

70. PARRYA R. Brown, Chlor. Melvill. 10. 1823.

条果芥属 tiao guo jie shu

Achoriphragma Soják; *Neuroloma* Andrzejowski ex de Candolle.

Herbs perennial, with well-developed caudex, rarely subshrubs or shrubs. Trichomes simple or absent, multicellular glands present or absent. Stems leafy or leafless. Basal leaves petiolate, rosulate, simple, entire, dentate, or pinnately dissected. Cauline leaves similar to basal, often absent. Racemes ebracteate, elongated in fruit. Fruiting pedicels erect, ascending, or divaricate. Sepals linear or oblong, caducous, erect, unequal, base of lateral pair saccate, margin membranous. Petals purple, pink, or white; blade obovate, apex rounded or emarginate; claw subequaling or longer than sepals. Stamens 6, tetradynamous; filaments dilated or not at base; anthers oblong or linear, obtuse at apex. Nectar glands 2, lateral, annular to semiannular; median glands absent. Ovules 10–50 per ovary. Fruit dehiscent siliques, linear, oblong, or lanceolate, strongly latiseptate or rarely subterete or 4-angled, sessile or subsessile, persistently attached to pedicel, unsegmented; valves leathery, with a prominent midvein and obscure to distinct lateral and marginal veins, smooth or torulose; replum almost always flattened; septum complete, membranous or thickened, translucent or opaque; style distinct, 0.5–7 mm; stigma conical or cylindrical, 2-lobed, lobes prominent, connate, decurrent. Seeds uniseriate, often broadly winged, suborbicular or oblong, strongly flattened; seed coat smooth, not mucilaginous when wetted; cotyledons accumbent.

About 25 species: C Asia, Himalayas, two species in North America; four species in China.

- 1a. Fruit with terete replum concealed by thickened valve margin; plants eglandular, hirsute with subsetose straight trichomes; flowering stems mostly with 1 or few leaves 4. *P. beketovii*
- 1b. Fruit with visible, strongly flattened replum, valve margin not thickened; plants glandular or eglandular, glabrous or pubescent with soft, often crisped trichomes; flowering stems leafless.
 - 2a. At least some leaves pinnatifid or pinnatisect; fruit 2–2.5(–3) mm wide; style (1.5–)2.5–6 mm; seeds broadly oblong 3. *P. pinnatifida*
 - 2b. Leaves entire, dentate to dentate-sinuate, rarely subpinnatifid or repand; fruit (3.5–)4–7 mm wide; style 0.5–1.5(–3) mm; seeds orbicular or suborbicular.
 - 3a. Leaves entire; petals 2.5–3 × 0.8–1.5 cm, apex deeply emarginate; lowermost fruiting pedicels 1–2.5 cm 1. *P. lancifolia*
 - 3b. Leaves dentate to dentate-sinuate, rarely subpinnatifid or repand; petals (1.4–)1.6–2(–2.2) × 0.6–1 cm, apex rounded or shallowly emarginate; lowermost fruiting pedicels (1.5–)2.2–7(–11) cm 2. *P. nudicaulis*

1. *Parrya lancifolia* Popov, Bull. Soc. Imp. Naturalistes Moscou 47: 86. 1938.

柳叶条果芥 liu ye tiao guo jie

Achoriphragma lancifolium (Popov) Soják; *Neuroloma lancifolium* (Popov) Botschantzev.

Plants 5–30 cm tall, caespitose, glandular or eglandular, pubescent with crisped, simple retrorse trichomes to 1.5 mm, or glabrous; caudex branched, covered with petiolar remains of previous years. Basal leaves rosulate; petiole broadened at base, often ciliate, 1–6 cm; leaf blade lanceolate to linear-lanceolate, 2–9 × 0.5–2 cm, pubescent or glabrous, base cuneate or attenuate, margin entire, apex acute to subacuminate. Cauline leaves absent. Racemes 2–10-flowered. Fruiting pedicels ascending to divaricate, glandular or eglandular, lowermost 1–2.5 cm. Sepals purple, linear to linear-oblong, 9–12 × 2–3 mm, glabrous, pubescent, or glandular, white margined. Petals purple, broadly obovate, 2.5–3 × 0.8–1.5 cm, apex deeply emarginate; claw 1–1.7 cm. Filaments purple, median pairs 6–10 mm, lateral pair 4–7 mm; anthers linear, 3–5 mm.

Ovules 30–40 per ovary. Fruit linear to linear-lanceolate, 4–9(–11) cm × 4–6 mm; valve margin flat; replum flattened; style 0.5–1(–2.5) mm; stigma 0.5–1.5 mm. Seeds orbicular or suborbicular, 4–6 mm in diam., flattened, broadly winged; wing undulate, to 1.5 mm wide. Fl. Jun–Jul, fr. Jul–Aug.

Grassy slopes; 2300–3000 m. Xinjiang [Kazakstan, Kyrgyzstan].

