent. Ovaries glabrous. Fl. Apr.

• Forests; 900 m. Hainan (Diaoluoshan).

6. *Hoya thomsonii* J. D. Hooker, Fl. Brit. India 4: 61. 1883.

西藏球兰 xi zang qiu lan

Subshrubs epiphytic. Stems climbing to 2 m, slender. Petiole 1–1.5 cm, sparsely pilose; leaf blade oblong or obovate-oblong, $5\text{--}8 \times 2\text{--}4$ cm, thick papery when dry, sparsely pilose abaxially, base rounded, apex acuminate; lateral veins obscure. Pseudumbels extra-axillary; peduncle 1.5–2.5 cm, pubescent or glabrescent. Pedicel sparsely puberulent to glabrous. Corolla ca. 1.2 cm in diam.; lobes fringed at margin, glabrous or pubescent inside. Corona lobes obovate, outer angle broad and rounded, inner angle forming a short erect tooth as long as anther tip. Fl. May.

Lower pine forests; 900 m. Xizang (Medong) [India].

7. *Hoya siamica* Craib, Bull. Misc. Inform. Kew 1911: 419. 1911.

菖蒲球兰 chang pu qiu lan

Shrubs epiphytic, glabrous except for calyx and corolla; stems to 1.5 m. Petiole 0.5–1.5 cm; leaf blade lanceolate, oblong-lanceolate, or ovate-lanceolate, $4\text{--}10 \times 2\text{--}3$ cm, leathery when dry, base obtuse, margin subrevolute, apex acuminate; lateral veins obscure. Pseudumbels flat topped, 10–14 (–20)-flowered; peduncle 1–5 cm. Pedicel ca. 2 cm.

Sepals acute, puberulent. Corolla 1–5 cm in diam.; lobes ovate-triangular, puberulent, margin ciliate. Corona lobes broadly ovate, distally flat and with a central boss, outer angle acute, margin convex, suberect, apex concave, umbonate at middle, 3–3.5 mm. Fl. Sep.

Mountain forests; 1500–2500 m. NW Yunnan [Thailand].

8. *Hoya revolutibilis* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 124. 1974.

卷边球兰 juan bian qiu lan
spreading, outer angle acute, inner tooth erect, slightly shorter than anther appendages. Ovaries glabrous. Fl. Dec.

- Dense forests. W Guangxi, W Yunnan.

Thaithong (in litt.) suggests that *Hoya revolutibilis* is probably not separable from *H. oreogena* Kerr of Thailand.

9. *Hoya lacunosa* Blume, Bijdr. 1063. 1826.

裂瓣球兰 lie ban qiu lan

Otostemma lacunosum (Blume) Blume.

Subshrubs epiphytic. Stems climbing to 1.5 m by adventitious roots, glabrous or sparsely pubescent. Petiole 3–12 mm, subglabrous; leaf blade ovate or ovate-lanceolate, 2–5 × 1.2–3 cm, glabrous or subglabrous, base cuneate or rounded, apex acute; lateral veins 2–4 pairs, obscure. Peduncle 2.5–7 cm, robust. Pedicel 5–13 mm. Sepals obtuse. Corolla white with violet dots, 6–7 mm in diam., tube conspicuously white villous inside; lobes suborbicular, much longer than tube. Corona lobes ovate, constricted at middle, outer angle rounded, inner angle acute, surface with a thin keel. Apical anther membranes triangular, exceeding stigma head; pollinia subobovate. Follicles lanceolate, 5–7 cm.

Cultivated in S Guangdong [introduced from Indonesia].

Decoctions of all parts are used to detoxify insect bites, draw out pus, and reduce swellings.

10. *Hoya carnosa* (Linnaeus f.) R. Brown, Prodr. 460. 1810.

