

STUDIES IN ANTARCTIC LICHENS V: Lichenes Antarctici  
Exsiccati, Fascicle I, with additional notes on the taxonomy  
of each species

by

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INTRODUCTION

Fascicle I of *Lichenes Antarctici Exsiccati* was issued on the same day as this paper was published. The specimens were collected in February 1974 by the author and members of the 1973-74 Australian National Antarctic Expedition to the Southern Prince Charles Mountains. It was proposed to collect all species occurring in the Mac.Robertson Land region and to issue them in a numbered set. Unfortunately this was not possible as there was not time to visit areas where some species grew in sufficient quantity. As a result five species recorded in Filson (1966) are not represented in the collection. They are *Buellia foecunda* R. Filson, *Buellia* aff. *subpedicellata* (syn. *Buellia filsonii* Dodge 1973: 313), *Heppia antarctica* Dodge, *Lecidea capsulata* Dodge & Baker and *Lecidea woodberryi* R. Filson.

*Caloplaca athallina* Darb. has not been recorded previously as occurring in Mac.Robertson Land. This year, it was collected from two localities, Mawson Rock and Ufs Island. Unfortunately there was insufficient material at both of these sites to make up the number of sets required. However it was found in abundance on Fold Island in adjacent Kemp Land enabling it to be included in the exsiccata.

*Usnea acromelana* Stirt. is also recorded here as being new for Mac.Robertson Land.

In addition to the main set held in the National Herbarium, Melbourne (MEL), twenty-five sets were prepared and twenty-two sets have been forwarded to the following institutions:

Academiae Scientiarum, Brno, Czechoslovakia (BRNU)  
Akureyri Museum of Natural History, Iceland  
Botanical Institute ANSSR, Leningrad (LE)  
Botanische Staatssammlung, München (M)  
British Antarctic Survey Herbarium, Birmingham (BIRM\*)  
British Museum (Natural History) London (BM)  
Conservatoire et Jardin botaniques, Geneve (G)  
Duke University, North Carolina, U.S.A. (DUKE)  
Farlow Herbarium, Massachusetts, U.S.A. (FH)  
Herbarium Australiense, C.S.I.R.O. Canberra, Australia (CANB)  
Institute of Systematic Botany Uppsala, Sweden (UPS)  
Museum National d'Histoire Naturelle, Paris (PC)  
National Herbarium of Canada (CAN)  
Natural History Institute, Tokyo, Japan (TNS)

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\* National Herbarium of Victoria.

