

Caragana qingheensis (Fabaceae), a new species from northwestern China

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Caragana qingheensis Z.Y. Chang, L.R. Xu & F.C. Shi *sp. nova* (Fabaceae) is described and illustrated from Xinjiang, China. It is similar to *C. camilli-schneideri* Kom. by sharing the hairy leaflets and pods, but differs in its much smaller leaflets and flowers, calyx teeth 1/2 to 2/3 the length of tube, and longer wing auricle. It belongs to *Caragana* ser. *Frutescentes* and is only known from its type locality to date.

Key words: *Caragana*, Fabaceae, new species, taxonomy

Caragana, belonging to the tribe Galegeae of Papilionoideae in Fabaceae, comprises about 80–100 species and is distributed mainly in arid and semiarid areas of eastern Europe and Asia (Polhill 1981, Liu 1993). In China, the genus is represented by about 62 species (Liu 1993), occurring mostly in steppe and desert regions in northern and northwestern China, as well as in Qinghai-Xizang (Tibet) Plateau and the Himalayas (Zhao 1993, Zhang 1997).

In an excursion to survey the Fabaceae flora in northwest China in May–June 2004, we collected a specimen of *Caragana* from a mountain slope near Qinghe County, Xinjiang. The plant has densely hairy leaflets closely approximate at the end of a common petiole, and also the young pods are densely hairy. These characters are very similar to *C. camilli-schneideri*, but our specimen has much smaller leaflets and flowers.

After careful examination of other morphological characters, we concluded that the specimen represents a new species.

***Caragana qingheensis* Z.Y. Chang, L.R. Xu & F.C. Shi, *sp. nova* (Fig. 1)**

Affinis C. camilli-schneidero, sed foliolis et floribus multo minoribus, foliolis obovatis vel elliptico-obovatis, calycibus basi non gibbosis, dentibus tubo 1.5–2-plo brevioribus, auricula alarum ungue paullo brevior differt.

TYPE: China. Xinjiang: 40 km west of Qinghe County, on gravel mountains, alt. 1296 m, 46°30' N, 90°05' E, 4.VI.2004 Z. Y. Chang, Z. H. Wu & L. R. Xu 2004502 (holotype WUK; isotype WUK).

