

22. HEMILOPHIA Franchet, Pl. Delavay. 65. 1889.

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Herbs perennial, rhizomatous. Trichomes simple, malpighiaceus, or sometimes minutely forked. Stems ascending or decumbent, simple or branched. Basal leaves petiolate, rosulate, simple, entire. Cauline leaves petiolate or sessile, attenuate, entire. Racemes several flowered, bracteate throughout. Fruiting pedicels slender, ascending or divaricate, straight or curved. Sepals ovate, oblong, or obovate, ascending, glabrous or pubescent, base of lateral pair subsaccate. Petals yellowish, white, pink, or purple, caducous or persistent, longer than sepals; blade narrowly to broadly obovate or obcordate, apex shallowly to deeply emarginate. Stamens 6, slightly tetradynamous; filaments of lateral stamens filiform, those of median pairs strongly dilated or appendaged basally; anthers ovate, apiculate or not at apex. Nectar glands confluent, subtending bases of all stamens. Ovules 2 per ovary. Fruit dehiscent silicles, oblong, terete, sessile or subsessile; valves papery, navicular, veinless, glabrous, with 3 rows of crests; replum rounded; septum absent; style to 1.5 mm, cylindric or conical, persistent, glabrous or minutely papillate; stigma capitate, entire. Seeds 1 or 2 per fruit, wingless, oblong, plump; seed coat smooth, not mucilaginous when wetted; cotyledons obliquely accumbent.

• Four species.

- 1a. Cauline leaves sessile; sepals membranous throughout, readily caducous at anthesis; petals persistent till fruit dehiscence; style glabrous, conical; stem trichomes exclusively simple; raceme not elongated in fruit 4. *H. sessilifolia*
- 1b. Cauline leaves petiolate; sepals membranous only at margin, remaining until young fruit develops; petals caducous; style minutely papillate, cylindric; stem trichomes crisped simple and forked, or malpighiaceus; raceme elongated considerably in fruit.
 - 2a. Petals purplish; leaf trichomes setose, appressed; sepals not ciliate; stem with malpighiaceus, noncrisped trichomes 1. *H. franchetii*
 - 2b. Petals pink, creamy white or yellowish; leaf glabrous or crisped pilose; sepals ciliate; stems puberulent with crisped trichomes.
 - 3a. Petals 2.5–3.5 × 1.5–2 mm, narrowly obovate, pink; base of median filaments slightly dilated, not appendaged, 0.2–0.3 mm wide; leaves glabrous or rarely sparsely pilose; trichomes on inflorescence rachis obsoletely branched 2. *H. pulchella*
 - 3b. Petals 5–7 × 3–5 mm, obcordate, creamy white to yellowish; base of median filaments conspicuously broadened, appendaged, 0.6–1.1 mm wide; leaves pilose or rarely glabrescent; trichomes of inflorescence rachis minutely branched 3. *H. rockii*

1. *Hemilophia franchetii* Al-Shehbaz, Adansonia 21: 241. 1999.

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Hemilophia pulchella Franchet var. *pilosa* O. E. Schulz.

Stems originate from rhizomes and sometimes terminate in a basal rosette, producing 3–15 branches (3–)5–10(–15) cm, pubescent throughout with appressed malpighiaceus trichomes to 0.6 mm. Basal leaves with petioles (3–)5–12 mm; blade elliptic, ovate, or oblanceolate, to 7 × 5 mm, margin entire, apex obtuse to rounded. Cauline leaves with petioles 1–4 mm; blade elliptic, elliptic-ovate, or rarely ovate-suborbicular, 3–7 × 2–5 mm, gradually reduced in size upward, sparsely to densely covered with appressed setose trichomes to 1 mm, margin entire, apex obtuse. Racemes elongated considerably in fruit. Fruiting pedicels straight or distinctly curved, divaricate, (3–)5–12(–17) mm, pubescent with simple trichomes. Sepals oblong, pink or purplish, tardily caducous, not saccate, 1.5–2 × 0.7–1 mm, with appressed subsetose or

nonsetose simple trichomes to 0.4 mm, margin entire, not ciliate, with a membranous part 0.1–0.2 mm wide. Petals pink or purple, caducous, obovate, 3–4(–5) × 2–2.5 mm, base cuneate to a claw ca. 1 mm, apex emarginate. Filaments pink, lateral pair 1.2–1.5 mm; median pairs 1.3–1.6 mm, inflated basal part 0.5–0.8 mm wide; anthers yellow or pink, 0.3–0.4 mm. Fruit valves papery, 2–3 × 1.5–2 mm, with a crest of tubercles surrounding margin and extending along midvein; gynophore obsolete or to 0.2 mm; style stout, cylindric, minutely papillate throughout, 0.5–0.9 mm. Seeds 2–2.3 × 1–1.1 mm. Fl. Apr–Aug, fr. Jul–Aug.

• Limestone gravel, open sand slopes, pine forests on limestone drift, alpine meadows; 3200–4500. Yunnan.

2. *Hemilophia pulchella* Franchet, Pl. Delavay. 65. 1889.

