

20. LIPOCARPHA R. Brown in Tuckey, Narr. Exped. Zaire, 459. 1818, nom. cons.

湖瓜草属 hu gua cao shu

Dai Lunkai (戴伦凯); Gordon C. Tucker

Herbs, annual or perennial. Leaves basal; leaf blade flat. Involucral bracts leaflike. Spikes 2–7, fascicled into a capitulum or rarely single, with many bractlets and spikelets; bractlets spirally arranged, each with a spikelet. Spikelet with 2 glumes (sometimes absent) and a bisexual flower; rachilla very short, articulate at base, deciduous at article when mature; glumes alternate, membranous, several veined; basal glume without a flower; apical glume with a bisexual flower. Perianth bristles absent. Stamens 2. Stigmas 2. Nutlet 3-sided, biconvex, or plano-convex, included by subtending glume.

About 35 species: warm temperate and subtropical regions; four species in China.

- 1a. Leaf blade 2–4 mm wide; spikes (3 or)4–7-fascicled at culm apex; bractlet apex subtruncate, acuminate; nutlet biconvex 1. *L. chinensis*
- 1b. Leaf blade 1–2 mm wide; spikes 2- or 3(or 4)-fascicled at culm apex; bractlet apex abruptly contracted and forming a recurved mucro; nutlet 3-sided to plano-convex.
 - 2a. Bractlets blackish purple but mucro green; spikes 4–7 mm; nutlet blackish purple, narrowly ovoid 4. *L. tenera*
 - 2b. Bractlets greenish with reddish brown striae; spikes 2–5 mm; nutlet straw-colored, narrowly oblong.
 - 3a. Culms 5–40 cm; nutlet 0.9–1 mm, subtended by 2 glumes 2. *L. microcephala*
 - 3b. Culms 5–30 cm; nutlet 0.5–0.6 mm, subtended only by a squarrose bract 3. *L. squarrosa*

1. *Lipocarpha chinensis* (Osbeck) J. Kern, Blumea, Suppl. 4: 268. 1837. 167. 1958.

华湖瓜草 hua hu gua cao

Scirpus chinensis Osbeck, Dagb. Ostind. Resa, 220. 1757; *Hypaelyptum argenteum* Vahl, nom. illeg. superfl.; *Lipocarpha argentea* R. Brown, nom. illeg. superfl.; *L. bawangensis* R. H. Miao; *L. senegalensis* (Lamarck) T. Durand & H. Durand; *S. senegalensis* Lamarck.

Perennials. Culms tufted, 10–60 cm tall, 1–1.5 mm thick, flat or compressed triquetrous, longitudinally sulcate, very laxly puberulent. Leaves basal; sheath tubular, 1.8–2.5 cm, glabrous, basal ones without a blade, apical ones with a blade; leaf blade linear, ca. 1/2 as long as culm, 2–4 mm wide, papery, margin revolute, apex acuminate. Involucral bracts 2 or 3, leaflike, 2–7 cm, not sheathing. Spikes (3 or)4–7-fascicled, ovoid to broadly ovoid, 5–10 × ca. 5.5 mm, with numerous bractlets and spikelets; bractlets pale and purple striate, oblanceolate, ca. 2 mm, keeled, submembranous, apex subtruncate to acuminate. Spikelets with 2 glumes and 1 bisexual flower; basal glume elliptic, ca. 1.5 mm, membranous, 5-veined, margin involute, apex obtuse; apical glume ovate-lanceolate, ca. 1.5 mm, with a bisexual flower, apex acute. Stamens 2; anthers narrowly oblong. Style of medium length; stigmas 3, nearly as long as style, puberulent. Nutlet brown when mature, oblong-obovoid, ca. 1 mm, biconvex, with punctate processes on surface, apex rounded and shortly apiculate. Fl. and fr. May–Oct. $2n = 26$.

Wet places at roadsides, ditch margins, river margins, mountain slopes, field margins; 100–2100 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Shandong, Taiwan, SE Xizang, Yunnan, Zhejiang [Bhutan, Cambodia, India, Indonesia, Japan (Ryukyu Islands), Kashmir, Korea, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Africa, N Australia, Indian Ocean islands, Madagascar].

2. *Lipocarpha microcephala* (R. Brown) Kunth, Enum. Pl. 2:

湖瓜草 hu gua cao

Hypaelyptum microcephalum R. Brown, Prodr. 220. 1810.

