

214. HETEROPOGON Persoon, Syn. Pl. 2: 533. 1807.

黄茅属 huang mao shu

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Perennial or annual. Culms tufted. Leaf sheaths usually keeled; leaf blades linear; ligule membranous, sometimes with ciliate fringe. Inflorescence of solitary racemes, these terminal or axillary and loosely aggregated into a spathate panicle; peduncle included to long-exserted. Racemes linear, dense, spikelets imbricate, 1 to several pairs of homogamous spikelets at base of raceme below fertile pairs, fragile between fertile pairs; internodes and pedicels reduced to short oblique stumps obscured by hairs from backside of sessile spikelet callus. Homogamous spikelets herbaceous, flat, lanceolate-oblong. Sessile spikelet subterete; callus long, pungent, bearded; lower glume leathery, obtuse; upper glume awnless; lower floret reduced to a hyaline lemma; upper lemma stipitiform, entire, passing into a stout geniculate awn with hairy column. Pedicelled spikelet larger than sessile, resembling homogamous spikelets, awnless; callus slender, pedicel-like; true pedicel reduced to a stump.

Six species: throughout the tropics and subtropics; three species in China.

- 1a. Annual; leaf sheaths with rows of glands along veins 1. *H. melanocarpus*
1b. Perennial; leaf sheaths without glands.
2a. Culms up to 1 m tall; raceme 3–7 cm (excluding awns); 3–10(–12) pairs of homogamous spikelets 2. *H. contortus*
2b. Culms 1–3 m tall; raceme 8–15 cm (excluding awns); 12–15 pairs of homogamous spikelets 3. *H. triticeus*

1. *Heteropogon melanocarpus* (Elliott) Benth. J. Linn. Soc., Bot. 19: 71. 1881.

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Andropogon melanocarpus Elliott, Sketch Bot. S. Carolina 1: 146. 1816 [“1821”]; *A. polystictus* Steudel; *Cymbopogon melanocarpus* (Elliott) Sprengel; *Heteropogon acuminatus* Trin.; *H. polystictus* (Steudel) Hochstetter; *H. roylei* Nees ex Steudel.

Annual. Culms robust, erect, usually solitary, 0.5–2 cm tall, supported by stilt roots. Leaf sheaths spotted with rows of glands along veins, long soft hairs at mouth; leaf blades flat, 10–40 × 0.5–1 cm, pilose, apex acuminate; ligule lacerate. Inflorescence of racemes gathered into a copious spathate panicle; spatheoles linear-lanceolate, glandular; peduncle ca. 1/2 spatheole length, scarcely exserted. Racemes 2–4 cm (excluding awns), 3–8-awned, 1–3 pairs of green homogamous spikelets below the awned fertile pairs. Sessile spikelet 6–8 mm, blackish brown; callus 3–4.5 mm, sharply pungent, brown bearded; lower glume narrowly oblong, densely pilose with soft brown hairs; awn 6–9 cm, stout, column blackish when mature, hirtellous. Pedicelled spikelet 15–25 mm, lower glume light green, oblong-lanceolate, laterally asymmetrically winged, glabrous, pitted with glands and transversely pucked along midvein, lanceolate-caudate. Fl. and fr. Jun–Nov.

Mountain slopes; 1000–1500 m. Yunnan [India; Africa, tropical and subtropical America, SW Asia].

This species is immediately recognizable by the large, caudate pedicelled spikelets with a conspicuous, median, glandular band.

2. *Heteropogon contortus* (Linnaeus) P. Beauvois ex Roemer & Schultes, Syst. Veg. 2: 836. 1817.

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Andropogon contortus Linnaeus, Sp. Pl. 2: 1045. 1753; *Heteropogon fertilis* B. S. Sun & S. Wang.

Perennial. Culms slender, tufted, usually geniculate at base,

20–100 cm tall. Leaf sheaths keeled; leaf blades flat or folded, 10–20 × 0.3–0.6 cm, scabrid or adaxial surface pilose at base, apex obtuse or shortly acute to apiculate; ligule ciliate along margin. Inflorescence terminal or racemes gathered into a scanty panicle; spatheoles linear, tightly rolled around peduncle; peduncles mostly long-exserted. Racemes 3–7 cm (excluding awns), narrowly cylindrical, 7–12-awned, (1–)3–10(–12) pairs of flat green homogamous spikelets below the awned fertile pairs. Sessile spikelet 5–7 mm, dark brown; callus 2–3 mm, fiercely pungent, brown bearded; lower glume linear becoming cylindrical at maturity, sometimes hispidulous between veins; awn 6–10 cm, dark brown, column white-hirtellous, tips of successive awns often twisting together. Pedicelled spikelet 6–11 mm, lower glume oblong-lanceolate, greenish, laterally asymmetrically winged, glabrous or sparsely to densely pilose or tuberculate-hispid or white setose. Fl. and fr. Apr–Dec. $2n = 20, 40, 44, 50, 60, 80$.

Dry hillsides, roadsides, grassy places, in the open or light shade; 400–4500 m. Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [tropics and subtropics of the world, extending to Mediterranean and other warm-temperate areas].

The narrowly cylindrical racemes of overlapping, green spikelets with stout, brown, intertwining awns emerging from the upper part are very characteristic of this species. It is a very widespread and extremely polymorphic species, varying in habit, hairiness of the spikelets, and also physiologically in response to differing rainfall regimes. It is apomictic and includes a range of chromosome numbers. The name *Heteropogon fertilis* has been applied to an atypical, stunted specimen lacking homogamous spikelet pairs at the base of the raceme. It was described from Yunnan, but similar forms with only a single homogamous spikelet pair are known from Hong Kong and elsewhere.

This species provides good forage when young, but the needle-sharp spikelet calluses can cause damage to livestock when mature. The leaves and stems are utilized in papermaking.

3. *Heteropogon triticeus* (R. Brown) Stapf ex Craib, Bull. Misc. Inform. Kew 1912: 432. 1912.

麦黄茅 mai huang mao

Andropogon triticeus R. Brown, Prodr. 201. 1810; *A. ischyranthus* Steudel; *A. lianatherus* Steudel; *A. segaenensis* Steudel; *Heteropogon ischyranthus* (Steudel) Miquel; *H. lianatherus* (Steudel) Miquel; *Sorghum triticeum* (R. Brown) Kuntze.

Perennial from a tough rootstock. Culms stout, erect, hard, 1–3 m tall. Leaf sheaths keeled and flabellate at plant base, glabrous to hispidulous; leaf blades flat, stiff, 30–60 × 0.4–0.8 cm, glabrous to hirsute, apex acuminate; ligule very short, truncate, lacerate. Inflorescence a terminal raceme, sometimes with a few axillary racemes below it. Racemes 8–15 cm (excluding awns), 5–11-awned, 12–15 pairs of flat green homogamous spikelets below awned fertile pairs. Sessile spikelet 6–10 mm, dark brown at maturity; callus ca. 6 mm, pungent, densely brown bearded; lower glume linear-oblong, brown puberulous or pubescent, deeply grooved on either side of midvein; awn 9–16 cm, brown, column shortly pubescent. Pedicelled spikelet 15–20 mm, lower glume oblong-lanceolate, green, laterally asymmetrically winged, glabrous. Fl. and fr. Oct–Mar.

Mountain slopes. Hainan [S India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam; Australia].

This is a tall, robust grass with racemes of large, overlapping homogamous and pedicelled spikelets with very long awns emerging from the upper part.

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