Observations on the Flora of Japan.

(Continued from p. 16.)

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Cymbidium Hoosai Makino sp. nov.

Terrestrial. Pseudo-bulb not large, subterranean or nearly so, ovoid or ovoid-conical, slightly compressed, entirely enclosed by the bases of leaves, attaining about 2 cm. across; scales stout, subulate, acuminate, entire, equitant, thickly membranaceous, carinate dorsally, glabrous, green, the superior one attaining about 13 cm. in length; roots fibrous, thick, terete, simple, whitish, 4–6 mm. across. Leaves tufted, 2–4 to a pseudo-bulb, erect-patent or recurved, narrowly lanceolate, acuminate with a sharp tip, gradually narrowed towards the base, canaliculated in front below, dilated and embracing the pseudo-bulb with the very base, hardly or finely scabrous, chartaceous-coriaceous but hard and thick towards the base, shining and flat and deep green above, concolorous beneath, 25–50 cm. long, 15–32 cm. wide; midrib very slender, prominent beneath; lateral main veins 2 on each side, the inner one being stouter and somewhat prominent beneath in living specimens; veinlets inconspicuous. Scape attaining about 60 cm. in height including the raceme, exceeding the leaves, lateral, erect from the base of the pseudo-bulb, slender, terete, purple or greenish; scales membranaceous, but more or less thickish in the inferior ones, the upper ones very remotely placed, linear-lanceolate, acuminate, closely many-nerved, shortly tubular below, the inferior ones subulate and gradually decreasing in size and gradually close-placed below. Raceme shorter than the peduncle, 7–20 cm. long, laxly and secundly 2–6-flowered; rachis terete, subflexuous, glabrous, smooth, purple or viridescent; bracts shorter than the ovary, subulate or subulate-lanceolate, acuminate, entire, membranaceous, 5–14 mm. long, 3–7-nerved, purple or viridescent. Flowers $3\frac{1}{2}$ –6 cm. across, slightly odoriferous or not. Perianth greenish-purple, with deeper purple nervous lines. Outer

perianth patent and then reflexed, equal in size, oblanceolate-linear, entire, obtuse or acutish with a minute cuspidate point, $2\frac{1}{2}$ – $3\frac{1}{2}$ cm. long, 5– $6\frac{1}{2}$ mm. broad, the upper one 5-nerved, the lateral ones 6-nerved and scarcely carinate dorsally. Inner perianth-leaves horizontal, closely placed to one another, shorter than the outer ones, lanceolate, acute or acutish, entire, 9-nerved, 2– $2\frac{3}{8}$ cm. long, 6–9 mm. wide. Labellum horizontal, shorter than the perianth, sessile, rounded at the base, very scarcely trilobed, the side-lobes erect, entire and rounded-edged, purple towards the margin and irregularly barred below; mid-lobe much reflexed, oblong-ovate, rounded-obtuse, entire and more or less crispate, thicker towards the centre, yellowish, or very light green and then yellowish, transversely and irregularly blotched with purple, 10–16 mm. long, $9-11\frac{1}{2}$ mm. broad; disk thick, with thick glabrous yellowish or white and then yellowish lamellæ between the side lobes, forming a deep canal between them. Gynostemium stout, 12–14 mm. long, $3\frac{1}{2}$ –5 mm. broad, compressed, slightly arcuate forthwards, flat and marked with longitudinal purple spots, purple at top; clinandrium deltoid, obliquely truncate, obtuse at the dorsal edge; anther hemispherical, slightly compressed from the front, truncate at the front margin, with an indentation at the dorsal edge, subbilocular, yellow; pollinia 4, sessile, much compressed, oval, waxy, yellow, the gland lunato-deltoid, thin. Ovary cylindrical, shorter than or equal to the perianth including the pedicel, glabrous, purple or greenish. Flowers January–March.

Hab. Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (*T. Makino!* Feb. 1902).

This species was introduced probably from China, but it is now found freely growing in Formosa.

Forma Hakuran is only a form, having the slightly thinner and more acuminate leaves, and usually the fewer and a little smaller and lighter-coloured flower.

