The Taxonomical Observations on the Natural Variation in *Lilium speciosum* Thunb. II*

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阿部定夫・田村輝夫:* カノコユリの自然変異と分類学的考察 II*

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(Continued)

Classification and Description

The description of the varieties and forms of *L. speciosum* has been made since Siebold and Zuccarini (1838). They were followed by Masters (1872), Baker (1873), Elwes (1880), Tilton (1916), Wilson (1925), Woodcock and Coutts (1935), Woodcock and Stearn (1949) and others. They arranged them for 7 to 10 varieties and forms. The majority of variants were regarded as forms, while Baker or Woodcock and Stearn considered them as ranks of varieties, and Wilson arranged them for both varieties and forms. The descriptions and classifications have been given almost only in Europe, and the bulbs imported from Japan and their clones have been the subjects of them. In Japan no such studies have been made excepting those by Hayata (1911, 1912), in which our Formosa-type was named as *L. Konishii* and *L. Kanahirai*. Wilson (1925) untied Hayata's two species and put them into var. *gloriosoides* Baker of Central Chinese origin, which was regarded as a geographical race of *L. speciosum* by him. A plate of *L. speciosum* var. *gloriosoides* by Watson (1931) can be determined to be the Formosa-type. The Japanese geographical races of this lily found by us differ distinctly from var. *gloriosoides* and can be divided into two main groups, i.e. type II (Koshiki-type) and type III (Nagasaki- and Kôchi-types), which differ each other mainly in the feature of leaves and stigmas, and in growing in isolated regions. They may be distinguished taxonomically and may be placed in varietal ranks respectively, as like as the Formosa-type including the Central Chinese group.

Now, the problem is that to which type *L. speciosum* Thunberg belongs. To make clear this point, Thunberg's descriptions (1784, 1811) are very obscure, though "acuta" in the tip of leaves is prevalent in the Koshiki-type. The type specimen is preserved in Thunberg's Herbarium in Uppsala and we could see the photograph of it, through the courtesy of Dr. Maekawa and Dr. Hylander. It is the upper part of a plant with five flowers, in which anthers and stigmata are almost destroyed by insects. Judging from the following points, i.e. the shape of leaves, less impressions of the nerves, and marginal undulation being almost absent, we identify the

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type specimen as the plant of Koshiki-type, and venture to apply the name *speciosum* to the Koshiki-type.

Furthermore, if many plates of *L. speciosum* so far published are examined concerning the shape of stigmata, it is found that the stigmata in the plate in "Kadan Jikinshô" (1694) is truncate, but the figure is too imperfect to be identified, while many plates by Kaempfer in *Icones Selectae Plantarum* (1791), in "Honzô Zufu" (1828), by Siebold and Zuccarini (1838), as well as in "Yûyô Shokubutsu Zusesu" (1891) show the Koshiki-type, judging from the shape of stigmata. Accordingly, almost all clones of *L. speciosum* which were grown in Japan at that time, may have been of the Koshiki-type, however, *L. speciosum*, whose flowers bloom early and are paler in shade, is described in "Senka Oden" (1847) and it may probably belong to the Kôchi-type. All the plates of *L. speciosum* under the following names are judged to be the Koshiki-type, from the shape of stigmata, *Kaempferi*, *tametomo* (Siebold and Zuccarini 1836), *lancifolium roseum* and *album* (Paxton 1838, 1841), *Kaempferi* (Regel 1868), *verum* (Elwes 1880), *Kraetzeri* (Grove 1911) as well as *rubrum*, *melpomene*, *album*, *Kraetzeri* (Yokohama Nursery Co.). Therefore, all the clones which were grown in Europe at that time, may possibly have been of Koshiki-origin, except var. *gloriosoides*. These variants should be regarded as the forms of the Koshiki-type.

