

19. **BIONDIA** Schlechter, Bot. Jahrb. Syst. 36 (Beibl. 82): 91. 1905.

秦岭藤属 qin ling teng shu

Lianas or twining herbs. Leaves linear to lanceolate, usually with minute, pale, adaxial dots. Inflorescences extra-axillary, with 1 to few, umbel-like, rarely elongated cymules. Sepals valvate, often with 5 basal glands. Corolla urceolate or campanulate, lobes valvate. Corona inserted at base of gynostegium, ringlike, shallowly 5-cleft or toothed. Filaments connate into a short tube; anther appendages incurved; pollinia 2 per pollinarium, oblong, pendulous. Stigma head discoid. Follicles usually 1, narrowly lanceolate in outline.

About 13 species: all endemic to China.

Biondia is closely related to *Cynanchum*. It is distinguished by the better-developed corolla tube and reduced, ringlike corona, which in dried material gives the gynostegium an appearance of being stalked. Most collections have narrow leaves adaxially with distinctive minute pale dots. *Biondia* is not well represented in herbaria, and species delimitation is uncertain.

- 1a. Corolla interior glabrous.
 - 2a. Leaf blade 1–1.5 mm wide; corolla ca. 2 mm 8. *B. longipes*
 - 2b. Leaf blade 7–15 mm wide; corolla 3–4.5 mm.
 - 3a. Corolla lobes 1/3–1/2 as long as tube; leaves 3–6 × 0.7–1 cm 1. *B. chinensis*
 - 3b. Corolla lobes less than 1/4 as long as tube; leaves 5–9 × 1–1.5 cm.
 - 4a. Inflorescences including flowers 1.5–2.5 cm; corolla broadly cylindric, ca. 2 mm wide 2. *B. hemsleyana*
 - 4b. Inflorescences including flowers less than 1 cm; corolla urceolate, ca. 1 mm wide at throat, broader below 3. *B. parviurnula*
- 1b. Corolla interior hairy.
 - 5a. Corolla tube clearly shorter than lobes.
 - 6a. Pedicel 2–5 mm; internodes uniformly minutely puberulent when young, later glabrescent; leaf veins mostly obscure, never pale and reticulate 11. *B. henryi*
 - 6b. Pedicel 10–15 mm; internodes with distinct lines of hairs; veins of older leaves becoming prominently pale and reticulate.
 - 7a. Abaxial leaf surface with 2 or 3 main lateral vein pairs at acute angles to midrib plus up to 6 minor lateral veins at ca. 90° to midrib 12. *B. insignis*
 - 7b. Abaxial leaf surface with lateral veins 5–7 pairs at ca. 45° to midrib, all similar 13. *B. laxa*
 - 5b. Corolla tube as long as or longer than lobes.
 - 8a. Corolla tube urceolate, clearly widest below throat.
 - 9a. Internodes puberulent along 1 side only; petiole 5–10 mm 4. *B. microcentra*
 - 9b. Internodes uniformly puberulent; petiole 1–2 mm 5. *B. yunnanensis*
 - 8b. Corolla tube cylindric or campanulate, widest at throat or with parallel sides.
 - 10a. Leaves to 13 mm wide; inflorescences with an umbel-like cyme; sepals glabrous 6. *B. tsiukowensis*
 - 10b. Leaves to 5 mm wide; inflorescences often with 2 cymules separated by a distinct rachis; sepals sparsely puberulent.
 - 11a. Corolla tube longer than lobes; cymules racemelike with short but distinct rachis 7. *B. crassipes*
 - 11b. Corolla tube as long as lobes; cymules umbel-like with rachis completely suppressed.
 - 12a. Stems hairy along 1 side only; pedicel 4–6 mm 9. *B. pilosa*
 - 12b. Stems minutely hairy along 2 sides; pedicel 7–9 mm 10. *B. revoluta*

1. ***Biondia chinensis*** Schlechter, Bot. Jahrb. Syst. 36 (Beibl. 82): 91. 1905.

• Mountain forests, roadsides, bottom of cliffs; 1600 m. Gansu, Shaanxi (In kia p'u (Lao y shan)).

