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95. BRACHYPODIUM P. Beauvois, Ess. Agrostogr. 100. 1812.

短柄草属 duan bing cao shu

Description and distribution as for tribe.

1a. Annual; spikelets laterally compressed; anthers 0.5–1 mm ..... 1. *B. distachyon*
1b. Perennial; spikelets subterete; anthers 3–5 mm.
2a. Raceme with 1–3 spikelets; culms 10–30 cm tall; leaf blades needle-like ..... 2. *B. kawakamii*
2b. Raceme with 3–6(–15) spikelets; culms usually more than 30 cm tall; leaf blades linear.
3a. Lemmas of all florets with 1–6 mm awn; plant with spreading rhizomes ..... 3. *B. pinnatum*
3b. Lemmas of upper florets with 5–14 mm awn; plant without rhizomes.
4a. Pedicels of spikelets less than 2 mm ..... 4. *B. sylvaticum*
4b. Pedicels of spikelets 2–5.5 mm ..... 5. *B. pratense*

1. Brachypodium distachyon (Linnaeus) P. Beauvois, Ess. Agrostogr. 155. 1812.

二穗短柄草 er sui duan bing cao

Bromus distachyos Linnaeus, Cent. Pl. 2: 8. 1756; *Agropyron distachyon* (Linnaeus) Chevallier; *Festuca distachya* (Linnaeus) Roth; *Trachynia distachya* (Linnaeus) Link; *Zerna distachya* (Linnaeus) Panzer ex B. D. Jackson.

Annual. Culms tufted, usually ascending, infrequently erect, up to 15(–40) cm tall. Leaf sheaths loosely to densely pilose; leaf blades lanceolate, flat, rather stiff, glaucous, 1–12 cm, 3–4 mm wide, loosely pilose, margins scabrous-pectinate, apex acuminate; ligule ca. 1 mm. Raceme 2–4 cm, spikelets 1–3 crowded at apex of peduncle. Spikelets 2–3 cm, laterally compressed, florets 10–16; glumes pilose or glabrous, apex acute, lower glume lanceolate, 5–6 mm, 5-veined, upper glume lanceolate-oblong, 7–8 mm, 7-veined; lemmas 7.5–10 mm, glabrous, thinly setose or pubescent; awn 7–15 mm. Anthers 0.5–1 mm.

Dry stony places. Xizang (Mainling) [Afghanistan, Pakistan, Tajikistan, Turkmenistan; N Africa, SW Asia, S Europe; introduced elsewhere].

2. Brachypodium kawakamii Hayata, Bot. Mag. (Tokyo) 21: 51. 1907.

川上短柄草 chuan shang duan bing cao

Perennial. Culms densely tufted, very slender, wiry, 10–30 cm tall, fasciculately branched, many-noded. Leaf sheaths smooth, glabrous; leaf blades convolute, needle-like, stiff, 5–9 cm, 1–2 mm wide, abaxial surface glabrous, adaxial surface minutely pubescent with scattered longer hairs; ligule 0.5–1 mm. Raceme composed of 1–3 fertile spikelets with 1 or 2 vestigial spikelets below them. Spikelets 2.5–3 cm, subterete, florets 5–9; glumes glabrous or pubescent, lower glume narrowly lanceolate, 6–10 mm, 5–7-veined, apex acute, upper glume lanceolate, 10–13 mm, 7–9-veined, apex with a short hard mucro; lemmas lanceolate, 10–12 mm, densely pubescent, prominently 7-veined; awn 3–7 mm. Anthers ca. 3 mm. Fl. and fr. Jul–Nov.

● Exposed rocky mountainsides; ca. 3000 m. Taiwan.

3. Brachypodium pinnatum (Linnaeus) P. Beauvois, Ess. Agrostogr. 155. 1812.

羽状短柄草 yu zhuang duan bing cao

Bromus pinnatus Linnaeus, Sp. Pl. 1: 78. 1753; *Agropyron pinnatum* (Linnaeus) Chevallier.

Perennial with widely spreading slender rhizomes. Culms tufted, 30–40(–120) cm tall, unbranched, 3–8-noded. Leaf sheaths glabrous or pubescent; leaf blades linear, flat, pale green, 5–15(–40) cm, 3–8 mm wide, pubescent or scabrous on both surfaces; ligule 1.5–2.5 mm, margin ciliate. Raceme 5–20 cm, usually erect, spikelets 4–15; pedicels 1–2 mm. Spikelets 1.8–4 cm, subterete, florets 8–24; glumes lanceolate or oblong-lanceolate, 3–6-veined, glabrous or thinly pubescent, acute, lower glume 3–5(–6) mm, upper glume 5–7(–8) mm; lemmas oblong-lanceolate, 7–11 mm, pubescent above middle and near margins, prominently 7-veined; awn 1–6 mm. Anthers 3–3.5 (–5) mm.

