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

Hong-Wei Zhang\textsuperscript{1,2}, Dong-Ming Weng\textsuperscript{2} & Xiao-Feng Jin\textsuperscript{1,*}

\textsuperscript{1) School of Life & Environment Sciences, Hangzhou Normal University, 16 Xuelin Street, Hangzhou, Zhejiang, 310036, P. R. China (*corresponding author’s e-mail: docxfjin@163.com)
\textsuperscript{2) Administration of Zhejiang Qingliangfeng National Nature Reserve, Lin’an, Zhejiang, 311321, P. R. China

Received 30 July 2007, revised version received 30 Sep. 2007, accepted 1 Oct. 2007


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. wilsonii 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) differunt.

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).
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,

*Cerastium qingliangfengicum* is only known from its type locality, and it grows caespitose 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 µm, B and E = 60 µm, C and F = 30 µm.
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 tubercules on seed surfaces of C. qingliangfengicum are lacerolate 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).

Acknowledgements

This work was supported by the startup scientific research project of Hangzhou Normal University (D04031301). We are grateful to Prof. Hua Peng, the curator of the herbarium of KUN, for providing the senior author with the collections of Cerastium wilsonii. Our thanks are also due to Ms. Jing-Ping Zhu for SEM observation.

References


This article is also available in pdf format at http://www.annbot.net