

154. **OPLISMENUS** P. Beauvois, Fl. Oware 2: 14. 1810 [“1807”], nom. cons.

求米草属 *qiu mi cao shu*

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Orthopogon R. Brown, nom. rej.

Perennials or annuals. Culms trailing, ascending from a decumbent base, the internodes mostly with a villous line adaxial to the subtending leaf. Leaf blades ovate, lanceolate or linear-lanceolate, often with cross veins; ligule a ciliate membrane. Inflorescence composed of several unilateral racemes spaced along a central axis; racemes elongate or reduced to fascicles of a few spikelets, spikelets usually paired on short pedicels, the lowermost often reduced. Spikelets lanceolate to oblong, weakly dorsally or laterally compressed, florets 2; glumes subequal, 1/2–3/4 spikelet length, often pilose, the lower or both tipped by a viscid awn; lower lemma equalling the spikelet, acute to shortly awned, its palea absent or much reduced; upper lemma papery or subcoriaceous, smooth and shiny, acute, indistinctly crested. $x = 9$.

Five to nine species: throughout the tropics and subtropics; four species (one endemic) in China.

This is a genus of closely related, intergrading species where the number of taxa meriting recognition is still open to doubt.

- 1a. Racemes reduced to dense cuneate fascicles less than 2 cm long 1. *O. undulatifolius*
- 1b. Racemes elongate, 2–10 cm long.
 - 2a. Spikelets single; fertile lemma mucronate at apex 4. *O. patens*
 - 2b. Spikelets paired or 3 at the base; fertile lemma acute at apex.
 - 3a. Awn of lower glume 2–3 times longer than glume body 2. *O. compositus*
 - 3b. Awn of lower glume equaling or slightly longer than glume body 3. *O. fujianensis*

1. *Oplismenus undulatifolius* (Arduino) Roemer & Schultes, Syst. Veg. 2: 482. 1817.

求米草 *qiu mi cao*

Perennial. Culms slender, straggling, ascending from a prostrate base, 20–50 cm tall. Leaf sheaths usually densely tuberculate-hairy, less often glabrous; leaf blades lanceolate to narrowly ovate, 1–15 × 0.3–3 cm, glabrous or variously hairy, base subrounded and usually suboblique, apex acute; ligule ca. 1 mm. Inflorescence axis 9–15 cm, glabrous or hispidulous; racemes 4–9, reduced to dense cuneate fascicles less than 2 cm long, the rachis often setose. Spikelets in 3–5 clustered pairs, lanceolate, hispidulous; glumes herbaceous, awned, the awns stout, purple, viscid; lower glume 3–5-veined, awn 5–10(–15) mm; upper glume 5-veined, awn 2–5 mm; lower lemma herbaceous, 5–9-veined, apex with a stout 1–2 mm mucro, palea absent; upper lemma subcoriaceous, smooth. Fl. and fr. Jul–Nov. $2n = 54$.

Light shade in forests, moist places. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [warm-temperate and subtropical regions of the N hemisphere, uplands of India and Africa].

Oplismenus undulatifolius is sometimes considered synonymous with *O. hirtellus* (Linnaeus) P. Beauvois. Although the two taxa intergrade, *O. hirtellus* (*O. aemulus* (R. Brown) Roemer & Schultes) generally has longer racemes (to 3 cm) of contiguous spikelets, at least in the lower part of the inflorescence. It has a more tropical distribution than *O. undulatifolius* and has recently been reported from Taiwan and Yunnan.

- 1a. Inflorescence with short branches.
 - 2a. Leaves and inflorescence axis hispidulous, or leaf blades densely tuberculate-hairy 1a. var. *undulatifolius*

- 2b. Leaves and inflorescence axis glabrous or scabrous, or rarely leaf blades puberulous.
 - 3a. Leaf blades broadly lanceolate to narrowly ovate-elliptic, 5–15 × 1.2–3 cm, glabrous or scabrous 1b. var. *japonicus*
 - 3b. Leaf blades linear-lanceolate to narrowly lanceolate, 4–9 × 0.5–1 cm, glabrous or puberulous ... 1c. var. *imbecillis*
- 1b. Inflorescence with spikelets practically sessile on main axis.
 - 4a. Leaves and inflorescence axis hispidulous or with tubercle-based hairs 1d. var. *binatus*
 - 4b. Leaves and inflorescence axis glabrous or scabrous.
 - 5a. Leaf blades 1–3 × 0.3–0.5 cm 1e. var. *microphyllus*
 - 5b. Leaf blades 5–10 × 1–2 cm 1f. var. *glaber*

1a. *Oplismenus undulatifolius* var. *undulatifolius*

求米草(原变种) *qiu mi cao* (yuan bian zhong)

Panicum undulatifolium Arduino, Animadv. Bot. Spec. Alt. 14, t. 4. 1764; *Orthopogon undulatifolius* (Arduino) Sprengel.

