

83. PHALARIS Linnaeus, Sp. Pl. 1: 54. 1753.

鹼草属 ge cao shu

Wu Zhenlan (吴珍兰); Sylvia M. Phillips

Annual or perennial, tufted or rhizomatous. Leaf blades linear, flat; ligule membranous. Inflorescence a contracted or spikelike panicle. Spikelets strongly laterally compressed, florets 3 with lower 2 usually reduced to sterile lemmas and uppermost floret bisexual, disarticulating above glumes, rachilla not or very rarely extended beyond uppermost floret; glumes subequal, boat-shaped, as long as spikelet and enclosing florets, herbaceous, prominently 3-veined, strongly keeled and often winged along midvein; sterile lemmas up to 1/2 as long as fertile lemma, narrow, often hairy, or one or both reduced to a vestigial fleshy scale at base of fertile floret; fertile floret shorter than glumes, leathery often becoming cartilaginous and shiny, rounded on back, obscurely 5-veined, awnless; palea resembling lemma, 2-veined. Caryopsis tightly enclosed by lemma and palea; embryo small; hilum linear.  $x = 7$ .

Eighteen species: mainly in the Mediterranean region and warm-temperate parts of the New World, one species circumboreal; several species widely distributed as adventives; five species (four introduced) in China.

- 1a. Spikelets falling in clusters of 7, a single fertile spikelet encircled by 6 reduced sterile spikelets ..... 5. *P. paradoxa*
- 1b. Spikelets all alike, not in clusters, disarticulating above the persistent glumes.
  - 2a. Glumes not or very narrowly winged; perennial with spreading rhizomes ..... 1. *P. arundinacea*
  - 2b. Glumes winged; annual or tufted perennial.
    - 3a. Perennial, culm bases often bulbously thickened ..... 2. *P. aquatica*
    - 3b. Annuals, culm bases not thickened.
      - 4a. Sterile lemmas 2, equal; anthers ca. 3 mm ..... 3. *P. canariensis*
      - 4b. Sterile lemma 1; anthers 1.5–1.8 mm ..... 4. *P. minor*

1. *Phalaris arundinacea* Linnaeus, Sp. Pl. 1: 55. 1753.

鹼草 ge cao

*Typhoides arundinacea* (Linnaeus) Moench.

Perennial, rhizomatous; rhizomes extensively spreading. Culms reedlike, erect, leafy, 0.6–1.5 m tall, 6–8-noded. Leaf sheaths glabrous, not inflated; leaf blades 10–35 cm × 10–18 mm, tapering to a fine apex; ligule 2–3 mm. Panicle contracted, linear-oblong in outline, lobed, interrupted, 8–15 cm; branches short, erect, densely spiculate. Spikelets oblong, laterally compressed, 4–6 mm; glumes narrowly lanceolate, glabrous or puberulous, pale green streaked darker green or purplish, keel scabrid, wingless or very narrowly winged upward, apex sharply acute; sterile lemmas equal, subulate, 1.5–1.8 mm, villous; fertile lemma broadly lanceolate, 3–4 mm, appressed-pubescent upward, shiny; palea boat-shaped, keels ciliolate. Anthers 2.5–3 mm. Fl. and fr. Jun–Aug.  $2n = 28$ .

Marshy grassland, river and lake margins, forming colonies; 100–3200 m. Anhui, Gansu, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xinjiang, Yunnan, Zhejiang (Lin'an) [widely distributed in temperate parts of the N hemisphere].

An ornamental form of this species with green- and cream-striped leaf blades, *Phalaris arundinacea* var. *picta* Linnaeus (丝带草 si dai cao), is sometimes cultivated in gardens.

2. *Phalaris aquatica* Linnaeus, Cent. Pl. 1: 4. 1755.

