

This species is easily known from the characters given. The gonidia are subchroolepoid.

On stones, on the underside; only a single small specimen seen.

Tribe PYRENOCARPEI.

NORMANDINA PULCHELLA (*Borr.*).

Amongst small mosses, associated with *Pannaria rubiginosa* (saxicole); very sparingly gathered and sterile.

ENDOCARPON HEPATICUM, *Ach., Nyl.*

On the bare ground; apparently not uncommon.

It will be seen from the above Enumeration that the present collection (made, as already observed, during a few days' excursions to the same locality) is larger, both in the total of species and varieties and also in the number of novelties gathered, than that of Dr. Wawra as recorded by Massalongo. At the same time the specimens collected both by Dr. Wawra and Mr. Eaton can evidently be regarded only as the firstfruits of the rich and rare Lichen harvest of the Cape that remains to be reaped by some resident botanist.

LICHENES TERRE KERGUELENI:—an Enumeration of the Lichens collected in Kerguelen Land by the Rev. A. E. EATON during the Venus-Transit Expedition in 1874-75. By the Rev. JAMES M. CROMBIE, F.L.S. &c.

[Read February 3, 1876.]

THE first record which we find of the Lichen-flora of this remote island is that given by Dr. J. D. Hooker and Dr. Thomas Taylor, in the 'London Journal of Botany,' vol. iii. (1844) pp. 634-658, amongst the other Antarctic Lichens collected by the former gentleman during the voyage of H.M. Discovery-ships 'Erebus' and 'Terror' (1839-43). The Kerguelen lichens thus enumerated amount to seventeen species, of which, however, at least one half must be excluded, as being hasty and erroneous determinations, resulting chiefly from the absence of microscopical analysis. This list was subsequently revised by the Rev. Churchill Babington for Dr. Hooker's 'Flora Antarctica,' vol. ii. (1847) pp. 519-542, where, with emendations and additions, it is increased to twenty-seven species and varieties. A considerable proportion of these, however, as in the former case and for the same reason, must be deleted. Unfortunately, I have not at present been able to find

in Herb. Kew. any specimens of several of Dr. Taylor's critical species. These may probably be found in his herbarium, which I understand is now in Boston, U. S.; and perhaps on further search one or two may still turn up at Kew. The present valuable and comparatively large collection was made by Mr. Eaton at intervals from December 1874 to February 1875, at the three stations in the island which were visited by the Expedition. These were Royal Sound and Observatory Bay on the S.E., and Swain's Bay on the S.W., all three, as it would appear, possessing very much the same lichen-flora. Though several of the species bear at first sight a general resemblance to some of our northern lichens, yet on analysis they are found to be quite distinct, and for the most part are quite peculiar to this island. Most of the novelties amongst them have been briefly recorded by me in 'Journ. Bot.' for November 1875 and January 1876; and I here give their fuller diagnosis, with which Dr. Nylander, who most kindly assisted me in their determination, has favoured me.

Family COLLEMACEI.

Tribe LICHINEI.

LICHINA ANTARCTICA, *Cromb.*, sp. n. Quasi *L. confinis* minor (altit. 2 millim. vel minor), apotheciis et spermogoniis in clavulis subglobosis confertis fastigiatis inclusis. Sporæ ellipsoideæ, longit. 0·014–0·016 millim., crassit. 0·007–0·009 millim. Spermata oblonga, longit. 0·003 millim., crassit. vix 0·001 millim.

On maritime rocks. Swain's Bay.

Very sparingly.

Tribe COLLEMEI.

*AMPHIDIUM MOLYDOPLACUM**, *Nyl.*, sp. n. Thallus cinereo-plumbeus adnatus astroideo-diffissus, centro pallidior areolato-diffractus, laciniis (latit. circiter 1 millim.) ambitum versus latioribus radians. Apothecia rufa vel fusco-rufa, lecanorina (latit. 0·5–0·7 millim.) vel lecanoroidea, margine pallido-albido subintegro cincta. Sporæ 8næ ellipsoideæ vel suboblongæ, irregulariter 3-septatæ, longit. 0·016–0·021 millim., crassit. 0·007–0·009 millim.; paraphyses mediocres. Iodo gelatina hymenialis cærulescens, dein vinose rubens.

Facies nonnihil thalli coccocarpioidea (formis incisus adnatis accedens).

Thallus crassitie circiter 0·3 millim. Comparandum est etiam cum *Pannaria elæina* (Whlub.).

On stones. Swain's Bay.

Sparingly gathered.

