

142. CHLORIS Swartz, Prodr. 25. 1788.

虎尾草属 hu wei cao shu

Sun Bixing (孙必兴 Sun Bi-sin); Sylvia M. Phillips

Annuals or perennials, with rhizomes or stolons. Basal leaf sheaths rounded or keeled; leaf blades linear, flat or folded; ligule a short ciliolate membrane. Inflorescence of racemes, digitate or occasionally in 2 or more whorls; spikelets shortly pedicelled or sessile, closely imbricate, biseriate. Spikelets laterally compressed, florets 2–4, lowermost fertile, successive florets male or sterile and progressively reduced, disarticulating above glumes; glumes unequal, usually shorter than florets, lanceolate, membranous, 1-veined, acuminate to an awn-point; callus bearded; lemma of fertile floret keeled, lanceolate to obovate, cartilaginous to leathery, usually ciliate on margins and keel, apex entire or emarginate, subapically mucronate or awned; palea as long as lemma; subsequent florets similar to fertile floret or of different shape or vestigial. Caryopsis ellipsoid to subterete, pericarp free though sometimes reluctantly so. $x = 10$.

About 55 species: tropical and warm-temperate regions throughout the world; five species (one introduced) in China.

- 1a. Leaf blades obtuse; lowest lemma glabrous 1. *C. pycnothrix*
- 1b. Leaf blades acute to tapering; lowest lemma hairy on margins.
 - 2a. Lowest lemma with spreading 2.5–4 mm hairs on upper margins 3. *C. virgata*
 - 2b. Lowest lemma with 0.5–1.5 mm hairs on upper margins.
 - 3a. Culms 1–3 m, stoloniferous perennial; spikelets 2-awned 2. *C. gayana*
 - 3b. Culms up to 1 m, tufted annuals (or weakly perennial); spikelets 3-awned.
 - 4a. Sterile lemmas inflated; the lower 1–1.5 mm, nearly as long as wide 4. *C. barbata*
 - 4b. Sterile lemmas ± flattened; the lower 1.6–2 mm, longer than wide 5. *C. formosana*

1. *Chloris pycnothrix* Trinius, Gramin. Unifl. Sesquifl. 234. 1824.

异序虎尾草 yi xu hu wei cao

Chloris anomala B. S. Sun & Z. H. Hu.

Annual or short-lived perennial, stoloniferous. Culms erect or geniculately ascending and rooting at lower nodes, 35–60 cm tall. Leaf sheaths keeled, glabrous; leaf blades flat or folded, 3–16 cm, 3–5 mm wide, glabrous, apex obtuse, often mucronulate; ligule 3–4 mm, white ciliate. Racemes digitate or in two close whorls, 7–13, ascending when young, spreading at maturity, 5–9 cm, feathery, purplish; rachis puberulous. Spikelets with 2 florets, 1- or 2-awned; glumes linear-lanceolate, acuminate-mucronate; lower glume 1–1.6 mm; upper glume 2–3.2 mm; lemma of fertile floret narrowly elliptic in side view, 2–3 mm, glabrous, scabrous in upper half, awn 9–25 mm; second floret reduced to a narrow 0.3–0.8 mm rudiment on a filiform rachilla, awn absent or erect, 3–7 mm. Fl. and fr. May–Nov.

Sunny open places, roadsides and hillsides; 400–1500 m. Yunnan [India, Myanmar, Sri Lanka; Africa, America, SW Asia].

This is a weedy annual, long present in Africa and America, but spreading in recent times in Asia.

The widely spreading, long-awned, feathery racemes and blunt leaf blades easily distinguish this from the other *Chloris* species in China.

2. *Chloris gayana* Kunth, Révis. Gramin. 1: 293. 1830.

非洲虎尾草 fei zhou hu wei cao

Perennial, stoloniferous. Culms erect or ascending, usually rooting at lower nodes, ± flattened, hard, 1–1.5(–2) m tall. Leaf sheaths glabrous except mouth; leaf blades flat, 15–35 cm, 2–10 mm wide, scabrous, apex acuminate; ligule ca. 0.5 mm, with

long hairs behind. Racemes digitate, 5–20, ascending to spreading, 4–11 cm, greenish brown; rachis scabrous. Spikelets with 3 or 4 florets, 2-awned; lower glume 1.5–2.5 mm; upper glume 2.5–4 mm including awn-point; lemma of fertile floret elliptic to oblanceolate in side view, 2.5–3.5 mm, shortly appressed-sericeous on lower margins, usually a tuft of hairs 0.5–1.5 mm on upper margins, keel glabrous or sparsely to densely sericeous; awn 2–6 mm; second floret usually male, narrowly lanceolate or cuneate, lemma ciliate on margins, body and awn a little shorter than fertile floret; third (and fourth) florets reduced to oblong or clavate awnless scales, less than 1 mm. $2n = 20, 30, 40$.

Open grassland and savanna; widely cultivated in warmer parts of China [native to Africa].

This is a forage grass, native to Africa, but now introduced and naturalized throughout the tropics and subtropics (Rhodes Grass). There are many different strains differing in habit, plant height, lemma pubescence, and awn length. It is usually a robust, strongly stoloniferous grass, but tufted forms also occur occasionally.

