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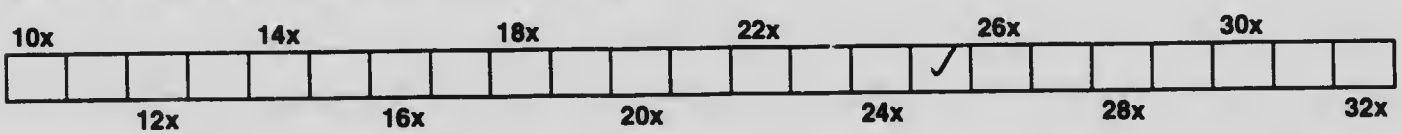

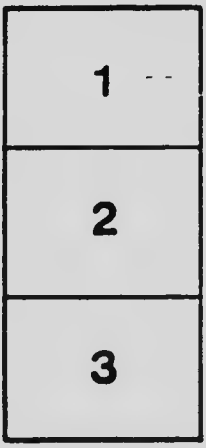

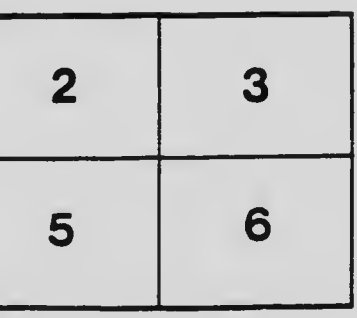

REPORT

OF THE

CANADIAN ARCTIC EXPEDITION 1913-18

VOLUME IV: BOTANY

PART D: LICHENS

By G. K. MERRILL

SOUTHERN PARTY---1913-16

OTTAWA
J. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

Issued July 16, 1924

Report of the Canadian Arctic Expedition, 1913-18.

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Part B: SOUTHERN PARTY, 1913-16. By Rudolph Martin Anderson. ..... *(In preparation)*

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Part N: THE CRUSTACEAN LIFE OF SOME ARCTIC LAGOONS, LAKES AND PONDS.
By F. Johansen. ..... *(Issued December 30, 1922).*

REPORT

OF THE

CANADIAN ARCTIC EXPEDITION 1913-18

VOLUME IV: BOTANY

PART D· LICHENS

By G. K. MERRILL

SOUTHERN PAR' '---1913-16

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1924

Issued July 16, 1924

Lichens Collected by the Canadian Arctic Expedition, 1913-18

By G. K. MERRILL, Rockland, Maine

The Lichens collected by the Canadian Arctic Expedition of 1913-1918 were from points on the arctic coast along the 70th parallel. Exploration extended inland from Camden bay, Alaska, for a distance of thirty miles, and for about the same distance in the region of the Coppermine river. Otherwise, the lichens were taken from islands adjacent to the coast, or from the mainland near the sea. Rocks, beach pebbles, old bones, driftwood, and tundra formations supported the coast lichens; but, on the Coppermine river, a few were from the dead branches of living trees. The lichens found inland are to be considered elements of a continental flora; but it remains to be established if there is a distinctive strand flora.

The terms alpine and arctic as applied to lichen distribution must ever remain elastic. There are so many cosmopolites among lichen species, that the flora of any continental arctic area may show the floral elements of great land surfaces predominating.

Twelve alpine or arctic lichens enumerated in the accompanying list are found in the State of Maine, some of them descending to the sea level; on the other hand, the list contains the names of fifty species of general distribution at low altitudes in Maine and, indeed, all New England. Of the five hundred and five lichens credited to the arctic by Darbishire, one hundred and ninety-nine have been collected in Maine. The mean annual temperature of the Maine coast varies but little from 45° Fahr. The mean for that period of the year in which the sun is visible on the arctic coast should be relatively low, just how low I have no means of knowing. It would seem, however, that the lichens of temperate regions are less intolerant of low temperatures than are arctic and alpine ones of warmth.

Three species only of the list seem to be exclusively arctic, so far as North America is concerned, namely: *Cetraria chrysantha*, *Polyblastia scotinospora*, and *Verrucaria striatula* forma *dealbata*. *Dactylina arctica*, *Dufourea ramulosa*, *Dufourea madreporiformis*, and a few other high northern lichens may be observed on many of our western mountains in alpine situations. The mountains and general region of Alberta and British Columbia may be counted on to furnish duplicates of every lichen in our list except *Cetraria chrysantha*, *Polyblastia scotinospora*, and *Verrucaria striatula*.

