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Abildgaardia Vahl; Cyperus subg. Iria Richard; Iria (Richard) R. Hedwig.

Herbs, annual or perennial, medium sized, often rhizomatous. Culms usually tufted, slender, 3- or 5-angled or flattened. Leaves basal, sometimes reduced to a bladeless sheath; ligule if present membranous or a fringe of hairs; leaf blade linear, filiform, or rarely ensiform, usually dorsiventrally compressed and canaliculate, often adaxially cellular-reticulate. Inflorescences terminal, a simple, compound, or decompound anthela, rarely capitate or reduced to 1 terminal spikelet. Spikelets solitary or fascicled, ovoid, ellipsoid, or subglobose, terete or flattened, with several to many flowers. Glumes spirally imbricate, distichous, or only basal ones distichous and apical ones spirally imbricate, often with 1 or more veins forming an abaxial keel and sometimes extending into an apical micro or arista. Flowers bisexual. Perianth bristles absent. Stamens 1–3. Style not persistent on nutlet, basally enlarged. Nutlet sometimes stipitate, biconvex, 3-sided, or almost terete, either reticulate, verruculose, or both.

Over 200 species: worldwide but mostly subtropical and tropical with center of distribution in SE Asia; 53 species (ten endemic) in China.

Although J. Kern reported *Fimbristylis merrillii* J. Kern from S China (Blumea 8: 135. 1955), no specimen from China has been seen by the present authors, and we doubt that it actually occurs in China.

1a. Spikelets ± compressed; glumes distichous at least on basal part of spikelet.

2a. Inflorescences reduced to a single spikelet; involucral bracts glumelike.

3a. Nutlet obovoid, verruculose, stipes less than 0.5 mm; leaf blade 0.5–1 mm wide ........................................ 52. *F. ovata*

3b. Nutlet globose, with few verrucae, stipes more than 1 mm; leaf blade ca. 0.5 mm wide ...................... 53. *F. longistipitata*

2b. Inflorescences with 2 to several spikelets; involucral bracts leaflike, setaceous, or very rarely glumelike.

4a. Glumes glabrous, not gland-dotted.

5a. Nutlet 1–1.2 mm; spikelets often paired or fascicled, rarely solitary at apex of inflorescence

5b. Nutlet 0.7–0.9 mm; spikelets solitary.

6a. Glumes yellowish brown; spikelets 6–10 mm; basalmost involucral bract less than

2 × as long as spikelet; rhizome short ................................................................. 45. *F. eragrostis*

6b. Glumes reddish brown; spikelets 3–6 mm; basalmost involucral bract more than

3 × as long as spikelet; rhizome absent ............................................................... 46. *F. disticha*

4b. Glumes hairy or gland-dotted.

7a. Glumes densely gland-dotted, glabrous; spikelets with 2 or 3 flowers; rays and raylets very slender, glabrous.

8a. Leaf blade ca. 1 mm wide, hairy on both surfaces; ligule absent; involucral bracts surpassing inflorescence ................................................................. 47. *F. nanningensis*

8b. Leaf blade 3–6 mm wide, glabrous; ligule a fringe of short white hairs; involucral bracts shorter than inflorescence ..................................................... 48. *F. cinnamometorum*

7b. Glumes not gland-dotted, hairy; spikelets with more than 3 flowers; rays and raylets thicker, hairy.

9a. Glumes awned, awns excurred; stigmas 2 ................................................................. 49. *F. kwantungensis*

9b. Glumes shortly tipped, tips not excurred; stigmas 3.

10a. Perennials; culms 20–40 cm tall; inflorescence a compound anthela; glumes 4–5 mm;

nutlet attenuate to base, subsessile; style 4–5 mm ................................................. 50. *F. fusca*

10b. Annuals; culms 5–13 cm tall; inflorescence a simple or rarely compound anthela;

glumes 2.5–3 mm; nutlet truncate at base, shortly stipitate; style ca. 2 mm ............. 51. *F. fimbristyloides*

1b. Spikelets terete; glumes spirally imbricate.

11a. Spikelet solitary; involucral bracts glumelike; leaves with only a bladeless sheath.

12a. Nutlet narrowly oblong, base with a ca. 0.7 mm stipe; culms 4-angled ......................... 40. *F. tetragona*

12b. Nutlet broadly obovoid, subsessile; culms flatly cylindric, subcylindric, or slightly compressed.

13a. Stigmas 3; spikelets narrowly oblong to clavate-oblong, 3.5–4.5 × 1–1.5 mm; glumes pale

with short rust-colored lines, oblong to oblong-ovate, apex not mucronate; nutlet white,

with sparse verrucae and subhexagonal reticulation .............................................. 41. *F. pauciflora*

13b. Stigmas 2; spikelets ovoid, narrowly ovoid, ellipsoid, or oblong-ovoid, 5–15 × 2–5 mm;

glumes brown with short rust-colored lines or greenish white and sometimes laterally with

brown specks, apex mucronate; nutlet yellowish white, with transverse wavy reticulation.
14a. Spikelets slightly nodding; involucral bracts 2–4.5 mm; glumes brown with short
rust-colored lines; stamens 3; nutlet margin verruculose ........................................ 42. *F. nutans*

14b. Spikelets erect; involucral bract absent; glumes greenish white and sometimes
laterally with brown specks; stamens 2; nutlet margin not verruculose .................. 43. *F. acuminata*

11b. Spikelets (1 or) 2 to many; involucral bracts not glumelike; leaves with a blade.
15a. Stigmas 2; style compressed, apically ciliate.
16a. Spikelets angular because of keeled glumes, 7 mm or less (but to 12 mm in *F. gracilenta*).
17a. Style base with sparse long hairs covering nutlet apex .................................. 35. *F. squarrosa*
17b. Style base glabrous.
18a. Glumes brown; nutlet 0.6–0.8 mm.
19a. Nutlet broadly obovoid, with transverse oblong reticulation; leaf sheath
greenish yellow or with rust-colored flecks; leaf blade 0.7–1.5 mm wide ........ 36. *F. bisumbellata*
19b. Nutlet obovoid, almost smooth but sometimes with very indistinct
hexagonal reticulation; leaf sheath brown; leaf blade 0.5–1 mm wide ............. 37. *F. aestivalis*
18b. Glumes pale brown; nutlet ca. 1 mm.
20a. Leaf blade ca. 1 mm wide; spikelet oblong, lanceolate, or linear-lanceolate,
1.5–2 mm wide; rhizomes absent ................................................................. 38. *F. gracilenta*
20b. Leaf blade 1.5–3 mm wide; spikelet ovate or narrowly ovate, 2–4 mm
wide; rhizomes short .................................................................................. 39. *F. simaoensis*

16b. Spikelets terete, at least some to 10 mm or more (but only to 8 mm in *F. polytrichoides*).
21a. Spikelets 1–3(–6).
22a. Nutlet grayish black, with an extremely short stipe, obovoid, with transversely
oblong reticulation and verrucae; growing in sandy places; glumes pale white
with short brown lines medially, sometimes slightly yellowish brown
apically ............................................. ........................................................................ 34. *F. polytrichoides*
22b. Nutlet yellowish white or brown, with a distinct stipe, broadly obovoid, with
hexagonal reticulation; not growing in sandy places; glumes yellowish
white with short brown lines or brown with short rust-colored lines.
23a. Glumes yellowish white, ca. 3 mm; nutlet yellowish white, with a short
yellowish white stipe .................................................................................. 31. *F. schoenoides*
23b. Glumes brown, 5–7 mm; nutlet brown or yellowish brown, with a short
brown stipe.
24a. Spikelets 1 or 2; bract 1 or absent, longer than inflorescence;
rhizomes absent; leaf blade ca. 1 mm wide ............................................. 32. *F. subbispicata*
24b. Spikelets 3–6; bract 1, shorter than inflorescence; rhizomes short;
leaf blade 1.2–2 mm wide ........................................................................ 33. *F. tristachya*

21b. Spikelets several to many (in *F. sieboldii* sometimes with only 1–3 spikelets, but
glumes only 1-veined, and culm base with leafless sheaths).
25a. Spikelets very narrowly ovoid to linear; nutlet with linear-oblong reticulation;
rhizome absent ................................................................. 30. *F. hookeriana*
25b. Spikelets ovoid, ellipsoid, oblong, oblong-ovoid, narrowly oblong, ovoid-
elipsoid, or narrowly oblong-ovoid; nutlet with subtransverse, oblong,
hexagonal, or oblong-hexagonal reticulation or subsmooth; rhizome
absent or present.
26a. Plants stoloniferous; nutlet with horizontally oblong reticulation, vertical
ribs not obvious .................................................................................. 28. *F. stolonifera*
26b. Plants not stoloniferous; nutlet with hexagonal reticulation (*F. dichotoma*
with oblong reticulation, but vertical ribs obvious; in *F. sieboldii*
reticulation not obvious).
27a. Culm bases with leafless sheaths; glumes 1-veined, apical part abaxially
pubescent; leaf blade ca. 1 mm wide; nutlet almost smooth ..................... 29. *F. sieboldii*
27b. Culm bases without leafless sheaths; glumes with 3 or more veins,
abaxially glabrous; leaf blade more than 1 mm wide; nutlet with
evident reticulation.
28a. Inflorescences inclined to nodding .................................................. 27. *F. subinclinata*
28b. Inflorescences erect.
29a. Rhizomes woody, horizontally elongated ...................................... 26. *F. rigidula*
29b. Rhizomes not prominent.
30a. Nutlet with hexagonal reticulation, without obvious vertical ribs, not stipitate .............................................. 25. F. longispica
30b. Nutlet with transversely oblong reticulation, vertical ribs obvious or not, with a short brown stipe at base.
31a. Nutlet obovoid, with obvious vertical ribs, not verruculose; inflorescences 5–9 cm ......................... 23. F. dichotoma
31b. Nutlet ovoid, without vertical ribs, sparsely verruculose; inflorescences 3–4 cm ...................... 24. F. shimadana

