DET KONGELIGE DEPARTEMENT FOR HANDEL, SJØFART, INDUSTRI, HÅNDVERK OG FISKERI

NORGES SVALBARD- OG ISHAVS-UNDERSØKELSER Leder: Adolf hoel

# SKRIFTER OM SVALBARD OG ISHAVET

### Nr. 75

# ON THE VASCULAR PLANTS OF EASTERN SVALBARD

CHIEFLY BASED ON MATERIAL BROUGHT HOME FROM THE "HEIMLAND" EXPEDITION 1936

BY

EILIF DAHL

WITH 3 MAPS

4

OSLO I KOMMISJON HOS JACOB DYBWAD 1937

# RESULTS OF THE NORWEGIAN EXPEDITIONS TO SVALBARD 1906-1926 PUBLISHED IN OTHER SERIES

#### (See Nr. 1 of this series.)

The results of the Prince of Monaco's expeditions (Mission Isachsen) in 1906 and 1907 were published under the title of 'Exploration du Nord-Ouest du Spitsberg entreprise sous les auspices de S.A.S. le Prince de Monacoparla Mission Isachsen', in Résultats des Campagnes scientifiques, Albert Ier, Prince de Monaco, Fasc. XL-XLIV. Monaco.

ISACHSEN, GUNNAR, Première Partie. Récit de voyage. Fasc. XL. 1912. Fr. 120.00.

With map: Spitsberg (Côte Nord-Ouest). Scale 1:100000. (2 sheets.) Charts: De la Partie Nord du Foreland à la Baie Magdalena, and Mouillages de la Côte Ouest du Spitsberg. ISACHSEN, GUNNAR et ADOLF HOEL, Deuxième Partie. Description du champ d'opération. Fasc. XLI. 1913. Fr. 80.00.

HOEL, ADOLF, Troisième Partie. Géologie. Fasc. XLII. 1914. Fr. 100.00. SCHETELIG, JAKOB, Quatrième Partie. Les formations primitives. Fasc. XLIII. 1912. Fr. 16.00.

RESVOLL HOLMSEN, HANNA, Cinquième? Partie. Observations botaniques. Fasc. XLIV, 1913. Fr. 40.00.

A considerable part of the results of the ISACHSEN expeditions in 1909 and 1910 has been published in Videnskapsselskapets Skrifter, I. Mat.-Naturv. Klasse. Kristiania (Oslo).

ISACHSEN, GUNNAR, Rapport sur l'Expédition Isachsen au Spitsberg. 1912, No. 15. Kr. 5,40.

ALEXANDER, ANTON, Observations astronomiques. 1911, No. 19. Kr. 0,40. GRAARUD, AAGE, Observations météorologiques. 1913, No. 1. Kr. 2,40.

Helland-Hansen, Bjørn and Fridtjof Nansen, The sea west of Spitsbergen. 1912, No. 12. Kr. 3.60.

ISACHSEN, GUNNAR, The hydrographic observations. 1912, No. 14. Kr. 4,20.

With chart: Waters and anchorages on the west and north coast. Publ. by the Norw. Geogr. Survey, No. 198. HOEL, A. et O. HOLTEDAHL, Les nappes de lave, les volcans et les sources thermales

dans les environs de la Baie Wood au Spitsberg. 1911, No. 8. Kr. 4,00.

GOLDSCHMIDT, V. M., Petrographische Untersuchung einiger Eruptivgesteine von Nord-westspitzbergen. 1911, No. 9. Kr. 0,80. BACKLUND, H., Über einige Olivinknollen aus der Lava von Wood-Bay, Spitzbergen.

1911, No. 16. Kr. 0,60.

HOLTEDAHL, OLAF, Zur Kenntnis der Karbonablagerungen des westlichen Spitzbergens.
I. Eine Fauna der Moskauer Stufe. 1911, No. 10. Kr. 3,00. II. Allgemeine stratigraphische und tektonische Beobachtungen. 1912, No. 23. Kr. 5,00.
HOEL, ADOLF, Observations sur la vitesse d'écoulement et sur l'ablation du Glacier Lilliehöök au Spitsberg 1907—1912. 1916, No. 4. Kr. 2,20.
VEGARD, L., L'influence du sol sur la glaciation au Spitsberg. 1912, No. 3. Kr. 0,40.