A shrub about 50–100 cm high, with yellow-

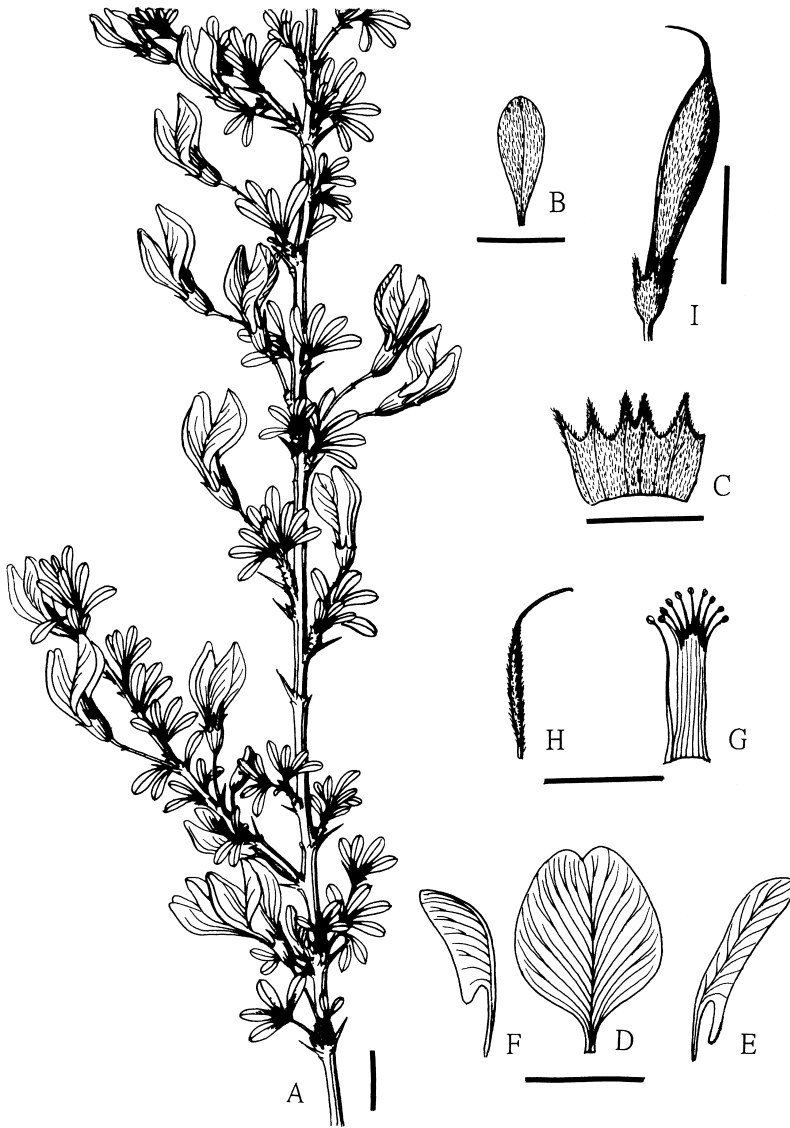


Fig. 1. *Caragana qingheensis* (from holotype and isotype). — **A:** Flower branch. — **B:** Leaflet. — **C:** Calyx. — **D:** Standard. — **E:** Wing. — **F:** Keel. — **G:** Stamens. — **H:** Ovary. — **I:** Young fruit. Scale bars: **A, C–I** = 1 cm, **B** = 0.5 cm.

ish-brown bark and grayish corky stripes; young shoots reddish, glabrous, slightly pruinose; stipules 1–2 mm long, apex hardening into spines; leaf rachises on short shoots deciduous, 1–3 mm long, on long shoots indurated and persistent, 3–5 mm long; leaflets obovate to elliptic-obovate, obtuse at apex, cuneate at base, more or less reddish-tinged beneath, softly grayish hairy on both sides, 3–8 mm long and 2–3.5 mm broad; pedicels solitary 1-flowered, articulate usually above middle, densely whitish hairy, 8–15 mm long; bracts very small; calyx tubular-campanulate, not gibbous at base, pubescent with short

hairs, 6–7 mm long; teeth narrowly triangular, slightly shorter than tube, 2.5–3 mm long, densely pubescent inside; corolla yellow, 15–18 mm long; standard broadly oboval, abruptly contracted into and 5–6 times as long as claw (2–3 mm long), usually emarginated at apex; wings narrow (4.5–5.1), with limb 3–3.5 times as long as claw, linear auricle 3.5–4 mm long (half to two thirds length of claw); keel broader than wings, limb 1.5–2 times as long as claw; ovary linear, densely appressed hairy; young fruit 15–20 mm long, 3–4 mm broad, densely hairy. Flowering May–June, fruiting June–July.

Table 1. Diagnostic characters of *Caragana qingheensis* and *C. camilli-schneideri*.

Characters	<i>C. qingheensis</i>	<i>C. camilli-schneideri</i>
Leaflet	3–8 mm long, 1.5–3 mm broad obovate to elliptic-obovate, obtuse, densely hairy on both sides	12–20 mm long, 4–8 mm broad cuneate-obovate, elongate and acute, slightly hairy or glabrous
Stipules	1–2 mm long	2–5 mm long
Calyx tube	6–7 mm long not gibbous at base	8–10 mm long gibbous at base
Calyx teeth	1/2–2/3 times as long as the tube 2.5–3 mm long	1/3 times as long as the tube 2–3 mm long
Corolla	15–18 mm long	22–30 mm long
Standard	broadly oboval	broadly ovate-rhombic
Wing	auricle half to two thirds the length of claw 3.5–4 mm long	auricle one third to two fifths the length of claw 3–4 mm long
Keel	limb 1.5–2 times as long as claw	limb about as long as claw
Legume	1.5–2 cm long, 3–4 mm broad, hairy	4–5 cm long, 4.5–6 mm broad, hairy

ETYMOLOGY. The epithet is derived from the county's name Qinghe, located in Xinjiang, China, where the specimen of *C. qingheensis* was collected.

The new species is known only from the type locality. It is morphologically closest to *C. camilli-schneideri*, but can be easily distinguished by its much smaller leaflets and flowers, calyx teeth 1/2 to 2/3 the length of tube, and corolla wing auricle slightly shorter than claw. The morphological differences between *C. qingheensis* and *C. camilli-schneideri* are listed in Table 1.

Caragana qingheensis belongs in ser. *Frutescentes*, a series widely distributed in northern and northwestern China. This affinity is indicated by characters such as leaflets closely approximate at the end of a common petiole; petioles on short shoots deciduous, and on long shoots often transformed into spines 4–10 mm long. As regards flower structure, *C. qingheensis* approaches *C. leucophloea* and *C. dasyphylla*, both of them having the wing auricle slightly shorter than claw. *Caragana leucophloea* belongs to ser. *Pygmaeae*, in which the petioles on axillary shoots are very short and thus the leaflets appear to arise in a cluster from the axillary bud, and the petioles of long shoots are 3–10 mm long and spinescent. This series also has its distribution mainly in northern and northwestern China.

Caragana dasyphylla belongs to ser. *Dasyphyllae*, a monotypic series occurring in south-

western part of Xinjiang. In this species the leaves on long shoots are distinctly pinnate, the rachis is persistent as a stout spine, and the leaf rachis on short shoots is deciduous, with leaflets in two pairs and closely approximate at base (Pojark 1945, Liu 1993).

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