

ADDITIONS TO THE BRYOPHYTE FLORA.

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The mosses of Tasmania have had a very fair amount of attention paid to them, so that it is improbable any large number of new species will in future be added. The Hepatics have not been neglected, but their variability and the exceptional richness of form found in Tasmania have made their study more obscure. No doubt in the future many new species will yet be discovered, also some which we now recognise will be suppressed. Still, we can safely say that the hepatic flora of Tasmania approaches three hundred, which means it is almost the richest in species of any locality in the world.

Of the following mosses the *Andreaeas* would by some collectors be clubbed with *A. petrophila*, but then they would have to be treated as varieties. *A. petrophila* is most variable, and it is certainly desirable that prominence should be given to the principal forms. *Blindia acuta* was recorded as Tasmanian by J. D. Hooker. It is a European species, and as no specimen was present in any available collection it was left out of the previous work. The Tasmanian form differs from the type, its leaf margin being quite entire, and the absence of quadrate cells at the basal angles. It may yet be described as a distinct species.

Andreaea asperula, Mitt.—Stems slender often to 5 c.m., with few erect branches, forming dense red-brown mats. Leaves narrow lanceolate, very acute, slightly incurved, 1 m.m. long, insertion narrow, not at all stem-clasping nor geniculate, surface asperate, papillæ often very large, margin incurved.

A member of the *petrophila* group, it differs from *A. petrophila* and *A. tenera* in the asperate cuticle and the narrower leaf bases.

Western Tiers, Eastern Australia.

Andreaea tasmanica, n.s.—Stems slender, about 1 c.m., crowded in dense mats, dark brown, upper leaves linear from a slightly broadened base, strongly falcate and secund, 0.8 m.m. long, margin involute, apex acute, surface nearly smooth, nerveless. Lower leaves and those of young shoots minute, closely appressed, very broadly oblong, with

a short acute reflexed apex margin with prominent papillæ. Sterile. The leaves are narrower and less sheathing than in *A. petrophila*, and the peculiar juvenile foliage is very distinct.

Cradle Mountain.

Blindia acuta, Br. et Sch.—Suberect, slender, 2-4 c.m., black except the young tips. Leaves crowded erect or little falcate, base rather broad, sheathing occupying less than a third of leaf, rest filiform, wholly composed of nerve; margin entire; nerve broad, flat; length about 4 m.m.; cells linear with no quadrate alars or any auricular expansion. Seta about 1 c.m. thick; capsule hemispheric 1 m.m. broad and long; peristome teeth nearly as long as the capsule, irregularly cleft half-way, or deeper.

Readily distinguished by the hemispheric peristomate capsule, or when sterile from the gymnostomous species by the less falcate leaves and from *B. arcuata*, Mitt., by the absence of quadrate cells at the basal angle.

In "Braithwaite's Moss Flora," the angular cells are given as "large, orange-brown." This does not appear so in Tasmanian specimens referred to this species.

Western Tiers, Cradle Mt.

This moss has been previously recorded for Tasmania, but was not included in this work, because no specimen was present on any available collection.

The following hepatics are new to science. It was with reluctance that they were so recorded, but no place could be found for them amongst forms already described.

Aplozia lacerata, n.s.—Stems short in cushions, but often hidden amongst moss, or partially buried in debris, and bearing only a few leaves in the upper portion, tender and pale sage green. Leaves almost transverse oblong to nearly rotund, concave, 0.7 m.m., cells 27 μ ., walls thin. Bracts much longer than the leaves, narrow oblong apex slightly fimbriate, bracteole nearly as long as the bracts, ovate obtuse, all adnate to the base of the perianth. Perianth cylindric, with three shallow plaits, little longer than the bracts, mouth narrow to little constricted, deeply 3-lobed, lobes narrow laciniate.

Mt. Wellington Plateau.

Alicularia tenella, n.s.—Decumbent or ascending, dispersed amongst other small plants, rarely forming mats. Leaves ascending, flat or slightly concave, oblong to rotund, rather delicate and flaccid, 1 m.m. base subdecurrent; cells 32 μ .. Trigones small or none, cuticle smooth. Marsupium short and broad, bracts very large.

Mt. Hartz, Adamson Peak, St. Patrick's Head, Cradle Mt., etc.