球兰 qiu lan

Shrubs epiphytic, climbing, glabrous except for inflorescences. Stems robust, to 6 m, pale gray, smooth. Petiole 1–1.5 cm; leaf blade broadly ovate-cordate to ovate-oblong or elliptic, 3.5–13 × 3–5 cm, base rounded to shallowly cordate, apex obtuse or short acuminate; lateral veins ca. 4 pairs, obscure. Pseudumbels extra-axillary, globose, ca. 30-flowered, pubescent; peduncle ca. 4 cm. Pedicel 2–4 cm. Corolla white, sometimes with a pink center, rotate, 1.5–2 cm in diam.; lobes triangular, densely papillate inside, margin recurved, apex reflexed. Corona lobes stellate spreading, outer angle acute, middle ridge prominent, margin strongly reflexed and enclosing a hollow space at base, inner angle acute, incumbent on anthers. Stigma head obtuse or obscurely apiculate. Follicles linear-lanceolate, 6–10 × 0.5–1.5 cm. Seeds ca. 5 × 1

Shrubs epiphytic, glabrous except for flowers. Stems climbing, hollow when dry. Petiole 1–1.5 cm, adaxially with a group of few glands; leaf blade elliptic or elliptic-oblong, 6–9 × 2–3 cm, thick leathery, base broadly cuneate or rounded, margin revolute, apex acute; lateral veins obscure. Pseudumbels shorter than leaves, ca. 7 cm in diam.; peduncle ca. 3 mm. Pedicel ca. 3 cm. Sepals triangular-ovate, ca. 2 × 1.4 mm, acute, sparsely hairy on midrib. Corolla white, reflexed, ca. 1.2 cm in diam., glabrous outside, densely puberulent inside; lobes ca. 4 × 3 mm. Corona stellate mm; coma ca. 2.5 cm. $2n = 22^*$.

Two varieties (one endemic to China): mountain forests, usually on trees; 200–1200 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan [India, ?Japan, Malaysia, Vietnam].

- 1a. Leaves deep green, not striate or spotted; ovaries glabrous 10a. var. *carnosa*
- 1b. Leaves densely or sparsely maculate adaxially; ovaries puberulent 10b. var. *gushanica*

10a. *Hoya carnosa* var. *carnosa*

球兰(原变种) qiu lan (yuan bian zhong)

Asclepias carnosa Linnaeus f., Suppl. Pl. 170. 1781; *Hoya chinensis* (Loureiro) Traill; *Stapelia chinensis* Loureiro.

Leaves deep green, not striate or spotted. Ovaries glabrous. Fl. Apr–Nov, fr. Jul–Dec.

Montane forests; 200–1200 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan [India, ?Japan, Malaysia, Vietnam].

Used medicinally for the treatment of encephalitis, pneumonia, and orchitis.

The identity of *Stapelia chinensis* is not certain, and the possible type belongs to a species different from *H. carnosa*.

10b. *Hoya carnosa* var. *gushanica* W. Xu, Guihaia 9: 199. 1989.

彩叶球兰 cai ye qiu lan

Leaves densely or sparsely silvery spotted adaxially. Ovaries puberulent. Fl. Jul–Dec.

- Valleys; 300 m. Fujian (Fuzhou).

11. *Hoya commutata* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, Novon 5: 10. 1995.

广西球兰 guang xi qiu lan

Habit not known, probably a hanging epiphyte. Stems pubescent. Leaves not known. Pseudumbels globose, pubescent, ca. 30-flowered; peduncle ca. 2 cm. Pedicel to 4 cm, slender, flexuous when dried. Sepals triangular, ca. 2.5 × 0.9–1.3 mm, densely pubescent. Corolla rotate with revolute margin, purple, ca. 1.5 cm in diam., densely papillate-pubescent, limb ca. 0.8 cm wide. Corona lobes acute, stellate spreading, extending beyond sinus between corolla lobes; inner margin acute, ± meeting in center.

Forests. Guangxi [Myanmar].

12. *Hoya cordata* P. T. Li & S. Z. Huang, Guihaia 5(2): 80. 1985.