ISACHSEN, GUNNAR, Travaux topographiques. 1915, No. 7. Kr. 10,00. With map: Spitsberg (Partie Nord-Ouest). Scale 1:200000 (2 sheets).

GUNNAR ISACHSEN has also published: Green Harbour, in Norsk Geogr. Selsk. Aarb., Kristiania, 1912–13, Green Harbour, Spitsbergen, in Scot. geogr. Mag., Edinburgh, 1915, and,

Spitsbergen: Notes to accompany map, in *Geogr. Journ.*, London, 1915. All the above publications have been collected into two volumes as Expédition Isachsen au Spitsberg 1909-1910. Résultats scientifiques. I, II. Christiania 1916.

As the result of the expeditions of ADOLF HOEL and ARVE STAXRUD 1911-1914 the following memoir has been published in Videnskapsselskapets Skrifter. I. Mat.-Naturv. Klasse.

HOEL, ADOLF, Nouvelles observations sur le district volcanique du Spitsberg du Nord. 1914, No. 9. Kr. 2,50.

Expeditions of TH. VOGT 1925 and 1928:

STØRMER, LEIF, Downtonian Merostomata from Spitsbergen. - Skr. Norske Vid.-Akad. I. Mat.-Nat. Kl. 1934. No. 3. Kr. 3,00.

The following topographical maps and charts have been published separately: Maps:

Bear Island. 1:25000. 1925. Kr. 10,00. Bear Island. 1:10000. (In six sheets). 1925. Kr. 30,00.

East Greenland. Eirik Raudes Land from Sofiasund to Youngsund. 1:200 000. 1932. Kr. 5,00.

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A.W. BRØGGERS BOKTRYKKERI A/S

# Contents.

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	Page
Preface	5
Botanical Investigations in Southeastern Svalbard and Kong	
Karls Land	7
Enumeration of Vascular Plants	12
Pteridophyta	12
Dicotyledones	13
Monocotyledones	33
Survey of the most important Finds	44
Bibliography	<b>4</b> 6

## Preface.

In the summer of 1936 I had the opportunity of taking part as a botanist in the Norwegian Svalbard expeditions under the leadership of Docent Adolf Hoel. My special task was to make lichenological investigations in Svalbard, but there was also sufficient time left to make investigations of vascular plants. Few other botanists have had the opportunity to visit the localities in Eastern Svalbard where most of my botanical work on vascular plants has been done, and the present paper is the result of my work on vascular plants in Eastern Svalbard in 1936.

We went to Svalbard in the "Polarbjørn" from Ålesund on June 26 under the leadership of Mr. Hoel. The vessel went to various places in Western Svalbard. But on July 26 the steamer "Heimland I" with the mining commissioner of Svalbard, Mr. H. Merckoll, as leader sailed from Longyearbyen for the eastern parts of the islands. The ship went to various places in Eastern Svalbard, and round Nordostlandet to Brennevinsfiorden. The "Polarbjørn" also sailed to Brennevinsfiorden, where it met the "Heimland", and some of the members of the "Heimland" expedition changed over from the "Heimland" to the "Polarbjørn". The "Polarbjørn" sailed to various places in Northern Svalbard, later to the western coast, and then back to Norway, where it arrived early in September. The expedition lasted more than two months, and my field work more than seven weeks. The material of vascular plants from the "Heimland" expedition is published in the present paper; the results of the botanical work on vascular plants from Western Svalbard have been handed over to the curator of the Botanical Museum of Oslo, Mr. Johannes Lid, to be included in a comprehensive work on the flora of Svalbard in preparation by him.