Potentilla (Sect. I. A. Lehm.*) **Miyabei** Makino sp. nov. (1898).

Tufted? about 5 cm. high in my specimen, covered with adpressed pale hirsute hairs. Stem very short, erect, ligneous, leafy. Leaves dense, petioled, flabellately simple-ternate; leaflets sessile, obovato-spathulate to oblong-spathulate, cuneate towards the base, truncate and coarsely 3-dentate with equal acute or acutish and deltoid or ovato-deltoid teeth at apex, thickly membranaceous, concolorous, the middle one a little larger

* Lehmann Revisio Potentillarum p. 3.

and 9–16 mm. long; petiole stout-filiform, shorter or more or less longer than the blade; stipule relatively large, broad, membranaceous, adnate below, the upper free portion subulate-lanceolate to subulate-deltoid, acuminate, entire, longer than the adnate portion in the superior leaves. Peduncle erect, exceeding the leaves, loosely branched; bracts leaf-like and usually stipulate but smaller, the superior ones much decreasing in size and linear. Flowers pedicellate, about $1\frac{1}{2}$ cm. across, yellow. Calyx persistent, 5-partite; lobes spreading but suberect in fruit, lanceolate, acute-acuminate, entire, trinerved at the base and reticulated-veined above, 6–8 cm. long; tube short, flat, hirsute below internally; bracteoles 5, linear, acutish, about measuring a half length of calyx-lobes. Petals 5, scarcely exceeding the calyx-lobes, orbiculate, rounded at top, entire, very shortly unguiculate, with a fine venation, about 7 mm. long, deciduous. Stamens rather numerous, loosely placed on the calyx-tube, shorter than the calyx-lobes; filaments filiform, glabrous; anther small, ovato-orbicular. Ovaries many, small, ovoid, clothed with long pale hairs; style erect, lateral, filiform, glabrous, scarcely higher than hairs of the ovary; stigma terminal, not thick; receptacle small, shortly ovato-conical. Achenes ovoid, very slightly compressed laterally, covered with long pale hairs and persistent style, about $1\frac{2}{3}$ mm. long; carpel hard.

Potentilla tridentata var. Miyabe.

Hab. Prov. KUSHIRO in Hokkaidō: Mt. Meakan (*T. Kawakami*! August 1897).

This species differs in respects from *Potentilla tridentata* Soland. and *P. ambigua* Camb., though the leaflets of all three species are 3-dentate at the apex, like those of *Sibbaldia procumbens* Linn.

I have named it in honour of Dr. Kingo Miyabe, Professor of Sapporo Agricultural College, and my thanks are due to Mr. Takiya Kawakami, who collected it and sent me kindly.

Potentilla ancistrifolia Bunge Enum. Pl. Chin. Boreal. p. 25, no. 145; Lehm. Revis. Potentil. p. 43, tab. 18; Maxim. in Bull. Nat. Mosc (1879) p. 17; Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 240; Franch. in Bull. Soc. Bot. France, XXVI. p. 83.

Potentilla Dickinsii Franch. et Sav. Enum. Pl. Jap. II. p. 337.

Hab. Prov. MUSASHI: Mt. Yōkami (*T. Makino*! July 16, 1888); Prov. SHIMOTSUKE: Nikkō (Herb! Sc. Coll. Imp. Univ. Tokyo, June 20, 1878; *T. Makino*! 1900); Prov. IWASHIRO: Yumoto in Aidzu (*Z. Matsu-mura*! herb. ibid. Aug. 4, 1879); Prov. SHINANO: Mt. Togakushi (*R.*

Yatabe and *Z. Matsumura*! herb. *ibid.* July 12, 1884); Prov. HIDAHA in Hokkaidō: Samani (*Y. Tokubuchi*! herb. *ibid.* Aug. 8, 1892); Prov. IYO: Mt. Ishidzuchi (*T. Makino*! Aug. 1885); Prov. TOSA: Mt. Yokogura (*T. Makino*! 1884).

Potentilla ternata (Maxim.) Makino, non C. Koch.