心叶球兰 xin ye qiu lan

Subshrubs. Stems climbing, to 2 m, yellowish gray. Petiole ca. 5 mm, stout, puberulent, with a group of 3–5 adaxial glands; leaf blade ovate or oblong-ovate, 5–9 × 4.5–5 cm, thick leathery when dry, adaxially glabrous, abaxially puberulent along midvein, base minutely cordate, apex acute to obtuse; lateral veins 6–8 pairs. Pseudumbels extra-axillary,

Shrubs epiphytic, glabrous throughout. Stems stout, climbing to 6 m. Petiole 1–2 cm, stout, with a group of adaxial glands; leaf blade ovate or ovate-oblong, 8–17 × 4–6.5 cm, leathery when dry, base rounded, apex acute or short acuminate; lateral veins 5 or 6 pairs, elevated, arcuate ascending, anastomosing near margin. Pseudumbels flat topped, many flowered; peduncle to 13 cm, thickened. Pedicel ca. 2 cm. Corolla white, ca. 1.2 cm in diam. Corona lobes stellate spreading, outer angle acute. Fl. Aug.

• Forests. Guangxi, S Yunnan.

14. *Hoya polyneura* J. D. Hooker, Fl. Brit. India 4: 54. 1883.

多脉球兰 duo mai qiu lan

Shrubs epiphytic, glabrous throughout. Stems climbing to 2.5 m, stout, flexuous. Leaves subsessile; leaf blade ± rhomboid, 8–12 × 2.5–6.5 cm, base rounded to broadly cuneate, apex acuminate; midvein slender; lateral veins numerous, straight, parallel, conspicuous. Pseudumbels extra-axillary; peduncle very short, thickened. Pedicel ca. 2.5 cm, slender. Sepals obtuse. Corolla white, ca. 1.5 cm in diam.; lobes papillate inside. Corona lobes red-purple, semicordate, inner angle 2-auriculate at base, apex a stout erect beak equalling or shorter than long-subulate anther appendages. Follicles falcate, ca. 10 cm, slender, smooth. Seeds ovate-lanceolate. Fl. Aug.

Broad-leaved evergreen forests; 1400 m. Xizang, NW Yunnan [India, Myanmar].

15. *Hoya dasyantha* Tsiang, Sunyatsenia 3: 174. 1936.

厚花球兰 hou hua qiu lan

Subshrubs epiphytic, glabrous except for corolla. Stems grayish, climbing to 1.5 m. Petiole ca. 5 mm, with a group of 4–6 adaxial glands; leaf blade broadly ovate, 4–8 × 3–5 cm, papery, base rounded, apex short acuminate; lateral veins 4 or 5 pairs, slightly elevated. Pseudumbels to 22-flowered; peduncle 2.5–5 cm. Pedicel ca. 1.2 cm. Calyx glabrous. Corolla white; lobes triangular, stellate, patent, mealy inside. Corona lobes stellate spreading, inner and outer angles acute. Fl. Apr–May.

• Mixed woods; 1100 m. Hainan.

16. *Hoya silvatica* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 125. 1974.

山球兰 shan qiu lan

hemispherical, 30–50-flowered; peduncle 1–1.5 cm. Pedicel 2.5–3 cm. Sepals ca. 2 mm. Corolla white, rotate, ca. 1 cm in diam., puberulent; lobes triangular, obtuse, ca. 2.5 mm. Corona lobes with outer angle acute. Fl. May.

• Limestone forests. Guangxi.

13. *Hoya nervosa* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 122. 1974.

凸脉球兰 tu mai qiu lan

Shrubs epiphytic. Stems ash gray, to 1.5 m, pubescent along 2 lines. Petiole 1–3 cm, with groups of 2 or 3 adaxial glands; leaf blade elliptic to elliptic-oblong, 8–11 × 2.5–4 cm, papery when dry, glabrescent adaxially, pubescent abaxially, denser along veins, base cuneate, apex short acuminate; lateral veins 7–10 pairs, slightly elevated. Pseudumbels extra-axillary. Pedicel 3–3.5 cm, glabrous. Calyx glabrous. Corolla white, ca. 1 cm in diam. Corona lobes with outer angle acute, inner angle slightly lower than apical membrane of anther. Fl. Sep.

