

12. PARARUELLIA Bremekamp & Nannega-Bremekamp, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2, 45(1): 25. 1948.

地皮消属 di pi xiao shu

Hu Jiaqi (胡嘉琪 Hu Chia-chi), Deng Yunfei (邓云飞); Thomas F. Daniel

Herbs, perennial. Stems short. Leaves opposite, rosulate, petiolate; leaf blade margin undulate, crenulate, or rarely subentire. Inflorescences terminal, spikes or thyrses; bracts usually subleaflike; bracteoles present. Flowers sessile. Calyx subequally to equally 5-lobed. Corolla white, bluish, or pink; tube basally cylindric and slender, apically expanded into a throat; limb 5-lobed; lobes subequal, contorted in bud, apex rounded or obtuse. Stamens 4, didynamous, inserted at base of throat; filaments glabrous; anthers 2-theous; thecae usually widely separated by a broad connective, ± parallel; staminodes absent. Ovary glabrous, with 4–8 ovules per locule; style pubescent; stigma pubescent, 2-cleft, upper lobe very short or reduced. Capsule cylindric, not stipitate, 8–16-seeded; retinacula present. Seeds lenticular, pubescent with hygroscopic hairs.

About ten species: SE Asia, China; five species (all endemic) in China.

Pararuellia is purported to differ from *Ruellia* by its pollen, which has “minute prickles, papillae or granules (not a honey-combed pattern)” (C. B. Clarke, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74: 649. 1908) or at least papillae on the muri of reticulations (C. C. Hu et al., Acta Phytotax. Sin. 43: 123–150. 2005). Because such structures are also known from some species of *Ruellia* (C. A. Furness & M. C. Grant, Grana 35: 231–239. 1996), the generic status of *Pararuellia* is questionable and deserves additional study.

- 1a. Bracts longer than rachis internodes, imbricate, homomorphic; spikes cylindric; flowers imbricate on rachis 1. *P. glomerata*
- 1b. Bracts shorter than rachis internodes, distant, usually heteromorphic; spikes not cylindric; flowers distant on rachis.
 - 2a. Spikes usually with 1 or 2(or 3) nodes 5. *P. delavayana*
 - 2b. Spikes with 4 to many nodes.
 - 3a. Rachis usually zigzag, winged below nodes 2. *P. alata*
 - 3b. Rachis straight, wingless.
 - 4a. Bracts oblong, elliptic, or ovate, usually subtending many flowers 3. *P. cavaleriei*
 - 4b. Bracts cordate to suborbicular, usually subtending only 1 flower 4. *P. hainanensis*

1. Pararuellia glomerata Y. M. Shui & W. H. Chen, Bot. Stud. (Taipei) 50: 261. 2009.

云南地皮消 yun nan di pi xiao

Herbs to 20 cm tall, often rooting at nodes. Stems 1–2 cm, with 2–4 internodes; internodes constricted, 0.5–1.1 cm. Petiole 1.3–3.4 cm, densely hispid; leaf blade oblanceolate, obovate-oblong, or spatulate, 4–6.2 × 1.8–3.2 cm, abaxially densely hispid, adaxially slightly hispid, secondary veins 6–9 on each side of midvein, base narrowly cuneate and decurrent onto petiole, margin erose to crenate, apex rounded to obtuse. Spikes cylindric, (0.6–)3.2–5.4 cm, several flowered; peduncle 0.7–5 cm and elongating to 13 cm in fruit, densely hispid; rachis (0.6–)3–5.5 cm and elongating in fruit, densely hispid, with (3 or)4–10 nodes; bracts imbricate, ovate to spatulate, 8–10 × 6–9 mm, densely hispid, apex acute; bracteoles linear-lanceolate, 3–4 × ca. 1 mm, abaxially hispid especially apically, apex acuminate. Calyx ca. 5 mm; lobes linear, ca. 4 × 0.7 mm and elongating to ca. 6 mm in fruit, subequal, outside hispid. Corolla light purple, bluish, or pink, 1.4–1.7 cm, outside slightly hispid, inside glabrous; lobes suborbicular, 7–8 × 5–7 mm, equal, apex rounded to truncate. Stamen longer pair 1.5–3 mm, shorter pair ca. 0.5 mm; anther thecae ca. 1.1 mm. Ovary 2–2.5 mm, with 5 or 6 ovules per locule; style 0.8–1.4 cm. Capsule 1–1.5 cm, pubescent, 10–12-seeded. Seeds broadly ovate to subcircular in outline, 1–1.5 × 1–1.5 mm, covered with dense long white appressed trichomes. Fl. Apr–Jul, fr. Jun–Aug.