If one may judge by the appearance of the foliaceous and, to a certain extent, the fruticose material from the arctic coast, conditions have not been favourable for development and growth. Infertile, dwarfed, and atypical exhibits are almost the rule. The crustose forms, however, find conditions more to their liking and well developed, fertile thalli are common and so abundant that the rocks everywhere are covered. *Caloplaca miniata* and *C. elegans* are everywhere profusely developed, particularly the first mentioned, and the conjecture seems warranted that the species is a pioneer. Climatic conditions are unfavourable for rock disintegration or decay of any sort, and for this reason crustose lichens tend to persist. It is easily conceivable that a well identified plant of any crustose species might be found in its original station after the lapse of one hundred years, and, in the case of those of slow growth, comparatively unaltered. In the Swiss alps, a plant of *Rhizocarpon geographicum* was watched by three generations of observers and its diameter had increased by

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two centimeters only. Growth is exceedingly slow, and the likelihood of mechanical injury remote. Bones decay very slowly and there is no evidence that the lichen covering is contributive. Driftwood thrown beyond the reach of the water soon becomes covered with a varied lichen growth, the wood merely weathering and not decaying. The tundra formations furnish an interesting study because of the many generations of musci and lichens that go to make up the mass of tussock or expanse. In many places through the Barren Ground region and the Alaskan peninsula, the ground is covered to the depth of a foot or more with the debris of successive generations of lichens and mosses of which only the uppermost layer is living. From an ecological point of view, with the rock lichens there are two pioneers, *Caloplaca miniata* preferring smooth stones, and *Rhizocarpon geographicum* preferring the rough ones. Both smooth and rough stones if beyond the action of the waves eventually become covered with an indiscriminate coating of *Lecidea, Lecanora, Biatorella,* and other closely adherent species. A peculiarity noticed in the course of my examination of the crustose forms is the great number of vagrant apothecia interspersed with the better developed lichens. These apothecia were without trace of visible thallus, and belonged for the most part to the genera *Caloplaca, Rinodina, Lecanora,* and *Buellia.*

Darbishire found in his examination of the *Fram* lichens that old bones bore *Lecanora Hageni, L. varia, Rinodina turfacea,* and *Buellia parasema.* No *Lecanora varia* occurs on the bones of our material, nor has it been observed on any other support. *Buellia parasema* was not detected, but *Buellia myriocarpa* was noticed.

On driftwood Darbishire found *Caloplaca cerina, C. citrina, C. jungermanniae, Lecanora epibryon,* and *Buellia myriocarpa. Caloplaca citrina* was not present in any of our material, but the other species were observed. A rather curious fact may here be noted, that *Lecanora polytropa* or *L. polytropa intricata* were not to be found on either rocks or bones.

A comparison of results, in number of lichens collected by the Canadian Arctic expedition (93) and herein listed, with the accomplishment of other expeditions in adjacent regions may be of interest.[1]

Professor John Macoun visited the Yukon region in 1902 and from his material 103 species and varieties were separated. It is found that 33 are common to both districts.

Sir John Richardson visited the Mackenzie valley in 1826 and his lichens were identified by Leighton. One hundred were enumerated, and 27 are common to both regions.

The Second Norwegian Polar expedition of 1898-1902 visited Greenland, Ellesmere and King Oscar lands. The number of species differentiated by Darbishire is 161, and the number common to both regions does not exceed 40.

Alaska has been variously explored and nearly all of the lichens enumerated in this list have been found on its mainland or islands.

From Greenland 338 lichens have been listed, and 60 are common to Greenland and the region covered by Canadian Arctic Expedition. Labrador possesses 21 species in common, and Newfoundland 30.

[1]The lichens of the Canadian Arctic Expedition were collected by Mr. Frits Johansen, unless otherwise stated.

When not otherwise stated the localities given are in Northwest Territories, Canada. For exact position of localities see Vol. V. part A, pp. 5-6.