Leaf blades densely hairy with tubercle-based hairs. Inflorescence with short branches, the axis hispidulous. Fl. and fr. Jul–Nov. $2n = 54$.

Light shade in forests, moist places, common. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [warm-temperate and subtropical regions of the N hemisphere, uplands of India and Africa].

1b. *Oplismenus undulatifolius* var. *japonicus* (Steudel) G. Koidzumi, Bot. Mag. (Tokyo) 39: 302. 1925.

日本求米草 *ri ben qiu mi cao*

Panicum japonicum Steudel, Flora 29: 18. 1846; *Oplismenus japonicus* (Steudel) Honda.

Leaf sheaths glabrous; leaf blades broadly lanceolate or narrowly ovate-elliptic, 5–15 × 1.2–3 cm, glabrous or scabrous. Inflorescence axis up to 15 cm, glabrous. Fl. and fr. Aug–Nov.

Roadsides, moist grasslands. Anhui, Fujian, Guangdong, Guangxi, Hebei, Jiangsu, Jiangxi, Shaanxi, Shandong, Sichuan, Yunnan, Zhejiang [Japan].

1c. *Oplismenus undulatifolius* var. *imbecillis* (R. Brown) Hackel, Publ. Bur. Sci. Gov. Lab. 25: 82. 1906 [“1905”].

狭叶求米草 *xia ye qiu mi cao*

Orthopogon imbecillis R. Brown, Prodr. 194. 1810; *Oplismenus imbecillis* (R. Brown) Roemer & Schultes; *O. imbecillis* var. *morrisonensis* Honda; *Panicum imbecille* (R. Brown) Trinius.

Leaf sheaths glabrous and smooth, or ciliate along the margins; leaf blades narrowly lanceolate or linear-lanceolate, 4–9 × 0.5–1 cm, glabrous or puberulous. Inflorescence axis glabrous. Spikelets usually pilose. Fl. and fr. Aug–Nov.

Hill slopes, moist grasslands. Anhui, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Taiwan, Yunnan, Zhejiang [Japan].

1d. *Oplismenus undulatifolius* var. *binatus* S. L. Chen & Y. X. Jin, Acta Phytotax. Sin. 22: 471. 1984.

双穗求米草 *shuang sui qiu mi cao*

Leaf blades and inflorescence axis hispidulous or with tubercle-based hairs. Spikelets 2 per node.

- Moist places in forests. Anhui, Hebei, Jiangsu, Zhejiang.

1e. *Oplismenus undulatifolius* var. *microphyllus* (Honda) Ohwi, Bot. Mag. (Tokyo) 55: 546. 1941.

小叶求米草 *xiao ye qiu mi cao*

Oplismenus microphyllus Honda, J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 3: 274. 1930; *O. hirtellus* (Linnaeus) P. Beauvois var. *microphyllus* (Honda) Fosberg & Sacht; *O. hirtellus* subsp. *microphyllus* (Honda) U. Scholz.

Leaf blades 1–3 × 0.3–0.5 cm, glabrous or scabrous. Spikelets 2 per node, or 3 per node at base, one spikelet usually sterile.

- Moist grassy places in forests. Taiwan [Philippines].

1f. *Oplismenus undulatifolius* var. *glaber* S. L. Chen & Y. X. Jin, Acta Phytotax. Sin. 22: 471. 1984.

光叶求米草 *guang ye qiu mi cao*

Plant glabrous except for ciliate margins of leaf sheaths; leaf blades 5–10 × 1–2 cm, glabrous. Spikelets 2 per node.

- Moist places in forests. Anhui, Hunan, Shanxi, Sichuan, Zhejiang.

2. *Oplismenus compositus* (Linnaeus) P. Beauvois, Ess. Agrostogr. 54. 1812.

竹叶草 *zhu ye cao*

Perennial. Culms stoloniferous, straggling, ascending to 20–80 cm. Leaf sheaths glabrous, pilose or tuberculate-hairy; leaf blades lanceolate to ovate-lanceolate, 3–20 × 0.5–3 cm, subglabrous to tuberculate-hairy, base usually oblique. Inflorescence axis 5–15 cm, glabrous to tuberculate-hairy; racemes 3–6, 2–6 cm, ascending to erect. Spikelets in 7–14 widely spaced, sometimes patent pairs, lanceolate, glabrous to thinly pilose; glumes herbaceous, awned, the awns stout, green or purple, viscid; lower glume awn 5–10 mm; upper glume awn to 3 mm or occasionally absent; lower lemma subcoriaceous, 7–9-veined, acute or with a stout 0.3–1 mm mucro; upper lemma subcoriaceous, ca. 2.5 mm, smooth. Fl. and fr. Sep–Nov. $2n = 54, 72^*$.

