

NORTH QUEENSLAND MOSSES COLLECTED BY L. J. BRASS

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Bushkill, Pike Co., Penna.

The mosses listed below are the result of the activities of Dr. L. J. Brass in connection with the 1948 Archbold Cape York Expedition.¹ The list gives a very comprehensive idea of the moss flora of the Cape York Peninsula and likewise is an interesting and significant supplement to the information tabulated a few years ago by Mr. H. N. Dixon.²

The series includes six new species: *Fissidens terrae-reginae*, *Fissidens subkurandae*, *Campylopus Brassii*, *Dicranoloma spiniforme*, *Leucoloma circinatulum* and *Ectropothecium riparioides* supplemented by the following nine species not previously recorded from Australia as far as I know: *Bryobrothera crenulata*, *Himantocladium plumula*, *Calyptothecium caudatum*, *Thuidium Meyenianum*, *Warburgiella cupressinoides*, *Taxithelium instratum*, *Taxithelium petrophilum*, *Isopterygium minutirameum* and *Ectropothecium sandwichense*.

The affinities of these new records and new species are principally with the tropical regions to the north indicating that the moss flora of the Cape York Peninsula has a stronger and more logical bond with these areas than with continental Australia.

Unless otherwise noted the collector is Dr. L. J. Brass. One series including the types of all the new species is in my herbarium. Further distributions will no doubt be made to the Farlow Herbarium, the University of Michigan and elsewhere.

FISSIDENTACEAE

Fissidens (Crepidium) **terrae-reginae** Bartr. sp. nov.

Caules gregarii, usque ad 3 mm. alti, lutescenti-virides. Folia conferta, sicca valde circinato-contorta, ad 2 mm. longa, lineari-lanceolata, anguste acuminata; lamina dorsalis ad basin costae enata; marginibus ubique elimbatis, minutissime crenulatis; cellulae minutissime, 5-7 μ , irregulariter hexagonae, minute papillosae. Fructus terminalis, seta 3-4 mm. longa, theca parva, inclinata.

Mossman River Gorge, on granite rock in rain forest, alt. 150 m., Mar. 16, 1948, No. 18183. Upper Parrot Creek, Annan River, moist rocks on bank of a stream in rain forest, alt. 350 m., Sep. 5, 1948, No. 20037.

This species is very near *F. sylvaticus* Griff. but seems to be distinct in the narrower, more sharply pointed leaves with the lower leaf cells of the duplicate blades often rectangular and to 25 μ long by 10 μ wide.

¹ Collections of the 1948 Archbold Cape York Expedition, American Museum of Natural History, Mr. Leonard J. Brass, Leader. Distributed by the Arnold Arboretum, Harvard University.

² Additions to the Mosses of North Queensland. — Proc. Royal Soc. Queensland 53²: 23-40. 1941.

Fissidens (Aloma) **subkurandae** Bartr. sp. nov.

Plantae gregariae, humillimae, virides. Caulis ad 4 mm. longus, laxe foliosus, folia usque ad 12 juga, sicca leniter homomalla, circa 1 mm. longa, oblongo-lanceolata, acuminata; marginibus minutissime crenulatis, ubique elimbatis; lamina dorsalis ad basin costae enata; cellulae pellucidae, irregulariter hexagonae, laeves, diam. 10–15 μ . Fructus terminalis; seta 2–2.5 mm. longa; theca erecta.

Leo Creek, Upper Nesbit River: clay mortar of an old stonework forge in rain forest, alt. 420 m., Aug. 18, 1948, No. 19928.

F. kurandae Broth. & Watts is obviously closely related to the above species but, to judge from the description, is a more robust, corticolous plan with longer stems and more bluntly pointed leaves. In *F. subkurandae* the leaves are rather sharply acuminate and not at all "obtuscula apiculata."

DICRANACEAE

Dicranella pycnoglossa (Broth.) Par.

Mossman River Gorge: wet shaded bank of river, alt. 100 m., Mar. 16, 1948, No. 18194. Shiptons Flat: shady road bank in savanna-forest, alt. 300 m., Sep. 5, 1948, No. 20022. Upper Parrot Creek, Annan River; clayey road in rain forest, alt. 350 m., No. 20034; moist rocks on bank of a stream in rain forest, No. 20036, 20038.

Campylopus introflexus (Hedw.) Brid.

Mt. Finnegan: cushioned on rocks on summit, alt. 1140 m., No. 20138.

Campylopus Wattsii Broth.

Upper Parrot Creek, Annan River: covering an exposed rock outcrop in rain forest, alt. 500 m., No. 20312.

Campylopus Brassii Bartr. sp. nov.

