

IX.

LICHENS

FROM

NORTH-EAST GREENLAND

(N. OF 76° N. LAT.)

COLLECTED BY THE "DANMARK-EXPEDITION" 1906—1908

DETERMINED

BY

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The work of the "Danmark-Expedition" has brought to a preliminary close the purely floristic side of lichen collecting in Greenland, as practically the whole coast of the land has now been investigated. Later collections will assuredly be able to find one thing or another new, but we already have a view over the floristic character of the lichen vegetation, thanks to the persevering scientists who in the course of time have added to the collections in the Botanical Museum of Copenhagen.

What has been known hitherto of the Greenland lichens is to be found mainly in the papers by DEICHMANN BRANTH and GRØNLUND in the "Meddelelser om Grønland", Hefte III (1888) and the Appendix (ibidem 1892), as also in later papers by BRANTH and by WAINIO (ibidem Hefte XVIII and XXX).

Our floristic knowledge now extends so far, that it will undoubtedly be of greatest interest to begin a biological and ecological investigation of these plants, not only for the arctic species but also for the species of the whole world. Far too little attention has hitherto been paid to the part played by the lichens in the existing plant-associations and to the mutual relations between the lichens and the widely different natural conditions offered them at their varied and different places of growth.

The species mentioned here have almost all been found in Greenland before. A single species is however remarkable, as it has hitherto not been found in that country, or at least is not present in the collections of our Museum, namely *Dufourea muricata*, which was found for the first time in arctic regions by TH. FRIES in Spitzbergen.

A discussion of the correctness of the more difficult species has been omitted, as it would lead us too far here — even though the subject might in itself be tempting for several *Parmelia* species and a few others.

Under each species reference is made to a main work, where further information on the literature can be obtained.

The following is the principal literature :

1. J. S. DEICHMANN BRANTH og CHR. GRØNLUND: Grønlands Lichen-Flora. Meddelelser om Grønland. Hefte III. Kjøbenhavn 1888.
2. J. S. DEICHMANN BRANTH: Tillæg til Grønlands Lichen-Flora (ibid. 1892).
3. J. S. DEICHMANN BRANTH: Lichener fra Scoresby Sund og Hold with Hope. (ibid. XVIII. 1896).
4. DUC d' ORLÉANS: Croisière océanographique . . . dans la mer du Groenland. Botanique. Bruxelles 1908. (Here in: Lichens, déterminés par J. S. Deichmann Branth).
5. FRIES, TH.: Lichenes Arctoi etc. Upsaliæ 1860.
6. FRIES, TH.: Lichenes Scandinavici vol. I. Upsaliæ 1871—74.
7. FRIES, TH.:
Nr. 2. Stockholm 1867).
8. C. H. OSTENFELD og ANDR. LUNDAGER: List of vascular plants from north-east Greenland etc. (Meddelelser om Grønland XLIII. Kjøbenhavn 1910).
9. EDW. WAINIO: Lichenes expeditionis G. AMDRUP (Medd. om Grønland. XXX. 1905).

The material for the present list was collected by Mr. ANDREAS LUNDAGER.

With regard to the position of the places where the various species were taken I may refer to the above-cited work of OSTENFELD and LUNDAGER.. They lie mainly about Danmarks Havn, 76° 46' n. L.

SYSTEMATIC LIST OF THE LICHENS.

Usnea Dill.

1. **Usnea melaxantha** Ach. Th. Fries, Lich. arct. p. 24. — Branth og Grønl.: Grønls Lichen-Flora, p. 464.

Loc.: Cape Bismarck, Danmarks Havn.

Common among stones, where it grows abundantly; found also on hilly ground, on stones.

Bryopogon Link.

2. **Bryopogon jubatus** L. *β. nitidulum* Th. Fr. Th. Fries: Lich. arct. p. 25. — Branth og Grønlund: Grønlands Lichen-Flora p. 464.

Loc.: Termometerfjeld (among moss, on the ground); Danmarks Havn (on the ground).