• Mixed woods; 2000 m. S Xizang, NW Yunnan.

17. *Hoya salweenica* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 125. 1974.

怒江球兰 nu jiang qiu lan

Shrubs epiphytic. Stems stout, climbing to 2 m; branches puberulent to glabrous. Petiole ca. 1 cm; leaf blade elliptic to suboblong, leathery when dry, 10–16 × 3.5–6 cm, abaxially pubescent, base rounded or broadly cuneate, apex obtuse or rounded; lateral veins 6–8 pairs. Pseudumbels extra-axillary, shorter than to equalling leaves; peduncle ca. 5 cm. Pedicel ca. 4 cm. Sepals ca. 2.5 × 1 mm, puberulent, not glandular. Corolla white, ca. 1.5 cm in diam., glabrous outside, puberulent inside; lobes triangular, ca. 6 × 6 mm, margin revolute. Corona stellate spreading, retuse, outer angle acute, inner angle with an acute tooth incumbent on anthers. Ovaries glabrous. Fl. Sep.

• Valleys, woods along riversides; 1600 m. W Yunnan.

18. *Hoya fungii* Merrill, Lingnan Sci. J. 13: 68. 1934.

护耳草 hu er cao

Shrubs epiphytic, glabrous except for pedicel and calyx. Stems climbing to 2 m. Petiole 1–3 cm; leaf blade ovate, elliptic, to elliptic-oblong, 8–20 × 4.5–9 cm, leathery when dry, base rounded, apex acute to short acuminate; lateral veins ca. 7 pairs. Pseudumbels extra-axillary; peduncle 3.5–5 cm, thick. Pedicel 2–4 cm, puberulent. Sepals pubescent, margin ciliate. Corolla white, glabrous outside, densely pale scurfy inside; lobes rounded, ca. 5 × 4 mm. Corona yellow-ish, stellate; lobes ca. 3.5 mm, outer angle acute or short acuminate, inner angle ± erect, acute, slightly shorter than and clearly narrower than scarious anther appendages. Follicles linear-lanceolate, ca. 12 cm × 8 mm, smooth. Fl. Apr–Sep, fr. Sep–Dec.

• Open woods; 300–1000 m. Guangdong, Guangxi, Hainan, Yunnan.

All parts are used as for the treatment of fractures and traumatic injury.

19. *Hoya ovalifolia* Wight & Arnott in Wight, Contr. Bot. India 37. 1834.

卵叶球兰 luan ye qiu lan

Hoya hainanensis Merrill.

Shrubs epiphytic, glabrous except for corolla. Stems climbing to 2 m. Petiole 1–1.2 cm; leaf blade ovate-elliptic, 20. ***Hoya kerrii*** Craib, Bull. Misc. Inform. Kew 1911: 418. 1911.

凹叶球兰 ao ye qiu lan

Hoya obovata Decaisne var. *kerrii* (Craib) Costantin.

Stems stout, to 1 m, glabrous. Petiole 0.5–2 cm, robust; leaf blade obovate to orbicular, 4–6 × 5–6 cm, base rounded to broadly cuneate, margin revolute, apex retuse, sinus to 1 cm wide, glabrous; lateral veins obscure. Pseudumbels 4–5 cm in diam.; peduncle 2–3 cm. Pedicel 1.3–1.8 cm, slender, puberulent. Sepals ca. 2.5 mm, puberulent. Corolla papillate-puberulent, reflexed; lobes ovate-triangular, 4–5 × ca. 4 mm. Corona lobes reddish, furrowed on back, outer angle rounded, apical part concave, ca. 2.5 mm. $2n = 22$.

Cultivated in S Guangdong [Laos, Malaysia, Thailand, Vietnam].

The leaves are used for the treatment of swellings and pyoderma.

21. *Hoya radicalis* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 120. 1974.

