

**169. PASPALUM** Linnaeus, Syst. Nat., ed. 10, 2: 855. 1759.

雀稗属 que bai shu

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Perennials or annuals. Culms tufted, or with creeping rhizomes and stolons. Leaf blades linear or narrowly lanceolate, flat; ligule membranous. Inflorescence composed of single, digitate or scattered racemes; rachis flat, often winged; spikelets single or paired, pedicellate in 2–4 rows, densely crowded, lower lemma abaxial. Spikelets orbicular, ovate or elliptic plano-convex; lower glume absent or rarely present as a small scale; upper glume as long as spikelet or nearly so, rarely absent, convex, membranous to subpapery, 3–7-veined; lower lemma resembling upper glume, flat, neuter without palea; upper lemma usually coriaceous to crustaceous, rarely softer, margins inrolled, apex obtuse to apiculate.  $x = 10$ .

About 330 species: tropical and warm-temperate regions, especially in the New World; 16 species (two endemic, eight introduced) in China.

This genus includes a number of good forage grasses and also some widespread weeds.

- 1a. Spikelets with a marginal ciliate fringe of silky hairs; hairs 1–2 mm.
  - 2a. Racemes 2, paired; stoloniferous perennial ..... 1. *P. conjugatum*
  - 2b. Racemes usually more than 2, spread along an axis.
    - 3a. Spikelets 3–4 mm; upper floret equal to 2/3 length of spikelet ..... 2. *P. dilatatum*
    - 3b. Spikelets 2–3 mm; upper floret equal to or only slightly shorter than spikelet.
      - 4a. Spikelets light green or purplish, ovate; upper glume pubescent, fringed along whole length ..... 3. *P. urvillei*
      - 4b. Spikelets brown, obovate; upper glume puberulous, fringed only above middle ..... 4. *P. virgatum*
- 1b. Spikelets glabrous or pubescent, without a marginal fringe of silky hairs.
  - 5a. Upper glume and lower lemma broadly winged along margins ..... 5. *P. fimbriatum*
  - 5b. Upper glume and lower lemma not winged.
    - 6a. Both glumes absent; upper lemma papery, with conspicuous riblike veins. .... 6. *P. malacophyllum*
    - 6b. Upper glume present; upper lemma cartilaginous or coriaceous, with obscure veins.
      - 7a. Plants with long stolons and/or rhizomes; racemes 2(–3), paired, the spikelets borne singly; spikelets lanceolate to ovate or obovate.
        - 8a. Plant with robust woody rhizomes; upper glume and lower lemma cartilaginous and shiny, obtuse ..... 7. *P. notatum*
        - 8b. Plant with slender stolons; upper glume and lower lemma papery, acute.
          - 9a. Upper glume pubescent; spikelets plano-convex, obovate-oblong ..... 8. *P. distichum*
          - 9b. Upper glume glabrous; spikelets strongly flattened, lanceolate-oblong ..... 9. *P. vaginatum*
      - 7b. Plants tufted; racemes up to 20 along a common axis, the spikelets single or paired; spikelets broadly elliptic, obovate or suborbicular.
        - 10a. Fertile floret dark glossy brown at maturity; spikelets usually glabrous.
          - 11a. Lower lemma conspicuously rugose inside margins; spikelets paired ..... 10. *P. plicatulum*
          - 11b. Lower lemma usually smooth, occasionally slightly rugose; spikelets usually single, occasionally paired.
            - 12a. Pedicels glabrous; nodes, culm apex and leaf blades often glabrous ..... 11. *P. scrobiculatum*
            - 12b. Pedicels pilose; nodes, culm apex and leaf blades densely hairy ..... 12. *P. hirsutum*
        - 10b. Fertile floret yellowish green to pale brown at maturity; spikelets pubescent or glabrous.
          - 13a. Spikelets 1–1.5 mm ..... 13. *P. paniculatum*
          - 13b. Spikelets 2–3 mm.
            - 14a. Rachis 2–4 mm wide; spikelets 2–2.5 mm, paired, pubescent ..... 14. *P. longifolium*
            - 14b. Rachis 1–1.5 mm wide; spikelets 2.5–3 mm, single or loosely paired.
              - 15a. Upper glume pubescent especially along the margins; leaf blades hirsute, 5–8 mm wide ..... 15. *P. thunbergii*
              - 15b. Upper glume glabrous; leaf blades glabrous, 3–4 mm wide ..... 16. *P. delavayi*