The records of *Parrya pulvinata* Popov in FRPS and Fl. Xinjiang. (2(2): 176. 1995) were based on misidentified plants of *P. lancifolia*. True *P. pulvinata* is distributed in Kazakstan. The above record of *P. lancifolia* from Xinjiang is based on Wu 418 (KUN), Liston et al. 837–2 (MO), and Ludlow 689 (BM). The last specimen includes eight plants, of which three are densely glandular and five eglandular.

2. *Parrya nudicaulis* (Linnaeus) Regel, Bull. Soc. Imp. Naturalistes Moscou 34: 176. 1861.

裸茎条果芥 luo jing tiao guo jie

Cardamine nudicaulis Linnaeus, Sp. Pl. 2: 654. 1753; *Achoriphragma ajanense* (N. Busch) Soják; *A. nudicaule* (Linnaeus) Soják; *Arabis nudicaulis* (Linnaeus) de Candolle; *Cheiranthus scapiger* Adams; *Hesperis arabidiflora* de Candolle; *H. scapigera* (Adams) de Candolle; *Matthiola nudicaulis* (Linnaeus) Trautvetter; *Neuroloma ajanense* (N. Busch)

Botschantzev; *N. arabadiflorum* (de Candolle) de Candolle; *N. griffithii* Botschantzev; *N. nudicaule* (Linnaeus) Andrzejowski ex de Candolle; *N. scapigerum* (Adams) de Candolle; *N. speciosum* Steudel; *Parrya ajanensis* N. Busch; *P. arabadiflora* (de Candolle) Nicholson; *P. integerrima* G. Don; *P. linnaeana* Ledebour; *P. macrocarpa* R. Brown; *P. scapigera* (Adams) G. Don.

Plants (4–)10–35(–45) cm tall, caespitose, glandular throughout or eglandular, glabrous; caudex branched, covered with petiolar remains of previous years. Basal leaves rosulate; petiole often becoming thickened, (0.5–)2–10(–15) cm, glabrous or rarely sparsely ciliate; leaf blade lanceolate, linear, spatulate, or oblong, (1.2–)3–11(–14) cm × 4–10(–15) mm, base cuneate or attenuate, margin dentate to dentate-sinuate, rarely subpinnatifid or repand, apex acute. Cauline leaves absent. Racemes 2–20-flowered. Fruiting pedicels erect-ascending or divaricate, lowermost (1.5–)2.2–7(–11) cm. Sepals linear to linear-oblong, 6–11 × 1.5–3 mm, glabrous or glandular, white margined. Petals pink with a yellowish center, rarely white or purple, broadly obovate, (1.4–)1.6–2(–2.2) cm × 6–10 mm, apex rounded to shallowly emarginate; claw 0.8–1.2 cm. Filaments white, median pairs 6–8 mm, lateral pair 3–5 mm; anthers linear, 2.5–3 mm. Ovules 16–40 per ovary. Fruit linear to linear-lanceolate, (3–)4–7(–9) cm × (3.5–)4–7 mm; valve margin flat; replum flattened; style 0.5–1.5(–3) mm; stigma 0.5–1.5 mm. Seeds suborbicular, 3–8 mm in diam., flattened, broadly winged; wing (0.5–)1–3 mm wide. Fl. May–Aug, fr. Jul–Sep.

Dry stony hillsides, rocky crevices, among boulders, scree; 2200–5500 m. Qinghai, Xizang [Afghanistan, Bhutan, India, Kashmir, Russia, Sikkim; North America].

The records of *Parrya fruticulosa* Regel & Schmalhausen in FRPS and Fl. Xinjiang. (2(2): 175. 1995) were based on misidentified plants of the highly variable *P. nudicaulis*. The present authors have seen no Chinese material of *P. fruticulosa*, which is endemic to Tajikistan (Pamir Alai) and adjacent Uzbekistan. It is a shrub or subshrub with leafy, strongly woody stems and narrowly linear, entire leaves.

3. *Parrya pinnatifida* Karelin & Kirilov, Bull. Soc. Imp. Naturalistes Moscou 15: 147. 1842.

羽裂条果芥 *yu lie tiao guo jie*

Achoriphragma pinnatifidum (Karelin & Kirilov) Soják; *A. stenocarpum* (Karelin & Kirilov) Soják; *Neuroloma minjanense* (K. H. Rechinger) Botschantzev; *N. pinnatifidum* (Karelin & Kirilov) Botschantzev; *N. stenocarpum* (Karelin & Kirilov) Botschantzev; *Parrya chitralensis* Jafri; *P. chitralensis* K. H. Rechinger (1959), not Jafri (1956); *P. minjanensis* K. H. Rechinger; *P. pinnatifida* var. *kizylarti* Korshinsky; *P. stenocarpa* Karelin & Kirilov.