Dioicus, sat robustus, caespitosus, caespitibus densis, lutescentibus. Caulis erectus, dense foliosus, rubrotomentosus; folia sicca imbricata, humida erecto-patentia, rigida, 4–4.5 mm. longa, e basi oblonga sensim subulato-acuminata, caniculato-concava; marginibus erectis, superne serratis; costa cum apice evanida, dorso lamellato, lamellis serratis; cellulis superioribus rhombeis, basilaribus majoribus, ad margines angustis, alaribus numerosis, fuscis. Seta flavida, arcuata; theca oblongo-ovalis, 2 mm. longa; calyptra fimbriata.

Mt. Finnegan: on open ground in high mountain scrub, alt. 1000 m., Sep. 7, 1948, No. 20106.

This species will be distinguished from *C. Wattsii* Broth. by the yellow color, the shorter, rigid leaves and the conspicuous dark brown alar cells not or scarcely auriculate.

Campylopus umbellatus (W. Arn.) Bartr.

Cody Creek, 13 miles WSW of Somerset: on moist sandy soil in black teatree scrub, Apr. 28, 1948, No. 18530 (stunted form). Summit of Mt. Tozer, Tozer Range: seepage-moist places on exposed granite rock faces, July 7, 1948, alt. 540 m., No. 19496.

Holomitrium Muelleri Hpe.

Lamb's Head, Lamb Range: sunny rocks in rain forest, alt. 3000–3500 ft., Mar. 28, 1948, leg. Austin Vievers, No. 18226. Upper Parrot Creek, Annan River: upper branches of a tall tree in rain forest, alt. 400 m., Sep. 17, 1948, No. 20281. Mt. Finnegan: on corky bark of *Casuarina* trees in savanna-forest, alt. 800 m., Sep. 21, 1948, No. 20360.

Holomitrium perichaetiale (Hook.) Brid.

Mt. Finnegan: small cushions in tops of trees of stunted high mountain forest, alt. 1060 m., Sep. 21, 1948, No. 20333.

Dicranoloma Menziesii (H. f. & W.) Par.

Lamb's Head, Lamb Range: sunny rocks in rain forest, alt. 3500 ft., Mar. 28, 1948, leg. Austin Vievers, No. 18228. Mt. Bellenden-Ker: summit of south peak, on shaded rocks in low forest, alt. 5000 ft., Apr. 6, 1948, No. 18282.

Dicranoloma serratum (Broth.) Par.

Mt. Finnegan: abundant on rocks and lower trunks of trees in high mountain forest, alt. 1040 m., Sep. 7, 1948, No. 20083.

Dicranoloma austro-scoparium (C. M.) Par.

Mt. Finnegan: on branches of an undergrowth tree in rain forest, alt., 850 m., Sep. 6, 1948, No. 20057; stems of trees in high stunted mountain forest, alt. 1060 m., Sep. 21, 1948, No. 20336.

Dicranoloma spiniforme Bartr. sp. nov.

Caules ad 12 cm. longi, flexuosi, irregulariter ramosi. Folia late patentia, caulina et ramulina superiora valde falcato-secunda, 8–10 mm. longa, e basi ovata, concava sensim setaceo-acuminata; marginibus longe infra apicem spinoso-serratis; costa excurrente, dorso lamellato, lamellis serratis; cellulis linearibus, porosis, alaribus numerosis, magnis, oblongo-rectangularibus, fusco-aureis. Fructus ignotus.

Mt. Finnegan: abundant on undergrowth in high mountain forest, alt. 1100 m., Sep. 7, 1948, No. 20090.

Possibly near *D. Blumii* (Nees) Par. but the leaves shorter, sharply spinose-serrate at least half way down and often nearly to the top of the leaf base.

Leucoloma subintegrum Broth.

Leo Creek, Upper Nesbit River: lower trunk of a tree in rain forest, alt. 500 m., Aug. 18, 1948, No. 19912. Mt. Finnegan: rotting wood in high mountain forest, alt. 1040 m., Sep. 7, 1948, No. 20096a; on bark of a rotting log in rain forest, alt. 850 m., Sep. 8, 1948, No. 20151a.

Leucoloma (Syncratodictyum) **circinatum** Bartr. sp. nov.

Dioucum; humile, caespitosum, caespitibus densis, late extensis, superne viridibus, intus fuscescentibus. Caulis usque ad 1 cm. altus, plus minusve ramosus; folia conferta, flexuoso-patentia, superiora congesta, circinato-contorta, ad 3 mm. longa, e basi oblonga sensim subulata; marginibus erectis, superne papiloso-crenulatis, limbata, limbo hyalino, basi latiusculo, superne sensim angustiore, supra medium folii evanido;

costa infra summum apicem evanida; cellulis superioribus minutis, dense papillois, obscuris, diam. 7–8 μ , basilaribus rectangularibus, laevibus, alaribus numerosis, magnis, rectangularibus, fusco-aureis. Caetera ignota.

