165. BRACHIARIA (Trinius) Grisebach, Ledebour, Fl. Ross. 4: 469. 1853.

**臂形草属 bi xing cao shu**

Chen Shouliang (陈守良); Sylvia M. Phillips

*Brachiaria* is sometimes included within *Urochloa*, but usually they can be distinguished without difficulty.

1a. Culms robust, up to 2 m tall; inflorescence with 10–20 racemes ................................................................. 1. *B. mutica*

1b. Culms slender, up to 60 cm tall; inflorescence with less than 10 racemes.

2a. Inflorescence with erect appressed racemes; fertile floret smooth and shiny, obtuse, readily falling from spikelet .................................................................................................................. 2. *B. eruciformis*

2b. Inflorescence with spreading racemes; fertile floret rugulose, acute to mucronate, persistent within the spikelet.

3a. Spikelets 1.5–2.7 mm; leaf blades broadly lanceolate, 1–4 cm long.

3b. Spikelets 2.5–4 mm; leaf blades lanceolate or linear-lanceolate, 4–15 cm long.

4a. Spikelets elliptic, 2–2.7 mm .......................................................................................................................... 3. *B. villosa*

4b. Spikelets ovate, gibbous, 1.5–2 mm ............................................................................................................ 4. *B. semiundulata*

5a. Spikelets paired, one subsessile and one pedicelled ................................................................................. 5. *B. ramosa*

5b. Spikelets single (except sometimes at raceme base).

6a. Rachis of racemes triquetrous, 0.2–0.4 mm wide; spikelets herbaceous, pubescent or glabrous.

6b. Rachis of racemes flat on back, 0.4–0.5 mm wide; spikelets cartilaginous, glabrous or almost so.

7a. Spikelets contiguous, 3.8–4 mm, pubescent ............................................................................................... 6. *B. fusiformis*

7b. Spikelets distant, 2.5–3.5 mm, glabrous .................................................................................................. 7. *B. kurzii*

8a. Lower glume 1/3–1/2 spikelet length, separated from upper glume by a short internode; upper lemma subacute ................................................................................................................................. 8. *B. subquadripa*

8b. Lower glume 1/2–3/5 spikelet length, not separated from upper glume; upper lemma mucronate ................................................................................................................................. 9. *B. urochlooides*


芭拉草 ba la cao

*Panicum muticum* Forsskål, Fl. Aegyp.-Arab. 20. 1775; *Brachiaria purpurascens* (Raddi) Henrard; *P. barbinode* Trinius; *P. purpurascens* Raddi; *Urochloa mutica* (Forsskål) T. G. Nguyen.

Robust perennial. Culms stout, trailing and rooting freely from lower nodes, ascending to 2 m, 5–8 mm in diam., nodes densely villous. Leaf sheaths villous or glabrous; leaf blades broadly linear, 10–30 × 1–2 cm, thinly pilose or subglabrous; ligule membranous, 1–1.3 mm. Inflorescence axis 7–20 cm; racemes 10–20, 5–15 cm, single, paired or grouped; racis narrow, winged, scabrous; spikelets paired or single in upper part of raceme, in undidy rows or sometimes on short secondary branchlets in lower part of raceme; pedicels usually setose. Spikelets elliptic, green or purplish, 2.5–3.5 mm, glabrous, acute; lower glume triangular, 1/4–1/3 spikelet length, 1-veined; upper glume 5-veined; upper lemma rugulose, apex obtuse. Fl. and fr. Aug–Nov.

About 100 species: tropics and subtropics mainly of the Old World, especially Africa; nine species (one endemic) in China.

Forming a dense cover along streams and in other wet places, sometimes forming floating rafts. Fujian, Hong Kong, cultivated in Taiwan [tropical Africa and America].

This is a forage grass (Para Grass) widely cultivated in tropical regions of the world and often found as a naturalized escape. Its country of origin is unknown.


臂形草 bi xing cao

*Panicum eruciforme* Smith in Sibthorp & Smith, Fl. Graecae 1: 44, t. 59. 1806; *Brachiaria isachne* (Roth ex Roemer & Schultes) Stapf; *Echinochloa eruciformis* (Smith) Koch; *Moorchloa eruciformis* (Smith) Veldkamp; *P. caucasicum* Trinius; *P. isachne* Roth ex Roemer & Schultes.