15b. Stigmas (2 or)3; style not compressed or rarely slightly compressed, apically not ciliate.
32a. Basal part of culms with 1–3 leafless sheaths.
33a. Leaf blade bilaterally compressed, ensiform; leaf sheaths compressed; spikelets spherical or subperipheral; glumes 1–1.3 mm ................................................................. 16. F. littoralis
33b. Leaf blade (if present) dorsiventrally flattened but canaliculate, linear; leaf sheaths tubular; spikelets more elongated (but sometimes globose-ellipsoid in F. umbellaris); glumes 1.5–2.7 mm.
34a. Leaves reduced to a bladeless sheath ................................................................. 18. F. salbundia
34b. Leaves with a blade.
35a. Culms 3-angled to subterete ................................................................. 22. F. umbellaris
35b. Culms 4- or 5-angled to subterete.
36a. Anthelia simple or subcompound (rarely reduced to 1 spikelet); glumes without any dark brown lines ...................................................... 21. F. diphyloides
36b. Anthelia usually compound; glumes each with 1 or 2 dark brown lines.
37a. Glume apices obtuse to rounded and not mucronate or apiculate; nutlet 0.6–0.8 mm; spikelets 2.7–7 mm ...................................................... 17. F. aphylla
37b. Glume apices mucronate or apiculate or at least acute; nutlet ca. 0.8 mm (or sometimes longer in F. quinquangularis); spikelets 2–5 mm.
38a. Ligule absent; involucral bracts 4, setaceous; rays 4; nutlet obovoid; stamens 1 or 2 ................. 19. F. quinquangularis
38b. Ligule a fringe of pubescence; involucral bracts 5–7, leaflike; rays 5–7; nutlet broadly obovoid; stamens 3 ... 20. F. chingmaiensis

32b. Culms tufted; rhizomes absent.
40a. Nutlet oblong; glumes white, straw-yellow, or rust-colored.
41a. Glumes white to pale straw-yellow; nutlet papillate laterally but papillae later deciduous; leaf blade 0.2–0.5 mm wide .............................................. 1. F. dipsacea
41b. Glumes rust-colored; nutlet not papillate; leaf blade 1–2.5 mm wide .................... 2. F. stauntonii
40b. Nutlet obovoid, broadly obovoid, or ellipsoid-obovoid; glumes usually yellowish green.
42a. Stigmas 2; involucral bracts longer or shorter than inflorescence .......................... 5. F. henryi
42b. Stigmas 3; involucral bracts shorter than inflorescence.
43a. Spikelets 3–6 × 1–1.5 mm; glumes 2–2.5 mm; nutlet broadly obovoid, 0.7–1 mm ................................................................. 3. F. autumnalis
43b. Spikelets 2–3 × 1–1.2 mm; glumes 1–1.2 mm; nutlet obovoid, 0.4–0.5 mm ................................. 4. F. microcarya

39b. Culms not tufted; rhizomes short or plants stoloniferous.
44a. Nutlet purplish black, grayish black, or blackish purple (not seen for F. psammocola); stigmas 2 or 3.
45a. Whole plant covered with dense white silky hairs; rhizomes elongated, branched ................................................................. 12. F. sericea
45b. Plant glabrous; rhizomes short, not branched.
46a. Spikelets 10–20 mm; style 3-sided; stigmas 3 ...................................................... 13. F. insignis
46b. Spikelets 3–10 mm; style slightly flat or flat; stigmas 2 or 3.
47a. Glumes 1.2–2 mm, apex obtuse; spikelets 3–6 × 1.5–2.5 mm ...................... 11. F. cymosa
47b. Glumes 4–5 mm, apex acute; spikelets 6–10 × 2.5–4 mm .......................... 15. F. psammocola
44b. Nutlet white, yellowish white, cream-colored, yellow, or brown; stigmas 3.
48a. Glumes densely gland-dotted, margin fimbriate-ciliate, apex often emarginate ................................................................. 14. F. leptoclada
48b. Glumes not gland-dotted, margin not fimbriate-ciliate, apex not emarginate.
49a. Plants stoloniferous; involucral bracts subulate or glumelike .......... 10. F. pierotii
49b. Plants not stoloniferous; involucral bracts leaflike.

50a. Leaf sheaths not compressed; glumes 5–7-veined forming an
axial obliquely angled keel; nutlet ca. 2 mm ........................................ 6. F. thomsonii
50b. Leaf sheaths compressed; glumes 1–3-veined; nutlet 0.7–1.5 mm.

51a. Ligule absent; involucral bracts longer than inflorescence ............ 9. F. dura
51b. Ligule ciliate; involucral bracts shorter than inflorescence

52a. Glumes 3–3.5 mm, herbaceous, 1-veined; nutlet
1–1.5 mm .............................................................................................. 7. F. complanata
52b. Glumes 2–2.5 mm, membranous, 3-veined; nutlet
0.7–0.8 mm .......................................................................................... 8. F. tainanensis


起绒飘拂草 qi rong piao fu cao

Annuals. Rhizomes absent. Culms tufted, 2.5–15 cm tall, slender, smooth. Leaves as long as or shorter than culm; sheath rust-colored, thinly membranous, glabrous, mouth obliquely split; leaf blade capillary, 2.5–15 cm × 0.2–0.5 mm, involute to nearly flat. Involucral bracts 3–10, setaceous, basal 1 or 2 sometimes surpassing inflorescence. Inflorescence a simple or subcompound anthela, with fewer to numerous spikelets; rays 3–10, slender, unequal, spreading. Spikelets solitary, rarely 2 clustered, oblong, oblong-ovoid, or subglobose, 3–6 × 2–6 mm, many flowered. Glumes white or pale straw-yellow, oblong, oblong-ovoid, or elliptic, ca. 1 mm (excluding awn), thinly membranous, 1-veined forming an abaxial green keel, apex blunt and awned. Stamens 1 or 2; anthers narrowly ovoid to oblong. Style basally slightly thickened; stigmas 2. Nutlet brown, oblong, shiny, with transversely hexagonal reticulation or sublinear horizontal lines, each edge bearing 5–9 caducous clavate glandular cells. Fl. and fr. Mar–Nov.

Field margins, wet grassy places by rivers, swamplike places, pond margins; below 100 m. Anhui, Guangdong, Guangxi, Hainan, Heilongjiang, Hunan, Yunnan, Zhejiang [India, Indonesia, Japan, Korea, Laos, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Africa, N Australia, South America].

1a. Glume apices with a long excurved awn ............................................ 1a. var. dipsacea
1b. Glume apices with a short straight awn ........................................... 1b. var. verrucifera

1a. Fimbristylis dipsacea var. dipsacea

起绒飘拂草(原变种) qi rong piao fu cao (yuán biàn zhòng)

Scirpus dipsaceus Rottbøll, Descr. Icon. Rar. Pl. 56. 1773.

Leaves often as long as or shorter than culm. Glumes white, elliptic, apex with a long excurved awn. Stamens 1 or 2. Fl. and fr. Fl. and fr. Nov. 2n = 10.

Field margins, wet grassy places by rivers, swamplike places, pond margins; below 100 m. Guangdong, Guangxi, Hainan, Yunnan [India, Indonesia, Laos, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Africa, N Australia, South America].


疣果飘拂草 you guo piao fu cao


Field margins, wet places, water margins. Anhui, Heilongjiang, Hunan, Zhejiang [Japan, Korea, Russia (Far East)].


烟台飘拂草 yan tae piao fu cao

Annuals. Rhizomes absent. Culms tufted, 4–40 cm tall, erect or rarely curved, flatly 3-angled, striate, glabrous, with fewer leaves at base. Leaves shorter than culm; sheath pale brown, 0.5–7 cm, adaxially membranous, mouth obliquely split; ligule very short, ciliate, apex truncate; leaf blade 1–2.5 mm wide but apically attenuate, flat, glabrous, apex acute. Involucral bracts 2 or 3, leaffike, slightly longer to shorter than inflorescence; bractlets subulate or glumelike, base dilated, apex awned. Inflorescence a simple or compound anthela, 1–7 × 1.5–7 cm; rays few, 1–7 cm, slender, ± spreading. Spikelets solitary, broadly ovoid to oblong, 3–7 × 1.5–2.5 mm, many flowered, base cuneate, apex acute, obtuse, or rounded. Glumes rust-colored, oblong-lanceolate, membranous, 1-veined forming an abaxial green keel, apex with a straight mucro. Stamens 1; anther ca. 0.4 mm, apex apiculate. Style subcylindrical, glabrous, basally slightly inflated to spherical; stigmas 2 or 3. Nutlet yellowish white, oblong, ca. 1 mm, subterete, with transverse oblong reticulation. Fl. and fr. Jul–Oct.

Cultivated fields, wet sandy places, among grasses; near sea level to 700 m. Anhui, S Gansu, Hebei, Henan, Hubei, Hunan, Jiangsu, Liaoning, Shaanxi, Shandong, Sichuan, Zhejiang [Japan, Korea].


秋飘拂草 qiu piao fu cao


Annuals. Rhizomes absent. Culms tufted, 6–20 cm tall, 1.5–2 mm wide, 3-angled, striate, glabrous, with 1 or 2 leaves at base. Leaves shorter than culm; sheath membranous, tinged rusty brown on ventral side, mouth obliquely truncate; ligule truncate, ciliate; leaf blade 1–2.5 mm wide, glabrous, gradually
narrowed to an acute apex. Involutural bracts subulate, shorter than inflorescence. Inflorescence a simple to compound anthela, 2–7 cm, lax; rays 3–6, 0.6–4 cm, spreading. Spikelets solitary, narrowly ovoid to oblong-ovoid, 3–6 × 1–1.5 mm, 7–16-flowered. Glumes pale brownish to yellowish, lanceolate-ovate, 2–2.5 mm, margin broadly hyaline, strongly folded by a 3-veined keel with veins projecting into a mucro. Stamens 1.

- **Fimbristylis microcarpa** F. Mueller, Fragmenta 1: 200. 1859.

**Taipei piao fu cao** tai bei piao fu cao

Fimbristylis autumnalis (Linnaeus) Roemer & Schultes subsp. taiwanica (Ohwi) T. Koyama; F. tainanica Ohwi.

Annals. Culms densely tufted, 10–30 cm tall, 0.7–1.3 mm thick, flatly 3-angled, smooth. Leaves basal; few; sheath light straw-colored to pale brown; ligule ciliate; leaf blade linear, to 18 cm × 1.5–5 mm, flat, apical margin scabrid. Involucral bracts 3 or 4, basalmost leaflike and to 4 cm. Inflorescence a compound anthela, 3–6 × 3–6 cm, lax; primary rays 2–5, 1–5 cm, unequal, apically scabrous. Spikelets numerous per inflorescence, solitary, rust-colored, narrowly ovoid, 2–3 × 1–1.2 mm, slightly angular, sub laxly 5–10-flowered, apex acute. Glumes numerous, spirally imbricate, light rust-colored with white, obovoid to broadly obovoid, ca. 1.5 mm, obtusely 3-sided, with transversely oblong reticulation but not verruculose. Fl. and fr. Sep.

Cultivated ground, grasslands; below 600 m. Jiangxi (Wagong Shan), Liaoning, Taiwan [Japan; Central, North, and South America].

4. **Fimbristylis thomsonii** Boeckeler, Linnaea 37: 37. 1871.