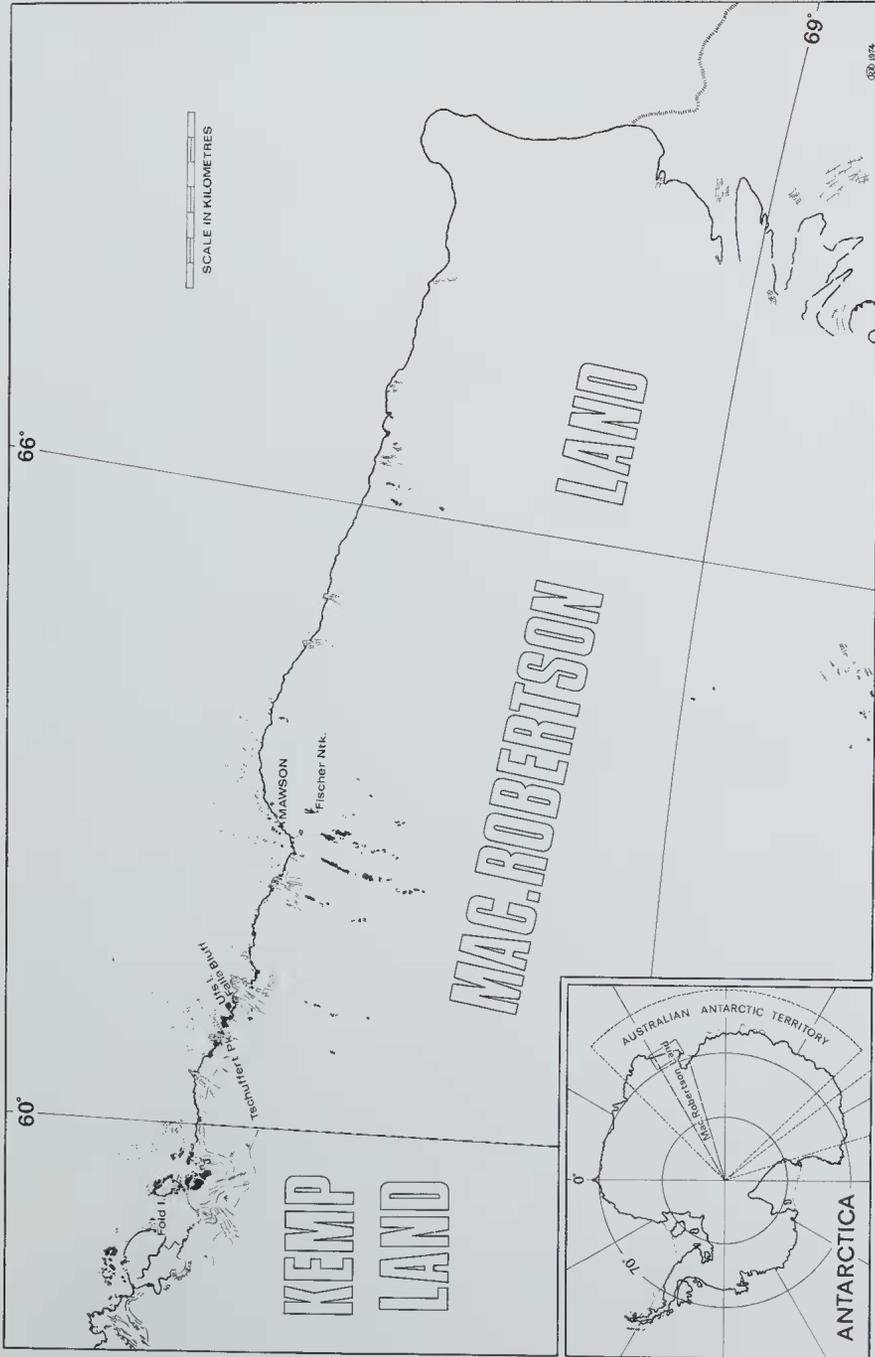


Fig. 1.—Map showing locality of the collections

Rijksherbarium, Leiden, Netherlands (L)  
 Smithsonian Institution, Washington, U.S.A. (US)  
 University of California, Irvine, U.S.A.  
 University of Colorado, Boulder, U.S.A. (COLO)  
 University of Helsinki, Finland (H)  
 University of Oslo, Norway (O)  
 University of Saskatchewan, Canada (SASK)  
 University of Wisconsin, U.S.A. (WIS)

## LICHENES ANTARCTICI EXSICCATI

issued by Rex B. Filson

NATIONAL HERBARIUM OF VICTORIA (MEL)

### No. 1. *Acarospora gwynnii* Dodge & Rudolph

in *Ann. Miss. Bot. Gard.*, **42**: 144. pl.15, 2. 1955

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing on pebbles in a shaded crevice.

1 February 1974

Rex Filson 14821

DISCUSSION: It is probable that all species of *Acarospora* subgenus *Xanthothallia* from the Antarctic Continent represent the one species. The minor differences between the five species described do not seem to be sufficient to warrant separation. The size of the thallus appears to be the most definite feature which divides them. The apothecial measurements given for each are similar and certainly well within the range of one another. There is some confusion in Dodge (1973); *Acarospora gwynnii* is separated from *A. petalina* Golubkova & Savicz in the key, by having a thecium (hymenium) 125  $\mu\text{m}$  high (p. 146) whereas in the text it is shown as 230  $\mu\text{m}$  (p. 150). In the type description of *A. petalina* the authors of the name state "thecium epithecio incluso 160–261  $\mu\text{m}$ ". The present author considers that these two species are identical; *A. gwynnii* being described from a small (young) sample and *A. petalina* from larger and more robust specimens.

