

**131. ERAGROSTIS** Wolf, Gen. Pl. 23. 1776.

画眉草属 hua mei cao shu

Chen Shouliang (陈守良); Paul M. Peterson

Annual or perennial, often glandular particularly on the leaf sheaths and inflorescence. Leaf blades mostly flat, sometimes rolled, rarely pungent; ligule a line of hairs or sometimes membranous. Inflorescence an open, contracted, spiciform or glomerate panicle, very rarely of racemes on a central axis. Spikelets 2- to many-flowered, laterally compressed, orbicular to vermiform, variously disarticulating. Glumes unequal, deciduous or persistent, 1(–3)-veined. Lemmas membranous to coriaceous, keeled or rounded, glabrous to asperulous or rarely hairy, 3-veined or the veins sometimes very faint and occasionally suppressed, apex entire, obtuse to acuminate, rarely mucronate. Palea keels sometimes winged or ciliate. Stamens 2 or 3. Fruit mostly globose, ellipsoid, or rectangular-prismatic, usually a caryopsis but sometimes the pericarp free.

About 350 species: tropics and subtropics throughout the world; 32 species (11 endemic, one introduced) in China.

- 1a. Florets disarticulating from above downward, falling together with the rachilla joints.
- 2a. Panicle contracted, spikelike or cylindrical.
- 3a. Perennial; lemmas 1.8–2.5 mm, ciliolate along the margins below ..... 27. *E. ciliata*
- 3b. Annual; lemmas 0.8–1.3 mm, glabrous or scabrous along the margins ..... 28. *E. ciliaris*
- 2b. Panicle usually open.
- 4a. Perennial ..... 29. *E. collina*
- 4b. Annual.
- 5a. Palea-keels long ciliate; branchlets and pedicels glandular ..... 30. *E. tenella*
- 5b. Palea-keels glabrous to ciliolate; branchlets and pedicels eglandular.
- 6a. Culms 120–150 cm tall, ca. 5 mm in diam.; panicle branches solitary or in pairs; spikelets yellowish green ..... 31. *E. alta*
- 6b. Culms 30–100 cm tall, 1.5–2.5 mm in diam., panicle branches clustered or verticillate; spikelets purplish at maturity ..... 32. *E. japonica*
- 1b. Florets disarticulating from below upward, usually leaving the rachilla entire.
- 7a. Annual.
- 8a. Palea falling together with its lemma at maturity.
- 9a. Spikelets oblong, 5–10 × 2–4 mm, 10–20-flowered ..... 25. *E. unioides*
- 9b. Spikelets filiform, 11–25 × 1–2.5 mm, 10–40-flowered.
- 10a. Upper glumes ca. 1 mm; lower lemma ca. 1.5 mm; palea ca. 1 mm; anthers ca. 0.2 mm ..... 20. *E. multicaulis*
- 10b. Upper glumes 1.3–2.3 mm; lower lemma 1.8–2.2 mm; palea ca. 1.6–1.8 mm; anthers 0.7–0.9 mm ..... 7. *E. atrovirens*
- 8b. Palea persistent or tardily falling.
- 11a. Plants glandular on the culms, leaf sheaths, and panicle.
- 12a. Spikelets 2–3 mm broad, lower lemma 2.2–2.8 mm ..... 22. *E. cilianensis*
- 12b. Spikelets 1.5–2.5 mm broad, lower lemma 1.5–2 mm.
- 13a. Palea subequal to its lemma; midrib of lemma glandular ..... 23. *E. minor*
- 13b. Palea shorter than its lemma; midrib of lemma eglandular ..... 24. *E. suaveolens*
- 11b. Plants eglandular.
- 14a. Lower glume 1-veined, 1–2 mm, the upper ca. 2 mm.
- 15a. Spikelets 5–20 × 2–2.5 mm, 8–40 florets ..... 16. *E. cumingii*
- 15b. Spikelets 3–5 × ca. 2 mm, 3–10 florets ..... 21. *E. autumnalis*
- 14b. Lower glume without a vein, less than 1 mm, the upper less than 1.4 mm.
- 16a. Summit of sheaths pilose; panicles 3.5–14 cm wide, axils pilose; pedicels as long or longer than the spikelets ..... 19. *E. pilosa*
- 16b. Summit of sheaths glabrous; panicles 1.5–3 cm wide, axils glabrous; pedicels usually shorter than the spikelets ..... 20. *E. multicaulis*
- 7b. Perennial.
- 17a. Lemma falling together with the palea at maturity.
- 18a. Spikelets 2–4 mm wide; stamens 2, anthers 0.2–0.5 mm; leaf blades sublanceolate, 3–6 mm broad ..... 25. *E. unioides*
- 18b. Spikelets 1.5–2.5 mm wide; stamens 3, anthers 0.7–0.9 mm; leaf blades linear, 2–4 mm broad .... 7. *E. atrovirens*
- 17b. Palea persistent or tardily falling at maturity.
- 19a. Panicle contracted and spikelike, less than 3(–5) cm wide.
- 20a. Spikelets 1–2 mm broad; lower panicle branches (1.5–)3–8 cm ..... 4. *E. nutans*
- 20b. Spikelets 2–3 mm broad; lower panicle branches 0.5–2.5 cm.