In the classification of forms, only rare characteristics should be adopted in order to establish the whole scheme of variation. For this purpose, we will consult Wilson's classification, which has been regarded as the best work. It classifies the forms as follows: f. *rubrum* Hort. (Masters); f. *melpomene* Hort. (Elwes); f. *roseum* Hort. (Masters); f. *punctatum* Courtois; f. *album* Masters; f. *Kraetzeri* Duchartre; var. *tametomeo* Sieb. et Zucc.; f. *album-novum* Hort. (Mallet); f. *magnificum* Hort.; var. *gloriosoides* Baker. To the white-flowered form, the rank of the form (f. *vestale*) should be rather applied than var. *tametomo*. The f. *Kraetzeri* has been distinguished as a peculiar form having orange pollen from other white-flowered forms, but the pollen of the flowers in Grove's plate (1911) is proved to the orange-brown. The pollen of this shade is rather prevalent, and so f. *Kraetzeri* should not be distinguished from usual white form (f. *vestale*). The f. *rubrum* is not given to especially dark-flowered form and its shade of flowers is usual. The f. *melpomene* is the horticultural variety bred by Hovey through hybridization, and in it no peculiar characteristics can be recognized. Moreover, horticultural varieties should be neglected when we classify botanically, unless they have peculiar characteristics. As f. *magnificum* is of Koshiki-origin, it ought to be included into *speciosum* proper.

Thus, we have classified *L. speciosum* into 3 varieties and 14 forms, including 1 new variety and 9 new forms, as follows:

Lilium speciosum Thunberg in Trans. Linn. Soc., II, 332 (1794), in Mém. Acad. Sci. St. Petersburg, III, 206 (1811). Paxton, Mag. Bot. V. 1, t. (1838). Franchet and Savatier, Enum. Pl. Jap., II, 67 (1879). Elwes, Monog. Lilium, t. 13 (1880). Matsu-

mura, Ind. Pl. Jap., II, pt. 1, 205 (1905). Grove, Lilies, 69 (1911). Tilton in Bailey, Stand. Cycl. Hort., IV. 1870, fig. 2162 (1916). Wilson, Lilies E. Asia, 75 (1925). Woodcock and Stearn, Lilies World, 334 (1949).

I. *Lilium speciosum* var. *speciosum* (ut *L. speciosum speciosum*).

L. speciosum Thunberg in Trans. Linn. Soc., II, 332 (1794), in Mém. Acad. Sci. St. Petersburg, III. 206 (1811). Paxton, Mag. Bot., V, 1, t. (1838). Elwes, Monog. Lilium, t. 13 (1880). Grove, Lilies, 69 (1911).—*L. superbum* L. Thunberg, Fl. Jap., 134 (1784).—*Konokko Juri* Banks, Icon. Kaempfer, t. 47 (1791).—*Kanoko Juri* Iwasaki, Hônzo Zufu, XLVIII (1828).—“*L. lancifolium* Hort. Mussche apud Guill Arch. Bot. 271 (1833).”—*L. speciosum* α *Kaempferi* Siebold et Zuccarini, Fl. Jap., I, 31, t. 12 (1836).—*L. speciosum lancifolium* Hort. Neumann in Rev. Hort., V, 494 t. (1844).—*L. speciosum* var. *rubrum* Lemair in Fl. des Serr. III, tt. 276-277 (1847).—*L. speciosum speciosum* Masters in Gard. Chron., 1872, 1522 (1872).—*L. speciosum rubrum* Masters l.c.—*L. speciosum* var. *rubrum* Masters ex Baker in Jour. Roy. Hort. Soc. IV, 42 (1873).—*L. speciosum verum* Elwes, Monog. Lilium, t. 13 (1880).—*L. speciosum atrosanguineum* Hort ex Elwes l.c. pro syn.—*L. speciosum rubrum multiflorum* Hort. Rozen and Son ex Elwes l.c. pro syn.—*Kanoko Yuri* Tanaka & Ono, Yûyô Shokubutsu t. 946 (1891).—*Aka-kanoko* Yokohama Nursery Co. “Yuri Kasen” (Selected Garden Lilies) (1899).—*L. speciosum Schrymackersi* Hort. Krelage in Jour. Roy. Hort. Soc., XXVI, 363 (1901).—*L. speciosum magnificum* Hort. Wallace in Jour. Roy. Hort. Soc., XXV, lxxi (1904), Fox in Addisonia VII, 55, t. 252 (1922).—*L. speciosum* var. *purpuratum* Hort. Tilton l.c.—*L. speciosum* var. *macranthum* Hort. Tilton l.c.—*L. speciosum* f. *magnificum* Wilson, Lilies E. Asia, 77 (1925).

