

NOTES ON SOME RARE AND INTERESTING
CRYPTOGAMS.

By

L. RODWAY, C.M.G.,

Government Botanist, Tasmania.

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Among the enthusiasts who have pushed the study of plants to its present high level, few have done much research amongst the lower groups, especially the fungi. Little more has been done than could be classed as simply scratching the surface. There is plenty of new material at hand ready for the worker. The only trouble is that sometimes when returns are copious it is not always easy to induce an estimable society to publish it.

The plants brought before you in the present paper are of exceptional interest, though few. The Hepatics here described by Pearson are the last lot collected by our old friend, W. A. Weymouth. Pearson, who died only a short time ago, was for many years a corresponding member of this Society.

Terfezia tasmanica, n.s. An irregular subterranean tuber, just emerging from the ground when mature, usually 1-3 cm. diameter, chestnut-brown, tough fleshy. Pileus with an obsolete stem piercing the centre of the tuber, tough fleshy, made up of bold convolutions with thick walls opening at the base by the side of the stem. Hymenium lining the internal surface of the convolutions. Asci 8-spored, globose-pyriform, minutely echinulate, coat thick, forming a double contour, hyaline till old, then brown, 20 μ . diameter.

Slopes of Mt. Wellington, 300 ft.

Xylaria tolosa, n.s. Sporophore usually arising with a long root from a loose subterranean sclerotium; erect, black surface, white and dense internally, about 4-6 cm. tall, the sterile stem rather flat at least when dry, about 2-3 cm., slender; fertile portion slightly thickened about 1-5 cm. Perithecia small, immersed, only the ostioles protruding; apex attenuated and sterile; asci narrow, cylindric, 8-spored; spores black, ellipsoid, oblique, smooth, 13 x 6-7 μ .

Near to *X. deceptiva* of Lloyd. Located at Tolosa, also at Morialto Gorge, near Adelaide.

Gymnomyces megasporus, n.s. Tuber about 1 cm. diameter; rugose, brown to pale, rather dense; gleba pale, peridium absent, tubes small, much contorted. Spores globose, hyaline, surface of a dense coat of short clubs, 15-20 μ . diameter.

No doubt near *G. seminudus*, but complete absence of peridium, the dense coat of short clubs, and size of spores make it very distinct.

Melanobotrys, n.g. Perithecia sessile on a divided tree-like stem arising from an enlargement of the bark of the tree, black, the perithecia globose, free, 0.5 mm. diameter, no osteole; spores dark brown, smooth, uniseriate, 12 x 3 μ .

Melanobotrys tasmanicus, n.s. Growing on a gall expanded on the stem of *Nothofagus cunninghami*; the branches about 5-8 mm. high. Apparently the fungus perennates in the surface wood, causing a pulvinate enlargement.

West Coast, on stems of *Nothofagus*.

Hyphoscypha coccinea, n.s. Discoid, obtuse, margin thick, waxy; disc orange-red, slightly concave, 2-6 mm. diameter, margin and external surface pale, covered with short hyphal protuberances. Asci linear cylindrical; spores eight uniseriate, oblong, obtuse, at first hyaline, smooth, 16 x 8 μ . When mature rather larger and armed with coarse asperities.

On rotten wood, National Park, 1,000 ft. altitude.

Hyphoscypha is pretty close to *Dasyscypha*, but differs by the external surface being rough with hyphal protuberances, instead of spreading cottony hairs.

Amongst Hepatics besides the new species forwarded by Pearson I desire to record the great variability of *Aplozia* (*Solenostoma*) *rotata*, Mitton.

Aplozia (*Solenostoma*) *rotata*, Mitt., is consistent in structure, but in colour and size varies greatly, according to surroundings. It is common for the tips of the branches to be deep red, but when growing in shade it is uniformly green. In exposed places on Mt. Wellington, also on Blue Tier, it is deep red and small, with leaves often less than half a millimetre diameter, but at Lake Petrarch and Snug River it is vivid green, and leaves often exceeding two millimetres.

This difference in size of leaf would be of little interest if happening to the organs of one of the higher plants, but mosses and fungi are supposed to be more uniform in size, and many a new species has been recorded for less distinction than occurs in this species.

In the Kew Bulletin No. 2, 1924, there appeared a paper on Tasmanian Hepatics by Mr. Pearson, in which are described some new varieties and species. It may interest local students if a short reference to these is made.

