

**14. PACHYPTERYGIUM** Bunge, Delect. Seminum Hort. Bot. Dorpat. 1843: 8. 1843.

厚壁芥属 hou bi qi shu

*Pachypteris* Karelin & Kirilov, Bull. Soc. Imp. Naturalistes Moscou 15: 158. 1842, not Brongnart (1828).

Herbs annual, glabrous throughout or pilose, sometimes fruit papillate. Trichomes simple, papillate. Stems erect or ascending, branched. Basal leaves petiolate, not rosulate, simple, entire. Cauline leaves sessile, auriculate, sagittate, or amplexicaul, entire. Racemes several flowered, ebracteate, elongated in fruit, grouped in panicles. Fruiting pedicels filiform, reflexed or rarely divaricate. Sepals ovate or oblong, ascending, base of lateral pair not saccate, margin not membranous. Petals yellow, slightly longer than sepals; blade obovate or oblanceolate, apex obtuse; claw absent. Stamens 6, slightly tetradynamous; filaments, not dilated at base; anthers subglobose or broadly ovate, obtuse at apex. Nectar glands confluent and subtending bases of all stamens; median glands present; lateral glands annular. Ovules 1 per ovary; placentation subapical. Fruit indehiscent, achenelike silicles, oblong, ovate, elliptic, or oblong-linear, angustiseptate, sessile, sometimes constricted above seed-bearing portion; valves papery, corky and thick winged all around, veinless, glabrous or papillate; replum rudimentary; septum absent; style absent; stigma capitate, entire. Seeds wingless, oblong, plump; seed coat smooth, not mucilaginous when wetted; cotyledons incumbent.

Three species: C and SW Asia; two species in China.

- 1a. Fruit elliptic, elliptic-oblong, or ovate, not constricted above middle, 2–4 mm, apex obtuse ..... 1. *P. multicaule*
- 1b. Fruit subpyriform, constricted above middle, 4–5 mm, apex truncate or subemarginate ..... 2. *P. brevipes*

**1. Pachyterygium multicaule** (Karelin & Kirilov) Bunge, Delect. Seminum Hort. Bot. Dorpat. 1843: 8. 1843.

厚壁芥 hou bi qi

*Pachypteris multicaulis* Karelin & Kirilov, Bull. Soc. Imp. Naturalistes Moscou 15: 159. 1842; *Isatis multicaulis* (Karelin & Kirilov) Jafri; *Pachypteris densiflora* (Bunge) Parsa; *P. lamprocarpa* (Bunge) Parsa; *Pachyterygium densiflorum* Bunge; *P. echinatum* Jarmolenko; *P. lamprocarpum* Bunge; *P. microcarpum* Gilli; *P. praemontanum* Jarmolenko; *P. ramosum* Jarmolenko ex Pavlov.

Herbs 8–25 cm tall, glabrous throughout except sometimes for fruit. Stems erect or ascending, several to many branched below and above, sometimes glaucous. Basal leaves oblanceolate, 0.7–4 cm × 1.5–6 mm, attenuate to petiolelike base 2–15 mm, margin entire, apex obtuse. Cauline leaves oblong, linear, or linear-lanceolate, 0.6–4 cm × 1–5 mm, sometimes glaucous, base sagittate or auriculate, margin entire, apex obtuse to subacute; auricles to 7 × 3 mm. Fruiting pedicels filiform, divaricate or reflexed, 2–6 mm. Sepals yellowish, oblong, (0.6–)0.8–1.2 × 0.3–0.5 mm. Petals yellow, oblanceolate or obovate, (0.9–)1.2–2 × 0.3–0.6(–0.9) mm, apex obtuse; claw absent. Filaments yellowish, 0.5–1(–1.4) mm; anthers subglobose, 0.1–0.2 mm. Fruit elliptic, elliptic-oblong, or ovate, 2–4(–4.5) × 1.5–2.5 mm, base and apex obtuse; valves glabrous or densely papillate with trichomes to 0.3 mm, these longer at the middle than along margin. Seeds narrowly oblong, yellowish, 1.3–1.7 × 0.5–0.9 mm. Fl. and fr. Apr–Jun.

Sandy places; 400–3400 m. Xinjiang [Afghanistan, Kazakstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, Uzbekistan; SW Asia].

**2. Pachyterygium brevipes** Bunge, Delect. Seminum Hort. Bot. Dorpat. 1843: 8. 1843.

短梗厚壁芥 duan geng hou bi qi

*Isatis brevipes* (Bunge) Jafri; *Pachyterygium brevipes* var. *persicum* Boissier; *P. heterotrichum* Bunge; *Pachypteris persica* (Boissier) Parsa.

Herbs 8–20(–25) cm tall, glabrous and glaucous throughout except sometimes for fruit. Stems erect or ascending, several to many branched below and above. Basal leaves subsessile, soon withered; lowermost cauline leaves sessile, oblong-ovate, (1–)2–3.5 cm × 5–13(–20) mm, subfleshy, base auriculate or subamplexicaul, margin entire or repand, apex obtuse. Uppermost cauline leaves ovate-cordate, 0.5–3 cm × (1–)2–7(–10) mm, subfleshy, base subamplexicaul, margin entire, apex obtuse. Fruiting pedicels filiform, divaricate or reflexed, to 4 mm. Sepals yellowish, oblong, (0.6–)0.7–1 × ca. 0.4 mm. Petals yellow, oblanceolate or obovate, 1–2 × 0.3–0.7 mm, apex obtuse; claw absent. Filaments yellowish, 0.7–1.1 mm; anthers subglobose, 0.1–0.2 mm. Fruit subpyriform, 4–5 × 1.5–2 mm, base obtuse, apex truncate or subemarginate; valves glabrous or pubescent, papillate in the middle. Seeds narrowly oblong, yellowish, ca. 2 × 1 mm. Fl. and fr. Apr–Jun.

Xinjiang [Afghanistan, Kazakstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, Uzbekistan; SW Asia].

The above first record from China is based on *Regel s.n.*, 5 May 1877 (LE), collected from Xinjiang.

