

209. SCHIZACHYRIUM Nees, Fl. Bras. Enum. Pl. 2: 331. 1829.

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Perennial or annual. Leaf blades linear or oblong-linear; ligule membranous. Inflorescence a solitary slender fragile raceme, racemes axillary, supported by a spatheole; rachis internodes and pedicels filiform to clavate, glabrous to ciliate or villous, apex cupular with scarious lobed rim; spikelets of a pair dissimilar. Sessile spikelet dorsally compressed or squeezed between internode and pedicel; callus obconical, obtuse, shortly bearded, inserted into internode apex; lower glume papery to leathery, convex, linear to lanceolate, flanks inflexed, often 2-keeled, usually wingless, intercarinal veins several, sometimes faint; upper glume boat-shaped, cuspidate to mucronate; lower floret reduced to a hyaline lemma; upper lemma hyaline, deeply 2-lobed, awned from sinus; awn geniculate, column glabrous. Stamens 3. Caryopsis linear. Pedicelled spikelet male or barren, usually smaller than sessile, sometimes much reduced.

About 60 species: throughout the tropics and subtropics; four species in China.

*Schizachyrium* is closely related to *Andropogon*, differing mainly by its single racemes. The convex lemma of the sessile spikelet and scarious, cupular internode apex are additional features characteristic of *Schizachyrium*.

1a. Perennial; leaf blades 5–50 cm.

2a. Racemes 3–9 cm; sessile spikelet linear, 5–8 mm ..... 1. *S. sanguineum*

2b. Racemes 1–4 cm; sessile spikelet lanceolate-oblong, 3.6–6 mm ..... 2. *S. delavayi*

1b. Annual; leaf blades 1.5–8 cm.

3a. Sessile spikelet 2.5–4 mm; leaf blades (1–)2–7 mm wide, apex obtuse ..... 3. *S. brevifolium*

3b. Sessile spikelet 6–7 mm; leaf blades 1–2 mm wide, apex subacute ..... 4. *S. fragile*

1. *Schizachyrium sanguineum* (Retzius) Alston in Trimen, Handb. Fl. Ceylon 6: 334. 1931.

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*Rottboellia sanguinea* Retzius, Observ. Bot. 3: 25. 1783; *Andropogon hirtiflorus* (Nees) Kunth; *A. sanguineus* (Retzius) Merrill; *Schizachyrium hirtiflorum* Nees.

Perennial, tussocky, whole plant often reddish brown. Culms erect, hard, 50–120 cm tall, 2–4 mm in diam., simple or branched, glabrous. Leaf sheaths keeled, glabrous; leaf blades linear, flat, 5–20 × 0.1–0.5 cm, glabrous, margins scabrid, apex acute; ligule ca. 1 mm. Raceme very slender, erect, distant, 3–9 cm, dark purplish red, finally long exerted from spatheole; rachis internodes and pedicels linear-clavate, equaling or slightly shorter than sessile spikelet, glabrous or white-ciliate. Sessile spikelet 5–8 mm; lower glume linear, leathery, convex with inflexed margins, keeled from below middle to apex, back scabrid, veins obscure, keels very narrowly winged toward apex, apex 2-toothed; upper lemma 2-lobed to near base; awn 1–2 cm. Pedicelled spikelet lanceolate, reduced to 1 or 2 glumes, 2.8–4 mm, lower glume with awn up to 3 mm. Fl. and fr. Jul–Dec.

Dry hillsides; near sea level to 3600 m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan, Xizang, Yunnan [India, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam; Africa, America, Australia].

This grass is widely distributed in tropical and warmer, subtropical parts of the world.

2. *Schizachyrium delavayi* (Hackel) Bor, Indian Forest Rec., Bot. 1: 95. 1938.

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*Andropogon delavayi* Hackel in A. Candolle & C. Candolle, Monogr. Phan. 6: 404. 1889; *A. bootanensis* J. D. Hooker; *Eremopogon delavayi* (Hackel) A. Camus; *Schizachyrium bootanense* (J. D. Hooker) A. Camus.

Perennial from a knotty rootstock. Culms loosely tufted, erect, wiry, 40–150 cm tall, upper internodes keeled, hirsute along keel, nodes glabrous. Leaf sheaths glabrous or thinly hirsute near mouth; leaf blades linear, 20–50 × 0.2–0.5 mm, glabrous or abaxial surface hirsute, apex finely acuminate; ligule truncate, 0.5–1 mm, margin ciliolate. Raceme 1–4 cm, purplish; spatheole narrow, glabrous or sparsely hirsute; rachis internodes and pedicels filiform, ca. 2/3 length of sessile spikelet, white-ciliate. Sessile spikelet 3.6–6 mm; callus obtuse, ca. 0.5 mm; lower glume narrowly lanceolate-oblong, leathery, glossy, back convex to almost flat, minutely asperulous, 5-veined, flanks keeled and narrowly winged above middle, wings ciliolate, apex erose; upper lemma 2-lobed in upper 1/4–1/3; awn 0.6–1 cm. Pedicelled spikelet male or barren, 4–5.3 mm, elliptic-oblong, papery, flat, back 3-veined, margins keeled and ciliolate above middle, apex acute. Fl. and fr. Jun–Nov.