Grassy mountainsides. Nei Mongol, Shanxi, W Xizang, Yunnan (Zhaotong, Huize) [Kazakhstan, Kyrgyzstan, Mongolia, Russia; N Africa, SW Asia, Europe; introduced in North America].

4. Brachypodium sylvaticum (Hudson) P. Beauvois, Ess. Agrostogr. 101. 1812.

短柄草 duan bing cao

Festuca sylvatica Hudson, Fl. Angl. 1: 38. 1762; *Agropyron sylvaticum* (Hudson) Chevallier; *Brachypodium formosanum* Hayata; *B. hayatanum* Honda; *B. kelungense* Honda; *B. manshuricum* Kitagawa; *B. sylvaticum* var. *breviglume* Keng ex P. C. Keng; *B. sylvaticum* var. *gracile* (Weigel) Keng; *B. sylvaticum* var. *kelungense* (Honda) C. C. Hsu; *B. sylvaticum* subsp. *luzoniense* Hackel; *B. sylvaticum* var. *luzoniense* (Hackel) H. Hara; *Brevipodium sylvaticum* (Hudson) Á. Löve & D. Löve; *Bromus gracilis* Weigel; *B. sylvaticus* (Hudson) Lyons; *Triticum sylvaticum* (Hudson) Moench.

Perennial. Culms loosely tufted, erect, slender, (20–)40–90 cm tall, 3–7-noded. Leaf sheaths sparsely to densely pilose, or sometimes glabrous; leaf blades linear, usually flat, mid or dark green, 8–35 cm, 3–9 mm wide, glabrous to pilose on one or both surfaces, or hispid along veins; ligule 0.5–2 mm. Raceme 8–12 cm, suberect or nodding, spikelets 3–9; pedicels less than 2 mm. Spikelets 1.5–3 cm, subterete, florets 5–12; glumes lanceolate, glabrous, pubescent or scabrous on veins, apex acumi-

nate or midvein extended into awn-point, lower glume 3–10 mm, 3–7-veined, upper glume 5–14 mm, 5–9-veined; lemmas 7–14 mm, pilose or hispid on margins and upper back, sometimes sparsely, or glabrous throughout; awn 5–14 mm. Anthers 2.5–5 mm. Fl. and fr. Jul–Sep.

Mountain slopes, understory of forests. Anhui, Gansu, Guizhou, Jiangsu, Liaoning, Qinghai, Shaanxi, Sichuan, Taiwan, Xinjiang, Xizang, Yunnan, Zhejiang [Bhutan, N India, Indonesia, Japan, Kyrgyzstan, Nepal, Pakistan, Philippines, Russia, Tajikistan, Turkmenistan, Uzbekistan; N Africa, SW Asia, Europe].

This species is the most widespread in the genus and is extremely polymorphic throughout its range. This has resulted in the description of many infraspecific variants. These are usually based on differences in pubescence of the vegetative parts and spikelets, but these characters are extremely plastic. The relative size of the spikelet parts is also variable and of doubtful taxonomic significance.

The name *Brachypodium sylvaticum* var. *kelungense* is based on specimens from Taiwan with mucronate glumes, but these are found throughout the range of the species. Spikelets with acute and mucronate glumes may even occur in the same raceme. The name *B. sylvaticum* var. *gracile* has been applied to small forms in China, but it is based on a type from Germany, and such specimens are probably only depauperate. Thus, while phenotypic variants may appear very different, the characters on which they are based occur in all combinations throughout the range of the species, making the recognition of infraspecific taxa very uncertain. No detailed comparison has ever been made between the European and E Asian populations.

In tropical SE Asia *Brachypodium sylvaticum* occurs only on mountains.

5. Brachypodium pratense Keng ex P. C. Keng, Acta Bot. Yunnan. 4: 278. 1982.

草地短柄草 cao di duan bing cao

Perennial. Culms tufted, erect or geniculate at base, slender, up to 90 cm tall, 3–5-noded. Leaf sheaths glabrous or pilose; leaf blades linear, flat, 10–18 cm, 3–8 mm wide, abaxial surface glabrous, adaxial surface pilose with scattered hairs; ligule ca. 2 mm. Raceme 10–15 cm, spikelets 3–6; pedicels 2–3(–5.5) mm. Spikelets 2.2–4 cm, florets 10–18, glumes lanceolate, glabrous, apex acuminate, lower glume 4–7 mm, usually 5-veined, upper glume 7–9 mm, 7-veined; lemmas 9–10 mm, smooth, glabrous, 7-veined, the veins prominent toward apex; awn 5–8 mm. Anthers ca. 4 mm. Fl. and fr. autumn.

● Grasslands. W Sichuan, NW Yunnan (Lijiang).

Brachypodium sylvaticum var. *wattii* (Clarke) J. D. Hooker, from the Naga Hills in NE India, has pedicellate spikelets like *B. pratense*, but differs in its pubescent lemmas. *Brachypodium pratense* is probably also a local variant of the extremely polymorphic *B. sylvaticum*.

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