Annual. Culms loosely tufted, slender, much branched, geniculately ascending, 30–40 cm tall, nodes softly hairy. Leaf sheaths glabrous or loosely tuberculate-hairy; leaf blades linear-lanceolate, 1.5–10.5 × 0.3–0.6 cm, glabrous or pilose; ligule ciliate. Inflorescence axis 3–6 cm; racemes 4–10, 1–3 cm, erect or narrowly ascending; racis narrow, triquetrous, ciliate or scab-

毛臂形草  mao bi xing cao

Annual. Culms loosely tufted, slender, usually decumbent and branching below, 10–40–(50) cm tall. Leaf sheaths glabrous or pubescent, especially along margins and mouth; leaf blades broadly lanceolate, 1.4 × 0.3–1 cm, both surfaces glabrous to densely pubescent, base rounded or subcordate, margins cartilaginous, scabrous, apex acute; ligule ciliate. Inflorescence axis 2–7 cm, without a stipe, glabrous or pubescent, sometimes densely pubescent below apex, acute or subacute; lower glume 1/3–1/2 spikelet length, clasping, 3–veined, acute; upper glume separated from lower by a slight internode, 5-veined; upper lemma striate and transversely rugulose, apex acute to minutely mucronate. Fl. and fr. Jul–Oct. 2n = 36.

Mountain or hill slopes, fields, roadsides, other weedy or grassy places. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Hunan, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Myanmar, Nepal, Philippines, Thailand, Vietnam; Africa].

This is the weedy species recognizable by its short, broad, usually softly hairy leaf blades and second racemes of rather small spikelets.

1a. Leaves, culms and spikelets pubescent ...... 3a. var. villosa

1b. Leaves, culms and spikelets glabrous except sheath margins ......................... 3b. var. glabrata

3a. Brachiaria villosa var. villosa

毛臂形草 (原变种)  mao bi xing cao (yuan bian zhong)

Panicum villosum Lamark, Tab. Encycl. Méth. Bot. 1: 173. 1791; Brachiaria villosa var. barbata Bor; Panicum villosum; Urochloa coccosperma (Steudel) Stapf ex Reeder; U. villosa (Lamark) T. Q. Nguyen.

Culms to 40 cm but often shorter. Leaf sheaths and blades ± pubescent. Spikelets puberulous or pubescent, upper glume and lower lemma sometimes with a subapical transverse white fringe.

Hill slopes, fields. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Myanmar, Nepal, Philippines, Thailand, Vietnam; Africa].

Forms with bearded spikelets have been separated as var. barbata, but as the type of Panicum villosum itself has bearded spikelets, the autonomic variety (var. villosa) is clearly synonymous and has statutory priority.


无毛臂形草  wu mao bi xing cao

Culms ca. 50 cm. Leaf sheaths and blades glabrous except for ciliate sheath margins. Spikelets glabrous, apex without white beard (but pedicels loosely hirsute).

Roadsides, grassy places; ca. 800 m. Yunnan.


短颖臂形草  duan ying bi xing cao


Annual. Culms loosely tufted, slender, decumbent at base, rooting at lower nodes, 20–50 cm tall. Leaf sheaths pubescent; leaf blades ovate-lanceolate, 1.3 × 0.1–0.8 cm, both surfaces densely pubescent, margins cartilaginous, crinkled-serrate; ligule ciliate. Inflorescence axis 2–7 cm; racemes 3–8, 0.5–2 cm, ascending; rachis triquetrous, setose; spikelets single, in neat 2 rows, overlapping. Spikelets ovate, plump, strongly gibbous on abaxial side, flat on adaxial side, 1.5–2 mm, glabrous to pubescent, subacute; lower glume 1/3–2/5 spikelet length, 3-veined; upper glume 4/5 spikelet length, 5-veined; upper lemma swollen, striate, transversely rugulose, apex acute. Fl. and fr. Jul–Oct.

Mountain slopes, fields. Hainan, Yunnan [tropical Africa, S Asia].