**Xin nan piao fu cao** xi nan piao fu cao

Perennials. Rhizomes short. Culms tufted, (11–)25–70 cm tall, flatly and obtusely 3-angled, striate, with many leaves at base. Leaves slightly shorter than culms to 1/4–1/2 as long as culm; sheaths brown, abaxially membranous and rust-colored, apex truncate; leaf blade 2–4.5 mm wide, flat, stiff, margin finely toothed, apex acute. Involucral bracts 2 or 3, leaflike, much shorter than inflorescence; bractlets subulate, broader at base. Inflorescence a compound or decompound anthela; rays 2–4, 0.7–3.5 cm, slightly compressed. Spikelets solitary, oblong-ovoid to ellipsoid, 5–10 × 2–3 mm, 7–10-flowered or more, apex acute. Glumes chestnut-brown, ovate, 2.2–3.5 mm, 5–7-veined forming an abaxial obtuse keel, midvein green and excurrent into a micro, margin membranous, apex acute. Stamens 3; anthers narrowly oblong, ca. 2 mm, ca. 2 × as long as filaments. Ovary oblong, nearly 3-sided, base slightly narrowed; style 3-sided, not ciliate, basally inflated to oblong-conic; stigmas 3, slightly longer than style. Nutlet yellowish white to yellow, obvoid, ca. 2 mm, obtusely 3-sided, with transversely oblong reticulation and verrucae. Fl. and fr. May–Jun.

Grassy slopes; 100–3100 m. Guangdong, Guangxi, Hainan, Taiwan, S Yunnan [India, Indonesia, Japan, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam].


**Shan dao piao fu cao** bian qiao piao fu cao

Perennials. Rhizomes long, short, or almost absent. Culms tufted, (10–)20–70 cm tall, flatly 3- or 4-angled, striate, sometimes apically winged, with many leaves at base. Leaves shorter than culm; sheath bilaterally compressed, abaxially membranous and rust-colored, adaxially keeled, mouth obliquely split and ciliate; ligule very short, ciliate; leaf blade 1–5 mm wide, flat, thickly papery, margin apically finely serrulate, apex acute. Involucral bracts 2–4, suberect, much shorter than inflorescence; bractlets setaceous, broader at base. Inflorescence a simple, compound, or decompound anthela, 7.5–10.5 × 4–7 cm; rays 3 or 4, 1–7 cm, compressed, scabrid. Spikelets many per inflorescence, solitary, oblong, ovoid, or narrowly ovoid, 5–9 × 1.2–2 mm, 5–13-flowered, apex acute. Glumes brown, ovate, ca. 3 mm, 1-veined forming an abaxial yellowish green keel excurrent into a micro, apex acute. Stamens 3; anthers oblong, 1 mm or longer, ca. 1/4 as long as filament, apex acute. Ovary oblong, 3-sided; style 3-sided, glabrous, basally inflated to conic; stigmas 3, ± as long as style. Nutlet white or yellowish white, obvoid to broadly obvoid, ca. 1.5 mm, obtusely 3-sided, with transverse oblong reticulation. Fl. and fr. Jun–Oct.

Wet places in valleys, grasslands, streamsides, open fields, slopes,

Perennials. Rhizomes short, ascending. Culms laxly tufted, 40–60 cm tall, compressed 3-sided or apically ± 2-angled, basally leaved. Leaf sheath ± 2-ranked, pale or tinged brown, mouth obliquely truncate and with a fringe of short pubescence; ligule short, ciliate; leaf blade 3–5 mm wide, ± flat, subrigid, scabrous toward subabruptly acute apex. Involucral bracts 2–4, basal one linear and equaling inflorescence. Inflorescence a compound or in part decompound anhela, 3–4 cm, with many dense spikelets; rays many, 1–2 cm, compressed. Spikelets solitary or in groups of 2 or 3, chestnut-brown to light brown, oblong to narrowly ovoid, 4–6 × 1.5–2 mm, 5–10-flowered, apex subacute. Glumes pale brown with chestnut-brown striae on both surfaces, oblong to oblong-ovate, 2–2.5 × 1–1.2 mm, 3-veined, apex with an acute costa. Stamens 3. Nutlet pale yellow, obvoid to broadly ovoid, 0.7–0.8 × ca. 0.7 mm, 3-sided, indistinctly cancellate, verruculose; persistent style ca. 2 mm, base conically thickened.

- Lowland marshes, paddy fields. Taiwan.


Perennials. Rhizomes short. Culms solitary or tufted, 45–75 cm, 2–4 mm wide, compressed, striate, apically scabrous. Leaves shorter than or as long as culm, subdistichous; sheath slightly bilaterally compressed, abaxially membranous and brown, mouth obliquely split; ligule absent; leaf blade linear, 3–8 mm wide, flat, margin apically scabrous, apex acute. Involucral bracts 3 or 4, linear, basal 1 or 2 longer than inflorescence. Inflorescence a compound anhela, to 20 × 10 cm, lax; rays many, to 10 cm, slightly compressed. Spikelets solitary, oblong to oblong-ovoid, 4–10 × 1–1.5 mm. Glumes brown, ovate to oblond-ovate, 1.5–2 mm, 3-veined forming an abaxial yellowish green keel excurrent into a mucro, apex acute; apical glumes often abnormal, to 4 × 1.5 mm. Stamens (2 or)3; anthers oblong. Style 0.5–1 mm, 3-sided, glabrous or apically slightly ciliate, basally inflated; stigmas 3. Nutlet yellowish white to grayish brown, ellipsoid to oblong-obovoid, ca. 1 × 0.5 mm, obtusely 3-sided, with distinct transverse oblong reticulation, sparsely verruculose. Fl. and fr. autumn.

Riversides, shady moist places in woods. Hainan [India, Indonesia, Malaysia, Thailand, Vietnam].


Perennials. Rhizomes to 2 mm in diam., creeping, covered with ovate scales. Culms solitary, 13–35 cm tall, flatly 3-angled, apical part scabrid, with 4–6 leaves and 2 nearly leafless sheaths at base. Leaves shorter than to nearly as long as culm; sheath rust-colored, adaxially membranous, not ciliate, mouth obliquely split; ligule absent; leaf blade 1.2–2 mm wide, margin flat to incurved and finely serrulate, apex acute. Involucral bracts 1–3, subulate or glumelike, shorter than inflorescence,
11a. Fimbristylis cymosa

Perennials. Rhizomes short. Culms tufted, 10–60 cm tall, flatly and obtusely 3-angled, sometimes thick at base, with many leaves. Leaf blade 1–4 mm wide, thick, flat, extremely rigid, margin finely serrulate, apex acute. Involucral bracts 1–3, shorter than inflorescence. Inflorescence a simple or decompressed anthela, headlike with a few short rays or open with several elongated rays. Spikelets numerous, solitary or clustered, oblong to ovoid, 3–6 × 1.5–2.5 mm, densely many flowered, apex obtuse. Glumes brown, ovate to broadly ovate, 1.2–2 mm, membranous, abaxially 3-veined, margin broadly hyaline, apex obtuse. Stamens 3; anthers linear-oblong, ca. 2 mm, ca. 1/4 as long as filaments. Style slender, not ciliate, basally conic; stigmas 3, nearly as long as style. Nutlet brown, broadly obovoid, ca. 1 mm or more, flat to convex, finely verruculose. Fl. and fr. May–Sep.

Dry sandy places along roads, coastal rocky places, gravelly places along rivers, sandy seashores; near sea level to 400 m. Fujian, Guangdong, Guangxi, Hainan, Nansha Qundao, Taiwan, Zhejiang [India, Japan, Laos, Malaysia, Sri Lanka, Thailand, Vietnam; Africa].

11b. Fimbristylis cymosa var. spathacea

Perennials. Rhizomes obliquely to horizontally elongated, branched, covered with often blackish brown fibers from old leaf sheaths. Culms widely spaced, 15–30 cm tall, obtusely 3-angled, with white silky hairs, bearing leaves at base. Leaf sheath adaxially membranous and rust-colored, mouth obliquely split; ligule absent; leaf blade 1.5–3.2 mm wide, curved, flat, both surfaces with dense white silky hairs, apex acute. Involucral bracts 2 or 3, leaflike, shorter than inflorescence, both surfaces with white silky hairs. Inflorescence a simple anthela; rays 2–4, 0.7–2.5 mm, sometimes extremely short, compressed, with white silky hairs. Spikelets 3–15 in capitate heads, oblong-ovoid to oblong, 6–10 × 2–3.5 mm, apex acute. Glumes ovate, ca. 3 mm, both surfaces with reddish purplish lines, midvein white pilose, margin broad and white, apex obtuse with a hard mucro. Stamens 3; anthers narrowly oblong, ca. 3 mm. Ovary oblong, biconvex; style slightly compressed, basally slightly inflated and hairy, apically slightly pubescent; stigmas 2, slightly shorter than style. Nutlet yellowish white to brown when young but blackish purple when mature, ellipsoid-obovoid to obovoid, ca. 1.5 mm, biconvex. Fl. and fr. Aug–Oct.

Sandy places, sand dunes along seashores; near sea level to 400 m. Fujian, Guangdong, Guangxi, Hainan, Jiangsu, Taiwan, Zhejiang [India, Indonesia, Japan, Korea, Malaysia, Thailand, Vietnam; Africa, Australia].

13. Fimbristylis insignis

Perennials. Rhizomes short. Culms 20–40 cm tall, ± stiff, cylindric but sometimes slightly compressed on apical part, deeply striate, smooth, glabrous, basal sheaths bladed. Leaves 1/3–1/2 as long as culm; sheath less than 5 cm, leathery; ligule absent; leaf blade 1–2.5 mm wide, flat, subleathery, margin finely serrulate, apex acute to slightly obtuse. Involucral bracts 2 or 3, erect, leaflike, shorter than inflorescence, base slightly dilated. Inflorescence a simple or compound anthela, with 3–5 rays and 10 or more spikelets; rays flatly cylindric, 2–4 cm, slightly rigid. Spikelets solitary, narrowly oblong-ovoid, 10–20
× ca. 4 mm, subterete, with basal 2 or 3 glumes empty, apex acute. Glumes densely spirally imbricate, oblong, ca. 6 mm, midvein distinct and forming an abaxial keel, apex mucronate. Stamens 3; anthers linear-oblong, ca. 2 mm. Style 4–5 mm, 3-sided, basally inflated, apically ciliate; stigmas 3. Nutlet grayish black when mature, broadly obovate, ca. 1.5 mm, 3-sided, verruculose with hexagonal reticulation. Fl. and fr. Jun.

Dry slopes, poor soil. Guangdong, Hainan [Indonesia, Laos, Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Australia].