Leo Creek, Upper Nesbit River: wet rocks in bed of creek, alt. 420 m., Aug. 17, 1948, No. 19888.

Differs from *L. perviride* Broth. of the Philippines in the crowded comal leaves with circinate points. The upper leaf margins are crenulate with papillae but not serrulate as in the Philippine plants.

Dicnemoloma Sieberianum (Hornsch.) Ren.

Lamb's Head, Lamb Range: sunny rocks in rain forest, alt. 3000–3500 ft., Mar. 28, 1948, leg. Austin Vievers, No. 18226a.

DICNEMONACEAE

Eucamptodon Mulleri Hpe. & C. M.

Mt. Bellenden-Ker: summit of south peak, on bark of low trees, alt. 5000 ft., Apr. 6, 1948, No. 18279. Mt. Finnegan: on living and dead branchlets in high mountain scrub, alt. 1000 m., Sep. 7, 1948, No. 20108; dead twigs in shrubberies of summit, alt. 1140 m., Sep. 7, 1948, No. 20140; branches of low trees in high mountain scrub, alt. 910 m., Sep. 21, 1948, No. 20356.

LEUCOBRYACEAE

Leucobryum sanctum (Brid.) Hampe

Mossman River Gorge: logs and tree trunks, alt. 100 m., Mar. 17, 1948, No. 18190 in part, 18196. Junction Creek, Russell River: on logs, alt. 50 m., Apr. 2, 1948, No. 18263 in part, 18264, 18265, 18268 in part. Leo Creek, Upper Nesbit River: moist rocks and rotten wood, alt. 420 m., Aug. 17, 1948, No. 19893, 19894a, 19895. Mt. Finnegan: granite rocks and wet banks, alt. 1040 m., Sep. 7, 1948, No. 20084, 20086. Upper Parrot Creek, Annan River: moist stream bank in rain forest, alt. 400 m., No. 20278.

Leucobryum candidum (Brid.) H. f. & W.

Mt. Bellenden-Ker: summit of south peak, on trees of low forest, alt. 5000 ft., Apr. 6, 1948, No. 18284. Tozer Range, $\frac{1}{2}$ mile east of Mt. Tozer: lower trunks of trees in rain forest, alt. 425 m., July 1, 1948, No. 19404a; rotten wood in rain forest, alt. 425 m., No. 19472. Mt. Finnegan: west slopes, on rocks in savanna forest, Sep. 3, 1948, alt. 600 m., No. 20007, a peculiar form with the comal leaves often blunt, broadly margined and congested in a solid, cuspidate tip.

Leucobryum candidum forma **brachyphylla**

Cody Creek, 13 miles WSW of Somerset: on moist sandy soil in black teatree scrub, alt. 10 m., Apr. 28, 1948, No. 18531. Leo Creek, Upper Nesbit River: on rocks and rotten logs in rain forest, alt. 420 m., Aug. 17, 1948, No. 19898, 19938.

Leucobryum candidum var. **pentastichum** (Doz. & Molk.) Dix.

Lamb's Head, Lamb Range: sunny rocks in rain forest, alt. 3000–3500 ft., Mar. 26, 1948, leg. Austin Vievers, No. 18231, 18229.

Leucobryum ballinense Broth.

Speewah, upper Clohesy River: rotting logs in rain forest, alt. 1500 ft., Mar. 27, 1948, No. 18210 in part. Newcastle Bay, 2½ miles S. of Somerset: on logs and bark, alt. 20 m., May 7, 1948, No. 18656, 18658, 18764. Tozer Range, north end: on bark, alt. 300 m., June 29, 1948, No. 19371. Tozer's Gap, Tozer Range: logs and bases of trees in rain forest, alt. 100 m., June 30, 1948, No. 19383, 19385. Tozer Range ½ mile east of Mt. Tozer: trunks of living trees in rain forest, alt. 425 m., July 1, 1948, No. 19392. Shipton's Flat: on drift logs and charcoal, alt. 275 m., Sep. 4, 1948, No. 20020, 20169. Mt. Finnegan: on rotting logs, alt. 850 m., Sep. 6, 1948, No. 20055.

Leucobryum ballinense Broth. is not a convincing species. The author distinguishes it from *L. brachyphyllum* by the more slenderly acuminate leaves but I believe it will eventually have to be included in the synonymy of the protean *L. candidum* (Brid.) Hpe.

Leucobryum Bowringii Mitt. var. **sericeum** (Broth.) Dix.