• Thickets on limestone hills in hot dry valleys; 200–500 m. SE Yunnan (Hong He valley).

2. Pararuellia alata H. P. Tsui, Novon 18: 33. 2008.

节翅地皮消 jie chi di pi xiao

Herbs to 27 cm tall. Stems hispid. Petiole 2.5–3.5 cm; leaf blade oblong-elliptic to oblanceolate-elliptic, 5–8.5 × 1.5–3.5 cm, glabrous, secondary veins 7–10 on each side of midvein, base cuneate, margin entire, apex rounded to acute. Spikes 3–5 cm, with 4–6 nodes; rachis usually zigzag, winged for ca. 2 mm below nodes; bracts ovate to elliptic, 1.2–6 × 0.8–3 cm, reduced in size apically on rachis, glabrous except for ciliate margin, base rounded, apex acute; bracteoles lanceolate, ca. 5 × 2.5 mm, glabrous except for ciliate margin, margin serrate. Calyx ca. 7 mm, glabrous; lobes linear-triangular, ca. 6 × 1.5 mm, equal. Corolla pink, ca. 1 cm, glabrous; tube basally cylindric and ca. 2 mm wide for ca. 5 mm; lobes oblong, ca. 2 × 2 mm, equal, apex emarginate. Staminal filaments ca. 1 mm; anther thecae ca. 1 mm. Ovary ca. 2 mm; style ca. 7 mm. Capsule ca. 15 × 2.7 mm, glabrous. Seeds broadly ovate to subcircular in outline, ca. 1.3 × 1.3 mm, covered with dense long white appressed trichomes. Fl. Aug–Oct, fr. Nov–Jan.

• Streamsides in forests; 700–800 m. Chongqing, Hubei, Yunnan.

3. Pararuellia cavaleriei (H. Léveillé) E. Hossain, Notes Roy. Bot. Gard. Edinburgh 32: 409. 1973.

罗甸地皮消 luo dian di pi xiao

Ruellia cavaleriei H. Lévillé, Repert. Spec. Nov. Regni Veg. 12: 21. 1913.

Herbs to 15 cm tall. Stems ca. 1.5 cm. Petiole 0.7–2.7 cm; leaf blade oblanceolate to spatulate, 4–12 × 1–3 cm, both surfaces sparsely strigose, secondary veins 4–6 on each side of midvein, base attenuate and decurrent onto petiole, margin undulate, apex rounded to acute. Spikes ca. 3 cm, with 4–6 nodes; rachis sparsely strigose; bracts ovate, 1–4 × 0.5–1.5 cm, reduced in size apically on rachis, glabrous, 4–6-veined, base broadly cuneate, apex acute; bracteoles triangular-lanceolate, ca. 3.5 × 1 mm, glabrous. Calyx ca. 5 mm, outside apically glandular pubescent; lobes triangular-lanceolate, ca. 3 × 0.7 mm, equal. Corolla purple, light blue, yellow, or white, ca. 1.5 cm, outside pubescent but soon glabrescent on limb and throat; tube basally cylindrical and narrow for ca. 6 mm, throat ca. 4 mm; lobes oblong, ca. 6 × 6 mm, equal, apex emarginate. Stamen longer pair ca. 3 mm, shorter pair ca. 1.5 mm; anther thecae glabrous. Ovary ca. 3 mm; style ca. 1 cm. Capsule ca. 15 × 3 mm, glabrous, 8–12-seeded. Seeds broadly ovate in outline, ca. 1.4 × 1 mm, covered with dense appressed trichomes. Fl. Aug–Oct, fr. Nov–Jan.

