

Stellaria zhuxiensis (Caryophyllaceae), a new species from Hubei, China

Qi-Liang Gan^{1,2} & Xin-Wei Li^{3,*}

¹⁾ Zhuxi Qiliang Biological Institute, Zhuxi, 442300, Hubei, China

²⁾ Shengnong Wudang Chinese Medicine Institute, Shiyan, 442012, Hubei, China

³⁾ Key Laboratory of Plant Germplasm Enhancement and Specialty Agriculture, Wuhan Botanical Garden, CAS, Wuhan 430074, Hubei, China (*corresponding author's email: forfortomorrow@163.com)

Received 5 July 2013, final version received 19 Oct. 2013, accepted 22 Oct. 2013

Gan, Q. L. & Li, X. L. 2014: *Stellaria zhuxiensis* (Caryophyllaceae), a new species from Hubei, China. — *Ann. Bot. Fennici* 51: 22–24.

Stellaria zhuxiensis Q.L. Gan & X.W. Li *sp. nova* (Caryophyllaceae) is described and illustrated. The plants are covered with stellate hairs on stems, inflorescences, leaves and sepals. The hairs and the lax, cymose inflorescence are similar to those of *S. vestita* and *S. infracta*. *Stellaria zhuxiensis* can be distinguished from *S. vestita* by its broader leaves and longer pedicels, longer petals and longer capsules. *Stellaria infracta* is readily distinguished from *S. zhuxiensis* by having lanceolate or linear-lanceolate leaves while the leaves of *S. zhuxiensis* are broadly ovate or ovate-cordate.

Stellaria (Caryophyllaceae) is a genus consisting of about 190 species mainly in temperate and cold-temperate regions and there are 64 species in China (Lu *et al.* 2001). Some taxa such as *S. dichotoma* var. *lanceolata*, *S. chinensis*, *S. vestita* var. *vestita*, *S. media* var. *media*, *S. yunnanensis*, and *S. neglecta*, are commonly used in traditional Chinese medicine. During our botanical expeditions to the mountains of Zhuxi County, Hubei Province, China, we discovered two populations of a peculiar species of *Stellaria*. The leaves of this species are very similar to those of *Pseudostellaria davidii*, but its petals are 2-cleft nearly to base and it has no root tubers, belying a placement in *Pseudostellaria*. The stellate hairs and lax cymose inflorescence of the plants resemble those of *S. vestita*, but the flowers are much larger than in the coexisting *S. vestita*. After consulting national and local floras

(Wu *et al.* 1996, Fu 2001, Lu *et al.* 2001) and herbarium specimens, the morphological differences between our collected species and the already described species led us to conclude that we had a species new to science at hand.

***Stellaria zhuxiensis* Q.L. Gan & X.W. Li, *sp. nova* (Fig. 1).**

TYPE: China. Hubei, Zhuxi County, Jiangjiayan Town, Longyang Village, in the grassland by the mountain road, altitude 800 m, 109°31'55.57"E, 32°17'03.06"N, 23 May 2013 X.W. Li 550 (holotype HIB!). — PARATYPES: China. Hubei, Zhuxi County, Longba Town, Laoyinshan Village, in the grassland in the mountain, altitude 820 m, 109°33'37.28"E, 32°26'01.54"N, 11 May 2013 Q.L. Gan 3450 (HIB!); same region, Jiangjiayan Town, Longyang Village, in the grassland by the mountain road, 2 July 2013, Q.L. Gan 3458 (HIB!).

ETYMOLOGY: The specific epithet refers to the Zhuxi County where the new species was discovered.

