

107. EREMOPYRUM (Ledebour) Jaubert & Spach, *Ann. Sci. Nat., Bot.*, sér. 3, 14: 360. 1851.

旱麦草属 han mai cao shu

Triticum [unranked] *Eremopyrum* Ledebour, *Fl. Altaic.* 1: 112. 1829.

Plants annual. Culms erect or geniculate-ascending. Leaf sheath split to base; leaf blade usually flat. Spike ellipsoid-ovoid or cylindrical-ovoid, very dense; rachis short, disarticulating at nodes. Spikelets 1 per node, held at nearly 90° to rachis, sessile, laterally compressed, with 3–6 florets; rachilla somewhat scabrous or shortly pilose, with or without joints below each floret. Glumes boat-shaped, leathery, with prominent keel, margin somewhat thickened, ultimately subhorny. Lemma leathery, 5-veined, 1-keeled, apex pointed or shortly awned; callus very short. Palea usually almost 2/3 as long as lemma, scabrous or pilose along keels. Lodicules ciliate at margin. Caryopsis somewhat adherent to lemma and palea. $x = 7$.

About eight species: from N Africa and the Mediterranean region to the W Himalayas; four species in China.

All species are valuable fodder plants for ephemeral spring pastures.

1a. Spikelets villous or hairy.

2a. Spikelets 12–15 mm; leaf sheath not inflated on upper leaves, or slightly dilated on uppermost leaf 3. *E. bonaepartis*

2b. Spikelets 6–10 mm; leaf sheath inflated on upper leaves 4. *E. triticeum*

1b. Spikelets glabrous or scabrous.

3a. Spikelets 9–14 mm; glumes linear-lanceolate; lemma pubescent; palea keels prolonged into 2 short, blunt teeth; leaf sheath slightly inflated on upper leaves 1. *E. orientale*

3b. Spikelets 13–17 mm; glumes linear; lemma long villous; palea keels prolonged into 2 awned teeth 0.5–1.5 mm; leaf sheath slightly dilated but not inflated on uppermost leaf 2. *E. distans*

1. Eremopyrum orientale (Linnaeus) Jaubert & Spach, *Ann. Sci. Nat., Bot.*, sér. 3, 14: 361. 1851.

东方旱麦草 dong fang han mai cao

Secale orientale Linnaeus, *Sp. Pl.* 1: 84. 1753; *Agropyron orientale* (Linnaeus) Roemer & Schultes; *Costia orientalis* (Linnaeus) Willkomm; *Triticum orientale* (Linnaeus) M. Bieberstein (1808), not Percival (1921).

Culms geniculate at nodes, 8–25 cm tall, usually 3-noded, pubescent below spike. Leaf sheath scabrous and puberulent on lower leaves, glabrous and slightly inflated on upper leaves; leaf blade green, flat, 2–5 × 0.2–0.4 cm, both surfaces pubescent, adaxial surface also shortly pilose along veins. Spike ellipsoid-ovoid, 1.5–3 × 0.8–1.6(–1.8) cm. Spikelets green, 9–14 mm, with 3–5 florets, villous. Glumes linear-lanceolate, laterally strongly compressed, asymmetric, contorted, nearly as long as spikelet including awns, keeled, with 2 or 3 distinct lateral veins, apex long acuminate with awn 4–6 mm. Lemma lanceolate, pubescent, apex gradually tapering to scabrous awn 4–5 mm; first lemma 6–7 mm excluding awn. Palea slightly shorter than or equaling lemma, sparsely shortly ciliate along keels; keels prolonged into 2 short, blunt teeth. Fl. and fr. Apr–May.

Wooded steppes, dry barren slopes, sands; 500–1600 m. Nei Mongol, Xinjiang, Xizang [Kazakhstan, Kyrgyzstan, Pakistan, Russia, Turkmenistan, Uzbekistan; Mediterranean region].

This is an excellent spring pasture grass for all kinds of animals.

2. Eremopyrum distans (K. Koch) Nevski, *Trudy Sredne-Aziatsk. Gosud. Univ.*, Ser. 8b, Bot. 17: 52. 1934.

毛穗旱麦草 mao sui han mai cao

Agropyron distans K. Koch, *Linnaea* 21: 426. 1848; *A. lasianthum* Boissier; *A. orientale* (Linnaeus) Roemer & Schultes subsp. *distans* (K. Koch) Maire; *A. orientale* var. *lasian-*

thum (Boissier) Boissier; *Eremopyrum orientale* (Linnaeus) Jaubert & Spach var. *lasianthum* (Boissier) Maire; *Triticum lasianthum* (Boissier) Steudel.