Mossman River Gorge: on logs and shaded rocks, alt. 100 m., Mar. 17, 1948, No. 18185, in part, 18191. Mt. Finnegan: rocks on bank of stream in high mountain forest, alt. 1040 m., Sep. 7, 1948, No. 20081. Shipton's Flat: on moist shady banks of stream, alt. 275 m., Sep. 10, 1948, No. 20168.

Leucophanes candidum (Hornsch.) Lindb.

Mossman River Gorge: forming big bright green cushions on trees overhanging river, alt. 100 m., Mar. 17, 1948, No. 18189.

Leucophanes australe Broth.

Iron River: high on a rain forest tree, alt. 20 m., June 12, 1948, No. 19160 in part.

Octoblepharum albidum Hedw.

Lockerbie, 10 miles WSW of Somerset: dry lateritic rocks on edge of rain forest, alt. 50 m., May 4, 1948, No. 18644. Newcastle Bay, 2½ miles S. of Somerset: lower trunks of trees and logs in scrub of coastal sand dunes, May 7, 1948, No. 18657. Iron Range: high on rain-forest tree, alt. 20 m., June 12, 1948, No. 19160 in part.

CALYMPERACEAE

Syrrhopodon croceus Mitt.

Tozer Range, ½ mile east of Mt. Tozer: lower trunks of trees in rain forest, alt. 425 m., July 1, 1948, No. 19404. Tozer Range, north end: bark of tree on edge of brushy forest, alt. 300 m., June 29, 1948, No.

19372. Leo Creek, Upper Nesbit River: lower trunk of a tree in main forest, alt. 420 m., Aug. 17, 1948, No. 19892.

Thyridium fasciculatum (Hook. & Grev.) Mitt.

Iron Range: on lower trunks of trees in rain forest, alt. 20 m., June 13, 1948, No. 19205. Tozer's Gap, Tozer Range: lower trunks of trees in rain forest, alt. 60 m., July 5, 1948, No. 19456. Leo Creek, Upper Nesbit River: on twigs in rain forest undergrowth, alt. 500 m., Aug. 18, 1948, No. 19913.

Thyridium undulatum (Broth.) Fleisch.

Lockerbie, 10 miles WSW of Somerset: bark of *Wormia alata* in gallery woods, alt. 30 m., Apr. 30, 1948, No. 18541; in green patches on bark of savanna-forest trees adjacent to rain forest, alt. 50 m., May 4, 1948, No. 18645. Tozer Range, north end: bark of tree in bushy forest, alt. 300 m., June 29, 1948, No. 19370. Tozer's Gap, Tozer Range: on dead wood in rain-forested gully, alt. 100 m., June 30, 1948, No. 19382; trunk of living tree in rain forest, alt. 100 m., July 4, 1948, No. 19440. Tozer Range, ½ mile east of Mt. Tozer: high branches of a tree in rain forest, alt. 425 m., July 6, 1948, No. 19473. Leo Creek, Upper Nesbit River: trunk of a palm in rain forest, alt. 420 m., Aug. 20, 1948, No. 19956, 19872.

Calymperes tenerum C. M.

Newcastle Bay, 2½ miles S of Somerset: dead bark of trees in scrub of coastal sand dunes, May 7, 1948, No. 18670. Tozer Gap, Tozer Range: bark of living tree in rain forest, alt. 60 m., July 5, 1948, No. 19453.

POTTIACEAE

Hyophila involuta (Hook.) Jaeg.

Mossman River Gorge: on wet rocks in river, alt. 100 m., Mar. 17, 1948, No. 18192.

BRYACEAE

Bryum pachytheca C. M.

Hannibal Island, Shelburne Bay: terrestrial in brushy rain forest, alt. c. 1 m., Apr. 19, 1948, No. 18345. Tozer Gap, Tozer Range: on ground where logs have been burned in savanna-forest, alt. 120 m., July 3, 1948, No. 19429, 19524. Brown's Creek, Pascoe River: bare sandy patches in floodbed of creek, alt. 60 m., July 16, 1948, No. 19617.

Bryum subpachypoma Hpe.

Mossman River Gorge: on rocks in rain forest stream, bright green small tufts, alt. 150 m., Mar. 16, 1948, No. 18171; on granite rocks in rain forest, alt. 150 m., Mar. 16, 1948, No. 18175; wet banks of river, alt. 150 m., Mar. 17, 1948, No. 18197.

The distinctions between this species and *B. nitens* Hook. are negligible and I have little doubt but that they are one and the same thing.

