

28. LIGNARIELLA Baehni, Candollea 15: 57. 1955.

弯梗芥属 wan geng jie shu

Herbs biennial or short-lived perennial. Trichomes simple, clavate papillae. Stems ascending or decumbent or prostrate. Basal leaves not seen. Cauline leaves petiolate, palmately 3(–5)-lobed or 3(–5)-partite to base, sometimes 3(–5)-toothed near apex, rarely repand or entire, glabrous, usually palmately veined. Racemes several flowered, bracteate throughout. Fruiting pedicels divaricate and often recurved or reflexed, rarely straight, papillate adaxially. Sepals oblong, ascending-spreading, glabrous, base subsaccate, rarely nonsaccate. Petals purple or blue, rarely pink, spreading, often much longer than sepals; blade orbicular or obovate, rounded; claw very short. Stamens 6, spreading, equal in length; filaments distinctly dilated at base; anthers narrowly oblong or ovate, apex obtuse. Nectar glands confluent, subtending bases of all filaments. Ovules 2–6(–12) per ovary. Fruit dehiscent siliques or silicles, linear, oblong, ovoid, or ellipsoid, terete or slightly latiseptate, subsessile or long stipitate; valves veinless, glabrous or sparsely papillate, smooth or slightly torulose; replum slightly flattened; septum absent; style to 4 mm; stigma capitate, entire. Seeds uniseriate, rarely 1, wingless, oblong, plump; seed coat minutely colliculate, not mucilaginous when wetted; cotyledons incumbent.

Four species: Bhutan, China, Nepal, Sikkim; three species in China.

- 1a. Petals orbicular or orbicular-obovate, (5.5–)6–8(–9) mm; anthers 0.6–1.2 mm ..... 3. *L. hobsonii*
- 1b. Petals narrowly to broadly obovate, 1.5–4(–4.5) mm; anthers 0.25–0.4 mm.
  - 2a. Fruit oblong-ovoid to broadly oblong, 2–4-seeded; fruiting pedicels often recurved; petals purple, (2.7–)3–4(–4.5) × 1.7–2.5 mm ..... 2. *L. serpens*
  - 2b. Fruit narrowly oblong or linear, 6–12 seeded; fruiting pedicels usually straight; petals white or rarely pink, 1.5–2 × 0.5–1 mm ..... 1. *L. ohbana*

1. *Lignariella ohbana* Al-Shehbaz & Arai in Al-Shehbaz et al., Harvard Pap. Bot. 5(1): 120. 2000.

线果弯梗芥 xian guo wan geng jie

Plants slender, biennial or short-lived perennial, glabrous throughout except for pedicels. Stems slender, few or rarely 1 from base, decumbent, 2–12(–15) cm. Lowermost cauline leaves simple, becoming 3-lobed in the middle and distal portions of plant; petiole glabrous, (2–)4–8(–12) mm; blade of lowermost leaves ovate, subacute, 3–5 × 2–3 mm; middle lobe of bracts narrowly oblong or broadly ovate, entire, (2–)3–6(–8) × 1.3–4(–7) mm, obtuse; lateral lobes smaller and narrower, entire or rarely obscurely 1-toothed. Fruiting pedicels 5–8(–13) mm, adaxially puberulent with papillae to 0.1 mm. Sepals oblong, 0.7–1.5 × 0.5–0.7 mm, not saccate at base, scarious at margin. Petals white or rarely pink, narrowly obovate, 1.5–2 × 0.5–1 mm, apex rounded, cuneate and not clawed at base. Filaments white or rarely pink, 0.8–1.2 mm; anthers purple, ovate, 0.2–0.3 mm. Ovules 6–12 per ovary. Fruit linear to narrowly oblong, not geocarpic, straight or slightly curved at middle, 5–10 × 0.7–1 mm; gynophore obsolete; valves torulose; style 0.5–0.8 mm, stout. Seeds uniseriate, oblong, 1–1.4 × 0.5–1 mm. Fl. Jul–Aug, fr. July–Oct.

Among rocks, sandy flats by streamside; 3000–4500 m. Yunnan [Nepal].

2. *Lignariella serpens* (W. W. Smith) Al-Shehbaz et al., Harvard Pap. Bot. 5(1): 119. 2000.

