

93. **ALOPECURUS** Linnaeus, Sp. Pl. 1: 60. 1753.

看麦娘属 kan mai niang shu

Lu Shenglian (卢生莲); Sylvia M. Phillips

Annual or perennial. Leaf blades linear, flat; ligule membranous. Inflorescence a spike-like panicle, densely cylindrical, spikelets numerous, closely packed; pedicels very short, apices cuplike. Spikelets protogynous, strongly laterally compressed, floret 1, falling entire from pedicel; rachilla extension absent; glumes equal, ± equaling and enclosing floret, broadly lanceolate to oblong, membranous to thinly leathery, prominently 3-veined, strongly keeled, keel usually ciliate, infrequently winged, lower margins almost free or connate for up to half their length, apex obtuse, acute or shortly awned; lemma broadly lanceolate to ovate, usually thinly membranous, keeled, obscurely 5-veined, smooth, glabrous, lower margins often connate, awned from lower back, apex truncate to acute; awn straight when short or geniculate when longer, column smooth, usually twisted at maturity, bristle scabrid; palea absent or very small. Lodicules absent; ovary glabrous. Caryopsis obliquely obovate in side view; endosperm sometimes liquid.

Between 40 and 50 species: temperate and cold regions of the N hemisphere, South America; eight species in China.

- 1a. Perennial; short or long creeping rhizomes present.
- 2a. Panicle 1.5–4 cm, ovoid or shortly and broadly cylindrical; glumes densely and conspicuously hairy with 1.5–3 mm hairs.
- 3a. Glume apex sharply acuminate to awnlike; lemma shorter than glumes 1. *A. himalaicus*
- 3b. Glume apex subacute; lemma subequal to glumes 2. *A. brachystachyus*
- 2b. Panicle (3–)4–8 cm, cylindrical; glumes ciliate on keel, otherwise glabrous or shortly hairy on lateral veins.
- 4a. Glume apices divergent; awn usually included, arising near middle of lemma 3. *A. arundinaceus*
- 4b. Glume apices straight or slightly converging; awn long exerted, arising from lower 1/4 of lemma 4. *A. pratensis*
- 1b. Annual; rhizomes absent.
- 5a. Spikelets 2–3 mm; anthers bright orange, 0.5–0.8 mm.
- 6a. Awn 1.5–3.5 mm, included within spikelet or exerted up to 1.2 mm 5. *A. aequalis*
- 6b. Awn 6–10 mm, exerted 3 mm or more from spikelet 6. *A. longearistatus*
- 5b. Spikelets 4–6 mm; anthers pale yellow or white, 1–4 mm.
- 7a. Glumes winged on keel; glume margins connate in lower 1/3–1/2; anthers 2.5–4 mm 7. *A. myosuroides*
- 7b. Glumes not winged on keel, ciliate; glume margins almost free; anthers ca. 1 mm 8. *A. japonicus*

1. *Alopecurus himalaicus* J. D. Hooker, Fl. Brit. India 7: 238. 1896 [“1897”].

喜马拉雅看麦娘 xi ma la ya kan mai niang

Perennial, loosely tufted or culms solitary, rhizomatous. Culms erect, 15–50 cm tall, 3-noded. Leaf sheaths smooth, upper sheaths inflated; leaf blades 5–12 cm, 3–7 mm wide, abaxial surface smooth, adaxial surface scabrid; ligule 2–3 mm. Panicle ovoid to shortly and broadly cylindrical, densely hairy, 1.5–3 cm, gray-green or tinged light purple. Spikelets narrowly ovate-oblong, slightly urn-shaped, 4–6 mm; glumes submembranous, densely villous on keel, lateral veins and near margins, hairs soft, spreading, 2–3 mm, margins connate at base, apices sharply acuminate to mucronate, slightly divergent; lemma shorter than glumes, margins connate in lower 1/3–1/2, upper margins shortly pubescent, awned from lower 1/5–1/4, apex broadly acute; awn exerted 4–8 mm from spikelet, geniculate. Anthers yellow, 2–3 mm. Fl. Jun. $2n = 56$.

Damp alpine grasslands, wet places on rocky slopes; 3000–4100 m. SW Xinjiang (Taxkorgan) [NE Afghanistan, Kashmir, Kyrgyzstan, N Pakistan, Tajikistan].

2. *Alopecurus brachystachyus* M. Bieberstein, Fl. Taur.-Caucas. Suppl. 3: 56. 1819.

短穗看麦娘 duan sui kan mai niang

Perennial, with long slender rhizomes. Culms solitary,

erect, 15–80 cm tall, 3–5-noded. Leaf sheaths smooth, uppermost sheath inflated; leaf blades gray-green, 3–15 cm, 2–6 mm wide, abaxial surface smooth, adaxial surface scabrid; ligule 1–4 mm. Panicle shortly and broadly cylindrical to ovoid, 1.5–4 cm, yellow-green tinged violet. Spikelets ovate-elliptic, 3.5–5 mm; glumes thinly herbaceous, keels ciliate with 1.5–2 mm silky hairs, lateral veins and flanks silky pilose, margins connate near base, apices subacute, straight or indistinctly divergent; lemma subequaling or slightly shorter than glumes, margins connate in lower 2/5, awned from lower 1/4–1/3, apex puberulous, obliquely truncate; awn exerted 4–8 mm from spikelet, geniculate. Anthers yellow, 2–2.5 mm. Fl. and fr. Jun–Sep.