多枝臂形草  duo zhi bi xing cao

Panicum ramosum Linnaeus, Mant. Pl. 1: 29. 1767; P. brachyachlamnus Steudel; P. canescens Roth ex Roemer & Schultes; Urochloa ramosa (Linnaeus) T. Q. Nguyen.

Annual. Culms tufted, loosely ascending, 30–60 cm tall. Leaf sheaths glabrous to pubescent; leaf blades narrowly lanceolate, 4–12 × 0.4–0.8 cm, velvety-pubescent, margins thickened and slightly wavy, scabrous, apex acuminate; ligule short, ciliate. Inflorescence axis 6–13 cm; racemes 3–6, 2–5 cm, loosely erect to ascending; rachis triquetrous, hirsute; spikelets mostly borne in loosely contiguous pairs, one spikelet subsessile, the other shortly pedicelled, single toward raceme apex, lightly appressed to axis. Spikelets elliptic, 2.5–3.5 mm, with a 0.1–0.5 mm basal stipe, glabrous, pubescent or hirsulous, acute to cuspidate; lower glume broadly ovate, 1/3–1/2 spikelet length, 5-veined; upper glume 5–7-veined; upper lemma distinctly rugose, apex acute. Fl. and fr. summer–autumn. 2n = 32, 36.

四生臂形草 si sheng bi xing cao

Annual or short-lived perennial. Culms slender, straggling, rooting at lower nodes, 20–60 cm tall, nodes pubescent. Leaf sheaths loose, glabrous or with tubercle-based hairs or ciliate margins; leaf blades lanceolate or linear-lanceolate, 4–15 × 0.4–1 cm, glabrous or pubescent, base subrounded, margins thicker and scabrous, apex acute or acuminate. Inflorescence axis 3–10 cm; racemes 3–6, 2–4 cm, divergent to reflexed; rachis flat, 0.7–1 mm wide, narrowly winged, nearly glabrous; spikelets single, in 2 rows; pedicels glabrous. Spikelets elliptic to narrowly obovate, (3–)3.5–4 mm; glabrous; aculeum broadly ovate, 1/3–1/2 spikelet length, 5–7–veined; upper glume separated from lower glume by a short internode, 5–7–veined; upper lemma finely rugose, apex subacute. Fl. and fr. Sep–Nov. 2n = 72.

Hill slopes, grassy places, fields, open forests. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Taiwan, Yunnan [tropical Asia, Australia, Pacific Islands].

This species is a troublesome weed.

1a. Spikelets elliptic, broadest at middle, acuminate ........................................ 8a. var. subquadripara

1b. Spikelets narrowly obovate, broadest above middle, acute .............................. 8b. var. miliiformis

8a. Brachiaria subquadripara var. subquadripara

四生臂形草 (原变种) si sheng bi xing cao (yuan bian zhong)

Panicum subquadriparum Trin., Gram. Panic. 145. 1826; P. pseudodistachyum Hayata; Urochloa subquadripara (Trin.) R. D. Webster.

Leaf sheaths and blades usually glabrous, rarely with tubercle-based hairs on sheaths or pubescent on both surfaces of blades. Pedicels glabrous. Spikelets elliptic, broadest in middle, glabrous. Fl. and fr. Sep–Nov.

Mountain slopes, grassy places, fields, open forests. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Taiwan [tropical Asia, Pacific Islands].


锐头臂形草 rui tou bi xing cao

Panicum miliiforme Presl, Reliq. Haenk. 1: 300. 1830; Brachiaria miliiformis (Presl) A. Chase.

Leaf sheaths glabrous or loosely tuberculate-hairy or margins ciliate. Pedicels glabrous. Spikelets narrowly obovate, broadest above middle, 3–3.5 mm, acute. Fl. and fr. autumn. 2n = 54–56, 72.

Roadsides, grassy places. Hong Kong, Yunnan [India, Malaysia, Sri Lanka].


Grasslands, hill slopes, weedy places. Hainan, Yunnan [Bhutan, Cambodia, India, Malaysia, Nepal, Pakistan, Thailand, Vietnam; Africa].


细毛臂形草 xi mao bi xing cao

Brachiaria subquadripara var. setulosa S. L. Chen & Y. X. Jin; Urochloa fusiformis (Reeder) Veldkamp.