**1. Paspalum conjugatum** Bergius, Acta Helv. Phys.-Math. 7: 129. 1772.

两耳草 liang er cao

Perennial with long stolons. Culms in small tufts along the stolons, compressed, nearly solid, 30–60 cm tall. Leaf sheaths keeled, glabrous or pilose along upper margins and mouth, a line of hairs abaxially at junction with blade; leaf blades lanceolate-linear, thin, 5–20 × 0.5–1 cm, glabrous or papillose-pilose along margins, apex acute. Inflorescence digitate; racemes 2,

divaricate, very slender, 6–12 cm; spikelets single, in 2 rows; rachis 0.5–1 mm wide. Spikelets pale yellowish, ovate to suborbicular, 1.5–1.8 mm, abruptly acute; upper glume hyaline, 2-veined with the veins marginal, ciliate along margins with long silky hairs; lower lemma similar but not ciliate; upper lemma pallid at maturity, ovate, as long as spikelet, crustaceous, obscurely striate. Fl. and fr. May–Sep.  $2n = 40, 80$ .

Open places in forests, forest margins, mostly on moist soils, sometimes forming a sward. Fujian, Guangxi, Hainan, Hong Kong, Taiwan, Yunnan [tropics and subtropics throughout the world].

This is a distinctive species, easily recognized by the combination of a stoloniferous habit and an inflorescence composed of a pair of widely spreading racemes with small, pale, fringed spikelets.

**2. *Paspalum dilatatum*** Poiret, Encycl. 5: 35. 1804.

毛花雀稗 mao hua que bai

*Digitaria dilatata* (Poiret) H. J. Coste.

Perennial from a short rhizome. Culms forming a coarse, spreading tuft, 50–150 cm tall, ca. 5 mm in diam., glabrous. Leaf sheaths glabrous or pilose in the lower part; leaf blades linear, 10–45 × 0.3–1.2 cm, glabrous, apex attenuate; ligule 2–4 mm. Inflorescence axis 2–20 cm; racemes 2–10, 5–12 cm, spaced, diverging, axils pilose; spikelets paired; rachis 1–1.5 mm wide, glabrous. Spikelets green or purplish, broadly ovate, 3–4 mm, sharply acute; upper glume membranous, 5–9-veined, sparsely pubescent to almost glabrous on back, margins fringed with long white hairs; lower lemma similar but not hairy; upper lemma pallid at maturity, orbicular, ca. 2 mm, clearly shorter than spikelet, papillose-striate, apex rounded. Fl. and fr. May–Jul.  $2n = 40$ , 50–63.

Roadsides, waste places, naturalized. Fujian, Guangxi, Guizhou, Hong Kong, Hubei, Shanghai, Taiwan, Yunnan, Zhejiang [native to South America].

This native of South America is now widely distributed throughout the tropics as a forage grass and also occurs as a weed of cultivation.

**3. *Paspalum urvillei*** Steudel, Syn. Pl. Glumac. 1: 24. 1853.

丝毛雀稗 si mao que bai

Perennial from a short rootstock. Culms robust, up to 2 m tall, glabrous. Leaf sheaths densely hispid, long hairs at the mouth; leaf blades linear, 15–50 × 0.5–1.5 cm, glabrous or pilose at the base, apex attenuate; ligule 3–5 mm. Inflorescence axis 10–30 cm; racemes 10–25, 8–15 cm, narrowly ascending or suberect; spikelets paired; rachis ca. 0.5 mm wide. Spikelets light green or purplish, ovate, 2–3 mm, sharply acute; upper glume membranous, 3-veined with laterals marginal, appressed-pubescent on back, margins densely fringed with long white hairs; lower lemma similar but glabrous on back; upper lemma elliptic, striate, obtuse. Fl. and fr. May–Oct.  $2n = 40$ , 60.

Roadsides, waste places, introduced. Fujian, Hong Kong, Taiwan [native to South America].

This is a native of South America related to *Paspalum dilatatum* and likewise introduced widely in the tropics as a forage grass and weed.