As far I can find out, only seven botanists have previously visited South-eastern Svalbard. Many of them also had other work to do; they were geologists or zoologists, and therefore my task was to give as many and accurate localities, and to bring home as many plants, as possible. How insufficiently South-eastern Svalbard has been explored is shown by the fact that the expedition was able to bring home 14 plants which have not previously been recorded for this district. It was thanks to the initiative of my friend, Professor Bernt Lynge, that a botanist was permitted to join the expedition, and I am deeply indebted to him and to Docent Adolf Hoel for arranging my participation.

I also wish to tender my thanks to the mining commissioner of Svalbard, Mr. Merckoll who was the leader of the "Heimland" expedition, for facilitating my work and giving me good working conditions. To all the other members of the Svalbard expeditions who were ever willing to help me, I wish to express my profound thanks.

Professor Jens Holmboe, Director of the Botanical Museum of Oslo, has with his great courtesy placed the herbaria and the library of his museum at my disposal. The curator of the Botanical Museum, Mr. Johannes Lid, has given me the most valuable information respecting the flora of Svalbard, and revised difficult genera such as Poa and Draba. I wish to express my profound gratitude for the help they have rendered me, and I am also indebted to Mr. Olav Hanssen for allowing me to include in this paper the results of his collections from Kong Karls Land.

The geographical names of this paper have been revised by Dr. Horn of the Norges Svalbard- og Ishavs-Undersøkelser. The maps have been drawn by Mr. Scott Ruud of the same office. The office also undertook the correcting of the language, and for all the help the staff of the Svalbard office have given me I wish to tender to them and the head leader, Mr. Adolf Hoel, my best thanks.

Botanical Museum, Tøyen, Oslo. November 19, 1937.

Eilif Dahl

# Botanical Investigations in South-eastern Svalbard and Kong Karls Land.

#### Keilhau 1827.

In 1827 Keilhau visited Edgeøya in South-eastern Svalbard. He was sent out to make geological investigations, but he also brought home a fairly large collection of plants. The locality on Edgeøya or Stans Forland, as he named it, must be the locality Kvalpynten which is clearly shown on a map accompanying his description of the voyage. This locality must surely be the same as that visited by Malmgren 1864 and Kükenthal 1889. His collection is worked up by C. Sommerfelt and published in: *Magazin for Naturvidenskaberne, 1832.* Sommerfelt gives 27 species from Edgeøya, of which only one, *Lycopodium Selago*, has not subsequently been recorded from South-eastern Svalbard.

#### Malmgren 1864.

In 1864 the well-known Swedish zoologist and botanist A. J. Malmgren visited Edgeøya and Edlundfjellet in the innermost part of Storfjorden. At Edgeøya he visited Kvalpynten and a locality which in literature has been called: Walter Thymens Strait. Walter Thymens Strait is now called Freemansundet, a pretty extensive locality. In the description of the journey we find that the expedition was only once at Walter Thymens Strait. We find a description of the anchoring place which says that it was protected to the east by Lees Forland, to the south by a low hyperite point and to the west by a high hyperite island. Lees Forland is the north-western corner of Edgeøya. We think that the anchoring place must have been on the northern side of Kapp Lee. The only thing which does not tally is the hyperite island to the west. This island is not given on modern maps, but on the map of Dunér and Nordenskiöld accompanying the description of the voyage, an island is indicated west of Kapp Lee. The locality Walter Thymens Strait should be called: Edgeøya: At Freemansundet somewhat east of Kapp Lee. The results of this journey are published in part by Malmgren in an appendix to the description of the voyage, in part by N. J. Andersson: Bidrag till den nordiska floran. I. Et hittils obeskrifvit gräs från Spetsbergen, but the greater part is published by Th. M. Fries:

*Tillägg till Spetsbergens Fanerogamflora.* Mention is made of 22 plants from South-eastern Svalbard, all of which have later been found. Malmgren surely did find more than 22 species, but the more common plants are not mentioned with special localities in the publication of Th. Fries.

