

15. PSEUDERANTHEMUM Radlkofer, Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. München 13: 282. 1883.

山壳骨属 shan ke gu shu

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Herbs or shrubs, with cystoliths. Leaves sessile or petiolate; leaf blade margin entire or subentire [or lobed]. Flowers in axillary or terminal thyrses, racemes, or spikes; bracts and bracteoles present, mostly shorter than calyx. Calyx deeply 5-lobed; lobes equal to subequal. Corolla salverform; tube slender, not or scarcely apically enlarged; limb 5-lobed or 2-lipped; lobes ± equal or 3 of lower lip slightly larger than 2 of upper lip, ascending cochlear in bud. Stamens 2, included in corolla tube or exerted from corolla mouth (some species heterostylous); anthers 2-theous; thecae equal to subequal, parallel, inserted at same height, mucicous; staminodes 2 or absent. Style included or exerted; stigma 2-lobed, lobes equal. Capsule clavate with a long solid stalk, 4-seeded; retinacula present. Seeds lenticular, ornamented or smooth, lacking trichomes.

About 50 species: pantropical; seven species (two endemic) in China.

- 1a. Flowers in thyrses, imbricate on rachis.
 - 2a. Calyx lobes pubescent with gland-tipped trichomes 1. *P. polyanthum*
 - 2b. Calyx lobes pubescent with non-glandular trichomes.
 - 3a. Bracts ca. 7 mm; ovary pubescent; leaf blade 5–15 cm 2. *P. crenulatum*
 - 3b. Bracts ca. 3 mm; ovary glabrous; leaf blade 2.5–5.5 cm 3. *P. shweliense*
- 1b. Flowers in racemes (thyrses in *P. coudercii*), distant on rachis.
 - 4a. Racemes terminal or axillary 4. *P. teysmannii*
 - 4b. Racemes terminal only (or terminal and also rarely in apical leaf axils in *P. haikangense*).
 - 5a. Leaf blade lanceolate, length greater than 4 × width; filaments of fertile and sterile stamens connate at base 5. *P. coudercii*
 - 5b. Leaf blade elliptic-ovate or elliptic, length less than 3.5 × width; filaments of fertile and sterile stamens distinct at base.
 - 6a. Stems terete, glabrous; bracts and bracteoles 1–3 mm; corolla ca. 4 cm 6. *P. haikangense*
 - 6b. Stems 4-angled, pubescent; bracts and bracteoles 4–6 mm; corolla 2–3 mm 7. *P. latifolium*

1. Pseuderanthemum polyanthum (C. B. Clarke ex Oliver) Merrill, Brittonia 4: 175. 1941.

多花山壳骨 duo hua shan ke gu

Eranthemum polyanthum C. B. Clarke ex Oliver, Hooker's Icon. Pl. 20: t. 2000. 1891.

Herbs. Stems grayish, subterete, glabrescent. Petiole ca. 2.5 cm; leaf blade broadly ovate to oblong, 7–17 × (3–)4–9 cm, both surfaces glabrous, secondary veins 7–9 on each side of midvein, base cuneate and decurrent onto petiole, margin entire, apex acute. Thyrses 5–12 cm; bracts triangular, 3.5–4 × ca. 1.5 mm; bracteoles ca. 2 × 0.5 mm. Pedicel 1.5–2.5 mm. Calyx ca. 1 cm; lobes lanceolate. Corolla bluish purple; tube 3–3.5 cm; lower lip 3-lobed, lobes oblong and ca. 1.5 × 0.6 cm; upper lip 2-lobed, lobes ca. 11 × 3 mm. Staminal filaments short, distinct, inserted at throat. Ovary pilose; style basally pilose; stigma spherical. Capsule clavate, ca. 2.5 cm, pubescent. Seeds ovate in outline, ca. 3 × 3 mm, verrucose, glabrous. Fl. Apr–Jun, fr. Aug.

Forests, thickets; 300–1600 m. Guangxi, Yunnan [India, Malaysia, Myanmar, Thailand, Vietnam].

Plants misidentified as *Rhinacanthus calcaratus* (Wallich) Nees by C. C. Hu (FRPS 70: 268. 2002) belong here.

2. Pseuderanthemum crenulatum (Wallich ex Lindley) Radlkofer, Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. München 13: 286. 1883.

云南山壳骨 yun nan shan ke gu

Eranthemum crenulatum Wallich ex Lindley, Bot. Reg. 11: t. 879. 1825; *E. graciliflorum* Nees; *E. malaccense* C. B. Clarke; *Pseuderanthemum graciliflorum* (Nees) Ridley; *P. malaccense* (C. B. Clarke) Lindau.