Dry mountainsides, dry open forests; 1200–3400 m. Guangxi, Guizhou, Hunan, Sichuan, Xizang, Yunnan [Bhutan, India (Naga Hills, Sikkim), N Myanmar, Nepal].

This grass has been placed in *Eremopogon* (a synonym of *Dichanthium*), but differs from that genus in its keeled lower glume and the absence of homogamous spikelet pairs.

3. *Schizachyrium brevifolium* (Swartz) Nees ex Buse in Mi-

quel, Pl. Jungh. 3: 359. 1854.

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*Andropogon brevifolius* Swartz, Prodr. 26. 1788; *Pollinia brevifolia* (Swartz) Sprengel.

Annual. Culms delicate, erect or trailing, 10–70 cm long, copiously branched, glabrous. Leaves cauline; leaf sheaths keeled, glabrous; leaf blades yellowish green becoming reddish brown, oblong-linear, flat or folded, 1.5–4 × (0.1–)0.2–0.7 cm, glabrous, base subrounded, apex obtuse; ligule 0.5–0.8 mm, lacerate. Raceme slender, 1–2 cm, enclosed at base by spatheole, borne along most of culm length, usually several flexuous peduncles arising from each leaf axil; rachis internodes and pedicels inflated upward, ca. 3/4 length of sessile spikelet, glabrous to villous. Sessile spikelet 2.5–4 mm; lower glume linear-lanceolate, subleathery, back flat, glabrous to thinly pilose, indistinctly 4–5-veined, flanks keeled toward apex, keels wingless, apex minutely 2-toothed; upper lemma 2-lobed to near base; awn 0.7–1 cm. Pedicelled spikelet reduced to 1 or 2 glumes, up to 0.5 mm, lower glume with 3–5 mm awn. Fl. and fr. Jul–Dec.

Open grassy banks, field margins, weedy places, sometimes gregarious; below 2000 m. Anhui, Fujian, Guangdong, Guizhou, Hainan, Hebei, Henan, Hubei, Jiangsu, Shandong, Sichuan, Taiwan, Xizang, Zhejiang [Bangladesh, Bhutan, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam; Africa, America, SW Asia (Oman)].

This is a slender, weedy annual, occurring widely in warm parts of the world. The whole plant turns reddish brown at maturity. The delicate, branching habit, with very obtuse leaf blades, is distinctive.

**4. *Schizachyrium fragile*** (R. Brown) A. Camus, Ann. Soc. Linn. Lyon, n.s., 70: 87. 1924.

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*Andropogon fragilis* R. Brown, Prodr. 202. 1810; *A. brevifolius* Swartz var. *fragilis* (R. Brown) Hackel; *A. fragilis* var. *sinensis* Rendle; *A. obliquiberbis* Hackel; *Schizachyrium fragile* var. *sinense* (Rendle) Jansen; *S. obliquiberbe* (Hackel) A. Camus; *Eulalia simplex* Hosokawa.

Annual. Culms tufted, wiry, erect or geniculate, 15–60 cm tall, sparingly branched, glabrous. Leaves mainly basal; leaf sheaths lightly keeled, glabrous or a few hairs at mouth; leaf blades linear, usually folded, 4–8 × 0.1–0.2 cm, glabrous, apex acute or subacute; ligule 0.2–0.5 mm. Raceme 4–8 cm, enclosed at base by spatheole; rachis internodes and pedicels columnar, broadened distally, slightly shorter than sessile spikelet, a dense band of white ca. 3 mm hairs from lower part of one margin slanting obliquely across upper part of internode, then transversely across apex to top of other margin, pedicel often similarly obliquely bearded. Sessile spikelet 6–7 mm; lower glume linear-lanceolate, 2-keeled throughout, subleathery and white-villous below middle, membranous and glabrous above, keels winged for most of length but broadest on membranous part, apex narrow, keels minutely extended; upper lemma 2-lobed to near base; awn 1–1.5 cm. Pedicelled spikelet reduced to 1 or 2 glumes, 1.5–3.5 mm, ciliate on both margins, lower glume with ca. 3 mm awn. Fl. and fr. Aug–Dec.

Hillsides; below 1000 m. S Anhui, Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Taiwan [Indonesia; Australia, Pacific Islands].

This species is similar to *Schizachyrium exile* (Hochstetter) Pilger, from India and Africa, which is another slender annual with reddish racemes and conspicuous, contrasting, white hairs. However, *S. exile* has rachis internodes villous on the back and glabrous near the apex, and the lower glume of the sessile spikelet is wingless. The dense beard curling across the rachis internode from one side to the other in *S. fragile* is curious and quite distinctive.

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