

218. MNESITHEA Kunth, Révis. Gramin. 1: 153. 1829.

毛俭草属 mao jian cao shu

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Coelorachis Brongniart.

Perennial, rarely annual. Culms robust, tufted, often branched. Leaf blades linear, flat; ligule short, membranous. Inflorescence of racemes, these usually axillary and aggregated into a spathate compound panicle, rarely terminal. Racemes cylindrical or flattened, fragile, horizontally articulated; rachis internodes clavate to pyriform, base truncate with central peg, spikelets paired, one sessile, the other pedicelled or occasionally in triplets of 2 sessile and 1 pedicelled. Sessile spikelet closely appressed or sunk in hollow in rachis, usually longer than adjacent internode; lower glume papery to leathery, ± flat, smooth or sculptured, marginally 2-keeled, keels winged at least at apex; lower floret barren, with or without a small palea; upper floret with entire awnless lemma. Pedicelled spikelet varying from well developed to rudimentary or absent; pedicel oblong, clavate or leaflike, free or partially or fully adnate to rachis internode. $x = 9$.

About 30 species; throughout the tropics; four species in China.

Mnesithea has been defined in the past by the presence of 2 sessile spikelets separated by a pedicel at each rachis node, but this character is now known to be variable. Furthermore, paired sessile spikelets also occur sporadically in the racemes of species that normally have single sessile spikelets.

Coelorachis has traditionally been separated on the basis of a free pedicel and presence of a pedicelled spikelet, but both these characters are untenable. The pedicel in *Mnesithea khasiana* is often almost completely fused to the rachis joint and may occasionally be fused in other species too. The pedicelled spikelet varies across the genus from well developed to a minute vestige, and its absence in traditional *Mnesithea* is just the final step.

The definition of the genera around *Mnesithea*, and how many species should be included within it, are still open to doubt and may change with future research.

- 1a. Racemes borne singly, terminal or from the upper leaf axils; sessile spikelets sometimes paired.
 - 2a. Leaves and culms densely pubescent; sessile spikelet ornamented; base of rachis joint ciliate 1. *M. mollicoma*
 - 2b. Leaves and culms glabrous; sessile spikelet smooth (rarely pitted); base of rachis joint glabrous 2. *M. laevis*
- 1b. Racemes several to many from the upper leaf axils; sessile spikelets always single.
 - 3a. Pedicel free from rachis internode; racemes few, laxly spreading from leaf axils 3. *M. striata*
 - 3b. Pedicel adnate to rachis internode except toward apex; racemes many in crowded fascicles from leaf axils 4. *M. khasiana*

1. *Mnesithea mollicoma* (Hance) A. Camus, Bull. Mus. Natl. Hist. Nat. 25: 57. 1919.

毛俭草 mao jian cao

Rottboellia mollicoma Hance, J. Bot. 9: 134. 1871; *Coelorachis mollicoma* (Hance) Bor; *Mnesithea pubescens* Ridley.

Perennial. Culms erect, 60–85 cm, softly pilose. Leaf sheaths densely pilose or with caducous tubercle-based hairs; leaf blades linear-lanceolate, 10–60 × 0.5–2 cm, tapering to base and apex, softly pubescent; ligule 1–2 mm, glabrous or ciliate. Racemes solitary in the upper leaf axils, cylindrical, ca. 12 cm × ca. 2.5 mm, sessile spikelets paired at each node and separated by a pedicel, or occasionally only one sessile spikelet present; rachis internodes strongly clavate, marked with dark lines between the veins on narrow lower portion, base shortly bearded. Sessile spikelet 3–4 mm; lower glume obliquely ovate, with 6–8, prominent, riblike veins separated by deep slits, slits interrupted by tubercle-based hairs along their length, margins narrowly winged toward apex; upper glume keeled toward apex, keel winged; lower floret reduced; upper lemma and palea subequal. Pedicel free, linear, flattened, pilose, bearing a vestigial 0.5–1 mm spikelet. Fl. and fr. Jul–Nov.

Grassy hill slopes; 100–500 m. Guangdong, Guangxi, Hainan [Indonesia, Malaysia, Thailand, Vietnam].