**4. *Paspalum virgatum*** Linnaeus, Syst. Nat., ed. 10, 2: 855. 1759.

粗秆雀稗 cu gan que bai

Perennial from short rootstock. Culms robust, forming a dense tussock, erect, 1–2 m tall. Leaf sheaths compressed, usually papillose-hirsute at margins and summit; leaf blades linear, flat, stiff, 30–75 × 1–2.5 cm, margins serrate, apex acuminate; ligule 2–3 mm. Inflorescence axis 10–30 cm; racemes up to 20, 5–15 cm, ascending or drooping; spikelets paired, in 4 dense rows; rachis 0.5–1.5 mm wide, scabrous, glabrous or with a few setae. Spikelet brownish, obovate, 2.2–3 mm, acute;

upper glume membranous, 3–5-veined, dorsally puberulous, margins fringed with short silky hairs above middle; lower lemma resembling upper glume but glabrous; upper lemma brownish, as long as spikelet, coriaceous, finely punctulate-striate, subacute. Fl. and fr. summer–autumn.  $2n = 40$ , 80.

Moist or swampy ground, naturalized. N Taiwan [native to America from the United States to Brazil].

**5. *Paspalum fimbriatum*** Kunth, Nov. Gen. Sp. 1: 93. 1816 [“1815”].

裂颖雀稗 lie ying que bai

Annual. Culms tufted, erect, 30–100 cm tall. Leaf sheaths thinly hispid; leaf blades linear-lanceolate, 10–30 × 0.3–1 cm, both surfaces coarsely appressed hispid especially toward base, margins pectinate-ciliate, apex acuminate; ligule ca. 2 mm. Inflorescence axis 6–10 cm; racemes 3–5, 3–7 cm, loosely ascending, axils with long stiff hairs; spikelets usually paired but one of the pair often reduced; rachis flat, 1.2–1.5 mm wide, serrate-margined. Spikelets often purplish, circular in outline, 2.5–3.5 mm, acute; upper glume ovate, 3-veined, with stiff marginal wings ca. 1 mm wide, wings lacerate, wing margin ciliate with short stout hairs; lower lemma similar to upper glume but wing less developed; upper lemma ovate-elliptic, slightly shorter than spikelet, smooth, shining. Fl. and fr. summer–autumn.  $2n = 40$ .

Recently naturalized. Taiwan [native to Central and South America and the West Indies].

*Paspalum fimbriatum* is easily separable from other species of *Paspalum* in China by its distinctive, winged spikelets.

**6. *Paspalum malacophyllum*** Trinius, Sp. Gram. 3: t. 271. 1836.

稜稃雀稗 leng fu que bai

Perennial with short rhizomes. Culms slender to robust, 1–2 m tall. Leaf sheaths papillose-pilose in upper part and mouth; leaf blades linear-lanceolate, flat, 10–40 × 0.6–3 cm, glabrous or pilose, the lower narrowed to a slender base, apex long acuminate; ligule ca. 2 mm. Inflorescence axis 4–20 cm; racemes up to 30, 3–6 cm, ascending, axils long pilose; spikelets paired, in 4 dense rows; rachis winged, 0.5–1.5 mm wide, margins scabrous, sometimes setose. Spikelets often purplish, oblong-navicular, 1.5–2.5 mm, glabrous; both glumes absent; lower lemma as long as spikelet, concave, membranous, 3-veined with laterals marginal; upper lemma dorsally convex, papery, 5-veined, veins prominent and forming ribs, apex acute. Fl. and fr. summer–autumn.  $2n = 20$ , 40.

Cultivated. Gansu [native to South America].

This is the only species of *Paspalum* in China lacking both glumes.

The species is cultivated for hay and sometimes used in soil conservation work.

**7. *Paspalum notatum*** Flügge, Gram. Monogr., Paspalum 106. 1810.

百喜草 bai xi cao

Perennial with stout, woody, many-noded rhizomes and stolons forming a mat. Culms 15–80 cm tall. Leaf sheaths

keeled, compressed, glabrous; leaf blades broadly linear, flat or folded, stiffly spreading, 5–30 × 0.3–1 cm, glabrous, apex acuminate; ligule very short. Inflorescence of 2(–3) racemes at culm apex; racemes 4–9(–16) cm, recurved-ascending; spikelets single, in 2 row; rachis 1–1.8 mm wide, scabrous. Spikelets green, ovate to obovate, plumply plano-convex, 2.5–3.5 mm, smooth, shining, obtuse; upper glume cartilaginous, 3-veined, glabrous; lower lemma resembling upper glume but slightly shorter; upper lemma pale green, slightly shorter than spikelet, finely striate, obtuse. Fl. and fr. Sep.  $2n = 40, 30$ .

