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长毛孜然芹，中国伞形科一新记录种

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摘要：报道了中国伞形科(Apiaceae)孜然芹属一新记录种：长毛孜然芹[*Cuminum borszczowii* (Regel et Schmalh.) Koso-Pol.]。该物种在形态上与孜然芹(*C. cyminum*)相近，与后者的区别在于总苞宽披针形具较宽的膜质边缘，不反折，比伞辐短；果实密被长毛。提供了该种详细的形态学描述及图版。凭证标本保存在新疆农业大学标本馆(XJA)和中国科学院新疆生态与地理研究所标本馆(XJBI)。

关键词：伞形科；孜然芹属；长毛孜然芹；新记录；中国

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Cuminum borszczowii (Regel et Schmalh.) Koso-Pol., A Newly Recorded Species of Apiaceae from China

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Abstract: *Cuminum borszczowii* (Regel et Schmalh.) Koso-Pol. is reported for the first time in China. It is similar to *C. cyminum*, but differs from the latter by having broadly lanceolate bracts, with wide membranous margins and mericarps covered with densely irregular long hairs. A detailed morphological description and photos of this species are given. Voucher specimens are deposited in the Herbarium of Xinjiang Agricultural University (XJA) and the Herbarium of the Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences (XJBI).

Key words: Apiaceae; *Cuminum*; *C. borszczowii*; New record; China

Apiaceae is a large family with 250–440(–455) genera and more than 3 000 species. It is widely distributed in the temperate zone of both hemispheres, mainly in Eurasia and especially in Central Asia. There are about 100 genera and 614 species in China^[1].

Cuminum L. (1753: 254) is a small genus of Apiaceae. For a long time, this genus only contained only two species (*C. cyminum* L. and *C. sudanense* H. Wolff), which were distributed in the Mediterranean

region and Central Asia^[2–4]. *Cuminum cyminum* L. (introduced) is widely cultivated as a spice in China^[3–4]. According to the latest information in The Plant List and the *Flora of China*^[1], *Cuminum* L. now includes four species, of which *C. borszczowii* (Regel et Schmalh.) Koso-Pol. and *C. setifolium* (Boiss.) Koso-Pol. have been segregated from *Psammogeton* Edg (1845: 253).

Psammogeton Edg., a closely related genus of *Cuminum* L., differs from the latter due to the charac-

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teristics of its calyx-teeth and mericarps. This genus consists of five species that are mainly distributed in Afghanistan, Central Asia, Iran and Pakistan^[2], with no records in China.

During field work in northern Xinjiang, China, in 2017–2018, we collected a species of Apiaceae in the city of Shihezi. It was very close to *C. cyminum*, but it could not be found in relevant botanical records in China. By observing the morphological characters of plants and specimens, and consulting the literature and specimens at home and abroad, including the type

specimens, we have confirmed that the species we found is *C. borszczowii* and that this is a new distribution record of the species in China.

Cuminum borszczowii (Regel et Schmalh.) Koso-Pol. in Bull. Soc. Imp. Naturalistes Moscou n.s., **29**: 209, 1915 [1916]. — *Psammogeton borszczowii* (Regel et Schmalh.) Lipsky in Tr. Bot. Sada **23**: 144, 1904. — *Torilis borszczowii* Rgl. et Schmalh. in Tr. Bot. Sada **5**: 600, 1877. Type: Kazakhstan, Aralo-Caspium Ust-Ürt desert, 1857, Borszczow 459 (lectotype LE00050738!) (Fig. 1).

