

12. ALTERNANTHERA Forsskål, Fl. Aegypt.-Arab. 28. 1775.

莲子草属 *lian zi cao shu*

Herbs annual or perennial, ascending or creeping; stem much branched. Leaves opposite, margin entire. Flowers perfect, in sessile or peduncled heads, solitary in axils of bracts. Bracts and bracteoles persistent, membranous. Tepals 5, often unequal, membranous. Stamens 2–5; filaments connate into a tube or a cup at base; anthers 1-loculed; pseudostaminodes entire, dentate, or lacinate. Ovary globose or ovoid; ovule 1, pendulous; style short or long; stigma capitate. Utricles globose or ovoid, indehiscent, falling off with perianth. Seeds lenticular, vertical.

About 200 species: mainly in North and South America, widely naturalized elsewhere; five species (four introduced) in China.

Alternanthera purpurea Y. T. Chang & M. J. Lai (Landscape Architecture [Taipei] [1] (4): 125. 1990, not Pynaert, 1879) was described from Taiwan. We have seen no specimens of this taxon and are therefore unable to treat it in this account. Further revisionary study is necessary.

- 1a. Heads with a peduncle, axillary 5. *A. philoxeroides*
- 1b. Heads all sessile, axillary, rarely terminal.
 - 2a. Tepals abaxially glabrous.
 - 3a. Stamens 3; midvein of tepals not spiny at apex 1. *A. sessilis*
 - 3b. Stamens 5; midvein of tepals becoming spiny at apex 2. *A. pungens*
 - 2b. Tepals abaxially hairy.
 - 4a. Stem ascending or erect; pseudostaminodes ca. as long as stamens 3. *A. bettzickiana*
 - 4b. Stem prostrate; staminodes ca. 1/2 as long as stamens 4. *A. paronychioides*

1. *Alternanthera sessilis* (Linnaeus) R. Brown ex Candolle, Cat. Pl. Horti Monsp. 77. 1813.

莲子草 *lian zi cao*

Gomphrena sessilis Linnaeus, Sp. Pl. 1: 225. 1753; *Alternanthera denticulata* R. Brown; *A. nodiflora* R. Brown; *Illecebrum sessile* (Linnaeus) Linnaeus.

Herbs perennial, 10–45 cm tall. Stem ascending or creeping, green or somewhat tinged purple, striped, hairy, across nodes with a transverse row of hairs. Petiole 1–4 mm, glabrous or pilose; leaf blade linear-lanceolate, oblong-obovate, or ovate-oblong, 1–8 × 0.2–2 cm, glabrous or pilose, base attenuate, margin entire or slightly serrate, apex acute or obtuse. Heads 1–4, axillary, sessile, at first globose, later cylindrical, 3–6 mm in diam. Flowers dense; rachis densely white hairy. Bracts and bracteoles white, glabrous, apex acuminate; bracts ovate-lanceolate, ca. 1 mm; bracteoles subulate, 1–1.5 mm. Tepals white, ovate, 2–3 mm, glabrous, with a vein, apex acuminate or acute. Stamens 3; filaments ca. 0.7 mm, connate into a cup at base; anthers oblong; pseudostaminodes subulate, shorter than stamens, margin entire, apex acuminate. Style very short; stigma shortly parted. Utricles enclosed in perianth, dark brown, obovoid, 2–2.5 mm. Seeds ovoid. Fl. May–Jul, fr. Jul–Sep. *2n* = 34, 40.

Roadsides, gardens, swamps. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Zhejiang, Yunnan [Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Sikkim, Thailand, Vietnam].

2. *Alternanthera pungens* Humboldt et al., Nov. Gen. Sp. 2: 206. 1818.

刺花莲子草 *ci hua lian zi cao*

Achyranthes repens Linnaeus; *Alternanthera repens* (Linnaeus) Link.

Herbs annual. Stem diffuse, creeping, much branched, 20–30 cm tall, densely rigidly hairy. Petiole 3–10 mm, glabrous or hairy; leaf blade ovate, obovate, or elliptic-obovate, 1.5–4.5 × 0.5–1.5 cm, unequal in each pair, glabrous or annexed pilose, base acuminate, apex obtuse. Heads sessile, 1–3, axillary, white, globose or oblong, 5–10 mm. Bracts lanceolate, ca. 4 mm, spiny at apex; bracteoles lanceolate, 3–4 mm, apex acuminate, without spines. Tepals unequal, outer 2 lanceolate, ca. 5 mm, 3-veined below, rigid after anthesis, midvein stretching into spines; central segment elliptic, 3–3.5 mm, compressed; inner 2 small, enclosing ovary. Stamens 5; filaments 0.5–0.8 mm; pseudostaminodes shorter than filaments, entire or irregularly dentate. Style very short. Utricles brown, broadly ellipsoid, 1–1.5 mm. Fl. May, fr. Jul.