Cultivated. Fujian, Gansu, Hebei, Yunnan [native to tropical and subtropical America].

This species is widely introduced in tropical and warm-temperate regions as a forage grass and also sometimes for erosion control.

**8. *Paspalum distichum*** Linnaeus, Syst. Nat., ed. 10, 2: 855. 1759.

双穗雀稗 shuang sui que bai

*Digitaria paspalodes* Michaux; *Paspalum paspalodes* (Michaux) Scribner.

Perennial with rhizomes and stolons. Culms 20–50 cm tall, nodes usually pubescent. Leaf sheaths keeled, glabrous, margins ciliate; leaf blades linear, 5–10 × 0.3–0.7 cm, glabrous, apex acute; ligule 2–3 mm. Inflorescence of 2(–3) racemes arising together or separated by a short axis; racemes 3–7 cm; spikelets single, in 2 rows; rachis straplike, 1.5–2 mm wide. Spikelets pallid, obovate-oblong, plano-convex, 3–3.5 mm, acute; lower glume vestigial or a narrow triangular scale up to 1/2 spikelet length or more; upper glume papery, 3–5-veined with distinct middle vein, loosely appressed pubescent; lower lemma 3–5-veined, usually glabrous; upper lemma pale green, almost equal to spikelet, cartilaginous, apex apiculate and minutely pubescent. Fl. and fr. May–Sep.  $2n = 40, 48, 60$ .

Fields, roadsides, ditches and other disturbed places, mostly on moist fertile soils. Anhui, Fujian, Guangxi, Guizhou, Hainan, Henan, Hong Kong, Hubei, Hunan, Jiangsu, Shandong, Sichuan, Taiwan, Yunnan, Zhejiang [tropical and warm-temperate regions of the world].

The length of the lower glume is very variable, even within a single raceme. The spikelets are not obviously hairy because the pubescent upper glume faces inward, but the creeping habit together with paired racemes of plump spikelets are distinctive. Rarely the upper glume is glabrous, but such specimens can be separated from the closely related *Paspalum vaginatum* by spikelet shape and by the longer, apiculate fertile floret.

**9. *Paspalum vaginatum*** Swartz, Prodr. 21. 1788.

海雀稗 hai que bai

*Digitaria vaginata* (Swartz) Magnier ex Debeaux; *Paspalum distichum* subsp. *vaginatum* (Swartz) Maire; *Paspalum distichum* var. *vaginatum* (Swartz) Grisebach; *Sanguinaria vaginata* (Swartz) Bubani.

Perennial with short rhizome and long stolons. Culms solitary or tufted, many-noded, 10–50 cm tall. Leaf sheaths imbricate, often keeled, margins membranous; leaf blades distichous, linear, rather stiffly ascending, 2.5–15 × 0.3–0.8 cm, apex acute; ligule 0.5–1 mm. Inflorescence of (1–)2(–3) racemes aris-

ing together at culm apex; racemes 2–5 cm, usually closely approximate when young, later spreading; spikelets single, in 2 rows; rachis 1–2 mm wide. Spikelets pale brownish green, narrowly lanceolate-oblong, strongly flattened, 3.5–4 mm, acute; lower glume absent or rarely a tiny vestige; upper glume thinly papery, weakly 5-veined, midvein often suppressed, glabrous; lower lemma resembling upper glume; upper lemma pale green, 2.5–3 mm, shorter than spikelet, cartilaginous, apex minutely pubescent. Fl. and fr. Jun–Sep.

Sandy seashores, swamps, along the margins of slow-moving streams. Hainan, Hong Kong, Taiwan, Yunnan [tropics and subtropics throughout the world].

This is one of the first plants to colonize the seashore. It is an efficient sand binder and a common saltmarsh plant, where it may form pure stands. It is sometimes also found in inland saline marshes.

**10. *Paspalum plicatulum*** Michaux, Fl. Bor.-Amer. 1: 45. 1803.

皱稗雀稗 zhou fu que bai

*Panicum plicatulum* (Michaux) Kuntze.