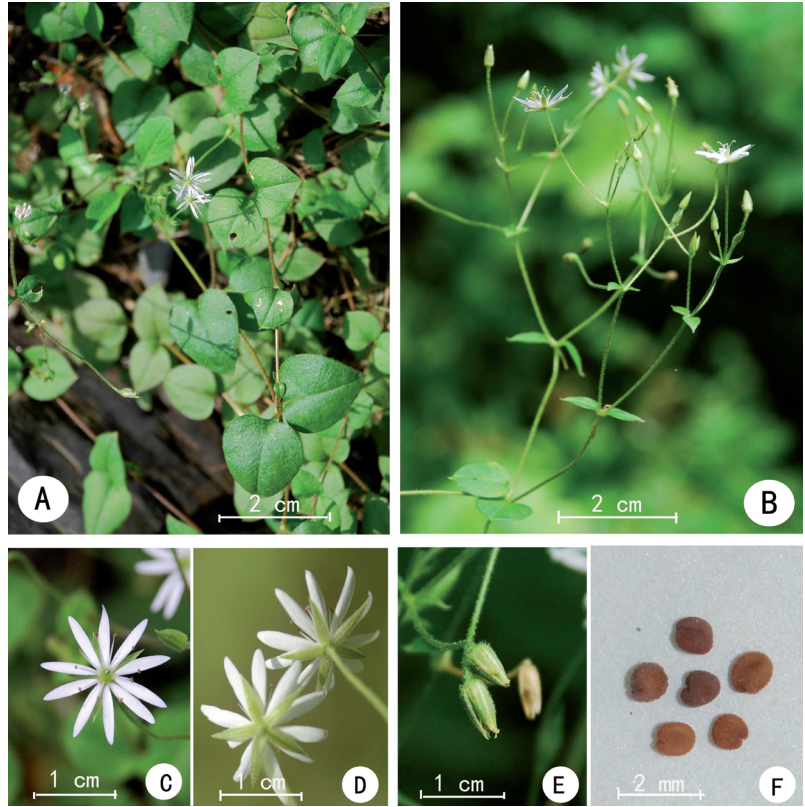


Fig. 1. *Stellaria zhuxiensis* (from X.W. Li 550 & Q.L. Gan 3458). — **A:** Habit. — **B:** Inflorescence. — **C:** Ventral view of flowers. — **D:** Dorsal view of flowers. — **E:** Capsules. — **F:** Seeds.

Herbs perennial, with stellate hairs. Roots filiform. Stems prostrate, green or purplish, 1–2 mm in diameter, 0.3–1 m long or longer, basally branched, with dense, grayish stellate hairs, adventitious roots arising from lower stem nodes. Leaves opposite, green or purplish, densely pubescent by stellate hairs on both surfaces, broadly ovate or ovate-cordate, 0.6–3.9 × 0.5–3.5 cm, acute at apex, rounded or cordate at base, midvein impressed adaxially, conspicuous abaxially, 4–5 pairs of lateral veins, anastomosing at margin; petioles 1–3 mm, pubescent by stellate hairs. Cymes consisting of sparse flowers, 3–12 or more flowered, densely pubescent by stellate hairs; bracts ovate, obtuse at apex, pubescent by stellate hairs on both surfaces, pedicels unequal, 3–6.5 cm. Flowers white, sepals 5, lanceolate, 6–7 × 1.5 mm, acuminate at apex, abaxially pubescent by stellate hairs, margin membranous, petals 5, white, obovate, 2-cleft nearly to base, 1.5–2 times as long as sepals, glabrous; stamens 10, shorter than petals, filaments white, anthers orange; styles 3, stout, slightly bend, not reflexed. Capsules narrowly

ovate, 7–8 mm, seeds numerous, reniform, tiny. Flowering from April to June, fruiting from June to July.

DISTRIBUTION AND ECOLOGY. There are two known populations of the species in Zhuxi County, Hubei Province, China: one in Jiangjiayan Town, and the second in Longba Town. *Stellaria zhuxiensis* grows in grassland by mountain road and in mountain slopes with *S. vestita* and *S. omeiensis*.

TAXONOMY. In Chinese *Stellaria*, there are only three species with an indumentum of stellate hairs on stems, inflorescences, leaves and sepals: *S. vestita*, *S. infracta* and *S. zhuxiensis*. The three species can be distinguished from each other by the key below.