Annuals, without a rhizome. Culms 5–40 cm tall, ca. 0.7 mm thick, flat, longitudinally sulcate, puberulent. Leaves basal; sheath tubular, 1.5–2.5 cm, membranous, glabrous, basal ones without a blade, apical ones with a blade; leaf blade linear, 1/4–1/2 as long as culm, 0.7–1.5 mm wide, papery, both surfaces glabrous, midvein obsolete, margin involute. Involucral bracts 2 or 3, leaflike, slightly broad at base, not sheathing. Spikes 2- or 3(or 4)-fascicled, ovoid, 3–5 × ca. 3 mm, with numerous bractlets and spikelets; bractlets oblanceolate to spatulate, ca. 2 mm, membranous, apex abruptly contracted and formed into recurved mucro. Spikelets with 2 glumes and 1 bisexual flower; basal glume white, elliptic, ca. 1 mm, hyaline, 5-veined, apex obtuse; apical glume oblong, ca. 1 mm, membranous, several veined, with a bisexual flower, apex acute. Stamens 2; anthers linear-oblong, ca. 0.3 mm. Style slender, exerted from subtending glume; stigmas 3, pubescent. Nutlet straw-colored, narrowly oblong, 0.9–1 mm, slightly curved, 3-sided, densely punctulate, shiny, apex mucronate. Fl. and fr. Jun–Oct. $2n = 46$.

Water margins, wet places, swamps; 400–2100 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shandong, Sichuan, Taiwan, S Yunnan, Zhejiang [Cambodia, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand, Vietnam; Australia, Pacific islands].

3. *Lipocarpha squarrosa* (Linnaeus) Goetghebeur, Wagenin-gener Agr. Univ. Pap. 89(1): 71. 1989.

毛毯细莞 mao tan xi guan

Scirpus squarrosus Linnaeus, Mant. Pl. Alt. 181. 1771; *Isolepis squarrosa* (Linnaeus) Roemer & Schultes; *Schoeno-*

plectus squarrosus (Linnaeus) S. Yun Liang; *Scirpus neochinensis* Tang & F. T. Wang.

Annuals, without a rhizome. Culms 5–30 cm tall, ca. 0.7 mm thick, subterete, smooth. Leaves basal; sheath tubular, 1.5–2.5 cm, membranous, glabrous, basal ones without a blade, apical ones with a blade; leaf blade linear, 1–7 cm × 0.6–1 mm, papery, both surfaces glabrous, midvein obsolete, margin involute. Involucral bract 1, leaflike, dilated at base. Spikes 1 or 2, ovoid, 3–5 × ca. 3 mm; bractlets oblanceolate to spatulate, ca. 2 mm, membranous, apex abruptly contracted and formed into recurved mucro (i.e., squarrose). Spikelets without glumes, with 1 bisexual flower. Stamens 1 or 2; anthers ellipsoid, 0.2–0.3 mm. Style slender, exerted from subtending bract; stigmas 3. Nutlet pale yellowish brown, narrowly obovoid, 0.5–0.6 mm, 3-sided, densely punctulate, shiny, apex mucronate.

Wastelands, shady sandy areas. Guangdong (Guangzhou), Hainan (Dongfang), Zhejiang [Cambodia, India, Indonesia (Java), Kashmir, Malaysia (Peninsular), Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam].

4. *Lipocarpa tenera* Boeckeler, Beitr. Cyper. 1: 21. 1888.

细秆湖瓜草 xi gan hu gua cao

Lipocarpa atropurpurea Boeckeler.

Annuals, without a rhizome. Culms tufted, 10–18 cm tall, ca. 1 mm thick, compressed, longitudinally sulcate, glabrous. Leaves basal, ca. 1/3 as long as culm; sheath tubular, 1–1.5 cm; leaf blade ca. 1 mm wide, obsoletely midveined, glabrous, margin involute. Involucral bracts 2 or 3, leaflike, slender, not

sheathing. Spikes 2- or 3-fascicled at culm apex, rarely single, ovoid, 4–7 × ca. 2.6 mm, with many bractlets and spikelets; bractlets blackish purple, oblanceolate, keeled, glabrous, apex green, caudate-acuminate, and slightly recurved. Spikelets with 2 glumes and a bisexual flower; glumes oblong, ca. 1 mm, membranous, with several slightly thick veins, margin hyaline, apex acute to obtuse. Stamens 2; anthers oblong, as long as filament. Style short, as long as stigma; stigmas 3. Nutlet blackish purple when mature, narrowly ovoid, ca. 1 mm, plano-convex to nearly 3-sided, densely blackish punctulate, apex rounded and mucronate. Fl. and fr. Oct–Dec.

Wet places at water margins; 1800–1900 m. Guangxi, Hainan, Yunnan [Vietnam; Africa].

