ON THE OCCURRENCE OF *WOLFFIA ARRHIZA, WIMM.*, IN TASMANIA.

By

L. RODWAY, C.M.G., Government Botanist.

(With 5 Figures.)

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Marsh plants have generally the widest distribution, and of the Duckweeds these are no exceptions. *Lemna minor, L.*, and *Lemna trisulca, L.*, both cosmopolitan species, are the only plants of this family that have hitherto been recorded from Tasmania. We now may report *Wolffia.*

Growing in a marsh near Lewisham, also on Maria Island.

The species of *Lemna* float horizontally on the surface of the water, or if quite submerged, which often occurs with our plants of *L. trisulca*, their position is still horizontal. Each plantlet sends a single rootlet from the centre of its under-surface; in one species, not Tasmanian, more than one of these slender rootlets develop, while the rootlet is often absent from fronds of *L. trisulca.* Another feature of this genus to which we may refer is the fact that the plants are bisexual; the flowers are very rare, and arise from the edge of the frond, and mostly consist of two stamens and one carpel. Propagation takes place by lateral budding.

The genus *Wolffia* is of quite a different structure. Instead of floating horizontally, it does so perpendicularly, exposing an edge to the air and sinking the greater portion of the frond as an oblique plate. Flowering is unisexual, and takes place in the centre of the exposed portion. It bears no root.

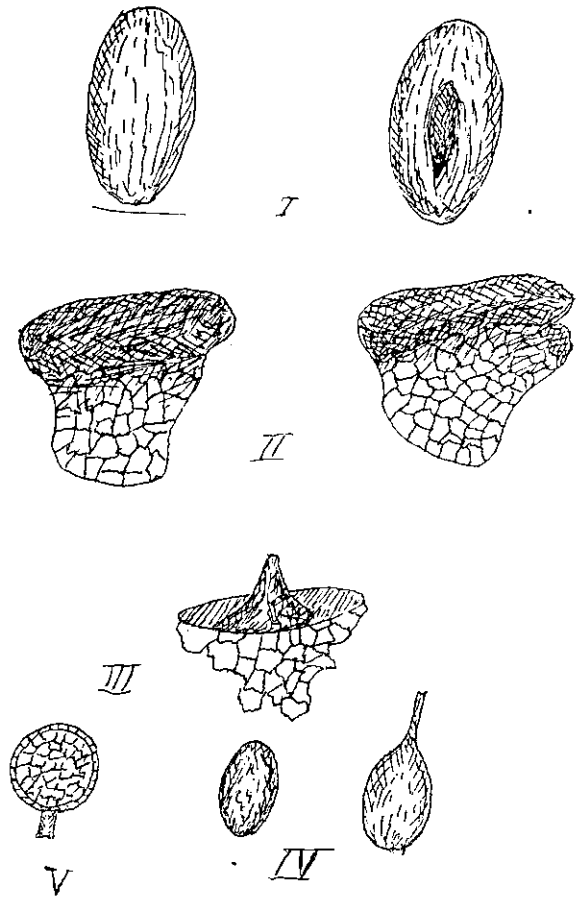
The following is a description of *Wolffia arrhiza* as found in Tasmania:—

In surface view the exposed portion of the frond is oblong, convex, 1 mm. long by 0.5 mm. diameter, green, cells small. In perpendicular aspect the frond extends below into

an oblique colourless process, the epidermal cells large and the inner ones smaller, but all colourless; the green portion forming a disc about 0.3 mm. thick. Propagation takes place by budding on the concave edge.

When a frond proceeds to flower a fossa forms in the centre of the green surface, and at the base of this fossa, whether staminate or pistillate, the flower forms. The male flower consists of a single stamen, 130μ. diameter, white, globular, unilocular, the wall of which is formed of a single layer of muriform cells. Pollen grains spherical, minutely echinulate, 16μ. diameter. The stamen is borne on a short filament; it protrudes from the fossa at maturity. The wall soon disintegrates, and the dry pollen drifts away on the surface of the water in quest of a projecting stigma.

The female flower consists of a single flask-shaped carpel, elongated above into a short style, ending in an irregular stigma, altogether about 250μ. long. The carpel contains a single erect orthotropous ovule. After fertilisation the ovule becomes slightly enlarged and indurated, the ovarian walls shrivel up, but the seed usually remains in the fossa. The whole plant sinks to the bottom and rests in the mud.



EXPLANATION OF FIGURE.

Fig. I. Upper view of sterile and fertile fronds.
Fig. II. Lateral view.
Fig. III. Seed condition.
Fig. IV. Carpel and ovule.
Fig. V. Stamen in section.
Variously magnified.