* This was erroneously printed as *molybdophæum* in 'Journ. Bot.'

Family LICHENACEI.

Tribe STEREOCAULEI.

STEREOCAULON CYMOSUM, *Cromb.* Thallus podetiis firmis subpollicaribus et usque ad dimidiam altitudinem subsimplicibus (vel parum ramosis) nudis, deinde dense dendroideo-ramosis in cymam conferte granuloso-tectam vel granulis subleprosis. Apothecia et spermogonia non visa.

On the ground. Observatory Bay.

Very sparingly gathered.

This seems a sufficiently distinct species, though unfortunately the few fragments seen are infertile.

Tribe CLADONIEI.

CLADONIA FIMBRIATA, *Hffm.*

On the ground, amongst mosses &c.

Apparently common.

C. FIMBRIATA, f. *COSTATA*, *Flk.* "Apotheciis pallidis."

Along with the type. Observatory Bay.

Apparently rare.

CLADONIA ACUMINATA (*Ach.*), *Norrl.*

On the ground.

Apparently common at all the stations, but sparingly fertile.

Tribe USNEEI.

NEUROPOGON MELAXANTHUS (*Ach.*).

On rocks.

Not uncommon at all the stations, and very variable, though (as well observed in Hook. Fl. Antarct.) the so-called varieties of the older authors are mere "states depending on age (and nature of habitat) rather than marked races."

N. m., f. *SOREDIIFER*. Thallus more or less, sometimes densely *sorediiferous*.

On rocks, along with the type. Swain's Bay and Royal Sound.

Infertile.

N. m., var. *CILIATA*, *Nyl. Lich. New Zeal.* p. 245.

On rocks. Observatory Bay.

Perhaps not uncommon, and equally variable with the type. The specimens seen are usually but of small size.

NEUROPOGON TAYLORI (*Hook. fil.*).

On rocks. All the stations.

Said by Dr. Hooker (*Flor. Antarct. ii. p. 521*) to be "very abundant on rocks from 100 to 1200 feet of elevation—by far the most handsome vegetable production of Kerguelen's Land." From all states of the preceding, from which it is easily recognized, it appears to be sufficiently distinct.

Tribe PARMELIEI.

PARMELIA STYGIODES, *Nyl.*, sp. n. Quasi *P. stygia* minor, magis contracta, thallo castaneo-fuscescente subopaco, apotheciis margine thallino integro. Thallus K \mp (medulla flavescente). Sporæ ellipsoideæ minutæ, longit. 0·007–0·008 millim., crassit. 0·0045 millim. Spermatia subfusiformia acicularia (vix medio interdum obsolete tenuiora), longit. 0·005–0·006 millim., crassit. 0·0008 millim.

On rocks. Swain's Bay.

Very sparingly; and only in one or two apothecia are the spores visible.

Tribe PELTIGEREI.

PELTIGERA RUFESCENS, f. SPURIA (*DC.*).

Amongst mosses on the ground. Swain's Bay.

Sparingly gathered.

P. POLYDACTYLA, f. *HYMENINA* (*Ach.*).

Amongst mosses.

Along with the preceding, and equally sparingly seen.

Tribe LECANOREI.

PANNARIA PLACODIOPSIS, *Nyl.*, sp. n. Thallus sordide lutescens, placodioideo-divisus, radiis contiguis turgidulis, ambitu subcrenatis; apothecia rufa (latit. 1 millim. vel minora), margine thallino turgidulo subintegro vel subcrenato cincta. Sporæ ellipsoideæ simplices, longit. 0·012–0·018 millim., crassit. 0·010–0·011 millim.; paraphyses crassiusculæ. Iodo gelatina hymenialis leviter cærulescens, deinde vinose rubescens (thecis præsertim tinctis).

On rocks. Observatory Bay.

Sparingly gathered.

P. OBSCURIOR, *Nyl.*, sp. n. Est quasi *P. brunnea* obscurior, apotheciis nigricantibus et gelatina hymeniali iodo vinose rubescente.

On the ground, amongst decayed mosses. Observatory Bay.

Only a single specimen seen, associated with *Psoroma hirsutum* (muscirole).

PSOROMA HIRSUTULUM, *Nyl.*, sp. n. Thallus inter apothecia parum evolutus; apothecia rufo-fuscescentia concava (latit. 1-2 millim.), receptaculo thallino toto dense albido-hirsuto vel vellereo, conferta. Sporæ longit. 0·016-0·021 millim., crassit. 0·009-0·014 millim.

On mosses and decayed stems. Observatory Bay.

Very sparingly gathered.