- 21a. Palea apex acute, the keels ciliate but not winged; panicle 2–8 cm, pilose in axils ..... 5. *E. cylindrica*  
 21b. Palea apex toothed, the keels winged, ciliolate along the wings; panicle 10–15 cm,  
 glabrous in axils ..... 6. *E. nevinii*
- 19b. Panicle open, usually more than 3 cm wide.
- 22a. Branchlets and pedicels distinctly or obscurely glandular.
- 23a. Caryopsis rectangular-prismatic with a shallow adaxial groove, laterally  
 compressed, 0.7–1.5 mm ..... 15. *E. ferruginea*  
 23b. Caryopsis obovoid to ellipsoid, terete, without a groove, 0.7–0.9 mm ..... 13. *E. perennans*
- 22b. Branchlets and pedicels eglandular.
- 24a. Branches densely spiculate to base.
- 25a. Stamens 3, anthers 0.3–1.3 mm; caryopsis dark brown ..... 1. *E. brownii*  
 25b. Stamens 2, anthers 0.2–0.3 mm; caryopsis cinnamon ..... 2. *E. elongata*
- 24b. Branches naked at base.
- 26a. Leaf blades long pilose on both surfaces.
- 27a. Spikelets 7–14-flowered; caryopsis furrowed on one side, bluntly  
 triangular in section ..... 10. *E. pilosissima*  
 27b. Spikelets usually 7-flowered; caryopsis compressed, elliptical in  
 section ..... 11. *E. pilosiuscula*
- 26b. Leaf blades glabrous, pubescent or pilose in part.
- 28a. Spikelets livid green, black-green, purplish black, or plumbeous; leaf  
 sheaths compressed at the base.
- 29a. Culms 80–120 cm tall; leaf blades flat or involute, up to 40 cm;  
 panicle up to 40 cm.
- 30a. Caryopsis ellipsoid to obovoid, smooth and mostly translucent,  
 dorsally compressed, adaxial surface sometimes with a shallow,  
 broad groove, light brown ..... 9. *E. curvula*  
 30b. Caryopsis rectangular-prismatic, faintly striate, laterally  
 compressed, with a shallow, narrow groove, reddish brown ... 15. *E. ferruginea*
- 29b. Culms 30–80 cm tall; leaf blades flat or involute, 5–25 cm,  
 panicle up to 23 cm.
- 31a. Plants with scaly buds at the base; spikelets 4–13 mm, 6–24-  
 flowered.
- 32a. Lower glume ca. 1 mm; upper glume ca. 1.3 mm,  
 1–3-veined; caryopsis 0.8–1 mm ..... 16. *E. cumingii*  
 32b. Lower glume ca. 1.2 mm; upper glume ca. 1.8 mm,  
 1-nerved; caryopsis 0.5–0.6 mm ..... 17. *E. duricaulis*
- 31b. Plants without scaly buds at the base; 3–12-flowered.
- 33a. Spikelets 2–2.5 mm wide, 5–10 mm; lemmas 2–2.2 mm;  
 caryopsis elliptical, terete ..... 14. *E. nigra*  
 33b. Spikelets 1–1.5 mm wide, 3–6 mm; lemmas 2.4–3 mm;  
 caryopsis rectangular-prismatic, laterally compressed ... 15. *E. ferruginea*
- 28b. Spikelets purplish, yellowish, or greenish; leaf sheaths not  
 compressed at the base.
- 34a. Palea tardily deciduous at maturity; spikelets 7–15 mm,  
 10–44-flowered ..... 18. *E. hainanensis*
- 34b. Palea persistent; spikelets 0.5–20 mm, 5–60-flowered.
- 35a. Axils of panicle and branches glabrous.
- 36a. Spikelets 5–10 × ca. 2.5 mm, 5–15-flowered; anthers  
 ca. 0.5 mm ..... 8. *E. fauriei*  
 36b. Spikelets 5–25 × ca. 3 mm, 6–60-flowered; anthers  
 ca. 0.3 mm ..... 12. *E. perlaxa*
- 35b. Axils of panicle and branches pilose.
- 37a. Culms 50–110 cm tall; panicle 20–35 cm; anthers ca.  
 1 mm ..... 13. *E. perennans*  
 37b. Culms 20–60 cm tall; panicle 3–12 cm; anthers 0.2–0.4  
 mm.
- 38a. Leaf blades pilose on adaxial surface; lemmas with  
 reddish or yellowish lateral veins ..... 3. *E. rufinerva*  
 38b. Leaf blades glabrous; lemmas with inconspicuous  
 lateral veins ..... 26. *E. montana*

**1. *Eragrostis brownii*** (Kunth) Nees, Cat. Indian Pl. 105. 1834.

长画眉草 chang hua mei cao

*Poa brownii* Kunth, Révis. Gramin. 1: 112. 1829; *Eragrostis zeylanica* Nees & Meyen; *E. bellissima* B. S. Sun & S. Wang.

Perennial. Culms slender, tufted, erect or geniculate at base, 15–60 cm tall, 0.5–1 mm in diam., 2–5-noded. Leaf sheaths glabrous and smooth, pilose along summit; ligules membranous, ca. 0.2 mm; leaf blades flat or involute, 3–10 cm × 1–3 mm. Panicle 3–18 cm; branches solitary with spikelets at base. Spikelets livid green, purplish or dark brown, oblong-elliptic, 4–20 × 1.5–2.5 mm, 7- to many-flowered, subsessile or with very short pedicel, apex acute. Glumes ovate-lanceolate, 1–2 mm; lower glume 1-veined, ca. 1.2 mm; upper glume 1–3-veined, the laterals usually faint, ca. 1.8 mm. Lower lemmas 2–2.5 mm. Palea slightly shorter than lemma, 1.5–2 mm, ciliolate along keels, apex emarginate. Stamens 3; anthers 0.3–1.3 mm. Caryopsis dark brown, ca. 0.5 mm. Fl. spring.

Mountain slopes, open places, roadsides; ca. 1000 m. Anhui, Fujian, Hainan, Yunnan, Zhejiang [India, Indonesia, Japan, Malaysia, New Guinea, Philippines, Sri Lanka; Australia, Pacific Islands].

**2. *Eragrostis elongata*** (Willdenow) J. Jacquin, Ecl. Gram. Rar. 3. 1813.

双药画眉草 shuang yao hua mei cao

*Poa elongata* Willdenow, Enum. Pl. 1: 108. 1809.

Perennial. Culms erect, loosely tufted, 20–90 cm tall, 0.5–1 mm in diam., 2–4-noded. Leaf sheaths usually shorter than internodes, glabrous; ligules 0.3–0.4 mm; leaf blades flat to involute, adaxial surface scabrous, sometimes hairy below, 5–21 cm × 1–3 mm. Panicle spicate to narrowly ovate, 5–30 × 1–4 cm; branches appressed or diverging up to 80° from the rachises with spikelets at base. Spikelets stramineous to greenish or light brown, 3–12(–20) × 1.5–2.5 mm, 6–25-flowered; subsessile or with a very short pedicel, rachilla fragile. Glumes linear-lanceolate to lanceolate, 1-veined, 0.8–2 mm. Lower lemmas lanceolate to ovate, 1.3–2.2 mm. Palea shorter and narrower than the lemmas, hyaline, 1.1–1.7 mm, ciliolate along keel. Stamens 2; anthers 0.2–0.3 mm. Caryopsis cinnamon, ovoid-ellipsoid, 0.4–0.7 mm, smooth to finely reticulate.

• Open grasslands, moist places, roadsides; near sea level to 1000 m. Fujian, Guangdong, Hainan, Jiangxi.

**3. *Eragrostis rufinerva*** L. C. Chia, Fl. Hainan. 4: 539. 1977.

红脉画眉草 hong mai hua mei cao

Perennial. Culms loosely tufted, 20–35 cm tall, ca. 1.5 mm in diam., 3–5-noded. Leaf sheaths usually shorter than internodes, glabrous but pilose around summit; ligules membranous; leaf blades flat or involute, adaxial surface pilose, abaxial surface glabrous, 3–11 cm × 2–4 mm. Panicle open, 3–12 × 0.2–0.5 cm; branch single, sparsely pilose in axils. Spikelets glaucous-green, densely imbricate, oblong or elliptic, 3–7 × 2–2.5 mm, 16–30-flowered; rachilla persistent. Glumes membranous, ovate, 1-veined, lower glume ca. 1 mm, apex acute, the up-

per 1.2–1.4 mm. Lemma broad ovate, apex acute; margin membranous, reddish or yellow. Palea persistent, apex obtuse, along keels ciliolate. Stamens 3; anthers ca. 0.3 mm. Caryopsis brown-red, ellipsoid, ca. 0.6 mm. Fl. and fr. winter.

• Open grasslands. Hainan.

**4. *Eragrostis nutans*** (Retzius) Nees ex Steudel, Nomencl. Bot., ed. 2, 1: 563. 1840.

细叶画眉草 xi ye hua mei cao

*Poa nutans* Retzius, Observ. Bot. 4: 19. 1786; *Eragrostis guangxiensis* S. C. Sun & H. Q. Wang.

