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New Taxa of Cruciferae in China

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ABSTRACT : A new species and a new variety of the genus *Cardamine* L. (Cruciferae) in Gansu province of China are reported in this paper. They are *Cardamine heterandra* Sun *et* Chang *sp. nov.* and *C. violifolia* O. E. Schulz var. *pilosa* Chang *et* Huang *var. nov.*

KEY WORDS: ***Cardamine*, *C. heterandra* Sun *et* Chang, *C. violifolia* O. E. Schulz var. *pilosa* Chang *et* Huang.**

The Bai Shui Jiang Natural Reserve is the second largest natural reserve in China, where the giant pandas are protected. During our complex expedition to this region, we collected some interesting plant specimens of the genus *Cardamine* of Cruciferae. After literature searching and detailed studies of *Cardamine*'s specimens in the Herbarium of Department of Biology, Lanzhou University (LZU) and other herbaria, we propose a new species, *C. heterandra* Sun *et* Chang *sp. nov.* and a new variety, *C. violifolia* var. *pilosa* Chang *et* Huang *var. nov.* in this paper.

1. **Cardamine heterandra** J. Z. Sun *et* K. L. Chang, *sp. nov.* 異蕊碎米薺 Fig. 1: 1-7

Species affinis C. violifoliae O. E. Schulz sed caulibus pedunculisque pilosis et brevistellato-pilosis; foliis basalibus et foliis caulinis basi omnino cordatis; androeciis centralibus et androeciis lateralibus heteronemis differt.

Herba perennis, caespitosa, florifera 10-15 cm alta. Rhizoma breve, radix firosa. Caules erecti vel obliqui, basi ramosi, sulcati, pilosi et brevistellato-pilosi. Folia basalia longe Petiolata, petioli 4-5 cm longi, basi paulo expansi, lamina membranacea, cordata vel rotundato cordata, 1-1.5 cm longa, 1.0-1.8 cm lata, integra vel repando-dentata, basi cordata; folia caulina ovato-cordata, petioli 0.5-2 cm longi, pilosi, lamina 0.7-1 cm longa 0.6-1.2 cm lata, apice obtusa, basi cordata, margine irregulariter rotundato-dentata, laminae omnino utrinque glabrae. Corymboso-racemus terminalis, pedunculus brevis, pilosus et brevistellato -pilosus. Flores conferti, 10-20, pedicelis 1-7 mm longis, glabris,

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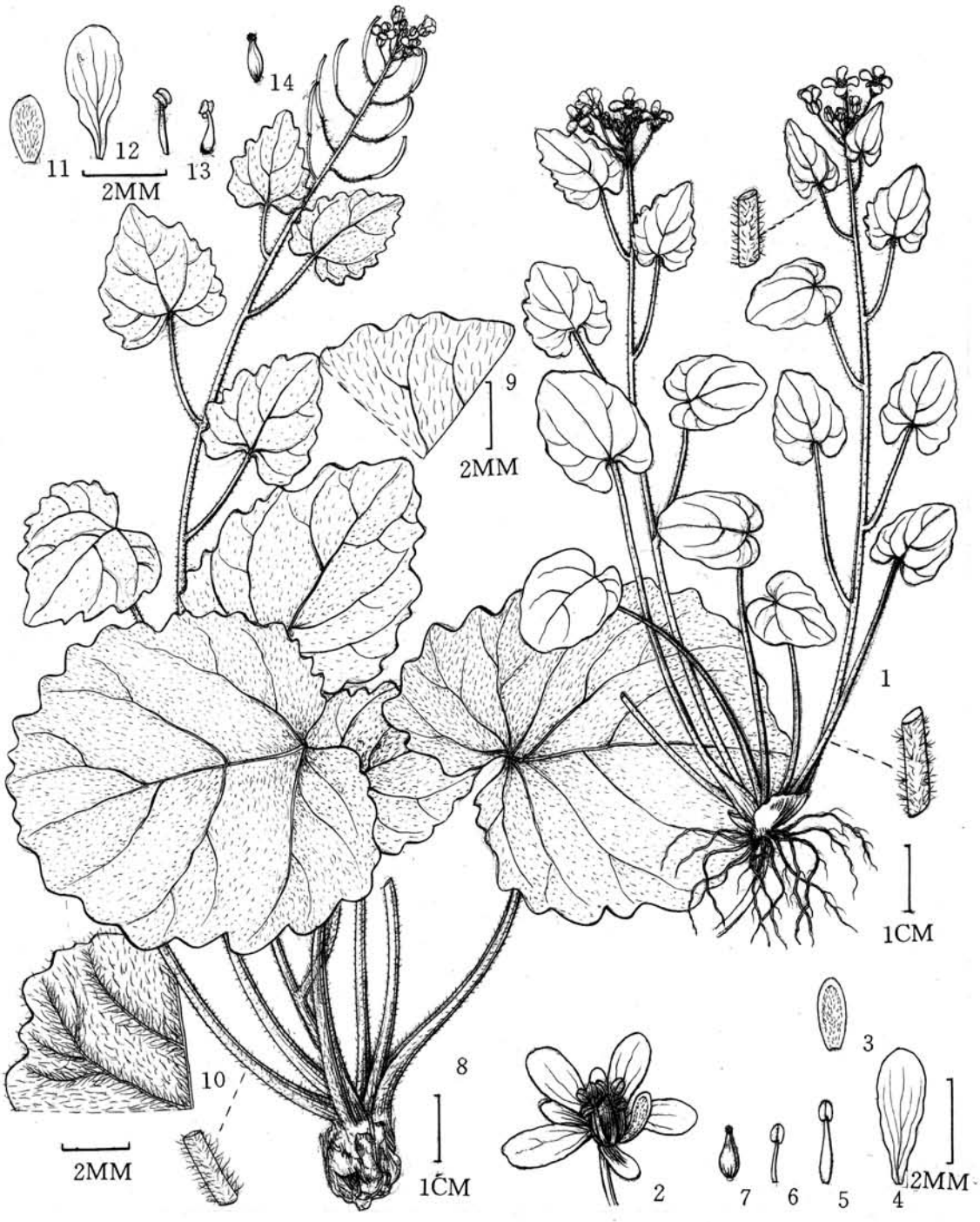