细茎飘拂草 xi jing piao fu cao

Perennials, rhizomatous. Culms tufted, 15–60 cm tall, 0.2–1.5 mm thick, 3-angled, smooth to scabrid. Leaves basal, few; sheath pale hyaline to light brown, 1.5–4 cm, apex oblique; ligule absent; leaf blade filiform, 10–30 cm × 0.3–0.5 mm, margin ± incurved, apex obtuse. Involutral bracts 1–3, glumelike or setaceous, basalmost 0.5–2 cm. Inflorescence a simple anthera or capitulate, 5–20 × 5–8 mm; rays (when present) to 2 cm. Spikelets 3–12 per inflorescence, in clusters of 2–8, ellipsoid, 2.2–3.5 × 1.5–2 mm. Glumes 10–15 per spikelet, spirally imbricate, brown, broadly ovate, 1–1.5 × 0.7–1.3 mm, densely gland-dotted, apically fimbriate ciliate, 3-veined forming an abaxially obtusely angled pale brown keel, margin membranous with a pale hyaline edge, apex rounded-truncate to shallowly emarginate and mucronulate. Stamens 1 or 2; anthers ca. 0.5 mm. Stigmas 3. Nutlet cream-colored, obovoid, 0.7–0.9 × 0.5–0.7 mm, 3-sided, verruculose. Fl. and fr. Jul.–Oct.

Dry sandy places, grasslands along roads; near sea level. Fujian, Guangdong [Indonesia, Japan (Ryukyu Islands), Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam].

砂生飘拂草 sha sheng piao fu cao

Perennials. Rhizomes short, woody. Culms solitary, 5–16 cm tall, obtusely 3-angled to subterete, striate, basally leaved, base covered with blackish brown often fibrous old leaf sheaths. Leaves slightly shorter than to equaling culm; sheath adaxially membranous and brown, mouth obliquely split; ligule absent; leaf blade 1–2.5 mm wide, stiff, slightly scabrid, margin slightly involute, apex acute. Involutral bracts 2–4, subulate, shorter to slightly longer than inflorescence. Inflorescence a simple or compound anthera, 2–4 × 1.2–2.5 cm, with 1–14 spikelets; rays 3–5, subcylindric, 0.6–2.5 mm. Spikelets solitary, narrowly ellipsoid, 6–10 × 2.5–4 mm, densely many flowered, apex acute. Glumes grayish green, triangular-ovate, 4–5 mm, abaxially slightly pubescent at middle, 3-veined forming an abaxial keel and excurrent into a hard mucro, midvein green, lateral veins brown, margin broadly hyaline, apex acute. Stamens 3; anthers linear, ca. 2.5 mm, ca. 1/2 as long as filaments, apex acute. Style ca. 2 mm, compressed, not ciliate, basally slightly inflated; stigmas ± as long as style. Nutlet not seen. Fl. May.

• Sandy places along rivers; 500–600 m. S Yunnan (Xishuangbanna).

水虱草 shui shi cao

Annuals or short-lived perennials. Rhizomes absent. Culms tufted, (1.5–)10–60 cm tall, flatly 4-angled, striate, bearing 1–3 bladeless sheaths at base. Basal leaf sheaths (1.5–)3.5–9 cm, sometimes setaceous, compressed bilaterally, attenuate apically, mouth obliquely split. Leaves shorter to longer than culm; sheath bilaterally compressed, abaxially with a membranous and rust-colored margin, axially keeled, mouth obliquely split; ligule absent; leaf blade ensiform, (1–)1.5–2 mm wide, bilaterally compressed, margin sparsely and finely serrulate, apically attenuate into a setaceous tip. Involutral bracts 2–4, setaceous, base dilated, margin rust-colored and membranous. Inflorescence a compound, decompound, or rarely simple anthera, subdense, with many spikelets; rays 3–6, 0.8–5 cm, slender, scabrid. Spikelets solitary, globose to subglobose, 1.5–5 × 1.5–3 mm, apex rounded. Glumes chestnut-brown or dark brown, ovate, 1–1.3 or 3.5–6 mm, membranous, 3-veined forming an abaxial keel, midvein green, lateral veins brown, apex obtuse. Stamens 2; anthers oblong, ca. 0.7 mm, ca. 1/2 as long as filaments, apex obtuse. Style 3-sided, not ciliate, basally slightly inflated; stigmas 3, ca. 1/2 as long as style. Nutlet straw-yellow, obovoid to broadly obovoid, ca. 1 mm, obtusely 3-sided, verruculose with transversely oblong reticulation. Fl. and fr. May–Oct.

Field margins, open slopes, muddy places near water, grasslands, paddy fields, paddy field margins; 100–2000 m. Anhui, Chongqing, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hebei, Hunan, Jiangsu, Jiangxi, SE Qinghai, S Shaanxi, Shandong, Sichuan, Taiwan, Yunnan, Zhejiang [Afghanistan, Bhutan, India, Indonesia, Japan, Korea, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Vietnam; Africa, SW Asia, Australia, Central, North, and South America, Indian Ocean islands, Madagascar, Pacific islands].

1a. Glumes chestnut-brown, 1–1.3 mm ...... 16a. var. littoralis
1b. Glumes dark brown, 3.5–6 mm ...... 16b. var. koidzumiana

16a. Fimbristylis littoralis var. littoralis
水虱草(原变种) shui shi cao (yuan bian zhong)

Fimbristylis milieacea (Linnaeus) Vahl, nom. rej.; Scirpus milieaceus Linnaeus, nom. rej.

Glumes, margins, open slopes, 1–1.3 mm. Fl. and fr. May–Oct.

Field margins, open slopes, muddy places near water, grasslands, paddy field margins; 100–2000 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hunan, Jiangsu, Jiangxi, SE Qinghai, S Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Afghanistan, Bhutan, India, Indonesia, Japan, Korea, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Vietnam; Africa, SW Asia, Australia, Central, North, and South America, Indian Ocean islands, Madagascar, Pacific islands].

小泉氏飘拂草 xiao quan shi piao fu cao

Fimbristylis koidzumiana Ohwi, Acta Phytotax. Geobot. 1:
78. 1932; *F. miliacea* subsp. *koidzumiana* (Ohwi) T. Koyama.

Culms apically scabrous. Glumes dark brown, 3.5–6 mm.

Paddy fields. Taiwan [Japan, Vietnam; Pacific islands].


无叶飘拂草  wu ye piao fu cao


Perennials. Rhizomes short, woody. Culms densely tufted, 30–100 cm tall, slender, 5-angled, smooth, bearing a few bladeless sheaths at base. Basal leaf sheaths cylindrical, margin brown and membranous, apically attenuate, mouth obliquely truncate. Leaves on vegetative shoots often with only blades; leaf blade linear, margins involute. Involutacular bracts 3–5, needlelike, 0.6–2.5 cm, much shorter than inflorescence, margin scabrid. Inflorescence a compound panicle, spreading; rays 5–8, to 7 cm, slender. Spikelets solitary, oblong to ellipsoid, 2.5–7 × 1.2–3 mm. Glumes densely spirally imbricate, rust-colored to yellowish brown, broadly ovate to subelliptic, ca. 2.5 mm, membranous, prominently 3-veined forming an abaxial keel, veins yellow to greenish yellow and often dark brown between lateral veins, margin paler, apex obtuse to rounded and apiculate. Stamina 3; anthers linear. Style short and flat, not ciliate, basally slightly inflated; stigmas 3, longer than style, densely ciliate. Nutlet pale brown, shortly stipitate, obovoid, 0.6–0.8 mm, 3-sided, transversely wavy verruculose. Fl. Jul, fr. Dec.

Swamps, wet places along streams or in valleys; 400–2400 m. Yunnan [India, Indonesia, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa].


芒苞飘拂草  mang bao piao fu cao


Perennials, rhizomatous. Culms crowded along rhizome, 30–80 cm tall, 1–3 mm thick, acutely 4- or 5-angled, smooth. Leaves bladeless; sheath dusky or cinnamon brown, 1–17 cm, apex lanceolate; ligule absent. Involutacular bracts 2–5, setaceous with lanceolate base, longest to 1.5 cm. Inflorescence a compound or decompound panicle, 2–6 × 2–6 cm, open; primary rays 6–8, to 5 cm. Spikelets ovoid to ovoid-ellipsoid, 3–5 × ca. 2 mm. Glumes many, spirally imbricate, light brown, ovate, 2.2–3.3 × ca. 1.5 mm, membranous, margin hyaline, 1-veined forming an abaxial pale brown obtuse keel, apex obtuse. Stamina (2 or)3; anthers 0.7–1 mm. Stigmas 3. Nutlet whitish to yellowish brown, broadly ovoid, 0.8–1 × 0.6–0.8 mm, 3-sided, smooth to sparsely verruculose, with 9–14 longitudinal rows of epidermal cells on each side. Fl. and fr. Sep.

Swampy places; 1700–1800 m. Yunnan [India, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Sri Lanka, N Thailand, Vietnam].


五棱秆飘拂草  wu leng gan piao fu cao


Annuals or short-lived perennials. Rhizomes absent or very short. Culms tufted, 14–120 cm tall, 5-angled, bearing 0–3 bladeless sheaths. Basal leaf sheaths 3–17 cm, cylindrical, mouth oblique. Leaves on vegetative shoots with only blades, shorter than to subequalling culm; leaf blade 2–3 mm wide, flat. Involutacular bracts 4, setaceous, much shorter than inflorescence, margin finely serrulate. Inflorescence a decompound panicle, 5–9 × 3–6 cm; rays 4, 1–4 cm, scabrid. Spikelets solitary, ovoid, 2–5 × 1.2–1.5 mm, apex acute to subacute. Glumes chestnut-brown, ovate, ca. 2 mm, 3-veined forming an abaxial keel, lateral 2 veins dark brown, margin paler, apex obtuse and apiculate. Stamina 1 or 2; anthers oblong, ca. 0.5 mm, ca. 1/3 as long as filament. Style 3-sided, basally slightly inflated, apically slightly pubescent; stigma 3, slightly longer than style. Nutlet obvoid, 0.8 mm or longer, 3-sided, verruculose and with transverse linear reticulation. Fl. and fr. Aug–Oct. 2n = 10.

Swamps; 800–2100 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, SE Xizang, Yunnan, Zhejiang [Afghanistan, India, Indonesia, Kazakhstan, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Uzbekistan, Vietnam; Africa, SW Asia, Australia, Indian Ocean islands, Madagascar].