Bulb rather flattened globose to globose, brownish yellow (intermediate between 19 and 17'b)* tinged with pink (1''d) on the summit, pink (1''b), dull rose (1'), or reddish purple (1k), sometimes brownish yellow, 5-12 cm. in diameter (usually 7-9 cm.); scales thick, rather tightly imbricated, lanceolate-ovate, 5.5-7 cm. long, 2.2-2.7 cm. wide, acute or acuminate, incurved. Stem 0.5-0.9 m. long, erect, terete, rigid, glabrous, green (27'' or 31k), or light brown (9'''i), or purplish brown (71''m or 1'''m). Leaves scattered, phyllotaxis 2/5 or 3/8, 1/2 on the upper part of stem when young, petioled, glabrous, yellowish green (31k), rather leathery, lanceolate to oblong-ovate, 11 to 17 cm. long, 3 to 5 cm. wide, 0.4-0.5 mm. thick, acute, rarely somewhat attenuate, base rounded or broad-cuneate, distinctly 5-7-nerved, slightly impressed along nerves; petiole 0.5-2 cm. long, adpressed to stem. Flowers rose-carmine (somewhat deeper than 71b) to rose-pink (71d), white-margined, or faded gradually towards the margin, sometimes blotched only in the middle, spotted with dark crimson (intermediate between 71k and 71i) to rose (71b), usually sub-pendulous, sometimes sub-erect, lateral or pendulous, fragrant, 1-30 (usually 3-10), racemose; pedicels rigid, spreading and ascending-spreading, 9-11 cm. long, 0.3-0.4 cm. in diameter, upper the shorter, bracts and bracteoles foliaceous; perianth-segments reflexed, slightly waved in the margin, lanceolate to ovate, 6.5-10 cm. long, 2.5-4 cm. (inner segments), 2-2.5 cm. (outer segments) wide, apiculate, lower face with abundant, raised, fleshy colored papillae, without keel, nectariferous furrow light green (31i), yellowish green (27i), greenish yellow (25''b), or light yellow (25f), glabrous; stamens shorter than the perianth, widely divergent, filaments subulate, glabrous, anthers 2-2.5 cm long; pollen chocolate-brown (3k, 5k) or organe-brown (7i); pistil slightly overtopping stamens, ovary 15-25 mm. long, 3.5-4.5 mm. in diameter, style curving slightly thickened upward, stigma capitate. Blossoms in late July to early August. Fruit obovoid-cylindrical, 5-7 cm. long, obtusely

* Color symbols from “Ridgway's Color Standards and Color Nomenclature”.

angled, summit umbilicate.

Nom. Jap.: Shima-Kanokoyuri (nom. hort., etymologia Shima—insula, Kanokoyuri—*Lilium* cum tepalis punctatis).

Hab.: Kyûshû: Kagoshima Pref.—on the western part of mainland (a part) and on the Islands of Koshiki (abundant). Kumamoto Pref.—on the Islands of Amakusa (rare). Fukuoka Pref.—Munakata and Onga Districts (a part).

1. *Lilium speciosum* var. *speciosum* f. *coccineum* S. Abe et Tamura f. nov.

Flowers crimson (somewhat paler than 71), margined with white, spotted with brodeaux (71k) to dark crimson.—Flores coccinei, argento-marginati, maculis atro-coccineis punctati.

2. *Lilium speciosum* var. *speciosum* f. *roseum* Masters, in Gard. Chron., 1872, 1522 (1872) (ut *L. speciosum roseum*).

L. speciosum var. *roseum* Masters ex Baker in Jour. Roy. Hort. Soc. IV, 42 (1873).—‘*L. speciosum punctatum*’ Elwes, l. c.

Flowers pink (71f), spotted various shades.

3. *Lilium speciosum* var. *speciosum* f. *album* Masters in Gard. Chron. 1872, 1522 (1872) (ut *L. speciosum album*).

Ryukyu Yuri Iwasaki, Honzô Zufu XLVIII (1828).—*L. speciosum* var. *album* Masters ex Baker in Jour. Roy. Hort. Soc., IV, 42 (1873).

Flowers faint pink. not spotted.

4. *Lilium speciosum* var. *speciosum* f. *vestale* Masters, in Gard. Chron., 1872, 1522 (ut *L. speciosum vestale*). Elws, Monog. Lilium t. 13 (1880).