RHIZOGONIACEAE

Rhizogonium spiniforme (Hedw.) Bruch

Mossman River Gorge: on log in rain forest, alt. 100 ft., Mar. 17, 1948, No. 18185 in part, 18187, 18190 in part. Speewah, upper Clohesy River: on log in rain forest, alt. 1500 ft., Mar. 27, 1948, No. 18210. Junction Creek, Russell River, on logs in rain forest, alt. 20 m., Apr. 2, 1948, No. 18253, 18263 in part, 18268 in part. Leo Creek, Upper Nesbit River: on log in rain forest, alt. 420 m., Aug. 17, 1948, No. 19890, 19891, 19908, 19927. Tozer Range, $\frac{1}{2}$ mile east of Mt. Tozer: base of dead tree in rain forest, alt. 425 m., July 1, 1948, No. 19391, 19470. Mt. Finnegan: on rocks (granite) in high mountain scrub, alt. 1100 m., Sep. 7, 1948, No. 20087.

Bryobrothera crenulata (Broth. & Par.) Ther.

Mt. Finnegan: on living branchlets of undergrowth in high mountain forest, alt. 1100 m., Sep. 7, 1948, No. 20091.

In studying these plants I was impressed with their resemblance to *Calomnion Dixoni* Bartr. of Fiji. Upon making comparisons they prove to be identical in every respect so *C. Dixoni* must be reduced to synonymy. Instead of being a New Caledonian endemic the species now includes Queensland and Fiji in its geographical range. My Fijian material is all sterile but in habit, appearance and structural detail it is an exact counterpart of No. 110 of Theriot's New Caledonian Exsiccati.

ORTHOTRICHACEAE

Macromitrium Scottiae C. M.

Mt. Bellenden-Ker, summit of south peak: on dead wood of low trees, alt. 5000 ft., Apr. 6, 1948, No. 18280. Mt. Finnegan: on dead branchlets of trees in high mountain scrub, alt. 1100 m., Sep. 7, 1948, No. 20085.

Macromitrium funiforme Dix.

Mt. Bellenden-Ker, summit of south peak: on trees of low forest, alt. 5000 ft., Apr. 6, 1948, No. 18283. Mt. Finnegan: on dead branchlets in high mountain scrub, alt. 1000 m., Sep. 7, 1948, No. 20107.

Macromitrium Daemelii C. M.

Mt. Finnegan: covering dead branches of trees in stunted high mountain forest, alt. 1060 m., Sep. 21, 1948, No. 20334a.

Macromitrium dimorphum C. M.

Mt. Bellenden-Ker, summit of south peak: on trunks of low trees, alt. 5000 ft., Apr. 6, 1948, No. 18281a. Mt. Finnegan: on dead wood and dead branches in shrubberies of summit and high mountain forest, alt. 910–1140 m., Sep. 1948, No. 20136, 20139, 20334, 20358.

Schlotheimia Brownii Brid.

Mt. Bellenden-Ker, summit of south peak: on trunks of low trees, alt. 5000 ft., Apr. 6, 1948, No. 18281b; trunks of trees in stunted high mountain forest, alt. 910 m., Sep. 21, 1948, No. 20357.

RHACOPILACEAE

Rhacopilum convolutaceum C. M.

Leo Creek, Upper Nesbit River: carpeting rocks on side of a bluff in rain forest, alt. 420 m., Aug. 17, 1948, No. 19896.

PTEROBRYACEAE

Mulleriobryum Whiteleggei (Broth.) Fleisch.

Mossman River Gorge: on undergrowth and tree trunks in rain forest, alt. 150 m., Mar. 16, 1948, No. 18172, 18179. Upper Parrot Creek, Annan River: on rocks in bed of stream in rain forest, alt. 400 m., Sep. 17, 1948, No. 20276.

METEORACEAE

Aerobryopsis longissima (Doz. & Molk.) Fleisch.

Mossman River Gorge: on bark of *Agathis* sp. in rain forest, alt. 150 m., Mar. 17, 1948, No. 18198. Leo Creek, Upper Nesbit River: on trees on open bank of stream in rain forest, alt. 420 m., Aug. 17, 1948, No. 19887; dry twigs in rain forest undergrowth, alt. 500 m., Aug. 18, 1948, No. 19914. Mt. Finnegan: epiphytic in shrubberies of summit, alt. 1140 m., Sep. 7, 1948, No. 20143. Upper Parrot Creek, Annan River: lower trunks of trees in dryish rain forest, alt. 500 m., Sep. 19, 1948, No. 20313.

NECKERACEAE

Himantocladium plumula (Nees) Fleisch.

Iron Range: lower tree trunks in rain forest, alt. 50 m., June 13, 1948, No. 19258.

Calypothecium recurvulum (C. M.) Broth.

Mossman River Gorge: lower trunks of trees in rain forest, alt. 150 m., Mar. 16, 1948, No. 18176.

