

Observations on the Flora of Japan.

(Continued from p. 130.)

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CHIMONOBAMBUSA MAKINO, gen. nov.

BAMBUSA Auct. pro parte, non SCHREB.

ARUNDINARIA Auct. pro parte, non MICHX.

PHYLLOSTACHYS Auct. pro parte, non SIEB. ET ZUCC.

The diagnosis will appear in the foregoing page.

This genus is more closely allied to *Arundinaria* than to *Bambusa* and *Phyllostachys*. The rhizome is monopodial. The feature of the inflorescence, spikelets, and flowers is similar to those of *Arundinaria*, and widely differs from those of *Bambusa* and *Phyllostachys*. The branches on the culm are in threes to each node. The culm is ringed often with the short ærial roots at the nodes; sprouts come up in the beginning of winter; culm-sheath is membranaceous and mar-moraceously purple-maculate; microphyll is minute or inconspicuous.

The following two species are comprised in this new genus: namely,

Chimonobambusa quadrangularis (FENZI) MAKINO, nom. nov.

Bambusa quadrangularis FENZI in Bull. Soc. Tosc. Ort. V. (1880), p. 401.

Arundinaria quadrangularis MAKINO in Bot. Mag., Tokyo, IX. (1895), p. 71.

Phyllostachys quadrangularis RENDLE in Journ. Linn. Soc. XXXVI. p. 443 (1904).

Bambos sikaktake SIEB. Syn. Pl. Oeconom. Jap. (1827), p. 6.

Bambusa sikaktaka ZOLLING. Syst. Verz. Ind. Archip. I. (1854), p. 57.

Nom. Jap. *Shikaku-dake* (meaning Four-cornered Bamboo), *Shihô-chiku* (meaning Four-sided Bamboo).

Hab. JAPAN, cultivated from China.

This bamboo has actually a close affinity with the next species, though both are apparently so different from each other.

✓ *Chimonobambusa marmorea* (MITF.) MAKINO, nom. nov.

Bambusa marmorea MITF. Bamb. Gard. (1896), p. 93 cum icon.

Arundinaria marmorea MAKINO in Descr. Prod. Forest. Exposit. Univ. 1900 Paris par Minist. d. Agric. et Comm., et in Bot. Mag., Tokyo, XIV. (1900), p. 63, no 32.

Phyllostachys marmorea ASCHERS. ET GRÆBN. Syn. Mitter-europ. Fl. II. 1 (1898–1902), p. 778.

Arundinaria nana MAKINO in Bot. Mag., Tokyo, XI. (1897), p. 160, excl. syn.

Arundinaria Matsumuræ HACK. in Bull. Herb. Boiss. VII. (1899), p. 716.

Chimonobambusa gracillima MAKINO, MS.

Bambusa nana β . *gracillima* KURZ, Catal. Pl. Hort. Bot. Bogor. (1866), p. 20.

Bambusa Kan-chiku Hort. ex MITF. l. c.

Bambos kantsik SIEB. Syn. Pl. Oeconom. Jap. (1827), p. 5.

? *Bambusa Santsik* ZOLL. Syst. Verz. Ind. Archip. I. (1854), p. 57.

Nom. Jap. *Kan-chiku* (meaning Winter Bamboo).

Hab. JAPAN, commonly cultivated and rarely spontaneous. This species is frequently in flower and in fruit.

var. variegata MAKINO.

Arundinaria marmorea var. *variegata* MAKINO in Descr. Prod. Forest. Exposit. Univ. 1900 Paris par Minist. d. Agric. et Comm., et in Bot. Mag., Tokyo, XIV. (1900), p. 63, no. 33.

Nom. Jap. *Chigo-kanchiku* (meaning Small Winter Bamboo).

Hab. JAPAN, cultivated.

A garden variety.

Shibataea Kumasasa (ZOLL.) MAKINO in Bot. Mag., Tokyo, XXVIII. (1904), p. 22.

Bambusa Kumasasa ZOLL. Syst. Verz. Ind. Archip. I. (1854), p. 57, n. 26; STEUD. Syn. Pl. Gram. (1855), p. 331, n. 33 (*Kumasaca*).