To this approaches *Parmelia paleacea*, Hook. fil. Fl. Antarct. p. 534, t. 197. f. 3, which, however, is less hirsute.

PLACOPSIS GELIDA (*L.*).

On rocks. Observatory Bay.

Sparingly.

PL. GELIDA, f. *LATERITIA*, *Nyl.* "Thallo toto ferrose ochraceo-tincta."

On rocks. Swain's Bay.

Apparently abundant.

LECANORA (*PLACODIUM*) *ELEGANS*, *Ach.*

On rocks. Swain's Bay and Royal Sound.

Probably not uncommon.

L. (PL.) ELEGANS, f. *LUCENS*, *Nyl.* Minor, thallo subvitellino. Sporæ longit. 0·011 millim., crassit. 0·005 millim.

On stems. Observatory Bay.

Sparingly, and associated with other lichens.

L. SUBUNICOLOR, *Nyl.* Minus evoluta, thallo macro. Sporæ longit. 0·009-0·015 millim., crassit. 0·004-0·007 millim.

On rocks. Royal Sound.

Very sparingly, only two or three apothecia being visible. The present specimen may therefore be slightly different from the Cape-of-Good-Hope plant.

L. VITELLINELLA, *Nyl.* Quasi *L. aurantiaca * erythrella*, *Ach.*, vel potius *L. vitellinula*, *Nyl.* Minuta, sporis minoribus turgidulis, longit. 0·007-0·009 millim., crassit. 0·005-0·007 millim.

On rocks. Swain's Bay.

Very sparingly seen.

L. DIPHYELLA, *Nyl.*, sp. n. Thallus macula pallido-cinerea indicatus. Apothecia nigra lecideina marginata parvula (latit. 0·2-0·3 millim.), intus obscura. Sporæ 8næ, incolores, placodiomorphæ, longit. 0·012-0·017 millim., crassit. 0·008-0·010 millim.; paraphyses mediocres; epithecium cum perithecio et hypothecio nigricantibus. Iodo gelatina hymenialis intensive cærulescens (thecæ præsertim tinctæ).

Species peculiaris quæ videtur affinis *L. diphyi*, *Nyl.*, sed notis datis apotheciis minoribus, hypothecio nigro, sporis crassioribus &c. differt.

Thalamium nonnihil lutescens. Hypothecium et perithecium K reactionem purpurascenti-dissolventem ostendunt. Spermogonia non visa. On rocks. Royal Sound.

Perhaps not uncommon.

LECANORA MACROPHALMA (*Tayl.*). Etiam forma apotheciis nigricantibus. Sporæ longit. 0·021–0·023 millim., crassit. 0·011–0·015 millim.

Est e stirpe *Lecanoræ cinereæ*. Maxime notabilis thallo CaCl + (erythrinoso).

On rocks. At all the stations.

Apparently abundant.

L. ATROCÆSIA, *Nyl.*, sp. n. Thallus albidus aut albido-cæsius, tenuis, æquabilis, subrugulosus vel rugosus, hypothallo nigro limitatus. Apothecia atra, in receptaculis demum nonnihil protuberantibus recepta, margine thalino non prominulo, plana (latit. 0·8–1·5 millim.), subopaca, intus concoloria. Sporæ 8næ incolores ellipsoideæ, longit. 0·010–0·012 millim., crassit. 0·006–0·007 millim., totum apothecium in lamina tenui visum obscure violascens.

Affinis *L. atræ*, sed certe distincta species, differens jam thallo alio et spermatis curvulis (apice supero curvatis) brevioribus (longit. 0·009–0·011 millim., crassit. vix 0·001 millim.). Thallus K+ (virescenti-flavens).

On rocks. At all the stations.

Frequent.

L. BROCCIA, *Nyl.*, sp. n. Thallus albidus tenuissimus (K+flavens); apothecia fusca mediocria (latit. 1–2 millim.), margine thalino crenato-dentato subplicato et involescente recepta; sporæ ellipsoideæ simplices, longit. 0·015–0·017 millim., crassit. 0·006–0·007 millim.; paraphyses mediocres vel subcrassiusculæ; epithecium fuscum. Iodo gelatina hymenialis cærulescens, dein incolor thecis violaceo-tinctis. Spermata bacillaria recta longit. 0·007–0·008 millim., crassit. 0·0007 millim.

On decayed mosses, and on dead stems. Royal Sound.

Apparently not uncommon. The apothecia in appearance are as in *Psoroma*, though their anatomic structure is not as in that genus. As shown by the spermogones, it belongs to the section of *L. atra*. The apothecia are rarely the host of a parasitic Fungillus, viz. *Patellaria antipodella*, *Nyl.*, sp. n.