1. Leaves lanceolate or linear-lanceolate, rarely narrowly ovate, usually 3–5(–9) mm wide *S. infracta*
1. Leaves broadly ovate to oblong-lanceolate, usually 0.5–3.5 cm wide 2
2. Leaves broadly ovate or ovate-cordate; petals 8–11 mm *S. zhuxiensis*
2. Leaves ovate to oblong-lanceolate; petals 4–6 mm *S. vestita*

SELECTED SPECIMENS EXAMINED (if herbarium is not designated, specimens are deposited in PE). — *S. vestita*. **China.** Anhui: Mt. Qingliang, X Zhou 515. Chongqing: Chengkou, K.L. Chu 2132, T.L. Dai 103826, 107063, 103345, 103826, 101557, 101459, P.Y. Li 6602; Fengjie, Z.R. Zhang 25007, H.F. Zhou 111102; Mt. Jinyun, Sichuan & Guizhou Exp. 334; Nanchuan, W.P. Fang 1391, G.F. Li 60916; Wulong, S.R. Yi 90; Wushan, G.H. Yang 59953, H.F. Zhou 109898. Gansu: Tianshui, W.Y. Hsia 5526, Z.W. Zhang 203; Wenxian, Y.Q. He 1029, 1079; Zhouqū, Y.Q. He 763. Guangxi: Luocheng, R.C. Ching 6118; Rongshui, S.Q. Chen 16480. Guizhou: Anlong, Guizhou Exp. 2978; Jiangkou, Z.S. Zhang 400214; Leishan, Z.P. Jian 50826; Wangmo, Guizhou Exp. 783; Zhenfeng, S.X. Tan 248. Hebei: Neiqiu, X.Y. Liu 1143. Henan: Lushi, Anonymous 34177, K.M. Liou 4578; Xixia, K.J. Guan 1069. Hubei: Badong, M.Z. Qian 1538 (HIB), Shennongjia Exp. 24034 (HIB), H.C. Zhou 145 (HIB); Changyang, R.H. Huang 2605 (HIB); Enshi, H.J. Li 8873 (HIB, PE), M.Y. Yun 24405; Hefeng, H.J. Li 6143 (HIB), 6710, Y.M. Wang 5238 (HIB, PE); Jiangshi, L.Y. Dai 323 (HIB, PE); Laifeng H.J. Li 7318; Shengnongjia, Z.S. Lü 730 (HIB), Shengnongjia Exp. 11061 (HIB), 21078 (HIB), 20531 (HIB), 11595 (HIB), Taiyangping Exp. 883 (HIB); Kingshan, Q.L. Chen 2117, H.J. Li 311 (HIB), Q.H. Liu 392 (HIB); Yichang, Z. Zheng 1584 (HIB); Xuan'en, H.J. Li 6143, 2684, 3060, 2458, Y.M. Wang 4008 (HIB, PE); Zhuxi, P.Y. Li 5074, X.W. Li 130501 (HIB), 130502 (HIB), 130503 (HIB). Hunan: Cili, West Hunan Exp. 294; Fenghuang, Mt. Wuling Exp. 1410; Guidong, Guidong Exp. 13201; Longshan, L.H. Liu 1919; Qixian, J.D. Li 542; Sangzhi, Beijing Exp. 1992, L.Q. Li 175; Shimen, Mt. Huping Exp. 391, 506; Wugang, L.H. Liu 016059; Yongshun, West Hunan Exp. 0084; Xinning, L.H. Liu 15055, Y.B. Luo 2185, 2514, 2398, Mt. Ziyun Exp. 1187, 1954, 896, 1529; Yuanling, Mt. Wuling Exp. 83; Zhijiang, Mt. Wuling Exp. 1900, 2234. Jiangxi: Mt. Jinggang, Jiangxi Exp. 0908; Suichuan, 236 Exp. 1970-5-8, J.S. Yue 4651; Xiushui, S.K. Lai 03345. Shaanxi: Fengxian, Y.S. Lian 96051; Foping, K.T. Fu 4552; Hanzhong, J.W. Wang 101; Meixian, H.N. Qin 19306; Shanyang, J.X. Yang 2862; Shangxian, T.P. Wang 16117, 15379; Mt. Taibai, F.Z. Wang 241; Mt. Zhongnan, H.W. Kung 2891; Tangyang, K.T. Fu 5675; Xi'an, H.N. Qin 19243; Yangxian, J.X. Yang 2122; Ziyang, P.Y. Li 4824, 6294. Shanxi: Yicheng, X.Y. Liu 20475. Sichuan: Dajin, X. Li 77482; Guanxian, W.P. Fang 2104; Hanyuan, T.P. Wang 8639; Hechuan, T.H. Tu 5284; Jiajiang, Sichuan Economic Plants Exp. 8077; Leibo, Z.T. Guan 9663, 7692; Maerkang, T.L. Dai 22970; Maowen, Anonymous 8709; Maoxian, W.P. Fang 5527, W.T. Fang 13461, Z. He 12481; Meigu, Anonymous 12996, 13100; Mt. Emei, Sichuan Exp. 31, 646, G.H. Yang 55899; Panzhuhua, B. Liu 211; Pingshan, Sichuan Economic Plants Exp. 0789; Pingwu, K.S. Hao 346; Puge, Z.T. Guan 9279, 9259; Puxiong, Z.T. Guan 8145; Qianjiang, Z.C. Zhao 1439, 1976; Shiyuan, P.Y. Li 5908; Shizhu, F.D. Fu 1057; Tianquan, Y.W. Cui 4125, W.G. Hu 34749, Sichuan Economic Plants Exp. 2372, 00469; Wanyuan, K.L. Chu