Damp montane grasslands, alpine meadows, other wet places; below 3800 m. Hebei, Heilongjiang, Nei Mongol, Qinghai [Mongolia, Russia (Far East, Siberia)].

3. *Alopecurus arundinaceus* Poir., Encycl. 8: 776. 1808.

苇状看麦娘 wei zhuang kan mai niang

Perennial, loosely tufted, with long, slender rhizomes. Culms sometimes solitary, erect, up to 100 cm tall, 3–5-noded. Leaf sheaths loose, smooth, upper sheaths slightly inflated; leaf blades gray-green, 5–20 cm, 3–8 mm wide, abaxial surface smooth, adaxial surface scabrid; ligule 2–5 mm. Panicle broadly cylindrical, 4–8 cm, gray-green, blackish at maturity. Spikelets narrowly oblong, slightly urn-shaped, 4–6 mm; glumes her-

baceous, upper part scabrid, keels densely pilose, glabrous or thinly pilose near margins or more generally on flanks, margins connate in lower 1/5, apices acute, slightly divergent (keel shallowly concave below apex); lemma slightly shorter than glumes, margins connate in lower 1/3–1/2, awned from slightly below middle, apex puberulous, obliquely truncate; awn usually included in spikelet, sometimes exerted up to 2.5 mm, usually straight, weakly geniculate with twisted column when longer. Anthers yellow, 2–3 mm. Fl. and fr. Jul–Sep. $2n = 28$.

Damp grasslands; 600–3300 m. Gansu, Heilongjiang, Nei Mongol, Ningxia, Qinghai, Xinjiang [Kashmir, Kazakhstan, Kyrgyzstan, Mongolia, N Pakistan, Russia, Tajikistan, Turkmenistan, Uzbekistan; SW Asia, Europe; introduced in North America].

4. *Alopecurus pratensis* Linnaeus, Sp. Pl. 1: 60. 1753.

大看麦娘 da kan mai niang

Alopecurus alpinus Smith var. *songaricus* Schrenk ex Fischer & Meyen; *A. songaricus* (Schrenk ex Fischer & Meyen) V. Petrov.

Perennial, loosely tufted, shortly rhizomatous. Culms erect, slightly geniculate at base, up to 100 cm tall, 3–5-noded. Leaf sheaths loose, smooth, slightly inflated; leaf blades 5–25 cm, 3–10 mm wide, abaxial surface smooth, adaxial surface scaberulous; ligule 2–4 mm. Panicle cylindrical, 3–8 cm, gray-green. Spikelets elliptic, 4–6 mm; glumes herbaceous, smooth, keels stiffly ciliate, lateral veins shortly pilose, margins connate in lower 1/3, apices acute, slightly convergent; lemma equaling or slightly shorter than glumes, margins connate below middle, awned from lower 1/4, apex puberulous, subacute; awn exerted 3–6 mm from spikelet, weakly geniculate, column not twisted. Anthers yellow, 2–3.5 mm. Fl. and fr. Apr–Aug. $2n = 28$.

Montane meadows, forest margins, river valleys; 1500–2500 m. Heilongjiang, Nei Mongol, Xinjiang [Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan, Uzbekistan; SW Asia, Europe; introduced elsewhere].

This species has been introduced to Japan, North America, and some other temperate countries as a pasture and forage grass.

5. *Alopecurus aequalis* Sobolewski, Fl. Petrop. 16. 1799.

看麦娘 kan mai niang

Alopecurus aequalis subsp. *amurensis* (Komarov) Hultén; *A. aequalis* var. *amurensis* (Komarov) Ohwi; *A. aequalis* subsp. *aristulatus* (Michaux) Tzvelev; *A. aequalis* var. *aristulatus* (Michaux) Tzvelev; *A. amurensis* Komarov; *A. aristulatus* Michaux; *A. geniculatus* var. *aequalis* (Sobolewski) Paunero.

Annual, loosely tufted. Culms weak, geniculately ascending, occasionally rooting and branching from lower nodes, 15–40 cm tall. Leaf sheaths smooth, glabrous, slightly inflated; leaf blades light green, soft, 3–10 cm, 2–6 mm wide, abaxial surface smooth, glabrous, adaxial surface closely ribbed, scaberulous; ligule 2–5 mm. Panicle narrowly cylindrical, 2–7 cm, pale gray-green. Spikelets elliptic or oblong, 2–3 mm; glumes membranous, smooth, keels ciliate-hispid, lateral veins hispid on lower part, margins connate at base, apices obtuse; lemma equaling or

slightly longer than glumes, margins connate below middle, awned from lower 1/4–1/3, apex obtuse; awn included within spikelet or exerted up to 1.2 mm, straight. Anthers orange, 0.5–0.8 mm. Fl. and fr. Apr–Aug. $2n = 14$.