Alectoria Ach.

3. **Alectoria Thulensis** Th. Fr. Th. Fr. Lich. arct. p. 28. — Branth og Grønlund: Grønlands Lichen-Flora p. 465.

Loc.: Termometerfjeld (on the ground, among moss); at the Danmarks Havn (on ground about the moss); common.

Cornicularia Ach.

4. **Cornicularia aculeata** (Ehrh.). Th. Fries: Lich. arct. p. 30. — Branth og Grønlund p. 465.

Loc.: Termometerfjeld (on sandy ground).

Cetraria Ach.

5. **Cetraria islandica** L. Th. Fries: Lich. arct. p. 35. — Branth og Grønlund p. 466. — All the specimens found belong to var. *Delisei* Bory.

Loc.: Termometerfjeld (on the ground, among moss).

6. **Cetraria odontella** Ach. Th. Fries: Lich. arct. p. 36. — Branth og Grønlund p. 466.

Loc.: Termometerfjeld (on the ground), Danmarks Havn (on the ground), the Bay (on the ground, among moss), Snenæs (on the ground), Storm Kap (among moss).

7. *Cetraria nivalis* L. Th. Fries: Lich. arct. p. 37. — Branth og Grønlund p. 466.

Loc.: Termometerfjeld (very common on sandy ground), Danmarks Havn (among moss on the ground), the Bay (on the ground), Snenæs (on the ground).

8. *Cetraria Fahlunensis* (L.) Schær. Th. Fries: Lich. scandi-navici p. 108. — Branth og Grønlund p. 471.

Loc.: Danmarks Havn (among moss).

Nephroma Ach.

9. *Nephroma papyraceum* Hoffm. Lich. arct. p. 42. — Branth og Grønlund p. 467.

Loc.: Termometerfjeld (on mosscovered ground).

Peltigera Hoffm.

10. *Peltigera rufescens* Fr. Lich. arct. p. 45. — Branth og Grønlund p. 468.

Loc.: Hvalrosodde (on a withered tuft), Basiskær (on mossy ground), Danmarks Havn (damp soil above moss).

Peltidea (Ach.) Nyl.

11. *Peltidea aphtosa* L. Lich. arct. p. 43. — Branth og Grønlund p. 468.

The locality is not exactly indicated in the material collected. — On a dead *Empetrum* tuft.

Solorina Ach.

12. *Solorina crocea* L. Lich. arct. p. 48. — Branth og Grønlund p. 469.

Loc.: Termometerfjeld (on the ground), Danmarks Havn (on clay ground).

Parmelia Ach.

13. *Parmelia saxatilis* L. Lich. arct. p. 52. — Branth og Grønlund p. 469.

Loc.: Termometerfjeld (on stones); only the variety *omphalodes* L. was found.

14. *Parmelia encausta* Sm. Lich. arct. p. 54. — Branth og Grønlund p. 470.

Loc.: Occurs very frequently with the variety *intestiniiformis* Vill., for example at Termometerfjeld, at Danmarks Havn and at Basiskær, everywhere on stones.

15. *Parmelia stygia* L. Lich. arct. p. 57. — Branth og Grønlund p. 470.

Loc.: Varde Ridge (on stones).

16. *Parmelia alpicola* Th. Fr. Lich. arct. 57. — Branth og Grønlund p. 470.

Loc.: Danmarks Havn (on stones).

17. *Parmelia lanata* L. Lich. arct. p. 58. — Branth og Grøn-
lund p. 470.

Loc.: North Koldewey Island (on stones), Termometerfjeld (on stones),
Danmarks Havn (on stones), Basiskær (common on stones).

Physcia Fr.

18. *Physcia pulverulenta* Schreb. Lich. arct. p. 63. — Branth
og Grønland p. 472.

Loc.: Termometerfjeld, Basiskær, Danmarks Havn, the Bay, Snenæs,
at all places above moss on the ground. All the specimens belonged to the
variety *muscigena* Ach.

