

6. **RAPHANUS** Linnaeus, Sp. Pl. 2: 669. 1753.

萝卜属 *luo bo shu*

Quidproquo Greuter & Burdet.

Herbs annual or biennial, scabrous or hispid, rarely glabrous. Trichomes simple. Stems erect or prostrate, simple or branched. Basal leaves petiolate, rosulate or not, simple, dentate, lyrate, pinnatifid, or pinnatisect. Cauline leaves similar to basal, petiolate or uppermost sessile. Racemes several flowered, ebracteate, elongated in fruit. Fruiting pedicels divaricate or reflexed. Sepals oblong or linear, erect, base of lateral pair saccate. Petals yellow, white, pink, or purple, usually with darker veins; blade obovate or suborbicular, apex rounded or emarginate; claw subequaling or longer than sepals. Stamens 6, strongly tetradynamous; filaments not dilated at base; anthers oblong or oblong-linear, obtuse at apex. Nectar glands 4; median pair oblong; lateral pair prismatic. Ovules 2–22 per ovary. Fruit indehiscent siliques or silicles, often lomentaceous, breaking into 1-seeded units, linear, oblong, ovoid, ellipsoid, or lanceolate, terete or polygonal, sessile, segmented; valvular segment rudimentary, seedless, as thick as or slightly thicker than pedicel, or absent; terminal segment few to many seeded, wingless, corky, smooth or strongly torulose or moniliform, ribbed longitudinally or not ribbed, antrorsely or retrorsely scabrous, or glabrous; replum absent; septum absent; style prominent or obsolete; stigma capitate, entire or slightly 2-lobed. Seeds uniseriate, wingless, oblong, ovoid, or globose, plump; seed coat minutely reticulate, not mucilaginous when wetted; cotyledons conduplicate.

Three species: Mediterranean region; two species (anciently introduced) in China.

- 1a. Petals pink or purple, sometimes white; roots often fleshy; fruit smooth or slightly constricted between seeds 1. *R. sativus*
- 1b. Petals yellow or creamy white, rarely pink; roots not fleshy; fruit strongly ribbed and torulose or moniliform 2. *R. raphanistrum*

1. *Raphanus sativus* Linnaeus, Sp. Pl. 2: 669. 1753.

萝卜 *luo bo*

Raphanus acanthiformis J. M. Morel; *R. chinensis* Miller (1768), not (Linnaeus) Crantz (1769); *R. macropodus* H. Léveillé; *R. niger* Miller; *R. raphanistroides* (Makino) Nakai; *R. raphanistrum* Linnaeus var. *sativus* (Linnaeus) Domin; *R. sativus* var. *macropodus* (H. Léveillé) Makino; *R. sativus* f. *raphanistroides* Makino; *R. sativus* var. *raphanistroides* (Makino) Makino; *R. taquetii* H. Léveillé.

Herbs annual or biennial, 10–130 cm tall, glabrous, scabrous, or hispid. Roots fleshy, white, pink, red, or black, linear, fusiform, oblong, or globose, 1–100 × 0.5–45 cm, sometimes slender and not fleshy. Stems simple or branched. Basal leaves with petioles 1–30 cm; leaf blade oblong, obovate, oblanceolate, or spatulate in outline, 2–60 × 1–20 cm, lyrate or pinnatisect, sometimes undivided, margin dentate, apex obtuse or acute; lateral lobes 1–12 on each side of midvein, sometimes absent, oblong or ovate, to 10 × 5 cm. Uppermost cauline leaves sessile, often undivided, dentate. Fruiting pedicels divaricate or ascending, straight, 0.5–4 cm. Sepals narrowly oblong, 5.5–10 × 1–2 mm, glabrous or sparsely pubescent. Petals purple, pink, or sometimes white, often with darker veins, broadly obovate, 1.2–2.2 cm × 3–8 mm, apex obtuse or emarginate; claw to 1.4 cm. Filaments slender, 5–12 mm; anthers 1.5–2 mm, sagittate at base. Fruit fusiform or lanceolate, sometimes ovoid or cylindrical; seedless valvular segment 1–3.5 mm; seed-bearing distal

segment (1–)3–15(–25) × (0.5–)0.7–1.3(–1.5) cm, corky, rounded at base, conical at apex, smooth or rarely slightly constricted between seeds, not ribbed; style 1–4 cm; stigma entire. Seeds globose or ovoid, 2.5–4 mm in diam. Fl. and fr. depending on cultivation time. $2n = 18^*$.

Fields, roadsides, waste areas. Throughout China [native to the Mediterranean region; cultivated worldwide].

Long cultivated in E Asia primarily as a vegetable and medicinal plant. A very variable species with regard to fleshy root color, shape, and size, plant height, degree of division and size of leaves, flower color, and fruit shape and size. Numerous infraspecific taxa have been recognized, and their taxonomy is controversial and highly confused. The interested reader should consult Pistrick (*Kulturpflanze* 35: 225–321. 1987). Perhaps the most interesting cultivar, which is grown primarily in China and Japan, is var. *longipinnatus* L. H. Bailey, with roots to 50 kg in weight and to 1 m in length and enormous rosettes to 2 m in diam.

2. *Raphanus raphanistrum* Linnaeus, Sp. Pl. 2: 669. 1753.

野萝卜 *ye luo bo*

Herbs annual, (20–)25–60(–75) cm tall, often hispid. Roots not fleshy. Stems erect or prostrate, usually retrorsely hispid. Basal leaves with petioles 1–6 cm; leaf blade oblong, obovate, or oblanceolate in outline, 3–15(–22) × 1–5 cm, lyrate or pinnatifid, sometimes undivided, margin dentate, apex obtuse or acute; lateral lobes 1–4 on each side of midvein, oblong or ovate, to 4 × 2 cm, smaller than terminal lobe. Uppermost cauline leaves sessile, often undivided, dentate. Fruiting pedicels divaricate or ascending, straight, 0.7–2.5 cm.

Sepals narrowly oblong, 7–11 × 1–2 mm, sparsely pubescent. Petals yellow or creamy white, with dark brown or purple veins, broadly obovate, 1.5–2.5 cm × 4–7 mm, apex obtuse or emarginate; claw to 1.5 cm. Filaments slender, 7–12 mm; anthers 2–2.5 mm, sagittate at base. Fruit cylindric or narrowly lanceolate; valvular segment seedless, 1–1.5 mm; seed-bearing distal segment (1.5–)2–11(–14) cm × (2.5–)3–8(–11) mm, woody or corky, rounded at base, conical at apex, strongly constricted between seeds, strongly ribbed; style 1–5 cm; stigma entire. Seeds oblong or ovoid, 2.5–3.5 × 1.8–2.5 mm. Fl. May–Sep, fr. Jun–Oct. $2n = 18$.

Roadsides, fields, waste areas. Qinghai, Sichuan, Taiwan [native to SW Asia, Europe, and the Mediterranean region; naturalized elsewhere].