3. *Chloris virgata* Swartz, Fl. Ind. Occid. 1: 203. 1797.

虎尾草 hu wei cao

Chloris caudata Trinius ex Bunge.

Annual. Culms tufted, erect or geniculately ascending, slightly flattened, 15–100 cm tall. Basal leaf sheaths strongly keeled, glabrous; leaf blades flat or folded, 5–30 cm, 2–7 mm wide, glabrous, adaxial surface scabrous, apex acuminate; ligule 0.5–1 mm, glabrous or ciliate. Racemes digitate, 5–12, erect or slightly slanting, 2–10 cm, silky, pale brown or tinged pink or purple; rachis scabrous or hispid. Spikelets with 2 or 3 florets, 2-awned; lower glume 1.8–2.2 mm; upper glume 3–4 mm, acuminate; lemma of fertile floret obovate-lanceolate in side view, 2.8–3.5 mm, keel gibbous, conspicuously bearded on

upper margins with a spreading tuft of 2.5–3.5 mm silky hairs, margins, keel and flanks silky-ciliate or glabrous; awn 5–15 mm; second floret sterile, oblong, glabrous, awn 4–10 mm; third floret occasionally present, reduced to a small clavate scale, awnless. Fl. and fr. Jun–Oct. $2n = 14, 20, 26, 30, 40$.

Common on stony slopes, steppe, sandy riversides, roadsides, fields, plantations, frequent on walls and roofs; sea level to 3700 m. Gansu, Hebei, Heilongjiang, Henan, Jiangsu, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Xinjiang, Xizang, Yunnan [Afghanistan, Bhutan, India, Myanmar, Nepal, Pakistan; Africa, America, SW Asia, Australia, Pacific Islands].

This is a widespread and very variable, weedy annual, recognized by the conspicuous tufts of spreading, silky hairs on the upper lemma margins, together with a digitate inflorescence of erect racemes. It extends from the tropics well into temperate regions where the summers are hot.

4. *Chloris barbata* Swartz, Fl. Ind. Occid. 1: 200. 1797.

孟仁草 meng ren cao

Andropogon barbatus Linnaeus, Mant. Pl. 2: 302. 1771, not Linnaeus (1759); *Chloris inflata* Link.

Annual or short-lived perennial. Culms loosely tufted, ascending or decumbent at base and rooting at lower nodes, 0.2–1 m tall. Leaf sheaths keeled, glabrous; leaf blades flat or folded, 10–40 cm, 4–8 mm wide, glabrous, apex acute; ligule short, ciliate. Racemes digitate, 5–15, erect or ascending, 3–8 cm, often somewhat flexuous and purplish; rachis scabrous. Spikelets with 3 or 4 florets, 3(–4)-awned; lower glume 1.2–1.5 mm; upper glume 1.7–2.5 mm, shortly mucronate; lemma of fertile floret elliptic in side view, 1.7–2.5 mm, pilose on keel, ciliate on upper margins with 1–1.5 mm hairs; awn 4.5–7 mm; upper florets sterile, lemmas empty, inflated, overlapping to form a knob at side of fertile floret; second lemma turbinate, truncate, 1–1.5 mm, glabrous or sparsely appressed-pilose on back, awn

subequaling awn of fertile floret; third (and fourth) lemmas orbicular, awn somewhat shorter. Fl. and fr. Apr–May. $2n = 20, 40$.

Sea coasts, offshore islands. Guangdong, Taiwan [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Myanmar, New Guinea, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Africa, America, Australia, Pacific Islands].

This is a widespread species from tropical to warm-temperate regions of the world, found in weedy or disturbed places. It is tolerant of high salt concentrations. When young this grass is favored by cattle.

5. *Chloris formosana* (Honda) Keng ex B. S. Sun & Z. H. Hu, Fl. Reipubl. Popularis Sin. 10(1): 78. 1990.

台湾虎尾草 tai wan hu wei cao

Chloris barbata var. *formosana* Honda, Bot. Mag. (Tokyo) 40: 437. 1926.

Annual or short-lived perennial. Culms erect to decumbent and rooting at lower nodes, 20–70 cm tall. Leaf sheaths keeled, glabrous; leaf blades usually folded, 4–40 cm, 2–3 mm wide, glabrous, apex acute; ligule 0.5–1 mm, ciliate. Racemes digitate, 4–11, erect or somewhat lax, 3–8 cm, pallid or purplish; rachis puberulous. Spikelets with 3 florets, 3-awned; lower glume 1–2 mm; upper glume 2–3 mm, obtuse, mucronate; lemma of fertile floret elliptic in side view, 2.3–3 mm, with a lateral groove, this occasionally appressed-pilose, glabrous on keel, densely ciliate on upper margins with ca. 1 mm hairs; awn (2–) 4–6 mm; upper florets sterile, lemmas empty, flattened or only slightly inflated, overlapping to form a knob at side of fertile floret; second lemma oblanceolate, truncate, 1.6–2 mm, glabrous, awn 2.5–5 mm; third lemma similar to second but slightly smaller, awn 2–3 mm. Fl. and fr. Jul–Oct.

Sandy or gravelly soils near the sea. Fujian, Guangdong, Hainan, Taiwan [Vietnam].

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