Potentilla fragarioides γ. *ternata* Maxim. in Mém. Biol. IX. p. 159; Franch et Sav. Enum. Pl. Jap. II. p. 337.

Hab. Prov. MUSASHI: Tokyo (*R. Yatabe* and *Z. Matsumura*! herb. Sc. Coll. Imp. Univ. Tokyo, April 17, 1879), Ōzi (*R. Yatabe* and *Z. Matsumura*! herb. *ibid.* May 4, 1879), Shimura *T. Makino*! 1901); Prov. SHINANO: Mt. Togakushi (*R. Yatabe* and *Z. Matsumura*! herb. *ibid.* July 11, 1884) Prov. ISHIKARI in Hokkaidō: Tsukisappu, Sapporo (*K. Miyabe*! herb. *ibid.* June 9, 1884); Prov. TOSA: Sakawa (*T. Makino*!), Mt. Sasagamine (*T. Makino*! May 3, 1893).

Akebia pentaphylla Makino nom. nov. = *A. lobata* × *quinata*.

A glabrous deciduous climbing shrub. Stem dextrorse, slender, terete, finely striate when dried, woody, brown, dispersed with minute lenticels, remotely with reduced branches; bud-scales imbricated, ovate or ovato-orbicular, deciduous. Leaves remotely alternate, but those of reduced lateral branches 3-5-fasciculate, long petioled, 5-3-foliate; leaflets unequal in size, petiolulate, oblong to orbicular-ovate, emarginate and minutely setaceo-apiculate, obtuse to truncato-subcordate or sometimes acute and broadly cuneate at the base, entire or pauci-repand-crenate, chartaceous, green and more or less shining above, paler beneath, sub-5-nerved, $1\frac{1}{2}$ - $8\frac{1}{2}$ cm. long, $\frac{2}{3}$ - $7\frac{1}{2}$ cm. broad; veins very loose, veinlets reticulated; petiole strict, enlarged and usually curved at the base, 2- $11\frac{1}{2}$ cm. long; petiolules $\frac{1}{3}$ - $3\frac{1}{3}$ cm. long. Raceme 9-13 cm. long, cernuous or pendulous, axillary on reduced lateral branches, glabrous, with a slender peduncle, 2-3 cm. in diameter at the portion of the male flowers, provided with a few distant and long pediceled female flowers below the males; rachis shorter than the peduncle; bracts minute, subulate; pedicels of the males 6-12 mm. long, filiform, erect-patent or patulous, not reflexed. Flowers monœciously unisexual. Male flowers numerous, 4-5 mm. across; sepals, 3, oval, obtuse, concave, reflexed, purplish, $4\frac{1}{2}$ -5 mm. long, 3-4 mm. broad. Stamens 6, erect, incurved, $3\frac{1}{2}$ - $4\frac{1}{2}$ mm. long; anther oblong, obtuse, with a very short filament, cells linear and extrorse. Rudimentary pistils 3-5, minute, erect, narrow. Female flowers few on each raceme, about 2 cm. across; sepals

3, patent, orbicular, deeply concave internally assuming a hemispherical form, thickish, purple; pedicel $2\frac{1}{2}$ – $5\frac{1}{2}$ cm. long. Rudimentary stamens 6, minute, broadly oblong, truncato-obtuse at the top. Ovaries 3–5, sessile, radiately erect–patent, oblong-cylindrical, about 5 mm. long, with a terminal and discoidal stigma. Fruit oblong, about 9 cm. long, violaceous.

Akebia lobata β . *pentaphylla* Makino in Bot. Mag., Tokyo, V. (1891) p. 329, et XII. (1898) p. 195.

Hab. Prov. TOSA: Karatani in Ainogō (*T. Makino*! Dec. 1891), Sōdayama (*T. Makino*! Nov. 1892), Ogawa-mura (*T. Makino*! Nov. 1892); Prov. SETSU: Suma (*T. Makino*! May 1, 1893); Prov. SAGAMI: Hakone (*T. Makino*! Sept. 25, 1886); Prov. HITACHI: Mt. Tsukuba (*T. Makino*! April 6, 1894); Prov. AWA (Bōshū): Mt. Kiyosumi (*T. Makino*! April 1898).