Sphenolobus nigrus, *n.s.*—Small densely clustered in blackish cushions, the shoots simple or with few branches about 1 c.m. long. Leaves obcnate from a narrow base, spreading, bifid to the middle, lobes broad, apex rather acute, 1 m.m. long; cells 14 μ ., with very thick walls, cuticle smooth. Bracts similar to the leaves, only larger, connate with an oblong bracteole. Perianth broadly cylindrical, deeply 5-grooved, 2 m.m. long, mouth closely contracted, with a few short fimbriæ.

On rocks in rivulet, Cradle Mt.

Anastrophyllum tasmanicum, *n.s.*—Robust pale olive green, branching 3-4 c.m. Leaves not strongly secund, almost squarrose, nearly symmetric, to $\frac{1}{3}$ bilobed, lobes nearly equal, broad usually with a very acute apex margin just above the ventral base, armed with a few acute teeth, 1.4 m.m. long; cells 20 μ ., cuticle coarsely verrucose. Perianth narrow, ovate, 3 m.m., with about 8 deep plaits.

Very like *Chandonanthus squarrosus*, but the complete absence of under leaves and paraphylls distinguishes it.

Adamson Peak, Mt. Hartz.

Lophocolea paucistipula, *n.s.*—Robust. Simple or with few vague branches 2-4 c.m. Leaves crowded, imbricate rotund, 1.3 m.m., margin entire, dorsal base subdecurent, ventral ampliate; marginal cells 20 μ ., trigones small, intermediate cells 35 μ ., basals 60 x 25 μ ., trigones none; under-leaves absent, except in the reproduction region, sometimes only a narrow dentate bracteole present; at others 2-3 large oblong under-leaves, with recurved margins, very like those of *L. austrigena*, and below these 2-3 reduced to vanishing spines. Bracts oblong, twice as long as the leaves, often with a filiform process near the ventral base, bracteole narrow oblong, shortly bidentate, margin often dentate; perianth narrow campanulate $\frac{1}{2}$ exserted, trigonous, median keel dorsal, mouth broad, with 3 broad unarmed lobes.

Bank of creek near Cradle Mt.

Lembidium anomalum, *n.s.*—Stems pinnately branched, ascending from a creeping stoloniferous base, dark livid green. Leaves imbricate to distant incubous to sub-transverse rotund, very concave, erect, 0.9 m.m., apex and margin entire; cells unequal, mostly 18 μ ., sometimes a band of larger colourless cells on the margin, walls rather thick, trigones small, cuticle smooth; under-leaves similar in size and shape to the leaves. Bracts oblong, not much

enlarged; perianth terminal on short lateral branch, narrow cylindrical, 8 m.m. long, mouth tapering fimbriate; capsule oblong.

The species is an aberrant member of the genus, but appears to have no nearer relationship elsewhere.

Cradle Mt.

Isotachis riparia, n.s.—Robust, almost black, stems 5-8 c.m. Leaves erect, closely imbricate, broadly ovate to almost rotund, 3 m.m. long, apex shortly bifid, lobes short, broad, subacute margin entire or with one or two very short teeth; upper cells 27 μ ., walls thick, lower cells 40 x 18 μ ., walls thinner, cuticle smooth; under-leaves to 3 m.m. long, 2 m.m. broad, oblong apex shortly bifid, margin entire or armed with 3 small teeth.

Near *I. gigantea*, St., only leaves much smaller.

Cradle Mt.

Isotachis attenuatus, n.s.—Stems long and very slender, growing amongst moss in wet situations. Leaves rather remote, erecto-patent narrow oblong from a narrow base, dark brown $\frac{1}{2}$ bifid, 0.5 m.m.; outer cells 18 μ ., inner 18 x 24 μ ., walls thick; under-leaves similar. Bracts, many similar to the leaves, but larger; perianth terminal, 1 m.m. long, ovate strongly triquetrous, keels obtuse, mouth obtuse, shortly fimbriate.

Mt. Wellington Plateau.

Schistochila parvistipula, n.s.—Stems mostly about 3 c.m., decumbent copiously radiculose, thick, fleshy. Leaves squarrose, loosely imbricate, broadly ovate, obtuse, 4 m.m. long, lobes nearly equal, and united to the apex, dorsal lobe attached by the margin, wing simple, relatively broad, margins entire, but often an obscure tooth near the apex of the dorsal lobe; cells rotund, 35-50 μ ., walls rather thin, trigones small, concave; under-leaves oblong, rather narrower than the stem, 1.3 m.m. long, bifid below the middle, lobes lanceolate, acute margin, with few ill-defined teeth.

Cradle Mt.