

Hideki TAKAHASHI*: **A new combination**
for *Chimaphila taiwaniana*

高橋英樹*: タイワンウメガサソウの新組み合わせ

Chimaphila taiwaniana, an endemic species to Taiwan, was firstly described by Masamune in 1933. Hsieh (1978) regarded it as a variety of *C. japonica* Miq., i. e., *C. japonica* var. *taiwaniana* (Masamune) Hsieh. Certainly, the former

appears to be similar to the latter based on the flower numbers and the leaf size and shape. But the two taxa are clearly distinguished by the shape of bracts and calyx segments and the presence of foliage leaves on peduncle and anther tubes (Tab. 1). Therefore the treatment by Hsieh is not followed here.

Recently Wu (1984) recognized *C. taiwaniana* as a synonym of *C. monticola* H. Andres, a species endemic to Szechuan. I could examine the type specimens of *C. monticola* (H. Smith 4824), which might be only specimens found until now, at UPS, GB and S. According to this study, the shape of the bracts, calyx segments and anthers is not different between *C. taiwaniana* and *C. monticola*. These characters are critical for discriminating the species within the genus *Chimaphila*. The two taxa should be treated the same species. There are, however, some differences in the flower numbers, leaf size and shape

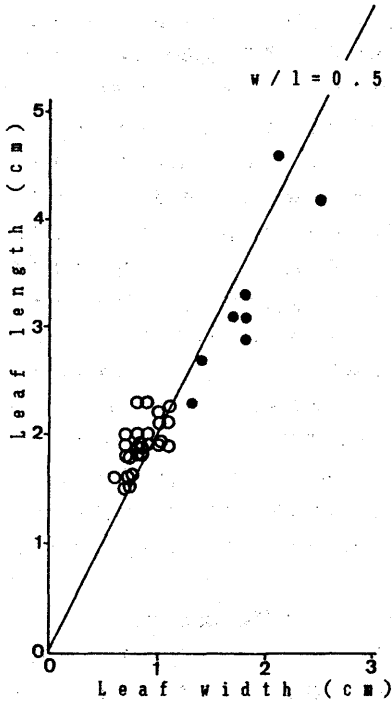


Fig. 1. Variation in size of the leaf of *Chimaphila monticola* subsp. *monticola* (solid circles) and subsp. *taiwaniana* (open circles). Each dot indicates the size of the largest leaf for each individual from the herbarium specimens.

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Tab. 1. Characteristics of the two subspecies of *Chimaphila monticola* and *C. japonica*.

	<i>monticola</i> ssp. <i>monticola</i>	<i>monticola</i> ssp. <i>taiwaniana</i>	<i>japonica</i>
Flower numbers on an inflorescence	(1-)2-3	1-2	1(-2)
Bracts	Broad linear to lanceolate, less than 1 mm wide		Membranaceous, elliptic to ovate, more than 1 mm wide
Calyx segments	Ovate to orbicular, about as long as wide or a little shorter than width		Broadly lanceolate to narrowly ovate, 2-4 times as long as wide
Foliage leaves on peduncle	0 (very rarely 1)	0	1-4
Anther tubes	Present	Present	Absent
Largest leaf length (cm)	2.3-4.6	1.5-2.5	1.0-4.0
Largest leaf width/length	Mainly 0.5-0.6	Mainly 0.4-0.5	0.4-0.5
Distribution	China (Szechuan)	Taiwan	SW China to NE China, Korea, Taiwan, Japan, S Kuriles, S Sakhalin

between the two (Tab. 1, Fig. 1). Therefore *C. taiwaniana* is best recognized as a subspecies of *C. monticola*.

Chimaphila monticola H. Andres in Act. Hort. Gothoburg. 1: 174 (1924).

subsp. **monticola**

Plant usually large, up to 15 cm tall. Largest leaf broadly elliptic, 2.3-4.6 cm long, 1.3-2.5 cm wide. Flowers on an inflorescence (1-)2-3.

Distribution. China (Szechuan).

Specimens examined. China. Szechuan: northwest region, between Dungo and Mao-niu (=Norome), moss rich virgin forest, alt. c. 3000 m, 4 September 1922, Smith 4824 (GB, S, UPS).

subsp. **taiwaniana** (Masamune) Takahashi, comb. nov.

C. taiwaniana Masamune in Trans. Nat. Hist. Soc. Formosa 23: 205 (1933), "*tawniana*".

C. japonica var. *taiwaniana* (Masamune) Hsieh, Fl. Taiwan 4: 6 (1978).

C. monticola H. Andres sensu C.Y. Wu, Ind. Fl. Yunn. 2: 1133 (1984), pro parte.

Plant usually small, up to 10 cm tall. Largest leaf narrowly elliptic, 1.5-2.5 cm long, 0.6-1.1 cm wide. Flowers on an inflorescence 1-2.

Distribution. Taiwan.

Specimens examined. Taiwan. Ilan: Nokoizan, 9000, 1919, Matsuda 2054 (TI); Mt. Nanko-taisan (=Nanhutashan), 8000-9000 ped., 23 July 1922, Sasaki s.n. (TI); Kiritto-i—Bunakkei, alt. 2700 m, 18 July 1933, Ohwi 3949 (K-flowers of *C. japonica* are intermingled, KYO-left below individual *C. japonica*, TNS 220545, UPS); Piyanan-anbu, 21 July 1933, Shiomi s.n. (KYO); between Kiretto-i and Kamibajin, alt. 2600-3000 m, Tsuga forest, 22 July 1963, Tamura & Shimizu 20687 (S); Kiretei—Bunakkei, alt. 2700 m, in mossy ground under the Tsuga forest, 21 September 1969, Yamazaki *et al.* 135 (TI); 26-29 May 1974, Kuo 5202 (KYO). Taichung: Hattsu, 6 July 1933, Ohwi 3764 (KYO).

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タイワンウメガサソウをウメガサソウの変種とする見解 (Hsieh 1978) があるが、ほう葉・がく片・葯などの形態が異なり両者には類縁がない。最近 (Wu 1984) タイワンウメガサソウを四川省産の *Chimaphila monticola* と同一とする見解がだされた。そこで両者を比較したところ、ウメガサソウ属において重要な上記形質は一致していた。しかしながら花序あたりの花数、葉のサイズ・形で差が認められたのでタイワンウメガサソウの学名を *Chimaphila monticola* subsp. *taiwaniana* と組みかえた。