Perennial. Culms erect, 30–60 cm. Leaf sheaths long silky hairs along summit; ligules fringed, ca. 0.3 mm; leaf blades 6–12 × 0.15–0.3 cm. Panicle contracted, spikelike, 7–14 × 1.5–3 (–5) cm; branches naked at lower part, ascending, glabrous in axils, lower branches (1.5–)3–8 cm. Spikelets 3–6 × 1–2 mm, usually (3–)5–12-flowered. Glumes chartaceous, broadly lanceolate to ovate, subequal, 1-veined. Lemmas 1.6–2 mm, ovate, chartaceous. Palea the same texture and length as lemma, 2-keeled, scabrous to ciliolate along keels. Stamens 3; anthers ca. 0.8 mm. Caryopsis ellipsoid, ca. 0.7 mm; embryo 1/2 length of the caryopsis.

Open, moist places, roadsides. Guangxi, Taiwan, Yunnan [India, Japan (Ryukyu Islands), Philippines].

This species is frequently confused with *Eragrostis gangetica* (Roxburgh) Steudel, which is an annual.

**5. *Eragrostis cylindrica*** (Roxburgh) Nees ex Hooker & Arnott, Bot. Beechey Voy. 251. 1838.

短穗画眉草 duan sui hua mei cao

*Poa cylindrica* Roxburgh, Fl. Ind. 1: 335. 1820; *Eragrostis geniculata* Nees & Meyen.

Perennial. Culms 30–90 cm tall, 1–2.5 mm in diam., tufted, rigid, 3–4-noded. Leaf sheaths shorter than internodes, pilose and long-pilose near summit; ligules a line of hairs; leaf blades 3–15 cm × 2–5 mm, linear, usually involute, pilose. Panicle 2–8 × 1–2.5 cm, contracted, cylindrical in outline; branches ascending, long pilose in axils, lower branches 0.5–1.5 cm. Spikelets yellowish brown or purplish, oblong, subsessile or with very short pedicels, ca. 7 × 2.5–3 mm, 4–17-flowered. Glumes 1-veined, apex acute, lower glume ca. 1.5 mm, upper glume ca. 2 mm. Lemmas chartaceous, ovate-oblong, apex mucronate, lowest lemma ca. 2 mm. Palea persistent, elliptical, chartaceous, ca. 1.8 mm, apex acute, along keels without wing only ciliate, margins unrolled and ciliate. Stamens 3; anthers yellowish, ca. 0.4 mm. Caryopsis yellow, elliptical, ca. 0.5 mm. Fl. and fr. Apr–Oct.

• Mountain slopes. Anhui, Fujian, Guangdong, Guangxi, Hainan, Jiangsu, Taiwan.

**6. *Eragrostis nevinii*** Hance, J. Bot. 18: 302. 1880.

华南画眉草 hua nan hua mei cao

Perennial. Culms rigid, tufted, erect or geniculate at base, 20–50 cm tall, 2–4 mm in diam., 5–6-noded. Leaf sheaths long

pilose throughout; ligules a line of hairs; leaf blades linear, usually involute, 4–11 × 0.3–0.4 cm, pubescent in both surfaces. Panicle contracted and spikelike, 10–15 × 1–2 cm, 1- to several-branched; branches ascending, tightly appressed glabrous or with short hairs in axils, lower branches 1.5–2.5 cm. Spikelets yellow or purplish, oblong or linear-oblong, 4–8 × 2–3 mm, 4–14 florets. Glumes lanceolate, 1-veined, lower glume ca. 1.5 mm, the upper ca. 2 mm. Lemmas ovate, apex acute, lower lemma ca. 2.5 mm. Palea persistent, apex toothed, along keels winged, along wings ciliate. Stamens 3; anthers ca. 0.5 mm. Caryopsis brown, oblong, ca. 1 mm. Fl. and fr. Apr–Oct.

• Mountain slopes, waste places. Fujian, Hainan, Shanghai, Taiwan.

**7. *Eragrostis atrovirens*** (Desfontaines) Trinius ex Steudel, Nomencl. Bot., ed. 2, 1: 562. 1840.

鼠妇草 shu fu cao

*Poa atrovirens* Desfontaines, Fl. Atlant. 1: 73. 1798; *Eragrostis chariis* (Schultes) Hitchcock; *E. elegantula* (Kunth) Nees ex Steudel (1854), not Nees (1851); *E. fracta* S. C. Sun & H. Q. Wang; *E. longispicula* S. C. Sun & H. Q. Wang; *E. multinodis* B. S. Sun & S. Wang; *Poa chariis* Schultes; *P. elegantula* Kunth.

Perennial. Culms loosely tufted, erect or geniculate at base, 15–100 cm tall, ca. 4 mm in diam., 4–8-noded. Leaf sheaths glabrous but pilose along summit; ligules a ciliate membrane, 0.2–0.3 mm; leaf blades flat or involute, 4–17 × 0.2–0.4 cm, adaxial surface scabrous, near base pilose, abaxial surface glabrous. Panicle open, 5–20(–25) × 2–15 cm; branches one to several per node. Spikelets plumbeous and purplish, narrowly oblong, 5–15(–25) × 1.5–2.5 mm, 8–40-flowered, pedicels 0.5–5(–15) mm; rachilla persistent. Glumes 1-veined, 1–2.3 mm; lower glume ovate, 1–1.3 mm, apex acute, upper glume narrowly ovate, 1.3–2.3 mm, apex acuminate. Lemmas broad ovate, 1.8–2.2 mm, apex acute, lower lemma 2–2.2 mm, deciduous with palea. Palea loosely ciliate along keel, 1.6–1.8 mm. Stamens 3; anthers 0.7–0.9 mm. Caryopsis ca. 1 mm. Fl. and fr. summer and autumn.  $2n = 40$ .

Roadsides, river banks. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Sichuan, Yunnan [tropical and subtropical regions of Africa and Asia].

**8. *Eragrostis fauriei*** Ohwi, Bot. Mag. (Tokyo) 55: 278. 1941.

佛欧里画眉草 fo ou li hua mei cao

Perennial. Culms densely caespitose, 30–60 cm tall, erect, glabrous. Leaf sheaths usually shorter than internodes; ligules margin ciliate; leaf blades subcoriaceous, 2–5 mm broad, margin involute. Panicle open, 10–15 cm; branches ascending, scabrous, glabrous in axils. Spikelets palely purplish, lanceolate, 5–10 × ca. 2.5 mm, 5–15-flowered, pedicellate; rachilla persistent. Glumes broadly lanceolate, 1-veined, apex acuminate, lower glume 1–1.5 mm, the upper 1.5–1.7 mm. Lemmas ovate, apex acute, minutely punctate, keel scabrous, lateral veins distinct, subparallel. Palea persistent, keels arc-shaped, ciliate-scabrous. Stamens 3; anther oblong, blackish purple, ca. 0.5 mm. Caryopsis elliptical, slightly compressed, obscurely striate.

• Waste places. Taiwan.

**9. *Eragrostis curvula*** (Schrader) Nees, Fl. Afr. Austral. III. 397. 1841.

弯叶画眉草 wan ye hua mei cao

*Poa curvula* Schrader, Gött. Gel. Anz. 3: 2073. 1821.