This is frequent in this country. It is probably to be considered as the hybrid of *Akebia lobata* Decne. and *A. quinata* Decne., as above mentioned.

Osmanthus japonicus Sieb. Syn. Pl. Oecon. Jap. (1830) p. 36. = ?
O. Aquifolium $\times$ *fragrans*.

Evergreen tree, attaining about 7 m. in height, many ramose and densely leaved; trunk grey, dispersed with corky protuberances; branches terete, glabrous, grey-white, scattered with small lenticels. Leaves patent, petiolate, decussate, loosely approximate towards the top of branchlets, elliptical or elliptical-oval, shortly acuminate, obtuse or acutish at base, coarsely spinoso-dentate with many teeth, but the superior ones pauci-spinoso-dentate or quite entire, rigidly coriaceous, glabrous, deep green and shining above, paler beneath, 5 – $11\frac{1}{2}$ cm. long, $2\frac{1}{2}$ – 7 cm. wide; midrib prominent beneath; lateral veins about 8–10 on each side, erect–patent, delicately prominent beneath, straight or slightly arcuate upwards and connected above; veinlets inconspicuous superficially, loosely reticulated; petiole semiterete, glabrous, 7–13 mm. long. Inflorescence axillary or sometimes terminal. ♂: Flowers white, fragrant, 8–10 mm. across; pedicels fasciculate, longer than the flower, filiform, glabrous, 5–11 mm. long; scales small, ovato-orbicular, obtuse or mucronate, entire-margined, subglabrous, thick, concave, often carinate dorsally. Calyx minute, $1\frac{1}{2}$ mm. across, patelliform, 4-lobed, glabrous, thin towards the edges; lobes ovate or ovato-hemispherical, obtuse or acute, minutely suberose. Corolla glabrous, deeply 4-partite; lobes patent or reflexed, obovato-elliptical or oblong, slightly oblique, rounded at the apex, entire, thickish, the tube very short and broad. Stamens 2, erect, inserted to the middle part of the corolla-tube, shorter

than the corolla-lobes, $2\frac{1}{2}$ –3 mm. long; filament narrow, a little longer than the anther; anther oval, obtuse at apex, auriculate at base, the connective large. Rudimentary pistil minute, erect, ovato-subulate, acute or acutish at the tip. ♀ : Flower yet unknown to me.

Osmanthus Aquifolium var. *japonicus* Makino in herb. Sc. Coll. Imp. Univ. Tokyo.

Hab. Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cultivated (Herb. Sc. Coll. Imp. Univ. Tokyo, Oct. 17, 1878; *T. Makino*! April 21, and Autumn 1890, Feb. 1902), Komaba, Bot. Gard. Agric. Coll. Imp. Univ. Tokyo, cult. (*T. Makino*! Feb. 1902); Prov. IYO: Matsuyama, cult. (*K. Okudaira*! Nov. 27, 1897).

This may be the hybrid between *Osmanthus Aquifolium* Sieb. and *O. fragrans* Lour., as given above, having leaves and flowers which are just intermediate to them. It is only known in cultivation.

***Osmanthus fragrans* Lour. var. *aurantiacus* Makino.**

Tree. Leaves patent, lanceolate, acuminate, acute at base, interruptedly serrulate or entire, 7–16 cm. long, $1\frac{1}{2}$ – $4\frac{1}{2}$ cm. or sometimes more wide, coriaceous; midrib prominent beneath; veins loose and also prominent beneath. Inflorescence axillary. ♂ : Flower orange-coloured, exceedingly fragrant, fasciculate, with filiform pedicel longer than the flowers themselves. Calyx minute, 4-lobed; lobes often unequal, subdeltoid, minutely suberose. Corolla patent, about 8 mm. across, deeply 4-parted; lobes obovate-oblong, obtuse, entire thick. Stamens 2, inserted to the corolla-tube; filament extremely short; anther ovato-orbicular, longer than the filament. Rudimentary pistil minute, erect, oblong-subulate, pointed upwards. ♀ : Flower not yet seen.