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Stems from rhizomes, few to many, 4–15 cm, puberulent throughout with minute, crisped, simple and forked trichomes to 0.06 mm. Basal leaves not seen. Cauline leaves with petioles 1–3 mm; blade

oblanceolate or narrowly elliptic, 3–6 × 1.5–3 mm, glabrous or rarely sparsely pilose with nonsetose trichomes, margin entire, apex subacute. Racemes elongated considerably in fruit. Fruiting pedicels straight or slightly curved, divaricate, 3–7 mm, puberulent with crisped minute trichomes. Sepals ovate, greenish, tardily caducous, not saccate, 1–1.5 × 0.7–1 mm, glabrous or sparsely puberulent, margin ciliate with trichomes ca. 0.05 mm, membranous part to 0.2 mm wide. Petals pink, caducous, narrowly obovate, 2.5–3.5 × 1.5–2 mm, cuneate to a clawlike base, apex shallowly emarginate. Filaments pinkish, lateral pair 1–1.3 mm; median pairs 1.2–1.6 mm, not appendaged, base 0.2–0.3 mm wide; anthers yellow, 0.3–0.4 mm. Immature fruit ca. 2.5 × 1.5 mm, with a crest of tubercles surrounding margin and extending along midvein; gynophore absent; style stout, cylindrical, minutely papillate throughout, to 1 mm. Seeds not seen. Fl. Jul–Aug.

- Loose limestone gravel; 4000–4700 m. Yunnan.

3. *Hemilophia rockii* O. E. Schulz, Notizbl. Bot. Gart. Berlin-Dahlem 9: 476. 1926.

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Hemilophia pulchella Franchet var. *flavida* Handel-Mazzetti; *H. pulchella* var. *rockii* (O. E. Schulz) W. T. Wang; *H. rockii* var. *flavida* (Handel-Mazzetti) Handel-Mazzetti.

Stems originate from rhizomes and sometimes terminate in a basal rosette, producing few or a cluster of many branches 4–10(–25) cm, puberulent throughout with crisped, simple and forked trichomes rarely to 0.2 mm. Basal leaves lanceolate to elliptic-lanceolate, 2–5 × 0.5–1.5 mm, densely covered with straight trichomes to 1 mm. Cauline leaves with petioles 1–2 (–3) mm; blade oblanceolate, narrowly elliptic, or rarely ovate, (2–)4–8(–10) × (1–)2–3.5(–5) mm, sparsely covered with crisped simple trichomes to 0.5 mm, rarely glabrous, margin entire, apex subacute to obtuse. Racemes elongated considerably in fruit. Fruiting pedicels straight to slightly curved, divaricate, (3–)4–8(–10) mm, pubescent with crisped trichomes. Sepals oblong or ovate, greenish, tardily caducous, not saccate, 1.5–2 × 1–1.5 mm, with crisped simple trichomes to 0.4 mm, margin ciliate with trichomes to 0.1 mm, membranous part 0.1–0.2 mm wide. Petals yellowish to creamy white, caducous, obcordate, 5–7 × 3–5 mm, base cuneate to a claw ca. 1 mm, apex deeply emarginate or nearly 2-lobed. Filaments white, lateral pair 1.4–1.5(–1.8) mm; median pairs 1.6–1.8(–2.1) mm, inflated basal appendage 0.6–1.1 mm; anthers yellow, 0.3–0.4 mm. Fruit valves papery, 3–4 × 1.5–2.5 mm, with a crest of tubercles surrounding margin and extending along midvein; gynophore obsolete or to 0.2 mm; style stout, cylindrical, minutely papillate

throughout, 0.8–1.2 mm. Seeds 2–3 × 1–2 mm. Fl. Jun–Jul, fr. Jul–Aug.

- Loose limestone gravel, scree; 3900–4900 m. SW Sichuan, E Yunnan.

4. *Hemilophia sessilifolia* Al-Shehbaz et al., Novon 9: 8. 1999.

无柄叶半脊芥 wu bing ye ban ji qi

Stems 1 to several from basal rosette or solitary from rhizomes, 3–9 cm tall, simple or few branched, with spreading or appressed simple trichomes to 0.3 mm. Basal leaves oblanceolate, 6–10 × 1.5–2.5 mm, densely covered with straight, simple trichomes 0.8–1.3 mm. Cauline leaves oblong to oblong-oblanceolate, 2.5–5(–8) × 1–2(–2.5) mm, sessile, glabrous or minutely pubescent, margin entire, apex obtuse. Racemes not elongated in fruit. Fruiting pedicels slender, straight, divaricate, 5–6 mm, pilose. Sepals obovate, membranous, early caducous and leaving 4 receptacular teeth, 1.8–2.7 × 1.2–1.5 mm, entire, rounded at apex. Petals creamy white with dark green veins, pale to light brown at base of blade, persistent to fruit maturity, broadly obovate, 6–7 × 4–5.5 mm, 2-lobed, abruptly narrowed to claw, apical notch to 2 mm deep; claws 1.5–2.5 mm. Filaments white, lateral pair 1.8–2.2 mm; median pairs 1.9–2.5 mm, strongly inflated on basal half into an oblong appendage 1.1–1.3 mm; anthers green. Fruit valves thin papery, 3–4 × 1.5–2 mm, with 3 rows of crests; gynophore obsolete or to 0.1 mm; style conical, glabrous, 1–1.5 mm. Seeds 2.5–3 × 1.1–1.3 mm. Fl. & fr. Aug.

- Limestone gravel; 4300–4600 m. Yunnan.