L. UMBRINA (*Ach.*), *Nyl.* Spermata 0·016–0·022 millim. long, 0·0005–0·0006 millim. thick.

On stems. Observatory Bay.

Associated with *L. elegans*, f. *lucens*, &c.

LECANORA SUBLUTESCENS, *Nyl.* Omnino videtur similis *L. lutescenti*, DC., sed saxicola et sporis non evolutis visis. Thallus sulphureus subleprosus CaCl croceo-reagens.

On rocks. Swain's Bay.

Only two small fragments seen.

Tribe PERTUSARIEI.

PERTUSARIA FERRIMOSA, *Nyl. Lich. N. Zeal.* p. 253. Thallus albidocinereus tenuis rimoso-diffractus vel rimoso-areolatus, nigro-limitatus; apothecia in verrucis thalli convexis (sæpius rimosis) innata, nonnulla hymenia in quavis tali verruca thallina. Sporæ 4-8næ, longit. 0·055-0·105 millim., crassit. 0·03-0·07 millim.

Thallus K e flavo mox cinnabarino-ferruginescens. Spermatia subrecta vel vulgo leviter arcuata, longit. 0·016-0·023 millim., crassit. 0·005-0·006 millim.

On rocks. Swain's Bay.

Apparently not uncommon, though often barren.

P. FERRIMOSA, f. *SUBFERRUGINOSA*, *Cromb.* Thallus more or less ferruginous.

On rocks. Royal Sound.

Sparingly gathered.

P. CINERARIA, *Nyl.*, sp. n. Thallus cinereus tenuis rugulosus areolato-rimulosus determinatus (K-). Apothecia nigricantia in protuberantiis parum elevatis rotundato-diformibus (latit. 0·5-0·7 millim.) impressa punctiformia (1-4 in quavis protuberantia thallina). Sporæ 8næ ellipsoideæ, longit. 0·035-0·052 millim., crassit. 0·016-0·024 millim. Iodo gelatina hymenialis intensive cærulescens (thecæ præsertim ita tinctæ).

A *P. chiodectinoide*, *Bagl.*, Anzi, affini differt thallo lævi depresso tenui &c. In lamina tenui apothecii conspicitur epithecium (fuscescens) K dilute subviolascens et thalamium flavescenti-tinctum (forsan ex elementis stromaticis ita reagens). In *P. chiodectinoide* thallus intus K flavens. Spermogonia non visa.

On rocks. Swain's Bay.

Only a single specimen gathered.

Tribe LECIDEI.

LECIDEA VARIATULA, *Nyl.*, sp. n. Thallus albidus, tenuiter subgranulosus, dispersus. Apothecia fusca (vel juniora pallescentia) aut demum nigricantia, plana vel concaviuscula, marginata (latit. 0·3-0·5 millim.), intus albicantia. Sporæ 8næ incolores ellipsoideæ simplices, longit. 0·011-0·015 millim., crassit. 0·006-0·007 millim., paraphyses graciles discretæ æquales (apice non crassiores), hypothecium incolor. Iodo gelatina hymenialis non tincta, sed thecæ solæ cærulescentes (dein violaceo-infuscatæ).

On decaying stems. Observatory Bay.

Very sparingly gathered, and only a few apothecia visible on the specimen.

This is a sufficiently distinct species, belonging to the section of *Lecidea mutabilis*.

LECIDEA ASSIMILATA, *Nyl.*

On the ground. Royal Sound.

Apparently not uncommon.

L. ASSENTIENS, *Nyl.*, sp. n. Thallus albidus tenuis rugulosus rimulosus (K flavens); apothecia nigra plana marginata (latit. 1 millim. vel minora), sæpe nonnihil difformia; sporæ 8næ incolores ellipsoideæ, longit. 0·009–0·012 millim., crassit. 0·005–0·006 millim., epithecium nigricans, paraphyses fere mediocres, hypothecium cum perithecio nigrum. Iodo gelatina hymenialis cærulescens, dein thecæ violaceo-fulvescentes.

Est arcte affinis *L. vorticosa*, Flk., differt autem thallo, epithecio nigricante, thalamio incolori (non cærulescente). Epithecium sæpe ochraceo-suffusum.

On rocks. Royal Sound and Observatory Bay.

Very sparingly.