Calypothecium acutum (Mitt.) Broth.

Mossman River Gorge: hanging from granite rocks in rain forest, alt. 150 m., Mar. 17, 1948, No. 18199.

HOOKERACEAE

Callicostella Kaernbachii Broth.

Wet rocks in rain forest stream, alt. 25 m., Apr. 2, 1948, No. 18255a.

HYPOPTERYGIACEAE

Hypopterygium Daymanianum Broth. & Geh.

Mt. Finnegan: on trunks of trees in high mountain forest, alt. 1100 m., No. 20093.

Hypopterygium Mulleri Hpe.

Mossman River Gorge: shady rocks in rain forest, Mar. 17, 1948, No. 18195. Leo Creek, Upper Nesbit River: carpeting wet rocks in rain forest, alt. 420 m., Aug. 17, 1948, No. 19906.

LESKEACEAE

Thuidium furfurosum (H. f. & W.) Jaeg.

Mossman River Gorge: carpeting rocks in rain forest, alt. 150 m., Mar. 16, 1948, No. 18166.

Thuidium Meyenianum (Hpe.) Bry. Jav.

Rocks and trunks of trees in rain forest, alt. 150 m., Mar. 16, 1948, No. 18169, 18181, 18182. Iron Range: carpeting rocks and logs in a moist rainforest ravine, alt. 40 m., June 16, 1948, No. 19214. Tozer gap, Tozer Range: lower trunks of trees in rain forest, alt. 60 m., July 5, 1948, No. 19445.

Thuidium plumulosiforme (Hpe.) Jaeg.

Mossman River Gorge: on underbrush in rain forest, alt. 150 m., Mar. 16, 1948, No. 18174. Upper Parrot Creek, Annan River: on stones in rain forest, alt. 400 m., Sep. 15, 1948, No. 20256.

ENTODONTACEAE

Trachyphyllum inflexum (Harv.) Gepp.

Lockerbie, 10 miles WSW of Somerset: dry lateritic rocks on edge of rain forest, alt. 50 m., May 4, 1948, No. 18643. Archer River, Wenlock-Coen Road: on dead tree trunks in thin rain forest on banks of river, alt. 125 m., July 31, 1948, No. 19769.

The type collection of *T. papuanum* Broth. came from Thursday Island but as it is very questionably distinct from *T. inflexum* I believe these collections represent the first records for the Australian mainland.

SEMATOPHYLLACEAE

Acanthocladium extenuatum (Brid.) Mitt.

On rotting bark in rain forest, alt. 800 m., Sep. 8, 1948, No. 20154.

Warburgiella cupressinoides C. M.

Mt. Bellenden-Ker, summit of south peak: on bark of *Leptospermum wooroonooran*, alt. 5000 ft., Apr. 6, 1948, No. 18281. Mt. Finnegan: carpeting a rotten log in rain forest, alt. 850 m., Sep. 6, 1948, No. 20056.

Previously known only from the Philippines and New Caledonia.

Sematophyllum caespitosum (Hedw.) Mitt.

Mossman River Gorge: on wet rocks on river bank, alt. 100 m., Mar. 17, 1948, No. 18193. Speewah, upper Clohesy River: on rocks in rain forest stream, alt. 1500 ft., Mar. 26, 1948, No. 18206. Junction Creek, Russell River: on rocks in rain forest stream, alt. 30 m., Apr. 2, 1948, No. 18248, 18256. Iron Range: living bark of trees in floodplain rain forest, alt. 20 m., June 6, 1948, No. 19050. Leo Creek, Upper Nesbit River: on base of tree in rain forest, alt. 420 m., Aug. 15, 1948, No. 19858; rocks on bank of creek in rain forest, Aug. 17, 1948, No. 19897. Upper Parrot Creek, Annan River: on bark of a creek-bank tree in rain forest, alt. 400 m., Sep. 17, 1948, No. 20280.

Sematophyllum saproxylophilum (C. M.) Fleisch.

Leo Creek, Upper Nesbit River: dead trunk of a tree in rain forest, alt. 420 m., Aug. 16, 1948, No. 19873. Mt. Finnegan: on bark of a rotting log in rain forest, alt. 850 m., Sep. 8, 1948, No. 20152. Shipton's Flat: rotten wood in creek-bank rain forest, alt. 275 m., Sep. 4, 1948, No. 20021.

Acroporium erythropodium (Hpe.) Broth.

Lamb's Head, Lamb Range: sunny rocks in rain forest, alt. 3000–3500 ft., Mar. 28, 1948, No. 18230. Mt. Finnegan: on living branches of trees in high mountain forest, alt. 1100 m., Sep. 7, 1948, No. 20092, 20137, 20332, 20335 in part.