澄迈飘拂草  cheng mai piao fu cao

Annuals. Rhizomes absent. Culms tufted, 30–60 cm tall, 1–1.2 mm thick, slender, 5-angled, smooth, glabrous, bearing 1–3 bladeless sheaths at base. Leaves basal, shorter than culm; sheath pale brown, to 13 cm, margins membranous; ligule shortly ciliate; leaf blade linear, ca. 2 mm wide, midvein distinct, margins involute, apex acute. Involutacular bracts 5–7, leaf-like, ca. 3 cm, apex acuminate. Inflorescence a compound panicle, 3–5 cm; rays 5–7, to 3.5 cm, slender, unequal, 5-angled. Spikelets solitary, ovoid to oblong-ovoid, 2.2–5 × 1–1.2 mm, 7–9-flowered, apex acute. Glumes 7–11, spirally imbricate, over-all pale chestnut-brown, ovate to broadly ovate, ca. 1.5 × 1–1.2 mm, membranous, abaxially keeled, midvein distinct and yellowish green, each side of midvein dark brown, margin apically hyaline, apex acute or mucronate. Stamina 3; anthers oblong, ca. 0.5 mm. Style 3-sided, not ciliate, basally inflated; stigmas 3. Nutlet white or pale brown, shortly stipitate, broadly obvoid, ca. 0.8 mm, obtusely 3-sided, with indistinct transverse oblong reticulation. Fl. autumn.

Deserted paddy fields. Fujian, Hainan (Chengmai).


拟二叶飘拂草  ni er ye piao fu cao

Annuals or short-lived perennials. Rhizomes absent or very
short. Culms tufted, 15–50 cm tall, thin, flatly 4-angled, striate, bearing 1 or 2 bladeless sheaths at base. Basal leaf sheaths 2.5–6.5 cm, cylindric, covered with fibers from old sheaths, mouth obliquely truncate, apex acute. Leaves shorter than to sub-equaling culm; sheath adaxially membranous and rust-colored, mouth obliquely split; ligule absent; leaf blade 1.2–2.2 mm wide, flat, margin finely toothed, apex acute. Involute bracts 4–6, setaceous, much shorter than inflorescence, base dilated, margin finely serrulate. Inflorescence a simple or subcompound anthela, 1.5–6 × 2–6 cm; rays 4–8, 0.6–4 cm, scabrid. Spikelets solitary, obvoid to oblong-obovoid, 2.5–7.5 × 1.5–2.5(–3) mm, densely many flowered, apex obtuse to subacute. Glumes red-dish brown or straw-yellow, broadly ovate or oblong-ovate, ca. 2 mm or slightly longer, membranous, 3-veined forming a slight abaxial keel, veins green, margin hyaline, apex extremely obtuse. Stamens 2; anthers oblong, ca. 0.8 mm, 1/2 as long as filaments, apex obtuse. Style not ciliate, basally slightly inflated; stigmas 2 or 3, subequaling to slightly longer than style. Nutlet brown, broadly obovoid, ca. 1 mm, 3-sided or biconvex, with sparsely verrucolese and with transversely oblong reticulation. Fl. and fr. Jun–Sep.

Paddy fields, streamssides, wet places in valleys, ponds; 100–2100 m. Anhui, Chongqing, Fujian, Guangdong, Guangxi, Guizhou, S Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Sichuan, Zhejiang [Japan, Korea].

1a. Glumes brown to reddish brown, broadly ovate, ca. 2 mm .................... 21a. var. diphylloides

1b. Glumes straw-yellow, oblong-ovate, longer than 2 mm .......................... 21b. var. straminea

21a. Fimbristylis diphylloides var. diphylloides

21b. Fimbristylis diphylloides var. straminea


Annuals or short-lived perennials. Culms tufted, 5–50(–100) cm tall, glabrous or sparsely pubescent. Leaves slightly shorter to longer than culm; sheaths leathery, margin pale brown, broad, and membranous, apex subtruncate; leaf linear flat to setaceous, pubescent or glabrescent, apex acute to obtuse. Involute bracts 3 or 4, leathlike, usually 1 or 2 longer than inflorescence, glabrous or hairy. Inflorescence a compound or rarely simple anthela, 5–9 × 3–6 cm, lax or compact. Spikelets solitary, ovoid, ellipsoid, or oblong, 4.5–14 × ca. 2.5 mm, many flowered. Glumes brown, ovate, oblong-ovate, or oblong, 2.2–4.2 mm for fertile ones, shiny, 3–5-veined, midvein excurrent into a mucro. Stamens 1 or 2; filament short. Style longer than stamen, compressed, apically ciliate; stigmas 2. Nutlet with brown stipule, obovoid to broadly so, globose, or ± obdel-toid, 0.6–1.3 mm, biconvex, with 7–9 obvious vertical ribs, reticulation nearly transversely oblong. Fl. and fr. Jul–Oct.

Paddy fields, open grasslands, shallow water in marshes, farmlands, open wastelands; near sea level to 2100 m. Anhui, Chongqing, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xinjiang. Xishu Qundao, SE Xizang, Yunnan, Zhejiang [Afghanistan, Bhutan, India, Indonesia, Japan, Korea, Kyrgyzzstan, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Uzbekistan, Vietnam; Africa, SW Asia, Australia, Central, North, and South America, Indian Ocean islands, Madagascar, Pacific islands].


伞形飘拂草 san xing piao fu cao

Scirpus umbellaris Lamarck, Tabl. Encycl. 1: 141. 1791; Fimbristylis globulosa (Retzius) Kunth; F. globulosa var. austrojaponica Ohwi; F. globulosa var. torresiana (Gaudechaud) C. B. Clarke; F. torresiana Gaudechaud; Scirpus globulos, Retzius.

Perennials. Rhizomes short, horizontal, covered with brownish scales. Culms densely tufted, 17–90 cm tall, 1–5 mm thick, obliquely 3-angled, smooth or striate, glabrous, with 2 or 3 bladeless sheaths at base. Leaves of vegetative shoot usually shortly bladed; sheaths cylindric, 2–19 cm, mouth obliquely truncate; ligule reduced to a circle of hairs or absent; blade linear, 7–25 cm × 1–2 mm. Involute bracts 2 or 3, narrowly lanceolate to lanceolate, longest 5–11 mm, margin scabrid. Inflorescence a simple or compound anthela, 1.5–10 × 1.3–7 cm; primary rays 2–10, 0.7–5 cm, unequal. Spikelets 3–40 per inflorescence, solitary, ovoid, broadly ovoid, broadly ellipsoid, or globose-ellipsoid, 3–8 × 3–4 mm, terete, densely many flowered, apex obtuse. Glumes numerous, spirally imbricate, yelllowish rust-colored, or brown, ovate to ovate-elliptic, 1.8–2.7 × 1–1.5 mm, membranous, 3-veined but abaxially scarcely keeled, apex obtuse to mucronate. Stamens 2 or 3; anthers ca. 0.5 mm. Style 3-sided or 3-cleft, glabrous, basally dilated; stigmas (2 or)3. Nutlet yellowish, shortly stipitate or sessile, obovoid to obovoid-globose, 0.8–1 × 0.5–0.7 mm, 3-sided to sometimes slightly compressed, obscurely cancellate with transversely oblong cells or rarely sparsely verrucoleose. Fl. and fr. Aug–Oct. 2n = 6.

Marshy places, paddy fields, wet grasslands; 100–800 m. Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [India, Indonesia, Japan (Ryukyu Islands), Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Pacific islands].
23a. *Fimbristylis* *dichotoma* subsp. *dichotoma*  

Annual or short-lived perennials, without a conspicuous rhizome. Culms tufted, 20–40 cm tall, angular, smooth but basally scabrid. Leaves equaling to slightly shorter than culm; leaf blade narrowly linear, 0.5–2 mm wide. Inflorescence a simple or rarely compound spikelet. Spikelets 0.8–3.0 cm. Fertile glumes 3.8–4.2 cm. Nutlet obovoid, globose, or ± obdeltoïd, 1.2–1.3 mm, with 15–24 vertical rows of transversely oblong-rectangular epidermal cells, apex obtuse to subtruncate. 23b. *Fimbristylis* *dichotoma* subsp. *podocarpa* (Nees) T. Koyama.


Culms 5–100 cm tall, often densely pubescent. Leaves shorter than culm; leaf blade narrowly linear, 0.5–2 mm wide, both surfaces often pilose. Spikelets (0.8–)0.9–1.4 cm. Fertile glumes 3.8–4.2 mm. Nutlet obovoid, globose, or ± obdeltoïd, 1.2–1.3 mm, cancellate with 15–24 vertical rows of transversely oblong-rectangular epidermal cells, apex obtuse to subtruncate.


Farmlands, shallow water, open wastelands, grasslands on slopes; 100–2100 m. Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan. Dahua, Xinjiang, Qhinghai, Tibet, Qinghai, Inner Mongolia, Jilin, Hebei, Shanxi, Shandong, Anhui, Zhejiang, Jiangsu, Zhejiang, Jiangxi, Shandong, Guangdong, Guangxi, Yunnan. For more extensive geographical distribution see Kükenthal (1930).


Fimbristylis didrichsenii Boeckeler.

Perennials. Rhizomes short. Culms tufted, 25–60 cm tall. Leaves shorter than culm; leaf blade 1.5–2.5 mm wide, nearly glabrous, margins often involute, apex obtuse. Inflorescence a compound, decompound, or simple anthela; rays 3–6. Spikelets solitary, narrowly oblong, oblong-obovoid, or ovoid, 0.6–2 cm, apex acute to obtuse. Glumes broadly ovate and boat-shaped, ca. 3 mm, glabrous, with 3–5 brown to pale brown veins, much shorter than inflorescence.


wet areas; below 100–200 m. Taiwan.

Culms sparsely tufted, 15–50 cm tall, flatly cylindrical, striate, thicker at base, often covered with old sheaths. Leaves shorter than culm; leaf blade grayish green, 2–3 mm wide, flat, both surfaces sparsely pubescent. Inflorescence a compound 3–5, leaflike, shorter than or rarely equaling inflorescence. Inflorescence a compound or rarely simple anthela; rays 3–6, longest to 3 cm, unequal. Spikelets solitary, ovoid to ellipsoid, 5–10 × 3–4 mm, many flowered, apex acute to obtuse. Glumes densely arranged, reddish brown, ovate to broadly ovate, ca. 4 mm, adaxially with several veins, apex obtuse and mucronate; basal 2 glumes empty, smaller than fertile glumes and with a slightly longer micro. Stamens 3; anthers linear, 1.5–2 mm wide, flat, both surfaces hairy, midvein abaxially prominent, apex acute. Involucral bracts 2 or 3, leaflike, usually shorter than or rarely equaling inflorescence. Inflorescence a simple or subcompound anthela; rays 3–6. Spikelets solitary, ovoid to oblong-ovoid, 7–13 × 3–4 mm, with basal 1 or 2 glumes empty. Fertile glumes chestnut-brown, oblong-ovate, 3–4 mm, shiny, abaxially with 5–7 veins, midvein excurrent into a micro. Stamens 3. Style compressed, ciliate, basally slightly inflated; stigmas 3. Nutlet white or pale brown, obovoid, ca. 1.3 mm, biconvex, with transversely oblong reticulation, inconspicuous vertical ribs, and sometimes verruculose. Fl. and fr. Aug–Sep.


