

## 23. COSMIANTHEMUM Bremekamp, Blumea 10: 166. 1960.

秋英爵床属 qiu ying jue chuang shu

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Herbs, often prostrate then ascending, rarely erect, with cystoliths, isophyllous. Leaves petiolate or subsessile; leaf blade margin entire. Inflorescences terminal thyrsoid racemes or thyrses, sometimes with many-flowered cymes proximally and 1–3-flowered cymes distally; bracts small; bracteoles smaller than bracts. Calyx usually deeply 5-lobed; lobes subequal or slightly unequal, posterior or one sometimes shorter. Corolla white, greenish, or yellowish; tube straight or curved, sometimes with a dorsal pouch; throat short or absent; limb 2-lipped; lower lip 3-lobed; upper lip emarginate or 2-lobed [or entire]; lobes ascending cochlear in bud. Stamens 2, inserted at throat; anthers 2-theous; thecae equal or subequal, parallel, mucicous at base; staminodes 2, inserted at base of upper lip. Stigma 2-cleft. Capsule stalked, 4-seeded; retinacula present.

About ten species: SE Asia, especially Borneo; three species (two endemic) in China.

*Cosmianthemum* resembles *Pseuderanthemum* in fruit and androecium but differs by the generally smaller corolla being distinctly 2-lipped (the upper lip only shallowly lobed) and lacking an elongate, narrow, cylindrical tube; see B. Hansen (Nordic J. Bot. 5: 195–197. 1985) and B. L. Burtt and R. M. Smith (Notes Roy. Bot. Gard. Edinburgh 26: 365–381. 1965).

- 1a. Leaf blade ovate to broadly ovate, 4–9 cm wide ..... 1. *C. viriduliflorum*  
1b. Leaf blade elliptic-lanceolate, ovate-elliptic, or oblong-lanceolate, 1.4–7.3 cm wide.  
2a. Bracts abaxially gland-tipped pubescent; calyx outside gland-tipped pubescent ..... 2. *C. knoxiifolium*  
2b. Bracts abaxially non-gland-tipped pubescent; calyx outside non-glandular pubescent ..... 3. *C. guangxiense*

**1. *Cosmianthemum viriduliflorum*** (C. Y. Wu & H. S. Lo) H. S. Lo, Guihaia 17: 42. 1997.

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*Graptophyllum viriduliflorum* C. Y. Wu & H. S. Lo, Fl. Hainan. 3: 594. 1974.

Herbs to 60 cm tall, erect, perennial. Stems terete, glabrous; branches yellowish brown, pubescent. Petiole 1–2.5 cm, pubescent; leaf blade ovate to broadly ovate, 7–15 × 4–9 cm, both surfaces glabrous, abaxially light green, adaxially dark green and lustrous, secondary veins 5–7 on each side of midvein and netted near margin, base broadly cuneate to subrounded, margin entire or inconspicuously undulate, apex acuminate, caudate, or sometimes acute. Thyrses terminal, 4–10 cm; peduncle 1–4 cm; rachis pubescent; bracts linear, 1–1.5 × ca. 0.5 mm; bracteoles linear, ca. 1 × 0.5 mm. Pedicel 2–2.5 mm. Calyx ca. 5 mm, gland-tipped pubescent; lobes linear-lanceolate, apex acuminate. Corolla light greenish yellow, ca. 1.2 cm, outside and inside pubescent; lobes of lower lip oblong-lanceolate, ca. 3 × 0.6 mm, subacute at apex; upper lip erect, apex 2-cleft to emarginate. Staminal filaments ca. 4 mm, pubescent; anther thecae ca. 2 mm; staminodes ca. 2 mm, sparsely pubescent. Ovary glabrous; style ca. 6 mm, sparsely pubescent. Capsule ca. 2 cm. Seeds not seen. Fl. Jul–Oct.

• Forests; 700–1000 m. Hainan.

**2. *Cosmianthemum knoxiifolium*** (C. B. Clarke) B. Hansen, Nordic J. Bot. 5: 195. 1985.

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*Gymnostachyum knoxiifolium* C. B. Clarke, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74: 663. 1908; *Pseuderanthemum parviflorum* Ridley; *Ptyssiglottis parviflora* (Ridley) Ridley; *Sphinctacanthus malayanus* Ridley.

Shrubs to 50 cm tall or more. Stems terete, puberulent. Petiole 1–1.5 cm, glabrous; leaf blade elliptic-lanceolate, 8–20 × 1.8–7.3 cm, leathery, abaxially puberulent along veins and margin, adaxially glabrous, secondary veins 8–10 on each side of midvein, base cuneate, margin remotely serrate or subentire, apex acuminate to attenuate. Thyrses terminal, (5.5–)10–30(–60) cm; rachis brownish pubescent with few gland-tipped trichomes; bracts lanceolate, 2–3 × 0.5–1 mm, gland-tipped pubescent; bracteoles subulate, 1–2 × ca. 0.5 mm. Pedicels 1–3 mm, pubescent. Calyx 2.5–5 mm, outside gland-tipped pubescent; lobes lanceolate, outside scaly hairy. Corolla white to pale yellow with purple spots on lower lip, ca. 1.5 cm, outside pubescent; tube ca. 5 mm; upper lip erect, apically 2-lobed to emarginate. Staminal filaments 6–7 mm, glabrous; staminodes ca. 1 mm, pubescent. Ovary gland-tipped pubescent; style pubescent. Capsule 2–2.7 cm, puberulent. Seeds ovate in outline, ca. 2 × 2 mm, flattened, irregularly ridged or warty, lacking trichomes. Fl. May–Sep, fr. Sep–Dec.

Dense montane forests; 400–500 m. Hainan [Malaysia, Thailand, Vietnam].

**3. *Cosmianthemum guangxiense*** H. S. Lo & D. Fang, Guihaia 17: 42. 1997.

广西秋英爵床 guang xi qiu ying jue chuang

*Cosmianthemum longiflorum* D. Fang & H. S. Lo.

Herbs to 70 cm tall, branched or unbranched. Stems 4-angled to subterete, sulcate, sparsely pubescent. Petiole 0.5–1 cm, grooved, pilose; leaf blade ovate-elliptic to oblong-lanceolate, 2–13.5 × 1.4–4 cm, abaxially glabrous, adaxially pilose toward base or along veins, secondary veins 5–7 on each side of midvein, base rounded to cuneate, margin entire, apex acuminate. Thyrses terminal, 3–10 cm; rachis pilose; peduncle (0.5–)1–3 cm, pubescent; cymes 1–6-flowered; bracts trian-

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gular-subulate, ca.  $1.5 \times 0.5$  mm, pilose; bracteoles similar to bracts. Pedicel 1–3 mm. Calyx 3–4 mm, outside pilose; lobes linear, apex acute. Corolla white or yellowish green, 1–1.5 cm, outside sparsely pubescent to subglabrous, inside glabrous; tube ca. 1.5 mm wide for 4–5 mm; lower lip 6–7  $\times$  3.5–5 mm, lobes ovate and ca.  $1 \times 1$  mm; upper lip ovate, 5–6  $\times$  ca. 5 mm. Staminal filaments 4–5 mm, glabrous; thecae ca. 2 mm. Ovary glabrous; style 0.9–1.1 cm, sparsely hirsute to subglabrous. Capsule and seeds not seen. Fl. Oct.

- Forests; ca. 400 m. Guangxi.

Fl. China 19: 448–449. 2011.