

## ON SOME NOTEWORTHY PLANTS FROM HOKKAIDÔ, JAPAN

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A labourious task of compiling the flora of Hokkaidô was actually initiated by Dr. Kingo MIYABE and Dr. Yûshun KUDO in 1912 (MIYABE and KUDO 1930), and since then sixty-six years have elapsed. During this period, besides the above two botanists, Dr. Hisayoshi TAKEDA, Dr. Takenoshin NAKAI, Dr. Gen-ichi KOIDZUMI, Dr. Misao TATEWAKI, Dr. Jisaburô OHWI, Dr. Sirô KITAMURA, Dr. Hiroshi HARA and many other phytotaxonomists have engaged in clarifying the flora of Hokkaidô. In spite of their great efforts, however, the floristic phytogeography of Hokkaidô remains not perfectly known, and a considerable number of new discoveries, either to science or to the flora, have from time to time been reported by not a few botanists working on the flora of Hokkaidô.

Recent discoveries of phytogeographically interesting plants in Hokkaidô, Japan have amounted to an appropriate number for the present author to write this short paper. A part of this study was reported by the writer at the 43rd Annual Meeting of the Botanical Society of Japan held at Chiba on September 28, 1978 under the title of "The Phytogeography of the Central Mountain District, Hokkaidô" with Y. TOYOKUNI (TOYOKUNI and TOYOKUNI 1978).

1) *Lilium medeoloides* A. GRAY, Bot. Jap. 415. 1859.

forma *kurilense* (NAKAI) KUDO in Jour. Coll. Agr. Hokkaidô Imp. Univ. 11(2) (Fl. Paramushir) : 91. 1922. -TATEWAKI in Trans. Sapporo Nat. Hist. Soc. 9(2) : 158. 1927. ; in Jour. Fac. Agr. Hokkaidô Imp. Univ. 29(5) (Phytogeogr. Midd. Kuril.) : 220 et 264 et 292 et 304. 1933. -MIYABE et KUDO in Jour. Fac. Agr. Hokkaidô Imp. Univ. 26(3) (Fl. Hokkaidô & Saghal. 3) : 325. 1932.

Syn. -

*L. medeoloides* var. *kurilense* NAKAI in Bot. Mag. Tokyo 31 : 8. 1917. -MAKINO et NEMOTO, Fl. Jap. (ed. 2) 1554. 1931. -NEMOTO, Fl. Jap. Suppl. 1064. 1936. -TOYOKUNI et TOYOKUNI in Jour. Asahikawa Univ. 6 : 146. 1978.

Jap. Name: *Chishima-kurumayuri*, *Hosoba-kurumayuri*

Specim. exam. : Prov. Ishikari-Mt. Ishikari (Aug., 1932, Y. TOKUNAGA in Herb. SAPT).

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This form of *Lilium medeoloides* with very narrow leaves and much smaller flowers was at first separated by T. NAKAI in 1917 as a variety of the parent species, and in 1922 Y. KUDO lowered its rank to a form. The occurrence of this form in the Central Mountain District in Hokkaidô has often been called in question; the author confirmed with certainty this form near Kôgen-onsen, the Taisetsu Mts. in the summer of 1978.

- 2) ***Sibbaldia procumbens*** LINNAEUS, Sp. Pl. (ed. 1) 1 : 284. 1753. —MAKINO in Bot. Mag. Tokyo 15 : 98. 1901. —HAYATA in Bot. Mag. Tokyo 20 : 48. 1906. —MATSUMURA, Ind. Pl. Jap. 2(2) : 240. 1912. —KOIDZUMI in Jour. Coll. Sci. Imp. Univ. Tokyo 34(2) (Consp. Rosac. Jap.) 193. 1913.; in Bot. Mag. Tokyo 33 : (211). 1919. —TATEWAKI et SAMEJIMA, Alp. Pl. Centr. Mount. Distr. Hokk. 9. 1959. —TOYOKUNI in Jour. Asahikawa Univ. 3 : 160. 1975. —TOYOKUNI et TOYOKUNI in Jour. Asahikawa Univ. 6 : 134. 1978.

Jap. Name: *Tateyama-kimbai*

Specim. exam.: Prov. Ishikari-Mt. Hakuun, the Taisetsu Mts. (Aug., 1978. M. KAWASAKI in Herb. SHIN).