Perennial. Culms densely tufted, erect, 80–120 cm tall, 5–6-noded. Leaf sheaths scabrous with retrorse hairs at lower part, glabrous upward, shorter than internodes, long pilose along the summit; leaf blades elongate, involute, attenuate to a fine point, arcuate spreading, scabrous, (5–)10–40 cm × 1–2.5(–3) mm. Panicles open, 12–35 × 6–9 cm; branches solitary or in pairs, ascending, naked at base, at least the lower densely pilose in axils. Spikelets gray-green, (4–)6–11 × 1.5–2 mm, 5–16-flowered. Glumes lanceolate, apex acuminate, 1-veined, lower glume 1.2–1.5 mm, upper glume 1.8–2.5 mm. Lemmas broadly oblong, apex acute or obtuse, veins prominent, lower lemma 2–2.5 mm. Palea subequal to lemma, 2-keeled, persistent or tardily deciduous. Stamens 3; anthers ca. 1.2 mm. Caryopsis ellipsoid to obovoid, dorsally compressed, adaxial surface with a shallow, broad groove or ungrooved, smooth, mostly translucent, light brown, 1–1.7 mm. Fl. and fr. Apr–Sep.  $2n = 20, 42, 63, 80$ .

Commonly cultivated for ornament. Fujian, Guangxi, Hubei, Jiangsu, Xinjiang, Yunnan [native to Africa].

This species is used for fodder and as an ornamental grass.

**10. *Eragrostis pilosissima*** Link, Hort. Berol. 1: 189. 1827.

多毛知风草 duo mao zhi feng cao

*Eragrostis makinoi* Hackel.

Perennial. Culms tufted, erect, slender and rigid, 30–40 cm tall, less than 2 mm in diam. Leaf sheaths densely pilose, usually shorter than internodes but longer than internodes at base; ligules a line of hairs, ca. 0.3 mm; leaf blades usually involute, 5–10 × 0.1–0.2 cm, densely pilose at both surfaces. Panicle lax, 4–10 × 2–5 cm; branch usually solitary, slender, glabrous in axils. Spikelets yellow, oblong, 3–7 × ca. 2 mm, 7–14-flowered. Glumes ovate-oblong, subequal, 1–1.5 mm, apex acute. Lemmas ovate-oblong, apex obtuse, lateral veins faint. Palea slightly shorter than lemma, slightly arc-shaped, along keels ciliate, persistent or tardily deciduous. Stamens 3; anthers ca. 0.8 mm. Caryopsis furrowed on one side, bluntly triangular in section. Fl. and fr. Aug.

Mountain slopes. Fujian, Guangdong, Hainan, Jiangxi, Taiwan [SE Asia].

**11. *Eragrostis pilosiuscula*** Ohwi, Bot. Mag. (Tokyo) 55: 279. 1941.

有毛画眉草 you mao hua mei cao

Perennial. Culms tufted. Leaf sheaths tuberculate-pilose; ligules a line of hairs, 0.4–0.5 mm; leaf blades linear, ca. 10 × 0.15 cm, densely covered with long tuberculate hairs on both surfaces. Panicles open, 5–7 cm; branches solitary or in pairs, naked at base. Spikelets usually 7-flowered, ca. 3.5 mm. Glumes

lanceolate, or upper ovate, chartaceous, subequal, ca. 1 mm, 1-veined. Lemmas ca. 1.5 mm, chartaceous, ovate. Palea elliptical, usually equal to lemma, 2-keeled, minutely scabrous along keels. Caryopsis compressed, elliptical in section. Fl. and fr. Aug.

- Open places. Guangdong, Taiwan.

**12. *Eragrostis perlaxa*** Keng ex P. C. Keng & L. Liu, *Acta Bot. Sin.* 9: 66. 1960.

疏穗画眉草 shu sui hua mei cao

Perennial. Culms tufted, erect and slender, 40–90 cm tall, ca. 1 mm in diam., 2–3-noded. Leaf sheaths glabrous, pilose along the summit; ligules a line of hairs, ca. 0.2 mm; leaf blades involute, adaxial surface pilose, 3–8 × 0.1–0.25 cm. Panicle lax, 7–25 × 0.4–0.9 cm; branch solitary, 4–8 cm, glabrous in axils; branchlet with 2–5 spikelets. Spikelets stramineous or gray-green, filiform or oblong, 0.5–2.5 × ca. 0.3 cm, 6–60-flowered, with pedicel 0.5–1 cm. Glumes 1-veined, lower glume narrowly ovate, apex acuminate, ca. 1.2 mm, upper glume ovate, apex acute, ca. 1.5 mm. Lemmas broadly ovate, apex acute, lateral veins distinct, lower lemma ca. 2 mm. Palea ca. 1.8 mm, persistent, along keels ciliate. Anthers ca. 0.3 mm. Caryopsis ca. 0.6 mm. Fl. Aug.

- Mountain slopes, open ground. Anhui, Fujian, Guangdong, Guangxi, Taiwan.

**13. *Eragrostis perennans*** Keng, *Sunyatsenia* 3: 16. 1935.

宿根画眉草 su gen hua mei cao

*Eragrostis hekouensis* B. S. Sun & S. Wang; *E. lincanensis* B. S. Sun & S. Wang; *E. quinquenervis* B. S. Sun & S. Wang; *E. rubida* B. S. Sun & S. Wang.

Perennial. Culms erect and rigid, 50–110 cm tall, 1–3 mm in diam., 2–4-noded. Leaf sheaths pilose along summit; ligule membranous or a line of hairs, 0.15–0.3 mm; leaf blades flat, stiff, 10–45 × 0.3–0.5(–0.7) cm, glabrous or adaxial surface scabrous, rarely villose on both surfaces. Panicle open, 20–35 × 3–6(–13) cm; branches usually solitary, pilose, hispidulous or glabrous in axils. Spikelets purplish yellow, 4–20 × 1.8–3 mm, 5–24-flowered, with pedicel 1–5 mm. Glumes broadly lanceolate, apex acuminate, 1-veined, lower glume 1.6–2 mm, upper glume 1.8–2.3 mm. Lemmas oblong-lanceolate, apex acute; lateral veins greenish and distinct; lowest lemma 2.2–2.5 mm. Palea persistent, ca. 2 mm, along 2 keels ciliate. Anthers ca. 1 mm. Caryopsis obovoid to ellipsoid, terete, somewhat striate, brown, 0.7–0.9 mm. Fl. and fr. summer and autumn.

Mountain slopes, roadsides. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Yunnan, Zhejiang [SE Asia].

**14. *Eragrostis nigra*** Nees ex Steudel, *Syn. Pl. Glumac.* 1: 267. 1854.

黑穗画眉草 hei sui hua mei cao

*Eragrostis atropurpurea* Hochstetter ex Steudel; *E. denigrens* B. S. Sun & S. Wang.