Of the others, the author feels that from the descriptions of *A. emergens* Dodge and *A. knowlesii* Dodge, that they too fall within the acceptable range of *A. gwynnii* and are probably the same taxon. It seems most likely that *A. xanthophana* (Nyl.) Jatta is a wrong determination and the samples from Cockburn Island and Thurston Island should be referred to *A. gwynnii*. Prof. W. A. Weber (1968:30) has examined the type of *A. xanthophana* and considers it to be synonymous with *A. schleicheri* (Ach.) Massal.

Prof. W. A. Weber (1968:24) also suggests that *A. gwynnii* is synonymous with *A. chlorophana* (Wahlenb. ex Ach.) Massal. This author does not agree with this finding and considers *A. gwynnii* distinct from specimens found in Australia which are referable to *A. chlorophana*.

The thallus of *A. chlorophana* is thin, flat to slightly hemispheric. It cracks and divides into areolae 0.2 — 0.4 mm diam. On the other hand the thallus of *A. gwynnii* is thick and pulvinate. This condition is consistent with specimens found in open exposed positions as well as those growing under rocks where they would be sheltered from all wind-blown sand and ice. The thallus is closely appressed, radiate, up to 3 mm diam. and does not divide into separate areolae.

No. 2. ***Acarospora williamsii*** R. Filson

in *ANARE Sci. Rep. Ser. B (II) Bot.* 82: 31. 1966

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing along cracks in the granite and on rock adjacent to the cracks in sheltered position.

1 February 1974

Rex Filson 14823

DISCUSSION: The relationship of this species with others in section *Phaeothallia* (H. Magn.) Räs. found in the Antarctic needs further investigation. The three species reported in Dodge (1973:146) appear to be similar and eventually all may prove to be conspecific with *A. badiofusca* Th. Fr. The type specimen of *A. williamsii* was collected growing over and between fine gravels. This habitat gave rise to a more bullate form than the specimens presented here, most of which are growing on the rock surface.

No. 3. ***Alectoria minuscula*** (Nyl. ex Arnold) Degel.

in *Nytt Mag. Naturv.* 78: 286. 1938. *Imbricaria lanata* var. *minuscula* Nyl. ex Arnold, *Verh. zool-bot. Ges. Wien*, 28: 293. 1878.

ANTARCTICA. MAC.ROBERTSON LAND: Fischere Nunatak, on small pebbles on the summit.

6 February 1974

Rex Filson 14838 & Craig Austin

DISCUSSION: The specimens included in this exsiccata are tending towards f. *congesta* (Zahlbr.) M. Lamb and f. *crustacea* (Lynge et Schol.) Degel. The present author agrees with Lamb (1964:28) and Lindsay (1972:10) that these forms do not have taxonomic significance and are only modifications caused by the harsh Antarctic environment.

No. 4. ***Biatorrella cerebriformis*** (Dodge) R. Filson comb. nov.

*Candelariella cerebriformis* Dodge in *BANZ Antarct. Res. Exped. Rep.* 7: 184. 1948. *Biatorrella antarctica* J. Murray, *Trans. Roy. Soc. N.Z. Bot.* 2: 60. 1963.

ANTARCTICA. MAC.ROBERTSON LAND: Fischer Nunatak, abundant on pebbles along the summit.

6 February 1974

Rex Filson 14837 & Craig Austin

DISCUSSION: It seems fairly obvious from the descriptions that *Biatorrella antarctica* J. Murray and *Candelariella cerebriformis* Dodge are the same taxon. Whilst the author feels that this species is more robust than others in the genus *Biatorrella* he

does not agree with the diagnostic features of the genus *Biatorrellopsis* Dodge (1965:513): in particular that the thallus is stipitate and attached by a gomphus. All of the specimens seen by the author are attached to the substrate by the lower cortex or by thin white hyphae which sometimes penetrate deeply into the cracks between the rock crystals.

These specimens were collected from a south and south-westerly aspect in very exposed positions, and would be constantly buffeted by high wind and wind-blown ice particles.

**No. 5. *Buellia frigida* Darb.**

in *Nat. Antarct. Exped. 1901-1904 Nat. Hist.*, 5: 7. 1910 *Rinodina frigida* (Darb.) Dodge, in *BANZ. Antarct. Res. Exped. Rep.* 7: 259. 1948

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, on flat areas and on small stones in moraine.