Perennial. Culms tufted, erect or ascending, usually compressed, 30–150 cm tall. Leaf sheaths longer than internodes, keeled, glabrous or pubescent at base; leaf blades linear, usually folded at base, flat above, 10–50 × 0.3–1 cm, adaxial surface pilose at base and mouth, apex acuminate; ligule 1–2 mm. Inflorescence axis 3–15 cm; racemes 3–10, 5–8 cm, laxly ascending to spreading, axils pilose; spikelets paired; rachis 0.75–1 mm wide. Spikelets brown at maturity, obovate, 2–3 mm, subacute to obtuse; upper glume membranous, 5-veined, glabrous or sometimes appressed-pubescent; lower lemma membranous, 3–5-veined, glabrous, with short transverse wrinkles just inside the slightly raised margin; upper lemma deep brown, strongly convex dorsally, subequaling spikelet, smooth, shiny. Fl. and fr. summer–autumn.  $2n = 20, 40, 60$ .

Cultivated in Gansu [native to tropical and subtropical America].

“*Paspalum plicatum* Persoon” (Syn. Pl. 1: 86. 1805) is merely an orthographical variant of *P. plicatulum*.

This species is used for fodder.

**11. *Paspalum scrobiculatum*** Linnaeus, Mant. Pl. 1: 29. 1767.

鸭跖草 ya jie cao

Perennial or annual. Culms tufted, slender to robust, erect or decumbent and rooting at lower nodes, 30–90(–150) cm tall. Leaf sheaths compressed, keeled, usually glabrous; leaf blades linear or linear-lanceolate, 10–40 × 0.4–1.2 cm, usually glabrous, base subrounded, margins scabrous, apex acuminate; ligule 0.5–1 mm. Inflorescence of 2–5(–8) racemes, subdigitate or on a short axis; racemes 3–10 cm, ascending to widely spreading; spikelets usually single, overlapping in 2 rows, sometimes paired especially in middle of raceme; rachis ribbonlike, 1.5–3 mm wide, margins scabrous. Spikelets green becoming brown, suborbicular, ovate or broadly elliptic, 2–3 mm, glabrous, obtuse to apiculate; upper glume membranous, 3–7-veined; lower lemma membranous or sometimes indurate, 3–5(–7)-veined; upper lemma brown at maturity, subequaling spikelet, coriaceous, finely striate, obtuse. Fl. and fr. May–Nov.  $2n = 20, 40$  or 60.

Roadsides, weedy places, often on damp soils. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [tropics and subtropics of the Old World; introduced in America].

This polymorphic species complex is thought to comprise an apomictic swarm. Some of its components have been described as separate species, but variation is continuous throughout. Robust forms are sometimes separated as *Paspalum auriculatum* J. Presl & C. Presl. Three recognizable entities are maintained here at varietal rank.

- 1a. Spikelets, or some of them, often paired, broadly obovate, 2–2.2 mm; lower lemma 3–5-veined; upper lemma yellow-brown or mid-brown ..... 11c. var. *orbiculare*
- 1b. Spikelets single, usually suborbicular, 2–3 mm; lower lemma 5–9-veined; upper lemma dark brown at maturity.
  - 2a. Spikelets 2.5–3 mm; leaf blades usually glabrous, 10–20 × 0.4–1.2 cm ..... 11a. var. *scrobiculatum*
  - 2b. Spikelets 2–2.5 mm; leaf blades usually pilose, 5–15 × 0.2–0.6 cm ..... 11b. var. *bispicatum*

**11a. *Paspalum scrobiculatum* var. *scrobiculatum***

鸭驰草(原变种) ya jie cao (yuan bian zhong)

Annual or perennial. Culms erect or decumbent at base, up to 90(–150) cm tall. Leaf blades 10–20 × 0.4–1.2 cm, usually glabrous. Spikelets single, usually suborbicular, 2.5–3 mm; upper glume 7–13-veined, lower lemma 7–9-veined, veins often concolorous with back; upper lemma dark brown at maturity. Fl. and fr. May–Sep.  $2n = 40$ .

Roadsides, weedy places, often on damp soils. Guangxi, Hainan, Taiwan, Yunnan [India, tropical SE Asia].

An annual form is cultivated in India as a cereal (Kodo Millet).

**11b. *Paspalum scrobiculatum* var. *bispicatum* Hackel, Allg. Bot. Z. Syst. 20: 146. 1914.**

圆雀稗 nan que bai

*Paspalum akoense* Hayata; *P. commersonii* Lamarck; *P. scrobiculatum* var. *commersonii* (Lamarck) Stapf.

