Observations on the Flora of Japan.

(Continued from Vol. XX. p. 97.)

By

T. Makino.

*Assistant in the Botanical Institute, Science College,
Imperial University of Tokyo.*

Arundinaria Owatarii Makino sp. nov.

Branches slender, numerous ramulose; nodes not prominent; internodes terete, fistulose, smooth, thickly walled; sheaths glabrous. Ultimate ramules gracile, with white waxy bloom under nodes. Leaves 6–13 cm. long, $\frac{1}{2}$ – $1\frac{1}{3}$ cm. broad, 1–3 to an ultimate ramule and placed at the top of it, approximate, angustato-lanceolate, strongly acuminate, acute and very shortly petiolate at the base, spinuloso-ciliated on margins, glabrous on both surfaces, green above, glaucous beneath, thinly chartaceous; midrib slender, prominent beneath; main veins 2–4 on each side; veinlets tessellate; petiole 1–2 mm. long, very minutely puberulous on the inner side; ligule short, truncate, puberulous dorsally; sheaths shorter than leaves, narrowly terete, slightly striate, ciliated, often purpurascens above, those in the lower portion of ramules provided with only a minute linear-subulate microphyll, the lower ones usually shorter than the internodes. Flower unknown.

Nom. Jap. *Yakushima-dake* (nov.).

Hab. Prov. ŌSUMI: Isl. Yakushima (*C. Ōwatari!* herb. Sc. Coll. Imp. Univ. Tokyo).

In our single specimen the culm is lacking. Probably a small and handsome bamboo. It seems to me to be allied to *Arundinaria japonica* Sieb. et Zucc. (Japanese *Ya-dake*), but is much smaller in every aspect.

Aster Kodzumanus Makino sp. nov.

Perennial, attaining about 9decim. in height. Rhizome shortly repent and then ascending, many-rooting. Stem erect, slender, terete, green and more or less striate often with purplish lines, branched, leafy but its lower portion naked from fallen leaves, glabrous but branches and peduncles thinly subscabro-puberulent. Leaves, sessile, more or less dense, erect-patent, lanceolate, acuminate with an apiculate tip, acutely attenuated at the base, coarsely few-serrate above the middle with apiculato-acute teeth, scabrous and green above, glabrous or subscabrous and somewhat paler beneath, scabrous-margined, triplinerved, the inferior ones attaining about 9 cm. long, $1\frac{1}{2}$ cm. wide, the superior ones gradually decreasing in size, firmly chartaceous when dry; midrib prominent beneath. Heads numerous or several or few, corymbosely disposed, $3-4\frac{1}{2}$ cm. in diameter; peduncles erect, gracile, 2-15cm. in length, disposed through with small sessile oblong-lanceolate bract-like several leaves with an apiculato-acutish tip and obscurely few-mucronate-serrate margins, and a few same leaves closely placed at the base of the involucre. Involucre hemispherical, about $1\frac{1}{4}$ cm. across; scales about 5-serial, imbricated, glabrous, very narrowly and very thinly scarious on margins and shortly subfimbriate towards the apex, usually 1-nerved, rounded at the apex; the outer oblong and thicker; the middle spathulately narrow-oblong; the inner spathulately lato-linear or linear-oblong, membranaceous, light green and shade with purple above, about 10mm. in length; both the outer and middle green and broadly margined with purple. Receptacle hardly convex, naked, foveolate. Ray-flowers many, patent; ligule linear-ligulate, hardly enlarged above, acutish and minutely 3-denticulate at the apex, 5-6-nerved, lilac-purple; tube about 3mm. in length, adpressed-puberulent. Disk-flowers numerous; corolla about 6mm. long, yellow, but at length turned into purplish above and greenish below; tube a little shorter than those of the ray-flower, adpressed-puberulent as is the lower portion of the limb; limb campanulate, slightly longer than the tube; lobes 5, ovate or subdeltoid-ovate, acuminato-acute, revolute. Pappus numerous, filiform, spinuloso-hispidulons, pale-drab; those in the ray-flower

somewhat exceeding the double length of the tube ; those in the disk-flower slightly longer than the corolla. Anthers somewhat exserted, obtuse and inappendiculate at the base ; connective-tip subulato-ovate ; filament glabrous, filiform, as long as the anther. Style erect, glabrous ; it in the ray-flower twice as long as the corolla tube ; arms linear, obtuse, glabrous on margins ; it in the disk-flower exserted ; arms lanceolate, acute, minutely ciliated half above. Ovary obovoid-oblong or narrowly so, adpressed-piloso-puberulous ; annulus minute and short. Achene (immature) about $2\frac{1}{2}$ mm. long, obovoid, compressed, pilose-puberulous with white and adpressed hairs.

Nom. Jap. *Higo-shion* (nov.).

Hab. Prov. Higo (*H. Kōdzuma* ! Sept. 30, 1906).

This species comes nearer to a variety of *Aster trinervius* Roxb., but the stem is taller, head larger, and involucrel-scale broader.

Streptolirion cordifolium (Griff.) O. Kuntze, Rev. Gen. Pl. p. 722.

Tradescantia cordifolia Griff. 'Priv. Journ. p. 208.'

Streptolirion Griffithii Kurz.

Streptolirion volubile Edgew. in 'Proc. Linn. Soc. I. (1845) p. 254,' et in Trans. Linn. Soc. XX. p. 90, tab. 2 (1845) ; Wight, Ic. Pl. Ind. Or. p. 32, tab. 2081 ; Walp. Ann. I. p. 885, et VI. p. 163 ; Clarke, Comm. et Cyrt. Beng. p. 59, tab. 40, et Commelin. in DC. Monogr. Phanerog. III. p. 261 ; Franch. Pl. David. I. p. 311 ; Hook. fil. Fl. Brit. Ind. VI. p. 389 ; Schönl. in Engl. et Prantl, Nat. Pfl.-Fam. II. 4, p. 67 ; N. E. Br. in Journ. Linn. Soc. XXXVI. p. 159 ; Diels in Engler's Bot. Jahrb. XXIX. p. 237, et XXXVI. Beiblatt, p. 12.

Nom. Jap. *Aoi-kadzura* (nov.).

Hab. Prov. Bitchū (*Z. Yoshino* ! Oct. 14, 1906).

Distrib. India (Himalaya, Khasia), Burma, and China.

New to the Flora of Japan.

(*To be continued.*)