L. INTERSITA, *Nyl.*, sp. n. Thallus albidus vel cinerascens, tenuis, rimulosus (K +, flavens), hypothallo plumbeo-obscurato instratus; apothecia nigra marginata (latit. 1 millim. vel minora), intus concoloria strato hymeniali albo; sporæ 8næ incolores ellipsoideæ, longit. 0·012–0·015 millim., crassit. 0·006–0·008 millim., epithecium cærulescenti-infuscatum, paraphyses mediocres, hypothecium cum perithecio nigrum. Iodo gelatina hymenialis cærulescens, dein subincolor et thecæ vinose rubescentes. Spermatia arcuata, longit. 0·014–0·016 millim., crassit. 0·0005 millim.

Facie *L. contigæ* vel *meiosporæ*, sed revera affinis *L. assentienti*.

On rocks. Observatory Bay.

Very sparingly gathered.

L. PHÆOSTOMA, *Nyl.*, sp. n. Thallus cinerascens tenuis rugulosus rimulosus; apothecia rufa plana prominula nigro-marginata (latit. 0·5–0·7 millim.), sæpe conferta et pressione mutua anguloso-difformia. Sporæ 8næ incolores ellipsoideæ, longit. 0·011–0·012 millim., crassit. 0·006–0·008 millim., epithecium luteo-fuscescens, hypothecium cum perithecio nigrum. Iodo gelatina hymenialis cærulescens, dein lutescens.

Thallus K flavescens, epithecium K roseo-violascenti-dissolutum. Species est peculiaris et facile dignota in stirpe *Lecidæ parasemæ*. Spermatia arcuata, longit. 0·015–0·018 millim., crassit. 0·0005 millim.

On rocks. Royal Sound.

Rather sparingly gathered.

LECIDEA AMYLACEA, *Ach.*, *Nyl.* The specimens seen are sufficiently similar to the European plant, differing only in the epithecium being brownish, while in the European plant it is subcærulescent.

On rocks. Swain's Bay.

Probably not uncommon.

L. SUBASSENTIENS, *Nyl.*, sp. n. Thallus albidus tenuis, subrugulosus vel lævis, rimosus (*K flavens*); apothecia nigra plana marginata (latit. 0·5–0·7 millim.), intus obscure cærulescentia; sporæ 8næ ellipsoideæ, longit. 0·010–0·012 millim., crassit. 0·006–0·007 millim., epithecium cærulescens, paraphyses gracilescentes, hypothecium incolor, perithecium nigrum. Iodo gelatina hymenialis cærulescens, thecæ deinde subviolaceæ rubescentes.

Affinis *Lecideæ diasemoidi*, *Nyl.*, sed differens sporis nonnihil minoribus et spermatis longioribus. Facie externa satis convenit cum *L. assentiente*. Thalamium supra cærulescens.

On rocks. Royal Sound.

Very sparingly gathered.

L. PERUSTA, *Nyl.*, sp. n. Thallus hypothallo nigro tenui æquabili continuo constans, in quo sparsæ areolæ fusco-rufescentes vel fusco-cupreæ, rotundato-angulosæ, minutæ, aggregatæ, impressæ, concaviusculæ et circumscissæ; apothecia nigra demum prominula convexiuscula, marginata aut submarginata (latit. circiter 1 millim.), intus tota obscura; sporæ 8næ incolores ellipsoideæ, demum nigrescentes, longit. 0·024–0·036 millim., crassit. 0·011–0·018 millim., pariete distincto, paraphyses gracilescentes, epithecium fuscenscens, hypothecium incolor. Iodo gelatina hymenialis intensive cærulescens (etiam thecæ sic tinctæ).

Species videtur stirpis omnino propriæ, facie quodammodo accedens ad *L. fumosam*.

On rocks.

At all the stations, though very sparingly and rarely in its best-developed state.

L. ASBOLODES, *Nyl.*, sp. n. Thallus fuliginosus subopacus tenuis continuus determinatus. Apothecia nigra plana marginata (latit. 0·5–0·6 millim.); sporæ 8næ subglobosæ vel breviter ellipsoideæ, longit. 0·008–0·010 millim., crassit. 0·007 millim., paraphyses graciles, thalamium cum hypothecio (in lamina tenui) lutescens, epithecium luteofuscenscens, perithecium nigrum. Iodo gelatina hymenialis cærulescens, dein subincolor et thecæ (præsertim apice) violaceo-tinctæ.

Facies externa fere *Lecideæ leioteæ*, *Nyl.* in *Flora*, 1867, p. 328, quæ vero differt apotheciis vix marginatis, paraphysibus crassioribus &c.

Variat thallus obsolete rimulosus.