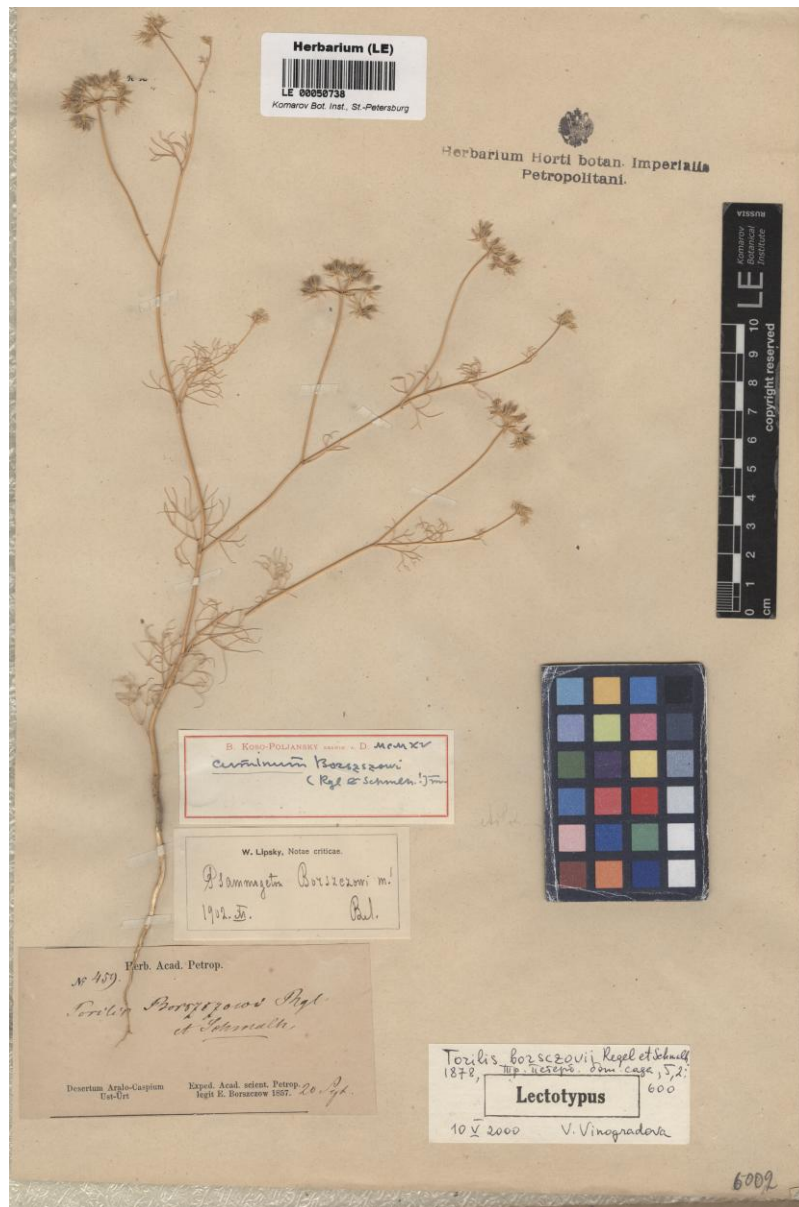


Fig. 1 Lectotype sheet of *Cuminum borszczowii* (Regel et Schmalh.) Koso-Pol. (LE)

Annual. Root slender, hard. Stem branched from base or middle, 15–35 cm high, glabrous (Fig. 2: A). Leaves nearly sessile or petiolates ca. 1 cm long, leaves repeatedly ternate, lobes of last order filiform-linear, 1.5–5 cm long, ca. 0.5 mm wide. Umbels of 5–12 rays; involucre of 5 wide-lanceolate leaflets with membranous margins (Fig. 2: B), bracts margin ciliate or glabrous, not reflexed, shorter than rays; umbellules 3–8 flowered; pedicels 3–6 mm, stout, very unequal. Calyx teeth lanceolate; 0.5–2 mm, longer than the styles. Petals white, pink or purple (Fig. 2: C), the outer

sometimes pubescent, oblong, obtuse, ca. 1.5 mm × 0.7 mm, base with claw (Fig. 2: D); stylopodium short-conical; styles 2, 1.5 mm long. Fruit oblong-ellipsoid, slightly laterally compressed, schizocarp easy to separate (Fig. 2: E), 2.5–5 mm long and 0.5–1 mm short branching hairs; secondary ribs densely covered wide; primary ribs 5, densely covered with white with prickly bristles (Fig. 2: F). Vittae 1 in each furrow under secondary ribs, 2 on commissure. Carpophore 2-parted (Fig. 2: G).

Distribution: China (Xinjiang) (new record);



Fig. 2 *Cuminum borsczowii* (Regel et Schmalh.) Koso-Pol. A: Plant; B: Bracts; C: Flower; D: Petal and claw; E: Infructescence; F: Fruit; G: Vittae (Photoed by J. Qiu and Z. Z. Yang).

Kazakhstan (Atyrau zhylyoi District and Kyzylkum).

Habitat and ecology: *Cuminum borszczowii* grows in clay deserts and on clayey slopes. It occurs at 790 m a.s.l. Associated species include *Lallemantia royleana*, *Lappula spinocarpos*, *Ixiolirion tataricum*, and *Tauscheria lasiocarpa*.

Phenology: Flowering from May to June; fruiting from June to July.

Chinese name: chang mao zi ran qin (长毛孜然芹)

Notes: *Cuminum borszczowii* is similar to *C. cyminum*, and differs from *C. cyminum* by having broadly lanceolate bracts, apex acute, undivided, with wide white membranous margins, not reflexed, shorter than rays; mericarps densely covered with irregular long hairs.

Additional specimens examined: Kazakhstan. Atyrau Zhylyoi District (46°29'52.80" N, 55°49'13.60" E); Qyzylorda: Syr-Darian deserts & Kyzylkum, Культасов 199 (MW!), Пименов 132 (MW!), Пименов 128 (MW!), Ключиков 497 (MW!); Caspian Ustyurt & Northern Aralia, Востокова (MW!), Черкасова 474

(MW!); Муыункумы, Balkhash & Betpak-Dala, Шипчинский 39 (MW!), Липшиц 128Аа (MW!).

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