Phyllostachys Kumasaca MUNRO in Trans. Linn. Soc. XXVI. (1868), p. 39.

var. aureo-striata (REGEL) MAKINO.

Bambusa aureo-striata REGEL, Gartenflora (1865), p. 362, tab. 490, figs. 3-4.

Nom. Jap. *Shima-okamezasa* (nov.).

Hab. JAPAN, cultivated.

A rare garden variety. A leaf of this variety is also figured in Sir ERNEST SATOW'S "The Cultivation of Bamboos in Japan" (Transactions of the Asiatic Society of Japan, XXVII, 3, 1899).

Hovenia dulcis THUNB. Fl. Jap. (1784), p. 101; DC. Prodr. II. (1825), p. 40; SIEB. ET ZUCC. Fl. Jap. I. (1835), p. 135, tab. 73-74; MIQ. Prol. Fl. Jap. p. 220; FRANCH. ET SAV. Enum. Pl. Jap. I. p. 82; DIPP. Handb. Laubholzk. II. (1892), p. 532; SCHNEID. Ill. Handb. Laubholzk. II. (1912), p. 291, fig. 200.

Sicku, vulgo *Ken* et *Kenpokonas* KÆMPF. Amœn. Exot. (1712), p. 808 cum fig.

✓ **a. glabra** MAKINO.

Fruit (with the calyx-tube), pedicel, fleshy and ordinary portions of the peduncles glabrous. Seeds broader, orbicular, black.

Nom. Jap. *Kempo-nashi*.

Hab. Prov. MUSASHI (J. MATSUMURA!; T. MAKINO!; S. MATSUDA!); Prov. IWASHIRO (CH. ONODA!).

This is common in the eastern Japan.

***β. tomentella* MAKINO.**

Peduncle: the fleshy portion pulvereous, and the orginary portion pulvereo-puberulent. Fruit pubescent-tomentose with fulvous hairs; endocarp thinner; calyx-tube densely pulvereo-puberulent; pedicel pulvereo-tomentose. Seed oval, subfulvous-black.

Nom. Jap. *Kempo-nashi*.

Hab. Prov. TOSA (H. YAMAMOTO!; T. MAKINO!).

This variety is common in the western Japan.

✓ ***Lathræa Nakaharai* MAKINO, sp. nov.**

A leafless fleshy perennial; rhizome ramose, densely clothed with many thick broad scales and 3 cm. or less across. Scape simple, erect, thick, terete, glabrous, sparsely scattered with membranaceous bract-like scales, about 25 cm. long including the raceme. Raceme erect, about 12 cm. long, secundly densely many-flowered; rachis thick, glabrous; bracts oblong, narrowly oblong, or oblanceolate, obtuse, entire, membranaceous, glabrous, longer than the pedicels; main nerves usually 3, with loose veinlets. Flowers shortly pedicellate, erect-patent or patent, pale or slightly rosy, about $1\frac{1}{2}$ cm. long; pedicel erect, gracile, shorter than the bracts, nearly glabrous (very sparingly pilose), about 3–4 mm. long. Calyx tubuloso-campanulated, 4-fid, membranaceous, dispersedly patently piloso-pubescent externally, glabrous internally but slightly puberulent towards the margin of the lobes, pale, and very slightly rosy above and below, about 7–9 mm. long; tube usually slightly compressed laterally; lobes erect or slightly erect-patent, about $\frac{3}{4}$ as long as the tube, acutish-obtuse at the apex, entire, about 3-nerved; the upper 2 lobes somewhat longer and ovato-deltoid; the lower 2 lobes smaller and scarcely shorter, oblong-ovate; sinuses acuminate, purple at the bottom; main veins about 10, with more or less anastomotic loose veinlets between veins. Corolla exserted, narrow, slightly arcuate downwards, enlarged above, somewhat contracted above the base, compressed

