

**1. BIEBERSTEINIA** Stephan, Mém. Soc. Imp. Naturalistes Moscou, ed. 2, 1: 89. 1811.

熏倒牛属 xun dao niu shu

Morphological characters and geographical distribution are the same as those of the family.

A third species, *Biebersteinia multifida* Candolle, reaches the eastern limit of its distribution near the western borders of China, and it is possible that it may yet be found in China. It is a species with a tuberous rhizome 2–4 cm in diam., 3-pinnatisect leaves with linear segments, and flowers in lax paniculate inflorescences.

All species of *Biebersteinia* possess a characteristic odor and are viscid to the touch. They all have medicinal properties and are used by the local people to some degree.

- 1a. Leaf blade 1-pinnatisect with obtuse lobes; inflorescence a short, few-flowered raceme; plants suffrutescent; base of stem densely covered with old petioles ..... 1. *B. odora*  
1b. Leaf blade 3-pinnatisect with linear segments; inflorescence long, many flowered; plants herbaceous; base of stem sometimes sparsely covered with old petioles ..... 2. *B. heterostemon*

**1. *Biebersteinia odora*** Stephan, Mém. Soc. Imp. Naturalistes Moscou, ed. 2, 1: 89. 1811.

高山熏倒牛 gao shan xun dao niu

*Biebersteinia emodi* Jaubert & Spach.

Plants ± suffrutescent, erect, with a pleasant odor when fresh. Rhizome stout, ca. 5 mm thick, upper part densely covered with withered remains of petioles. Stem 10–30 cm, few branched or unbranched. Leaves all nearly basal; stipules brown, lanceolate, 2- or 3-fid or -partite, pubescent glandular; leaf blade 6–14 cm at anthesis, 1-pinnatisect; segment pairs 12–18, sessile, 4–20 mm, pinnatifid or pinnatipartite into obtuse lobules. Inflorescences short, few-flowered racemes; bracts leaflike, ovate-oblong, 4–6 mm, margin often irregular; bracteoles 2, lanceolate-ovate, shorter than bracts. Flowers nodding at first, lower ones remote, ca. 1.2 cm wide; pedicel to 2 cm, glandular hairy. Sepals unequal, elliptic-oblong, 7–9 mm, glandular pubescent. Petals yellow, occasionally orange near base, suborbicular-obovate, 1.25–1.5 × as long as sepals, sparsely ciliate and strigose on inner surface, narrow at base. Filaments 5–6 mm, villous. Mericarps ca. 3 mm, strigose, rugose. Fl. Jul–Aug, fr. Sep–Oct.  $2n = 10^*$ .

Scree slopes, near glaciers, rocky and gravelly areas; (1600–) 4200–5600 m. W Xinjiang, SE and W Xizang [N India, Kashmir, Kazakhstan, Kyrgyzstan, Mongolia, N Pakistan, C Russia, Tajikistan].

**2. *Biebersteinia heterostemon*** Maximowicz, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 7, 11: 176. 1880.

熏倒牛 xun dao niu

Rhizome ca. 1 cm thick, upper part sparsely covered with withered remains of petioles. Stem erect, 0.4–1.2 m (to more than 2 m), moderately leafy, few branched. Stipules brown, semiovalate, to 1 cm, margin mostly erose-laciniate, apex obtuse; leaf blade lanceolate, to 25 × 6–8 cm, 3-subpinnatisect, bearing long simple hairs and small stipitate glands; segments ± linear, to 1 cm, apex subacute. Inflorescences long, many flowered; bracts leaflike, lanceolate, 1–1.5 cm, covered with simple hairs, rarely glabrous, margin entire, apex acuminate; bracteoles lanceolate, 2–4 mm, margin slightly hairy or glabrous, apex acuminate. Flowers often in fascicles of 2 or 3; pedicel 1–4 cm,

1–5 × as long as sepals, sparsely hairy or glandular. Sepals broadly ovate, ca. 7 × 5 mm, margin entire, apex obtuse to acute; outer sepals stipitate glandular and hairy toward base, inner ones subglabrous. Petals yellow, obovate, somewhat shorter than sepals, apex denticulate-undulate. Filaments hairy at base, in an annulus with 5 ovate lobes. Mericarps ca. 2.5 mm, slightly ru-

gose. Fl. May–Aug, fr. Jul–Sep.  $2n = 10^*$ .

- Hill slopes, loess slopes, meadows, gravelly areas along rivers; 1000–3500 m. Gansu, Ningxia, Qinghai, N and W Sichuan, ?E Xinjiang, E Xizang.

The species was reported from E Xinjiang by C. Y. Yang (Claves Pl. Xinjiang. 3: 212. 1985), who noted that no specimens had been seen. The authors have not been able to confirm this record.