VERRUCARIACEAE

Verrucaria striatula Wahl. in Aeh. Method. Suppl. p. 21 (1803).
On beach pebbles, sandspit of Hulahula river, Alaska; on beach pebbles, ley reef, Alaskan arctic coast.
This lichen is so rare in America it is thought best to describe it. Thallus brown, greenish-brown or black, gelatinous, of diverging, radiate ridges, or these irregularly or dendritically arranged. Perithecia seated on the ridges, centrally situated, minute, with a large central pore, perithecial wall dimidiate.
Spores 8, colourless, ellipsoid, 8-9 x 4-5μ.
Known from one locality in the United States, on pebbles bordering a river in Weymouth, Mass.

Verrucaria striatula Wahl. forma **dealbata** f. nov.
Thallus aut omnino aut in parte dealbatus, vel denique obsoletus, perithecciis persistentibus. In hoe statu perithecia dealbata vel solitaria vel in lineas breves disposita sunt. Sporae ut in specie. Forma dealbata cum planta typica videtur.
Distingnished from the species by the thalline ridges becoming partly or wholly dealbate, or the thallus at length obliterated with only the perithecia persisting. In this condition the perithecia may be solitary or arranged in definite short lines, and wholly dealbate.
The spores are identical with those of the speeies, and the dealbate form is to be found accompanying the typical plant.

Polyblastia scotinospora (Nyl.) Hellb. in Vet. Akad. Förh. p. 478 (1865).
On rocks, Sadlerochit river, 20 miles inland from Camden bay, Alaska. Probably new to North Ameriea.

SPHAEROPHORACEAE

Sphaerophorus coralloides Pers. in Ust. An. I: p. 23 (1794).
On tundra, Collinson point, Alaska; tundra, between Port Clarence bay and Teller, Alaska.
The distribution of this speeies is peculiar. It is found as far south as Oregon on the west coast, and at the sea level at Eastport, Maine; but in our eastern mountains it is an alpine plant.

LECIDEACEAE

Lecidea contigua (Hoffm.) Fr. Lich. Eur. p. 298 (1831).
On rocks, Wollaston peninsula, Victoria island.

Lecidea Wulfenii Koerb. Parerg. Lich. p. 216 (1860).
Over mosses, Bernard harbour, Dolphin and Union strait.
Not appearing in the Cummings List.

Lecidea aglaea Sommerf. Suppl. Fl. Lapp. p. 144 (1826).
On rocks, Bernard harbour.

Lopadium pezizoideun (Ach.) Koerb. Syst. Lich. Germ. p. 210 (1855).
Heterothecium, Tuck. Syn.
Over mosses, Collinson point, Alaska.

Rhizocarpon alboatrum (Hoffm.) Th. Fr. Aretoi, p. 237 (1861).
Buellia Tuck. Syn.
On dead branches of living white spruce, Coppermine river; driftwood and old logs, Collinson point, Alaska.

Rhizocarpon alboatrum (Hoffm.) Th. Fr. var. **epipolium** (Ach.) A. L. Sm. Brit. Lich. II: p. 189 (1911).
On rocks, near Murray point, Wollaston peninsula.

Rhizocarpon confervoides DC. Fl. Franc. II: p. 565 (1805).
Buellia petraea Tuck. Syn. pro parte.
On rocks, 500-foot hill, 30 miles inland from Camden bay, Alaska.
Common and varied in the Arctic.

Rhizocarpon geminatum (Flot.) Koerb. Syst. Lich. Germ. p. 279 (1855).
On rocks, Sadlerochit river, 25 miles inland from Camden bay, Alaska.

Rhizocarpon geographicum (L.) DC. Fl. Franc. II: p. 365 (1805).
On beach pebbles, Richardson island, Coronation gulf; on rocks, Bernard harbour; on rocks, Wollaston peninsula; on rocks, 30 miles inland from Camden bay, Alaska.
Ever present in arctic and alpine regions, on boulders, pebbles, and even sticks. It is the *Buellia geographica* of Tuck. Syn.

CLADONIACEAE

Cladonia sylvatica (L.) Hoffm. var. **sylvestris** Oed. in Fl. Dan. III fasc. 9 (1770).
On earth, Chantry island, Bernard harbour.