Subshrubs or shrubs, to 3 m tall. Stems blackish brown, subterete, pubescent. Petiole 1–4 cm, puberulent; leaf blade ovate-elliptic to oblong-lanceolate, 5–15 × 3–5.5 cm, abaxially light green and pubescent along veins, adaxially slightly pubescent, secondary veins ca. 7 on each side of midvein, base cuneate to broadly cuneate, margin entire, apex acute to acuminate. Thyrses 3–10 cm, densely flowered; bracts triangular, ca. 7 × 3 mm, brown tomentose; bracteoles subulate, 3–4 × ca. 1.5 mm, brown tomentose. Pedicel 1–3 mm, pubescent. Calyx 4–5 mm; lobes linear-lanceolate, densely pubescent with non-glandular trichomes. Corolla white or light purplish, 3.5–4.5 cm, outside finely and sparingly pubescent with gland-tipped trichomes; tube 2.5–3.5 cm; lower lip 3-lobed, lobes oblong and ca. 1 cm; upper lip 2-lobed to middle. Stamens slightly exerted; filaments ca. 3 mm, glabrous; anther thecae ovoid. Ovary pilose; style basally white pilose; stigma spherical. Capsule clavate, ca. 2.5 cm. Seeds subcircular in outline, ca. 3.5 mm in diam., verrucose, glabrous. Fl. Apr–Jun, fr. Aug.

Forests, thickets; 200–1700 m. Guangxi, Guizhou, Yunnan [India, Laos, Malaysia, Thailand, Vietnam].

3. Pseuderanthemum shweliense (W. W. Smith) C. Y. Wu & C. C. Hu, Fl. Reipubl. Popularis Sin. 70: 226. 2002.

瑞丽山壳骨 rui li shan ke gu

Eranthemum shweliense W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 10: 176. 1918.

Shrubs 1–2 m tall. Stems woody, grayish, hispid when young. Petiole 3–5 mm, densely brownish hirsute; leaf blade lanceolate, ovate-lanceolate, or elliptic, 2.5–5.5 × 1–2 cm, abaxially sparsely pilose or glabrous but densely brown hairy along veins, adaxially sparsely pilose along veins, base cuneate and decurrent onto petiole, margin entire, apex obtuse to acute. Inflorescences terminal, 7–15 cm; rachis densely yellowish pilose, with flowers fascicled at each node; bracts linear to linear-lanceolate, ca. 3 mm, pilose; bracteoles subulate, ca. 2 mm. Pedicel ca. 2 mm, pilose. Calyx ca. 5 mm; lobes linear-oblong, pilose, apex acute. Corolla white with violet spot on 2 lobes; tube ca. 2.2 cm, outside and inside pilose; lobes 5, ovate, 1.8–1.9 cm. Stamens exserted. Ovary glabrous; style basally sparsely pilose; stigma slightly 2-cleft. Capsule clavate, ca. 2.5 cm. Seeds ovate in outline, ca. 3 mm, verrucose, glabrous. Fl. Feb–May, fr. Jun–Aug.

• Thickets, forest margins; 1200–1800 m. Yunnan.

4. *Pseuderanthemum teysmannii* (Miquel) Ridley, Fl. Malay. Penin. 2: 592. 1923 [*“teysmannii”*].

红河山壳骨 hong he shan ke gu

Strobilanthes teysmannii Miquel, Fl. Ned. Ind. 2: 799. 1858 [*“teysmannii”*].

Shrubs. Stems reddish brown, 4-angled, glabrous. Petiole to 2.5 cm; leaf blade ovate, 3.5–9.5 × 1.5–4.5 cm, abaxially pubescent along veins, adaxially sparsely pubescent along midvein, secondary veins 8–10 on each side of midvein, base broadly cuneate and decurrent onto petiole, margin subentire, apex acuminate. Racemes terminal or axillary; rachis with flowers 0.5–1.5 cm apart, yellowish brown pubescent; bracts triangular, 2–3 mm, margin ciliate; bracteoles similar to bracts. Pedicel 0–4 mm, pilose. Calyx ca. 5 mm, pubescent; lobes linear, slightly unequal. Corolla pale purple, ca. 3.5 cm; tube ca. 2.5 cm; limb 5-lobed, slightly 2-lipped. Stamens inserted at corolla throat; anthers as long as filaments. Ovary pilose; style ca. 2 cm, slightly white villous; stigma 2-cleft. Capsule clavate, ca. 2.3 cm, sparsely pubescent. Seeds ovate in outline, ca. 3 × 3 mm, verrucose, glabrous. Fl. Apr–Jun, fr. Aug.

Thickets; 100–300 m. Yunnan [Indonesia, S Thailand].

5. *Pseuderanthemum coudercii* Benoist, Notul. Syst. (Paris) 5: 111. 1936 [*“couderci”*].