This circumpolar species is widely distributed in the arctic and alpine zones in the Northern Hemisphere, but in Japan its occurrence is very rare. The species has been reported to occur in the alpine zone of Central Honshû; in Hokkaidô, however, this plant was only once collected by Mr. E. OHTAKE in the alpine zone of Mt. Hakuun, the Taisetsu Mts. As the collection of this *Sibbaldia* in Hokkaidô was made only once, the distribution of the plant in Hokkaidô has from time to time been called in question, and thereby the habitat of the species in Hokkaidô was often omitted in such standard floras as OHWI's Flora of Japan (1953, 1965), KITAMURA and MURATA's Coloured Illustrations (Vol. 2, 1961) and so on. Fortunately in 1978, Mr. Mitsuru KAWASAKI at Asahikawa City kindly made sure that the very species was actually growing on Mt. Hakuun, the Taisetsu Mts., Hokkaidô.

- 3) ***Leontopodium discolor*** BEAUVERD in Bull. Soc. Bot. Genève ser. 2, 1 : 188, f. 2(5-9). 1909, *pro parte*, et in Bull. Soc. Murith. 36 : 84, f. 2(5, 6). 1911. —TAKEDA in Bot. & Zool. 3 : 703, f. 18. 1935. —KITAMURA in Mem. Coll. Sci. Kyoto Imp. Univ. Ser. B, 13 (Comp. Jap. 1) : 235. 1937. —HARA, Enum. Spermat. Jap. 2 : 224. 1952.

Syn.—

*L. japonicum* subsp. *sachalinense* TAKEDA in Bull. Soc. Bot. Genève ser. 2, 3 : 152, f. 2. 1911.; in Bot. Mag. Tokyo 29 : (298). 1915. *L. sachalinense* (TAKEDA) MIYABE et KUDO in MIYABE et MIYAKE, Fl. Saghal. 242. 1915.; in Trans. Sapporo Nat. Hist. Soc. 5 : 148. 1915. —KUDO, Rep. Veg. N. Saghal. 228. 1924. —TATEWAKI in Acta Phytotax. Geobot. 2 : 260. 1933.

Jap. Name: *Ezo-usuyukisô*, *Rebun-usuyukisô*

Specim. exam.: Prov. Ishikari-Mt. Nipesotsu (Aug., 1975, K. TAN in Herb. SHIN), Prov. Kushiro-Mt. Mokoto (Aug., 1978, Y. MURATA in Herb. SHIN).

This amoenous *Leontopodium* is distributed in Sakhalin and Hokkaidō. The collection made by Mr. K. TAN at the top of Mt. Nipesotsu is the first record of this species in the Central Mountain District, Hokkaidō. As for Mt. Mokoto, the first record of the plant was the collection of Dr. TATEWAKI in Aug., 1933 (in Herb. SAPT), and the distribution was again confirmed by Mr. Murata in Aug., 1978.

4) *Silene stenophylla* LEDEBOUR, Fl. Ross. 1: 306. 1842. -SCHISCHKIN in Fl. URSS 6: 627, t. 38, f. 2. 1936. -MIYABE et TATEWAKI in Trans. Sapporo Nat. Hist. Soc. 17: 52. 1941. -HULTÉN, Fl. Alaska & Yuk. 4: 698. 1944.; Fl. Alaska & Neighb. Terr. 441. 1968. -POLUNIN, Circump. Arct. Fl. 184. 1950. -KOZHANCZIKOV et TOLMACHEV in Fl. Arct. URSS 6: 89. 1971. -TOYOKUNI in Jour. Asahikawa Univ. 3: 162. 1975. -TOYOKUNI et TOYOKUNI in Jour. Asahikawa Univ. 6: 130. 1978.

Syn.-

*S. graminifolia* = *paucifolia* REGEL et TILING, Fl. Ajan. 66. 1858, *quad pl. ex ajan.*

*S. graminifolia* § *stenophylla* (LEDEBOUR) REGEL et TILING, Fl. Ajan. 67. 1858. *S. tenuis* var. *stenophylla* (LEDEBOUR) TRAUTVETTER, Fl. Tschuk. 14. 1878.

'*Melandryum affine* VAHL' sensu MIYABE et TATEWAKI in Trans. Sapporo Nat. Hist. Soc. 14: 70. 1935. -SUGAWARA, Ill. Fl. Saghal. 2: 857, t. 401. 1939.