Dry sandy grasslands along rivers; near sea level. E Taiwan.


Perennials, stoloniferous. Culms 30–70 cm tall. Leaves ca. 1/3 as long as culm; leaf blade linear, 1.5–2 mm wide, flat, both surfaces hairy, midvein abaxially prominent, apex acute. Involucral bracts 2 or 3, leaflike, usually shorter than or rarely equaling inflorescence, apex acute. Inflorescence a simple or subcompound anthela; rays 3–6. Spikelets solitary, ovoid to oblong-ovoid, 7–13 × 3–4 mm, with basal 1 or 2 glumes empty. Fertile glumes chestnut-brown, oblong-ovate, 3–4 mm, shiny, abaxially with 5–7 veins, midvein excurrent into a micro. Stamens 3. Style compressed, ciliate, basally slightly inflated; stigmas 3. Nutlet white or pale brown, obovoid, ca. 1.3 mm, biconvex, with transversely oblong reticulation, inconspicuous vertical ribs, and sometimes verruculose. Fl. and fr. Aug–Sep.

Ditch sides on slopes; ca. 1000 m. Chongqing, Guangdong, Jiangsu, Hebei, Yunnan, Zhejiang [Bhutan, N India, Nepal].

(Linnaeus) Vahl (e.g., D. A. Simpson & T. Koyama, Fl. Thailand 6(4): 317. 1998) or treated as a variety of *F. ferruginea* (e.g., Tang & F. T. Wang, Fl. Reipubl. Popularis Sin. 11: 93. 1961). *Fimbristylis ferruginea*, originally described from Jamaica, differs from *F. sieboldii* by having ovoid spikelets, broader nutlets, and distribution in the tropics.

1a. Leaves with a blade
1b. Leaves mostly reduced to a bladeless

sheath

29a. var. sieboldii

29b. var. anpinensis

![Image](image_url)

**29a. Fimbristylis sieboldii** var. sieboldii

**29b. Fimbristylis sieboldii** var. anpinensis

**29a. Fimbristylis sieboldii** var. sieboldii

(Tsung-shan Island, Korea)


**Fimbristylis aginokotensis** Heyata; *F. ferruginea* (Linnaeus) Vahl var. *sieboldii* (Miquel ex Franchet & Savatier) Ohwi.


Seashores, salty marshes; near sea level. Anhui, Fujian, Guangdong, Hainan, Jiangsu, Shandong, Taiwan, Xisha Qundao, Zhejiang [Japan, Korea].


Perennials. Rhizomes very short. Culms tufted, 5–40 cm tall, slender, slightly compressed, smooth, striate, with leaves at base. Leaves shorter than culm; leaf blade 0.5–1 mm wide, glabrous, margins often involute and apical part ciliate. Inflorescences reduced to 1 or 2, linear, to 2.5 cm. Inflorescence reduced or spikelet, with only 1 or 2 spikelets. Spikelets sessile or stipitate, broadly ovoid, ovoid, or oblong-ovoid, 5–12(–16) × 3–4 mm, many flowered. Glumes densely arranged, yellowish white with short brown lines, broadly ovate, membranous, abaxially with many veins but not keeled, apex rounded and not mucronate or sometimes midvein excurrent into a ca. 3 mm micro. Stamens 3; anthers linear. Style long, compressed, basally inflated, apical half ciliate; stigmas 2. Nutlet yellowish white, globose-obovoid to subglobose, ca. 1.5 mm (including short stipe), biconvex, with hexagonal reticulation. Fl. Aug–Sep, fr. Oct–Nov.

Wet places along streams, ditches, roads, paddy fields; 300–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, S Yunnan, S Zhejiang [Bangladesh, Bhutan, India, Indonesia, Laos, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa, N Australia].


Perennials. Rhizomes very short. Culms tufted, 5–40 cm tall, slender, slightly compressed, smooth, striate, with leaves at base. Leaves shorter than culm; leaf blade 0.5–1 mm wide, glabrous, margins often involute and apical part ciliate. Inflorescences reduced to 1 or 2, linear, to 2.5 cm. Inflorescence reduced or spikelet, with only 1 or 2 spikelets. Spikelets sessile or stipitate, broadly ovoid, ovoid, or oblong-ovoid, 5–12(–16) × 3–4 mm, many flowered. Glumes densely arranged, yellowish white with short brown lines, broadly ovate, membranous, abaxially with many veins but not keeled, apex rounded and not mucronate or sometimes midvein excurrent into a ca. 3 mm micro. Stamens 3; anthers linear. Style long, compressed, basally inflated, apical half ciliate; stigmas 2. Nutlet yellowish white, globose-obovoid to subglobose, ca. 1.5 mm (including short stipe), biconvex, with hexagonal reticulation. Fl. Aug–Sep, fr. Oct–Nov.

Wet places along streams, ditches, roads, paddy fields; 300–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, S Yunnan, S Zhejiang [Bangladesh, Bhutan, India, Indonesia, Laos, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa, N Australia].


Perennials. Rhizomes very short. Culms tufted, 5–40 cm tall, slender, slightly compressed, smooth, striate, with leaves at base. Leaves shorter than culm; leaf blade 0.5–1 mm wide, glabrous, margins often involute and apical part ciliate. Inflorescences reduced to 1 or 2, linear, to 2.5 cm. Inflorescence reduced or spikelet, with only 1 or 2 spikelets. Spikelets sessile or stipitate, broadly ovoid, ovoid, or oblong-ovoid, 5–12(–16) × 3–4 mm, many flowered. Glumes densely arranged, yellowish white with short brown lines, broadly ovate, membranous, abaxially with many veins but not keeled, apex rounded and not mucronate or sometimes midvein excurrent into a ca. 3 mm micro. Stamens 3; anthers linear. Style long, compressed, basally inflated, apical half ciliate; stigmas 2. Nutlet yellowish white, globose-obovoid to subglobose, ca. 1.5 mm (including short stipe), biconvex, with hexagonal reticulation. Fl. Aug–Sep, fr. Oct–Nov.

Wet places along streams, ditches, roads, paddy fields; 300–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, S Yunnan, S Zhejiang [Bangladesh, Bhutan, India, Indonesia, Laos, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa, N Australia].

33. *Fimbristylis tristachya* R. Brown, Prodr. 266. 1810.

**three-striped pellitory**  san sui piao fu cao

Perennials. Rhizomes short. Culms densely tufted, 20–90 cm tall, 1–1.5 mm wide, flatly 3-angled, smooth, striate, with few leaves at base. Leaves shorter than culm; leaf blade 1.5–2 mm wide, stiff, involute, margin apically ciliate. Involucrular bract 1, leaflike, much shorter than inflorescence, erect, margin ciliate. Inflorescence a simple anthena, with 3–6 spikelets. Spikelets ovoid to obleng-ovoid, 8–22 × 4–6 mm, terete, many flowered. Glumes spirally imbricate, brown with short rust-colored lines, ovate to broadly ovate, 5–6 × 4–4.5 mm, subleathery, with many veins, abaxial midvein slightly keeled, apex obtuse and mucronate. Stamens 3; anthers linear, 2–2.5 mm. Style ca. 3.5 mm, compressed, ciliate, basally slightly inflated; stigmas 2. Nutlet yellowish brown, stipitate, obovoid, ca. 2 mm, flatly biconvex, slightly shiny and with hexagonal reticulation. Fl. and fr. Jun–Oct.

Slopes, valleys, streambeds, fields, salt marine marshes. Guangdong, Hainan [Bangladesh, India, Indonesia, Malaysia, Papua New Guinea, Philippines, Thailand, Vietnam; NE Australia, Pacific islands].


**fine-leaved pellitory**  xi ye piao fu cao

*Cirrus polytrichoides* Retzius, Observ. Bot. 4: 11. 1786.

Annuals or short-lived perennials. Rhizomes very short or absent, with many remnant fibers from old leaves. Culms densely tufted, 5–25 cm tall, slender, cylindric, smooth, striate, with fewer leaves at base. Leaves shorter than culm; sheath yellowish brown, short, glabrous; leaf blade nearly *Juncus*-like, ca. 1 mm in diam., smooth. Involucrular bract (0 or)1, 5–12 mm, needlelike, basally broadened, margin membranous. Inflorescences with a single terminal spikelet, elliptoid to obleng, 5–8 × 3–3.5 mm, 10– to many flowered, apex obtuse to rounded. Glumes densely spirally imbricate, pale white and translucent with short brown lines at middle, sometimes apically slightly yellowish brown laterally, obleng, ca. 3 mm, membranous, 1-veined, not keeled, apex rounded and without or with only a very short hard mucro. Stamens 3; anthers linear, short. Style long, slightly compressed, basally inflated, apical half ciliate; stigmas 2. Nutlet grayish black, obvoid, ca. 1 mm, biconvex, sparsely verrucose and with transversely obleng reticulation. Fl. and fr. Mar–Sep. 2n = 10.

Wet salty places by sea, paddy fields; near sea level. Fujian, Guangdong, Hainan, Taiwan [Bangladesh, India, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa, Australia, Madagascar].


**reedy pellitory**  qi pan piao fu cao (yuan bian zhong)

Annuals or short-lived perennials. Rhizomes very short or absent, with many remnant fibers from old leaves. Culms densely tufted, 6–25 cm tall, slender, cylindric, smooth, striate, with fewer leaves at base. Leaves shorter than culm; sheath pale brown, densely pilose; leaf blade less than 1 mm wide, flat, both surfaces pubescent. Involucrular bracts 3–7, leaf-like, shorter to slightly longer than inflorescence. Inflorescence a simple, compound, or decompound anthena; rays few to many, to 3 cm. Spikelets solitary, ovoid, narrowly ovoid, or obleng, 3–7 × 1.2–3 mm, many flowered, squarrose or not. Glumes spirally imbricate, yellowish brown, obleng to obleng-ovate, 1.5–2 mm (including awn), membranous, 3-veined forming an abaxial green keel, apex obtuse and awned, awn either long and recurved or short and straight or slightly recurved. Stamens 1; another obleng, apex apiculate. Style long and compressed, basally inflated with long filiform pendant hairs covering top of nutlet, apically ciliate; stigmas 2. Nutlet yellowish white, shortly stipitate, obvoid, 0.5–1 mm, biconvex, almost smooth or with very indistinct hexagonal reticulation. Fl. Sep.