蛇形弯梗芥 she xing wan geng jie

*Cochlearia serpens* W. W. Smith in W. W. Smith & G. H. Cave, Rec. Bot. Surv. India 4: 175. 1911;

*Lignariella hobsonii* (H. Pearson) Baehni subsp. *serpens* (W. W. Smith) H. Hara.

Plants slender, short-lived perennial, glabrous throughout except for pedicels and sometimes fruit. Stems slender, few to many from base, decumbent, (1.5–)5–15(–30) cm. Leaves deeply 3(or 5)-lobed throughout, simple leaves absent; petiole glabrous, (2–)5–15(–40) mm; blade of central lobe oblong or ovate, rarely linear, entire or rarely 1-toothed on each side, (1.5–)3–8(–15) × (0.5–)1–3(–7) mm, apex obtuse to subacute; lateral lobes smaller, entire, 1- or 2-lobed or toothed, rarely leaves subternate. Fruiting pedicels (10–)15–30(–40) mm, strongly recurved or sigmoid, often filiform, adaxially puberulent with papillae to 0.1 mm. Sepals oblong, 1.5–5 × 0.7–1 mm, not saccate at base, scarious margin ca. 0.2 mm wide. Petals purple, broadly obovate, (2–)3–4(–4.5) × (1–)1.5–2.5(–3) mm, apex rounded, cuneate into a claw to 0.1 mm. Filaments purplish, 1.5–2.5 mm; anthers purple, ovate, 0.3–0.4 mm. Ovules 3–6 per ovary. Fruit ovoid or oblong, rarely oblong-linear, not geocarpic, often curved at middle, 2.5–8(–12) × 1–2(–2.5) mm; gynophore 0.5–3 mm; valves slightly torulose or not, glabrous or puberulent; style 1–1.5(–2) mm, stout. Seeds uniseriate, oblong, (1–)1.5–2.5 × (0.5–)0.8–1.2(–1.5) mm. Fl. Jun–Aug, fr. Jul–Oct.

Alpine peaty soil, scree, gravelly stream edges, turf among rocks and small shrubs; 2600–4300 m. Xizang [Bhutan, Nepal, Sikkim].

**3. *Lignariella hobsonii*** (H. Pearson) Baehni, *Candollea* 15: 57. 1955.

弯梗芥 wan geng jie

*Cochlearia hobsonii* H. Pearson, *Hooker's Icon. Pl.* 27: t. 2643. 1900.

Plants short-lived perennial, puberulent on stem and/or pedicels. Stems coarse, few to many from base, decumbent or rarely ascending, (6–)11–20(–30) cm, glabrous or puberulent along 1 line or throughout. Leaves simple or rarely deeply 3(or 5)-lobed apically; petiole somewhat flattened, 4–10(–18) mm; leaf blade broadly obovate or suborbicular and often wider than long, rarely oblong, (3–)6–10(–15) × (1.5–)4–10(–15) mm, glabrous, obscurely to prominently 3- or 5-toothed, teeth sometimes restricted to subtruncate apex, when lobed central lobe broadly to narrowly oblong, slightly broader than lateral lobes. Flowers often protogynous. Fruiting pedicels slender, strongly recurved or sigmoid, (0.7–)1.5–3(–4) cm, adaxially puberulent with papillae to 0.1 mm. Sepals oblong, glabrous, 2.5–3.5(–4) × 1–1.5 mm, margin membranous and to 0.5 mm wide, spreading, slightly saccate at base. Petals blue or deep purple, orbicular to orbicular-obovate, (5.5–)6–8(–9) × 4–6(–7) mm, apex rounded, base abruptly narrowed into a claw 0.5–1.5 mm. Filaments purple distally, whitish basally, 4–5.5 mm; anthers narrowly oblong, 0.6–1.2 mm, often strongly curved after dehiscence. Ovules 4–6(–11) per ovary. Fruit linear or narrowly oblong, rarely ovoid, not geocarpic, straight or curved, (5–)10–20 × 1.5–2 mm; gynophore ca. 0.5 mm; valves torulose; style 3–4 mm, stout. Seeds uniseriate, oblong, 2.2–2.8 × 1.2–1.4 mm. Fl. May–Jul, fr. Jun–Sep.

Streamsides, mossy areas in running water, wet cliffs, scree, damp banks, wet stony slopes; 2800–4100 m. Xizang [Bhutan, Nepal].

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