“*L. Broussartii* Morren apud Mons in Hort. Belg., I, 371, t. 23 (1834)”.—*L. speciosum* β *tametomo* Sieb. et Zucc. in Fl. Jap. I, 31, t. 13 (1836).—*L. speciosum* var. *Album*, Paxton, Mag. Bot VIII, 127 t. (1841).—*L. eximium* Hort. ex Kunth, Enum. Pl. IV, 259 (1843) non Courtois, pro syn.—*L. speciosum* f. *Kraetzeri* Duchartre ex Baker in Jour. Linn. Soc. XIV, 234 (1875).—*Shiro-Kanoko* Yokohama Nursery Co., “Yuri Kasen” (Selected Garden Lilies) (1899).—*L. speciosum Album Kraetzeri* Hort. Krelage in Jour. Roy. Hort. Soc. XXVI, 363 (1901).—*L. speciosum roseum album* P. Barr in Gard. Chron. ser. 3, XXXII, 129 (1902).—*L. speciosum* var. *Kraetzeri* Hort. ex Grove, Lilies, t. 3 (1911).

Flowers pure white, not spotted.

5. *Lilium speciosum* var. *speciosum* f. *album-novum* Mallet in Gard. Chron., ser. 3, XXX, 24 (1901).

L. speciosum punctatum album P. Barr in Gard. Chron., ser. 3, XXXII, 129 (1902).—‘*L. speciosum* var. *Kraetzeri*’, Yokohama Nursery Co., Illus. Gard. Pl. Jap., II, 5, Fig. 205 (1914).—*L. speciosum* var. *album-novum* Woodcock & Stearn, Lilies World, 339 (1949).

Flowers white, not spotted, pollen yellow (13-15).

6. *Lilium speciosum* var. *speciosum* f. *concolor* S. Abe et Tamura f. nov.

‘*L. speciosum* Thunb’ Lindley in Bot. Reg. XXIII, t. 2000 (1837).

Flowers crimson, colored entirely, leaving narrow white edge, spotted with dark

crimson.—Flores in toto faciem coccinei, sed angustissime albo-marginati, maculis brunneo-coccineis punctati.

7. **Lilium speciosum** var. **speciosum** f. **radiatum** S. Abe et Tamura f. nov.

Flowers white, rayed with rose (intermediate between 71 b and 71 d) to rose pink (71 d) stripes, spotted with various shades.—Flores albi, roseo vel dilute roseo-vittatis, maculis coloribus ornati.

8. “**Lilium speciosum** var. **speciosum** f. **punctatum** Courtois in Cat. Agric. Bot. Gand., 1844, 26” (forsan ut *L. speciosum* f. *punctatum*).

L. lancifolium roseum Paxton, Mag. Bot., V, 267 t. (1838).—*L. lancifolium punctatum* Hort. ex Paxton l.c. pro syn.—“*L. speciosum* var. *punctatum* Marnock in Fl. M., 4, 136, t. 44 (1839)”.—*L. speciosum albiflorum* Hooker in Bot. Mag., LXVI, t. 3785 (1840).—*L. punctatum* Hort. ex Lemaire in Fl. des Serr., III, sub tt. 276-277 (1847).

Flowers white, spotted with pink (71 f), pollen yellow.

9. **Lilium speciosum** var. **speciosum** f. **rubro-punctatum** S. Abe et Tamura f. nov.

Flowers white, spotted deep rose (71 i), pollen brown.—Flores candidi, maculis intense-roseis punctati, pollinibus brunneis.

10. **Lilium speciosum** var. **speciosum** f. **compactum** S. Abe et Tamura f. nov.

Stem dwarf, flowers compact.—Planta humilior; flores compacte aggregati.

11. **Lilium speciosum** var. **speciosum** f. **erectum** Walker in Am. Lily Yearbook, 1942, 108.

Flowers suberect to lateral.—Flores suberecti vel lateraliter patet.

The name f. *erectum* described by Scrase-Dickins (Roy. Hort. Soc. Lily Yearbook, IV, 127, 1935) seems to be derived from the erect character in the stem. Hence, we adopt Walker's name in spite of its later publication.

II. **Lilium speciosum** var. **clivorum** S. Abe et Tamura var. nov.

‘*L. speciosum* var. *gloriosoides* Baker’ Grove in New Fl. Silva, III, Fig. VII (1930).—‘*L. speciosum punctatum*’, Wallace in Roy. Hort. Soc. Lily Yearbook, IV, 126 (1935).