Moist places in forests and along forest margins, hill slopes. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Jiangxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Japan, Philippines, Thailand, and elsewhere in tropical Asia extending westward through India to E Africa; Australia, Pacific Islands (Polynesia)].

- 1a. Panicle axis, rachis, leaf sheaths, and leaf blades pilose, hispid or tuberculate-hairy; upper glume awned.
 - 2a. Leaf blades 5–10 × 0.5–1.8 cm 2d. var. *intermedius*
 - 2b. Leaf blades 10–20 × 2–3 cm 2e. var. *owatarii*
- 1b. Panicle axis, rachis, leaf sheaths, and leaf blades glabrous, or puberulous or only ciliate at the mouth of the leaf sheath; or if panicle axis pilose, then upper glume awnless.
 - 3a. Leaf blades 9–13 × 1.2–2.5 cm; spikelets 3.5–4 mm 2c. var. *formosanus*
 - 3b. Leaf blades 3–8 × 0.8–1.4 cm; spikelets 2.5–3.5 mm.
 - 4a. Upper glume with 1–2 mm awn 2a. var. *compositus*
 - 4b. Upper glume awnless 2b. var. *submuticus*

2a. *Oplismenus compositus* var. *compositus*

竹叶草(原变种) *zhu ye cao* (yuan bian zhong)

Panicum compositum Linnaeus, Sp. Pl. 1: 57. 1753; *P. aristatum* Retzius.

Leaf sheaths subglabrous or puberulous; leaf blades 3–8 × 0.8–1.4 cm, glabrous or margins ciliate. Inflorescence axis glabrous or puberulous. Spikelets ca. 3 mm; lower glume awn 7–20 mm, upper glume awn 1–2 mm. Fl. and fr. Sep–Nov. $2n = 54, 72^*$.

Moist places in forests. Guangdong, Guizhou, Jiangxi, Sichuan, Taiwan, Yunnan [tropical Asia extending westward through India to E Africa; Australia, Pacific Islands (Polynesia)].

2b. *Oplismenus compositus* var. *submuticus* S. L. Chen & Y. X. Jin, Acta Phytotax. Sin. 22: 470. 1984.

无芒竹叶草 *wu mang zhu ye cao*

Leaf sheaths glabrous except for ciliate margins; leaf blades 3–8 × 0.8–1.4 cm. Inflorescence axis scabrous or pilose. Spikelets ca. 3 mm; lower glume awn 5–10 mm; upper glume without awn. Fl. and fr. autumn.

- Moist places along forest margins. Sichuan, Yunnan.

2c. *Oplismenus compositus* var. *formosanus* (Honda) S. L. Chen & Y. X. Jin, *Acta Phytotax. Sin.* 22: 470. 1984.

台湾竹叶草 tai wan zhu ye cao

Oplismenus formosanus Honda, *Repert. Spec. Nov. Regni Veg.* 20: 361. 1924.

Leaf blades lanceolate, 9–13 × 1.2–2.5 cm, usually glabrous. Inflorescence axis usually glabrous. Spikelets 3.5–4 mm; upper glume awn to 3 mm. Fl. and fr. autumn.

- Moist places in forests. Guangdong, Guangxi, Guizhou, Sichuan, Taiwan, Yunnan.

2d. *Oplismenus compositus* var. *intermedius* (Honda) Ohwi, *Acta Phytotax. Geobot.* 11: 35. 1942.

中间型竹叶草 zhong jian xing zhu ye cao

Oplismenus burmannii var. *intermedius* Honda, *Bot. Mag. (Tokyo)* 38: 191. 1924.

Leaf sheaths densely tuberculate-hairy, margins ciliate; leaf blades 5–10 × 0.5–1.8 cm, base cordate. Inflorescence axis pilose or hispid. Spikelets 3–3.5 mm; lower glume awn 5–10 mm; upper glume awn shorter. Fl. and fr. autumn.

Moist places in forests, hill slopes. Guangdong, Guangxi, Sichuan, Taiwan, Yunnan, S Zhejiang [Japan, Philippines].

2e. *Oplismenus compositus* var. *owatarii* (Honda) J. Ohwi, *Acta Phytotax. Geobot.* 11: 35. 1942.

大叶竹叶草 da ye zhu ye cao

Oplismenus owatarii Honda, *Repert. Spec. Nov. Regni Veg.* 20: 316. 1924.

Leaf sheaths, leaf blades, and inflorescence axis densely hairy with long, soft or tubercle-based hairs; leaf blades 10–20 × 2–3 cm. Spikelets ca. 4 mm; lower glume awn ca. 8 mm; upper glume awn ca. 1 mm. Fl. and fr. autumn.

Undergrowth in moist forests on hill slopes. Guangdong, Guizhou, Taiwan, Yunnan [Japan, Thailand].

