

**32. ARTHROPHYTUM** Schrenk, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg, sér. 2, 3: 211. 1845.

节节木属 jie jie mu shu

Subshrubs or shrubs, glabrous or with papillate processes. Annual branches terete or obtusely 4-angled, jointed, slightly fleshy. Leaves opposite, sessile, linear, semiterete or clavate, fleshy, rarely subulate or scale-like, base slightly expanded, apex obtuse or with a short, acicular awn; leaf axil usually cottony. Flowers solitary in leaf axils, bisexual, with 2 bractlets. Perianth subglobose; segments 5, orbicular to broadly elliptic, herbaceous, abaxially somewhat thickened, bearing a transverse, winglike process a little below apex in fruit, adaxially convex, margin membranous, apex usually recurved. Disk cupular or discoid, usually with 5 interstaminal lobes. Stamens 5, inserted on disk; filaments subulate, compressed; anthers broadly ovate-cordate, apex without an appendage or mucronate. Style very short, apex slightly contracted; stigmas 2-5-lobed. Utricle enclosed in perianth, hemispheric, apex truncate or somewhat convex; pericarp fleshy. Seed horizontal; embryo spiral; perisperm absent.

About 20 species: C Asia; three species in China.

- 1a. Annual branches with more than 10 internodes; disk membranous; leaves subulate or scale-like; plants not cushion-shaped ..... 3. *A. iliense*
- 1b. Annual branches with 2-4 internodes; disk fleshy; leaves clavate or semiterete; plants cushion-shaped.
  - 2a. Leaves linear, semiterete, covered with papillate processes; disk discoid ..... 1. *A. longibracteatum*
  - 2b. Leaves clavate, smooth; disk cupular ..... 2. *A. korovinii*

**1. Arthrophytum longibracteatum** Korovin, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 29: 15. 1935.

长叶节节木 chang ye jie jie mu

Subshrubs cushion-shaped, 8-12 cm tall. Woody stems strongly branched; branchlets gray-white; annual branches usually geminate at apex of branchlets, unbranched (or with a branch of only 1 internode), light green, terete or slightly sulcate, 1-3 cm, with 2-4 internodes and dense, papillate processes. Leaves horizontal or obliquely spreading, linear, semiterete, 4-8 mm, with papillate processes, base slightly expanded and decurrent, apex subobtuse, mucronate; leaf axil cottony. Bractlets of same shape as leaves but shorter, usually ca. 2 × as long as perianth. Perianth subglobose, 1.5-2 mm in diam.; segments broadly elliptic, abaxially slightly keeled in fruit, tuberculate thickened distally, with a transverse, black, winglike process, adaxially cottony near base, margin membranous, apex inflexed. Disk discoid, fleshy; lobes semiorbicular or obscure. Anther ovate. Style very short; stigma black, capitate, 2-lobed. Utricle hemispheric, adaxially convex. Fl. and fr. Aug-Oct.

Sunny slopes. S Xinjiang [E Kazakhstan].

**2. Arthrophytum korovinii** Botschantzev, Bot. Mater. Gerb. Inst. Bot. Zool. Akad. Nauk Uzbeksk. SSR 11: 6. 1948.

棒叶节节木 bang ye jie jie mu

Subshrubs cushion-shaped, 10-20 cm tall, surface rough. Woody branches tortuous, strongly branched, gray-brown; branchlets silver-gray; annual branches usually geminate at apex of branchlets, unbranched, light green or yellow-green, 1-2 cm, with 3 or 4 internodes. Leaves obliquely spreading, clavate, 3-5 mm, smooth, base slightly expanded, apex obtuse or acute; leaf axil cottony. Bractlets suborbicular, equaling or slightly longer than perianth, abaxially slightly fleshy and slightly keeled, adaxially concave, margin membranous, apex

obtuse. Perianth subglobose, ca. 1.5 mm in diam.; segments broadly elliptic, abaxially with a distal, transverse, black-brown, winglike process in fruit, glabrous, apex inflexed. Disk cupular, fleshy; lobes triangular. Anthers ovate, base cordate, apex subobtuse. Ovary ovoid, smooth; style short; stigma black, 2-lobed. Utricle hemispheric, adaxially flat. Fl. and fr. Aug-Oct.

River bank terraces, clayey-rubby or clayey-pebbly slopes. N Xinjiang [Kazakhstan].

**3. *Arthrophytum iliense*** Iljin, Bot. Zhurn. SSSR 19: 171. 1934.

长枝节节木 chang zhi jie jie mu

*Anabasis iliensis* (Iljin) Korovin & Mironov.

Subshrubs not cushion-shaped, to 30 cm tall. Woody stems decumbent or prostrate, tortuous, gray-brown, relatively stout; bark slightly rough, exfoliating; branchlets irregularly spreading, gray-brown to gray-white, slender; annual branches lateral or terminal on branchlets, simple or few branched, light green, straight or slightly curved, terete or upper internodes slightly ribbed, usually with 10–20 internodes; lateral annual branches opposite, obliquely spreading, with 1 to several internodes. Leaves obliquely spreading, subulate, 2–4 mm, base expanded, decurrent, apex acute; leaf axil cottony; upper leaves subtriangular, thickened, adaxially concave, slightly shorter than or equaling perianth, apex obtuse or mucronulate. Bractlets suborbicular, adaxially concave, subequaling perianth, fleshy, margin membranous. Perianth segments broadly elliptic, central part slightly hardened, abaxially with a distal, erect, semiorbicular or reniform wing, adaxially cottony near base, margin membranous, apex obtuse. Disk cupular, membranous, lobes 2-divided. Anthers ovate-oblong, base cordate, apex obtuse. Style very short; stigmas 3–5. Utricle hemispheric, adaxially truncate. Fl. Jun–Aug, fr. Sep–Oct.

Sunny rocky or rubbly slopes. Xinjiang (Tian Shan) [Kazakhstan].

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