Perennial. Culms tufted, erect or slightly geniculate at base, 30–90 × 0.15–0.25 cm, slightly compressed at base, 2–3-

noded. Leaf sheaths along margins long ciliate, white pilose along the summit; ligules 0.1–0.5 mm; leaf blades filiform, flat, 2–25 × 0.3–0.5 cm, glabrous. Panicle open, 10–24 × 3–16 cm; branches solitary or verticillate, slender and twisted, glabrous in axils. Spikelets black or black green, 3–6 × 1–1.5 mm, 3–8-flowered, with pedicel 2–10 mm. Glumes membranous, lanceolate, apex acuminate, lower glume 1-veined, 1.5–2.5 mm; upper glume 1–3-veined, 1.8–2.5 mm. Lemmas ovate-oblong, apex membranous, lower lemma 2–2.2 mm. Palea persistent, slightly shorter than lemma, along 2 keels ciliate, apex obtuse. Stamens 3; anthers ca. 0.6 mm. Caryopsis elliptical, 0.5–1 mm. Fl. and fr. Apr–Sep.

Mountain slopes. Gansu, Guangxi, Guizhou, Henan, Jiangxi, Qinghai, Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Myanmar, Nepal, Sri Lanka; SE Asia].

**15. *Eragrostis ferruginea*** (Thunberg) P. Beauvois, *Ess. Agrostogr.* 71. 1812.

知风草 zhi feng cao

*Poa ferruginea* Thunberg in Murray, *Syst. Veg.*, ed. 14, 114. 1784; *Eragrostis mairei* Hackel; *E. mairei* var. *eglandis* B. S. Sun & S. Wang.

Perennial. Culms single or tufted, erect or geniculate at base, 30–110 cm tall, 2–4 mm in diam. Leaf sheaths laterally compressed, glabrous but along margins and summit densely pilose, sometimes glandular along main vein; ligules a line of hairs, ca. 1 mm; leaf blades linear-lanceolate, (4–)20–40 × 2–6 mm, glabrous or adaxial surface sparingly covered with silky hairs on basal part. Panicle large and open, 15–40 × 4–15 cm, 1–3-branched at each node, glabrous in axils; branchlet and pedicel usually glandular at middle or above middle. Spikelets oblong, purplish black, gray-green, rarely yellowish green, 5–10 × 2–2.5 mm, (4–)7–12-flowered. Glumes lanceolate, open, 1-veined, apex acuminate, lower glume 1.4–2 mm, upper glume 2–3 mm. Lemma ovate-lanceolate to oblong, 2.4–3 mm, apex obtuse, lower lemma ca. 3 mm. Palea persistent, along keels ciliate. Anthers ca. 1 mm. Caryopsis rectangular-prismatic with a shallow, narrow adaxial groove, laterally compressed, faintly striate, reddish brown, 0.7–1.5 mm. Fl. and fr. Aug–Dec.  $2n = 80$ .

Mountain slopes, roadsides. Anhui, Beijing, Fujian, Guizhou, Henan, Hubei, Shaanxi, Shandong, Taiwan, Xizang, Yunnan, Zhejiang [Bhutan, India (Sikkim), Japan, Korea, Laos, Nepal, Vietnam].

The name "*Eragrostis ferruginea* var. *yunnanensis* Keng" (*Claves Gen. Sp. Gram. Prim. Sin.* 178. 1957) was not validly published because no Latin description was provided.

**16. *Eragrostis cumingii*** Steudel, *Syn. Pl. Glumac.* 1: 266. 1854.

珠芽画眉草 zhu ya hua mei cao

*Eragrostis bulbifera* Steudel; *E. reflexa* Hackel.

Annual to perennial. Culms erect, tufted, slender, usually with scaly buds at base, glabrous, 20–70 cm tall, 1–1.5 mm in diam., 3–4-noded. Leaf sheaths compressed at base, glabrous, long pilose along summit; ligules 0.1–0.3 mm, fimbriate; leaf blades involute, 5–19 × 0.1–0.2 cm, glabrous on both surfaces, but long pilose at base of adaxial surface. Panicle open, 8–30 ×

4–8 cm; branches solitary, naked at lower part, glabrous in axils. Spikelets yellowish green or gray-green, narrowly oblong, 5–20 × 2–2.5 mm, 8–40-flowered, pedicels without glands. Glumes chartaceous, deltoid-oblong, easily falling off when mature, lower glume 1-veined, ca. 1 mm, upper glume 1–3-veined, ca. 1.3 mm. Lemmas broadly ovate, lateral veins nearly parallel, lower lemma ca. 2 mm. Palea chartaceous, oblanceolate, persistent or tardily deciduous, strongly 2-keeled, along keels ciliate. Anthers ca. 0.2 mm. Caryopsis elliptical, terete to laterally flattened, 0.8–1 mm. Fl. and fr. Sep–Oct.

Roadsides, fields. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Jiangsu, Taiwan, Yunnan, Zhejiang [Japan; SE Asia, Australia].

**17. *Eragrostis duricaulis*** B. S. Sun & S. Wang, J. Yunnan Univ. 20: 354. 1998.

针仓画眉草 zhen cang hua mei cao

Perennial. Culms erect, tufted, with scaly buds at base, glabrous, 60–80 cm tall, 1–1.2 mm in diam., 3–5-noded. Leaf sheaths dark brown, compressed near base, mostly glabrous and pilose at summit; ligules 0.1–0.3 mm, ciliate; leaf blades filiform, flat or folded, 5–20 × 0.1–0.3 cm, glabrous below and tuberculate pilose above. Panicle open, 12–22 × 4–10 cm; branches 1 or 2 per node, naked at lower part, ascending up to 6 cm, glabrous in axils. Spikelets plumbeous or yellowish, narrowly elliptical, 4–9 × 1.5–2 mm, 6–16-flowered, pedicels without glands, 1–3 mm. Glumes membranous, easily falling off when mature, lower glumes 1-veined, ca. 1.2 mm, upper glumes 1-veined, ca. 1.8 mm, scabrous on keel. Lemmas broadly ovate, apex acuminate, lower lemma ca. 2 mm, deciduous. Palea persistent, ca. 1.6 mm, apex obtuse. Stamens 3; anthers 0.3–0.4 mm. Caryopsis brown, elliptical to roundish (spherical), 0.5–0.6 mm. Fl. and fr. Apr–Oct.

• Reservoir dams; ca. 1100 m. Yunnan (Zhenkang).

**18. *Eragrostis hainanensis*** L. C. Chia, Fl. Hainan. 4: 539. 1977.

海南画眉草 hai nan hua mei cao

Perennial, usually stoloniferous. Culms rigid, erect or geniculate at base, 35–45 cm tall, ca. 2 mm in diam., 4–7-noded. Leaf sheaths glabrous and smooth, long pilose along summit; ligules scarious, ca. 0.2 mm, margin ciliate; leaf blades linear involute, stiff, 4–8 × ca. 0.3 cm, adaxial surface long pilose. Panicle open, 9–13 × 4–6 cm; branches solitary, lax, ascending, naked at base, usually glabrous in axils. Spikelets greenish or purplish green, oblong, 7–15 × ca. 2 mm, 10–44-flowered; rachilla persistent. Glumes membranous, ovate 1-veined, lower glume ca. 1 mm, upper glume ca. 1.2 mm. Lemmas broadly ovate, apex slightly obtuse, veins prominent, lower lemma ca. 1.6 mm. Palea slightly shorter than lemma, along 2 keels ciliate, tardily deciduous. Stamens 3; anthers yellow, ca. 3 mm. Fl. and fr. autumn.