Cladonia sylvatica (L.) Hoffm. forma **sphagnoides** Flk. Clad. Comm. p. 168 (1828).
On earth, south coast of Coronation gulf. J. R. Cox and J. J. O'Neill.

Cladonia bellidiflora (Ach.) Schaer. Lich. Helv. Spicgl. p. 21 (1823).
Tundra hummocks, Collinson point, Alaska.

Cladonia bellidiflora (Ach.) Schaer. var. **coccocephala** (Ach.) Wain. Mon. Clad. I: p. 204 (1887).
Tundra hummocks, Collinson point, Alaska.

Cladonia coccifera (L.) Willd. Fl. Berol. p. 361 (1787).
Tundra, Demarcation point, Alaska; tundra, Cockburn point, Dolphin and Union strait.

Cladonia coccifera (L.) Willd. var. **pleurota** (Flk.) Schaer. Lich. Helv. Spicig. p. 25 (1823).
Over mosses, Cockburn point; on tundra, Collinson point, Alaska.

Cladonia pyxidata (L.) Fr. var. **neglecta** (Flk.) Mass. Sched. Crit. p. 82 (1855).
On earth, cape Bathurst.

Cladonia pyxidata (L.) Fr. var. **Pocillum** (Ach.) Flot. Linnaea, 19 (1843).
Tundra, Demarcation point, Alaska; tundra, Bernard harbour.

Cladonia carneola Fr. Lich. Eur. Ref. p. 233 (1831).
Tundra hummock, Collinson point, Alaska.

Stereocaulon tomentosum Fr. Sched. Crit. p. 20 (1826).
On earth, Camden bay, Alaska.

GYROPHORACEAE

Gyrophora anthracina (Wulf.) Koerb. Syst. Lich. Germ. p. 99 (1855).
Umbilicaria, Tuck. Syn.
On rocks, mouth of Rae's Mackenzie river, Wollaston peninsula.
A plant of common occurrence on all rock specimens from the region, but in an immature condition.

Gyrophora anthracina (Wulf.) Koerb. var. **reticulata** Schaer. Spielg. p. 104 (1823).
Umbilicaria, Tuck. Syn.
On rocks, Bernard harbour.

Gyrophora proboscidea (L.) Ach. Method. Lich. p. 105 (1803).
Umbilicaria, Tuck. Syn.
On rocks, 30 miles inland from Camden bay, Alaska.
All of our plants intermediate between the typical condition and the var. *arctica* of Tuckerman's Syn.

ACAROSPORACEAE

Biatorella testudinea (Ach.) Mass. var. **coracina** (Sommerf.) Th. Fr. Lich. Scand. II: p. 403 (1874).
Lecidea morio coracina, Tuck. Syn.
On rocks, Bernard harbour.

Biatorella testudinea (Ach.) Mass. var. **pallens** (Mont.) Th. Fr. Lich. Scand. II: p. 403 (1874).
On rocks, Bernard harbour; on same substratum, Wollaston peninsula.

Acarospora molybdina (Wahl.) Mass. Symmict. p. 21 (1855).
Lecanora, Tuck. Syn.
On rocks, Bernard harbour.

COLLEMACEAE

Collema crispum Ach. Syn. p. 311 (1814).
On mosses in crannies of rocks, on river, 30 miles inland from Camden bay, Alaska.

PANNARIACEAE

Psoroma hypnorum (Hoffm.) Nyl. Scand. p. 121 (1861).
Pannaria, Tuck. Syn.
On mosses, Collinson point, Alaska.

PELTIGERACEAE

Peltigera canina (L.) Hoffm. forma **sorediata** Schaer. Enum. p. 20 (1850).
On mosses, 30 miles inland from Camden bay, Alaska.

Peltigera spuria (Ach.) Nyl. Syn. I: p. 325 (1860).
On crevices of rocks, on river, 30 miles inland from Camden bay, Alaska.

Peltigera aphthosa (L.) Hoffm. Fl. Germ. II: p. 107 (1795).
Tundra, 25 miles inland from Camden bay, Alaska.

LECANORACEAE

Lecanora chrysoleuca (Sw.) Ach. var. **rubina** (Vill.) Th. Fr. Lich. Scand. I: p. 224 (1871).
On rocks, 500-foot hill, 50 miles inland from Camden bay, Alaska.