Hab. Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (Herb. Sc. Coll. Imp. Univ. Tokyo, Oct. 15, 1879; *T. Makino*! Oct. 1890, Oct. 1897, Oct. 4, 1898).

This has formerly been introduced from China next to the *typica*, and now is commonly cultivated. The *typica* has whitish flowers.

Var. *latifolius* Makino.

Branches erect or ascending. Leaves decussate, erect-patent, or patulous, loosely approximate towards the top of branchlets, petiolate, oblong, abruptly acuminate, obtuse at the base, uninterruptedly serrulate but entire at the base, glabrous, coriaceous, deep green above, paler beneath, $6\frac{1}{2}$ –13 cm. long, $2\frac{3}{4}$ –6 cm. wide; midrib prominent beneath; veins 5–7 on each side, loose, prominent beneath, erect-patent, arcuate

upwards; veinlets rather loosely reticulated; petiole semiterete, 8-13 mm. long. Flowers white.

Hab. Prov. TOSA: Sakawa, cult. (*T. Makino!*); Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (*T. Makino!* Feb. 1902), Id. Ushigome, cult. (*T. Makino!* Feb. 1902).

This variety differs from the *typica* and *var. aurantiacus*, by having the uninterruptedly serrulate, wider, more rigid, and deeper green leaves. That in Curtis's Botanical Magazine, tab. 1552, may be identical with this variety.

Rhododendron Hymenanthus (Bl.) Makino nom. nov.

Hymenanthus japonica Bl. Bijdr. p. 862 (1826).

Rhododendron Metternichii Sieb. et Zucc. Fl. Jap. I. (1835) p. 23. tab. 9, et in Abhandl. Akad. Muench. IV. 3, (1846) p. 130; DC. Prodr. VII. p. 721; Miq. in Ann. Mus. Bot. Lugd.-Bat. I. p. 32, et Prol. Fl. Jap. p. 95; A. Gray in Perry's Exped. Jap. p. 315, et Bot. Jap. p. 430; Maxim. Rhod. As. Orient. p. 21; Franch. et Sav. Enum. Pl. Jap. I. p. 287; Boissieu in Bull. Herb. Boiss. V. p. 916.

Rhododendron maximum Thunb. Fl. Jap. p. 181, excl. syn., non Linn. *Sekki nan*, vulgo *Saku Nange* Kœmpf. Amœn. Exot. p. 877.

a. heptamerum.

Rhododendron Metternichii a. heptamerum Maxim. l. c.; Makino in Bot. Mag., Tokyo, X. p. 211.

Hab. Prov. TOSA: Tadzikawa (*T. Makino!* May 1893), Mt. Kurotaki (*K. Watanabe!* Oct. 6, 1891; *T. Makino!* Nov. 1892); Prov. IYO: Mt. Ishidzuchi (*T. Yoshinaga!* Aug. 1888);? Prov. BUZEN: Mt. Inugadake (*R. Yatabe* and *Z. Matsumura!* herb Sc. Coll. Imp. Univ. Tokyo, July 18, 1882).

β. pentamerum.

Rhododendron Metternichii β. pentamerum Maxim. l. c. p. 22; Makino l. c.

Hab. Prov. SHIMOTSUKE: Nikkō (Herb. Sc. Coll. Imp. Univ. Tokyo, June 1878), Mt. Shirane in Nikkō (*N. Ichikawa!* herb. ibid. Aug. 17, 1887); Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (Herb. ibid. April. 19, 1884; *T. Makino!* Apr. 20, 1894); Prov. IZU: Mt. Amagi (*K. Watanabe!* May 25, and Aug. 6, 1897).

forma angustifolia Makino.

Leaves denser, angustato-lanceolate, acutish-obtuse, attenuated below, ferrugineo-lanate beneath, 4-16 cm. long, $\frac{1}{3}$ -2 cm. broad.

Rhododendron Metternichii β . *pentamerum forma angustifolia* Makino
l. c. p. 212.

Hab. Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (Herb! Sc. Coll. Imp. Univ. Tokyo, May 8, 1880; *T. Makino!* May 1899).

