

A NOTE ON *TRICYRTIS* OF TAIWAN⁽¹⁾

TATEMI SHIMIZU⁽²⁾

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In 1879, Baker described the first species of Formosan *Tricyrtis* (*Liliaceae*), *T. formosana*. The figure of its type specimen preserved in the Herbarium of the National Taiwan University (TAI) shows that the commonest member of the present genus of Taiwan is referable in its appearance to this species. According to the figure, the type is about 25 cm in height, having slender leaves about 2 cm wide and 8-10 long. Moreover, Baker's original description explains that the species is almost glabrous on inflorescence and glabrous on ovaries and capsules. But, unfortunately the figure of the type specimen does not make known well about the subterranean part of it. Owing to such incompleteness of the specimen, probably Baker could not refer to whether the species was stoloniferous or not.

In 1897, Matsumura added two species of *Tricyrtis* to the flora of Taiwan. One of them is *T. stolonifera* Matsum., which would be separable, he suggested, from *T. formosana* by its long stolon. However, it is remarkable that all of the complete specimens available to me, which should be referable to *T. formosana*, are provided with long stolons. Therefore it is rather reasonable to consider that the original plant of *T. formosana* was also stoloniferous and to conclude that these two species are conspecific. Matsumura's another species, *T. lasiocarpa*, is reported to be larger and robuster than the above. The more important character of it is that the ovary is apparently hispid. Among the specimens examined, three sheets in TAI and one in KYO* are apparently hispid on ovaries and capsules. Indeed, these are larger and robuster than the typical *T. formosana*. Their leaves are widely ovate and rather concentrated

(1) During my stay in Taiwan from November 1960 to May 1961, Dr. C. Y. Chao of the National Taiwan University, who was interesting in cytological studies on the present genus, asked me to a taxonomic revision of Taiwanese species and helped me in every direction along the course of this study. This paper should be issued in honor of him, I wish to express my hearty thanks to him, and also to Mr. M. T. Kao of the herbarium of the university for invaluable suggestions on the genus.

(2) Research Assistant of Biological Institute of Shinshu University, Ueda, Japan.

* Herbarium of Kyoto University, Japan.

in the lower part of the stems. Basing upon these characters, it is distinguishable from the members of *T. formosana*. Although Hayata* (1916) explained his opinion that *Tricyrtis* of Taiwan should be represented by only one species, *T. formosana*, I would like to separate *T. lasiocarpa* from the typical *T. formosana*.

In 1930, Masamune enumerated *Tricyrtis* of Taiwan, when he reduced Matsumura's two species to varietal rank under *T. formosana* and newly described another variety, var. *amethystina*. This is characterized by its habit with leaves to 15 cm long and 6 cm wide at the middle part of plant. It should be admitted as a giant race of *T. formosana*.

In the next year, Masamune described another species, *T. suzukii*. The type specimen shows that the species is distinctive in its profoundly amplexicaul leaves and axillary inflorescences. This is a good species. Its distribution area is restricted to the eastern part of Taiwan, and it is growing more frequently on calcareous slopes over than 1000 m alt.

Besides the various races mentioned above, I wish to establish a new form among the *T. formosana*-group, f. *glandulosa*. This form has glandular hairs on the inflorescences. As to the hairiness of inflorescence, a gradation is seen from almost a completely glabrous one which is like the typical *T. formosana*, to a densely hispid one. The specimens with hispid inflorescences have been erroneously determined as *T. lasiocarpa* Matsum. In f. *glandulosa*-group, glandular hairs are sometimes mixed with rough hairs.

The taxonomic treatments are as follows.