秦岭藤 qin ling teng

More material is needed to determine if *Biondia chinensis* is distinct from *B. hemsleyana*.

Lianas to 2 m. Branches terete, slender, minutely pubescent along 2 lines. Leaves remote; petiole 3–5 mm; leaf blade lanceolate to linear-lanceolate, 3–6 cm × 7–10 mm, glabrescent; lateral veins flat, obscure. Cymules umbel-like, few flowered, sometimes 2 close together; peduncle 5–8 mm. Pedicel threadlike, 5–8 mm, minutely puberulent. Sepals ovate-elliptic. Corolla lobes 1/3–1/2 as long as tube, acute, erect, glabrous. Corona ringlike, rim shallowly 5-cleft. Anthers oblong-rhomboid, apex broadly triangular, subacute, inflexed; pollinia oblong, caudicles as long as pollinia, retinaculum half as long as pollinia. Follicles narrowly lanceolate, 5–7 cm × ca. 4 mm. Seeds linear, ca. 7 × 2 mm; coma ca. 1 cm. Fl. May, fr. Oct.

2. ***Biondia hemsleyana*** (Warburg) Tsiang, Sunyatsenia 6: 124. 1941.

宽叶秦岭藤 kuan ye qin ling teng

Gongronema hemsleyana Warburg in Schlechter & Warburg, Repert. Spec. Nov. Regni Veg. 3: 341. 1907.

Lianas to 2 m. Internodes glabrous. Petiole 5–7 mm, adaxially pubescent; leaf blade narrowly lanceolate, 5–9 × 1–1.5 cm, short acuminate or acute at both ends, margin sub-revolute; midvein pubescent and elevated abaxially, lateral veins obscure. Inflorescences sometimes branched at base to form small groups; cymes umbel-like, up to 7-flowered;

peduncle to 1 cm, sparsely puberulent. Pedicel to 9 mm, sparsely puberulent. Sepals ovate, ca. 1.5 mm, without basal glands. Corolla white, broadly cylindric, to 4.5 mm; lobes broadly triangular, ca. 0.5 mm. Corona ringlike, rim 5-toothed. Anther apex rounded; pollinia globose. Follicles linear-lanceolate, 5–6 cm × 3–5 mm. Seeds ovate-oblong, ca. 5 × 2 mm; coma ca. 2 cm. Fl. Apr-Sep, fr. Oct-Dec.

- Mixed woods; 1400–2000 m. Sichuan.

3. *Biondia parviurnula* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, *Novon* 5: 2. 1995.

小花秦岭藤 xiao hua qin ling teng

Herbs twining. Stems densely minutely puberulent along 2 sides. Petiole to 7 mm, adaxially puberulent; leaf blade lanceolate, to 6.5 × 2.2 cm, glabrous except for adaxially densely puberulent midrib, base rounded, apex acute-apiculate; lateral veins 3 or 4 pairs, slightly raised on both sides; upper leaves relatively narrower, ± elliptic to elliptic-oblong. Cymules solitary, umbel-like, ca. 4-flowered; peduncle ca. 2 mm, puberulent. Pedicel 1.5–2 mm, glabrous. Sepals lanceolate, ca. 1.5 × 0.7 mm, apex acute, pubescent, somewhat glabrescent. Corolla urceolate, 3–3.5 mm, pale purple inside, glabrous outside; tube ca. 2.5 × 2 mm, throat ca. 1.2 mm wide, sparsely hairy inside; lobes ovate, ca. 1.2 mm, apparently not revolute. Corona a collar covering bases of anthers, thin when dried. Stigma head conical.

- 800 m. Anhui (Bai Ma Zhai).

4. *Biondia microcentra* (Tsiang) P. T. Li, *J. S. China Agric. Univ.* 12(3): 39. 1991.

祛风藤 qu feng teng

Adelostemma microcentrum Tsiang, *Sunyatsenia* 2: 184. 1934; *Biondia elliptica* P. T. Li & Z. Y. Zhu.

Lianas, twining to 2 m. Stems, branches, petioles, and peduncles mostly pubescent along 1 side. Petiole 5–10 mm; leaf blade elliptic to oblong-lanceolate, 1–7 × 0.5–1.4(–2.3) cm, papery or nearly so, glabrous except for minutely puberulent midrib adaxially, base minutely rounded to cuneate.