Mnesithea mollicoma is the only grass in China to have racemes usually with 2 sessile spikelets separated by a pedicel at each rachis node, although sometimes plants occur with some or all raceme segments bearing only 1 sessile spikelet. The species is also well marked by its softly hairy vegetative parts and ornamented sessile spikelet.

2. *Mnesithea laevis* (Retzius) Kunth, Révis. Gramin. 1: 154. 1829.

假蛇尾草 jia she wei cao

Perennial. Culms tufted, erect, slender, 15–70 cm tall, usually unbranched. Leaf sheaths glabrous, often keeled; leaf blades linear, 8–25 × 0.1–0.4 cm, glabrous, apex abruptly acute; ligule 0.5–1 mm, glabrous. Racemes solitary, either terminal or also axillary, cylindrical, 5–10 cm × ca. 1.5 mm, sessile spikelets paired at each joint and separated by a pedicel, or triads present only at raceme base, or whole raceme with single sessile spikelets; rachis internodes clavate, 3.5–4 mm. Sessile spikelet 3–5 mm; lower glume oblong, smooth, or slightly sunken between lower part of veins, or ribbed throughout, rarely pitted, margins not winged, apex obtuse; upper glume boat-shaped, membranous, equal to lower glume; lower lemma slightly shorter than glumes, palea absent; upper lemma ca. 2.5 mm. Pedicelled spikelet minute or absent; pedicel linear, adnate to rachis internode, when paired sessile spikelets present the pedicel between them often adnate only at apex.

Meadows, grassy hill slopes; 100–1000 m. Fujian, Guangdong,

Guangxi, Hainan, Taiwan [India, Indonesia, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Pacific Islands (Polynesia)].

No specimens are known from China with paired sessile spikelets. There is some geographic division between forms that regularly have only a single sessile spikelet on each raceme segment and those with a pair. Forms from India to W Indonesia usually have paired sessile spikelets, whereas those from east of this area have single sessile spikelets. However, specimens from the west occasionally have few or no paired spikelets and are then indistinguishable from the eastern form. There is also much variation in the degree of fusion of the pedicel with the rachis internode.

- 1a. Lower glume of sessile spikelet smooth 2a. var. *laevis*
1b. Lower glume of sessile spikelet pitted
between veins 2b. var. *chenii*

2a. *Mnesithea laevis* var. *laevis*

假蛇尾草(原变种) jia she wei cao (yuan bian zhong)

Rottboellia laevis Retzius, Observ. Bot. 3: 11. 1783; *Heteropholis cochinchinensis* (Loureiro) Clayton; *Mnesithea laevis* var. *cochinchinensis* (Loureiro) de Koning & Sosef; *Ophiuros cochinchinensis* (Loureiro) Merrill; *O. laevis* (Retzius) Benthams; *O. monostachyus* J. Presl & C. Presl; *Phleum cochinchinense* Loureiro; *Thaumastochloa cochinchinensis* (Loureiro) C. E. Hubbard.

Culms 20–70 cm tall. Sessile spikelet 3–4 mm; lower glume ± smooth. Fl. and fr. autumn.

Grassy hill slopes, field margins; 100–1000 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan [India, Indonesia, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Pacific Islands (Polynesia)].

2b. *Mnesithea laevis* var. *chenii* (Hsu) de Koning & Sosef, Blumea 31: 286. 1986.

縹颖假蛇尾草 zhuan ying jia she wei cao

Thaumastochloa chenii Hsu, Taiwania 16: 216. 1971; *Heteropholis cochinchinensis* var. *chenii* (Hsu) de Koning & Sosef; *Ophiuros shimadani* Ohwi & Odashima; *Thaumastochloa shimadana* (Ohwi & Odashima) Ohwi & Odashima.

Culms 15–30 cm tall. Sessile spikelet 3.5–5 mm; lower glume sunken and pitted between ribs. Fl. and fr. autumn.

- By the sea. S Taiwan.

This is a local variant with pitted sessile spikelets. Traces of pits also occur on some specimens of the species from Hong Kong.

3. *Mnesithea striata* (Nees ex Steudel) de Koning & Sosef, Blumea 31: 292. 1986.