水鹼草 shui ge cao

Perennial, tufted. Culms 50–150 cm tall, often bulbously thickened at base. Uppermost leaf sheaths not inflated; leaf blades 3–8 mm wide; ligule 3–7 mm. Panicle spikelike, cylin-

dric, 1.5–11 cm, sometimes lobed at base. Spikelets elliptic-oblong; glumes 5–7 mm, winged, wing margin entire, apex acute; sterile lemma 1(–2), subulate, 0.2–2.2 mm, pubescent, second lemma (when present) up to 0.5 mm; fertile lemma lanceolate, 3–4.6 mm, densely pubescent. Anthers 3–3.5 mm.  $2n = 28$ .

Introduced for grazing; Yunnan [Pakistan (introduced); N Africa, SW Asia, S Europe].

This species is widely cultivated as a pasture and forage grass in many parts of the world. It is best suited to upland areas with high rainfall.

3. *Phalaris canariensis* Linnaeus, Sp. Pl. 1: 54. 1753.

加那利鹼草 jia na li ge cao

Annual, loosely tufted. Culms 30–60(–100) cm tall. Uppermost leaf sheaths inflated with short blade; leaf blades 3–10 mm wide; ligule 3–5 mm. Panicle spikelike, very dense, ovate to oblong-ovate in outline, 1.5–4 cm. Spikelets obovate, strongly flattened, 7–10 mm; glumes oblanceolate, glabrous or puberulent, whitish with green veins, keel broadly winged above middle, wing margin entire, apex acute; sterile lemmas 2, equal, narrowly elliptic, chaffy, 2.5–4 mm, appressed-pilose; fertile lemma lanceolate, 5–6 mm, densely appressed-pubescent, shiny. Anthers 3–4 mm. Fl. and fr. Oct.

Roadsides and other disturbed places, introduced; below 3000 m. Hebei, Shanghai, Taiwan [W Mediterranean region, SW Asia (Caucasus)].

This species is widely cultivated for bird seed (Canary Grass) and is adventive in most warm-temperate countries.

4. *Phalaris minor* Retzius, Observ. Bot. 3: 8. 1783.

细蒨草 xi ge cao

Annual, tufted. Culms 20–100 cm tall. Uppermost leaf sheaths not inflated; leaf blades 3–9 mm wide; ligule 4–6 mm. Panicle dense, ovate to oblong, 1–6 cm. Spikelets elliptic, 4.5–5.5 mm; glumes winged on upper part of keel, wing margin erose-denticulate; sterile lemma 1, ca. 1 mm, appressed-pilose; fertile lemma lanceolate-ovate, 2.7–4 mm, pubescent, becoming cartilaginous and shiny. Anthers 1.5–1.8 mm.  $2n = 28$ .

Wheat fields, introduced. Yunnan [Bhutan, N India, Pakistan; N Africa, SW Asia, S Europe].

This annual weed, native in the Mediterranean region, is now widely distributed in many parts of the world. It was introduced to

China accidentally in wheat seed imported from Mexico about 1974 and is becoming naturalized in parts of Yunnan.

5. *Phalaris paradoxa* Linnaeus, Sp. Pl., ed. 2, 2: 1665. 1763.

奇蒨草 qi ge cao

Annual, tufted. Culms 15–100 cm tall. Uppermost leaf sheath inflated; leaf blades 2–9 mm wide; ligule 2–8 mm. Panicle dense, narrowly oblong, 4–10 cm, base enclosed in uppermost leaf sheath. Spikelets arranged in clusters composed of 1 fertile spikelet encircled by 6 sterile spikelets, clusters falling entire, sterile spikelets sometimes reduced to club-shaped clusters of glumes. Fertile spikelet: glumes 4.5–6 mm, prominently 7–9-veined, narrowly winged, wing expanded near middle into large tooth, pale green or straw-colored with dark green stripe above tooth, apex attenuate; sterile lemmas abortive, represented by 2 minute fleshy scales at base of fertile lemma; fertile lemma elliptic, 2.8–3.2 mm, cartilaginous, shiny, sparsely pilose toward apex. Anthers 1–1.8 mm.  $2n = 14$ .

Wheat fields, introduced. Yunnan [N Africa, SW Asia, S Europe].

Like the previous species, this widespread, annual weed was introduced to China accidentally in wheat seed imported from Mexico about 1974.

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