6. *Biondia tsiukowensis* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, *Novon* 5: 3. 1995.

茨菇秦岭藤 ci gu qin ling teng

Internodes densely pubescent along 2 sides. Petiole ca. 6 mm, adaxially puberulent; leaf blade lanceolate, to 6 × 1.2 cm, adaxially with minute pale dots, glabrous except for minutely puberulent veins adaxially, base rounded, apex ± acute, subapiculate; lateral veins 5–7, adaxially slightly raised, at an acute angle to midrib. Inflorescences shorter than leaves; cymules apparently solitary, umbel-like; peduncle 0.2–1.8 cm, subglabrous. Pedicel to 1.1 cm. Sepals ovate, ca. 1.4 × 0.7 mm, glabrous. Corolla tube campanulate, ca. 2.3 mm, longer than lobes; lobes triangular-acuminate, ca. 2 × 1.4 mm, minutely puberulent inside. Corona lobes ± square, reaching base of anthers. Gynostegium ca. 1.4 mm high; pollinia cylindric, as long as corpusculum.

- 2400 m. Yunnan (Tsiu kow).

apex acuminate; lateral veins 4–7 pairs, usually obscure. Inflorescences shorter than leaves; cymules usually solitary, 4–9-flowered; peduncle (1.5–)4–13(–23) mm. Pedicel (1.7–)3–4(–12) mm. Sepals lanceolate, 1.6–3 × 0.8–1 mm, apex acute, pubescent; basal glands 5. Corolla yellowish white with “purplish” interior, cylindric-urceolate; tube (2.5–)3.5–4 mm, pubescent inside; lobes oblong-lanceolate or oblong-elliptic, 1.2–2 × ca. 1 mm. Corona minute, ringlike. Anther appendages rounded, incurved; pollinia ± cylindric, slightly curved, ca. 0.4 mm, as long as corpusculum, caudicels short and rigid. Stigma head round/conical, obscurely 2-lobed; ovaries glabrous. Follicles oblong-lanceolate, 8–12 cm × 5–7 mm. Seeds oblong, ca. 6 × 2 mm, flat; coma to 3 cm. Fl. Apr-Jul.

- Open woods, thickets. 800 m. Anhui, Sichuan, ?Yunnan, Zhejiang.

A decoction of all parts is used as a febrifuge and for the treatment of rheumatism and internal fever.

5. *Biondia yunnanensis* (H. Léveillé) Tsiang, *Sunyatsenia* 6: 126. 1941.

短叶秦岭藤 duan ye qin ling teng

Dischidia yunnanensis H. Léveillé, *Cat. Pl. Yun-Nan* 14. 1915; *Adelostemma mairei* Handel-Mazzetti.

Lianas to 1 m. Stems gray; branches green, uniformly puberulent. Petiole 1–2 mm; leaf blade narrowly oblong to linear-lanceolate, 2–3.5 cm × 3–7 mm, fleshy, glabrous, base rounded, margin revolute, apex rounded-apiculate to acute; lateral veins invisible abaxially, raised adaxially. Inflorescences shorter than leaves; cymules solitary, 4–6-flowered; peduncle 4–10 mm, glabrescent. Pedicel 3–5 mm, glabrous. Sepals ovate-oblong, puberulent, basal glands 5. Corolla yellow or white, urceolate, 3–3.5 mm, densely pubescent inside, otherwise glabrous; lobes oblong, ca. half as long as tube. Corona 5-toothed. Anther appendages orbicular; pollinia oblong. Stigma head conical. Follicles lanceolate in outline, ca. 9 cm × 5–6 mm. Seeds ovate; coma ca. 1.3 cm. Fl. Jun-Sep, fr. Oct.

- Montane forests; 2000–2500 m. Henan, Sichuan, Yunnan.

7. *Biondia crassipes* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, *Novon* 5: 2. 1995.