Culms usually geniculate at base, 14–20 cm tall, hairy below spike. Leaf sheath slightly dilated but not inflated on uppermost leaf; leaf blade green, flat, 3–5 × 0.2–0.3 cm, scabrous, abaxial surface pubescent, adaxial surface shortly pilose. Spike oblong lobed or oblong-ovoid, 2–5.5 × 1.5–2.5 cm. Spikelets green or slightly purple tinged, 13–17 mm, with 3–5 florets, villous. Glumes linear, laterally strongly compressed, slightly contorted, equaling spikelet including awn, keeled, apex gradually tapering to slender, scabrous awn 6–8 mm. Lemma long villous, apex gradually tapering to slender, scabrous awn 5–7 mm. Palea apex acuminate; keels prolonged into 2 awned teeth 0.5–1.5 mm. Anthers yellow, ca. 1.5 mm. Fl. and fr. May–Jun. $2n = 14$.

Wooded steppes, arid areas; ca. 800 m. Xinjiang [Afghanistan, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Turkmenistan, Uzbekistan; Europe].

3. Eremopyrum bonaepartis (Sprengel) Nevski, *Trudy Sredne-Aziatsk. Gosud. Univ.*, Ser. 8b, Bot. 17: 52. 1934 [“*Buona-partis*”].

光穗旱麦草 guang sui han mai cao

Triticum bonaepartis Sprengel, *Erster Nachtr. Bot. Gart. Halle*, 40. 1801; *Agropyron bonaepartis* (Sprengel) T. Durand & Schinz; *A. patulum* Trinius, nom. illeg. superfl.; *A. turkestanicum* Gandoger; *Eremopyrum bonaepartis* var. *turkestanicum* (Gandoger) Tzvelev; *Triticum patulum* Willdenow, nom. illeg. superfl.

Culms geniculate and somewhat purple tinged near base, 5–30 cm tall, pubescent below spike. Leaf sheath not inflated on upper leaves, or slightly dilated on uppermost leaf, glabrous

or rarely puberulent, scabrous; leaf blade green, 0.2–0.5 cm wide, scabrous. Spike green or faintly colored, ovoid lobed, 2–4.5 × 1.5–2.5(–2.8) cm. Spikelets divergent, pectinately arranged, closely pressed to each other, lax at maturity, 12–15 mm, with 3–5 florets, glabrous. Glumes linear, laterally strongly compressed, 9–14 mm, shorter than spikelet, apex gradually tapering to subulate tip. Lemma linear-lanceolate, 12–14 mm, glabrous, apex gradually tapering to awn 1.5–3 mm. Palea shorter and narrower than lemma, shortly thickly ciliate along keels, apex 2-dentate. Fl. and fr. Apr–May.

A weed in desert and semi-desert zones. Xinjiang [Kazakhstan, Kyrgyzstan, Pakistan, Russia, Turkmenistan, Uzbekistan; E Mediterranean region].

4. *Eremopyrum triticeum* (Gaertner) Nevski, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 17: 52. 1934.

旱麦草 han mai cao

Agropyron triticeum Gaertner, Novi Comment. Acad. Sci.

Imp. Petrop. 14: 539. 1770; *A. prostratum* (Pallas) P. Beauvois; *Eremopyrum prostratum* (Pallas) P. Candargy; *Secale prostratum* Pallas; *Triticum prostratum* (Pallas) Linnaeus f.

Culms geniculate at base, 10–30 cm tall, 3- or 4-noded, puberulent below spike. Leaf sheath inflated on upper leaves, glabrous or puberulent at base; ligule 0.5–1 mm, membranous, apex truncate; leaf blade thin, flat, 1.5–8 × 0.2–0.3 cm, both surfaces scabrous or sparsely puberulent. Spike ellipsoid-ovoid or subglobose, contracted, dense, 1–1.7(–2) × 0.6–1.6 cm. Spikelets closely imbricate, green, 6–10 mm, with 3–6 florets, glabrous. Glumes lanceolate, 4–6 mm, thickly keeled, glabrous, apex subulate. Lemma scabrous but first lemma ± puberulent, 5–6 mm, apex acuminate or with short awn 1–1.5 mm; callus ca. 0.4 mm. Palea shorter than lemma, apex 2-dentate. Fl. and fr. Apr–May.

Wooded and grassy steppes, dry slopes, semideserts, sands, pebbles, alkaline and saline soils; 800–1400 m. Nei Mongol, Xinjiang [Kazakhstan, Kyrgyzstan, Russia, Turkmenistan, Uzbekistan; Europe].

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