Plants (3–)8–20(–25) cm tall, caespitose, glandular or eglandular, sparsely to densely pubescent with simple trichomes to 1.5 mm; caudex branched, covered with petiolar remains of previous years. Basal leaves rosulate; petiole broadened at base, ciliate or not, (0.5–)1–4(–6) cm; leaf blade lanceolate or linear in outline, all or at least some pinnatifid or pinnatisect and with 3–9 lobes on each side, 1.5–7 × (0.3–)0.6–2 cm, pubescent or glabrous, base cuneate or attenuate, apex acute; lateral lobes oblong, linear, or rarely ovate, 2–10 × 0.5–3 mm, entire. Cauline leaves absent. Racemes 2–10-flowered. Fruiting pedicels ascending or divaricate, glandular or eglandular, (0.4–)1–2.5 cm. Sepals purple, linear or linear-oblong, 6–10 × 1.5–3 mm, glabrous, pubescent, or glandular, white margined. Petals purple or lavender, rarely white, broadly obovate, (1.3–)1.5–2(–2.2) cm × 4–8 mm, apex emarginate; claw 0.8–1.2 cm. Filaments purple or white, median pairs 6–8 mm, lateral pair 3–5 mm; anthers linear, 3–4 mm. Ovules 16–40 per ovary. Fruit linear to linear-lanceolate, (2–)3–8(–10) cm × 2–2.5(–3) mm; valve margin flat; replum flattened; style (1.5–)2.5–6 mm; stigma 1–2 mm. Seeds broadly oblong, 3–5 × 2–3.5 mm, flattened, broadly winged; wing 0.5–1 mm wide. Fl. May–Jul, fr. Jul–Aug.

Marble scree, stony slopes, gravel; 1600–4400 m. Xinjiang [Afghanistan, Kashmir, Kazakstan, Kyrgyzstan, Pakistan, Tajikistan]. The records of *Parrya pinnatifida* in FRPS and Fl. Xizang. (2: 384. 1985) were based on misidentified plants of *P. nudicaulis*. The records of *P. subsiliquosa* Popov in FRPS and Fl. Xinjiang. (2(2): 176. 1995) were based on misidentified plants of *P. beketovii* and *P. pinnatifida*. The present authors have seen no Chinese material of *P. subsiliquosa*, which is endemic to Kyrgyzstan and neighboring Kazakstan. It is likely to be conspecific with *P. longicarpa* Krassnov, a species with fruit terete to subquadrangular, narrowly linear, and 1.5–2 mm wide and seeds oblong and narrowly winged. The occurrence of *P. pinnatifida* in China is here confirmed based on *Cheo Taiyien 650883* (HNWP, NAS).

Parrya pinnatifida var. *hirsuta* N. Busch and var. *glabra* N. Busch were accepted in FRPS, but both varieties are invalidly named (they are *nomina nuda*); they are anyway only minor variants and do not merit recognition.

4. *Parrya beketovii* Krassnov, Bot. Zap. 2, 1: 12. 1888.

天山条果芥 *tian shan tiao guo jie*

Achoriphragma beketovii (Krassnov) Soják; *Neuroloma beketovii* (Krassnov) Botschantzev; *Parrya michaelis* Vassiljeva.

Plants (7–)15–30(–40) cm tall, eglandular, sparsely to densely hirsute with spreading, straight, subsetose simple trichomes 1–2 mm; caudex usually without petiolar remains of previous years. Basal leaves rosulate; petiole ciliate, 1.5–5 cm; leaf blade spatulate, subovate, or lanceolate, 2–6(–9) × (0.4–)1–2.5(–4) cm, hirsute, base cuneate, margin coarsely dentate or pinnate-sinuate, sometimes entire, apex acute. Cauline leaves few, similar to basal ones, rarely absent. Racemes (3–)7–25-flowered. Fruiting pedicels ascending or divaricate, hirsute, (0.7–)1–2.5(–4) cm. Sepals purple,

linear to linear-oblong, $6-9 \times 1.5-2.5$ mm, sparsely hirsute or glabrous, white margined. Petals purple, broadly obovate, $(1.1-1.5-2(-2.5) \text{ cm} \times 4-7$ mm, apex rounded; claw $0.7-1.3$ cm. Filaments white, median pairs $(4-6-8$ mm, lateral pair $(2.5-4-5$ mm; anthers linear, $2.5-3.5$ mm. Ovules 20–40 per ovary. Fruit linear, $(2-)3-6(-7) \text{ cm} \times 2.5-4$ mm; valve margin prominently thickened; replum terete, concealed by valve margin; style $0.5-1(-1.5)$ mm; stigma $0.5-1$ mm. Seeds suborbicular-oblong, $2.5-3.5 \times 2-2.5$ mm, flattened, with a broad wing $0.5-1$ mm wide. Fl. May–Jul, fr. Jul–Aug.

Rocky and clayey slopes; 1600–2200 m. Xinjiang [Kazakstan, Kyrgyzstan].

Apparently all specimens of *Parrya beketovii* in the major Chinese herbaria were erroneously identified as other species. The occurrence of this species in China is here confirmed based on several collections, including *Cheo Taiyien 650721* (IBSC, KUN, NAS, PE), *Cheo Taiyien 651268* (KUN, PE), and *Moysenko 35* (LE).

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