厚叶秦岭藤 hou ye qin ling teng

Internodes puberulent along 2 sides and at nodes. Petiole 2–4 mm, adaxially densely puberulent; leaf blade linear-oblong, to 5 cm × 3 mm, base cuneate, apex acute; midvein raised adaxially, lateral veins obscure, glabrous. Inflorescences 2–3.5 cm; cymules mostly 2, separated by rachis ca. as long as pedicels; rachis of cymules slightly elongated, ± fleshy, very sparsely puberulent. Pedicel 6–10 mm. Sepals elliptic, ca. 1.5 × 0.6 mm, sparsely puberulent. Corolla apparently green, campanulate, ca. 2.5 mm, glabrous outside, minutely hairy inside, hairs short, stiff, white; tube ca. 1.5 mm; lobes triangular, revolute, twisted. Corona reduced to inconspicuous collar concealing bases of anthers. Pollinia oblong-reniform. Follicles solitary, narrowly fusiform, ca. 5.5 cm × 4 mm.

- 2700 m. Xizang

8. *Biondia longipes* P. T. Li, Bull. Bot. Res., Harbin 3(1): 106. 1983.

长序梗秦岭藤 chang xu geng qin ling teng

Lianas to 1.5 m. Stems, branches, and petioles pubescent along 1 line. Petiole 1–1.5 mm; leaf blade linear, 3–7 cm × 1–2 mm, thin papery, glabrous, base subcordate, apex acute; midvein puberulent, elevated; lateral veins obscure. Cymes extra-axillary, shorter than leaves, 3–12-flowered, up to 3 together; peduncle 1.5–3 cm, glabrous. Pedicel slender, 6–10 mm. Sepals puberulent, basal glands 5. Corolla subcampanulate, glabrous; tube ca. 1 mm; lobes oblong, as long as tube, acute. Corona short 5-toothed. Pollinia reniform. Ovaries oblong, glabrous. Fl. May.

- Thickets; 2500 m. Sichuan (Kangding).

9. *Biondia pilosa* Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 112. 1974.

宝兴藤 bao xing teng

Lianas to 1.5 m. Stems, branches, petioles, and peduncles pubescent along 1 side. Petiole 2–4 mm; leaf blade linear to linear-lanceolate, 2.5–7 cm × ca. 5 mm, thin papery, glabrous except for puberulent midvein, acuminate at both ends; lateral veins 5–7 pairs, slightly elevated abaxially. Inflorescences shorter than leaves; cymules umbel-like, 4–6-flowered, solitary or 2 separated by rachis almost as long as peduncle; peduncle to 3 cm. Pedicel slender, 4–6 mm. Sepals lanceolate, ca. 1 × 0.5 mm, pubescent, basal glands 5. Corolla subcampanulate, glabrous outside, pubescent inside; tube ca. 2 mm; lobes oblong, up to as long as tube. Corona ringlike, rim truncate or subundulate. Anther appendages orbicular; pollinia oblong. Fl. Jun.

- Mixed woods along stream banks; 2700 m. Sichuan (Baohsien), Yunnan (Likiang).

10. *Biondia revoluta* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, Novon 5: 3. 1995.

卷冠秦岭藤 juan guan qin ling teng

Cheng & Feng (Bull. Bot. Lab. North-East. For. Inst. 8(8): 2. 1980) described material from Anhui and Zhejiang as var. *longipedunculata*, but the name is invalid because the authors failed to designate a type.

12. *Biondia insignis* Tsiang, Sunyatsenia 4: 106. 1939.

黑水藤 hei shui teng

Lianas to 1 m. Branches and petioles pubescent along 1 line. Petiole ca. 1 cm; leaf blade linear-lanceolate to lanceolate, 3–7 cm × 3–15 mm, glabrous except for minute hairs along margin and midrib adaxially, base cuneate to obtuse, apex acuminate to acute; major lateral veins 2 or 3 pairs at an acute angle to midrib and up to 6 pairs of minor veins at a wider angle; older leaves with reticulate abaxial veins thickened and ± white. Cymule solitary, umbel-like, 4–6-flowered; peduncle 0.6–4 cm, slender, glabrous. Pedicel 8–10 mm, glabrous. Sepals ovate; glands absent. Corolla green, 5–6 mm in diam.; tube bowl-shaped, 1.2–2 mm; lobes ovate-oblong,

