

Cerastium qingliangfengicum (Caryophyllaceae), a new species from Zhejiang, China

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Cerastium qingliangfengicum H.W. Zhang & X.F. Jin *sp. nova* (Caryophyllaceae) is described. The new species was found in moist places in the valleys of Mt. Qingliangfeng in western Zhejiang of China. It is morphologically similar to *C. wilsonii*, but differs by having sparsely to densely pubescent stems, leaves densely pubescent on both surfaces, petal lobes obtuse at apex, and capsules more than twice as long as sepals.

Key words: Caryophyllaceae, *Cerastium qingliangfengicum*, new species, taxonomy

Cerastium (Caryophyllaceae) comprises about 100 species (Ke 1996, Lu & Morton 2001). It is almost cosmopolitan, but mainly distributed in the north temperate regions. Twenty-three species are confirmed in China, and one species and subspecies occur in Zhejiang (eastern China) (Lu & Morton 2001).

Mt. Qingliangfeng is situated in Changhua Township of Lin'an County in western Zhejiang (118°52'–119°11'E, 30°5'–30°17'N). Because of its favourable climate, it has a rich plant diversity. Besides the nearly 1532 known vascular plants (Zheng 1996, Song 1997), new distributional data and new taxa are being continuously discovered (Zhang & Thomas 2000, Li *et al.* 2001, Jin *et al.* 2004, Ma *et al.* 2007).

When we carried out a botanical exploration in Qingliangfeng Nature Reserve, a *Cerastium* taxon, which has relative large flowers,

caught our attention. After further observations and comparisons of specimens, we concluded an undescribed species had been found.

***Cerastium qingliangfengicum* H.W. Zhang & X.F. Jin, *sp. nova* (Figs. 1, 2, and 3A–C)**

Species nova C. wilsoni affinis, sed a quo caulibus sparse vel dense pubescentibus (nec glabris), foliis utrinque dense pubescentibus (nec sparse strigosis), lobis petalis apice obtusis (nec acuminatis), capsulis sepalis 2-plo ultra longioribus (nec paullo longioribus) differt.

TYPE: China. Zhejiang, Lin'an County, Changhua, Maxiao, Zhechuan Village, in moist places by valleys, alt. 540 m, 28.IV.2006 H.W. Zhang 003 (holotype HTC; isotypes HTC & HQNR = Herbarium of Qingliangfeng Nature Reserve).