19. *Physcia stellaris* L. Lich. arct. 63. — Branth og Grøn-
lund p. 472.

Loc.: Danmarks Havn (on ground among moss), Termometerfjeld (on
stones), a single specimen on a decayed reindeer horn.

Xanthoria Fr.

20. *Xanthoria elegans* Link. Lich. arct. p. 69. — Branth og
Grønland p. 473.

Loc.: very common, e. g. Hvalrosodde (on stones), Termometerfjeld
(on stones), Danmarks Havn (ground and small stones), the Bay (on ground),
Lille Snenæs (on bone).

21. *Xanthoria lychnea* (Ach.) Th. Fr. Th. Fries: Lich. scan-
dinav. p. 146.

Loc.: Termometerfjeld (on ground), the Bay (on ground), (some spec-
imens on a decayed reindeer horn).

Placodium Hill.

22. *Placodium fulgens* (Sw.) Lich. arct. p. 81. — Branth og
Grønland p. 475.

Loc.: Danmarks Havn (on ground), Lille Snenæs (on ground). All the
specimens belong to the variety *alpinum* Th. Fr.

Acarospora Mass.

23. *Acarospora smaragdula* Wnbg. Lich. arct. p. 92. — Branth
og Grønland p. 477.

Loc.: Termometerfjeld (on stones).

Lecanora Ach.

24. *Lecanora tartarea* L. Lich. arct. p. 99. — Branth og
Grønland 478.

Loc.: Termometerfjeld (moss-covered ground), Danmarks Havn (above
moss on the ground).

25. *Lecanora Hageni* Ach. Lich. arct. p. 106. — Branth og
Grønland p. 479.

Loc.: Basiskær (on dead moss on the ground), Danmarks Havn (on dead Dryas), the Bay (on ground), Hvalrosodde (on decayed whale-bones), Snenæs (on decayed whale-bones), further some specimens on an old reindeer horn.

26. *Lecanora polytropha* Ehr. Lich. arct. p. 110. — Branth og Grønlund p. 481.

Loc.: Danmarks Havn (on stones); all the specimens belonged to the variety *conglobata* (Smrft).

27. *Lecanora cenisea* Ach. Lich. arct. p. 115. — Branth og Grønlund p. 480.

Loc.: Lille Snenæs (on the hill, most abundant on the north side), Danmarks Havn (on stones).

28. *Lecanora bryontha* Ach. Lich. arct. p. 117. — Branth og Grønlund p. 481.

Loc.: Termometerfjeld (on the ground).

Caloplaca Th. Fr.

29. *Caloplaca cerina* (Ehrh.) Th. Fr. Th. Fr. Lich. scand. p. 173. — Branth og Grønlund p. 482.

Some few specimens on a decayed reindeer horn.

30. *Caloplaca pyracea* (Ach.) Th. Fr. Lich. scand. p. 178. — Branth og Grønlund p. 482.

Loc.: Lille Snenæs (on decayed bone), as also several places on reindeer horn and on raw humus ground among moss.

31. *Caloplaca Jungermannia* (Vahl) Th. Fr. Lich. scand. p. 180. — Branth og Grønlund p. 482.

Loc.: Basiskær (on ground over dead moss), Danmarks Havn (on ground), the Bay (on dead moss), as also at one place on reindeer horn. — All the specimens belonged to the variety *subolivacea* Th. Fr.

32. *Caloplaca ferruginea* (Huds.) Th. Fr. Lich. scand. p. 184. — Branth og Grønlund p. 482.

Loc.: Several places not exactly indicated, on stones (and moss). All the specimens belonged to the variety *nigricans* Tuckerm.

33. *Caloplaca vitellina* (Ehrh.) Th. Fr. Lich. scand. p. 188.

On decayed reindeer horn (well-developed, with apothecia), also several places as a rule sterile (and thus easily mistaken).

34. *Caloplaca subsimilis* Th. Fr. Lich. scand. p. 189.