- Thickets, forests; 100–1400 m. Guangxi, Guizhou, Yunnan.

4. *Pararuellia hainanensis* C. Y. Wu & H. S. Lo, Fl. Hainan. 3: 593. 1974.

海南地皮消 hai nan di pi xiao

Herbs. Petiole 0.5–1.5 cm; leaf blade obovate to oblanceolate, ca. 4.5 × 2.5–4.3 cm, abaxially pubescent, adaxially sparsely strigose, secondary veins ca. 6 on each side of midvein, base cuneate, margin entire, apex rounded, sometimes obtuse, or rarely acute. Spikes with 2–6 nodes; rachis pubescent; bracts cordate-ovate to orbicular, 0.5–3(–6.5) × 0.5–1.8(–6.5) cm, abaxially strigose, adaxially glabrous; bracteoles lanceolate, 2.5–3 × ca. 0.6 mm. Calyx 5–6 mm, inside sparsely strigose; lobes linear-lanceolate, ca. 3 × 1 mm. Corolla white or blue, ca. 1.2 cm, outside pubescent, inside glabrous; tube basally cylindrical and ca. 1 mm wide for ca. 7 mm, throat ca. 2.3 × 4 mm; lobes oblong, ca. 2.5 × 2 mm, subequal. Stamen longer pair ca. 1.9 mm, shorter pair ca. 1 mm; anther thecae ca. 1 mm, glabrous. Ovary ca. 3 mm; style ca. 1.6 cm, white comose. Capsule ca. 1.4 cm, glabrous. Seeds obovate in outline, ca. 1 × 1 mm, covered with dense appressed trichomes. Fl. Jun–Sep, fr. Dec–Mar.

- Rocks or wet places along streams, forests; 100–600 m. Guangxi, Hainan.

5. *Pararuellia delavayana* (Baillon) E. Hossain, Notes Roy. Bot. Gard. Edinburgh 32: 409. 1973.

地皮消 di pi xiao

Ruellia delavayana Baillon, Hist. Pl. 10: 408. 1891; *Hemigraphis drymophila* Diels; *Pararuellia drymophila* (Diels) C. Y. Wu & H. S. Lo; *R. arcuata* Lingelsheim & Borza; *R. drymophila* (Diels) Handel-Mazzetti; *R. esquirolii* H. Lévillé.

Herbs. Stems 1–2 cm. Petiole 0.5–2 cm; leaf blade oblong to oblong-elliptic, sometimes obovate, elliptic, or lanceolate, 4–12 × 2.5–4 cm, abaxially pubescent, adaxially strigose, second-

ary veins 7–9 on each side of midvein, base cuneate and decurrent onto petiole, margin undulate to crenate, apex acute, obtuse, or rounded. Spikes ca. 4 cm, with 1–3 nodes; bracts elliptic to ovate, 1–4.7 × 0.5–2.5 cm, reduced in size apically on rachis, both surfaces sparsely strigose, base rounded, margin ciliate, apex acute to obtuse; bracteoles linear, ca. 7 × 1 mm. Calyx ca. 8 mm; lobes triangular-lanceolate, ca. 7 × 1 mm, margin apically ciliate. Corolla white, light blue, or pink, ca. 1.3 cm; tube basally cylindrical and narrow for ca. 4 mm, throat ca. 5 mm; lobes orbicular, ca. 4 × 4 mm, subequal, apex emarginate. Stamen longer pair ca. 3.5 mm, shorter pair ca. 1.5 mm; anther thecae oblong, ca. 1 mm. Ovary ellipsoid; style ca. 1.4 cm, white hirsute. Capsule to 2 cm, 16-seeded. Seeds ovate to subcircular in outline, 1.1–1.4 × 1.1–1.4 mm, covered with dense appressed trichomes. Fl. Jul–Sep, fr. Nov–Feb.

- Forests, slopes; 700–3000 m. Guizhou, S Sichuan, Yunnan.

Fl. China 19: 434–435. 2011.