Jap. Name: *Sugawara-birangi*

Specim. exam.: Prov. Ishikari-Mt. Nipesotsu (Aug., 1972, K. TAN in Herb. SAPT; Aug., 1975, K. TAN in Herb. SHIN)

The discovery of this *Silene* was very striking for the students of the flora of Hokkaidō. The author reported Mr. TAN's discovery of *Silene stenophylla* on Mt. Nipesotsu in 1975 (TOYOKUNI 1975a, b). The figure of this species in SUGAWARA's Illustrated Flora of Saghalien (SUGAWARA 1939) is seemingly more or less different from the real *S. stenophylla* in the habit expression, while HULTÉN's figure well explains the characteristics of this interesting species (HULTÉN 1968). The figure 1 shows the distribution area of *Silene stenophylla*; the map is based on HULTÉN 1968 and KOZHANCZIKOV and TOLMACHEV 1971). The entry of this caryophyllaceous plant is a welcome addition not only to the flora of Hokkaidō but to the whole flora of Japan.

The following description is based on the specimens collected on Mt. Nipesotsu. Perennial tufted herb with stout taproot. Stems several, 7-22cm tall, glabrous, straight or ascending from dense radical leaves. Radical leaves numerous, linear, 1.7-4.2cm long, 0.9-2.4mm broad, glabrous, long-petioled; cauline ones opposite, conform with the radical ones but gradually becoming shorter acropetally. Flowers 15-19mm across when fully flowered, terminal and axillary; calyx urceolate, glab-



Fig. 1. Distribution Area of *Silene stenophylla*.

rous, brownish-green or reddish brown especially on nerves, with 5 blunt or acutiuscule, triangular teeth; petals reddish-white to pale-lilac; stamens 5, pistil 1 with 3 long styles; capsules ovate.

5) *Gentiana triflora* PALLAS, Fl. Ross. 1(2): 105, t. 93, f. 1. 1789.

var. *japonica* (KUSNEZOW) HARA, Enum. Spermat. Jap. 1: 136. 1949.

forma *semiglobularis* TOYOKUNI, form. nov.

A *Gentiana triflora* var. *japonica* f. *montana*, floribus crassioribus brevioribusque et semiglobularibus ubi clausis, corollis in colore dilutioribus albescentibus purpur-ascenticaeruleopunctatis haec forma recedit.

Jap. Name: *Tamazaki-ezooyamairindô* (nov.)

Holotype: In montibus Taisetsu, Prov. Ishikari et in horto culta (Aug., 1976, Y. MURATA in Herb. SHIN)

This gentian was discovered on the Taisetsu Mts. by Mr. Masatoshi MAEDA twelve years ago, and now is cultivated in the garden of Mr. Y. MURATA at Higashi-Asahikawa, Asahikawa City. The gentian is a form of *G. triflora* var. *japonica* and is akin to its another form, f. *montana*. This form differs from f. *montana* in having semiglobular flowers when closed and paler whitish corollae which are purplish-blue dotted.

### Summary

In this paper the following five new or rare plants from Hokkaidô were reported:

(1) *Lilium medeoloides* f. *kurilense*: confirmation of its occurrence in the Central Mountain District, Hokkaidô.

(2) *Sibbaldia procumbens*: re-confirmation of the existence on the Taisetsu Mts., Prov. Ishikari.

(3) *Leontopodium discolor*: new to the florula of Mt. Nipesotsu, Prov. Ishikari, and re-confirmation of its distribution on Mt. Mokoto, Prov. Kushiro.

(4) *Silene stenophylla*: confirmation of its entry to the Japanese flora (Mt. Nipesotsu).

(5) *Gentiana triflora* var. *japonica* f. *semiglobularis*: new to science.

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Fig. 2. Specimens of *Leontopodium discolor* collected on Mt. Mokoto, Prov. Kushiro (Aug. 13, 1978, Y. MURATA in Herb. SHIN).

Fig. 3. *Leontopodium discolor* at the top of Mt. Nipesotsu, Prov. Ishikari (Photo by Mr. K. TAN).

Fig. 4. Specimen of *Sibbaldia procumbens* collected on Mt. Hakuun, the Taisetsu Mts., Prov. Ishikari (Aug. 6, 1978, M. KAWASAKI in Herb. SHIN).

Fig. 5. *Silene stenophylla* at the top of Mt. Nipesotsu, Prov. Ishikari (Photo by Mr. K. TAN).