狭叶钩粉草 xia ye gou fen cao

Subshrubs or perennial herbs, 30–50 cm tall. Stems subterete to 4-angled, pubescent, glabrescent. Petiole ca. 5 mm; leaf blade oblong, lanceolate, or linear, 3–11 × 0.2–2.5 mm, both surfaces glabrous, secondary veins 6–12 on each side of midvein, base cuneate, margin entire or slightly undulate, apex acuminate to rarely acute. Thyrses terminal, to 20 cm; rachis pubescent; dichasia 1–4-flowered; basal bracts 1–3, large, leaflike, longer than calyx; apical bracts linear, shorter than calyx, villous; bracteoles linear, villous. Calyx 5–6 mm; lobes linear, vil-

lous. Corolla light purplish red, slightly pubescent; tube ca. 3 cm; lower lip ca. 1.2 cm, lobes ovate to ovate-elliptic; upper lip 2-lobed, lobes oblong. Stamens 2; filaments connate at base; staminodes 2, smaller than stamens. Capsule ca. 1.8 cm, sparsely pubescent. Seeds obovate in outline, ca. 3.5 mm, tuberculate-punctate, glabrous. Fl. Jun–Aug, fr. Sep.

Forests, streamsides; 100–400 m. Hainan [Cambodia].

6. *Pseuderanthemum haikangense* C. Y. Wu & H. S. Lo, Fl. Hainan. 3: 595. 1974.

海康钩粉草 hai kang gou fen cao

Shrubs 40–100 cm tall. Stems terete, glabrous; bark straw-yellow. Petiole 0.5–1.5 cm; leaf blade elliptic-orbicular, oblong, ovate, or rarely lanceolate-elliptic, 5–11.5 × 2–3.5 cm, both surfaces glabrous, secondary veins 5–7 on each side of midvein, base broadly cuneate to rounded, margin entire or inconspicuously undulate, apex shortly acuminate to caudate. Racemes terminal or rarely in apical leaf axils, to 30 cm; bracts narrowly triangular, 2–3 mm; bracteoles 1–2 mm. Pedicel 0–3 mm. Calyx ca. 5 mm; lobes linear-lanceolate, apex acuminate. Corolla white or pink and with red spots on lobes of lower lips, ca. 4 cm, pilose; tube basally ca. 1.5 mm wide for ca. 3 cm; lower lip 3-lobed, lobes narrowly elliptic, ca. 10 × 4 mm, and apex obtuse; upper lip 2-lobed, lobes elliptic, ca. 10 × 6 mm, and apex obtuse. Stamens 2; filaments ca. 2 mm; anther thecae oblong, ca. 1.5 mm; staminodes ca. 1.3 mm. Ovary pilose; style ca. 3 cm, slightly pubescent; stigma slightly 2-cleft. Capsule clavate, 1.9–2 cm, pubescent. Seeds broadly ovate in outline, ca. 3.5 mm, tuberculate-punctate. Fl. Jun–Aug, fr. Sep.

• Forests; 200–900 m. Guangdong, Hainan, Yunnan.

7. *Pseuderanthemum latifolium* (Vahl) B. Hansen, Nordic J. Bot. 9: 213. 1989.

山壳骨 shan ke gu

Justicia latifolia Vahl, Symb. Bot. 2: 4. 1791; *Antheliacanthus micranthus* Ridley; *Eranthemum palatiferum* (Wallich) Nees; *J. palatifera* Wallich; *Pseuderanthemum palatiferum* (Wallich) Radlkofer.

Herbs to 1 m tall, perennial. Stems 4-angled, pubescent. Petiole 1–2.5 mm; leaf blade elliptic, 11.5–12 × 3.5–6 cm, abaxially glabrous except villous on midvein, adaxially glabrous, secondary veins 5 or 6 on each side of midvein, base cuneate, margin subentire to slightly undulate-crenulate, apex acuminate. Racemes to 30 cm; rachis pubescent, usually with 3-flowered clusters at nodes; bracts triangular, 4–6 × ca. 2 mm, pubescent; bracteoles similar to bracts. Pedicel 0.5–2 mm. Calyx 5–6 mm, outside pubescent; lobes linear, 4.5–5.5 × ca. 1 mm. Corolla light purple with purple dots on lower lip, 2–3 cm; tube linear, 1.5–2.5 cm; lobes 3–4 × ca. 3 mm. Style basally pubescent. Capsule ca. 2.5 cm, pubescent. Seeds ovate in outline, ca. 4 × 4 mm, rugose. Fl. Apr–Jun, fr. Aug–Sep.

Forests; 100–1600 m. Guangdong, Guangxi, Hainan, Yunnan [Cambodia, India, Laos, Malaysia, Myanmar, Thailand, Vietnam].