Annual. Culms loosely tufted, branching, 30–50 cm tall, basal internodes purplish, pubescent, upper internodes glabrescent. Leaf sheaths densely pilose; leaf blades lanceolate, 4–5.5 × 0.7–0.9 cm, densely pilose, base rounded, margins cartilagineous, scaberulous and spinulose, apex acute; ligule 0.5–1.5 mm. Inflorescence axis 6–8 cm, pubescent; racemes 4–5, 3–5 cm, narrowly ascending to suberect, lowermost with basal racemelets; rachis triquetrous, 0.3–0.4 mm wide; spikelets single, their own length apart or overlapping; pedicels setose. Spikelets elliptic, 3.8–4 mm, with a 0.3–0.5 mm basal stipe, herbaceous, softly pubescent, strongly veined, apex sharply narrow, narrowly elliptic, 3.8–4 mm, with a 0.3–0.5 mm basal stipe, cross veinlets toward apex; lower lemma similar to upper glume, flat to slightly succulate; upper lemma shorter than spikelet, inconspicuously punctate-rugulose, apex acute, minutely scabrous-pubescent, slightly crested.

Mountain slopes. Yunnan (Yongsheng) [Indonesia, New Guinea, Philippines].

The Chinese population of this little-known species has larger spikelets than specimens from tropical SE Asia, but is otherwise typical. In the Philippines the spikelets have an apical fringe of longer hairs, but other Brachiaria species are also variable in this character. The very slender, triquetrous rachis and contracted, acuminate spikelet apex are unusual in the genus.


无名臂形草 wu ming bi xing cao


Annual. Culms decumbent or shortly stoloniferous, rooting at lower nodes, 15–60 cm long, nodes pubescent. Leaf sheaths and blades usually glabrous, rarely with tubercle-based hairs on sheaths or pubescent on both surfaces of blades. Pedicels glabrous. Spikelets elliptic, broadest in middle, glabrous. Fl. and fr. Sep–Nov. 2n = 72.

Hill slopes, grassy places, fields, open forests. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Taiwan, Yunnan [tropical Asia, Australia, Pacific Islands].

This species is a troublesome weed.

1a. Spikelets elliptic, broadest at middle, acuminate ........................................ 8a. var. subquadripara

1b. Spikelets narrowly obovate, broadest above middle, acute .............................. 8b. var. miliiformis

8a. Brachiaria subquadripara var. subquadripara

四生臂形草 (原变种) si sheng bi xing cao (yuan bian zhong)

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Mountain slopes, grassy places, fields, open forests. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Taiwan [tropical Asia, Pacific Islands].


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Roadsides, grassy places. Hong Kong, Yunnan [India, Malaysia, Sri Lanka].


Grasslands, hill slopes, weedy places. Hainan, Yunnan [Bhutan, Cambodia, India, Malaysia, Nepal, Pakistan, Thailand, Vietnam; Africa].

尾稃臂形草  wei fu bi xing cao

Annual. Culms slender, decumbent and rooting at base, branching, 40–60 cm tall. Leaf sheaths glabrous or with tubercle-based hairs, ciliate along one margin; leaf blades linear-lanceolate, 5–9 × 0.3–0.5 cm, both surfaces with tubercle-based hairs, margins cartilaginous, scabrous, apex acute; ligule ciliate, hairs ca. 1 mm. Inflorescence axis 1–2.5 cm; racemes 2–4, 1.5–3 cm, secund, ascending; rachis scarcely winged, 0.5–0.6 mm wide, scabrous on edges; spikelets single or paired in the lower part. Spikelets lanceolate, 3.5–4 mm, without a stipe, subglabrous, abruptly acuminate; lower glume ovate, 1/2–3/5 spikelet length, clasping, 3–5-veined, acute; upper glume 5-veined, thinly pubescent near margins; upper lemma clearly shorter than spikelet, ca. 2.5 mm, rugulose, apex mucronate. Fl. and fr. May–Oct.

* Grassy places. S Yunnan.

This species resembles *Urochloa* in its mucronate upper lemma, but the lower glume is adaxial and characters of the leaf epidermis show it to be better placed in *Brachiaria*. 