It is said that this form grows on mountains of northern boundaries in provinces of Mikawa and Tōtōmi.

Maackia Tashiroi (Yatabe) Makino nom. nov.

Cladrastis Tashiroi Yatabe in Bot. Mag., Tokyo, VI. (1892) p. 345, tab. 10; Matsum. in Ito et Matsum. Tent. Fl. Lutch. I. p. 169.

Hab. ISL. AMAMI-ŌSHIMA (*S. Tashiro!* herb. Sc. Coll. Imp. Univ. Tokyo, Sept. 1887), Yuwan-mura (*S. Tanaka!* herb. ibid. Aug. 15, 1891), Between Naze and Yamato-hama (*T. Itō!* herb. ibid. July 16. 1894), Yakiuchi (Herb. ! ibid.); ISL. OKINAWA (*Z. Matsumura!* herb. ibid.); ISL. IHEYA (*H. Kuroiwa!* herb. ibid. Aug. 1898); Prov. MUSASHI: Tokyo, Bot. Gard. Koishikawa, cult. (*T. Makino!* July 26, and Sept. 27, 1895.)

Glycine (Soja) **Soja** (Linn.) Benth. in Journ. Linn. Soc. VIII. (1865) p. 266; Baker in Hook. fil. Fl. Brit. Ind. II (1879) p. 184, non Sieb. et Zucc.

Dolichos Soja Linn. Sp. Pl. p. 727; Cod. no. 5351; Thunb. Fl. Jap. p. 282; Houtt. Nat. Hist. XXVIII. (1779) p. 158; Willd. Sp. Pl. III. p. 1051; Pers. Syn. Pl. II. p. 298; Spreng. Syst. Veg. III. p. 251; Lour. Fl. Cochinch. ed. Willd. p. 537; Roxb. Fl. Ind. III. (1832) p. 314; Debeaux Fl. Shang-hai p. 81.

Soja hispida Moench.; DC. Prodr. II. p. 396; Bunge Enum. Pl. Chin. Bor. p. 94, no. 118; Wight et Arn. Prodr. Fl. Pen. Ind. Or. I. p. 247; Sieb. et Zucc. Fl. Jap. Fam. Nat. in Abh. Akad. Muench. IV. 2, p. 119, no. 15; Regel Tent. Ussur. p. 52; Miq. Prol. Fl. Jap. p. 240; Id. Fl. Ind. Bat. I. p. 223; Hoffm. et Schult. Nom. indig. Pl. Jap. ed. nov. (1864) p. 56; Maxim. Prim. Fl. Amur. p. 87; Bretschn. Early Eur. Res. Fl. Chin. pp. 27, 97, et 146; Debeaux Fl. Tien-tsin p. 41.

Glycine hispida Maxim. in Mém. Biol. IX. p. 70 (1872); Franch. et Sav. Enum. Pl. Jap. I (1875) p. 108; Franch. Pl. David. I. p. 100; Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 188; Taub. in Engl. et Prantl Die Nat. Pflanzenfam. III. 3, pp. 360, 361, fig. 131, B-D; Henry in Transact. Asiat. Soc. Jap. XXIV. Suppl. p. 34; Matsum. in Ito et Matsum. Tent. Fl. Lutch. I. p. 153.

Soja japonica Savi (1824).

Soja japonica Sieb. Syn. Pl. Oecon. Jap. p. 56.

Daihsu Kæmpf. Amœn. Exot. p. 837, cum tab.

Hab. Japan, widely cultivated, having various forms. There not any wild form in Japan.

“*Soja*” was derived from “*Shōyū*” or Soy, a kind of sauce made of boiled seeds of this plant and fermented wheat, commonly used by the Japanese.

Glycine (*Soja*) **ussuriensis** Regel et Maack in Regel Tent. Fl. Ussur. p. 52, tab. 7, fig. 5-8.

