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## A Contribution to the Knowledge of the Flora of Nippon.

*(Continued from p. 18.)*

By

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**Asarum tamaense MAKINO, nov. sp.**

An evergreen perennial; rhizome repent, with short internodes, terete, about 3 mm. across; roots fibrous, long, thick, stout-filiform, pale, loosely with rootlets,  $1\frac{1}{2}$ -2 mm. across, aromatic. Leaves 1-2 at the apical end of the rhizome, long-petiolate, rounded-ovate or oval-ovate, obtuse at the apex, cordate or sometimes subsagittate with a close sinus and rounded or sometimes ovate basal lobes,  $4\frac{1}{2}$ - $9\frac{1}{2}$  cm. long,  $3\frac{1}{2}$ - $7\frac{1}{2}$  cm. wide, entire and remotely ciliated with depressed hairs on margins, thickly herbaceous in texture, green subshining very thinly pubescent (hairs denser towards the margin) and impressedly reticulated nervate above, usually with pale greenish clouded variegation on both sides at the midrib on the upper surface, subglaucously pale-greenish glabrous and shining beneath; midrib prominent beneath; veins few on each side, pinnate, erect-patent, the lowest one with 2 branch-veins outwards; veinlets anastomosing, conspicuous by the impression above but inconspicuous by the sinking condition beneath; petiole terete, narrowly canaliculated in front, glabrous, smooth, dark-purple, 2-3 mm. across,  $3\frac{1}{2}$ -13 cm. long. Flower pedicellate, thickish,  $2\frac{1}{2}$ -4 cm. across; pedicel 1-3 cm. long, terete, glabrous, smooth, somewhat enlarged above, greenish or purplish. Calyx-tube short-tubulose, slightly enlarged above, somewhat contracted at the top, about  $1-1\frac{1}{4}$  cm. long,  $1\frac{2}{5}$ - $1\frac{1}{2}$  cm. across, smooth, glabrous, depressedly truncate-subobconical or shortly obconical at the base, dark-purplish or purplish-maculate externally, prominently tessellate-reticulated and dark-purple internally; limb 3-parted, the lobes patent, depressedly ovate-deltoid, acute or obtuse at the apex, crispate and sometimes pale on the entire margins, often recurved, glabrous and

dark-purplish or purplish externally, puberulous and dark-purple or purple internally, 11-21 mm. long above the orifice, 13-23 mm. wide, closely and transversely lamellate below with greenish or white edges; the orifice wide, with entire-margined membranaceous annulus (about 2 mm. broad). Stamens 12, inserted at the basal portion of the ovary, erect, much lower than the styles; filament short, compressed antero-posteriorly, thick, smooth, glabrous, deep-purple, about 1-1½ mm. long; anther extrorse, 2-celled, obtuse at the apex, the outer ones ovate-subulate, the inner ones (alternate with the styles), oblong-elliptical; cells linear, slightly apart each other, adherent to the thick deep-purple connective, 2½-3 mm. long. Styles 6, erect, straight, compressed laterally, slightly attenuated above and apart each other, thick, purple, glabrous, smooth, about 4 mm. long; stigma terminal, roundish-truncated on the upper surface, with a short horizontal curved downwards obtuse-tipped spur-like projection outwards, about 2 mm. long. Ovary superior, but the basal portion slightly inferior, depressed-rounded, about 7 mm. across, concave in centre on the top within the styles, 6-locular; ovules 2-serial in each loculament. Seeds several, shortly obovate, smooth, shining, rufous, provided with a large thick pale caruncle on one side.

Nom. Nipp. *Tama-no-kan-aoi* (nov.).

*Hab.* Prov. MUSASHI: Noborito (T. MAKINO!).

This species is found growing on the shady hills by River Tama-gawa. It has the close resemblance to *A. asaroides* (MORREN ET DECNE.) MAKINO (= *Heterotropa asaroides* MORR. ET DECNE. = *A. Thunbergii* AL. BR. = *A. virginianum* THUNB. non L. = *Maruba-kan-aoi* [Nom. Nipp.]), but it differs chiefly from the latter by the form of the styles.

