

25. GAHNIA J. R. Forster & G. Forster, Char. Gen. Pl. 26. 1775.

黑莎草属 *hei suo cao shu*

Liang Songyun (梁松筠 Liang Song-jun); Jeremy J. Bruhl, Karen L. Wilson

Herbs, perennial, forming slender to massive tussocks. Roots stout. Rhizomes woody. Culms erect, usually tall and robust, terete, several noded. Leaves linear, deeply many channeled, narrowly crescent-shaped, twisted lengthwise through 180°, involute on drying; ligule present, usually truncate, papery. Inflorescences plumose-paniculate, usually decompound, consisting of several fascicles per node. Spikelets brown or black, numerous, solitary or 2–4 together. Flowers 1 or 2, apical one bisexual, usually with a second more basal one male. Glumes black or dark brown, spirally arranged, papery; basal 3–8 glumes empty, lanceolate, keeled, abaxial surface and margin scabrous, apex acute; apical 2 or 3 glumes smaller than remaining ones, thin at anthesis but becoming thick in fruit, apex obtuse; apicalmost glume bearing a bisexual flower. Perianth bristles absent. Stamens (2 or)3[or 6]; filaments elongating markedly after anthesis, persistent on nutlet and entangled in glumes thereby suspending fruit. Stigmas 3[or 4]. Nutlet ovoid, ellipsoid, obovoid-fusiform, or globose, terete or 3-sided; endocarp blackish, thick, bony.

About 30 species: S and SE Asia; three species in China.

- 1a. Inflorescences spikelike, dense; spikelets 7–10 mm 1. *G. tristis*
- 1b. Inflorescences paniculate, lax; spikelets 4–5 mm.
 - 2a. Spikelets usually 1-flowered; filaments strongly elongate after anthesis, tips enrolled by apex of glumes 2. *G. javanica*
 - 2b. Spikelets usually 2-flowered; filaments scarcely elongate after anthesis, sticky tips in bisexual flower cohering with tips of basal male flower 3. *G. baniensis*

1. *Gahnia tristis* Nees in Hooker & Arnott, Bot. Beechey Voy. 228. 1837.

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Roots stout, rigid. Rhizomes short, woody. Culms 0.5–1.5 m tall, robust, hollow, noded. Leaves basal and cauline; sheath brown to reddish brown, 10–20 cm; leaf blade 0.4–1.8 m × 0.7–1.2 cm, papery to leathery, margin scabrous, apex acuminate. Inflorescence a contracted panicle, spikelike, 14–40 × 2–3 cm, bearing 7–20 fascicles of partial panicles; partial panicles ovoid to ellipsoid, 2–5 cm; peduncles short, rigid, enclosed by inflorescence bract sheath. Spikelets numerous, densely congested, fusiform, 8–10 mm, 1-flowered. Glumes 8–10, initially yellowish brown but maturing to dark brown; basal 4–6 glumes ovate-lanceolate, papery, rigid, 1-veined, apex acuminate; apical 2 or 3 glumes broadly ovate, much shorter, margin apically ciliolate, apex emarginate to rounded; apicalmost glume bearing a bisexual flower. Perianth bristles absent. Stamens 3. Stigmas 3. Nutlet pale brown when young but maturing black, obovoid-oblong, 4–4.5 × 1.7–2 mm, 3-sided, smooth, shiny. Fl. and fr. Mar–Dec.

Dry grassy slopes, thickets, forests; 100–3000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangsu, Jiangxi, Taiwan, Zhejiang [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Thailand, Vietnam].

2. *Gahnia javanica* Zollinger & Moritzi in Moritzi, Syst. Verz. 98. 1846.

爪哇黑莎草 *zhua wa hei suo cao*

Gahnia castanea Ridley; *G. javanica* f. *sinensis* Benl.

Culms 75–120 cm tall, robust, terete, solid, nodose. Leaf sheath 10–15 cm; leaf blade usually longer than inflorescence, ca. 8 mm wide, papery to subleathery, gradually narrow apically, margin scabrous. Inflorescence a panicle, spreading and

lax, consisting of a terminal and several lateral partial panicles; lateral panicles usually 2, shortly exerted from sheath; peduncles 6–10 cm. Spikelets narrowly ellipsoid, 5.5–6 mm, 1-flowered. Glumes 7 or 8; basal 3 or 4 glumes ovate-lanceolate; apical 2 glumes chestnut-brown to black, broadly oblong, shorter, 2.8–4 mm, apex ± distinctly awned and distally ciliolate; apicalmost glume with a bisexual flower. Perianth bristles absent. Stamens 3; filaments strongly elongate after anthesis; filament tips enrolled by apex of glumes. Stigmas 3. Nutlet yellowish brown with a black apex, narrowly elliptic, ca. 3.8 mm, 3-sided, smooth, shiny. Fl. and fr. Apr–Oct.

Mossy forests, thickets in dry alpine grasslands. Yunnan [Indonesia, Malaysia, Papua New Guinea, Philippines, Vietnam; Pacific islands].

3. *Gahnia baniensis* Benl, Repert. Spec. Nov. Regni Veg. 44: 197. 1938.

散穗黑莎草 *san sui hei suo cao*

Gahnia javanica Zollinger & Moritzi var. *penangensis* C. B. Clarke; *G. penangensis* (C. B. Clarke) Kükenthal.

Culms ca. 90 cm tall, robust, terete, rigid, noded. Leaf sheath blackish brown, 8–15 cm; leaf blade equaling or slightly longer than inflorescence, 8–12 mm wide, papery to leathery, margin scabrous, apex acuminate. Involucral bracts usually shorter than inflorescence. Inflorescences black, 40–70 × 6–15 cm, spreading and lax, consisting of a terminal and several lateral panicles. Spikelets blackish, in clusters of 2 or 3 or solitary, oblong, 4–5 mm, 2-flowered. Glumes 7 or 8, blackish brown, rigid; basal 5 or 6 glumes ovate to ovate-elliptic, 2–3 mm, keeled, empty, apex mucronate; apical 2 glumes broader, bearing a bisexual flower and next a functionally male flower, margin ciliolate, apex obtuse. Perianth bristles absent. Stamens (2 or)3; filaments scarcely elongate after anthesis, sticky tips of

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filaments of bisexual flower cohering with tips of basal male flower. Stigmas 3. Nutlet reddish brown, ellipsoid, ca. 3 mm, 3-sided, smooth, shiny. Fl. and fr. Aug–Sep.

Moist hills and slopes; 800–1500 m. Fujian, Guangdong, Guangxi, Hainan [Indonesia, Japan, Malaysia (Peninsular), Vietnam; Australia].

