Observations on the Flora of Japan.

(Continued from p. 94.)

by

T. Makino.

Utricularia (Oligocista) **nipponica** Makino sp. nov.

A minute annual, 9–21 mm. high; rhizome filiform, white, creeping in mud, sparsely utriculiferous and thinly puberulent with very minute patent hairs as well as roots and the lower portion of leaves; roots filiform, white, loose; utricles shortly pedicellate, obliquely oval-ovoid. Leaves loosely placed on rhizome, very narrowly linear, gradually attenuated below, obtuse, entire, glabrous, 1-nerved, green above, white and in mud below, 3–6 mm. long, about $\frac{1}{5}$ mm. broad. Scape erect, 1–3-flowered in the apical portion, simple, capillary, terete, glabrous, with 2–3 apartly placed minute scales; scales subulato-deltoid, acuminate, entire, erect-patent or adpressed, fixed by the base, $\frac{1}{3}$ – $\frac{1}{2}$ mm. long. Flowers minute, $1\frac{1}{2}$ mm. long, 1 or approximately 2–3 and often accompanied by an abortive flower-bud, very shortly pedicellate; pedicel shorter than or equal to the lowest bract in length, erect in flower and in fruit, stout; bracts fixed by the base, membranaceous, the lowest one about $\frac{1}{2}$ mm. long, 3-fid with sharply pointed lobes, the midlobe deltoid and lateral lobes subulate; upper bracts simple, ovato-deltoid, acuminate. Calyx glabrous, about 1 mm. long; lobes orbiculate or broadly orbiculate, permanently rounded and entire or slightly irregularly crenulate at the apex, concave, membranaceous, persistent, the upper lobe very slightly longer. Corolla exserted, violet; the upper lip erect, broad-oblong, truncato-emarginate, about 1 mm. long; the lower lip large, reflexed, rounded, shallowly 3-lobed, $1\frac{2}{3}$ mm. long; spur large, horizontal, pointed forwards, somewhat exceeding the lower lip, subfalcately conical, obtuse at the apex, about $1\frac{1}{2}$ mm. long. Stamens 2, about $\frac{1}{2}$ mm. long. Ovary ovoid, with very minute and many ovules; style very short; stigma dilated. Capsule as long as the persistent calyx, ellipsoid, obtuse, longitudinally dehiscent through the front side, with a thin carpel, glabrous, $\frac{4}{5}$ – $1\frac{1}{4}$ mm. long; placenta ellipsoid. Seeds minute, oval, smooth, with reticulated testa.

Nom. Jap. *Hime-mimikakigusa* (nov.).

Hab. Prov. ISE (*T. Kusano* ! Oct. 17, Nov. 13 and 25, 1906).

An exceedingly small *Utricularia* ; this is actually smallest one among the phanerogams found in Japan.

***Utricularia* (Lentibularia) *dimorphantha* Makino sp. nov.**

Perennial ; stems floating, slender, terete, loosely branched, 4–6 decim. long, sometimes with aerial shoots, which are slender and bearing scaly leaves above. Leaves all submerged, dense, attaining $4\frac{1}{2}$ cm. long, 3 cm. broad, densely dichotomo-divided into very numerous capillary segments, which are glabrous but 2-spinulate at the apex under lens, without or sometimes laxly interspersed with little obliquely ovoid and very shortly pedicellate utricles (with 2 branched long hairs and a few short hairs at the mouth). Peduncle erect, about 7–14 cm. long including the raceme, without scales, terete, bearing a raceme above and a cleistogamous flower at the base. Raceme erect, 3–9-flowered, about 1–4 cm. long ; rachis terete ; bract adpressed to and embracing the base of pedicels, semiorbiculato-cordate, acute or acutish, entire, 2 mm. long. Flower about 1 cm. across, yellow ; pedicels terete, stout, erect-patent at the time of flowering, but spreading or turned downwards and 4–5 mm. long when in fruit. Calyx about 2 mm. long ; lobes equal, orbiculate, concave, slightly enlarged and not spreading in fruit, the lower lobe sometimes emarginate or bifid. Corolla bilabiate, with a short tube ; the upper lip erect, semiorbiculato-orbicular, subretuso-emarginate ; the lower lip horizontal, a little broader, transversely elliptical, 3-lobed at the apex ; palate nearly half of the upper lip in height, oval, emarginate ; spur shorter than the lower lip, straight, ovato-elliptical, retuso-rounded at the apex, directed forwards, 3 mm. long. Stamens 2, as long as the corolla-tube ; filament dilated, enlarged above, sometimes connate in various degree ; anther elliptical, 1-celled, dehiscing transversely. Pistil 2 mm. long ; ovary globose, with numerous ovules ; style short, $\frac{1}{2}$ mm. long ; stigma dilated, orbiculate, minutely ciliated. Capsule globose or hardly depressed globose, smooth, 3 mm. in diameter, very shortly beaked with a persistent style at the apex, accompanied by a persistent calyx, which is scarcely shorter than the capsule and adpressed to it, dehiscing transversely ; placenta globose, foveolate. Seeds numerous, angulate, convex in the face ; testa loose and minutely areolate. Cleistogamous flower small, pedicellate ; calyx as that of the normal flower ; corolla unexpanded, calyptriform ; stamens 2, filament sometimes connate ;

pedicel recurved, stout and 5-8 mm. long in fruit, provided with a minute lato-ovate to suborbiculate bract at the base.

Nom. Jap. *Fusa-tanukimo* (nov.).

Hab. Prov. ECHIGO (*K. Abe* ! Sept. 12, 1903; *T. Kurihara* ! Oct. 4, 1903, Aug. 11, 1904.)

This species is remarkable by having a cleistogamous flower at the base of each peduncle. It is figured by Yokusai Iinuma in his "Sōmoku-Dzuse-tsu," I. no. 42.

Utricularia (Lentibularia) **pilosa** Makino in Bot. Mag., Tokyo, XI. (1897) p. 70.

Utricularia vulgaris var. *pilosa* Makino l. c. IX (1895) p. 111.

The spur and the under surface of the lower lip of corolla covered with pilose hairs. Spur nearly as long as the lower lip of corolla, obtuse at the apex. Pedicels turned downwards in fruit.

Nom. Jap. *No-tanukimo*.

Hab. Japan (*T. Makino*!).

This species is allied to *U. vulgaris* Linn., but smaller in every respects; it also very closely resembles *U. neglecta* Lehm.

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