laterally, glabrous internally and externally, bilabiate above with erect lobes, about 11–14 mm. long; the upper lip emarginate; lobes subsquare, rounded-truncate, folded, not ciliated, finely nerved, 4–5 mm. long; the lower lip shorter than the upper lip, equally 3-lobate, broad, retuso-truncate, finely nerved, more or less crispate towards the margin, about $2\frac{1}{2}$ –3 mm. long; lateral lobes somewhat oblique in form; sinuses closed or subclosed. Stamens didynamous, inserted at the throat, hardly exerted beyond the upper lip, the upper 2 slightly shorter, somewhat shorter than the upper lip; filament filiform, glabrous, about 4–5 mm. long in those of the upper stamens, but 7–8 mm. long in those of the lower stamens; anthers close, equal, elliptical, obtuse and villose with white hairs at the apex, deeply bifid with long and very sharply tapering points (which are solid) and villose with white hairs dorsally, dehiscing longitudinally, introrse, dorsifixed, horizontal, $2\frac{1}{3}$ – $2\frac{1}{2}$ mm. long; anther-cells parallel, narrowly oblong. Disk squamiform, hypogynous and anterior, small, thick, ovoid-ellipsoid, flat ventrally and rounded dorsally, $1\frac{1}{2}$ mm. long. Ovary oval-globose, very shortly attenuated at the base, 3 mm. long, $2\frac{1}{2}$ mm. across, glabrous, smooth, shallowly one-grooved on each lateral side, 2-celled; style slightly exerted, filiform, glabrous, about 13 mm. long; stigma capitate, scarcely bilobed.

Nom. Jap. *Gendzi-utsubo* (J. MATSUMURA).

Hab. Prov. IWASHIRO (GENDZI NAKAHARA! May 3, 1904).

A rare species; it is distinguished easily from *Lathræa japonica* MIQ. by the very thick large scales of the rhizome.

Actinostemma lobatum MAXIM. in FRANCH. ET SAV.
Enum. Pl. Jap. I. (1875), p. 175.

var. *semilobatum* MAKINO, var. nov.

Leaves: base 2-lobed on one side, and simply auriculate or sometimes hardly 2-lobed on the another side, sometimes mixed with the quite obscurely lobed or lobe-less ones (= '*racemosum*'-form) or completely lobed ones (= typical form = '*lobatum*'-form).

Nom. Jap. *Hanmomidzi-gokidzuru* (nov.).

Hab. JAPAN.

This variety occurs frequently in fields, and is an intermediate form between the *typicum* and *var. racemosum* MAKINO (= *A. racemosum* MAXIM.), probably a bastard between them.

✓ ***Actinostemma palmatum* MAKINO, nom. nov.**

Actinostemma lobatum var. *γ. palmatum* MAKINO in Bot. Mag., Tokyo, XX. (1906), p. 26.

Nom. Jap. *Tsutaba-gokidzuru*.

Hab. Prov. SHIMOOSA (KATSUMI YAMADZUTA! Oct. 1905).

***Prunella prunelliformis* (MAXIM.) MAKINO** in MIYOSHI ET MAKINO, Alp. Pl. Jap. I. (1906), tab. 22, fig. 122, et in INUMA, Somoku-Dzusetsu, ed. 3, III. (1912), 11, p. 9, tab. 8. (*Brunella*).

Dracocephalum prunelliforme MAXIM. in Mél. Biol. XII. p. 527 (1886).

Nom. Jap. *Tateyama-utsubogusa*.

Hab. JAPAN, alpine and alpestrine mountains.

This should be referred to the genus of *Prunella*.

***Prunella japonica* MAKINO, sp. nov.**

Perennial, caespitose, often multicauline, about 8–32 cm. high; rhizome erect or shortly repent, rooting, destitute of the stolon. Stems erect, or ascending-erect, simple, slender, tetragonous with a thinly pubescent line in each angle, with 3 pairs of leaves throughout; internodes elongate. Leaves lax, opposite, petiolate, ovato-oblong or narrowly so, obtuse at the apex, acutish to rounded and usually slightly decurrent to the petiole at the base, very thinly pubescent on both surfaces, thinly ciliated, obscurely crenate, $1\frac{1}{2}$ – $4\frac{2}{3}$ cm. long, $\frac{1}{2}$ – $2\frac{1}{3}$ cm. wide; veins loose, about 4–5 on each side, ascending; petioles erect-patent, ciliated, 1– $2\frac{1}{2}$ cm. long, but much shorter in the

