

NOTES ON A NEW PLANT TO TASMANIA.

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RICCIA NATANS.

NAT. ORD. HEPATICÆ.

GEN. CHAR.—Small, frondose, terrestrial or aquatic. Capsule immersed in the frond. Calyptra cohering with the globose capsule. Spores angular.

Riccia natans, Linn.—Fronds floating, yellowish-green above, bordered with dull purple, obcordate, channelled, simple or proliferous from the notches, with long purple serrate fimbriæ below. (Pl. 1).

Ref.—Flora Nov. Zealandiæ ii., p. 172. Hooker's Botanical Miscellany 1., pl. 23.

Hab.—Floating on Black Lagoon near Tamar Heads. Miss Oakden, Dec., 1886.

The small plant referred to this genus is perhaps the most simple of all the Hepaticæ. It is found floating on water, and may be passed by as a *Lemna* if not closely observed. The fronds are fleshy and inversely heart-shaped, being clothed beneath and at the edges with long, pendant, purple *fimbriæ*; these may be observed on the stage of one of the microscopes on the table.

The plant introduces a new genus to Tasmania, and I fail to find any previous record of *R. natans* being observed in Australasia, with the exception of one locality, and that is Lake Roto-a-kiwa, North Island, New Zealand; the collector, Mr. Colenso. To the description of that plant in Flor. Nov. Zeal., the author has added the bracketed remark “(a native of England).” In connection with this, it may be stated that Miss Oakden's specimens are different to the British states of the species in the purple bordering of the fronds. In Hooker's Botanical Miscellany the plant is most accurately illustrated as it is found in Tasmania, but the specimen from which the drawing was made was *R. natans* from North America. The Tasmanian and the British plants are mounted side by side in a jelly medium on a glass slip and are

under the microscope; the drawing of the American plant is also on the table, so the members of the Society may compare the plants for themselves. If our *R. natans* is not a native of Tasmania, but has followed in the wake of civilisation from Great Britain, it has wonderfully improved by the change. If injurious plants thus imported increase in vigour in a similar ratio it will be advisable to keep a sharp look out for the first appearance of any of them and at once destroy them.

EXPLANATION OF PLATE I.

Fig. 1.	<i>Riccia natans</i> ,	nat. size.
Fig. 2.	"	" spores magnified.
Fig. 3.	"	" nat. size, North American.
Fig. 4.	"	" Tasmanian, mag. 7 diam.
Fig. 5.	"	" Tasmanian, serrations of <i>fimbriæ</i> , $\frac{1}{4}$ in. obj.
Fig. 6.	"	" " " " " $\frac{1}{2}$ in. obj.
Fig. 7.	"	" " " " " North " American " magnified."
Fig. 8.	"	" " " " " Tasmanian, upper surface of frond, $\frac{1}{2}$ in. obj.
Fig. 9.	"	" " " " " North American, sect. through frond, showing immersed capsule containing spores.

OBSERV. ON NITELLA.

I have placed a fragment of *Nitella* on the stage of one of the microscopes in order that the rotation of the protoplasmic fluid may be observed.

It has been found inscribed in the "Book of the Strata" that there are forty species of the Natural Order Characeæ met with from the Triassic to the Tertiary, so that from a remote period of time masses of this most curious order of plants have vegetated in the lagoons and sluggish fresh water streams of temperate climates. The Order is remarkable for the singular nature of its reproductive bodies, and for the distinctness with which the circulation of the fluids may be seen; on this account it possesses a peculiar interest to microscopists. The fluid passes steadily up one side of the internode and down the opposite side, it carries granules of starchy matter along with it, and these granules appear at times to rotate on their own axes as they pursue their course around the interior of the internode. The movement may be due to diffusion of gases required by the plant, through the cell-walls, but if that is the case, diffusion goes on at comparatively excessive speed. The rapidity of the movement may perhaps be accounted for by the size of the cavity between the nodes of the stem and the continual change in temperature and barometric pressure, the rotation being easily accelerated by warmth or rendered sluggish by cold.