***Asarum kooyanum* MAKINO, nov. sp.**

A perennial, sempervirent; rhizome shortly creeping or oblique, terete, often loosely ramose; roots fibrous, long, stout, terete, yellowish-pale, with fine rootlets, aromatic. Stem very short, with abbreviated short internodes, terete, glabrous, dark-purple. Leaves 2 to a stem, apical, long-petiolate; blade ovate, obtuse or acute at the apex, cordate-sagittate with an open (but close in the bottom) sinus at the base, entire or obscurely depressed-crenate on margins, about 6-9 cm. long, 4-6½ cm. broad, thickly herbaceous in texture, deep-green and often greenish-variegated along the midrib and veins above, puberulent on the nerves and towards the margins above, paler glabrous and shining beneath; midrib prominent beneath, the basal main veins 2 or 3 on each side, radiate, arcuate upwards, the lateral veins about 3-5 on each side; veinlets inconspicuous superficially, areolae many and with a dichotomously ramose free venule; petiole elongate, terete, with a narrow groove in front, glabrous, smooth, dark-purple, about 3-8½ cm. long, 2 mm. across. Scales broadly ovate; bract ovate-oval, dark-greenish, membranaceous, folded, carinate dorsally, ciliated, loosely veined. Flower from the axil of a bract, pedicellate, solitary, turned laterally, terminating the ultimate branch, 13-16 mm. long, 9-12 mm.

across, viridulo-purpurascens, glabrous; lobes 3, erect-patent, arcuately curved backwards, subdeltoidly semiorbicular, shortly arcuate or angulate-obtuse at the apex, entire, thickish, smooth on the outside, smooth or uneven on the internal surface, 3-nerved,  $4\frac{1}{2}$ -6 mm. long,  $6\frac{1}{2}$ -10 mm. broad; the throat scarcely contracted, annulate with a narrowly elevate fold within; tube cylindrical-urceolate, scarcely enlarged above, loosely clathrate uneven externally, 9-nerved longitudinally (the 3 running to a lobe), truncate-rounded at the base, thickish, clathrate elevate-reticulated with purple ridges internally. Stamens 12, inserted to the upper portion of the ovary, the style-opposite 5 shorter; filament very short, glabrous, purple; anther adnate, extrorse, with yellowish pollen, elliptical-oblong; connective thickish, purple, slightly projecting beyond the anthers with an obtuse tip, about  $1\frac{1}{2}$  mm. long in the style-opposite 5, but about 2 mm. long in the style-alternate 5; anther-cells linear, slightly apart each other. Styles 6, erect-patent, thick, 3 mm. long, purple with a bifid very short tip at the apex and a groove in back above the stigma; stigma lateral at a short distance from the tip of the style backwards, vertically elliptical, elevated,  $\frac{3}{8}$  mm. long. Ovary slightly semi-inferior, slightly attenuated above into a short thick columnar form, about  $4\frac{1}{2}$  mm. long, 6-celled; ovules many, 2-serial in each cell, obovoid, smooth, pale.

Nom. Nipp. *Kôya-kan-aoi* (nov.).

*Hab.* Prov. IGA: Uyeno, cultivated from Kôya-san, prov. Kii (T. KUROKAWA!).

This *Asarabacca* is very closely allied to *A. Blumei* DUCHARTRE, differing from the latter by the smoother surface and thinner texture of the calyx-lobes.

***Azalea amagiana* MAKINO, n. sp.**

*Rhododendron amagianum* MAKINO, MSS.

A deciduous shrub or small tree, attaining about 5 m. in height; trunk griseo-gilvous; branchlets 1-5-verticillate, erect-patent, usually slender, spreading, usually arcuate upwards, griseo-gilvous, glabrous, but densely pubescent with white soft hairs when young. Leaves ternary (3-verticillate) at the top of branchlets, petiolate, spreading, rhombic, acute or acuminate with a mucronate tip at the apex, widely cuneate towards the base, obscurely crenulato-serrulate with depressed numerous minute teeth on the ciliated margins but entire below, green and thinly pilose with long appressed drab hairs above, pale-greenish and very thinly pubescent with appressed gilvous hairs but pubescent on the midrib and veins beneath, chartaceo-coriaceous or chartaceous; venation finely impressed with numerous reticulated areole above, numerous anastomosing beneath,  $4\frac{1}{2}$ -11 $\frac{1}{2}$  cm. long, 3-9 $\frac{1}{2}$  cm. wide; midrib impressed and densely pilose at the base above, prominent and greenish-pale and pubescent with soft pale-gilvous appressed hairs which are much denser below beneath; veins 4-5 on each side, erect-patent, impressed above, prominent beneath, the lower ones closer; petiole short, stout, canalculated in

