

164. ALLOTEROPSIS Presl, Reliq. Haenk. 1: 343. 1830.

毛颖草属 mao ying cao shu

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Annuals or perennials. Culms erect or decumbent. Leaf blades convolute, linear or lanceolate. Inflorescence composed of slender racemes, these digitate or in whorls on a short common axis, each raceme with a weakly unilateral, narrowly triquetrous rachis, spikelets in pairs or clusters. Spikelets ovate to elliptic, dorsally compressed, florets 2; glumes unequal, acute to briefly awned; lower glume 1/2 spikelet length, membranous, 3-veined; upper glume as long as spikelet, herbaceous, 5–7-veined, ciliate along margins; lower floret staminate, lemma herbaceous, glabrous; lower palea much shorter than the anthers, bifid; upper lemma cartilaginous, margins inrolled, shortly awned; upper palea acute, the flaps basally auriculate. Caryopsis ellipsoid. $x = 9$.

Five species: tropical and S Africa, India, SE Asia, Australia; two species in China.

Alloteropsis is best distinguished from other panicoid genera by its awned spikelets and ciliate upper glume.

- 1a. Tussocky perennial; leaf blades linear, base narrow, margins smooth; raceme rachis pilose 1. *A. semialata*
- 1b. Annual; leaf blades lanceolate, base cordate, margins pectinate; raceme rachis glabrous 2. *A. cimicina*

1. *Alloteropsis semialata* (R. Brown) Hitchcock, Contr. U. S. Natl. Herb. 12: 210. 1909.

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Perennial, tussocky from a short rhizome. Culms slender, erect, 30–70 cm, nodes bearded. Basal leaf sheaths persistent, densely and conspicuously silky hairy; leaf blades linear, flat or convolute, stiff, 10–50 × 0.1–1 cm, abaxial surface glabrous, adaxial surface sparsely to densely hairy, base narrow; ligule membranous, ca. 1 mm. Inflorescence digitate; racemes 2–4, 4–12 cm, narrowly ascending, rachis pilose, spikelets grouped on pedicels of varying length. Spikelets lanceolate, 5–6 mm, pale to dark brown, sometimes with transverse banding; glumes sharply acute to shortly awned; lower glume ovate; upper glume margins ciliate, occasionally winged; lower lemma with a small palea corresponding to a thin triangular basal patch on the lemma; upper lemma ovate-lanceolate, ca. 4 mm, smooth, with a rigid 2–3 mm awn-point. Anthers orange, ca. 3 mm. Fl. and fr. Feb–Aug. $2n = 18$.

Hill slopes. Fujian, Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Thailand, Vietnam; Africa, Pacific Islands].

Alloteropsis semialata is a polymorphic species, and is unique among grasses in possessing leaf anatomy corresponding to both C_3 and C_4 photosynthetic types. These physiological variants correspond very approximately to the color variants recognized below, which have been raised to subspecific rank for that reason. However, other morphological characters that have been used to separate the subspecies in South Africa do not result in a division into two taxa in China, so the subspecies are not upheld here. Investigations in South Africa have shown var. *eckloniana* to be diploid ($2n = 18$), whereas var. *semialata* comprises a polyploid series from tetraploid to octoploid.

- 1a. Lower lemma pale; racemes with loosely arranged spikelets 1a. var. *semialata*
- 1b. Lower lemma purplish brown or with dark transverse bands; racemes with congested spikelets 1b. var. *eckloniana*

1a. *Alloteropsis semialata* var. *semialata*

毛颖草(原变种) mao ying cao (yuan bian zhong)

Panicum semialatum R. Brown, Prodr. 192. 1810; *Axonopus semialatus* (R. Brown) J. D. Hooker; *Oplismenus semialatus* (R. Brown) Desvaux; *Urochloa semialata* (R. Brown) Kunth.

Leaf anatomy: C_4 . Spikelets lax. Lower lemma pale. Fl. and fr. Feb–Aug. $2n = 18$.

Hill slopes. Fujian, Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [India, Malaysia; Africa, Pacific Islands].

1b. *Alloteropsis semialata* var. *eckloniana* (Nees) Pilger in Engler & Prantl, Nat. Pflanzenfam., ed. 2, 14e: 37. 1940.

紫纹毛颖草 zi wen mao ying cao

Bluffia eckloniana Nees, Del. Sem. Hort. Hamburg. 1834: 8. 1834; *Alloteropsis eckloniana* (Nees) Hitchcock; *A. semialata* subsp. *eckloniana* (Nees) Gibbs-Russell; *Axonopus semialatus* var. *ecklonianus* (Nees) Peter; *A. semialatus* var. *ecklonii* Stapf, nom. illeg. superfl.; *Panicum semialatum* var. *ecklonianum* (Nees) Hackel ex T. Durand & Schinz.

Leaf anatomy: C_3 . Spikelets usually congested. Lower lemma purplish brown or with dark transverse bands. Fl. and fr. Feb–Aug. $2n = 54$.

Hill slopes. Guangdong, Guangxi, Yunnan [India, Indonesia, Malaysia; Africa, Pacific Islands].

2. *Alloteropsis cimicina* (Linnaeus) Stapf, Prain, Fl. Trop. Africa 9: 487. 1919.

臭虫草 chou chong cao

Milium cimicinum Linnaeus, Mant. Pl. 184. 1771; *Axonopus cimicinus* (Linnaeus) P. Beauvois; *Panicum cimicinum* (Linnaeus) Retzius; *Urochloa cimicina* (Linnaeus) Kunth.

Annual. Culms tufted, ascending, up to 60 cm tall. Leaf sheaths tuberculate-hispid; leaf blades lanceolate, cordate, 3–10 × 1–2 cm, abaxial surface pectinate-setose along margins and veins, adaxial surface glabrous; ligule ca. 1 mm, ciliate. Inflorescence digitate; racemes 4–6, 10–15 cm, narrowly ascending, rachis glabrous, bare of spikelets in the lower part, spikelets paired or single. Spikelets elliptic, 3.5–5.5 mm, pale green; low-

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er glume ovate-lanceolate, ca. 2 mm, acuminate; upper glume papery, elliptic, shiny, margins ciliate with silky white or pinkish hairs, apex caudate; lower lemma similar to upper glume but thicker and glabrous; upper lemma ovate-elliptic, 3/5 spikelet length, obtuse with a fine scabrous 2–3 mm awn; upper palea

papillose with swollen lacrimiform hairs. Anthers purple, ca. 1 mm. Fl. Sep. $2n = 36$.

Weedy places, dry open forest. Hainan [Cambodia, India, Indonesia, Malaysia, Myanmar, New Guinea, Sri Lanka, Thailand; Africa, Australia, Pacific Islands].

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