- A. Leaves sessile, cuneate or slightly amplexicaul at the bases;
inflorescence terminal, flowers some to numerous
- B. Ovaries and capsules glabrous or slightly pubescent *T. formosana*
- C. Leaves narrowly ovate, less than 4 cm wide, usually
1.5 cm to 3 cm wide
 - D. Inflorescence almost glabrous to hispid, but not
glandulous..... f. *formosana*
 - D. Inflorescence glandulous..... f. *glandulosa*
 - C. Leaves widely ovate, more than 5 cm wide f. *amethystina*
 - B. Ovaries and capsules apparently hispid..... *T. lasiocarpa*
 - A. Leaves deeply cordate to be amplexicaul at the bases;
inflorescence axillary, flowers few..... *T. suzukii*

Tricyrtis formosana Baker, Journ. Linn. Soc. London Bot. 17:465 (1879); Henry, List Pl. Formos. 98 (1896); Matsum. & Hayata, Enum. Pl. Formos. 442 (1906); Masam., Journ. Trop. Agr. 2:46 (1930) & Short Fl. Formos. 442 (1936); & List Vasc. Pl. Taiwan 132 (1954).—*T. stolonifera* Matsum., Bot. Mag. Tokyo 11:78

* Hayata: General Ind. Fl. Formos. 86 (1916).

(1897): Matsum. & Hayata, l. c. (1906); Hayata, Fl. Mont. Formos. 226 (1908).—*T. formosana* var. *stolonifera* (Matsum.) Masam., l. c. (1930) & l. c. (1936) & l. c. (1954).

f. formosana.

Widely distributed throughout the whole Island.

f. glandulosa T. Shimizu, f. nov.—Inflorescentia glandulosa.

Specim. exam. Taipei County: Kamiyodani, S. Suzuki 6285—type, TAI; in silvis inter Mururoahu et Kyanrawa, T. Suzuki 7186, TAI; Sozan, S. Kitamura s. n. Jan. 24, 1932. Ilan-County: Mt. Taihei, S. Suzuki s. n. Aug. 13, 1928, TAI; Pianan-anbu to Sikikun, J. Ohwi 4276. Hwalien County; Muhkwa-shan Forests. Liu, Chen & Kao 237, TAI; Mt. Nankotaizan, Bunaraha, H. Simada 1315, TAI; *ibid.*, Kirettoi, H. Simada 1339, TAI. Nantow County: inter Hattukan et Tonpo, M. Tagawa 490, KYO; Hattukan to Rakuraku, J. Ohwi 385, KYO.

f. amethystiana (Masam.) T. Shimizu, stat. nov.—*T. f.* var. *amethystiana* Masam., l. c. 47 (1930) & l. c. (1936) & l. c. (1954).

Specim. exam. Taipei County; Agyoku, Urai, S. Suzuki s. n. Nov. 9, 1928, TAI; Kinyan, S. Suzuki 6144, TAI.

T. lasiocarpa Matsum., l. c. 79 (1897); Matsum. & Hayata, l. c. (1906); Hayata, l. c. (1908).—*T. f.* var. *lasiocarpa* (Matsum.) Masam. l. c. 47 (1930) & l. c. (1936) & l. c. (1954).

Specim. exam. Hsin-chu County: Tentana, N. Fukuyama 32, TAI. Taichung County: inter Wushiken to Ammashan, alt. 1100–2300 m, T. S. Liu et al. 120, TAI. Nantow County: Hattukan to Rakuraku, J. Ohwi 3815, KYO. Tainan County; Kanshirei, H. Morimoto 566, TAI.

T. suzukii Masam., Journ. Trop. Agr. 3:21 (1931) & l. c. 274 (1936) & l. c. (1954).

Specim. exam. Ilan County: Mt. Taihei, S. Suzuki 6274—type & 3800 (two sheets), TAI; *ibid.*, S. Suzuki s. n. Aug. 1925, TAI. Hwalien County: near Fong-shang Branch Station, alt. 1850 m, Taroko Forests, Liu, Chen & Kao 17, TAI; around Chingshui-shan, calcareous habitat, 1200 m alt., T. Shimizu & M. T. Kao 11723, TAI.

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