1 February 1974

Rex Filson 14813

DISCUSSION: *Buellia frigida* is perhaps the most common lichen in the Antarctic, being found in most places where lichens occur. Its variable colour and polymorphic growth, change according to environmental conditions. This has led to it being described under numerous specific epithets and to it being included in several genera. Most of this confusion has arisen because workers on Antarctic lichens have not had the opportunity to spend time in the field in Antarctica, but have had to base their findings on fragmentary material, collected by someone else. The collectors are usually engaged in some other scientific task and only pick up a few lichen samples as a side interest without taking notes on the particular habitat of the specimens.

**No. 6. *Buellia grimmiae* R. Filson**

in *ANARE Sci. Rep. Ser. B. (II) Bot.* 82: 37. 1966.

ANTARCTICA. MAC.ROBERTSON LAND: Falla Bluff, growing over the tops of *Bryum algens* Card. in wet situations after melt.

9 February 1974

Rex Filson 14921

DISCUSSION: These specimens growing over *Bryum algens* Card. with *Candelariella antarctica* R. Filson and *Rinodina olivaceobrunnea* Dodge, were collected from a moss patch about 1 m × 2 m. The area was on a slight depression on a rock slab below snow drifts that provide ample water during melt.

**No. 7. *Buellia lignoides* R. Filson.**

in *ANARE Sci. Rep. Ser. B. (II) Bot.* 82: 38. 1966

ANTARCTICA. MAC.ROBERTSON LAND: Fischer Nunatak, abundant on rock platforms on western side of the outcrop.

6 February 1974

Rex Filson 14841 & Craig Austin

DISCUSSION: This lichen is easily separated from other closely related species by the intense violet-blue reaction with iodine.

**No. 8. *Caloplaca athallina* Darb.**

in *Wiss. Ergebn. Schwed. Sudpolar-Exped. 1901-1903* 4 (11): 9. 1912 *Pyrenodesmia athallina* (Darb.) Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 621. 1938

ANTARCTICA. KEMP LAND: Fold Island, forming large patches over *Bryum algens* Card. on flat areas on the western side of outcrops. In sheltered damp positions.

11 February 1974

Rex Filson 14962

DISCUSSION: Contrary to the original description *Caloplaca athallina* does possess a thallus, which is very pronounced in sterile samples. Darbishire's original specimen appeared to be copiously fertile (vide photograph in Darb. 1912, pl. 2:14) and if his material was scanty he possibly did not detect the thallus.

Unfortunately this lichen appears to be nearly always covered with an algae or parasitised by other lichens, which present a wide variety of colour forms. The area from where this collection was made, demonstrated thalli with apothecia coloured from bright orange to brown, brownish-black to black and yellow pruinose. All of these colour forms are represented in the specimens distributed. In the exsiccata both fertile and sterile samples are included, some being composed only of crowded apothecia.

**No. 9. *Caloplaca citrina* (Hoffm.) Th. Fr.**

in *Nova Acta Sci. Uppsal.*, Ser. 3 3: 218. 1861. *Pyrenodesmia mawsoni* Dodge, in *BANZ. Antarct. Res. Exped. Rep.* 7: 232. 1948. *Caloplaca mawsonii* (C. W. Dodge) D. C. Lindsay, in *Meddr. norsk Polarinst.* 101: 12. 1972.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing over moss cushions.

1 February 1974

Rex Filson 14817

DISCUSSION: The specimens presented are typical of those found growing over mosses in Antarctica. All of these specimens, and in fact all specimens seen by the author are sterile. Lindsay (1972:12) mentions sparingly fertile specimens from Vestfjella, Dronning Maud Land. Dodge (1973:261) reports fertile samples from Granite Harbour, Victoria Land. (For further discussion on this species see Filson 1974 a :1)

Apothecia of *Lecanora expectans* Darb. are scattered throughout the samples in the exsiccata.