• Open grasslands. Hainan.

**19. *Eragrostis pilosa*** (Linnaeus) P. Beauvois, Ess. Agrostogr. 71. 1812.

画眉草 hua mei cao

*Poa pilosa* Linnaeus, Sp. Pl. 1: 68. 1753.

Annual. Culms tufted, erect or geniculate at base, 15–60 cm tall, 1.5–2.5 mm in diam., 4-noded, smooth. Leaf sheaths pilose at summit, compressed, margin submembranous; ligules a line of hairs; leaf blades flat or involute, 6–20 × 0.2–0.3 cm, glabrous. Panicle 10–25 × 3.5–14 cm; branches solitary to verticillate, pilose in axils, usually ascending, pedicels as long or longer than spikelets. Spikelets 3–10 × 1–1.5 mm, 4–14-flowered. Glumes membranous, lanceolate, apex acuminate, lower glume without vein, 0.4–0.9 mm, upper glume 1-veined, 0.7–1.3 mm. Lemmas ovate, apex acute, lower lemma ca. 1.8 mm. Palea ca. 1.5 mm, along keels persistent or tardily deciduous ciliate. Stamens 3; anthers 0.1–0.3 mm. Caryopsis oblong, ca. 0.8 mm. Fl. and fr. Aug–Nov.  $2n = 40, 60$ .

Open grasslands. Anhui, Beijing, Fujian, Guizhou, Hainan, Heilongjiang, Henan, Hubei, Nei Mongol, Ningxia, Shaanxi, Shandong, Taiwan, Xizang, Yunnan, Zhejiang [SE Asia; Africa, Australia, S Europe; introduced in America].

This species is very widely distributed in tropical and warm regions of the Old World. It is a forage grass with medicinal uses.

**20. *Eragrostis multicaulis*** Steudel, Syn. Pl. Glumac. 1: 426. 1854.

多秆画眉草 duo gan hua mei cao

*Eragrostis niwahokori* Honda; *E. pilosa* (Linnaeus) P. Beauvois var. *imberbis* Franchet; *E. pulchra* S. C. Sun & H. Q. Wang.

Annual. Culms tufted, erect or ascending, geniculate at base. Leaf sheaths glabrous at summit or with a few short hairs, compressed; ligules a line of hairs, 0.2–0.1 mm; leaf blades usually flat, 3–9 cm × 0.5–2.5 mm, glabrous. Panicle open, 4.5–9 × 1.5–3 cm; branches solitary or in pairs but base branches nearly whorled, glabrous in axils; pedicels usually shorter than spikelets. Spikelets dark green, 2.5–4.5 mm, 3–10-flowered. Glumes membranous, falling off at maturity, lower glume narrow, veins obscure, ca. 0.6 mm, upper glume oblong-ovate, 1-veined, ca. 1 mm. Lemmas membranous, semi-ovate in side vein, ca. 1.5 mm, middle vein keeled, falling off at maturity. Palea membranous, ca. 1 mm, apex blunt, along 2 keels ciliate, persistent or tardily falling off at maturity. Stamens 3; anthers ca. 0.2 mm. Caryopsis ca. 0.8 mm, striate. Fl. and fr. late summer.  $2n = 40$ .

Roadsides, waste fields, especially common in flower pots. Taiwan, Yunnan [India, Japan; SE Asia].

**21. *Eragrostis autumnalis*** Keng, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 10: 178. 1936.

秋画眉草 qiu hua mei cao

Annual. Culms single or tufted, 15–45 cm tall, 1–2.5 mm in diam., 3–4-noded. Leaf sheaths compressed, glabrous, along summit with long deciduous hairs; ligules a line of hairs; leaf blades usually involute or plicate, 6–12 × 0.2–0.3 cm. Panicle 6–15 × 3–5 cm; branches solitary, clustered, or verticillate, glabrous in axils. Spikelets gray-green, 3–5 × ca. 2 mm, 3–10 florets, with pedicels 1–5 mm. Glumes 1-veined, lower glume ca. 1.5 mm, upper glume ca. 2 mm. Lemma broadly ovate, apex acute, lower lemma ca. 2 mm. Palea ca. 1.5 mm, 2-keeled, along keels ciliate, persistent or tardily deciduous. Stamens 3;

anthers ca. 0.5 mm. Caryopsis red-brown, ca. 1 mm. Fl. and fr. Jul–Nov.

• Grasslands, roadsides. Anhui, Fujian, Guizhou, Hebei, Henan, Jiangsu, Jiangxi, Shandong, Zhejiang.

*Eragrostis autumnalis* is very similar to *E. pilosa* and can be separated from that species by its longer, 1-veined lower glumes (ca. 1.5 mm vs. 0.4–0.9 mm), longer upper glumes (ca. 2 mm vs. 0.7–1.3 mm), and longer lemmas (ca. 2 mm vs. 1.8 mm).

**22. *Eragrostis cilianensis*** (Allioni) Vignolo-Lutati ex Janchen, Mitt. Naturwiss. Vereins Univ. Wien, n.s., 5: 110. 1907.

大画眉草 da hua mei cao

*Poa cilianensis* Allioni, Fl. Pedem. 2: 246. 1785; *Eragrostis major* Host; *E. megastachya* (Koeler) Link; *Poa megastachya* Koeler.

Annual. Culms rather robust, 30–90 cm tall, 3–5 mm in diam., erect or geniculate at base, 3–5-noded, a line of glands below each node. Leaf sheaths with glands along veins, along summit with tubercle hairs; ligules a line of hairs, ca. 0.5 mm; leaf blades flat, glabrous, 6–20 × 0.2–0.6 cm, along midvein and margin glandular. Panicle oblong or pyramidal, 5–20 cm; branch usually solitary, ascending; branchlet glandular. Spikelets dark green, gray-green or yellowish white, compressed, oblong or ovate-oblong, 5–20 × 2–3 mm, 10–40-flowered. Glumes subequal or lower glume slightly shorter, 1-veined, upper glume 1–3-veined, along middle vein glandular. Lemmas chartaceous, broadly ovate-oblong, conspicuously 3-veined, along middle vein glandular, lower lemma 2.2–2.8 mm. Palea persistent; oblanceolate, apex rounded, 1.2–1.6 mm, along keels ciliolate. Stamens 3; anthers ca. 0.5 mm. Caryopsis oblong, ca. 0.5 mm in diam. Fl. and fr. Jul–Oct.  $2n = 40$ .

Waste places, fields, cultivated ground. Anhui, Beijing, Fujian, Guizhou, Hainan, Heilongjiang, Henan, Hubei, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Taiwan, Xinjiang, Yunnan, Zhejiang [tropical and subtropical regions of the world].

**23. *Eragrostis minor*** Host, Icon. Descr. Gram. Austriac. 4: 15. 1809.

小画眉草 xiao hua mei cao

*Poa eragrostis* Linnaeus, Sp. Pl. 1: 68. 1753; *Eragrostis minor* var. *minima* B. S. Sun & S. Wang; *E. poaeoides* P. Beauvois, nom illeg. superfl.

