
沙穗属 sha sui shu

Herbs perennial, erect. Basal leaves largest, margin coarsely serrate to incised-pinnatifid. Verticillasters many flowered, widely spaced or in long robust spikes, densely lanate-villous or glabrous. Flowers sessile. Calyx tubular-campanulate to broadly funnelform, 3-toothed, sometimes limb dilated, 5-apiculate; teeth short, broadly truncate, rounded, ovate or triangular, apex spiny; sinuses between teeth with ovate-triangular appendages. Corolla 2-lipped; tube mostly included, narrow; upper lip narrow, galeate or falcate, concave, narrowed at base, bearded or villous inside and on margin; lower lip spreading, 3-lobed, middle lobe largest. Stamens 4, anterior 2 longer; some filaments with comblike-fimbriate appendages at base; anther cells 2, divaricate. Style unequally 2-cleft, anterior lobe larger. Nutlets obovoid, triquetrous, subtruncate, densely bearded at apex.

About 60 species (or only five in the strict sense): Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan, Turkmenistan; SW Asia; five species in China.

Several botanists have recently rearranged the generic placings of Eremostachys and Phlomis (cf. Adylov, Kamelin, & Makhmedov, Novosti Sist. Vyssh. Rast. 23: 110-114, 1986; Vvedensky, Conspect. Fl. As. Med. 9: 74–113, 1987). By adopting their concepts species 1 and 2 would be placed in Phlomides along with all but one species of Phlomis recorded from China, species 3 and 4 in Paraeremostachys and only E. moluccelloides would remain in Eremostachys.

1a. Calyx funnelform, dilated at apex, especially in fruit, membranous ....................................................... 5. E. moluccelloides
1b. Calyx tubular or tubular-campanulate, not dilated at apex, not membranous.

2a. Basal leaves pinnatipartite to bipinnatipartite ...................................................................................... 1. E. speciosa
2b. Basal leaves not pinnatipartite, irregularly shallow serrate or crenate.

3a. Bracts leaflike, separated at base; leaves irregularly shallow serrate ................................................... 2. E. fulgens
3b. Bracts spinescent, united at base in 3s; leaves crenate.

4a. Plants sparsely white hairy; calyx teeth with long soft spines ................................................................. 3. E. phlomoides
4b. Plants densely white hairy; calyx teeth with robust rigid spines ............................................................. 4. E. desertorum


绿叶美丽沙穗 li ye mei li shi sui

Roots robust, laterals with fusiform segments, crown lanate. Stems 20–25 cm tall, ± purplish when dry, densely white lanate. Petiole 9–10 cm, ± clasping, densely white lanate to villous; basal leaf blade ovate, ca. 10×6 cm, bipinnatifid; segments ovate, sparsely pubescent adaxially, white lanate to villous abaxially, margin irregularly crenate; upper leaves to as long as verticillasters. Spikes oblong-ellipsoid to globose, 6–8 cm, mostly densely white lanate-villos; verticillasters 4–5-flowered; floral leaves subsessile, ovate, base cuneate, margin crenate, apex obtuse; bracts linear, ca. 10×1 mm. Flowers sessile. Calyx tubular, ca. 2 cm, lanate outside, glabrous inside; teeth truncate, with spines ca. 1 mm. Corolla yellow, 4–4.5 cm, with equal lips; tube glabrous outside, hairy at middle inside; upper lips ovate, ca. 1.8×1 cm, erect, apically arcuate, concave, white villous outside, bearded inside and on margin; lower lip falcate, ca. 1.8×2.2 cm, villous outside, glabrous inside, margin undulate; middle lobe reniform, ca. 0.9×1.5 cm; lateral lobes circular, 8 mm in diam. Filaments cobwebby at middle, appendages comlike-fimbriate; anthers oblong. Fl. May - Jun.

- Grassy slopes; 1800 m. Xinjiang.

Variety speciosa is native to Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and SW Asia.


光沙穗 guang sha sui shu

Lateral roots tuberous. Stems 30–35 cm tall, glabrous or sparsely stellate, glandular hairy. Petiole 2–7 cm, glandular hairy; basal leaf blade oblong-elliptic, 8–20×8–10 cm, stellate, glandular hairy, base cuneate to rounded, margin irregularly shallow serrate, rarely pinnatisect at base. Spikes dense; verticillasters many flowered; bracts linear to subulate, 8–10 mm, 1/5 as long as calyx, stellate, margin lanate. Flowers sessile. Calyx tubular, slightly dilated at apex, 1.7–1.8 cm, basally stellate, glandular hairy outside; teeth straight, triangular, apex short acuminate. Corolla yellow, 3.5–4 cm, pubescent outside, glabrous inside; upper lip falcate, margin dentate, densely bearded inside; lower lip falcate, middle lobe obreniform, lateral lobes broadly obovate. Filaments with comblike-fimbriate appendages at base. Fl. May.