uppermost leaves. Raceme terminal, erect, cylindrical, more or less enlarged below, densely flowered, $1\frac{1}{2}$ – $4\frac{1}{2}$ cm. long; rachis pubescent; bracts opposite, sessile, membranaceous, broad and subrhombic, cuspidate, but subulately or lanceolately leaf-like in the lower ones at the apex, entire and villosa-ciliated on margin, villose dorsally, flabelately veined, viridescent above, scarious below, about 7–11 mm. broad, the lowest pair often leafy; veins arcuate, reticulated towards the margin. Verticillasters condensed, 6-flowered, 3-flowered to a bract. Flower small, pedicellate, about 11 mm. long; pedicels pubescent, ebracteolate, $1\frac{1}{2}$ –3 mm. long. Calyx about 7–8 mm. long, depressed, green but purpurascens above, patently villose except the upper and dorsal portions, rigidly membranaceous, ciliated, strongly veined, 2-labiate, persistent, with 10-nerves and reticulated veinlets; upper lip broader, ovato-square, shallowly 3-lobate, very minutely ciliated; sinus small, deltoidly open; midlobe much broader, subtruncato-angulate, shortly spinulose at the apex; lateral lobes often scarcely shorter, oblique and spinescent-tipped; lower lip equal to or hardly shorter than the upper lip, ovate, 2-fid with deltoid-subulate spinescent-tipped erect lobules; tube turbinate, shorter than the lip. Corolla deep-violet, 2-labiate; upper lip arched, broadly elliptical, subcrenato-emarginate at the apex, with a pubescent carina dorsally, 4 mm. long; lower lip spreading, 4–5 mm. broad, $3\frac{1}{2}$ mm. long; midlobe broadly orbicular, concave, subfimbriato-denticulated on margin, about $3\frac{1}{2}$ mm. broad; lateral lobes much smaller, oval-ovate, obtuse; tube inflated above, slightly pubescent in front, provided a pubescent ring above the base, about 8 mm. long. Stamens didynamous, shorter than the upper corolla-lip, curved forwards; anterior pair longer and inserted in the middle of the tube; posterior pair shorter and inserted in the lower portion of the upper-lip; filaments stout, glabrous, divaricately bifid at the tip, the sterile one subulate, tapering, the other antheriferous; anther about $1\frac{1}{4}$ mm. long; anther-cells horizontally diverging, fusiform-oblong, puberulent on margins; connective

dorsally, short, dilated. Disk as long as the ovary-lobes, thick, shortly 4-lobed above, the anterior 2-lobes slightly longer. Style very scarcely exceeding the anterior anthers, filiform, glabrous; stigma bifid, arms nearly equal, narrowly subulate, curved dorsally. Ovary-lobes 4, erect, ellipsoid, obtuse at the apex, smooth, glabrous, $\frac{1}{2}$ mm. long. Nutlets 4, erect, broadly obovate, rounded at the apex, compressed, smooth, glabrous, $1\frac{1}{3}$ mm. long, with the stout vertical pale 4 lines.

Nom. Jap. *Miyama-utsubogusa* (nov.).

Hab. Prov. ISHIKARI in Hokkaidô (Y. TOKUBUCHI! Herb. Sc. Coll. Imp. Univ. Tokyo, June, 21, 1892); Prov. SHIMOTSUKE (T. MAKINO! July 1913).

By the more cæspitose stems, and the smaller-sized and deeper-coloured flowers, and by having no stolon, this species differs from *Prunella vulgaris* LINN.

(To be continued.)



Makino, T . 1914. "Observations on the Flora of Japan. (Continued from p. 130.)." *The botanical magazine = Shokubutsugaku zasshi* 28, 153–160.
https://doi.org/10.15281/jplantres1887.28.329_153.

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DOI: https://doi.org/10.15281/jplantres1887.28.329_153

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