Photinia integrifolia, Lindl. Hook. Fl. Brit. Ind. II. p. 381.

Hab. Formosa: in monte Morison (Dr. Honda).

Foliorum lamina 40–70 mm. longa, 13–20 mm. lata. Petioli 15 mm. longi. Fructus rubri, 7 mm. longi et lati.

(*To be continued.*)

Plantæ Japonenses novæ vel minus cognitæ.

(*Continued from p. 52.*)

By

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Dysophylla Yatabeana Makino sp. nov.

Perennial marshy herb. Roots fibrous, filiform, white, soft, with short rootlets. Rhizome repent, nodose, rooting at the node. Stem ascending, leafy nearly throughout, emitting a few or many sterile and slender branches from the basal portion, simple above, 25–60 cm high, elongate, sub-terete with 3–5–longitudinal-furrows, soft, glabrous but thinly pubescent above, nodose, longest internode about $4\frac{1}{2}$ cm. long, thickest part about 7 mm in diameter. Leaves mostly 4– sometimes 5– or 3– verticillate, sessile, erect-patent or fully spreading, lanceolate-linear, but shorter and linear-oblong in the lower ones, $1\frac{1}{2}$ –8 cm long, 3– $7\frac{1}{2}$ mm wide, glabrous but thinly pubescent in the superior ones, distantly and scantily often obscurely serrate with minute and obtuse tipped teeth, gradually attenuated towards the obtuse apex, slightly obtusely rounded at the base, frequently with very short and depauperate branches in their axils, deep-green above, rather soft, dispersed with very minute numerous glandular

dots, sub-triplinerved at the base, midrib prominent underneath, lateral veins loose and inconspicuous. Spike terminal, furnished with the bract-like leaves close below, erect, cylindrical or oblong- sometimes ellipsoidal-cylindrical, $1\frac{1}{3}$ – $4\frac{2}{3}$ cm long, 1 – $1\frac{3}{4}$ cm broad, composed of confluent verticillasters and numerous crowded flowers. Bracts minute, linear or linear-lanceolate, usually shorter than the flowers, but often longer than them in the inferior ones, pubescent and ciliated, covered with many minute glandular dots; bractlets shorter than the flowers, linear, narrowed below, pubescent and ciliated. Verticillasters sessile, closely placed, densely flowered. Flowers minute, with very short and pubescent pedicels, 7–8 mm long. Calyx obovoid-campanulate, $2\frac{1}{2}$ –3 mm long, obtuse at the base, thin in texture, pubescent and glandular externally, thinly and very shortly even obscurely pubescent internally, with 5 main nerves running each towards one lobe; veinlets loose and obscure; lobes 5, equal, deltoid, acute, ciliated, erect, shorter than the tube. Corolla violet-lilac, exserted, $3\frac{1}{2}$ –4 mm long, thin; tube included or just exserted, narrow, somewhat and gradually enlarged above, with longitudinal nerves, glabrous; limb 4-fid, spreading, subequal, slightly pubescent and glandular externally, often very thinly ciliated, the posterior lobe broader than the anterior ones, deltoid, acutish, the anterior lobes 3, ovate, obtuse. Stamens 4, much exserted, inserted on the corolla-tube and alternate to the lobes, straight at full anthesis, 5–6 mm long, sub-equal, the two posterior ones very slightly shorter than the two anterior ones; filament filiform, minutely villosulate below and densely and manifestly barbate at the middle part with delicate violet-lilac hairs which are seen to be moniliform under the microscope; anther minute, terminal, sub-reniform, confluent into 1-cell, transversely dehiscent on the fore side, the valves explanate after dehiscence. Disk equal, entire, thick, somewhat longer than the ovarian lobes. Style longer than the stamens, filiform, glabrous, 2-fid at the top; lobes divergent, slenderly subulate, slightly curved outwards, equal in length. Ovary-lobes 4, minute, erect, ellipsoidal, slightly compressed, glabrous. Nutlets ellipsoidal, smooth. Flower August-September.

Nom. Jap. *Midzu-toranoo*.

Hab. Prov. SHIMOOSA (Herb. ! Sc. Coll. Imp. Tokyo, Aug. 23, 1879), Iwase (Herb. ! l. c. July 21, 1884), Yawata (Herb. ! l. c. Sept. 24, 1885), Mama (*T. Makino* ! Sept. 1888, Sept. 1893, Oct. 6, 1895); Prov. MUSASHI: Koiwa-mura (*T. Makino* ! Sept. 1888, July 1891), Bot. Gard. Imp. Univ. Tokyo, cult. (Herb. ! Sc. Coll. Imp. Univ. Tokyo, Sept. 15, 1883).

