

ART. XXXIX. — *List of Lichenes and Bryophytes collected in Stewart Island during the Botanical Survey of 1908.*

By L. COCKAYNE, Ph.D.

[Read before the Philosophical Institute of Canterbury, 6th October, 1909.]

THE following were, with a few exceptions, collected in October, 1908, during my investigation of Stewart Island botany for the Department of Lands and Survey. The identifications were made by Dr. G. Lindau (Royal Botanical Museum of Berlin), Dr. V. F. Brotherus (Helsingfors), and Mr. F. Stephani (Leipzig), to which eminent specialists I am deeply grateful. Unfortunately, the identifications arrived too late for insertion in my report to the Department.

For the sake of easy reference, the species are arranged in alphabetical order, and their position in Hooker's "Handbook of the New Zealand Flora" is also cited.

Mr. J. W. Murdoch rendered most valuable assistance in collecting, and to him my warmest thanks are due.

Stewart Island is extremely rich in bryophytes and lichens, and this list must be looked upon as merely a small contribution towards the knowledge of these interesting plants.

LICHENES. (Identified by Dr. G. Lindau.)

- Cladonia aggregata* (Sw.), Ach.—Handb., p. 561.
On open peaty ground, common.
- Cladonia fimbriata* (L.), Fr.—Handb., p. 560.
On open peaty ground, common.
- Cladonia retipora* (Lab.), Fr.—Handb., p. 561.
Heath of ancient dunes, common.
- Nephroma schizocarpum*, Nyl.—Handb., p. 565.
Forest, on bark of trees ?
- Pannaria mariana*, Müll. Arg. var.
Forest, on bark of trees.
- Parmeliella triptophylla* (Ach.), Müll. Arg.—*Pannaria*; Handb., p. 576.
- Sphærophorus australis*, Laur.
Forest, on peaty ground.
- Sphærophorus tener*, Laur.—*Sphærophoron tenerum*, Laur.; Handb., p. 559.
Forest and open ground.
- Stereocaulon ramulosum*, Ach.—Handb., p. 562.
Rocky and open ground.
- Sticta filicina* (Ach.), Nyl.—Handb., p. 568.
Forest, common on trees, logs, &c.

Sticta foveolata (Del.), Nyl.—Handb., p. 569, included with *S. fossulata*, Duf.

Forest, on branches of shrubs.

Sticta fossulata, Duf.—Handb., p. 569.

Forest, abundant on trunks of trees.

Sticta variabilis, Ach.—Handb., p. 568.

Forest, common on trunks of trees and on floor.

Thysanotherium hyalinum (Tayl.), Nyl.

Xanthoria parietina (L.), Th. Fr.—*Parmelia*; Handb., p. 573.

Rocks.

HEPATICÆ. (Identified by Mr. F. Stephani.)

Aneura eriocaula (Hook.), Mitt.—Handb., p. 544.

Forest, common on floor of moist gullies.

Aneura equitexta, Steph.

Forest, on moist rotten logs, &c.

Aneura marginata, Col.

Forest, on moist rotten logs, &c.

Anthoceros giganteus, Lehm. & Lind.—Handb., p. 548.

Forest, on floor.

Chandonanthus squarrosus (Hook.), Mitt.—*Jungermannia*; Handb., p. 503.
(So identified by Brotherus.)

? Forest, on floor.

Chiloscyphus bidentatus, Steph.

? Forest, on logs.

Chiloscyphus decipiens, Gotts.—Handb., p. 516.

Forest, on floor and logs.

Chiloscyphus echinellus, Lind. & Gottsch.—Handb., p. 517.

Moist bank, in company with *Marchantia cephaloscypha*, Steph., and *Gunnera albocarpa*, Cockayne.

Cuspidatula monodon (Tayl.), Steph. — *Jungermannia*; Handb., p. 502.

Peaty ground, in open.

Frullania falciloba, Tayl.—Handb., p. 536.

Forest, ? on logs.

Hymenophyllum •Phyllanthus (Hook.), Steph. — *Podomitrium*; Handb., p. 540.

Forest, very abundant on trunks of tree-ferns and moist ground of gullies.

Isotachis intortifolia, Hook. f. & Tayl.—Handb., p. 526.

Open peaty ground.

- Lepidozia capilligera*, Lehm. & Lind.—Handb., p. 521.
Open peaty ground.
- Lepidozia patentissima*, Tayl.—Handb., p. 522.
Forest, on floor, growing with *Nertera depressa*, Banks & Sol.
- Lepidozia Taylori* (Gotts.), Steph.
Forest, on trees and logs.
- Marchantia cephaloscypha*, Steph.
Open ground, on moist banks.
- Mastigobryum Mooreanum*, Steph.
Forest, on floor, forming mats.
- Monoclea Forsteri*, Hook.
Forest, on stones of shallow streams and wet banks.
- Plagiochila annotina* (Menz.), Lind.—Handb., p. 507.
Forest, on floor, forming close masses.
- Plagiochila conjugata* (Hook.), Dum.—Handb., p. 504.
Forest, on tree-trunks, forming close covering.
- Plagiochila deltoidea*, Lindb.—Handb., p. 506.
Forest, on tree-trunks, forming close masses.
- Plagiochila gigantea* (Hook.), Lindb.—Handb., p. 505.
Forest, on floor, forming tall masses and cushions.
- Plagiochila Howeana*, Steph.
Forest, on floor, logs, and trees.
- Plagiochila inæqualis*, Steph.
Forest, on floor.
- Plagiochila Lyallii*, Mitt.—Handb., p. 507.
Forest, on floor and logs.
- Plagiochila ramossissima* (Hook.), Lindb.—Handb., p. 505.
Forest, on floor, ? forming cushions.
- Plagiochila strombifolia*, Tayl.
Forest, on trees and floor; perhaps a cushion-former.
- Schistochila ciliata* (Mitt.), Steph.—*Gottschea*; Handb., p. 513.
Forest, on moist floor.
- Schistochila nobilis* (Hook.), Dum.—*Gottschea*; Handb., p. 513.
Forest, bottoms of wet gullies.
- Schistochila marginata* (Col.), Steph.
Forest, on damp floor.
- Schistochila unguicularis* (Tayl.), Steph.—*Gottschea*; Handb., p. 513.
Forest, moist gullies and stems of tree-ferns.