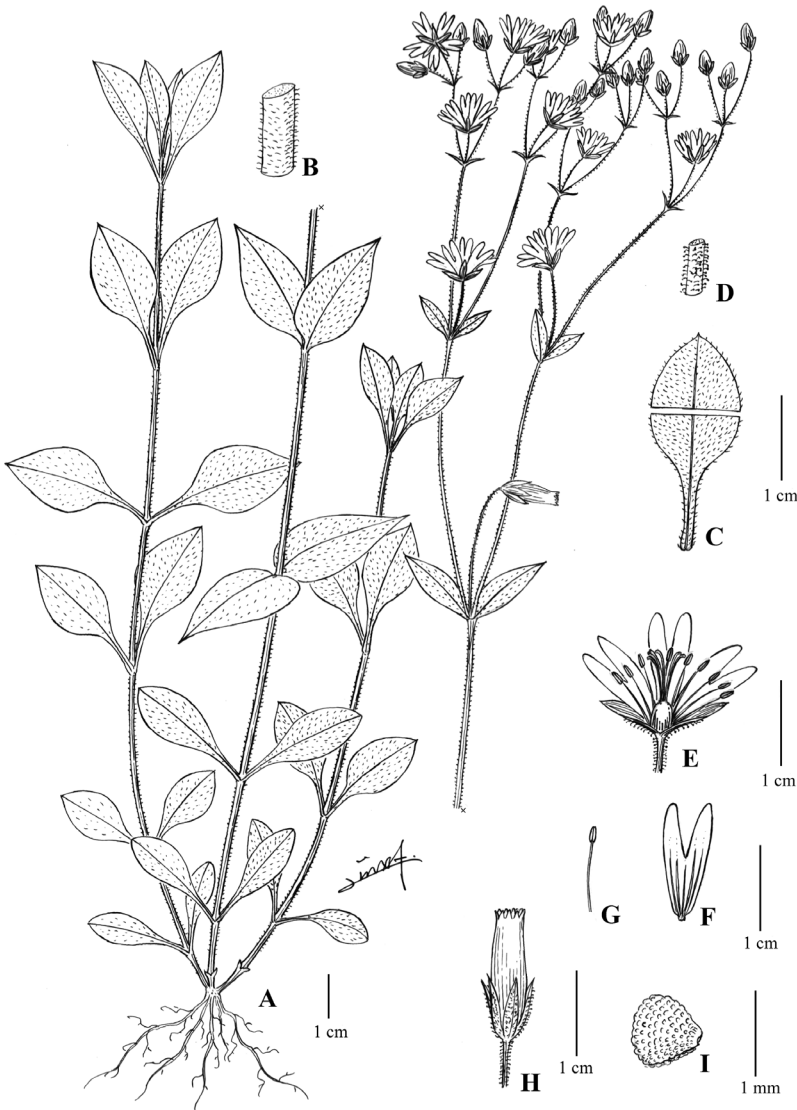


Fig. 1. *Cerastium qingliangfengicum* (from the holotype). — **A:** Habit. — **B:** Indumentum on stem. — **C:** Leaf. — **D:** Indumentum on peduncle. — **E:** Flower. — **F:** Petal. — **G:** Stamen. — **H:** Capsule. — **I:** Seed.

ETYMOLOGY. The epithet is derived from the locality, Mt. Qingliangfeng, which is a national nature reserve of China.

Herbs perennial, 25–45 cm tall. Roots slender. Stems ascending, sparsely to densely pubescent. Leaves of sterile stems spatulate, narrowly ovate, or ovate, 6–22 × 4–15 mm, entire and sparsely ciliate at margin, apex acute, base attenuate into a petiole, densely pubescent on both surfaces; petiole 5–9 mm long. Leaves of fertile stems spatulate or ovate, 15–25 × 7–15 mm, entire and sparsely ciliate at margin, densely pubescent on both surfaces, apex acute, upper leaves sessile

and lower ones attenuate into a petiole at base. Cyme terminal, many-flowered; bracts leaflike but smaller, densely to sparsely pubescent on both surfaces. Pedicel slender, 10–25 mm long, glandular-pubescent. Sepals lanceolate, 6–8 mm, abaxially pilose and glandular-pubescent, margin membranous, apex acuminate. Petals narrowly obovate, 10–12 mm long, ca. twice as long as sepals, 2-lobed for ca. 1/2 of their length, lobes lanceolate, apex obtuse. Stamens 10; filaments glabrous, slightly longer than sepals. Styles 5, linear. Capsule cylindric, tip markedly curved upwards, more than twice as long as sepals,

10-toothed. Seeds numerous, brown, triangular-globose, slightly compressed, tuberculate. Flowering and fruiting in March–May.

Cerastium qingliangfengicum is only known from its type locality, and it grows caespitously in moist places in a valley on Mt. Qingliangfeng. More than 5000 individuals grow along the valley “Zhechuan”, together with *Saxifraga stolonifera*, *Pilea pumila*, *Elatostema stewardii*, *Cardamine zhejiangensis*, *Ranunculus japonicus*, *Polygonum hydropiper*, *Erigeron annuus*, *Cirsium* spp., and *Sedum* spp.

Cerastium qingliangfengicum closely resembles *C. wilsonii* in having ovate leaves on upper part of stems, fairly large flowers and glabrous filaments, but differs in the stems that are sparsely to densely pubescent, the leaves that are densely pubescent on both surfaces, the petal lobes that are obtuse at apex, and the capsules that are more than twice as long as sepals.

The seeds of *C. qingliangfengicum* and *C. wilsonii* were collected from mature capsules on specimens and then mounted on stubs using double sided adhesive tape. The seeds were

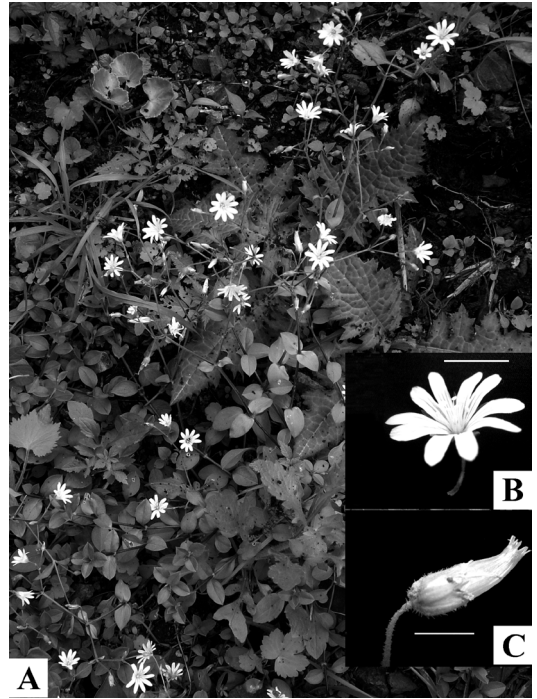


Fig. 2. *Cerastium qingliangfengicum* in the wild. — A: Habitat. — B: Flower. — C: Capsule. Scale bar = 1 cm.