Annual. Culms slender, tufted, erect or geniculate at base, (5–)15–50(–80) cm tall, 1–2 mm in diam., 3–4-noded, below each node usually a line of glands. Leaf sheaths usually shorter than internodes, along summit and margin with long silky hairs, along veins glandular especially in middle vein or tuberculate hispidulous; ligules a line of hairs; leaf blades flat or involute, 3–15 × 0.2–0.4 cm, adaxial surface scabrous and pilose, abaxial surface glabrous, along middle vein and margins with glands in row. Panicle open, 6–15 × 3–6 cm; branch solitary, ascending or spreading. Spikelets green or dark green, oblong, 3–8 × 1.5–2 mm, 3–16-flowered, with glandular pedicels 3–6 mm. Glumes chartaceous, lanceolate, 1-veined, glandular along veins, lower glume ca. 1.6 mm, upper glume ca. 1.8 mm. Lemma ovate, apex obtuse, lateral veins nearly parallel, midrib glandular, low-

er lemma 1.5–2 mm. Palea subequal to its lemma, persistent, 2-keeled, along keels ciliolate or scabrous. Stamens 2 or 3; anthers 0.2–0.3 mm. Caryopsis red-brown, oblong or globose, ca. 0.5 mm in diam. Fl. and fr. Jul–Sep.  $2n = 40$ .

Mountain slopes, grasslands, roadsides. Anhui, Beijing, Fujian, Guizhou, Heilongjiang, Henan, Hubei, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Taiwan, Xinjiang, Xizang, Yunnan, Zhejiang [tropical, subtropical, and temperate regions of the world].

**24. *Eragrostis suaveolens*** A. K. Becker ex Claus, Beitr. Pflanzenk. Russ. Reiches 8: 266. 1851.

香画眉草 xiang hua mei cao

Annual. Culms slender, caespitose, decumbent at base, smooth and glabrous, 20–60 cm tall. Leaf sheaths glabrous, along veins with many glands, pilose along summit; ligules a ring of hairs; blades linear, flat, glabrous, with many glands. Panicle lax; branches slender, solitary or 2(–3) per node, glabrous in axils. Spikelet rather pale, 4–11 × 1.5–2(–2.5) mm, (5–)10–20-flowered. Glumes slightly shorter than florets, lower glume shorter than upper glume. Lemmas broadly ovate, eglandular along keel, lower lemma 1.5–2 mm. Palea slightly shorter than its lemma, curved, along keels ciliate, persistent. Stamens 3; anthers 0.2–0.3 mm. Fl. and fr. Jun–Sep.

Roadsides, streams, fields. Xinjiang [Kazakhstan; E Europe].

**25. *Eragrostis unioides*** (Retzius) Nees ex Steudel, Syn. Pl. Glumac. 1: 264. 1854.

牛虱草 niu shi cao

*Poa unioides* Retzius, Observ. Bot. 5: 19. 1788; *Eragrostis amabilis* (Linnaeus) Wight & Arnold ex Nees; *E. formosana* Hayata; *P. amabilis* Linnaeus.

Annual or perennial. Culms erect or geniculate at base, 20–60 cm tall, 2–3 mm in diam., 3–5-noded. Leaf sheaths glabrous and smooth, long pilose along the summit; ligules membranous, ca. 0.8 mm; leaf blades sublanceolate, flat, 2–20 × 0.3–0.6 cm, adaxial surface long pilose, abaxial surface smooth, apex acuminate. Panicle open, oblong, 5–20 × 3–5 cm; branch solitary, glabrous in axils. Spikelets purplish red at maturity, oblong, 5–10 × 2–4 mm, with pedicel 0.2–1 cm, 10–20-flowered; florets closely imbricate; rachilla persistent, lower glume 1.5–2 mm, upper glume 2–2.5 mm. Lemmas broadly ovate, veins prominent, apex acute, the lower lemma ca. 2 mm. Palea slightly shorter than the lemma, 2-keeled, very narrowly winged and ciliolate, falling off together with its lemma at maturity. Stamens 2; anthers purple, 0.2–0.5 mm. Caryopsis compressed, ellipsoidal, ca. 0.8 mm. Fl. and fr. Aug–Oct.

Mountain slopes, grasslands, roadsides. Fujian, Hainan, Jiangxi, Taiwan, Yunnan [W Africa, tropical Asia].

**26. *Eragrostis montana*** Balansa, J. Bot. (Morot) 4: 168. 1890.

山地画眉草 shan di hua mei cao

*Eragrostis malayana* Stapf.

Short-lived perennial. Culms erect or geniculate at base, new tufts at nodes but not rooting, up to 60 cm tall, ca. 2 mm in diam. Leaf sheaths lightly keeled, glabrous, pilose at collar; leaf blades 3.5–11.5 cm × 0.5–1.25(–3) mm, glabrous except for

sparse long hairs near ligule; ligule ca. 0.2 mm, ciliolate. Panicle lax to contracted, 4–10 × 0.5–5 cm; branches solitary, lowermost 1.2–3 cm, erect or spreading, bare in lower 1/5–1/3, scaberulous, branchlets appressed, main axils often pilose; pedicels 0.5–3 mm, shorter than spikelet. Spikelets 2.8–5(–7) × 1.5–2.3 mm, greenish yellow tinged light purple, florets 12–18, closely overlapping, disarticulating from base upward; rachilla persistent; glumes unequal, lower glume 0.5–1 mm, upper glume 0.75–1.4 mm, both acute; lemmas 1.1–1.5 mm, lateral veins faint, apex subacute. Palea persistent, keels ciliolate. Stamens 3; anthers 0.2–0.4 mm. Caryopsis slightly compressed, ellipsoidal, 0.5–0.6 mm. Fr. Nov.

About 1200 m. Yunnan [Cambodia, Indonesia, Malaysia, Myanmar, Thailand, S Vietnam].

This species is reported from Yunnan, but the authors have not seen any specimens.

**27. *Eragrostis ciliata*** (Roxburgh) Nees, Fl. Bras. Enum. Pl. 2: 512. 1829.

纤毛画眉草 xian mao hua mei cao

*Poa ciliata* Roxburgh, Fl. Ind. 1: 336. 1820; *Eragrostis alopecuroides* Balansa; *E. brevispica* Keng.

Perennial. Culms tufted, erect, rigid, 30–90 cm tall, ca. 2 mm in diam., many-noded, a line of glands below node. Leaf sheaths glabrous and smooth, long pilose along summit; ligules a line of hairs; leaf blades flat, lanceolate, 4–17 × 0.3–0.5 cm, glabrous. Panicle dense, cylindrical, 1.5–7 × 0.5–1.5 cm, densely hirsute in axils of basal branch. Spikelets compressed, 4–6 × ca. 3 mm, 7–13-flowered; rachilla slender, disarticulated between florets from top to the base at maturity. Glumes membranous lanceolate, pubescent on back, ciliate along margin, apex mucronate; lower glume ca. 1.8 mm, upper glume 1.8–2 mm. Lemmas membranous, pubescent on back, ciliolate along the margins below, apex short pointed, lower lemma 1.8–2.5 mm. Palea slightly shorter than lemma, margin ciliate, along 2 keels long ciliate, the cilia 0.8–1.6 mm. Stamens 2; anthers ca. 0.4 mm. Caryopsis red brown, ovate, ca. 0.5 mm. Fl. and fr. winter.