Trichosteleum hamatum (Doz. & Molk.) Jaeg.

Tozer Gap, Tozer Range: on dead logs in a rain forested gully, alt. 100 m., June 30, 1948, No. 19384. Leo Creek, Upper Nesbit River: dead trunk of tree in rain forest, alt. 420 m., Aug. 16, 1948, No. 19873a. Mt. Finnegan: covering trunks of trees in high mountain forest, alt. 1040 m., Sep. 7, 1948, No. 20082. Upper Parrot Creek, Annan River: on wet decayed wood in a rain forest stream, alt. 400 m., Sep. 17, 1948, No. 20277. Junction Creek, Russell River: on rotting logs in rain forest, alt. 30 m., Apr. 2, 1948, No. 18252 in part.

Acanthorrhynchium papillatum (Harv.) Fleisch.

Leo Creek, Upper Nesbit River: rotten wood, wet rocks and tree trunks in rain forest, alt. 420 m., Aug. 17, 1948, No. 19894, 19894a in part, 19889, 19908a, 19909 in part, 19955. Upper Parrot Creek, Annan River: moist bank of a stream in rain forest, alt. 400 m., Sep. 17, 1948, No. 20279.

This wide ranging species is not uncommon in the Cape York Peninsula to judge from these collections and it seems strange that it has been recorded only once before. It frequently grows in association with *Leucobryum sanctum* both here and elsewhere through the range.

Taxithelium instratum (Brid.) Broth.

Mossman River Gorge: on log in rain forest, alt. 100 m., Mar. 17, 1948, No. 18186a.

A frequent Indo-Malaysian species but not previously known south of New Guinea.

Taxithelium petrophilum Williams

Tozer Gap, Tozer Range: covering stones in flood channel of a stream in rain forest, alt. 60 m., July 5, 1948, No. 19457.

The rupestrine habit, strongly complanate and sharply pointed leaves, the absence of enlarged alar cells and shorter setae are characters in the aggregate which clearly separate these plants from *T. instratum*. After reexamining the Philippine material I believe the reduction of *T. petrophilum* (*petrophila*) to a synonym of *T. instratum* was a mistake. The Queensland collection is similar in every particular to the Philippine type

but is in much better condition so that the distinctions are more sharply defined.

Taxithelium selenithecium (C. M.) Par.

Mossman River Gorge: lower trunk of a tree in rain forest, alt. 150 m., Mar. 16, 1948, No. 18170. Lockerbie, 10 miles WSW of Somerset: covering a stone in rain forest, alt. 50 m., May 4, 1948, No. 18646. Iron Range: on dead bark of trees in floodplain rain forest, alt. 20 m., June 6, 1948, No. 19061. Tozer Gap, Tozer Range: wet rocks in bed of stream in rain forest, July 5, 1948, No. 19454. Coen: in wet shade in rocky bed of Coen River, alt. 200 m., Aug. 3, 1948, No. 19795.

Taxithelium novae-valesiae (Broth.) Broth.

Mt. Finnegan, west slopes: on bark of a rotting log in rain forest, alt. 850 m., Sep. 8, 1948, No. 20151. Mt. Finnegan: rotting wood in high mountain forest, alt. 1040 m., Sep. 7, 1948, No. 20096; small cushions in tops of trees of stunted high mountain forest, alt. 1060 m., Sep. 8, 1948, No. 20153 in part. Junction Creek, Russell River: on dead wood in rain forest, alt. 50 m., Apr. 2, 1948, No. 18266. Mossman River Gorge: decaying bark in rain forest, alt. 150 m., Mar. 16, 1948, No. 18180. Leo Creek, Upper Nesbit River: on living bark in rain forest undergrowth, alt. 420 m., Aug. 30, 1948, No. 19953.

HYPNACEAE

Isopterygium minutirameum (C. M.) Jaeg. var. **brevifolia** Fleisch. — (*Hypnum austro-pusillum* C. M., Linn. 1871-73, p. 159)

Junction Creek, Russell River: on rotting logs in rain forest, alt. 30 m., Apr. 2, 1948, No. 18252 in part. Tozer Range, ½ mile east of Mt. Tozer: covering a dead stick in rain forest, alt. 425 m., July 1, 1948, No. 19405. Shipton's Flat: moist granite rock on bank of stream, alt. 275 m., Sep. 10, 1948, No. 20170. Upper Parrot Creek, Annan River: on rotten log in rain forest, alt. 400 m., Sep. 19, 1948, No. 20321.

Ectropothecium sandwichense (Hook. & W. Arn.) Mitt.