Loc.: Termometerfjeld (among moss on the ground), Lille Snenæs (on whale bone), as also sterile at several places.

Rinodina Mass.

35. *Rinodina turfacea* Wnbg. Lich. arct. p. 126. — Branth og Grønlund p. 483.

Loc.: Termometerfjeld (on moss).

36. *Rinodina mniaroea* Ach. Lich. arct. p. 127. — Branth og Grønlund p. 483.

Loc.: Termometerfjeld (on ground), Danmarks Havn (clay soil) — All the specimens belonged to the variety *cinnamomea* Th. Fr.

37. *Rinodina exigua* Ach. Lich. arct. p. 129. — Branth og Grønlund p. 483.

At several places (on wood) not exactly indicated.

Aspicilia Mass.

38. *Aspicilia calcarea* L. Lich. arct. p. 130. — Branth og Grønlund p. 484.

Loc.: not exactly given; on sand-stone. The specimen belongs to the variety *contorta* Hoffm.

Stereocaulon Schreb.

39. *Stereocaulon coralloides* Fr. Lich. arct. p. 142. — Branth og Grønlund p. 486.

Loc.: Varde Ridge (on ground), the Bay (on ground). All the specimens belonged to the variety *conglomeratum* Fr.

40. *Stereocaulon evolutum* Græwe. Lich. scand. p. 45.

Loc.: Varde Ridge (on ground), Danmarks Havn (on ground).

41. *Stereocaulon paschale* L. Lich. arct. p. 143. — Branth og Grønlund p. 485.

Loc.: Seems to be very common, e. g. Dove Bugt (on loose sand), Danmarks Havn (among moss), Cape Bismarck (on ground among moss), Varde Ridge (both on dry and damp ground, among moss), the Bay (among moss), Basiskær (on damp ground).

Cladonia Hoffm.

42. *Cladonia coccifera* (L.) Willd. Wainio: Monographia Clad. I p. 149. — Branth og Grønlund p. 488, Cl. carnucopioides.

Loc.: Renskæret (on mossy ground).

43. *Cladonia decorticata* (Floerke) Spreng. Wainio, Monogr. Clad. II p. 67.

Loc. Renskæret (on ground).

44. *Cladonia degenerans* (Floerke) Spreng. Wainio, Monogr. Clad. II p. 135. — Branth og Grønlund p. 487.

Loc.: Not exactly given; on ground.

45. *Cladonia pyxidata* (L.) Fr. Wainio: Monogr. Clad. II p. 209. — Branth og Grønlund p. 487.

Loc.: Basiskær (on dry ground), Termometerfjeld (on sandy ground), Varde Ridge (on ground, in part over moss).

46. *Cladonia fimbriata* (L.) Fr. Wainio: Monogr. Clad. II p. 246. — Branth og Grønlund p. 487.

Loc.: Danmarks Havn (on dry ground).

47. *Cladonia foliacea* (Huds.) Schaer. v. *alcicornis* (Lightf.) Schær. Wainio: Monogr. Clad. II p. 384. — Branth og Grønlund p. 484, Clad. *alcicornis*.

Loc.: Danmarks Havn (on dry ground, in part over moss; fairly common).

Note. In addition to the species mentioned here, there are also several very little developed specimens among the other lichen samples; they cannot be determined in their present state.

Thamnotia Ach.

48. *Thamnotia vermicularis* Sw. Lich. arct. p. 161 — Branth og Grønlund p. 465.

Loc.: Hvalrosodde (among moss on the ground), Termometerfjeld (among moss on the ground), Danmarks Havn (on the ground).

Dufourea Ach.

49. *Dufourea muricata* Laur. Th. Fries: Lich. Spitsbergenses p. 10, in Kongl. Svenska Vetenskaps-Akad. handl. Bd. 7, Nr. 2. Stockholm 1867.

Loc.: Snenæs (on the ground).

Gyrophora Ach.