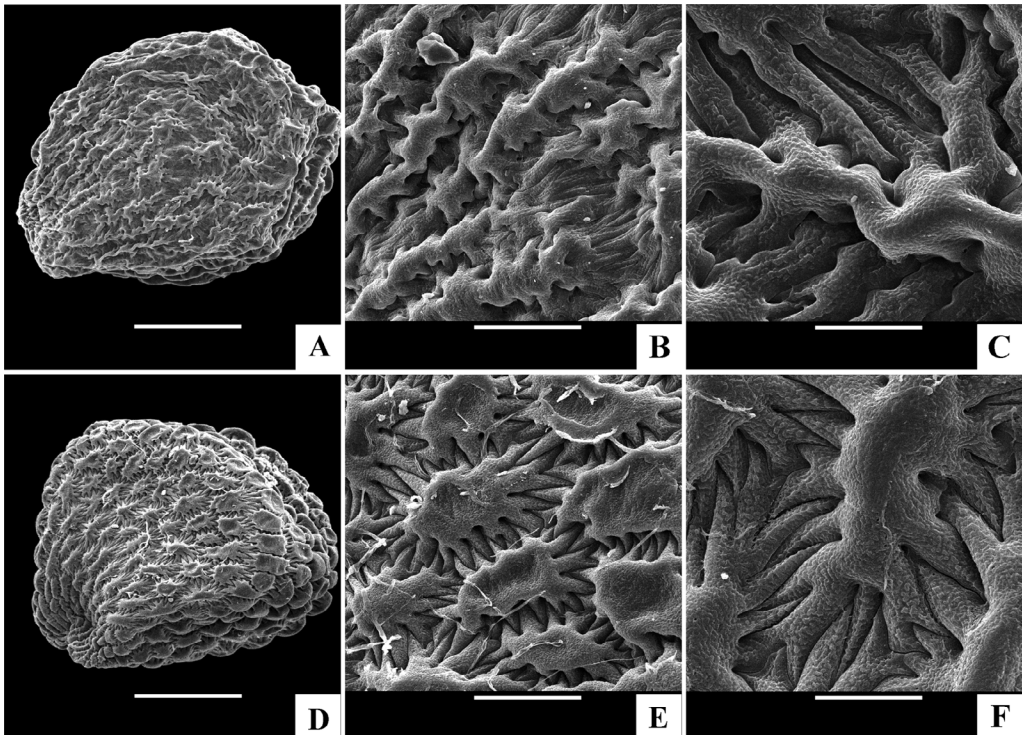


Fig. 3. SEM photographs of seeds. — A–C: *Cerastium qingliangfengicum* (X.F. Jin & H.W. Zhang 1785, HTC) — D–F: *C. wilsonii* (Y. Liou 185, KUN). Scale bars for A and D = 250 μ m, B and E = 60 μ m, C and F = 30 μ m.

coated with a layer of gold, and photographed under SEM (Hitachi-S570). The seeds of *C. qingliangfengicum* and *C. wilsonii* are triangular-globose and slightly compressed. The surface sculptures are significantly different, although they appear tuberculate under magnifier. The tubercles on seed surfaces of *C. qingliangfengicum* are laceolate and frequently connected with each other (Fig. 3A–C), while those of *C. wilsonii* are broadly elliptic and separated from each other (Fig. 3D–F).

ADDITIONAL SPECIMEN EXAMINED (paratype). — **China**. Zhejiang, Lin'an County, Changhua, Maxiao, Zhechuan Village, in moist places by valleys, alt. 540 m, 28.IV.2006 *H.W. Zhang 002, 004* (HTC); the same locality, alt. 590 m, 31.III.2007 *H.W. Zhang 012, 013, 014* (HTC); the same locality, alt. 540 m, 3.V.2007, *X.F. Jin & H.W. Zhang 1785, 1786* (HTC).

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