Lecanora badia (Pers.) Ach. Lich. Univ. p. 407 (1810).
On rocks, Bernard harbour.

Lecanora frustulosa (Dicks) Ach. Lich. Univ. p. 405 (1810).
On dolomite, Sutton island, Dolphin and Union strait.
Thallus degraded and apothecia discoloured.

Lecanora epibryon Ach. Syn. p. 155 (1814).
On mosses in tundra, Demarcation point, Alaska, and over mosses, Bernard harbour.

Lecanora umbrina (Ehrh.) Nyl. Bull. Soc. Bot. XIII: p. 369 (1866).
On driftwood, Spy island, Alaskan arctic coast.

Lecanora Hageni Ach. Lich. Univ. p. 367 (1810).
On old bone, Bernard harbour; same substratum, Icy reef, Alaskan arctic coast; on driftwood, Spy island, Alaskan arctic coast.

Lecanora subfusca (L.) Nyl. Emend. Flora p. 250, note 2 (1872).
On old bones, Young point.

Lecanora cinerea (Ach.) Sommerf. Suppl. Fl. Lapp. p. 99 (1826).
On stones, 50 miles inland from Camden bay, Alaska.

Lecanora gibbosa (Ach.) Nyl. Lapp. Orient. p. 137 (1867).
On beach pebbles, Richardson island, Coronation gulf; on rocks, 50 miles inland from Camden bay, Alaska.

Lecanora verrucosa (Ach.) Laur. Teste Nyl. Scand. p. 159.
On stones, Bernard harbour.

Ochrolechia tartarea (L.) Mass. Ricerche, p. 30 (1852).
Lecanora, Tuck. Syn.
On earth and over mosses, Ross point, Wollaston peninsula; Young point; on mosses, small island at entrance to Bernard harbour.

Candelariella vitellina (Ach.) Mull. Bull. Herb. Boiss. II: append. 47 (1894).
Placodium Tuck. Syn.
On stones, Bernard harbour.

Candelariella cerinella (Flk.) Zahl. Engler and Prantl, Pflanzenf., p. 207 (1907).
Placodium vitellinum aurellum Tuck. Syn.
Caloplaca subsimilis Th. Fr. Lich. Scand.
Gyalolechia subsimilis Koerb. Syst. Lich. Germ.
On old bones, Young point.

PARMELIACEAE

Parmelia physodes (L.) Ach. Method. Lich. p. 250 (1803).
On dead branches of living white spruce, Coppermine river.

Parmelia physodes (L.) Ach. forma **fuscescens** Cromb. Grevill. XV: p. 75 (1887).
On dead branches of living white spruce, Sandstone rapids, Coppermine river.

Parmelia physodes (L.) Ach. var. **vittata** Ach. Syn. p. 218 (1814).
Collinson point, Alaska.

Parmelia fraudans Nyl. Scand. p. 100 (1861).
On boulders in tundra, Camden bay, Alaska.

Parmelia saxatilis (L.) Ach. Method. Lich. p. 204 (1803).
Tundra, Bernard harbour; on mosses, Uloksak's island, Bernard harbour; on big boulders in tundra, Camden bay, Alaska.

Parmelia saxatilis (L.) Ach. var. **omphalodes** (L.) Fr. L. E. p. 62 (1831).
On big boulder in tundra, Camden bay, Alaska.

Parmelia conspersa (Ehrh.) Ach. Method, Lich. p. 205 (1803).
On rocks, 50 miles inland from Camden bay, Alaska.

Parmelia incurva (Pers.) Fr. Nov. Sched. Crit. 31 (1826).
On rocks, 50 miles inland from Camden bay, Alaska.

Parmelia centrifuga (L.) Ach. Method. Lich. p. 118 (1803).
On rocks, 50 miles inland from Camden bay, Alaska.

Parmelia clivacea (L.) Ach. Lich. Univ. p. 462 (1810).
On dead branches of living white spruce, Coppermine river.

Parmelia stygia (L.) Ach. Method. Lich. p. 203 (1803).
On rocks, Bernard harbour; on rocks, 30 miles inland from Camden bay, Alaska.