Watersides, wet places; 100–2200 m. Anhui, Fujian, Guangdong, S Guangxi, NW Guizhou, Hainan, Hebei, Heilongjiang, Henan, Jiangsu, Shandong, Taiwan, SE Xizang, Yunnan, Zhejiang [India, Indonesia, Japan, Korea, Laos, Myanmar, Nepal, Philippines, Thailand, Vietnam; Africa, SW Asia, Australia, SE Europe, Pacific islands (New Zealand)].

*Fimbristylis squarrosa* was treated as a synonym of *F. aestivalis* by D. A. Simpson and T. Koyama (Fl. Thailand 6(4): 333–334. 1998).

1a. Glume midvein often excurrent into a recurved 1–1.8 mm awn, ca. 1/2 as long as glume; spikelets squarrose ....... 35a. var. *squarrosa*

1b. Glume midvein ending in a short and straight or slightly recurved awn, ca. 1/5 as long as glume; spikelets not squarrose ......... 35b. var. *esquarrosa*

35a. *Fimbristylis squarrosa* var. *squarrosa*

**reedy pellitory**  qi pan piao fu cao (yuan bian zhong)

Culms 6–20 cm tall. Anthelae simple or compound. Spikelets squarrose, 3–6 × 2–3 mm. Glume midvein often excurrent into a recurved 1–1.8 mm awn, ca. 1/2 as long as glume. Nutlet ca. 1 mm, almost smooth. Fl. Sep. 2n = 20.

Watersides, wet places; 100–2200 m. Anhui, Fujian, Guangdong, S Guangxi, NW Guizhou, Hebei, Heilongjiang, Henan, Jiangsu, Shandong, Taiwan, SE Xizang, Yunnan, Zhejiang [India, Indonesia, Japan, Korea, Myanmar, Nepal, Philippines; Africa, SW Asia, Australia, SE Europe, Pacific islands].


**short-leaved pellitory**  duan jian piao fu cao

*Fimbristylis makinoana* Ohwi; *F. velata* R. Brown.

Culms 10–25 cm tall. Anthelae compound or decompound, spreading. Spikelets 3–7 × 1.2–2 mm. Glume midvein ending in a short and straight or slightly recurved awn, ca. 1/5 as long as glume. Nutlet ca. 0.5 mm, almost smooth or with very indistinct hexagonal reticulation. Fl. Sep.

Watersides, wet places. Fujian, Hainan, Hebei, Heilongjiang, Jiangsu, Shandong, Taiwan, Yunnan [Indonesia, Japan, Korea, Laos, Philippines, Thailand, Vietnam; Australia, Pacific islands (New Zealand)].

36. *Fimbristylis bisumbellata* (Forsskål) Bubani, Dodecan. 30. 1850.

**dual-leaved pellitory**  fu xu piao fu cao

*Cirrus bisumbellatus* (Forsskål) Bubani, Dodecan. 30. 1850.
Scirpus bisambellatus Forsskål, Fl. Aegypt.-Arab. 15. 1775.

Annuals. Culms densely tufted, 4–20 cm tall, slender, flatly 3-angled, smooth, with few leaves at base. Leaves shorter than culm; sheath yellowish green with rust-colored flecks, short, white pilose; leaf blade 0.7–1.5 mm wide, flat, margin apically ciliate, abaxially sometimes sparsely hairy. Infurcular bracts 2–5, leaflike, subrect, basal 1 or 2 equaling or longer than inflorescence. Inflorescence a compound or decompound anthera, lax; rays 4–10, to 4 cm, slender. Spikelets solitary, oblong-ovoid, ovoid, or oblong, 2–7 × 1–1.8 mm, 10–20-flowered, apex acute. Glumes spirally imbricate, brown, broadly ovate, 1.2–2 mm, membranous, 3-veined forming an abaxial green keel. Stamens 2; anthers narrowly ovoid. 1.2–2 mm, membranous, 3-veined forming an abaxial green keel. Stamens 2 or 3. Nutlet pale brown, with a ca. 0.7 mm stipe, almost smooth with indistinct hexagonal reticulation. Fl. and fr. Jul–Sep(–Nov). 2n = 10, 16, 20.

Along rivers, streams, sandy or marshy places, wet places on slopes; 100–1500 m. Anhui, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xinjiang, Yunnan, Zhejiang [Afghanistan, India, Indonesia, Japan, Laos, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Turkmenistan, Vietnam; Africa, SW Asia, Australia, Europe, Indian Ocean islands].


夏飘拂草 xia piao fu cao

Scirpus aestivalis Retzius, Observ. Bot. 4: 12. 1786.

Annuals. Rhizomes absent. Culms densely tufted, 3–25 cm tall, slender, flatly 3-angled, smooth, with few leaves at base. Leaves shorter than culm; leaf blade filiform, 0.5–1 mm wide, flat, both surfaces sparsely pubescent, margin slightly involute; sheath brown, short, white pilose. Infurcular bracts 3–5, filiform, shorter to longer than inflorescence, sparsely hairy. Inflorescence a compound anthera, lax; rays 3–7, to 3 cm, slender. Spikelets solitary, ovoid, oblong-ovoid, or narrowly ovoid, 2.5–6 × 1–1.5 mm, many flowered. Glumes spirally imbricate, reddish brown, ovate to oblong, ca. 1 mm, membranous, 3-veined forming an abaxial green keel, apex mucronate. Stamens 1; anther narrowly ovate. Style long and compressed, basally inflated, apically ciliate; stigmas 2, short. Nutlet yellow, subsesile, obovoid, ca. 0.6 mm, biconvex, almost smooth or sometimes with very indistinct hexagonal reticulation. Fl. May–Aug.

Grasslands, marshy places, paddy fields; 400–2200 m. Anhui, S Chongqing, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Heilongjiang, Hubei, Hunan, Jiangxi, S Shaanxi; Sichuan, Taiwan, S Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Laos, Nepal, Papua New Guinea, Philippines, Russia (Far East), Sri Lanka, Thailand, Vietnam; Australia, Pacific islands].

38. Fimbristylis gracilenta Hance, J. Bot. 6: 89. 1868.

纤细飘拂草 xian xi piao fu cao

Annuals. Culms tufted, 3–25 cm tall, slender, flatly 3-angled, striate, glabrous, with few leaves at base. Leaves shorter than culm; sheath brown, densely pubescent; leaf blade ca. 1 mm wide, flat, both surfaces sparsely pubescent, margin some-times slightly involute. Involucral bracts 5 or 6, needlelike, shorter than inflorescence, pubescent. Inflorescence a simple or occasionally compound anthela; rays 5–8, to 5 cm, slender, densely pubescent. Spikelet solitary, oblong, narrowly ovoid, or narrowly linear-ovoid, 4–12 × 1.5–2 mm, with several to 10 or more flowers. Glumes spirally imbricate, pale brown, ovate-lanceolate, ca. 2 mm, membranous, 3-veined forming an abaxial keel, midvein excurrent into a micro. Stamens 2; anthers dark red, linear-oblong. Style long and compressed, basally inflated, apically ciliate; stigmas 2, short, with papilae. Nutlet brown, shortly stipitate, obovoid, ca. 1 mm, biconvex, almost smooth with indistinct hexagonal reticulation. Fl. Jun–Jul.

Open places. Guangdong [Indonesia (N Sumatra), Thailand, Vietnam].


思茅飘拂草 si mao piao fu cao

Rhizomes short. Culms tufted, 30–60 cm tall, slender, flatly 3-angled, striate, glabrous, with few leaves at base. Leaves shorter than culm; sheath pale yellow, glabrous; leaf blade 1.5–3 mm wide, flat, adaxially sparsely hairy, margin involute. Infurcular bracts 3–6, leaflike, longer than inflorescence, margin ciliate. Inflorescence a compound anthera; rays 2–7, 0.5–7 cm, glabrous. Spikelets solitary, ovoid to narrowly ovoid, 4–10 × 2–4 mm, with 6–20 flowers. Glumes spirally imbricate, brown, elliptic, 2.2–2.4 mm, membranous, 3-veined forming an abaxial keel, midvein excurrent into a micro. Stamens 1; anther yellow, oblong. Style long and compressed, basally inflated, apically ciliate; stigmas 2. Nutlet dark brown, shortly stipitate, broadly obovoid, 1–1.2 mm, biconvex, with hexagonal reticulation. Fl. Aug–Sep.

 Moist grasslands; ca. 1300 m. S Yunnan (Simao Diqu).


四棱飘拂草 si leng piao fu cao

Fimbristylis cylindrocarpa Kunth.

Annuals or short-lived perennials. Rhizomes poorly developed. Culms densely tufted, (8–)18–50(–60) cm tall, 4-angled, smooth, with few leaf sheaths at base. Leaves bladeless; sheath margin brown membranous, mouth obliquely truncate. Involucral bracts absent. Inflorescences reduced to a single terminal spikelet, ovoid to ellipsoid, 5–10 × 3–6 mm, many flowered, apex obtuse to rounded. Glumes densely spirally imbricate, pale brownish yellow, oblong, 3.5–5 mm, membranous, many veined, middle 3 veins thicker but abaxially not forming a keel, base sometimes narrower, apex not mucronate. Stamens 3; anthers linear, 1.2–1.5 mm. Style long and compressed, sparsely ciliate, basally gradually broader and nearly as wide as nutlet; stigmas 2 or 3. Nutlet pale brown, with a ca. 0.7 mm stipe, narrowly oblong, ca. 2.5 mm, biconvex, shiny and with obvious hexagonal reticulation. Fl. and fr. Sep–Oct.

Marshes; below 100–200 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan [India, Indonesia, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Australia].

海南飘拂草  hai nan piao fu cao


Perennials. Rhizomes hardly developed. Culms densely tufted, 5–18 cm tall, slender, short, flatly cylindric, smooth, glabrous, with few leaf sheaths at base. Leaves bladeless; sheath brown, cylindric, apically attenuate, margin membranous, mouth obliquely truncate. Involucral bracts absent. Inflorescences reduced to a single terminal spikelet, narrowly oblong to clavate-oblong, 3.5–4.5 × 1–1.5 mm, few flowered, with basalmost flowered, with basalmost glumes glume empty. Glumes pale with rust-colored short lines, oblong to oblong-ovate, 3–3.2 mm, 7–9-veined, midvein abaxially green, apex obtuse and not mucronate. Stamens 3; anthers linear. Style long and compressed, sparsely ciliate, basally inflated; stigmas 2, straight. Nutlet with a short brown stipe, globose-obovoid, ca. 1.5 mm, biconvex, with transverse wavy reticulation. Fl. and fr. Jul–Aug.

Open wet places, sandy soil grasslands, watersides, grasslands by water; low elevations. Fujian, Guangdong, Hainan [India, Indonesia, Japan (Ryukyu Islands), Laos, Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Australia].