Perennial. Culms tufted, 30–50 cm tall. Leaf blades 5–15 × 0.2–0.6 cm, pilose, rarely glabrous. Spikelets single, usually suborbicular, 2–2.3 mm; upper glume and lower lemma 5–7-veined, veins often concolorous with back; upper lemma dark brown at maturity. Fl. and fr. Jul–Oct.  $2n = 20, 40, 60, 90$ .

Hill slopes. Fujian, Guangdong, Guangxi, Jiangsu, Sichuan, Taiwan, Yunnan, Zhejiang [tropics and subtropics of the Old World].

**11c. *Paspalum scrobiculatum* var. *orbiculare* (G. Forster) Hackel, Bot. Jahrb. Syst. 6: 233. 1885.**

圆果雀稗 yuan guo que bai

*Paspalum orbiculare* G. Forster, Fl. Ins. Austr. 7. 1786; *P. thunbergii* Kunth ex Steudel var. *minus* Makino.

Perennial. Culms tufted, erect, 30–90 cm tall. Leaf blades 10–20 × 0.5–1 cm, usually glabrous. Spikelets often paired, at least in middle part of raceme, broadly obovate, 2–2.2 mm; upper glume and lower lemma 3–5-veined, veins green, back pallid; upper lemma yellow-brown or mid-brown at maturity. Fl. and fr. Jun–Nov.  $2n = 20, 40, 54, 60$ .

Hill slopes, roadsides, fields. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [SE Asia; Australia, Pacific Islands (Polynesia)].

This variety is unusual in *Paspalum scrobiculatum* in frequently having paired spikelets, although often the inner spikelet of the pair is reduced. There is also a less well-defined difference from var. *bispicatum* in shape of the spikelet and color of the spikelet veins, and for this reason this variety is sometimes treated as a separate species. However, when the inner spikelets are vestigial or absent, the racemes are 2-rowed and then the two varieties are very difficult to separate.

**12. *Paspalum hirsutum* Retzius, Observ. Bot. 2: 7. 1781.**

台湾雀稗 tai wan que bai

*Paspalum formosanum* Honda.

Perennial. Culms tufted, slender, 20–40 cm tall, pilose-tomentose on nodes and below inflorescence. Leaf sheaths compressed, hirsute; leaf blades lanceolate, 5–18 × 0.3–0.5 cm, both surfaces densely hirsute, apex acuminate; ligule ca. 2 mm. Racemes 2–4, 2–3 cm; spikelets single, in 2 rows; rachis flattened, winged, ca. 1.5 mm wide; pedicels pilose with soft white hairs. Spikelets broadly elliptic, 2–2.3 mm, usually glabrous, subacute; upper glume membranous, 3–5-veined, occasionally minutely pubescent on margins; lower lemma 5–7-veined, glabrous, subacute; upper lemma brown, as long as spikelet, cartilaginous, finely punctulate-striate, obtuse. Fl. and fr. May–Oct.

- Hill slopes. Guangdong, Guangxi, Taiwan.

*Paspalum hirsutum* is a local segregate from the *P. scrobiculatum* complex distinguished by its slender facies coupled with hirsute leaves, and particularly by its hairy nodes, culm apex, and pedicels. The hirsute leaves are very similar to those of *P. thunbergii*, but that species has puberulous spikelets and a pallid fertile floret.

This species may have a wider distribution if specimens from SE Asia referred to *Paspalum scrobiculatum* var. *homeri* (Henrard) Koning & Sosef are conspecific.

**13. *Paspalum paniculatum* Linnaeus, Syst. Nat., ed. 10, 2: 855. 1759.**

开穗雀稗 kai sui que bai

Perennial, forming coarse tussocks. Culms erect or geniculately ascending, 30–120 cm tall, nodes pubescent. Leaf sheaths often hispid; leaf blades linear-lanceolate, flat, 9–50 × 0.6–2.5 cm, scabrid or hispid, margins usually undulate, apex acuminate; ligule 0.2–0.5 mm. Inflorescence axis 5–20 cm; racemes 7–60, fascicled, 4–12 cm, ascending or spreading; spikelets paired; rachis ca. 0.5 mm wide. Spikelets brown at maturity, orbicular or obovate, 1–1.5 mm; upper glume membranous, subequaling spikelet, 3-veined, pubescent; lower lemma resembling upper glume, subglabrous on central portion of back; upper lemma as long as spikelet, pallid at maturity.

Moist places along roadsides, naturalized. Taiwan [native to Afri-

ca, Australia, New Guinea, Pacific Islands (Polynesia), and South America].