Cornicularia lanata (L.) Gray, Nat. Arr. I: p. 105 (1821).
Parmelia, Tuck. Syn.
On rocks, Bernard harbour.

Cetraria islandica (L.) Ach. Method. Lich. p. 293 (1803).
Tundra, Collinson point, Alaska; on earth, Sandstone rapids, Coppermine river.

Cetraria cucullata (Bell.) Ach. Method. Lich. p. 293 (1803).
On earth, Herschel island, Y.T.; cape Bathurst, Basalt island, Coronation gulf; 30 miles inland from Camden bay, Alaska; Sandstone rapids, Coppermine river; and on tundra between Port Clarence bay and Teller, Alaska.

Cetraria nivalis (L.) Ach. Method. Lich. p. 294 (1803).
On earth, Herschel island, Y.T.; Sandstone rapids, Coppermine river.

Cetraria chrysantha Tuck. Suppl. Am. Journ. of Sci. and Arts XXV: p. 423 (1858).
On stones, 50 miles inland from Camden bay, Alaska; in tundra between Port Clarence bay and Teller, Alaska.

Cetraria juniperina (L.) Ach. var. **terrestris** Schaer. Spielg. p. 249 (1823).
Over mosses, Chantry island, Bernard harbour.

Cetraria fahlunensis (L.) Schaer. var. **polyschiza** (Nyl.) Th. Fr. Lich. Spitsb. p. 11 (1867).
Platysma, Nyl.
On rocks, 30 miles inland from Camden bay, Alaska.

USNEACEAE

Letharia thamnodes (Flot.) Hue Lich. Ex. Eur. Suite 1: p. 58 (1901).
Evernia prunastri pro parte, Tuck. Syn.
Chantry island, Bernard harbour.
Probably the form *esorediosa* (Nyl.) Hue.

Duforea madreporiformis Ach. Lich. Univ. p. 524 (1810).
Cetraria, Tuck. Syn.
On earth, Chantry island, Bernard harbour.

Duforea ramulosa Hook. in appendix to Parry's second voyage, p. 414 (1824).
Cetraria, Tuck. Syn.
On earth, mouth of Rae's Mackenzie river, Wollaston peninsula.

Dactylina arctica (Hook.) Nyl. Syn. I: p. 286 (1860).
Cetraria, Tuck. Syn.
On earth, small island, Camden bay, Alaska; also at Bernard harbour.

Alectoria ochroleuca (Ehrh.) Nyl. prod. p. 47 (1857).
On dead branches of living white spruce, Coppermine river; on earth, Bernard harbour.

Alectoria chalybeiformis (L.) Gray Nat. Arr. I: p. 408 (1821).
Alectoria jubata chalybeiformis, Tuck. Syn.
On dead branches of living white spruce, Coppermine river.

Alectoria nigricans (Ach.) Nyl. Lich. Scand. p. 71 (1861).
On earth, 30 miles inland from Camden bay, Alaska.

Usnea ceratina Ach. Lich. Univ. p. 610 (1810).
On dead branches of living white spruce, Coppermine river.

Thamnolia vermicularis (Sw.) In Linn. fil. Method. Muscorum p. 119 (1781).
On earth, 30 miles inland from Camden bay, Alaska; Bernard harbour.

CALOPLACACEAE

Blastenia ferruginea (Huds.) Koerb. Syst. Lich. Germ. p. 184 (1855).
Placodium, Tuck. Syn.
On driftwood, Spy island, Alaska, and Collinson point, Alaska.

Blastenia ferruginea (Huds.) Koerb. var. **pollinii** Mass. Sched. Crit. p. 57 (1855).
Placodium, Tuck. Syn.
On rocks, Bernard harbour; on rocks, 50 miles inland from Camden bay, Alaska.

Caloplaca miniatum (Hoffm.)
Lichen miniatus Hoffm. Enum. 62 (1784).
Caloplaca murorum miniatum (Hoffm.) Th. Fr. Lich. Scand. I: 170 (1871).
Placodium miniatum Hoffm. Darbishire, Sec. Arct. Exp. of the *Fram*, p. 30 (1911).
On rocks, Richardson island, Coronation gulf; Bernard harbour; Chantry island, Bernard harbour; Dolphin and Union strait; 30 miles inland from Camden bay, Alaska; on beach pebbles, sand spit of Hukahula river, Alaska; near Murray point, Wollaston peninsula; Icy reef, Alaska; arctic coast.