Slopes; 1600 m. Xinjiang (Tekes Xian) [Kyrgyzstan; SW Asia].


糙苏沙穗 cao su sha sui

Paraeremostachys phlomoides (Bunge) Adylov, Kamelin, & Makhmedov.

Roots naiform, crown tomentose-lanate. Stems 15–30 cm tall, densely white pilose especially on nodes, branched above base. Petiole 4–7 cm, dilated at base; basal leaf blade ovate to broadly oblong-ovate, 5–8×3–4 cm, white pilose, base cordate or rounded, margin coarsely crenate, apex obtuse; stem leaves short petiolate, blade smaller than that of basal leaf, base cuneate, margin crenate, apex acuminate. Spikes interrupted at base; verticillasters 2–6–8-flowered; bracts subulate, 1–1.4 cm, united at base in 3s, pilose, apex acuminate. Calyx tubular-campanulate, 1.4–1.8 cm, pilose outside; teeth broadly subulate, 4–7 mm, with a rigid apical spine 3–4 mm. Corolla ca. 2 cm; tube included, rarely slightly exserted, villous annulate inside; upper lip white, densely villous inside and at margin; lower lip yellow, middle lobe obcordate, ca. 1 cm wide, lateral lobes ovate. Filaments slightly dilated at base, posterior 2 with short comblike-fimbriate appendages at base, anterior 2 without appendages. Fl. May.

- Slopes; 1100 m. Xinjiang (Toli Xian).

沙生沙穗 sha sheng sha sui

*Paraeremostachys desertorum* (Regel) Adylov, Kamelin, & Makhmedov.

Roots robust, napiform. Stems 20–30 cm tall, robust, sparsely white pilose, glandular hairy especially on nodes, branched almost from base. Basal and stem leaves sessile to short petiolate; basal leaf blade circular-ovate to ovate, 4–6 cm in diam., white pilose especially on veins abaxially, corrugate adaxially, base rounded, margin irregularly crenate to partly short serrate, apex obtuse. Spikes interrupted toward base; verticillasters many flowered; floral leaves narrowly elliptic, base cuneate, apex acute; bracts subulate, 1.7–1.8 cm, densely pilose, glandular hairy. Calyx campanulate, 1.7–2.4 cm; teeth triangular-lanceolate, 8–11 mm, with a soft apical spine 5–6 mm. Corolla 2.2–2.5 cm; tube included, villous annulate inside; upper lip white, densely white villous inside and on margin, narrowly falcate, as long as lower lip; lower lip yellow, middle lobe obcordate, apex dentate; lateral lobes shorter, broadly ovate. Posterior filaments with broadly lamellate comblike-fimbriate appendages, anterior filaments with dentate appendages at base. Fl. and fr. Jun.

- Slopes; 1100 m. Xinjiang (Toli Xian).


沙穗 sha sui

*Eremostachys macrophylla* Montbret & Aucher-Éloy.

Roots napiform, crown white lanate-villous. Stems robust, 25–30 cm tall; densely glandular lanate, villous, sparsely so on internodes. Petiole 2–4 cm; basal leaf blade elliptic, 5–7×3–3.5 cm, sparsely villous adaxially, densely lanate-villous abaxially, base subrounded, margin acutely serrate, apex obtuse; stem leaf blade ca. 4.5×2.5 cm, margin crenate. Spikes long; verticillasters (2–)4(–6)-flowered; floral leaves sessile, 1.5–3.5 cm×2–4 mm, margin entire or serrate, apex acute; bracteoles linear, 8–10 mm. Calyx funnelform, ca. 2.3 cm in flower, to 3.5 cm in fruit, villous, glandular outside; limb pubescent inside, rotate-dilated, conspicuously net veined in fruit; teeth circular to broadly triangular, 2–2.5 mm, with apical spines ca. 1 mm. Corolla to 2.1 cm, glabrous outside, villous annulate inside; upper lip yellow, ca. 1.5×0.5 cm, falcate, sparsely pilose outside, margin bearded inside; lower lip orange, middle lobe obcordate, ca. 3×10 mm; lateral lobes ovate, ca. 2×3 mm. Filaments cobwebby, posterior appendages comblike-fimbriate, anterior appendages scaly. Style subequally 2-cleft. Nutlets black, apex densely villous-barbate. Fl. Jun-Jul, fr. Jul.

- Gravelly and sandy deserts; 400 m. Xinjiang [Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan; SW Asia, Europe].