**No. 10. *Caloplaca elegans* (Link.) Th. Fr. var. *pulvinata* (Dodge & Baker) J. Murray.**

in *Trans Roy. Soc. N.Z.* 2: 64. 1963 *Polycauliona pulvinata* Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 268. 1938. *Xanthoria elegans* (Link.) Th. Fr., in *Nova Acta Reg. Soc. Scient. Upsal.*, Ser. 3 3: 169. 1861.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, on flat areas of charnockitic granite.

1 February 1974

Rex Filson 14827

DISCUSSION: *Caloplaca elegans* var. *pulvinata* is a very variable lichen in the Mac.Robertson Land region. So much so that it has previously been recorded as four separate species in two genera. *Gasparrinia harrisoni* Dodge, "*Gasparrinia citrina* Dodge", *Polycauliona sparsa* Dodge & Baker and *Polycauliona johnstoni* Dodge. The colour of the thallus grades from greenish-yellow in shaded situations to bright red-orange when exposed to direct sunlight. Depending on the environment the thallus is either radiate and continuous or discontinuous and scattered.

This species when growing under the harsh Antarctic conditions always appears more pulvinate than similar specimens found growing elsewhere. In order to separate this form from the typical, the author prefers to uphold the "var. *pulvinata*" even though it is perhaps only a modification caused by environment.

Some authors place this species in *Xanthoria* but this author prefers to retain it in *Caloplaca* sect. *Gasparrinia* because of its close adnation to the substrate and the texture of the upper cortex.

No. 11. ***Candelariella antarctica*** R. Filson comb. & nom. nov.

*Protoblastenia citrina* Dodge, in BANZ. Antarct. Res. Exped. Rep. 7: 222. 1948.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing over moss cushions.

1 February 1974

Rex Filson 14817

DISCUSSION: The species has a granulose sorediose, non-radiate thallus which has a negative reaction with KOH. The apothecial disk is greenish-yellow which also has a negative reaction with KOH. The genus *Protoblastenia* Steiner belongs in the family Caloplacaceae, all members of which have a positive reaction with KOH on the apothecial disk.

As the chemistry of this species is more consistant with *Candelariella* Müll. Arg. a new combination is warranted and as *C. citrina* is an earlier homonym used by B. de Lesd. in *Ann. Cryptog. Exot.* 5: 120. 1932, it has been necessary to find a new name for this entity.

No. 12. ***Lecanora melanophthalma*** (Ram.) Ram.

in *Memoir. Acad. Roy. Sc. de l'Institut. de France* 6: 133 (1823) 1827. *Lichen melanophthalmus* Ram. apud Lam. et DC., *Flore Française* edit. 3, 2: 376. 1805. *Lecanora rubina* Ach. var. *melanophthalma* (Ram.) Zahlbr. forma *exsulans* (Th. Fr.) Zahlbr., in *Cat. Lich. Univ.* 5: 660. 1928. *Squamaria chrysoleuca* (Sm.) Ach. var. *melanophthalma* (Ram.) Zahlbr. forma *exsulans* Th. Fr., in *Nytt. Mag. Naturv.* 40: 208. 1902. *Lecanora exsulans* (Th. Fr.) Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 570. 1938.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, on small stones scattered amongst moss cushions in depressions along melt water run-offs.

1 February 1974

Rex Filson 14814

No. 13. *Lecanora melanophthalma* (Ram.) Ram.

in *Memoir, Acad. Roy. Sc. de l'Institut. de France* 6: 133 (1823) 1827. *Lichen melanophthalmus* Ram. apud Lam. et DC., *Flore Française* edit. 3, 2: 376. 1805. *Lecanora rubina* Ach. var. *melanophthalma* (Ram.) Zahlbr. forma *exsulans* (Th.Fr.) Zahlbr. in *Cat. Lich Univ.* 5: 660. 1928. *Squamaria chrysoleuca* (Sm.) Ach. var. *melanophthalma* (Ram.) Zahlbr. forma *exsulans* Th.Fr., in *Nytt. Naturv.* 40: 208. 1902. *Lecanora exsulans* (Th.Fr.) Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 570. 1938.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing over cushions of *Bryum algens* in depressions along melt water run-offs.