50. *Gyrophora hyperborea* Ach. Lich. arct. p. 164. — Branth og Grønlund p. 490.

Loc.: Termometerfjeld (on stones).

51. *Gyrophora erosa* Web. Lich. arct. p. 164. — Branth og Grønlund p. 490.

Loc.: Danmarks Havn (on stones), Renskæret (on stones).

52. *Gyrophora proboscidea* L. Lich. arct. p. 166. — Branth og Grønlund p. 490.

Loc.: Termometerfjeld (on stones), Danmarks Havn (on stones), Varde Ridge (on stones); seems to be common in North-East Greenland.

53. *Gyrophora cylindrica* L. Lich. arct. p. 166. — Branth og Grønlund p. 491.

Loc.: Termometerfjeld (on stones), Pustervig (on stones), Basiskær (on stones), Danmarks Havn (on stones), Varde Ridge (on stones, 200 m. above the sea).

Lopadium Koerb.

54. *Lopadium pezizoideum* Ach. Lich. arct. p. 201. — Branth og Grønlund p. 497.

Loc.: Termometerfjeld (on the ground).

Arthrorhaphis Mass.

55. *Arthrorhaphis flavo-virescens* Dicks. Lich. arct. p. 203. — Branth og Grønlund p. 493, *Bacidia citrinella*.

Loc.: Danmarks Havn (on the ground), Varde Ridge (on raw humus).

Lecidea Ach.

56. *Lecidea fuscoatra* L. Lich. arct. p. 210. — Branth og Grønlund p. 502.

Loc.: Renskæret (on stones).

57. *Lecidea lapicida* (Ach.) Fr. Lich. arct. p. 211. — Branth og Grønlund p. 499.

Loc.: Danmarks Havn (on stones).

58. *Lecidea auriculata* Th. Fr. Lich. arct. p. 213. — Branth og Grønlund p. 499.

Loc.: Danmarks Havn (on stones), Orléans Island (on stones).

59. *Lecidea sabuletorum* (Schreb.) Ach. Lich. arct. p. 214. — Branth og Grønlund p. 500.

Loc.: Danmarks Havn (on dry ground above dead moss). The material belonged to the variety *muscorum* (Wulf.).

60. *Lecidea enteroleuca* Ach. Lich. arct. p. 216. — Branth og Grønlund p. 500.

Loc.: Danmarks Havn (on stones).

61. *Lecidea atrobrunnea* Ram. Lich. arct. p. 218. — Branth og Grønlund p. 502.

Loc.: Renskæret (on stones).

62. *Lecidea limosa* Ach. Lich. scandinav. p. 538. — Branth og Grønlund p. 501.

Sporostatia Mass.

63. *Sporostatia Morio* Ram. Lich. arct. p. 224. — Branth og Grønlund p. 503.

Loc.: North Koldewey Island (on stones), Danmarks Havn (on stones). — All the specimens belonged to the variety *coracina* Smrft.

Buellia D. Not.

64. *Buellia insignis* Naeg. Lich. arct. p. 227. — Branth og Grønlund p. 504.

Loc.: Danmarks Havn (on the ground). — The whole of the material belonged to the variety *papillata* Smrft.

65. *Buellia triphragmioides* Anzi. Lich. scandinav. p. 594.

Loc.: Danmarks Havn (on moss).

Rhizocarpon Ram.

66. *Rhizocarpon geminatum* Flot. Lich. arct. p. 234. — Branth og Grønlund p. 507.

Loc.: Termometerfjeld (on stones), Danmarks Havn (on stones), Renskæret (on a large piece of quartz).

67. *Rhizocarpon geographicum* L. Lich. arct. p. 236. — Branth og Grønlund p. 507.

Loc.: Danmarks Havn (on stones).

Sphaerophorus Pers.

68. *Sphaerophorus coralloides* Pers. Lich. arct. p. 244. — Branth og Grønlund p. 508.

Loc.: Renskæret (on ground among moss).