There are two species of the genus in Japan: one is *D. verticillata* Benth. (= *D. japonica* Miq. Prol. fl. Japon. p. 34; Franch. et Savat. Enum. pl. Jap. I. p. 363) and the other the present one. *Midzu-toranoo* in Inuma's Sōmoku-Dzusetsu II. fol. 51 which is not evidently *D. japonica* Miq., corresponds to my species. It is found in marshy places in the middle and northern parts of this country, while *D. verticillata* Benth. is principally growing in rice-fields in the southern part, and the vulgar name of the latter species is *Midzu-nekonoo* named before by myself.

I have the great pleasure of naming this nice species in honour of *Rigakuhakushi* Ryōkichi Yatabe, the author of *Iconographia floræ Japonicæ*, and the director of High Normal School.

***Chelonopsis longipes* Makino.**

Perennial herb. Stems pretty tall, ascending or erect-standing from woody stock, usually simple, obtusely tetragonous, leafy, pubescent or pilose-pubescent above but nearly glabrate below, purplish. Leaves opposite, short-petioled, oblong-lanceolate, about 8–15 cm long, 2–4½ cm broad, narrowly acuminate with obtuse tip, somewhat narrowed towards the base and cordate-auriculate, dentate-serrate with numerous teeth which are callose-mucronate, deltoid, and sub-regular, rather thin, very sparingly pubescent above, much pubescent along the nerves on both surfaces, green above and paler beneath; midrib slender and prominent underneath; lateral veins several on each side of the midrib, arcuate running upwards, with reticulated veinlets between themselves. Cymes opposite, axillary, 2–5-flowered; common peduncle long and slender, 2½–4 cm long, usually strict, erect-patent, pubescent with spreading white hairs; secondary peduncles, and tertiary if any, short and ¾–1 cm long, pubescent; bracts few, situated on upper portions of the secondary or tertiary peduncles, linear, callose-obtuse, attenuated below, ⅔–1⅓ cm long, pubescent and ciliated. Flowers very shortly pedicellate. Calyx obovoid-campanulate, pubescent and ciliated, about 1 cm long when in flower, but ellipsoidally inflated campanulate, nervoso-reticulate, sub-glabrate, and 1⅓–1½ cm long when in fruit, slightly compressed, bilabiate at the top, with a broad throat, the upper lip very slightly longer than the lower, shortly 3-fid and the lower 2-fid with deltoid and acutish teeth, 10-nerved with fine transverse reticulated veinlets, persistent. Corolla large, much exerted, turned outwards, about 4 cm long, thinly pubescent above, purple; tube tubulous-campanulate, slightly compressed, straight, narrowed below; limb bilabiate

with an open throat, posterior lip, sub-horizontal, rounded or obscurely 2-fid; anterior lip much larger, 3-fid, lateral lobes rounded and obtuse, middle lobe broader and longer than the lateral ones, horizontal, rounded or sub-emarginate, irregularly crenulate, with 2 longitudinal ridges within. Stamens 4, didynamous, included, inserted on the base of the corolla-tube; filament complanate-filiform, spreading-villose; anthers approximate, 2-celled, cells divergent, ciliated at each end. Style filiform, somewhat longer than the stamens, glabrous, 2-fid at the top, posterior lobe subulate, anterior one much shorter and obtuse. Ovary-lobes 4, minute, erect, rounded-ovoid, compressed, smooth, situated on sub-unequal thick disk. Nutlets 4, included in the persistent and inflated calyx, erect, large, ovate to oblong, obtuse, compressed, about 1 cm long; carpels loose, wing-like at the upper portion, smooth, with many longitudinal nerves. Seeds ovate to oblong, obtuse, compressed, lenticular.

C. moschata var. *longipes* Makino, Notes on Japan. Plants, XV. in Bot. Magaz., Tokyo, VI. p. 54.

Nom. Jap. *Tani-zyakōsō* (T. Makino).

Hab. Prov. Tosa in Shikoku: Shinzyō-mura near Susaki in Takaoka-gōri (T. Makino! 1885), Tosa-yama (T. Makino! Oct. 6, 1892), Sakawamura, cult. (T. Makino! Nov. 1892), Mt. Washio-yama near Kōchi (K. Naganuma! Oct. 1885).

A rare species coming nearest to *C. moschata* Miq., but with leaves narrower, peduncles much longer and more slender, corolla smaller and intensely purplish. It is almost inodorous even when we touch it.

Aster (Asteromæa) **Savatieri** Makino in Bot. Magaz., Tokyo, VIII. 1894, p. 174.