Roadsides. Fujian, Sichuan [native to South America; naturalized in Bhutan, Myanmar, Thailand, other parts of Indo-China, Australia, and United States].

One of us (Clemants) notes that the name *Alternanthera pungens* has been misapplied here and that this taxon should instead be treated as *A. caracasana* Humboldt et al.

3. *Alternanthera bettzickiana* (Regel) G. Nicholson, Ill. Gard. Dict. 59. 1884.

锦绣苋 *jin xiu xian*

Telanthera bettzickiana Regel, Ind. Sem. Hort. Petrop. 1862: 28. 1862; *Alternanthera ficoidea* (Linnaeus) R. Brown var. *betzickiana* (Regel) Backer; *A. ficoidea* var. *versicolor* (Lemaire) L. B. Smith & Downs; *A. versicolor* (Lemaire) Regel; *T. ficoidea* (Linnaeus) Moquin-Tandon var. *versicolor* Lemaire.

Herbs perennial, 20–50 cm tall. Stem erect or creeping, much branched, apical part quadrangular, basal part cylindrical, hairy at apex and nodes. Petiole 1–4 mm, slightly hairy; leaf blade green or red, or tinged red or yellow, oblong, oblong-

ovate, or spatulate, 1–6 × 0.5–2 mm, hairy when young, glabrescent, base acuminate, margin undulate, apex acute or obtuse, with a mucro. Heads 2–5, terminal or axillary, 5–10 mm, sessile. Bracts and bracteoles ovate-lanceolate, 1.5–3 mm, abaxially glabrous or long hairy, apex acuminate. Tepals white, ovate-oblong; outer segments 3–4 mm, densely hairy; middle segment shorter, pilose or glabrous; inner segment short, narrow, pilose or glabrous. Stamens 5; filaments 1–2 mm; anthers linear; pseudostaminodes fasciated, 3–5-parted at apex. Ovary glabrous; style ca. 0.5 mm. Fruit undeveloped. Fl. Aug–Sep.

Cultivated in nearly all the large cities of China [native to South America; cultivated throughout SE Asia].

One of us (Clemants) indicates that this is best treated as *Alternanthera ficoidea* var. *bettzickiana*.

4. *Alternanthera paronychioides* A. Saint-Hilaire, Voy. Distr. Diam. 2: 439. 1833.

华莲子草 hua lian zi cao

Herbs perennial. Stem densely barbellate hairy, glabrescent. Leaf blade oblanceolate or spatulate, 1.5–2 × 0.3–0.5 cm, abaxially barbellate hairy, apex obtuse to rounded. Heads sessile, ovoid to globose, often hairy at base. Tepals white, ovate-oblong, scarious, hairy along veins, outer 3 segments: 3-veined in proximal half, inner 2 somewhat laterally compressed, 1-veined, apex acute to mucronate. Stamens 5; anthers yellow, ellipsoid; staminodes 3- or 4-toothed, ca. 1/2 as long as stamens; stigma capitate. Utricle brown, obcordate.

Guangdong, Hainan, Taiwan [native to tropical America].

5. *Alternanthera philoxeroides* (C. Martius) Grisebach, Abh. Königl. Ges. Wiss. Göttingen 24: 36. 1879.

喜旱莲子草 xi han lian zi cao

Bucholzia philoxeroides C. Martius, Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 13(1): 107. 1825; *Achyranthes philoxeroides* (C. Martius) Standley; *Telanthera philoxeroides* (C. Martius) Moquin-Tandon.

Herbs perennial. Stem ascending from a creeping base, 55–120 cm, branched; young stem and leaf axil white hairy; old ones glabrous. Petiole 3–10 mm, glabrous or slightly hairy; leaf blade oblong, oblong-obovate, or ovate-lanceolate, 2.5–5 × 0.7–2 cm, glabrous or ciliate, adaxially muricate, base attenuate, margin entire, apex acute or obtuse, with a mucro. Heads with a peduncle, solitary at leaf axil, globose, 0.8–1.5 cm in diam. Bracts and bracteoles white, 1-veined, apex acuminate; bracts ovate, 2–2.5 mm; bracteoles lanceolate, ca. 2 mm. Tepals white, shiny, oblong, 5–6 mm, glabrous, apex acute. Filaments 2.5–3 mm, connate into a cup at base; pseudostaminodes oblong-linear, ca. as long as stamens. Ovary obovoid, compressed, with short stalk. Fruit not known. Fl. May–Oct. $2n = 100^*$.

Cultivated, waste places. Beijing, Fujian, Guangxi, Hebei, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Zhejiang [native to South America (Brazil)].