褐鳞飘拂草  he lin piao fu cao

Fimbristylis eragrostis (Nees & Meyen) Hance var. nigrobrunnea (Thwaites) S. S. Hooper; F. pycnostachya Hance.

Perennials. Rhizomes short. Culms tufted, 10–45 cm tall, slightly scabrid, with radical leaves at base. Leaves 1/4–1/3 as long as culm; sheath leathery, obliquely split at apex, mouth membranous and pale brown; leaf blade linear, 1–2.5 mm wide, apex acute and apiculate or not. Involucral bracts 2–4, leaflike, 2–13 mm, apically attenuate. Inflorescence a simple or rarely compound anthela or sometimes reduced to a single terminal spikelet; rays few, 0.5–3 cm, slender. Spikelets solitary, oblong to ovoid, 6–8 × ca. 2.5 mm, many flowered, sometimes with basal glumes ± distichous. Glumes brown without brown spots, broadly ovate and boat-shaped, 2–3 mm, papery, 1-veined, margin hyaline, apex mucronate. Stamens 3; anthers linear-oblong, 1–1.5 mm. Ovary narrowly oblong; style 3-sided, glabrous, basally inflated; stigmas 3. Nutlet white, obovoid, 1–1.2 mm, flatly 3-sided, verruculose with subhexagonal reticulation. Fl. and fr. Apr–Jul.

Marshes, along rivers, among rocks in valleys; 100–2500 m. Guangdong, Guangxi, Hainan, Yunnan [Cambodia, India, Sri Lanka].


知风飘拂草  zhi feng piao fu cao


Perennials. Rhizomes short. Culms tufted, 20–50 cm tall, with fewer radical leaves at base. Leaf sheath leathery, apex obliquely split, mouth margins membranous and pale brown; leaf blade slightly falcate, 10–20 cm × 1–2.5 mm, glabrous, apex acute and apiculate. Involucral bracts 2–4, nearly leaflike, 3–15 mm, apically attenuate; bractlets pale brown, 2–3 mm. Inflorescence a compound anthela; rays 2 to many. Spikelets solitary, oblong, oblong-ovoid, or ovoid, 6–10 × 2–3 mm, many flowered, with basal 1 or 2 glumes empty. Fertile glumes yellowish brown, broadly ovate to subtriangular, 2.5–3.5 mm, shiny, 1-veined forming an abaxial keel, apex mucronate. Stamens 3. Ovary white, cylindric, striate; style brown, 3-sided, basally inflated; stigmas 3. Nutlet white or slightly brownish, broadly obovoid, 0.7–0.8 mm, 3-sided, verruculose. Fl. and fr.
Grasslands; near sea level to 1100 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Nansha Qundao, Taiwan [India, Indonesia, Laos, Malaysia, Papua New Guinea, Sri Lanka, Thailand, Vietnam; Australia].

46. *Fimbristylis disticha* Boeckeler, Linnaea 38: 393. 1874.

Annuals. Culms tufted, 10–30 cm tall. Leaf 1/4–1/3 as long as culm; sheath apex obliquely split, mouth margins membranous and pale brown; leaf blade linear, 1–2.5 mm wide, slightly curved, both surfaces scabrous with appressed short pubescence or glabrescent, apex acute. Inflorescence a compound anhela; rays many. Spikelets solitary, ovoid to oblong-ovoid, 3–6 × 1.5–2.5 mm, slightly compressed, with basal 1 or 2 glumes empty. Glumes reddish brown, broadly ovate, ca. 2.5 mm, not shiny, glabrous, 1-veined forming an abaxial keel, apex mucronate. Stamens 3. Style 3–5 mm, slender, slightly hairy or glabrous. Spikelets solitary, brown, narrowly ovoid, 6–10 × ca. 3 mm, 8–10-flowered, with basal 2 glumes empty. Glumes brown, ovate-lanceolate to lanceolate, 3.5–4 × ca. 2 mm, hairy, 1-veined forming an abaxial keel, margin sometimes hyaline, apex with an excurved awn. Stamens 2. Style ca. 3 mm, slender; stigmas 2. Nutlet grayish yellow or white, ellipsoid, ca. 1 × 0.6 mm, 3-sided, verruculose. Fl. summer.

Grasslands, slopes. Fujian, Guangdong, Guangxi [Cambodia, Indonesia, Laos, Myanmar, Thailand, Vietnam; Indian Ocean islands].


Annuals. Culms tufted, 18–55 cm tall. Leaf 1/4–1/3 as long as culm; sheath apex obliquely split, mouth margins membranous and pale brown; leaf blade linear, 1–2.5 mm wide, slightly curved, both surfaces scabrous with appressed short pubescence, apically attenuate. Inflorescence a compound anhela; rays many. Spikelets solitary, ovoid to oblong-ovoid, 3–6 × 1.5–2.5 mm, slightly compressed, with basal 1 or 2 glumes empty. Glumes reddish brown, broadly ovate, ca. 2.5 mm, not shiny, glabrous, 1-veined forming an abaxial keel, apex mucronate. Stamens 3. Style 3-sided, not ciliate, basally inflated; stigmas 3. Nutlet white, obovoid, ca. 0.7 mm, 3-sided, verruculose. Fl. and fr. Jul–Aug–Sep.

Grasslands, slopes. Fujian, Guangdong, Guangxi [India, Indonesia, Laos, Myanmar, Thailand, Vietnam; Indian Ocean islands].


Annuals. Culms tufted, 18–55 cm tall, slender, with many radical leaves. Leaves usually shorter than or rarely as long as culm; leaf blade narrowly linear, ca. 1 mm wide, both surfaces scabrous with appressed short pubescence, apically attenuate. Inflorescence a compound anhela; rays many. Spikelets solitary, ovoid to oblong-ovoid, 3–6 × 1 mm, slightly compressed, with only 2 or 3 flowers. Glumes ovate-lanceolate to lanceolate, ca. 3 mm, membranous, densely gland-dotted, 2- or 3-veined, mid-vein abaxially forming a slight keel, apex acuminate. Stamens 3. Ovary white, cylindric, slightly 3-sided; style very long, 6–8 × as long as ovary, basally slightly inflated; stigmas 3, often curly. Fl. and fr. Jul.

Grasslands, slopes. Guangxi.


Annuals. Culms tufted, 30–50 cm tall, 0.5–1 mm wide. Leaf blade linear, 1/4–1/2 as long as culm, 2–3 mm wide, often falcately curved, both surfaces hairy, apex acute. Inflorescence a compound anhela; rays 3–5, slender, slightly hairy or glabrous. Spikelets solitary, brown, narrowly ovoid, 6–10 × ca. 3 mm, 8–10-flowered, with basal 2 glumes empty. Glumes brown, ovate-lanceolate to lanceolate, 3.5–4 × ca. 2 mm, hairy, 1-veined forming an abaxial keel, margin sometimes hyaline, apex with an excurved awn. Stamens 2. Style ca. 3 mm, slender; stigmas 2. Nutlet grayish yellow or white, ellipsoid, ca. 1 × 0.6 mm, 3-sided, verruculose. Fl. summer.

Mountain summits, grassy slopes, grasslands, cultivated fields; 100–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Taiwan, Yunnan, Zhejiang [India, Japan, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Thailand, Vietnam; Australia].

矮飘拂草 ai piao fu cao


Annuals. Culms tufted, 5–13 cm tall, with radical leaves. Leaves slightly more than 1/2 as long as culm; leaf blade linear, 1–1.5 mm wide, slightly curved, margin ciliate, apex acute. Inflorescence a simple or rarely subcompound anthela; rays 1–3 cm, hairy. Spikelets solitary, ovoid to broadly ovoid, 4–5 × ca. 1.5 mm, slightly compressed, with basal 1–3 glumes empty. Glumes brown, ovate, 2.5–3 mm, membranous, not densely gland-dotted, hairy, mid-vein abaxially forming a slight keel and excurrent into a mucro; empty glumes shorter than fertile ones, with longer awns. Stamens 3. Ovary white, cylindric, 3-sided; style pale brown, ca. 2 mm, basally inflated; stigmas 3. Nutlet pale yellow to nearly white, very shortly stipitate, obovoid, 3-sided, verruculose, base truncate. Fl. and fr. Aug.

Slopes. Guangdong, Guangxi, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan (Ryukyu Islands), Korea, Malaysia, Myanmar, Nepal, Papua New Guinea, Thailand, Vietnam; N Australia].


独穗漂拂草 du sui piao fu cao

Carex ovata N. L. Burman, Fl. Indica, 194. 1768; Abildgaardia monostachyos (Linnaeus) Vahl; A. ovata (N. L. Burman) Kral; Cyperus monostachyos Linnaeus; Fimbristylis monostachyos (Linnaeus) Haaskarl; Iria monostachyos (Linnaeus) Kuntze.

Perennials. Rhizomes short. Culms tufted, 15–30 cm tall, slender. Leaves 1/2–2/3 as long as culm; leaf blade 0.5–1 mm wide, apex acute. Inflorescence reduced to a single terminal spikelet, ovoid to oblong-ovoid, 7–13 × ca. 5 mm, slightly compressed, with basal glumes distichous and apical ones spirally imbricate. Glumes yellowish green, broadly ovate to ovate, 3–6 mm, leathery, shiny, abaxially 3-veined, midvein prominent and excurrent into a mucro. Stamens 3. Style 3-sided, basally inflated; stigmas 3. Nutlet shortly stipitate, obovoid, ca. 2 mm, 3-sided, very sparsely verruculose. Fl. and fr. Jun–Oct.

● Streamsides, open woods, field margins, scrub by seashores; near sea level to 600 m. Guangdong, Hainan.


长柄果飘拂草 chang bing guo piao fu cao

Perennials, rhizomatous. Culms tufted, 15–30 cm tall, slender. Leaves ca. 1/2 as long as to equaling culm; leaf blade narrowly linear, ca. 0.5 mm wide, apex acuminiate. Inflorescence reduced to a single terminal spikelet, ovoid to oblong-ovoid, 8–13 × ca. 4 mm. Glumes yellowish green with fine brown spots, broadly ovate to oblong-ovate, ca. 4 mm, shiny, 3-veined forming an abaxial slight keel, midvein prominent, apex mucronate. Stamens 3. Style 3-sided, ciliate, basally inflated; stigmas 3. Nutlet with a ca. 0.8 mm stipe, flatly globose, ca. 1.5 mm, 3-sided, very sparsely verruculose. Fl. and fr. Aug.

Grasslands, roadsides, waste fields, open moist hillsides, stream-sides, sunny dry slopes, grassy slopes; 100–1400 m. Fujian, Guangdong, Guangxi, S Guizhou, Hainan, S Hunan, NE Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Korea, Laos, Malaysia, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa, SW Asia (Yemen), Central and South America, Pacific islands].