front, light green, densely covered with appressed pale-gilvous longish pubescent hairs, 5-10 mm. long. Flower-bud terminating the branchlets, solitary, erect, narrowly avoid, imbricated with broad greenish scales which are densely ciliated with gilvous hairs, attaining about  $2\frac{1}{2}$  cm. long. Flowers few-nubellate, shortly pediceled, turned laterally, red-orange; pedicel stout, erect-patent, straight, densely pubescent with gilvous appressed hairs, about 6-13 mm. long. Capsule narrowly ovoid, covered with gilvous appressed hairs,  $1\frac{1}{3}$ - $1\frac{2}{3}$  cm. long.

Nom. Nipp. *Amagi-tsutsuji* (nov.).

Hab. Prov. IDZU: Mt. Amagi (T. MAKINO!).

This *Azalea* is one in the group of *A. Weyrichii* O. KUNTZE (= *Rhododendron Weyrichii* MAXIM.).

***Sasa amagiensis* MAKINO, nov. sp.**

A densely growing evergreen *Sasa*, attaining about  $1\frac{3}{8}$  m. in height; rhizome hypogaeous, creeping. Culm erect, but often ascending at the base, attaining about 8 mm. in diameter, terete, fistulose, thick-walled, smooth, glabrous, green (but often yellowish in the aged ones) or purple in the sun, loosely ramose with a branch to a node (branches more numerous in the aged culms); nodes apparently prominent, glabrous; internodes short, about 6-15 cm. long, bare from the main sheaths above, white-bloomy under the nodes; the main sheath rather short, remaining in dry state in the newer culms but then falling in decay in the older culms. Leaves pinnato-palmately arranged towards the top of the main culm and branches, about 5-7 in number, very shortly petiolate, oblong-lanceolate, acuminate with a very sharp tip at the apex, rounded or obtuse at the base, entire and spinuloso-ciliated on margins, chartaceous or coriaceous-chartaceous, glabrous on the both surfaces, green above, glaucous or subglaucous-greenish beneath, about 10-29 cm. long, 3-7 cm. wide, narrowly and conspicuously white decayed on the both margins in winter; midrib prominent beneath, greenish; veins 7-13 on each side; veinlets finely tessellate with the transversely rectangular areolae; petiole compressed, subcuneate-rectangular, thickly coriaceous, subcarinate and glabrous dorsally, puberulent in front towards the base, green but sometimes purplish in front in the sun, 3-12 mm. long; ligule very short, coriaceous, truncate or rounded-truncate and ciliated on margin, puberulent dorsally, 1-3 mm. long; shoulder-fimbriae spinescent, radiate, attaining 7 mm. long, deciduous; sheath closely encircled, coriaceous, many-nerved, green or shaded with purple in the sun. Panicle long-peduncled, basal medial or apical, erect, exerted beyond the leaves, about 7-15 cm. long, ovate, loosely ramose; rachis erect, straight, slender, green, puberulent; branches erect-patent, puberulent, few-spiculiferous, green; peduncle slender, terete, fistulose, thin-walled, smooth, glabrous, green, with several nodes and several sheaths. Spicule pedicellate, about  $2\frac{1}{2}$ -5 cm. long, linear, straight, compressed, about 5-6-flowered, purpurascens-viridescent; rachilla flexuous, greenish, puberulent; pedicel gracile, straight, puberulent, green, 10-30 mm. long. Flowers alternate, distichously arranged, sessile, parallel to the rachilla,

lanceolate, shortly acuminate at the apex, 7-10 mm. long. Glumes 1-2, angustately subulate, puberulent, 2-3 mm. long. Flowering glume ovate, acute at the apex, thin, 4-5-nerved on each side, carinate dorsally, ciliated-margined, puberulous on the dorsal carina above. Palea as long as the flowering glume, shortly bifid with the acute teeth at the apex; 2-carinate, pubescent on the carinae towards the apex. Lodicules 3, ovate, ciliated, longer than the ovary, 2 mm. long. Stamens 6; filament filiform; anther linear, purplish-yellow, 4 mm. long. Ovary clavate-ovate, 1½ mm. long. Style 3-branched, plumose, 4 mm. long. Caryopsis narrowly ovoid, acute at the apex, smooth, brown, 7 mm. long.