**14. *Paspalum longifolium*** Roxburgh, Fl. Ind. 1: 283. 1820.

长叶雀稗 chang ye que bai

*Paspalum scrobiculatum* Linnaeus var. *longifolium* (Roxburgh) Domin.

Perennial. Culms tufted, fairly robust, usually erect, 80–130 cm tall, many-noded, glabrous. Leaf sheaths broad, papery, overlapping and concealing the nodes, keeled, papillose-pilose along margins; leaf blades linear, 10–20 × 0.5–1 cm, glabrous, apex acuminate; ligule 1–2 mm, usually with tawny hairs on back. Inflorescence axis 4–10 cm; racemes 5–20, 4–8 cm, ascending; spikelets normally paired, occasionally single but 2nd vestigial spikelet present; densely overlapping; rachis broadly winged, (1.5–)2–4 mm wide, purplish, margins scabrous with conspicuous close-set teeth; pedicels scabrous. Spikelets purple or pale green, broadly obovate, narrowed to base, lightly plano-convex, 2–2.5 mm, apiculate; upper glume and lower lemma membranous, 3-veined with laterals marginal, minutely crisped-pubescent; upper lemma pallid, as long as spikelet, punctulate-striate, subacute. Fl. and fr. Jul–Oct.  $2n = 40, 50$ .

Mountain slopes, field margins, in moist and swampy places. Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam; N Australia, Pacific Islands].

This is a rather lush, leafy species. The broad, purplish rachis bearing very closely packed, paired, shortly hairy spikelets is characteristic.

**15. *Paspalum thunbergii*** Kunth ex Steudel, Nomencl. Bot., ed. 2, 2: 273. 1841.

雀稗 que bai

*Paspalum dissectum* Thunberg, Fl. Jap. 45. 1784, not (Linnaeus) Linnaeus (1762); *P. scrobiculatum* Linnaeus var. *thunbergii* (Kunth ex Steudel) Makino.

Perennial from short knotty rootstock. Culms tufted, erect, 50–100 cm tall, nodes glabrous or pilose. Leaf sheaths keeled, hirsute; leaf blades linear, 10–25 × 0.5–0.8 cm, hirsute on both

surfaces, rarely glabrous, apex acuminate; ligule 0.5–1.5 mm. Inflorescence axis 1–9 cm; racemes 2–6, 3–10 cm, laxly ascending or spreading, axils pilose; spikelets commonly paired at least in central part of raceme or a vestigial 2nd spikelet present; rachis ca. 1 mm wide, margins scaberulous; pedicels minutely puberulous. Spikelets elliptic to orbicular-elliptic, plumply plano-convex, 2.5–3 mm, rounded or subacute; upper glume membranous, 3-veined with laterals marginal, sparsely pubescent especially along margins; lower lemma similar but glabrous; upper lemma pallid, as long as spikelet, coriaceous, punctulate-striate, obtuse. Fl. and fr. May–Oct.  $2n = 20, 40$ .

Fields, waste places, usually on moist soils. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, India (Darjeeling, Sikkim), Japan, Korea].

This species is similar to *Paspalum scrobiculatum*, but most easily distinguished by its pale fertile floret. The marginal pubescence on the spikelets is a good confirmatory character.

**16. *Paspalum delavayi*** Henrard, Repert. Spec. Nov. Regni Veg. 24: 239. 1928.

云南雀稗 yun nan que bai

Perennial from a short thick rhizome. Culms erect, 50–70 cm tall, 4–6-noded, lower nodes glabrous or puberulous. Leaf sheaths compressed, keeled, lowest hirsute, upper glabrous; leaf blades flat, fairly rigid, 10–15 × 0.3–0.4 cm but upper blades much shorter, glabrous, apex acuminate; ligule 3–4 mm. Inflorescence axis 3–6 cm; racemes 2–3, 2.5–4 cm, axils glabrous or bearded; pedicels paired but lateral spikelets poorly developed except sometimes in middle of raceme, spikelets in 2–3 irregular rows; rachis ca. 1 mm wide. Spikelets pale green, elliptic to obovate, 2.8–3 mm, glabrous, acute; upper glume and lower lemma 3-veined with laterals marginal; upper lemma yellowish green, ovate, ca. 2.5 mm, slightly shorter than spikelet, minutely punctate, obtuse. Fl. and fr. May–Sep.

• Dry mountain slopes, along moist roadsides; 1200–1900 m. Yunnan.

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