Glycine Soja Sieb. et Zucc. Fl. Jap. Fam. Nat. in Abh. Akad. Muench. IV. 2, p. 119, no. 14; Walp. Ann. I. p. 970; Miq. Prol. Fl. Jap. p. 240; Franch. et Sav. Enum. Pl. Jap. I. p. 108 et II. p. 326; Franch. Pl. David. I. p. 100; Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 188; Taub. in Engl. et Prantl Die Nat. Pflanzenfam. III. 3, p. 360; Palib. Consp. Fl. Kor. I. p. 69.

? *Soja angustifolia* Miq. Fl. Ind. Bat. I. p. 223; Walp. Ann. IV. p. 552.

? *Johnia javanica* Zoll. herb. non Wight et Arn. ex Miq.

? *Glycine javanica* Thunb. in Trans. Linn. Soc. II. (1794) p. 340, non. Linn.

Phaseolus lathyroides Houtt. Nat. Hist. XXVIII. p. 141, tab. 63, fig. 2, ex parte, non Linn.

Hab. Prov. SHIMOOSA: Mama (*T. Makino*! Oct. 6, 1895); Prov. MUSASHI: Tokyo (*Z. Matsumura*! herb. Sc. Coll. Imp. Univ. Tokyo, Aug. 31, 1880), Shimura (*T. Makino*! Sept. 7, 1893); Prov. MUTSU: Awomori (*T. Iwagawa*! herb. ibid. Aug. 22, 1880); Prov. IYO: Ishite (*Z. Umemura*! Sept. 12, 1897).

This species is never in cultivation, and the seed grains are useless hence as the specific name “*Soja*” given to it is very inappropriate. Probably a variety of the preceding species.

Dunbaria villosa (Thunb.) Makino in Herb. Sc. Coll. Imp. Univ. Tokyo, (1897).

Glycine villosa Thunb. Fl. Jap. (1784) p. 283; Pers. Syn. Pl. II. (1807) p. 300; Willd. Sp. Pl. III. p. 1056; Spreng. Syst. Veg. III. (1826) p. 198; DC. Prodr. II. (1825) p. 242.

Atylosia villosa Maxim. in Mém. Biol. IX. p. 69.

Atylosia subrhombea Miq. Prol. Fl. Jap. p. 239; Franch. et Sav. Enum. Pl. Jap. I. p. 112, et II. p. 327; Kanitz Anthoph. Jap. p. 31.

Dunbaria subrhomlea Hemsl. in Journ. Bot. (1876) p. 207; Id. in Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 195; Palib. Consp. Fl. Kor. I. p. 71.

Hab. Prov. MUSASHI: Tokyo (*Herb.*! Sc. Coll. Imp. Univ. Tokyo); Prov. IYO: Nishiidzumi (*K. Watanabe*! herb. ibid. Sept. 24, 1891), Komatsu (*K. Watanabe*! herb. ibid. Sept. 27, 1891); Prov. SŪ: Ōuchimura (*D. Nikai*! herb. ibid. Aug. 26, 1892).

Gentiana scabra* Bunge var. *Buergeri* Maxim. subvar. *angustifolia Makino in Bot. Mag., Tokyo, X. (1896) p. 313.

Rhizome short, erect, or oblique; roots thickish. Stems caespitose with 2-3, erect, simple, slender, terete but tetragonous-terete above, glabrous, often purplish, attaining about 60 cm. in height. Leaves opposite, sessile, linear, acuminate, usually longer than internodes, but the inferior ones lanceolate-linear obtuse and shorter than the superior ones, entire and usually subtilely scabrous on the margin, thickly herbaceous, but coriaceous when dried, glabrous, green above, paler beneath, obscurely triplinerved. Flowers 1-4-aggregate at the top of the stem and axillary above, the size form and colour as in those of the *var. Buergeri*, but the tip of corolla-lobes more acute.

Hab. Prov. MIKAWA: Kameyama-mura in Atsumi-gōri (*T. Makino*! Oct. 27, 1893), Hosotani-mura (*T. Makino*! Oct. 28, 1894), Takashi-mura (*T. Makino*! Oct. 29, 1894).

This differs from the typical one and the *var. Buergeri*, by its linear leaves, having the habit of the European *Gentiana Pneumonanthe* Linn.

(*To be continued.*)