Nom. Nipp. *Amagi-zasa* (nov.).

*Hab.* Prov. IDZU: Mt. Amagi (J. SUGIMOTO!, T. MAKINO!).

This *Sasa* has especially the rather stout culm, conspicuously prominent nodes, and short internodes. It is found growing abundantly on the mountain of Amagi.

***Lactuca dracoglossa* MAKINO, nov. sp.**

A robust annual, attaining about 2 m. in height, with creamy juice. Stem stout, simple, erect, terete, greenish-glaucous, sometimes with a purplish shade, glabrous, hard, with a large white soft pith in centre, hollowed above, about 1½-3 cm. in diameter, leafy throughout; root branched, with many rootlets, pale. Leaves numerous, approximate, sparse, erect-patent or spreading, sessile, lanceolate or oblanceolate, gradually cuneate-attenuated towards the base and acute-truncate or acute at the base, acuminate with a sharp point at the apex, irregularly dentate with mucronate depressed teeth on margins, but entire upwards, convex above and concave beneath, membranaceous and flaccid in texture, glabrous, glauco-green on both surfaces, 23-40 cm. long, 7-14 cm. wide; midrib strongly with an acutely carinate back and greenish-glaucous and often shaded with purple, but light green towards the base and apex beneath, hollow, very shallowly furrowed and greenish with a purple shade above (purple when young); veins numerous, spreading, more or less arcuate upwards, purpurascenscent, prominent beneath; veinlets fine, more conspicuous beneath. Panicle terminal, large, erect, oblong-ovate, many branched, very numerous and densely flowered, attaining about 60 cm. long, 20 cm. across; rachis terete, straight, greenish-subglaucous; branches erect, with abbreviated short many and bracteolate branchlets, terete, greenish, glabrous; bracts leafy, often bifid or trifid but the superior ones gradually decreasing in size, the much superior ones minute and narrow-subulate; bracteoles small, appressed, obtuse at the apex, herbaceous, green, subcarinate dorsally, pale-scarious and ciliated on margin, ovate-subulate but shorter and ovate-deltoid in those approached under the involucre. Heads pedicellate, about 13 mm. long; involucre ovate at the base, but elongatedly narrowed upwards, glabrous; scales imbricated, obtuse at the apex, herbaceous, green, pale and scarious-margined, entire but ciliated (but the inner ones glabrous below) with white fine hairs, glabrous



*Lactuca dracoglossa* MAKINO.

externally, scantily pilose internally, obtuse and hardly carinate dorsally, the most basal one deltoid, the basal ones deltoid-ovate, the next ones narrowly ovate, the upper ones linear-lanceolate and about 11 mm. long; fruiting involucre globular at the base measuring about 7 mm. in diameter and beaked above, measuring about 8 mm. in length; the scales at length dried and reflexed exposing the achenes. Receptacle plane, pitted, about 3-7 mm. broad. Flowers about 2 cm. across, yellow, 3-4 rarely 8 to a greenish glabrous branchlet, but one to the few branchlets in the apex; florets about 30 in number; ligule ligulate, laciniatedly 5-fid at the apex, the tube angustate, white, white-pubescent above; syngenesious anthers narrow, yellow; filament yellowish, glabrous; style puberulent above, yellow, the branches narrow, very finely puberulent dorsally. Pappus white, long, fine, 6-7 mm. long, with very minute spinules. Ovary obovate, compressed, glabrous, smooth, yellowish-pale,  $1\frac{1}{2}$  mm. long. Achene compressed, elliptical, acute on both ends, entire-margined, broadly marginal, with an elevated vertical costa on both surfaces, with a short beak at the apex, black, about 4 mm. long,  $2-2\frac{1}{2}$  mm. broad. Flowers late in autumn.

Nom. Nipp. *Ryûzetsu-sai* (龍舌菜).

Hab. NIPPON, cultivated for the bait of birds especially hen.

A species allied to *L. laciniata* (HOULT.) MAKINO.

(To be continued.)