Stems hairy along 2 sides. Petiole to 3.5 mm, puberulent; leaf blade linear-oblong, to 2.8–6 cm × 4–6 mm, probably rather fleshy when fresh, glabrous except for midrib adaxially, base ± rounded, margin strongly revolute, apex subacute, apiculate; lateral veins not raised, underside distinctly paler, wrinkled when dried. Cymules umbel-like, 2–4-flowered, solitary or 2 separated by rachis to 5 mm, puberulent; peduncle to 1–1.5 cm, hairy along 1 side. Pedicel to 7–9 mm, glabrous. Sepals ovate, 0.7–1 × 0.5–0.7 mm, sparsely puberulent, apex acute. Corolla campanulate, inside minutely puberulent, 2.5–3.5 mm; lobes ovate, ca. 1.5 × 1.5 mm, apex rounded, subrevolute. Corona annular, obscurely 5-toothed.

- “Arid region”; 3000 m. ?Gansu, E Xizang/NW Yunnan (Tung-chu-ling).

11. *Biondia henryi* (Warburg ex Schlechter & Diels) Tsiang & P. T. Li, Acta Phytotax. Sin. 12: 114. 1974.

青龙藤 qing long teng

Cynanchum henryi Warburg ex Schlechter & Diels in Diels, Bot. Jahrb. Syst. 29: 542. 1900.

Lianas to 2 m. Stems slender, glabrous or sparsely puberulent when young. Petiole ca. 3 mm; leaf blade lanceolate, 3–5.2 × 0.5–1.2(–2) cm, thin papery, glabrescent; lateral veins obscure, 2 lower veins visible in younger leaves, at acute angle to midrib. Cymules usually solitary, umbel-like; peduncle slender, 0.5–1.5(–3) cm, glabrescent. Pedicel 2–5 mm. Sepals lanceolate, ca. 1.2 × 0.6 mm, pubescent, basal glands 5. Corolla glabrous outside, puberulent inside; tube bowl-shaped, ca. 1.2 mm; lobes ovate-triangular, ca. 1.7 × 2 mm, patent. Corona ringlike, 5-toothed; teeth triangular, acute. Anther appendages orbicular; pollinia oblong, caudicles inflexed ascending. Ovaries glabrous. Follicles narrowly lanceolate, 5–6 cm × 3–4 mm. Seeds oblong; coma to 2 cm. Fl. Apr–Jul, fr. Jul–Oct.

- Open woods, thickets; 1200 m. Anhui, Fujian, Jiangxi, Sichuan, Zhejiang.

ca. 1.7 × 1 mm, rotate, short pilose or glabrous inside. Corona ringlike, rim shallowly 5-cleft. Anthers orbicular; pollinia oblong, ovaries glabrous. Follicles narrowly lanceolate, ca. 8 cm × 4 mm. Seeds oblong-elliptic, ca. 8 × 2 mm; coma ca. 2.5 cm. Fl. Jun–Aug, fr. Aug–Oct.

- Mixed forests; 200–2900 m. Guizhou, Hunan, Sichuan, Xizang, Yunnan.

13. *Biondia laxa* M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, Novon 5: 2. 1995.

杯冠秦岭藤 bei guan qin ling teng

Lianas with densely pubescent internodes along 1 side. Petiole to 7 mm; leaf blade lanceolate, ca. 5 × 1.8 cm, glabrous, base rounded, apex acute; lateral veins 5–7 pairs, adaxially slightly raised and minutely puberulent. Inflorescences lax; cymules umbel-like, glabrous, up to 3 along zigzag rachis to 1.7 cm; peduncle to 2.5 cm, glabrous. Pedicel

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ca. 1 cm, very slender. Sepals ovate, ca. 1×0.5 mm, glabrous. Corolla tube bowl-shaped, ca. 1 mm, much shorter than lobes; lobes triangular-acuminate, ca. 2.5 mm, very minutely puberulent, apex twisted. Corona lobes rounded, to base of anthers.

- Yunnan (Ouei cha).

Flora of China 16: 223–226. 1995.