Irrigation ditches, rice fields, damp grasslands, other wet weedy places; below 3500 m. Anhui, Fujian, Guangdong, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Jiangsu, Jiangxi, Nei Mongol, Shaanxi, Shandong, Sichuan, Taiwan, Xinjiang, Xizang, Yunnan, Zhejiang [Bhutan, Japan, Kashmir, Kazakhstan, Korea, Kyrgyzstan, Mongolia, Nepal, Russia, Tajikistan, Turkmenistan, Uzbekistan; North America, SW Asia, Europe].

This is a widespread, semi-aquatic weed of N temperate regions of the world, now introduced to Australia and elsewhere.

East Asian forms tend to have more obvious awns than usual, perhaps due to introgression from *Alopecurus longearistatus*. *Alopecurus amurensis* and *A. aristulatus* are both based on such forms. A form from South America with glabrous glumes has been separated as *A. hitchcockii* Parodi. A specimen of this species has been found on waste ground in Chengdu, Sichuan.

6. *Alopecurus longearistatus* Maximowicz, Prim. Fl. Amur. 327. 1859.

长芒看麦娘 chang mang kan mai niang

Alopecurus mandshuricus Litvinov.

Annual, loosely tufted. Culms geniculately ascending, 15–30 cm tall. Leaf sheaths lax, smooth, glabrous, upper sheaths sometimes inflated; leaf blades soft, 3–9 cm, 1–3.5 mm wide, abaxial surface smooth, glabrous, adaxial surface closely ribbed, scaberulous; ligule 2–4 mm. Panicle narrowly cylindrical, 4–7 cm, pale green, appearing villous from long slender awns, base often included in uppermost leaf sheath. Spikelets narrowly oblong, 2.5–3 mm; glumes membranous, smooth, keels and lateral veins ciliate, margins connate at base, apices obtuse; lemma equaling or slightly longer than glumes, margins connate below middle, awned from lower 1/4–1/3, apex obtuse; awn exerted 3 mm or more from spikelet, straight. Anthers orange, 0.4–0.8 mm. Fl. and fr. May–Jun. $2n = 14$.

Damp sandy or muddy river banks and lake shores. Heilongjiang [Russia (Far East)].

7. *Alopecurus myosuroides* Hudson, Fl. Angl. 1: 23. 1762.

大穗看麦娘 da sui kan mai niang

Alopecurus agrestis Linnaeus.

Annual, tufted. Culms erect or geniculately ascending, up to 80 cm tall. Leaf sheaths smooth, glabrous, upper sheaths slightly inflated; leaf blades 3–16 cm, 2–9 mm wide, glabrous, abaxial surface smooth or scabrid, adaxial surface scabrid; ligule 2–5 mm. Panicle narrowly cylindrical, up to 10 cm, tapering toward apex, yellow-green, pale green, or purplish. Spikelets narrowly oblong, 4.5–7.5 mm; glumes leathery, punctate-scabrid, keels narrowly winged, wings shortly pilose below, scabrid above, lateral veins very shortly pilose near base, margins connate in lower 1/3–1/2, apices acute; lemma slightly longer than glumes, margins connate in lower 1/3–1/2, awned from near base, apex acute; awn exerted 4–8 mm from spike-

let, geniculate. Anthers pale yellow, 2.5–4 mm. $2n = 14$.

Fields, introduced. Taiwan (Taipei) [Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, Turkmenistan, Uzbekistan; SW Asia, Europe].

This species is adventive or introduced as a fodder grass in North America, Australia, and other temperate regions.

8. *Alopecurus japonicus* Steudel, Syn. Pl. Glumac. 1: 149. 1854.

日本看麦娘 ri ben kan mai niang

Annual, tufted, often forming large clump. Culms erect or geniculately ascending, sometimes branching from lower nodes, 25–50 cm tall, 3–4-noded. Leaf sheaths lax, smooth, glabrous, upper sheaths inflated; leaf blades soft, glaucous, 3–12 cm, 3–7 mm wide, abaxial surface smooth, adaxial surface scaberulous; ligule 2–5 mm. Panicle cylindrical, 3–10 cm, yellow-green. Spikelets ovate-oblong, 4.8–7 mm; glumes herbaceous, smooth, keels wingless, stiffly ciliate, lateral veins pubescent near base or glabrous, margins connate only at extreme base, apices subacute; lemma slightly longer than glumes, herbaceous, margins connate in lower 2/5, awned from near base, apex subacute;

awn exerted 5–8 mm from spikelet, weakly geniculate, column not twisted. Anthers white, ca. 1 mm. Fl. and fr. Feb–May.

Wet places; below 2000 m. Anhui, Fujian, Guangdong, Guizhou, Henan, Hubei, Jiangsu, Shaanxi, Sichuan, Yunnan, Zhejiang [Japan, Korea].

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