#### Heuglin 1870.

During the German expedition to Svalbard in 1870 M. Th. von Heuglin visited the coasts of Storfjorden. He brought home many plants from Agardhbukta, Kapp Lee and other places, but we cannot find out where some of his localities are situated. Like so many older investigators, he gives localities so inaccurately that many of his records are of no value. One of the localities has been called: "Ostküste des Storfjordes" but this locality includes both the western side of Barentsøya and Edgeøya. His botanical results are published in: Heuglin: *Reisen nach dem Nordpolarmeer in den Jahren 1870 und 1871. Dritter Teil: Beiträge zur Fauna, Flora und Geologie.* The plants are determined by Reichenbach fil. and include with our limitation of species, 25 species. All of them except *Melandryum affine* have later been rediscovered in South-eastern Svalbard.

#### Kükenthal 1889.

In 1889 the German investigator W. Kükenthal visited Storfjorden and there he collected some plants at Whales Pointhafen, which must be the locality of Kvalpynten visited earlier by Keilhau and Malmgren. Some of these plants are determined by Professor Hausknecht, but the greater part of the material has been determined by Dr. Büsgen. Dr. Büsgen's knowledge of arctic plants must have been small, for he gives plants like *Saxifraga alpina* L. and *Saxifraga hirsutus* from Svalbard. The former is probably *S. Hirculus*, but we do not know what plant hides under the latter name. Of the plants collected at Kvalpynten one, *Ranunculus glacialis* (if correctly determined), has never since been collected in South-eastern Svalbard.

#### Andersson and Hesselman 1898.

The two Swedish botanists, Gunnar Andersson and Henrik Hesselman, visited Kong Karls Land during the Swedish Polar Expedition of 1898. They made a thorough botanical investigation of the islands, and found 27 vascular plants. The results are given by G. Andersson and H. Hesselman: Verzeichnis der in König Karls Land während der schwedischen Polarexpedition 1898 gefundenen Phanerogamen.

#### Brühl 1898.

Brühl was a member of the German Expedition in the "Helgoland" to Svalbard in 1898. The expedition visited the coasts of Storfjord and Kong Karls Land. The results are not published in any special paper, but some records are found in *Das Pflanzenreich*. These records are very inaccurate, e. g., "Walter Thymenland" and "Edgeland". We have found 7 localities in *Das Pflanzenreich*, but most of them are so inaccurate that they cannot be used.

#### The Russian Expeditions 1901.

In 1901 a Russian expedition on board the "Ermak" visited Eastern Svalbard and Franz Josef Land. The botanist was J. Palibin. He visited Kvalpynten at Edgeøva, but in his publication he gives very few vascular plants from this locality. The same year the Russian zoologist Michailowsky and the astronomist Achmatoff visited the coasts of Storfjorden with a Russian expedition (for the arc measurement). Michailowsky visited Agardhbukta and Mistakodden on Barentsøya and, in company with Achmatoff, Gothavika on Edgeøya. Achmatoff collected many plants at Siegelfjellet on Edgeøya. The botanical results of the expeditions are published by J. Palibin in: Resultats botaniques du voyage à l'Océan Glacial sur le bateau brise-glace, "Ermak", pendant l'été de l'année 1901. III. Quelques données sur la flore du Spitzberg oriental. He gives many localities of *Ranunculus nivalis*, but his *R. nivalis* is probably R. sulphureus, for he does not record this common plant from a single locality. This applies also to Franz Josef Land (see: Hanssen, O., and Lid, J.). All his plants have later been found in South-eastern Svalbard.

#### Michelmore 1927.

Michelmore was a member of the Cambridge expedition to Edgeøya in 1927. He did his greatest work on Edgeøya, but he also carried out botanical work at Kvalvågen, Agardhbukta, Mohnbukta, and two places in Barentsøya. He brought home a large material and his results are published in two papers, one in Bulletin of Miscellanous Information: A. P. G. Michelmore: Botany of the Cambridge expedition to Edge Island S. E. Spitsbergen 1927, Part I, the other in Journal of Ecology: A. P. G. Michelmore: Botany of the Cambridge expedition to Edge Island S. E. Spitsbergen 1917, Part II. The vegetation. The localities he gives are accurate enough, but for many plants he records that they are common or abundant, without giving any accurate records of these species. I consider that in writing of the botany of a district which is insufficiently known, we should always give accurate records of all plants, however common they may be. He gives 68 species and hybrids from South-eastern Svalbard, the greatest material previously published from this district.

