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119. DANTHONIA Candolle in Lamarck & Candolle, Fl. Franç., ed. 3, 3: 32. 1805, nom. cons.

扁芒草属 bian mang cao shu

Wu Zhenlan (吴珍兰); Sylvia M. Phillips

Sieglingia Bernhardi, nom. rej.

Perennial. Culms tufted, erect, cleistogenes often present in culm sheaths. Leaf blades narrow, flat or rolled; ligule a line of hairs. Inflorescence an open or contracted panicle, sometimes reduced to a raceme. Spikelets large, wedge-shaped, laterally compressed, florets several, rachilla disarticulating above glumes and between florets; glumes subequal, as long as spikelet, membranous or papery, (1–)3–9-veined; floret callus short, obtuse; lemmas herbaceous or papery, 7–9-veined, pilose on margins or all over, apex 2-lobed, lobes acute or extended into slender awns; central awn arising from sinus, flat, column short, strongly twisted, bristle straight or sparsely twisted; palea equal to or shorter than its lemma. Lodicules 2, glabrous. Caryopsis with linear hilum up to 2/3 its length.

About 20 species: Asia, Europe, North and South America; two species in China.

Danthonia had a much broader circumscription in the past, including many species now placed in *Rytidosperma*. Species of *Rytidosperma* lack cleistogenes, and also differ from the above description in having lemma hairs in tufts, ciliate lodicules, and a punctiform hilum. Modern molecular studies have shown these two genera belong to different evolutionary lines. It is likely that the Himalayan species will be shown to be members of *Rytidosperma*, but some morphological characters are intermediate and the species have not yet been included in any molecular analysis. Further research is required to clarify their position.

1a. Glumes 10–12 mm, entire; lemma bifid to middle or below, tufts of hair at base of lobes; anthers 1.2–1.5 mm ..... 1. *D. cachemyriana*

1b. Glumes (10–)13–25 mm, denticulate or mucronate; lemma bifid above middle, variably hairy on upper back and margins, hairs not or indistinctly tufted; anthers 3–5.5 mm ..... 2. *D. cumminsii*

1. Danthonia cachemyriana Jaubert & Spach, Ill. Pl. Orient. 4: 46. 1851.

喀什米尔扁芒草 ka shi mi er bian mang cao

Danthonia exilis J. D. Hooker.

Small densely tufted perennial, roots fibrous, basal sheaths soft, gray-brown. Culms up to 25 cm tall, cleistogenes absent. Leaf blades filiform, up to 6 cm, ca. 1 mm wide, glabrous, adaxial surface scabrous. Inflorescence a short contracted panicle or raceme, 2–4 cm; branches and pedicels scaberulous-puberulous. Spikelets with 3–5 florets; glumes 10–12 mm, pale green or purple-tinged, narrowly lanceolate, glabrous, acuminate; callus villous; lemma elliptic, deeply bifid to middle or below, 2.2–2.5 mm (to awn base), 5–7-veined, sparsely to densely pilose on back and tufts of hairs between veins across base of lobes, ciliate on margins, lobes long-acuminate into slender awns; central awn up to 1.5 cm with brown column, awns of lobes 4–5.5 mm. Anthers 1.2–1.5 mm. Lodicules ciliate, hairs ca. 0.5 mm. Caryopsis narrowly obovoid, ca. 1.5 mm; hilum linear-oblong, 2/5 caryopsis length. Fl and fr. Jul–Sep.

Rock crevices; 3800 m. Xizang [E Afghanistan, Kashmir, N Pakistan].

This is a grass of the NW Himalayas from the Hindu Kush to Kashmir.

2. Danthonia cumminsii J. D. Hooker, Fl. Brit. India 7: 282. 1896 ["1897"].

扁芒草 bian mang cao

Danthonia cachemyriana Jaubert & Spach var. *minor* J. D. Hooker; *D. schneideri* Pilger; *D. schneideri* var. *minor* (J. D. Hooker) Karthikeyan.

Tussocky perennial from a woody rootstock, basal sheaths leathery, yellowish. Culms 15–60 cm tall, cleistogenes absent. Leaf blades filiform, stiff, up to 35 cm, 1–2 mm wide, glabrous or abaxial surface pubescent. Inflorescence variable, 3–15 cm, a dense, narrow, many-spiculate panicle ranging to a few-spiculate raceme; branches and pedicels puberulous, sometimes a ring of hairs below spikelet. Spikelets with 4(–6) florets spaced on a filiform rachilla; glumes (10–)13–20 mm, gray-green or purple-tinged, elliptic-lanceolate, sometimes thinly hairy, denticulate or mucronate; callus villous; lemma elliptic, bifid above middle, often in upper 1/3, 4.2–8 mm (to awn base), 7–9-veined, thinly hairy on upper margins and across upper back or fringed on margins, hairs sometimes weakly tufted, infrequently short hairs also on lower back or marginal tufts toward base, lobes acuminate into slender awns; central awn 1.5–2.5 cm with dark brown column, awns of lobes 4.5–8 mm. Anthers 2.8–4.5 mm. Lodicules ciliate, hairs ca. 1 mm. Caryopsis narrowly elliptic-oblong, ca. 3 mm; hilum linear, 7/8 caryopsis length. Fl. and fr. May–Oct.

Alpine steppe-meadows, upland forests and stony ground near streams; 3000–4500 m. Sichuan, Xizang, Yunnan [Bhutan, N India, Nepal, Pakistan].

This is a very variable species, especially in spikelet size and lemma indumentum, but it is not easily divided into infraspecific taxa. Small-spiculate forms with purple glumes and larger, pallid forms sometimes grow together.

This is an important component of alpine pasture, providing good forage for yaks.

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