匙叶球兰 chi ye qiu lan

Shrubs epiphytic, glabrous except for young parts. Stems to 1.5 m, pale brown. Petiole 3–6 cm, nearly flattened; leaf blade spatulate or oblanceolate, 10–21 × 3–4 cm, base cuneate, apex acute or short acuminate; lateral veins 10 or more pairs, conspicuous. Pseudumbels extra-axillary, flat topped, many flowered; peduncle ca. 4 cm. Pedicel 2–2.5 cm. Corolla white and purple-spotted. Corona lobes with outer angle rounded, inner angle narrow. Fl. Mar-Sep.

• Mixed woods. Guangdong, Guangxi.

22. *Hoya liangii* Tsiang, Sunyatsenia 3: 177. 1936.

崖县球兰 ya xian qiu lan

Shrubs epiphytic, glabrous except for corolla. Stems climbing to 4 m. Petiole ca. 1.5 cm, robust, with a group of 2–5 adaxial glands; leaf blade deep green adaxially, pale green abaxially, obovate or obovate-oblong, 4.5–8 × 3–5 cm, thick leathery and pale yellow when dry, base rounded or subcordate, margin recurved, apex obtuse or rounded; lateral veins ca. 4 pairs. Pseudumbels extra-axillary, globose, ca. 5 cm in diam., many flowered, up to as long as leaves;

6–8 × 2.5–4 cm, papery, base acute, apex acuminate; lateral veins ca. 4 pairs, slender, obliquely ascending, arcuate, anastomosing. Pseudumbels extra-axillary, many flowered; peduncle ca. 2 cm. Pedicel slender, ca. 2 cm. Sepals acute. Corolla cream or pale yellow, 8–10 mm in diam.; lobes ovate-oblong. Corona lobes stellate spreading, outer angle subacute, inner angle produced into a sharp tooth incumbent on anther. Anthers lower than outer lobes, membranous tip rounded. Stigma head short apiculate. Fl. May. $2n = 22$.

Mixed woods along riversides. Hainan [India, Sri Lanka].

peduncle stout, 1.5–3 cm; rachis elongated. Pedicel ca. 2 cm. Sepals keeled, ca. 3.5 × 1.5–3 mm, ciliate. Corolla creamy white, glabrous outside, puberulent inside; lobes triangular, ca. 4 × 5 mm. Corona lobes stellate spreading, ca. 2 mm, ca. 1 mm thick, concave, margin strongly recurved, outer angle rounded, inner acute, producing an acute tooth incumbent on anther. Follicles lanceolate, ca. 8 cm × 8 mm. Seeds oblong, ca. 5 mm; coma ca. 2 cm. Fl. Jun-Nov.

• Open woods. Hainan.

23. *Hoya villosa* Costantin in Lecomte, Fl. Indo-Chine 4: 137. 1912.

毛球兰 mao qiu lan

Lianas epiphytic, villous throughout. Stems stout, to 3 m, ca. 8 mm in diam. Petiole 1.5–2 cm; leaf blade oblong, 7–11 × 3.5–5 cm, leathery or thick papery, base rounded or truncate, apex mucronate; lateral veins 4–7 pairs, obliquely ascending, anastomosing before margin. Pseudumbels extra-axillary, globose, to 30-flowered; peduncle robust, 3–7 cm. Pedicel 1–2 cm. Sepals rounded. Corolla stellate patent; tube ca. as long as lobes, glabrous outside, pubescent inside; lobes triangular, ca. 4 × 4 mm. Corona lobes thick, outer angle rounded, inner angle acute or short acuminate, with an ovoid projection on back, center hollow. Follicles linear, 9–11 cm × ca. 4 mm. Seeds linear-lanceolate, ca. 5 mm; coma ca. 2 cm. Fl. Apr-Jun, fr. Sep-Dec.

Valleys, open woods; 400–1000 m. Guangxi, Guizhou, Hainan, Yunnan [Vietnam].

The leaves are used for the treatment of traumatic injury.