Thickets. Hainan [Burma, India, Sri Lanka, Vietnam].

**28. *Eragrostis ciliaris*** (Linnaeus) R. Brown in Tuckey, Narr. Exped. Zaire 478. 1818.

毛画眉草 mao hua mei cao

*Poa ciliaris* Linnaeus, Syst. Nat., ed. 10, 2: 875. 1759; *Cynodon ciliaris* (Linnaeus) Raspail; *Megastachya ciliaris* (Linnaeus) P. Beauvois; *Poa amboinica* Linnaeus.

Annual. Culms slender, tufted, 10–70 cm tall. Leaf sheaths with long silky hairs; ligules a line of ca. 0.4 mm hairs; leaf blades ca. 15 × 0.3 cm, adaxial surface with silky hairs. Panicle purplish, contracted, spikelike. Spikelets ca. 2 mm, many-flowered. Glumes chartaceous, deltoid-lanceolate, 1-veined, apex pointed, lower glume slightly shorter than upper glume, upper glume ca. 1 mm. Lemmas chartaceous, 0.8–1.3 mm, midrib of back with short glandular hairs, glabrous to scabrous along the margins, apex mucronate. Palea oblanceolate, chartaceous, equal to lemma, along 2 keels ciliate, cilia longer than the width

of the palea. Caryopsis ca. 0.3 mm, the embryo 1/2 the length of the caryopsis. Fl. and fr. in autumn.  $2n = 20, 40$ .

Dry places. Taiwan [tropical and subtropical regions of the world].

*Eragrostis ciliaris* is often confused with *E. ciliata*, but the latter species is a perennial with lemmas 2–2.5 mm, membranous, and pubescent abaxially and the palea slightly shorter than the lemma.

**29. *Eragrostis collina*** Trinius, Mém. Acad. Imp. Sci. St.-Petersbourg, Sér. 6, Sci. Math. 1: 413. 1831.

戈壁画眉草 ge bi hua mei cao

*Aira arundinacea* Linnaeus; *Eragrostis arundinacea* (Linnaeus) Roshevitz (1934), not Jedwabnick (1924).

Perennial with rhizomes. Culms glaucous, erect, caespitose, rigid, robust, glabrous, 30–100 cm tall. Leaf sheaths glabrous, with long soft hairs along summit; ligules a ring of hairs; blades linear, flat or involute, glabrous, margins scabrous, 2–6 mm broad. Panicle ca. 25 × 12 cm; branches ascending, loose, smooth, 1–2(–3) per node. Spikelets dark green, usually gathered at tip, 1.8–3.5 mm, 2–5-flowered; rachilla articulating at maturity. Glumes unequal, shorter than florets. Lemma ca. 2 mm, apex obtuse. Caryopsis nearly rounded, ca. 1 mm in diam. Fl. and fr. Jun–Sep.

Mountain slopes, streams; 500–1000 m. N Xinjiang [Kazakhstan, Russia; SW Asia (Caucasus, Iran, Turkey)].

**30. *Eragrostis tenella*** (Linnaeus) P. Beauvois ex Roemer & Schultes, Syst. Veg. 2: 576. 1817.

鲫鱼草 ji yu cao

*Poa tenella* Linnaeus, Sp. Pl. 1: 69. 1753.

Annual. Culms slender, 15–60 cm tall, erect or geniculate at base, 3–4-noded. Leaf sheaths shorter than internodes, pilose along margin and summit; ligules a line of short hairs; leaf blades flat, 2–10 × 0.3–0.5 cm, adaxial surface scabrous, abaxial surface glabrous and smooth. Panicle open; branches solitary or clustered, long pilose in axils, branchlet and pedicels glandular. Spikelets ovate or oblong-ovate, ca. 2 mm, 4–10-flowered; rachilla disarticulated between florets from above downward at maturity. Glumes membranous, 1-veined, lower glume ca. 0.8 mm, upper glume ca. 1 mm, falling off when mature. Lemmas broadly ovate, apex obtuse, lower lemma ca. 1 mm. Palea persistent or tardily deciduous, long ciliate along keels, hairs rigidly spreading at maturity. Stamens 3; anthers ca. 0.3 mm. Caryopsis red, ovoid, ca. 0.5 mm. Fl. and fr. Apr–Aug.  $2n = 20$ .

Moist places. Anhui, Fujian, Guangdong, Guangxi, Hainan, Hubei, Shandong, Taiwan, Xizang, Yunnan [Old World tropics].

**31. *Eragrostis alta*** Keng, Lingnan Sci. J. 16: 1. 1937.

高画眉草 gao hua mei cao

Annual. Culms erect, 120–150 cm tall, ca. 5 mm in diam., striate. Leaf sheaths loose, glabrous distinctly striate; ligules ca. 1 mm, ciliolate along margin; leaf blades greenish, 20–45 × 0.3–0.5 cm, adaxial surface smooth, abaxial surface scabrous. Panicle contracted 20–40 × ca. 3 cm; branches solitary or in



pairs, ascending glabrous in axils. Spikelets yellowish green, glabrous,  $2-3 \times 0.8-1$  mm, 5–9-flowered; rachilla disarticulating between florets from top downward at maturity; pedicels straight or curved, eglandular. Glumes ovate, membranous, subequal, ca. 0.7 mm, 1-veined, apex obtuse. Lemmas apex obtuse or slightly acute, lower lemma ca. 1 mm. Palea along 2 keels glabrous or slightly ciliolate. Stamens 2; anthers 0.3–0.4 mm. Fl. and fr. spring and early summer.

- Forests, moist places. Hainan.

**32. *Eragrostis japonica*** (Thunberg) Trinius, Mém. Acad. Imp. Sci. St.-Pétersbourg, Sér. 6, Sci. Math. 1: 405. 1831.

乱草 luan cao

*Poa japonica* Thunberg in Murray, Syst. Veg., ed. 14, 114. 1784.

Annual. Culms erect, or geniculate at base, 30–100 cm

tall, 1.5–2.5 mm in diam., 3–4-noded. Leaf sheaths usually loose, longer than internodes, glabrous; ligules scarious, ca. 0.5 mm, fimbriate at apex, pubescent on back; leaf blades flat,  $3-25 \times 0.3-0.5$  cm, smooth and glabrous. Panicle elongated,  $6-34 \times 1.5-6$  cm; branches slender, clustered or verticillate, glabrous in axils. Spikelets usually purplish at maturity, ovate, 1–2 mm, 4–8-flowered; rachilla distarticulating between florets from top downward at maturity. Glumes chartaceous, ovate-lanceolate, subequal, 0.6–0.8 mm, 1-veined, apex obtuse. Lemmas chartaceous, broadly elliptical, distinctly 3-veined, apex obtuse, lower lemma ca. 1 mm. Palea subequal to lemma, along 2 keels ciliolate. Stamens 2; anthers ca. 0.2 mm. Caryopsis red-brown, ovoid, 0.4–0.5 mm. Fl. and fr. Jun–Nov.

Fields, roadsides, stream banks. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Jiangsu, Jiangxi, Taiwan, Yunnan, Zhejiang [Bhutan, Indonesia, India, Japan, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Thailand, Vietnam].