Bulb flattened globose, scales rather loosely imbricated, 4-6 cm. long, 1.3-2 cm. wide, lanceolate, acuminate. Stem rather slender, 0.9-1.3 m. long, tending from sub-erect to sub-pendulous, usually nodding at the top. Leaves tending to 1/2-phyllotaxis, subnutant, broad-lanceolate to elliptic-ovate, slightly larger than the type, 12-20 cm. long, 4-6 cm. wide, 0.2-0.3 mm. thick, attenuate, rather dark green (31''m), strongly impressed along nerves, wavy in the margin. Flowers more lightly colored than the type, faded or margined, sometimes blotched, pendulous; blossoms 2-3 weeks earlier than the type; pedicel rather slender, 11-14 cm. long, 0.25-0.3 cm. diameter; perianth-segments much reflexed, much wavy; stigma subcapitately truncate.

Plant growing in Nagasaki is similar to the plant from Shikoku, but differs in the following characteristics.

Bulb globose, but slightly flattened; scales broad-lanceolate; stem 0.6 to 1 m. long, tending to sub-erect; leaves moderate green (31 m). Blossoms 2-3 weeks ear-

lier than the type variety, but later than the plant from Shikoku; pedicels rather rigid, 8-11 cm. long, 0.3-0.4 cm. in diameter.

Folia: phyllotaxis plerumque 1/2, nutantiuscula late lanceolata vel ovato-elliptica, apice gradatim attenuata, nervis valde impressis, margine repanda. Flores; stigmatibus subcapitato-truncata, patet praecocciora quam typo.

Nom Jap.: Taki-Yuri (nom. vernacul. in Shikoku. Etymologia Taki—cautes, Yuri—*Lilium*).

Specimina typica: Tosayama, Kôchi (S. Abe, Typus in Herb. Univ. Tokyo).

Hab.: Shikoku; Kôchi Pref.—on valleys in the Aki, Kami, Takaoka and Tosa District, and Kôchi City. Tokushima Pref.—on valleys in Naka, Myozai and Mima District (a part), and on the Island of Ôshima. Kyûshû; Nagasaki Pref.—on the western coast of Nishisonogi Peninsula, and on the Islands of Matsushima and Kujûku-shima.

1. *Lilium speciosum* var. *clivorum* f. *metaroseum* S. Abe et Tamura f. nov.

Flowers pink, spotted with various shades.—Flores rosacei, maculis coloribus ornati.

2. *Lilium speciosum* var. *clivorum* f. *vittatum* S. Abe et Tamura f. nov.

Flowers white, rayed with rose to rose pink stripes, spotted with various shades.—Flores albi, tepalis medio roseo-vittatis, maculis coloribus ornati.

III. *Lilium speciosum* var. *gloriosoides* Baker in Gard. Chron., n. s. XIV, 198 (1880). Wright in Jour. Linn. Soc. XXXI, 134 (1903). J. H. Veitch, Hortus Veitchii, 450 (1906). Watson in New Fl. Silva IV, Fig. LXXVI (1931). Wilson, Lilies E. Asia, 77 (1925). Woodcock & Stearn, Lilies World, 340 (1949).

'*L. speciosum Kaempferi* Sieb. et Zucc.' Hance in Jour. Bot., XII, 262 (1874).—'*L. speciosum* Thunb.' Franchet in Pl. David., I, 307 (1884).—*L. lancifolium* var. *gloriosoides* Bretschneider, Hist. European Bot. Disc. Chin., 742 (1898).—*L. lancifolium formosanum* J. H. Veitch, l.c. 82.—*L. auratum gloriosoides* J. H. Veitch, l.c. 83.—*L. Konishii* Hayata in Jour. Coll. Sci. Tokyo, XXX, art. 1, 364 (1911).—*L. Kanahirai* Hayata, Icon. Pl. Formosan., II, 146 (1912).

Bulb yellow, flattened globose, scale lanceolate-ovate, 2.2-2.5 cm wide. Leaves lanceolate to oblong-ovate, 12-20 cm. long, 0.45-0.5 mm. thick, scarcely impressed along veins. Flowers white, largely blotched with crimson to the center or spotted crimson to dark crimson; perianth segments much reflexed, wavy, raised fleshy papillae numerous, nectariferous furrow relatively long, green (29 k); stigma subcapitately truncate; sub-constrict; blossoms later than the type.

Nom. Jap.: Taiwan-Kanokoyuri.

Hab.: East central China; Lushan mountains, Kiangsi Province. Formosa; Sekitei, Heirimbi and Dandaigai, Taihoku Province.

1. *Lilium speciosum* var. *gloriosoides* f. *sanguineo-punctatum* S. Abe et Tamura f. nov.

Flowers white, spotted with crimson, pollen brown.—Flores albi, maculis sanguineis punctati, pollinibus brunneis.

(To be continued)