24. *Hoya Iyi* H. Léveillé, Bull. Soc. Bot. France 54: 369. 1907.

香花球兰 xiang hua qiu lan

Hoya yuennanensis Handel-Mazzetti.

Plants pubescent except for corolla exterior. Stems to 1.5 m, slender. Petiole 3–15 mm, stout; leaf blade elliptic, oblong, or elliptic-lanceolate, rarely suborbicular, (3–)5.5–19 × 1.5–4 cm, leathery when dry, base cuneate to rounded, apex short acuminate to obtuse; lateral veins 4–7 pairs. Pseudumbels extra-axillary, globose, to 9 cm, many flowered; peduncle drooping, to 10 cm. Pedicel 2–3 cm. Sepals 2–2.5 × 1.2–1.4 mm. Corolla white, ca. 1 cm wide, glabrous outside; tube ca. 3 mm; lobes triangular, 6–8 × 4–7 mm at base, margin recurved but not reflexed. Corona lobes ca. 3 × 3 mm, stellate spreading, outer angle broadly rounded, margin pouched, middle concave, inner end acute, margin strongly recurved at

back and both ends meeting at middle. Stigma head at same level as inner corona lobes. Fl. Sep-Dec.

• On rocks in dense forests; below 1000 m. Guangxi, Guizhou, Sichuan, Yunnan.

The leaves are used for the treatment of rheumatoid arthritis and traumatic injury.

25. *Hoya lii* C. M. Burton, *Hoyan* 12: 98. 1991.

abaxially. Pseudumbels terminal, ca. 5 cm; peduncle ca. 1 cm. Pedicel ca. 3 cm. Sepals ca. 2×3 mm, hidden by reflexed corolla. Corolla white, 1.5–1.8 cm in diam., strongly reflexed; tube shorter than lobes; lobes lanceolate, ca. $1.2 \text{ cm} \times 3.5$ mm. Corona lobes ovoid-lanceolate, 4–5 mm, fleshy, erect, base rounded, margin revolute, apex long caudate and exceeding gynostegium, tails 2–2.5 mm. Fl. Aug.

• Broad-leaved evergreen forests; 1400 m. Yunnan (Gongshan).

26. *Hoya mekongensis* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, *Novon* 5: 10. 1995.

尾叶球兰 wei ye qiu lan

Lianas climbing, with adventitious roots. Stems minutely puberulent, glabrescent. Petiole 1.2–1.6 cm, minutely puberulent; leaf blade oblong-oblancheolate, $10\text{--}13 \times 4\text{--}5$ cm, minutely hairy, base rounded, apex acuminate to caudate-acuminate; lateral veins ca. 7 pairs, obscure. Pseudumbels extra-axillary, apparently flat topped, at least 8-flowered; flowers sweet scented; peduncle (0.3–)1–2.5 cm, pubescent. Pedicel 2–2.7 cm, sparsely hairy on 1 side. Sepals ovate, ca. 1.5×1.5 mm, very sparsely hairy. Corolla white, 1.5–1.7 cm in diam., reflexed; lobes ca. 6×5 mm, minutely papillate with short ciliate margin. Corona lobes \pm ovoid, erect, ca. $2 \times$ as high as gynostegium, dorsal grooves very narrow, inner teeth short, incumbent on gynostegium, meeting in center. Anther appendages inconspicuous.

• Xizang/Yunnan (Mekong Valley).

27. *Hoya pandurata* Tsiang, *Sunyatsenia* 4: 125. 1939.

琴叶球兰 qin ye qiu lan

Subshrubs epiphytic. Stems to 1.5 m, pendent, greenish ash gray. Petiole ca. 4 mm; leaf blade pandurate or oblong, $4\text{--}11 \times 1\text{--}2$ (–3.2) cm, thick papery when dry, glabrous, base rounded, apex acuminate; lateral veins obscure. Pseudumbels extra-axillary, globose, many flowered; peduncle ca. 3 mm. Pedicel ca. 1.5 cm. Sepals $1.5\text{--}2 \times 1\text{--}1.5$ mm, glands 5. Corolla yellow or reddish, 0.8–1 cm in diam., glabrous outside, puberulent inside, hirsute at base of corona; tube ca. 1.5 mm; lobes ovate, ca. 6×4 mm, acute, ciliate. Corona stellate patent to slightly raised, outer angle rounded, slightly retuse, inner angle produced into an erect, slender tooth higher than anthers. Pollinia oblanceolate, caudicles horizontal, retinaculum ellipsoid. Follicles to 8.5 cm. Fl. Jun-Jul.