On rocks. Royal Sound.

Apparently not uncommon.

LECIDEA LYGOMMA, *Nyl.*, sp. n. Thallus cinereus vel cinereo-cyaneus, tenuis, lævis, rimulosus, nigro-variegatus; apothecia nigra sublenorina (innata in receptaculo thallino lecanoroideo nigricante), plana (latit. 1 millim. vel minora), subcircumscissa, intus subconcoloria strato superiore subcæsiō; sporæ 8næ incolores ellipsoideæ, longit. 0·011–0·015 millim., crassit. 0·006–0·007 millim., epithecium obscure cærulescenti-nigricans, paraphyses mediocres, hypothecium nigrum. Iodo gelatina hymenialis et cum thecis persistenter cærulescens.

Thallus K supra et intus flavens deindeque cinnabarino-rubens, I–. Species est peculiaris, faciei Lichenis e stirpe *Lecanoræ gibbosa* vel fere *Thelotrematis* aperti. Margo lecanoroideus (etiam sæpius hic circumscissus, h. e. fissura cinctus) obliquus, intus tenuescens et ibi subalbicans obsoleteque radiatim aliquoties fissulus. Analysis apothecii affinitatem maximam prodit cum stirpe *Lecideæ contigua*.

On rocks. At all the stations.

Apparently not unfrequent.

L. SUBCONTINUA, *Nyl.*, sp. n. Thallus plumbeus (vel in f. *ferrea* ochraceus) lævigatus rimosus (crassit. circiter 0·5 millim.); apothecia nigra innata plana marginata (latit. 1 millim. vel minora), intus concoloria strato supero albido; sporæ 8næ ellipsoideæ, longit. 0·010–0·016 millim., crassit. 0·006–0·008 millim., epithecium luteofuscescens, paraphyses gracilescentes, hypothecium cum perithecio nigrum. Iodo gelatina hymenialis cærulescens, cærulescentia subpersistente. Spermatia longa rectiuscula vel rarius leviter arcuata, longit. 0·015–0·020 millim., crassit. 0·0005–0·0006 millim.

Species bene distincta in stirpe *Lecideæ contigua* vel in *L. parasemæ*, nam inter ambas ambigit.

On rocks. Swain's Bay and Royal Sound.

Very sparingly gathered.

L. EATONI, *Cromb.* Thallus albus vel cæsiō-albus, tenuis, continuus, opacus (K + flavens, I–), hypothallo nigro (sæpe maculose) instratus; apothecia nigra innata plana immarginata (latit. circiter 1 millim.), intus concoloria; sporæ 8næ oblongo-ellipsoideæ, longit. 0·009–0·011 millim., crassit. 0·004–0·005 millim., epithecium cærulescenti-nigricans, paraphyses breves crassæ, hypothecium fuscum. Iodo gelatina hymenialis cærulescens.

On rocks. Observatory Bay and Swain's Bay.

Very sparingly. This species, which is sufficiently distinguished by the above characters, belongs to the section of *L. contigua*.

L. SUBPLANA, *Nyl.*, sp. n. Thallus albus tenuis inæqualis areolato-diffractus; apothecia nigra plana marginata, demum sublobatula et convexiuscula margine evanescente, sat parva (latit. 0·5–0·9 millim.), intus albida; sporæ 8næ incolores, ellipsoideæ, longit. 0·009–0·013

millim., crassit. 0·004–0·006 millim., epithecium et perithecium cærulescenti-nigricantia, paraphyses mediocres, hypothecium incolor. Iodo gelatina hymenialis intensive et persistenter cærulescens.

Affinis *L. plana* Lehm., a qua differt thallo albo, sporis majoribus et spermatis brevioribus (hæc longit. 0·007–0·008 millim., crassit. 0·0007–0·0008 millim.). Thallus K–, I–.

On rocks. Observatory Bay.

Very sparingly gathered.

LECIDEA SINCERULA, *Nyl.* Est *L. Dicksonii* Ach., thallo typico cinereo (nec ferro tincto). Sporæ longit. 0·009–0·012 millim., crassit. 0·006–0·007 millim. Iodo gelatina hymenialis cærulescens, dein vinose rubescens.

On rocks. Royal Sound.

Sparingly.

L. SINCERULA, f. *DICKSONII* (*Ach.*).

On rocks. Swain's Bay.

Associated with other lichens, and but sparingly seen.