Caloplaca elegans (Link) Th. Fr. Lich. Scand. p. 168 (1871).
Placodium, Tuck. Syn.
On boulders, Bernard harbour; top of cliff, mouth of Rae's Mackenzie river, Wollaston land; on dolomite, Lady Franklin point, Wollaston land; on rocks, Coronation gulf.

Caloplaca elegans (Link) Th. Fr. var. **tenuis** (Wahl.) Th. Fr. Lich. Scand. p. 168 (1871).
On rocks, Bernard harbour; on dolomite, Dolphin and Union strait.

Caloplaca jungermanniae (Vahl.) Th. Fr. Lich. Scand. p. 179 (1871).
Placodium, Tuck. Syn.
Over mosses, Ross point, Wollaston land.

Caloplaca cerina (Ehrh.) Th. Fr. Arctoi, p. 118 (1860).
Placodium, Tuck. Syn.
On old bones, Icy reef, Alaskan arctic coast.

Caloplaca cerina (Ehrh.) Th. Fr. var. **stillicidiorum** (Hornem.) Th. Fr. Lich. Scand. p. 171 (1871).
In moist places, island southeast of Lady Franklin point, Coronation gulf.

Caloplaca nivalis (Koerb.) Th. Fr. Lich. Scand. I: p. 191 (1871).
Placodium, Tuck. Syn.
On old bones Bernard harbour.

THELOSCHISTACEAE

Xanthoria lychnea (Ach.) Th. Fr. Lich. Scand. p. 116 (1871).
Theloschistes, Tuck. Syn.
On old bones and dead wood in tundra, Collinson point, Alaska.

Xanthoria lychnea (Ach Th. Fr. var. **pygmaea** (Bor.) Th. Fr. Lich. Scand. p. 116 (1871).
Theloschistes, Tuck. Syn.
On driftwood, Spy island, Alaska; tundra, Demarcation point, Alaska; Rae's Mackenzie river, Wollaston peninsula; driftwood, Collinson point, Alaska; on big boulder in tundra, Camden bay, Alaska.

BUELLIACEAE

Buellia spuria (Schaer.) Koerb. Parerg. Lich. p. 183 (1860).
On rocks, 500-foot hill, 30 miles inland from Camden bay, Alaska.

Buellia alpicola (Wahl.) Kremp. Lich. Fl. Bayern. p. 200 (1861).
On rocks, small island near Richardson islands, Coronation gulf.

Buellia papillata (Sommerf.) Tuck. Syn. II: p. 91 (1888).
Tundra, Young point; over mosses, Uloksak's island, Bernard harbour.

Buellia myriocarpa (DC.) Mudd. Man. p. 217 (1861).
On driftwood and logs, Collinson point, Alaska; Spy island, Alaskan arctic coast.

Rinodina exigua (Ach.) Th. Fr. Lich. Scand. I: p. 201 (1871).
On dead branches of trees, Coppermine river.

Rinodina turfacea (Wahl.) Th. Fr. Arctoi, p. 126 (1861).
Tundra, Bernard harbour; in moist places, island southeast of Lady Franklin point, Coronation gulf; on old bones, Bernard harbour and Young point.

PHYSCIACEAE

Physcia pulverulenta (Schreb.) Nyl. Syn. I: p. 419 (1860).
On driftwood, Collinson point, Alaska; same support, Young point.

Physcia pulverulenta (Schreb.) Nyl. var. **muscigena** (Ach.) Nyl. Syn. I: p. 420 (1860).
Over mosses, mouth of Rae's Mackenzie river, Wollaston peninsula.

Physcia tenella (Scop.) Nyl. forma **leptalea** (Ach.) Lynge. Norweg. Physciaceae, p. 43 (1916).
Physcia hispida, Tuck. Syn.
On old bones, Young point.

Physcia tribacia (Ach.) Tuck. Syn. I: p. 75 (1884).
On boulders, Bernard harbour.

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