No record of most localities is made.

Lophocolea heterophylloides, Ness. This is admittedly a very variable plant. Pearson marks two forms as being distinguished from the type. Var. *decurrrens* distinguished by its larger and very decurrent leaves, and some stems appearing to be winged, and its large underleaves.

Var. *macrocalyx*. Only differing from var. *decurrrens* in having a very large involucre.

Symphymitra weymouthii, Pearson. Sterile, small, pale green, whitish below, loosely caespitose. Stem prostrate, simple or slightly branched, very tender, antical side plane, postical rounded, 8 x 6 and 6 x 4 cells, cortical cells similar to the inner; branches lateral, slightly postical, arising from below the leaf, radiculose, rhizoids hyaline, straight, ascending to apex of the stem; flagelliferous, flagellæ postical microphyllous, radiculose. Leaves horizontally inserted, imbricate, slightly concave on plane, broadly ovate, oblong-ovate or roundish-oblong-quadrate, entire or retuse, upper (postical) margin extending to middle of the stem, lower leaves smaller bifid; cells medium size, 4-5-6 sided; walls thin, no trigones.

Dimensions: Stem, 1.3 to 2.5 cm. long; diam., .2 mm., with leaves 2.25 mm. wide; leaves, 1.5 mm. x 1 mm., 1.25 x .9 mm.

Lophocolea bicuspidata, Pearson. Monœcious, medium size, dark to dull green in colour, loosely caespitose. Stems irregularly and sparingly branched. Leaves sub-opposite horizontal to patent, antical margin long decurrent, straight or slightly curved, postical margin, curved long triangular, margin entire, apex 5-6 times narrower than the base, bicuspidate segments acuminate, upper larger than the lower, sinus rounded; texture delicate, cuticle slightly papillose; cells medium sized quadrate, walls thick, trigones minute. Underleaves large, connate, with both leaves or one only,

rarely free, broadly cuneate or subquadrate, rather broader than high, bifid to about $1/3$, sinus rounded, segments with two or more teeth on the exterior sides.

Perianth projecting a little beyond the bracts, oblong, triolate, wings broad, spinulose-dentate, mouth spinulose-dentate.

Plagiochila hartziana, Pearson. Dioecious. Medium size, dark brown in colour, caespitose. Stems simple or slightly branched, firm. Leaves alternate, imbricate or approximate, horizontal, broadly ovate or rotund, entire or with from 1-4 acute teeth, lower margin very decurrent, usually straight, upper margin rounded, ampliate, extending to the middle of the stem, only slightly decurrent, apex rotundate or acute (unidentate) or with several teeth extending to the upper margin; cuticle smooth, polished; cells medium 4-5-6 walled; walls firm, angles thickened, no trigones.

Metzgeria concavula, Pearson. Dioecious, small, pale green, densely stratosae-caespitose, corticolous. Fronds repeatedly dichotomous, angle patent, margin much decurved, almost revolute, wing 12-celled, wide, rarely 15-20, sparingly setose, margin setose, setae in pairs, more rarely single, straight or some nearly hamate, somewhat short and coarse, costa narrow, slender, two antical and two postical cortical cells; on cross section somewhat rather broadly oval, 4-6 cells; near the fork postical cortical cells 3 setose, densely so on some portions of fronds; cuticle slightly papillose. Calyptra long clavate, pilose. Gemmae abundant, marginal or rarely on the postical side of costa, usually oval-ligulate, but various in shape, disciform or stipitate, but all more or less remarkably concave. Apart from the gemmiferous character of the plant, it differs from *M. nitida*, Mitt., which has also a costa of two antical and two postical cortical cells, by its less transparent cells, thickened walls, smaller trigones, presence of setae on the wings, hardly papillose cuticle, shorter and stouter setae; in *M. nitida* they are very long and delicate.

As Mr. Pearson quotes *M. nitida* of Mitten, it may be well to include, from Prof. Evans, the greatest authority of the genus, the following note:—

I am unable to separate *M. nitida*, Mitt., from the widely distributed *M. hamata*, Lindb. In a paper on Chilean *Metzgeriae* I have definitely reduced *M. nitida* to synonymy under *M. hamata*. There seems to be no reason for recognising the validity of *M. nitida*.