• Open or mixed woods; 1000–1600 m. S Yunnan.

The leaves are used externally for the treatment of cuts and traumatic injury.

贡山球兰 gong shan qiu lan

Centrostemma yunnanense P. T. Li (1990), not *Hoya yuennanensis* Handel-Mazzetti (1936); *Hoya gongshanica* P. T. Li.

Shrubs glabrous except for branchlets and petiole. Stems climbing, to 2 m. Petiole 2–3 mm, setose; leaf blade oblong or oblong-elliptic, $6.5\text{--}10 \times 2\text{--}3$ cm, papery, base obtuse, apex acuminate to caudate-acuminate; midvein elevated; lateral veins 5–7 pairs, conspicuous adaxially, obscure

28. *Hoya mengtzeensis* Tsiang & P. T. Li, *Acta Phytotax. Sin.* 12: 120. 1974.

薄叶球兰 bo ye qiu lan

Subshrubs epilithic or epiphytic, glabrous except for corolla. Stems to 1.5 m, climbing by adventitious roots. Petiole 1–2 cm, adaxial glands 1–3; leaf blade narrowly lanceolate, $6\text{--}11 \times 1.5\text{--}2$ cm, thin papery, base attenuate and decurrent to petiole, apex acuminate; lateral veins obscure. Pseudumbels extra-axillary, flat topped, many flowered; peduncle 2–8 cm, stout. Pedicel 1.5–2.5 cm. Sepals ca. 1.5×0.8 mm, acuminate. Corolla white, 1–1.5 cm in diam., stellate spreading, glabrous outside, villous inside; tube ca. as long as lobes; lobes triangular, recurved at margin. Corona lobes yellow, ca. as high as gynostegium, outer angle rounded, inner teeth short, incumbent on gynostegium. Follicles linear-lanceolate, ca. $17 \text{ cm} \times 5 \text{ mm}$, smooth. Fl. Jul.

• Mixed woods, covering rock on cliff. Guangxi, S Yunnan.

29. *Hoya griffithii* J. D. Hooker, *Fl. Brit. India* 4: 59. 1883.

荷秋藤 he qiu teng

Hoya kwangsiensis Tsiang & P. T. Li; *Hoya lancilimba* Merrill; *H. lancilimba* f. *tsoi* (Merrill) Tsiang; *H. tsoi* Merrill.

Shrubs epiphytic, glabrous throughout. Stems to 1.5 m. Petiole 1–3 cm, robust; leaf blade lanceolate or oblong-lanceolate, $11\text{--}14 \times 2.5\text{--}4.5$ cm, papery, base cuneate, apex acute to acuminate; lateral veins few, obscure. Pseudumbels extra-axillary, globose; peduncle 5–7 cm. Pedicel 4–4.5 cm. Sepals oblong-ovate, $7\text{--}8 \times$ ca. 4.5 mm. Corolla white, ca. 3 cm in diam.; lobes broadly ovate, subfalcate, spreading, glabrous outside, obscurely puberulent inside. Corona lobes ca. 5 mm, concave, outer angle rounded, inner angle extending into a tooth as long as anther appendages, to 3 mm. Follicles lanceolate, ca. 15×1 cm. Fl. Jun-Aug.

Dense or sparse forests; 800 m. Guangdong, Guangxi, Guizhou, Hainan, Yunnan [India].

The stems and leaves are used for the treatment of traumatic injury, fractures, swellings, and coughs.