1 February 1974

Rex Filson 14815

DISCUSSION: *Lecanora melanophthalma* is a very variable lichen. It is found growing either on rock or over mosses. The author has been unable to borrow the type specimen of *L. melanophthalma* but it appears that it differs from *L. rubina* in chemistry. Samples of this lichen from Antarctica seem to be more pulvinate and closer adnate to the substrate than *L. rubina* and none have demonstrated the sub-foliose habit of typical *L. rubina*. All of them are KOH—which is the reaction reported for *L. melanophthalma* (Harmand: 931). This reaction combined with the more adnate habit seems to suggest that this material should be separated from *L. rubina sens strict*.

The author has examined the Type specimen of *Lecanora chrysoleuca* (Sm.) Ach. *melanophthalma* (DC.) Th.Fr.f. *exsulans* Th.Fr. and considers it to be typical *L. melanophthalma*. It clearly demonstrates the pulvinate growth habit and the variation in colour of the apothecial disk.

No. 14. *Lecidea phillipsiana* R. Filson

in *ANARE Sci. Rep. Ser. B (II) Bot.* 82: 51. 1966

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing on rocks in and around depressions containing moss beds.

1 February 1974

Rex Filson 14816

DISCUSSION: *Lecidea phillipsiana* is a very common lichen in the Mac.Robertson Land region occurring on most rock outcrops. The specimens in this set are typical of the species though the spores are a little longer ( $< 15 \times 4 \mu\text{m}$ ) than those described in Filson (1966: 51).

No. 15. *Physcia caesia* (Hoffm.) Hampe

in *Furnr. Naturh. Topogr. Regensberg* 2: 250. 1839. *Lichen caesius* Hoffm., *Enum. Lich.* 65. 1784. *Parmelia variolosa* Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 593. 1938. *Parmelia coreyi* Dodge & Baker, l.c. 595. 1938. *Parmelia johnstoni* Dodge, in *BANZ. Antarct. Res. Exped. Rep.* 7: 191. 1948.

and *Lecanora expectans* Darb.

in *Nat. Antarct. Exped. 1901-1904 Nat. Hist.* 5: 7. 1910.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing over moss cushions.

1 February 1974

Rex Filson 14825

DISCUSSION: This sample is the "*Parmelia variolosa* Dodge & Baker" form, i.e. small lobes, bleached white to yellowish-white on the top by contact with snow and frozen particles. The thallus, growing over the tops of cushions of *Bryum algens*, is narrow, strongly concave and pressed into the moss heads. In all of the specimens distributed there are apothecia of *Lecanora expectans* Darb. Unfortunately adequate material was not available of *Physcia* thallus with the apothecia of *Lecanora* attached to it. However most of the samples demonstrate how confusion has arisen in the past with these two genera growing so closely together (see Filson, 1974a:4). The colour of the apothecial disk of *L. expectans* varies with age and exposure; young apothecia in sheltered positions are pale reddish-brown with prominent margin whereas in older specimens the disk is black and the margin erodes.

No. 16. *Physcia caesia* (Hoffm.) Hampe

in *Furnr. Naturh. Topogr. Regensburg* 2: 250. 1839. *Lichen caesius* Hoffm., *Enum. Lich.* 65. 1784. *Parmelia variolosa* Dodge & Baker, in *Ann. Miss. Bot. Gard.* 25: 593. 1938. *Parmelia coreyi* Dodge & Baker, l.c. 595. 1938. *Parmelia johnstoni* Dodge, in *BANZ. Antarct. Res. Exped. Rep.* 7: 191. 1948.

ANTARCTICA. MAC.ROBERTSON LAND: Mawson Rock, growing over gravels under sheltered overhangs on rock platforms near East Bay.

5 February 1974

Rex Filson 14835

DISCUSSION: This is the "*Parmelia coreyi*—*Parmelia johnstoni*" form, i.e. broad, convexed lobes with rounded ends. The colour of the upper surface varies from near white pruinose, grey to grey-brown, depending upon the position in which it was growing. If samples No. 15 and No. 16 are compared, narrow concave and broad convexed lobes will be observed on each. Apothecia of *Lecanora expectans* have been located growing in association with the lobes of this form, though none are in evidence on the specimens distributed.