L. TRISTIUSCULA, *Nyl.*, sp. n. Thallus fusco-cinereascens tenuis rugulosus determinatus, passim subrimulosus; apothecia nigra opaca superficialia plana marginata subrugulosa (latit. circiter 0·5 millim.), margine subcrenulato-ruguloso; sporæ 8næ fuscae ellipsoideæ 1-septatæ (juniores placodinæ), longit. 0·018–0·024 millim., crassit. 0·010–0·011 millim., epithecium luteo-fuscescens, paraphyses gracilescentes, hypothecium incolor, perithecium nigrum. Iodo gelatina hymenialis cærulescens, deinde subvinose rubescens vel subfulvescens.

Species est e stirpe *Lecideæ spurie* et forsan *L. subtristis*, *Nyl.*, sit maxime affinis. Spermogonia arthrosterigmatibus pauciariculatis et spermatis brevibus tenellis.

On rocks. Swain's Bay.

Associated with *Pertusaria cineraria*. Very sparingly seen.

L. MYRIOCARPA (*DC.*), *Nyl.* A state with the thallus thin or evanescent.

On rocks. Swain's Bay.

Very sparingly gathered.

L. MYRIOCARPA, f. *ERUMPENS*. Thallus very thin. Apothecia erumpent.

On dead stems. Observatory Bay.

Associated with *Lecanora elegans*, f. *lucens*, and *L. umbrina*.

Only a single specimen seen.

L. SUBPLICATA, *Nyl.*, sp. n. Thallus obsoletus; apothecia nigra plana elevato-marginata, margine tumidulo demum aliquoties sublobato-crenato, inde subangulosa et demum subgyrosa; sporæ fuscae 1-septatæ, longit. 0·016–0·019 millim., crassit. 0·008–0·010 millim.,

sæpe curvulæ, epithecium luteo-fuscescens, paraphyses gracilescentes, hypothecium cum perithecio nigrum. Iodo gelatina hymenialis cærulescens, deinde vinose rubescens.

Facies externa fere *Sarcogynes simplicis* (Dav.), sed revera stirpis *Lecideæ coniopis*. Spermata arcuata, longit. 0·015–0·022 millim., crassit. 0·0005 millim. Variant apothecia magis gyroso-corrugata et aggregata. On rocks. Royal Sound and Swain's Bay. Probably not uncommon.

L. CEREBRINELLA, *Nyl.* Similis *L. cerebrinæ* (Ram.), sed minor; apotheciis minoribus (latit. circiter 0·5 millim.) et sporis minoribus (longit. 0·009–0·011 millim., crassit. 0·006–0·007 millim.). Iodo gelatina hymenialis leviter cærulescens, dein vinose fulvescens. Apothecia valde plicato-corrugata. Thallus albus tenuis rugulosus, K+ (flavens), evanescens quidem adest, at minime proprius. Verus thallus *L. cerebrinellæ* videtur obscure cimerascens tenuissimus continuus obsoletus.

On rocks.

L. GEOGRAPHICA (*L.*). The specimens are entirely similar to the European plant. Spores 0·024–0·031 millim., crassit. 0·012–0·014 millim.

On rocks. At all the stations.

Very sparingly gathered. This is the only crustaceous species from Kerguelen in which the medulla gives a bluish reaction with I.

Tribe PYRENOCARPEI.

VERRUCARIA TESSELLATULA, *Nyl.*, sp. n. Thallus cinereo-fuscescens æquabilis areolato-diffractus, sat tenuis (crassit. circiter 0·3 millim.); apothecia innata, pyrenio incolori, solum supra (ostiolo parum prominulo) nigra; sporæ 8næ ellipsoideæ, longit. 0·010–0·015 millim., crassit. 0·007–0·008 millim.

Affinis *Verrucariæ virenti*, *Nyl.*, et *V. Novæ Angliæ*, *Tuck.*, sed mox distans thallo lævigato (fere ut in *V. polysticta*, *Borr.*, et areolis etiam magis discretis), sporis brevioribus &c. Gonidia diametro transverso 0·016–0·022 millim., sæpius 2 vel plura syngonidio (crassiusculo) juncta, interdum subseriata (chroolepoidea).

On rocks. Swain's Bay and Royal Sound.

Very sparingly gathered; and the specimen from the latter station atypical, in consequence of having been submersed in water.

V. OBFUSCATA, *Nyl.*, sp. n. Thallus umbrino-nigricans continuus tenuissimus vel subevanescens; apothecia pyrenio dimidiato-nigro mastoideo-prominulo (latit. basi fere 0·3 millim.), epithecio vix in-

presso; sporæ 8næ incolores oblongo-ellipsoideæ, longit. 0·020–0·032 millim., crassit. 0·010–0·014 millim. Iodo gelatina hymenialis vinose rubescens.