Rhizome shortly creeping, often slightly ligneous, emitting fibrous roots. Stem erect, slender, pubescent, striated, leafy, 25–60 cm high. Leaves thinly pubescent on both surfaces, ciliated, erect-patent, rather loosely sparse on the stem and tufted at the apical end of innovations; basal ones usually rather densely crowded, long and narrowly winged-petioled, ovate, rounded ovate, or ovate-lanceolate, $2\frac{1}{2}$ –5 cm long, $1\frac{1}{2}$ –4 cm broad, usually shorter than the petiole, coarsely pluri-dentate with mucronato-obtuse or mucronato-acute teeth, mucronato-obtuse at the apex, obtuse or rounded or even subcordate and narrowly decurrent into the petiole-wings at the base; cauline ones ovate-lanceolate, sometimes lanceolate, about 6–9 cm long, 2–3½ cm broad, coarsely pluri-dentate, mucronato-acute or obtuse at the

apex, attenuated towards the base into the short and broad petiole, superior ones gradually smaller and very often entire, at length passing into sessile bracts. Inflorescence terminal, loosely 1-few-several-flowered; peduncle elongate, straight, striated, ascending, bare or bracteate, terminating with a single flower. Head 3-4½ cm in diameter. Involucre broadly campanulate; involueral-bracts 3-seriate, somewhat curved outwards, slightly unequal in length, subulate-lanceolate, 4-8 mm long, gradually attenuated into a very sharply acute or acuminate apex, glabrous or slightly pubescent, wholly green with a rather distinct midrib, thicker towards the base, irregularly ciliated at the margin, the inner ones with hyaline membranaceous edges. Receptacle conical, pitted, glabrous or intermixed with white tomentose hairs. Ray-flowers about 10-19 in each head, pistillate, sometimes furnished with rudimentary stamens; corolla bluish-lilac: ligule spatulate or oblong-linear, obtuse and tridentate at the end, 1½-2 cm long; tubular part short, very thinly villose. Disk-flowers numerous, hermaphrodite; corolla yellow, glabrous: lobes 4-5, acuminate deltoid-lanceolate, revolute backwards; throat campanulate; inferior tubular part narrow. Stamens exserted; anther acutish deltoid-ovate at the sterile tip, obtuse or very shortly and obtusely lobed at the base; filament barely shorter than the anther. Ovary obovoid-cylindrical, slightly compressed, 1½-2 mm long, obscurely angular, glabrous; style slender, filiform, glabrous; arms, in the ray-flowers, minute, lanceolate or oblong-lanceolate, margined wholly with stigmatic lines, and glabrous on the outside; in the disk-flowers, narrowly linear-lanceolate, attenuated above, papillose hairy outwards, stigmatic lines short and appendage very much longer. Pappus none, but very rarely with a ciliated, white, short, often incised and sub-paleaceous seta. Achenium clavate-oblong, slightly compressed, about 3½ mm long, glabrous, obscurely ribbed, 3-4-nerved; seed clavate-obovate, slightly compressed with broad cotyledons.

Boltonia Savatieri Makino in Bot. Mag., Tokyo, VIII. p. 174.

Asteromaea Savatieri Makino in sched. herb. Sc. Coll. Imp. Univ. Tokyo.

Boltonia incisa Miq. Prol. fl. Jap. p. 102, excl. Syn. non Benth.

Boltonia cantoniensis Fr. et Sav. Enum. pl. Jap. I. p. 226, et *Aster cantoniensis* Fr. et Sav. l. c. II. p. 398, non *Hisutsua cantoniensis* DC. Prodr. VI. p. 44.

Nom. Jap. *No-shunkiku*, *Miyama-yomena*.

Hab. Prov. SETSU: Mt. Maya-san (Herb! Sc. Coll. Imp. Univ.

Tokyo); Prov. YAMASHIRO: Kyōto (l. c. !); Prov. BUZEN in Kyūshū: Mt. Iwagadake (l. c. ! July 17, 1882); Prov. SHINANO: Mt. Togakushi-yama (l. c. ! July 12, 1884; *S. Matsuda* ! July 28, 1893); Prov. UZEN: Shōryūzima (*T. Nagazawa* ! June 12, 1892); Prov. ISE: Tsu, cult. (*Z. Umemura* ! June 1893); Prov. SAGAMI: Mt. Hakone (*T. Makino* ! Sept. 10, 1886), Isl. Enoshima, cult. (*T. Makino* ! April 22, 1891).

This species grows in the mountainous districts, and is characterized by the absence of the pappus and the taper-shaped involucre-bracts. Sometimes we meet with sharply dentate- and narrowleaved forms.

Hisutsua cantoniensis DC. (= *Matricaria cantoniensis* Lour.) is according to some creditable authors a synonym of *Aster indicus* Linn. (= *Boltonia indica* Benth.; *Asteromæa indica* Bl.), and the latter one is figured on J. Banks' *Icones selectæ plantarum*, 1791, tab. 29 by E. Kämpfer under the name of the *Aster hispidus* [non Thunberg *Flora Japonica* p. 315, excl. syn. Kämpf. *Amoen. exot. fasc. V. p. 876.*], this is the commonest herb in this country, popularly called *Yome-na*, and evidently a species different from my plant. It is also readily distinguished from *Aster incisus* Fisch., which does not occur in this country, especially by the absence of the pappus, involucre-bracts which are not fusco-marginate, and leaves which are not inciso-serrate.

Asteromæa is by no means to be considered more than a section of the *Aster*, as we find no sufficient characters to keep it as a distinct genus.

(*To be continued.*)