Symphiogyna crassicosta, Steph.

Forest, in company with *Monoclea Forsteri*, Hook., in wet situations.

Trichocolea lanata, Nees.—Handb., p. 527.

Forest, on floor, in damp situations.

Trichocolea tomentilla, Nees.—Handb., p. 527.

Forest, on damp floor, forming extensive patches.

Tylimanthus saccatus (Hook.), Mitt.—*Gymnanthe*; Handb., p. 520.

Forest, on floor and logs.

MUSCI. (Identified by Dr. V. F. Brotherus.)

Barbula calycina, Schw.

Sandy ground probably near shore of Paterson Inlet.

Campylopus bicolor, Hornsh.—Handb., p. 415.

Bogs, Port Pegasus.

Campylopus introflexus, Hedw.—Handb., p. 414.

Open ground, on peaty soil; bogs, Mount Anglem, in subalpine zone.

Campylopus torquatus (Hook. f. & Wils.), Mitt.—Handb., p. 414.

Open ground, on clayey soil.

Dicranoloma Billardieri, Schw.—*Dicranum*; Handb., p. 412.

Forest, on floor, building great cushions in moist places.

Dicranoloma Menziesii (Tayl.).—*Dicranum*; Handb., p. 412.

Forest, on floor, logs, and bases of trees.

Dicranoloma platycaulon, C. Muell.

Forest, on logs, &c.

Dicranoloma setosa (Hook. f. & Wils.).—*Dicranum*; Handb., p. 412.

Bogs and open ground, Port Pegasus.

Dicranoloma subpungens (Hook. f. & Wils.).

Subalpine boggy meadow, Mount Anglem.

Distichophyllum rotundifolium, Hook. f. & Wils.

Forest, on rotten wood.

Ditrichum affine.

Open ground, on clayey soil.

Eriopus cristatus.

Forest, on floor and logs.

Hymenodon piliferus, Hook. f. & Wils.—Handb., p. 486.

Forest, on trunks of tree-ferns.

Hypopterygium novæ-seelandiæ, C. Müll.—Handb., p. 487.

Forest, on floor, abundant.

Lembophyllum cochlearifolium, Schw.—*Hypnum*; Handb., p. 480.

Forest, on trees and logs, common.

- Lembophyllum vagum* (Hornsch.).—*Hypnum*; Handb., p. 481.
Forest, on ground and logs.
- Leptostomum macrocarpum*, R. Br.—Handb., p. 436.
Forest, on tree-trunks.
- Leucobryum candidum* (Hornsch.).—Handb., p. 409.
Forest, bases of trunks, common.
- Leucobryum brachyphyllum*, Hamp.—Handb., p. 409, included with
L. candidum.
Forest, bases of trunks.
- Lopidium pallens*, Hook. f. & Wils.—*Hypoteryngium Struthiopteris*, Brid.;
Handb., p. 489.
Forest, on trees and logs.
- Mniodendron comatum* (C. Müll.).—*Isothecium*; Handb., p. 467.
Forest, on floor and logs, common.
- Mniodendron comosum* (Labill.).—*Isothecium*; Handb., p. 466.
Forest, on floor and logs, common.
- Pohlia nutans*, Schreb.
Open ground, on peaty soil.
- Polytrichum juniperinum*, Willd.—Handb., p. 455.
Open ground, on peaty soil.
- Rhacopilum strumiferum* (C. Müll.).
Forest, on logs and ? trunks.
- Rhapidostegium cerviculatum* (Hook. f. & Wils.).—*Hypnum*; Handb.,
p. 473.
Forest, on trunks and logs.
- Rhapidostegium leptorrhynchium*, Schur.—*Hypnum*; Handb., p. 475.
Forest, on trunks.
- Rhapidostegium leucocythos* (C. Müll.).—Handb., p. 475, as syn. for
Hypnum leptorrhynchum, Brid.
Forest, on trunks and logs.
- Rhizogonium distichum*, Brid.—Handb., p. 484.
Forest, on tree-fern stems.
- Rhizogonium novæ-hollandiæ*, Brid.—Handb., p. 484.
Forest, on tree-fern stems.
- Sciadocladus Menziesii* (Hook. f. & Wils.).—*Isothecium*; Handb., p. 465.
Forest, on floor, common.
- Stereodon chrysogaster* (C. Müll.), Mitt.—*Hypnum*; Handb., p. 475.
Forest, on trunks.
- Tayloria octoblepharis*.
In open, on peaty soil.
- Thuidium furfurosum* (Hook. f. & Wils.).
Forest, on trees and logs.