Comparanda est cum *V. obnigrescente*, Nyl. in *Flora*, 1875, p. 362, differens autem thallo alio et sporis nonnihil longioribus.

On rocks. Royal Sound.

Very sparingly gathered.

VERRUCARIA ÆTHIOBOLA, Ach. Spores 0·016–0·021 millim. long 0·007–0·010 millim. thick; and scarcely in any respect differing from the European plant.

On rocks. Royal Sound.

Sparingly seen.

V. PRÆVALESCENS, Nyl., sp. n. Thallus subochraceo-albidus opacus tenuis rimulosus; apothecia pyrenio dimidiato-nigro subhemisphærico-prominulo majusculo (latit. 0·6–0·7 millim.), epithecio impressulo; sporæ 8næ incolores ellipsoideæ 3-septatæ, longit. 0·035–0·038 millim., crassit. 0·014–0·018 millim.

Est hæc in stirpe *V. pyrenophoræ* omnino distincta species.

On rocks. Observatory Bay.

Very sparingly; associated with *Lecidia intersita*.

V. KERGUELENA, Nyl., sp. n. Thallus fusco-cinerascens vel pallido-cinerascens, tenuissimus, obsoletus; apothecia pyrenio nigro dimidiato medioeri (latit. basi 0·5 millim. vel nonnihil minor), subhemisphæricæ prominulo, epithecio punctiformi-impresso. Sporæ 8næ incolores ellipsoideæ murali-divisæ, longit. 0·016–0·025 millim., crassit. 0·007–0·010 millim., paraphyses graciles sat confertæ. Iodo gelatina hymenialis non tineta (protoplasma thecarum solum vinose fulvescens).

In stirpe *V. thelostomoidis* est species insignis.

On rocks. Royal Sound.

Very sparingly.

V. INSUETA, Nyl., sp. n. Thallus albidus (aut varians albido-ochraceus) tenuis rimuloso-diffractus subrugosus (K-); apothecia pyrenio integre nigro, dimidia parte supera denudata subrugulosa convexa (latit. 0·25 millim. vel minore), epithecio parum impresso; sporæ 8næ incoloræ oblongæ 3-septatæ, longit. 0·014–0·017 millim., crassit. 0·003–0·004 millim., paraphyses graciles. Iodo gelatina hymenialis vinose rubens.

Est species peculiaris ad stirpem propriam *Verrucariarum* pertinens, quæ accedit ad stirpem *V. chloroticæ*, at thecis clavatis, paraphysibus brevioribus, gelatina hymeniali iodo violaceo-rubescente, differentias sistens conspicuas.

On rocks. Swain's Bay.

Very sparingly seen, associated with *Pertusaria cineraria*.

The additions thus made by Mr. Eaton to our knowledge of the lichen-flora of Kerguelen are thus not only very considerable in number, but also most interesting on account of the new types amongst them. Probably other species may have been collected by the botanists accompanying the American and German expeditions, which were stationed respectively at Molly Point and Betsy Cove, lying north and east of Observatory Bay. When the collections thus made have been recorded, I hope to be able to supplement the present memoir by a fuller catalogue of Kerguelen Lichens, containing also a revision of the species of Dr. Hooker's 'Flora Antarctica,' so far as the Kew Herbarium is available for this purpose.

A List of the Musci and Hepaticæ collected in Kerguelen's Island by the Rev. A. E. EATON, A.M. By WILLIAM MITTEN, A.L.S.

[Read March 2, 1876.]

As nearly all the specimens were obtained from four localities, to avoid repetition, it will suffice to indicate the occurrence of the species in each by a single letter, thus:—R., Royal Sound, visited on the 20th October 1874; S., Swain's Bay, 16th January 1875; V., Vulcan Cove, 6th January 1875; and C., Hill N.W. of Mt. Crozier, 6th January 1875.

MUSCI.

CYNONTODIUM CONICUM, *Mont.* (Aschistodon.)

V., C., without fruit.

C. HOOKERI, *C. Müller, Syn. i. 450.* (Leptotrichum.)

R., with old fruit and young setæ.

ANISOTHECIUM VAGINATUM, *Hook. Musc. Exot. t. 141.* (Dicranum.)

S., small and barren.

BLINDIA CURVISETA, *Mitt. Musc. Aust.-Amer. 56.*

R., with young and partly ripe capsules; fine specimens.

DICRANUM KERGUELENSE, *C. Müller, Syn. i. 370.*

R., in large tufts without fruit.