Fig.1: Illustration of *Cardamine heterandra* Sun *et* Chang from Bai Shui Jiang complex exp. team 2209. (1-7) and *C. violifolia* var. *pilosa* Chang *et* Huang from Bai Shui Jiang complex exp. team. 1572 (8-14). 1. habit; 2. flower; 3. sepal; 4. petal; 5. central filament; 6. lateral filament; 7. pistil; 8. habit; 9. upper surface of leaves; 10. lower surface of leaves; 11. sepal; 12. petal; 13. filament; 14. pistil (drawn by Miss Ming-Chen Tao).

sepala elliptica, circ. 2 mm longa, apice obtusa, margine albida membranacea, dorgaliter brevi-pilosa; petala alba, obovata, circ. 3.5 mm longa; filamenta centralia complanata, basi expansa, conica, circ. 1.2 mm longa, filamenta lateralia paulo complanata, basi nunquam expansa; anthera ovata; pistillum ovoideum androeciis centralibus leviter brevius; stylus obsoletus, ovarium glabrum. Siliquae ignotae. Anthesis Aprili-Majo.

A perennial caespitose herb, 10-15 cm high. Rhizome short, with fibrous roots. Stem erect or oblique, ramose at base, sulcate, with pilose and short stellate hairs. Radical leaves with long petiole, up to 4-5 cm long; lamina membranaceous, cordate or rotund-cordate, 1-1.5 cm long, 1-1.8 cm wide, entire or undulate at margin, cordate at base; cauline leaves ovate-cordate, petiole 0.5-2 cm long, pilose, lamina 0.7-1 cm long, 0.6-1.2 cm wide, obtuse at apex, cordate at base, irregularly rotund-dentate at margin, the upper and the lower surface glabrous at all. Corymbose-raceme terminal, peduncle short, with pilose and short stellate hairs. Flowers conferted, pedicels 1-7 mm long, glabrous; sepals elliptica l, 2 mm long, obtuse at apex, whitish membranaceous at margin; short pilose at dorsum; petals white, obovate, 3.5 mm long; central filaments of stamens complanate, expansive at base, 1.2 mm long, lateral filaments complanate, not expansive at base, anthers ovate; pistil ovoid, a little shorter than central stamens, style obsolete, ovary glabrous. Fruit not seen. Anthesis Apr.-May.

Specimens examined:

Gansu province: Wudu county, Pan di xiang, under trees, Alt. 1,900 m, April 19 1993, Bai Shui Jiang complex expedition team, *S. coll. 2209* (Holotype! LZU).

This species is closely related to *Cardamine violifolia* O. E. Schulz, but can be distinguished from the latter by having pilose and short stellate hairs all over the surface of the stems and peduncles, being cordate at base of radical and cauline leaves; and being heteromorphic of central and lateral filaments.

2. **Cardamine violifolia** O. E. Schulz var. **pilosa** K. L. Chang *et* H. L. Huang, *var. nov.*
柔毛堇葉碎米薺 Fig. 1: 8-14

A typo foliis basalibus superne pilosis, subtus densius pilosis; foliis caulinis lato-ovato-cordatis, apice obtusis, laminis utrinque pilose vel subglabris differt.

Folia basalia longe petiolata, lamina rotundato-cordata, margine irregulariter obtuse dentata, dentes apice retusi et mucronati.

Radical leaves with long petioles, lamina rotund-cordate, irregularly obtuse-dentate at margin. This variety is closely related to *Cardamine violifolia*, but it is the good characters to distinguish from the latter the upper surface of radical leaves are pilose and the lower surface are dense pilose; cauline leaves are wide-ovate-cordate and obtuse at apex; both surfaces of lamina are pilose or subglabrous.

Specimens examined:

Gansu province: Wen xian county, Tie lou Xiang Alt. 2,200 m. Sep. 19 1993, Bai Shui Jiang complex expedition team, 1572 (Holotype! LZU).

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中國產十字花科新分類群

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摘　　要

本文發表了甘肅產十字花科碎米薺屬1新種，即異蕊碎米薺*Cardamine heterandra* J. Z. Sun *et* K. L. Chang *sp. nov.* 和1新變種，即柔毛堇葉碎米薺*C. violifolia* O. E. Schulz var. *pilosa* K. L. Chang *et* H. L. Huang *var. nov.*。

關鍵詞：碎米薺屬，異蕊碎米薺，柔毛堇葉碎米薺。

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