No. 17. *Rhizocarpon flavum* Dodge & Baker

in *Ann. Miss. Bot. Gard.* 25: 552. 1938. ? *Rhizocarpon antarcticum* Räs., in *Ann. Bot. Soc. Zool.—Bot. Fenn. Vanamo* 21: 4. 1946. fide Runemark (1956:90).

ANTARCTICA. MAC.ROBERTSON LAND: Fischer Nunatak, abundant on rock along cracks and areas damp after snow melt.

6 February 1974

Rex Filson 14839 & Craig Austin

DISCUSSION: *Rhizocarpon flavum* Dodge & Baker grows along cracks and in places that remain damp after snow melt. It is not very common but it does grow abundantly in some localities. The west side of Fischer Nunatak is one such place where all of the cracks and small depressions in the rock surface are carpeted with this distinctive yellow lichen. By contrast only

a few small patches occur along a crack on the western side of Mawson Rock.

From the description given by Räsänen (1956: 90) it would appear that *Rh. antarcticum* is synonymous with this species; the internal dimensions and chemistry appear to be the same.

**No. 18. *Rinodina olivaceobrunnea* Dodge & Baker**

in *Ann. Miss. Bot. Gard.* **25**: 659. 1938. *Rinodina archaeoides* H. Magn., in *Medd. Fran. Goteborgs Bot. Tradg.* **17**: 278. 1947.

ANTARCTICA. MAC.ROBERTSON LAND: Tschuffert Peak, abundant on moss cushions in depressions below snow drifts.

9 February 1974

Rex Filson 14906

DISCUSSION: In a previous paper (Filson 1966: 41 & 42) the author identified this species with *Rinodina archaeoides* H. Magn. and suggested that it might be synonymous with *R. olivaceobrunnea* Dodge & Baker. Since that time he has examined the type specimen of *R. archeoides* and an authenticated specimen of *R. olivaceobrunnea* and it is evident that these two taxa are the same (see Filson, 1975a).

**No. 19. *Umbilicaria aprina* Nyl.**

Synopsis *Lichenum* **2**: 12. 1863. *Umbilicaria antarctica* var. *subvirginis* Frey & Lamb. in *Trans. Brit. Mycol.* **22**: 272. 1939. *Umbilicaria spongiosa* Dodge & Baker in *Ann. Miss. Bot. Gard.* **25**: 566. 1938.

ANTARCTICA. MAC.ROBERTSON LAND: West side of Mawson Rock, growing on pebbles and flat rock faces in sheltered positions.

1 February 1974

Rex Filson 14820

DISCUSSION: The author has compared the type specimen and recent collectings of *Umbilicaria aprina* Nyl. with the rhizinate *Umbilicaria* found growing on the Antarctic Continent and concludes that they are the same taxon. For further discussion see Filson 1975b.

**No. 20. *Umbilicaria decussata* (Vill.) Zahlbr.**

in *Cat Lich. Univ.* **8**: 490. 1942. *Lichen decussatus* Vill., *Hist. Plant. Dauphine* **3**: 964. 1789. *Omphalodiscus decussatus* (Vill.) Schol., in *Nyt. Mag. Naturvid* **75**: 23. 1934. *Umbilicaria subcerebriformis* Dodge, *BANZ. Antarct. Exped. Rep. Ser. B.* **7**: 149. 1948.

ANTARCTICA. MAC.ROBERTSON LAND: Fischer Nunatak, abundant on rock faces in a westerly aspect.

6 February 1974

Rex Filson 14840 & Craig Austin

**No. 21. *Umbilicaria decussata* (Vill.) Zahlbr.**

in *Cat. Lich. Univ.* **8**: 490. 1942. *Lichen decussatus* Vill., *Hist. Plant. Dauphine* **3**: 964. 1789. *Omphalodiscus decussatus* (Vill.) Schol., in *Nyt. Mag. Naturvid* **75**: 23. 1934. *Umbilicaria subcerebriformis* Dodge, *BANZ. Antarct. Exped. Rep. Ser. B.* **7**: 149. 1948.