2193, P.Y. Li 5559, 5681, 5976; Xiaojin, F.T. Wang 21402. Taiwan: Hualian, D.E. Boufford 19282; Nantou, D.E. Boufford 19292, C.H. Chen 991, S.L. Kelly 183-98, C.M. Wang W05187; Ren'ai, Y. Tateishi 17697; Yilan, C.I. Peng 5582. Tibet: Chayu: Z.C. Ni 189, 955; Jilong, Qinghai & Tibet Exp. 6859. Yunnan: Dali, C.W. Wang 63139, 63155, 63292, H.C. Wang 864, T.N. Liou 17492; Fumin, B.Y. Qiu 58879; Gengma, Zhongsu Exp. 5594; Heqing, Jinshajiang Exp. 63-6050; Jianshui, H.T. Tsai 53114; Jingdong, K.M. Li 1155, 1298, 1451, T.T. Yu 11993; Kunming, K.J. Guan 76135, A.R. Li 7862, T.N. Liou 13490, 13340, 17040, B.Y. Qiu 54107, C.W. Wang 62816; Lijiang, C.W. Wang 70580, 71634, 71636, T.T. Yu 11036; Lüchun, Lüchun Exp. 010, 135; Pingbian, H.T. Tsai 55248; Songming, B.Y. Qiu 54106; Shuangjiang, C.W. Wang 73081; Shunning, C.W. Wang 71919, T.T. Yu 15940, 16002; Weixi, C.W. Wang 64319, 63567; Xianggelila, Zhongdian Exp. 865; Yongping, J. Chen 966; Yuanyang, Lüchun Exp. 1502; Zhenkang, C.W. Wang 72568. Zhejiang: Changhua, X.Y. He 23676. — *S. infracta*. **China.** Beijing: Fangshan, Anonymous 263. Hebei: Fuping, Anonymous 122, K.M. Liou 3263; Laiyuan, Anonymous 2026, K.M. Liou 3000, 3021; Neiqiu, Y. Liu 13842, X.Y. Liu 554, 1143; Pingshan, Anonymous 613; Waping, C.W. Wang 61870; Wu'an, Anonymous 275; Zhengding, the Fifth Exp. 725. Henan: No precise locality, K.S. Hao 3695. Inner Mongolia: Xinghe, Y.Z. Zhao 77-1. Shaanxi: No precise locality, Yellow River Exp. 129. Shanxi: Chanan, Y.W. Cui 2565; Huoxian, Yellow River Exp. 803; Mt. Wutai, Anonymous 106; Mt. Guandi, Yellow River Exp. 1169; Ninwu, K.M. Liou 1498; Shanyin, Y.W. Cui 2291; Wutai, Y.L. Chen 1407, W.Y. Hsia 1273, K.J. Guan 2352; Yuanqū, S.Y. Bao 266; Sichuan: Dajian: X. Li 75001, 77375; Danba: D.E. Boufford 37984; Hanyuan, Z.S. Liu 578; Heishui, X. Li 73577; Kangding, Y.W. Cui 4167, W.G. Hu 10423, X.L. Jiang 36101, West Sichuan Exp. 16, Q.S. Zhao 110990; Lixian, Nanshuibeidiao Exp. 927; Maerkang, X. Li 71476, Nanshuibeidiao Exp. 1054, Z.R. Zhang 22970; Panzhuhua, B. Liu 558; Rangtang: D.E. Boufford 38879; Xiaojin: D.E. Boufford 38447.

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