空轴茅 kong zhou mao

Perennial, coarse. Culms robust, 1.5–3 m tall, glabrous or densely pilose. Leaf sheaths glabrous or tuberculate-hispid, upper sheaths spathiform; leaf blades linear-lanceolate, 30–60(–120) × 1–3(–5) cm, glabrous to densely pilose, margins stiffly ciliate, apex acuminate; ligule 2–3 mm, glabrous or ciliate. Inflorescence large, loose and spreading, 2–3-noded spathate branches bearing the racemes arising from the upper leaf axils; racemes cylindrical, long pedunculate; rachis internodes

strongly clavate, striate, glabrous. Sessile spikelet 4–4.2 mm; lower glume narrowly ovate, slightly asymmetrical, with 5–7 deep slits interrupted by tubercles especially in lower part, or sometimes smooth, contracted to an acute winged apex; upper glume keeled; lower floret usually barren, lemma ca. 4 mm, palea slightly shorter; upper floret as long as lower lemma. Pedicelled spikelet reduced or rudimentary, ca. 1.5 mm; pedicel flattened, narrowly oblong with 2 submarginal green veins, glabrous, free. Fl. and fr. Jul–Oct.

Hillside grasslands, thickets, forest margins; below 1300 m. S Yunnan [India, Myanmar, Thailand].

- 1a. Culms and leaf blades glabrous 3a. var. *striata*
1b. Culms and leaf blades pilose 3b. var. *pubescens*

3a. *Mnesithea striata* var. *striata*

空轴茅(原变种) kong zhou mao (yuan bian zhong)

Rottboellia striata Nees ex Steudel, Syn. Pl. Glumac. 1: 361. 1854; *Coelorachis striata* (Nees ex Steudel) A. Camus.

Culms and peduncles glabrous. Leaf sheaths glabrous except for ciliate margins, leaf blades glabrous.

Grassy hill slopes; 600–900 m. S Yunnan [India, Myanmar, Thailand].

3b. *Mnesithea striata* var. *pubescens* (Hackel) S. M. Phillips & S. L. Chen, *Novon* 15: 470. 2005.

毛秆空轴茅 mao gan kong zhou mao

Rotboellia striata var. *pubescens* Hackel in A. Candolle & C. Candolle, *Monogr. Phan.* 6: 302. 1889; *Coelorachis striata* var. *pubescens* (Hackel) Bor.

Culms and peduncles pubescent above. Leaf sheaths with tubercle-based hairs; leaf blades densely pubescent.

Open forests, grassy hill slopes; 600–1200 m. SW Yunnan [NE India].

4. *Mnesithea khasiana* (Hackel) de Koning & Sosef, *Blumea* 31: 291. 1986.

密穗空轴茅 mi sui kong zhou mao

Rotboellia striata Nees ex Steudel subsp. *khasiana* Hackel in A. Candolle & C. Candolle, *Monogr. Phan.* 6: 302. 1889; *Coelorachis khasiana* (Hackel) Stapf ex Bor.

Perennial, coarse. Culms robust, 2–3 m tall, glabrous, much branched upward. Leaf sheaths glabrous, upper sheaths with very reduced blade; leaf blades narrowly lanceolate, 40–100(–130) × 2–3(–4) cm, glabrous or scattered tuberculate-pilose on upper surface, apex setaceously acuminate; ligule 2–3 mm, glabrous. Inflorescence large, composed of fascicles of many racemes on spathate branches from the upper leaf axils; racemes cylindrical, long pedunculate; rachis internodes clavate, glabrous. Sessile spikelet 3.5–4 mm; lower glume lanceolate-oblong, smooth or with 2–5 shallow tuberculate grooves, contracted to an apiculate, broadly winged apex; upper glume ca. 3.5 mm, keeled; lower floret barren, lemma ca. 3 mm; upper floret lemma ca. 3 mm, palea shorter. Pedicelled spikelet variable, usually more than 2 mm, sometimes as long as and resembling sessile spikelet; pedicel flattened, oblong with 2 submarginal green veins, glabrous, adnate to adjacent rachis internode except toward apex. Fl. and fr. Jul–Oct.

Open woodlands, damp places; 900–1300 m. SW Yunnan [NE India, Myanmar].

Flora of China 22: 642–644. 2006.