ANTARCTICA. MAC.ROBERTSON LAND: Tschuffert Peak, abundant on rock and small pebbles in a northerly aspect.

9 February 1974

Rex Filson 14901

DISCUSSION: "*Umbilicaria decussata* extends from pole to pole in the Western Hemisphere. In the Arctic and the Antarctic regions it is undoubtedly circumpolar" (Llano 1950:80). Previously the specimens from Mac.Robertson Land were determined as *Umbilicaria subcerebriformis* Dodge (Dodge 1955:144). Whilst Professor Dodge still retains the specimen which he first examined under this species (Dodge 1973: 126) he transferred all of the collections noted in Filson (1966:61), which he has not examined, to *Omphalodiscus Bakeri* Dodge (1973: 121).

*U. decussata* varies greatly in the harsh Antarctic conditions sometimes the upper surface is smooth and pale olive-brown, sometimes extremely rugulose and dark brown to greyish-black, depending on the degree of exposure. The author has examined a portion of the type specimen of *Omphalodiscus bakeri* and finds that it is midway between these two forms. It is dark olive-brown and rugulose. He considers Antarctic populations of *U. decussata* compare favourably with specimens of this species found growing in the Australian alpine regions.

#### No. 22. *Usnea acromelana* Stirt

in *Trans. Proc. N. Z. Inst.*, **30**: 388. 1898. *Neuropogon acromelanus* (Stirt.) M.Lamb., in *Journ. Linn. Soc. Lond. Bot.* **52**: 218. 1939.

ANTARCTICA. MAC.ROBERTSON LAND: Falla Bluff, abundant on western side of valleys orientated north and south.

9 February 1974

Rex Filson 14910

DISCUSSION: Most of the coastal outcrops of Mac.Robertson Land have been visited with the purpose of studying the lichen populations and this is the only locality where *Usnea acromelana* has been found. An interesting observation is that *Usnea antarctica* was not found on this outcrop.

Large areas of *U. acromelana*, up to 1 m in diameter were located in sheltered habitats between the boulders in an easterly aspect. The specimens agree well with the descriptions in Lamb (1968: 5) and specimens from other areas seen by the author, though they seem to be a little blacker than those from the Windmill Islands (Filson 1974b:34).

#### No. 23. *Usnea antarctica* Du Rietz.

in *Svensk. Bot. Tidskr.* **20**: 93. 1926. *Neuropogon antarcticus* (Du Rietz) M. Lamb, in *Journ. Linn. Soc. Lond. Bot.* **52**: 210. 1939.

ANTARCTICA. MAC.ROBERTSON LAND: Tschuffert Peak, abundant on pebbles in damp areas below snow drifts.

9 February 1974

Rex Filson 14900

DISCUSSION: *Usnea antarctica* only occurs on six outcrops on coastal Mac.Robertson Land, where it is fairly abundant. This species differs from *U. acromelana* in having eroded, convex patches of soredia on the branches. The lower parts are ver-

rucose rugose and slightly foveolate. *U. acromelana* on the other hand has smooth lower parts and the soredia is pulvinate to subglobose.

No. 24. *Xanthoria mawsonii* Dodge

in *BANZ. Antarct. Res. Exped. Rep.* 7: 236. 1948.

ANTARCTICA. MAC.ROBERTSON LAND: Mawson Rock, common along cracks in rock platforms overlooking East Bay.

18 February 1974

Rex Filson 14993

DISCUSSION: Previously this author has stated (Filson 1966: 5) that he did not observe any relationship between penguin rookeries and the Antarctic plant life. This although true in relation to the rookeries is not true with respect to the perching sites. The rock areas below perching sites around Mawson are very rich in *Xanthoria mawsonii*.

The relationship between this species and *X. candelaria* Kickx. f. *antarctica* (Wainio) Hillm. is uncertain and when this genus is revised the author feels sure that *X. mawsonii* will be relegated to an Antarctic modification of *X. candelaria*. Many authors are already referring this taxon to the latter species. The present author is retaining the specific epithet *mawsonii* for this exsiccata as Mac.Robertson Land is the type locality for the species and he considers it best to wait until a revision of the genus is completed.

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