Mossman River Gorge: on a log in rain forest, alt. 100 m., Mar. 17, 1948, No. 18186. Speewah, upper Clohesy River: rotting log in rain forest, alt. 150 m., Mar. 26, 1948, No. 18205. Junction Creek, Russell River: wet rocks in rain forest stream, alt. 25 m., Apr. 2, 1948, No. 18255. Iron Range: decayed wood on rain forest floor, alt. 20 m., June 15, 1948, No. 19204. Leo Creek, Upper Nesbit River: moist rocks of creek banks in rain forest, alt. 420 m., Aug. 17, 1948, No. 19904. Upper Parrot Creek, Annan River: on an old log in rain forest, alt. 500 m., Sep. 15, 1948, No. 20255.

This species probably has a wider distribution than the published records indicate and may eventually acquire a considerable synonymy.

Ectropothecium Moritzii (C. M.) Jaeg.

Leo Creek, Upper Nesbit River: carpeting wet rocks on creek bank in rain forest, alt. 420 m., Aug. 17, 1948, No. 19905; on a seepage-wet rock in rain forest, alt. 420 m., Aug. 17, 1948, No. 19907.

Ectropothecium riparioides Bartr. sp. nov.

Dioicum; gracile, caespitosum, caestipitibus laxis, depressis, viridibus. Caulis elongatus, flexuosus, ad 10 cm. longus, pinnatim-ramosus, ramis ad 1 cm. longis, complanate foliosis. Folia patentia, haud falcata, 0.8 mm. longa, ovato-lanceolata, acuminata, ecostata, superne minute denticulata; cellulis linearibus, laevissimis, alaribus paucis, subquadratis. Caetera ignota.

Junction Creek, Russell River: on shallowly submerged rocks in stream in rain forest, alt. 30 m., Apr. 2, 1948, No. 18251.

Possibly near *E. serrifolium* Broth. & Watts but entirely different in habit and quite distinct in the subentire leaves with smooth cells.

Trachythecium verrucosum (Hpe.) Fleisch.

Mossman River Gorge: lower trunks of trees in rain forest, alt. 150 m., Mar. 16, 1948, No. 18167, 18178.

Addendum

Through the friendly cooperation of Mr. J. H. Willis I have received the mosses listed below which were collected by Dr. Brass and included with the Hepatics sent to the Melbourne Botanic Gardens for study. These are important additions to the moss flora of North Queensland and neither of the species appeared in the original series of moss collections. I am grateful to Mr. Willis for making them available and am happy to be able to include them in the list of mosses collected by Dr. Brass during the course of the expedition.

LEMBOPHYLLACEAE

Camptochaete brisbanica (C. M.) Broth. & Watts.

Mt. Finnegan, west slopes (Cedar Bay S. of Cooktown), abundant on branches of woody undergrowth in rain forest, alt. 850 m., Sep. 8, 1948, No. 20058. Mt. Finnegan, dead twigs in rain forest, alt. c. 800 m., Sep. 8, 1948, No. 20155.

The only record of this species I can locate is in "The Mosses of North Queensland" (Proc. Linn. Soc. of N. S. Wales, Vol. 43, pt. 3, p. 561, 1918). Mr. Wallis tells me that he has compared these collections with material in the National Herbarium, Victoria, determined by Rev. W. W. Watts and finds that they match beautifully.

HOOKERIACEAE

Eriopus Brassii Bartr. sp. nov.

Dioicum ut videtur. Caulis circa 1 cm. longus, simplex vel parce ramosus, laxe foliosus, parce radiculosus. Folia patentia, complanata, ad 2.5 mm. longa, 1.5 mm. lata, e basi angustata late ovata, apice rotundato-obtusa, tenuiter apiculata, ecostata,

ubique limbata, limbo hyalino e cellulis 2-3 seriatis superne remote denticulatis instructo; cellulae superiores ovali-hexagonae, ca. 37 μ longae, 20 μ latae, parietibus firmis, basilares laxiores. Caetera ignota.

Mt. Finnegan, trunk of tree in high mountain forest, alt. ca. 1040 m., Sep. 7, 1948, No. 20097.

Unfortunately the plants I have seen are entirely sterile so that the sporophyte characters which are of high diagnostic value in this genus are lacking. The narrowly bordered leaves and the slender apiculus clearly differentiate this species from *E. apiculatus* (H. f. & W.) Mitt. and the denticulate leaf margins preclude any confusion with *E. Brownii* Dix. of New Zealand. The species of this widely distributed and remarkable genus are in need of a careful revisional study but meanwhile it would seem that the Mt. Finnegan plants are deserving of a definite specific status.



Bartram, Edwin B. 1952. "North Queensland Mosses Collected by L. J. Brass." *Farlowia :a journal of cryptogamic botany* 4(2), 235–247.
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