30. *Hoya longifolia* Wallich ex Wight, *Contr. Bot. India* 36. 1834.

长叶球兰 chang ye qiu lan

Shrubs epiphytic, glabrous except for pedicels and corolla. Stems stout, climbing to 3 m; branches pendulous.

Petiole 1–2.5 cm, stout; leaf blade linear to narrowly oblanceolate or oblong, 8–20(–25) × (0.4–)2–3 cm, base narrowly acute or rounded, apex acuminate or acute; lateral veins obscure. Pseudumbels extra-axillary, globose, many flowered; peduncle 1.5–5 cm. Pedicel 1.5–3 cm, pubescent. Sepals 1–1.5 mm, apex acute. Corolla white tinged with pink, 2–4 cm in diam.; lobes ovate-triangular, stellate spreading, pubescent. Corona lobes broadly ovate, flat, with a central boss, convex basally, inner angle acute and shorter than anther apices. Follicles straight, 10–30 cm × 5–8 mm. Seeds

Stems hanging, to 1.5 m, hirsute, puberulent. Petiole ca. 2 mm; leaf blade linear, 2.5–5 cm × ca. 5 mm, leathery when dry, base cuneate, apex mucronate; lateral veins obscure. Pseudumbels terminal, umbellate, sessile, many flowered. Pedicel ca. 2.5 cm. Corolla white, 0.8–1.2 cm in diam., glabrous or papillate inside. Corona lobes stellate spreading, outer angle acute, inner angle acute, base long spurred. Follicles lanceolate, ca. 6.5 cm × 5 mm. Seeds with white coma ca. 2 cm. Fl. Sep.

Evergreen forests; 1500–2000 m. NW Yunnan [India, Myanmar, Nepal].

32. *Hoya chinghungensis* (Tsiang & P. T. Li) M. G. Gilbert, P. T. Li, & W. D. Stevens, *Novon* 5: 9. 1995.

景洪球兰 *jing hong qiu lan*

Dischidia chinghungensis Tsiang & P. T. Li, *Acta Phytotax. Sin.* 12: 130. 1974.

Shrubs epiphytic. Stems to 2 m, branching mainly near base, pendent; branches and petiole pubescent. Leaves longer than internodes; petiole ca. 1.5 mm; leaf blade broadly ovate, 1–1.5 × 0.7–1.1 cm, glabrous, base rounded to truncate, apex acute to obtuse; lateral veins obsolete. Pseudumbels terminal, 4- or 5-flowered; peduncle shorter than pedicels, sometimes obsolete. Pedicel 0.8–1.2 cm, puberulent. Sepals ± ovate, 1.5–2 × ca. 1.2 mm, apex obtuse, densely pubescent. Corolla white, 1–1.2 cm in diam., rotate or nearly so; limb ca. 3.5 mm wide; lobes triangular-ovate, ca. 3.5 × 4.5 mm, glabrous outside, minutely puberulent inside, apex subacute. Corona lobes pink when dried, triangular, outer apex subacute, center flat or only slightly raised, inner tooth recumbent on anther, reaching base of appendages. Anther appendages just overlapping in center. Pollinia 0.4–0.5 × ca. 0.2 mm, oblong-oblanceolate, pale yellow. Follicles linear-lanceolate 7–9 cm × 3–4 mm, pendent, glabrous. Seeds linear-oblong, ca. 2.5 × 0.3 mm; coma ca. 2 cm. Fl. Jun, fr. Jul-Oct.

Dense forests; 1500–2000 m. S Yunnan [Myanmar].

ovoid, 1–1.5 mm; coma 1.2–1.5 cm. Fl. Jul-Aug. $2n = 22$.

Dense forests; 1400–2400 m. Yunnan [Bhutan, India, Kashmir, Nepal, Pakistan, Sikkim, Thailand].

31. *Hoya linearis* Wallich ex D. Don, *Prodr. Fl. Nepal.* 130. 1825.

线叶球兰 *xian ye qiu lan*

Flora of China 16: 228–236. 1995.