3. *Oplismenus fujianensis* S. L. Chen & Y. X. Jin, *Acta Phytotax. Sin.* 22: 469. 1984.

福建竹叶草 fu jian zhu ye cao

Culms decumbent at the base, 40–80 cm tall. Leaf sheaths densely hairy with tubercle-based hairs; leaf blades lanceolate or ovate-lanceolate, 5–10 × 1.5–2.5 cm, densely pubescent on both surfaces, base oblique, apex acute. Ligule a ciliate membrane. Inflorescence axis 10–15 cm, densely tuberculate-hairy; racemes 2–5 cm. Spikelets secund, paired or 3 at the base of raceme, closely spaced, ovate-lanceolate, 2.5–3 mm, pilose; glumes herbaceous, lower glume 3–5-veined, awn 2–4 mm, equaling or only slightly longer than the glume body; upper

glume acute or with a ca. 0.5 mm mucro; lower lemma 7–9-veined, lower palea membranous, short and narrow; upper lemma smooth. Fl. and fr. Jul–Oct.

- Moist places in thickets. Fujian.

4. *Oplismenus patens* Honda, *Repert. Spec. Nov. Regni Veg.* 20: 360. 1924.

疏穗竹叶草 shu sui zhu ye cao

Culms slender, 30–60 cm tall, glabrous. Leaf sheaths glabrous except for ciliate margins; leaf blades linear-lanceolate to ovate-lanceolate, 5–15 × 0.4–3.5 cm, glabrous on both surfaces; ligule membranous, ciliolate. Inflorescence axis 20–25 cm, glabrous or puberulous; racemes 5–8, 6–10 cm. Spikelets borne singly, ovate-lanceolate; glumes both awned; lower glume awn ca. 10 mm, upper glume awn 1/5–1/2 length of awn of lower glume; lower lemma equaling spikelet, 7–9-veined, dorsally puberulous, margins ciliate, awn 1–2.5 mm, lower palea absent; upper lemma papery or coriaceous, smooth, mucro 0.5–1 mm. Fl. and fr. Sep–Nov.

Undergrowth in moist forests on hillsides, moist places in open forests. Fujian, Guangdong, Hainan, Taiwan, Yunnan [Japan].

This species is sometimes regarded as a variant of *Oplismenus compositus*.

- 1a. Awn of upper glume 1/5 length of awn of lower glume; leaf blades linear-lanceolate to lanceolate, 0.4–0.7 cm wide 4c. var. *angustifolius*
- 1b. Awn of upper glume 1/3–1/2 length of awn of lower glume; leaf blades lanceolate to lanceolate-ovate, 0.7–3.5 cm wide.
 - 2a. Leaf blades 10–15 × 2–3.5 cm 4a. var. *patens*
 - 2b. Leaf blades 5–9 × 0.7–1.8 cm ... 4b. var. *yunnanensis*

4a. *Oplismenus patens* var. *patens*

疏穗竹叶草(原变种) shu sui zhu ye cao (yuan bian zhong)

Oplismenus compositus (Linnaeus) P. Beauvois subsp. *patens* (Honda) T. Koyama; *O. compositus* var. *patens* (Honda) Ohwi.

Leaf blades oblong-lanceolate to ovate-lanceolate, 10–15 × 2–3.5 cm, glabrous on both surfaces. Upper glume awn 1/2 length of awn of lower glume. Lower lemma 7–9-veined, awn 2–2.5 mm. Fl. and fr. Sep–Nov.

Undergrowth in moist forests on hillsides. Guangdong, Hainan, Taiwan, Yunnan [Japan].

4b. *Oplismenus patens* var. *yunnanensis* S. L. Chen & Y. X. Jin, Acta Phytotax. Sin. 22: 471. 1984.

云南竹叶草 yun nan zhu ye cao

Leaf blades lanceolate to narrowly lanceolate, 5–9 × 0.7–1.8 cm. Upper glume awn 1/3–1/2 length of awn of lower glume. Lower lemma awn ca. 1 mm. Fl. and fr. autumn–winter.

- Moist places in open forests. Hainan, Yunnan.

4c. *Oplismenus patens* var. *angustifolius* (Chia) S. L. Chen & Y. X. Jin, Acta Phytotax. Sin. 22: 470. 1984.

狭叶竹叶草 xia ye zhu ye cao

Oplismenus compositus (Linnaeus) P. Beauvois var. *angustifolius* L. C. Chia, Fl. Hainan. 4: 540. 1977.

Leaf blades lanceolate to linear-lanceolate, 5–9 × 0.4–0.7 cm. Upper glume awn 1/5 length of awn of lower glume. Lower lemma 7-veined. Fl. and fr. autumn–winter.

- Moist places in open forests. Hainan, Yunnan.

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