#### The "Bratvaag" Expedition 1930.

In the summer of 1930 a Norwegian expedition on board the vessel "Bratvaag" visited Kong Karls Land on a voyage to Franz Josef Land. The botanist on board was Olaf Hanssen. He collected plants at Hårfagrehaugen and at Retziusfjellet, and brought home nine species.

#### Polunin 1932.

During the summer 1932 the Anglo-Russian botanist Dr. Polunin visited Agardhbukta. His results have not been published and his plants are in the British Museum and thus inacessible to me.

#### The "Heimland" Expedition 1936.

This expedition was sent out by Norges Svalbard- og Ishavsundersøkelser to build houses and carry out scientific investigations in Eastern Svalbard. The expedition started from Longyearbyen on July 27 and sailed round Sørkapp for the coasts of Storfjorden. After a brief visit to Davishamna and Kvalhovden, we set out for Steinbeisfjellet on Barentsøya, where a house was built. After this the ship went on to Agardhbukta, Kapp Lee, Habenichtbukta, Keilhaubukta, through Freemansundet to Kapp Heuglin, then to Kong Karls Land where a large house was built at Kongsøya and a somewhat smaller one at Svenskeøya, then to Storøya, Duvefjorden, Rijpfjorden, and Phippsøya in Sjuøyane, where a house was built. Later the vessel sailed to Brennevinsfjorden, Longyearbyen and home to Norway. The localities visited by us and mentioned in this paper are the following:

- S. E. Coast: Davishamna. July 29. A very barren place; only a few vascular plants were collected, quite near the house.
- Southern side of Kvalhovden. July 30. A fine plant locality, especially for bog plants.
- Revnosa in Agardhbukta. August 5. A rather barren locality with "løss"-formations. The most interesting plant collected there was *Poa Hartzii*.
- Barentsøya: North-western side of Steinbeisfjellet. August 1. We botanized on the strand flats with grassy bogs north-west of Steinbeisfjellet and on the slopes on the north-western side of this mountain.
- South-western side of Steinbeisfjellet. August 2. The botanical work was done on the south-western slopes and the strand flats below. The vegetation was almost the same as in the foregoing locality.
- Between Steinbeisjfellet and Kapp Wojeikow. August 3. We went through the extensive valley between Steinbeisfjellet and Kapp Wojeikow with enormous sandbanks and typical sandbank vegetation, further below the cliffs to the sea to Kapp Wojeikow and then directly back to Steinbeisfjellet. At Kapp Wojeikow great numbers

of *Rissa tridactyla* were nesting, and the slopes under the cliffs had a fine, typical bird-cliff vegetation.

- Edgeøya: Between Rosenbergdalen and Kapp Lee. August 6. We did botanical work from the mouth of Rosenbergdalen along the bird-cliffs to Kapp Lee. The slopes under the cliffs had a very fine vegetation, the best I have seen of bird-cliff vegetation in Eastern Svalbard.
- South of Habenichtbukta. August 7. We went on the enormous bogs south of Habenichtbukta and up to the slopes south-east of this bay. The bogs had a very fine bog vegetation, the best of its kind I have seen in South-eastern Svalbard.
- Keilhaubukta. August 8. We did botanical work on the strand flats near the house. The vegetation was good, but not so good as in the foregoing localities.
- Kapp Heuglin. August 9. We paid a very brief visit to the house on the cape. The locality was pretty barren.
- Kong Karls Land: Hårfagrehaugen. August 11. We went from Kapp Koburg to the southern slope of the mountain, then towards the top, round the mountain and back to Kapp Koburg. The vegetation of vascular plants was barren.
- Western side of Retziusfjellet. August 12. Botanical work was done on the western slopes and the strand flats below. The vegetation was almost the same as in the foregoing locality.
- Mohnhøgda. August 14. We went from Kapp Pettersen to the vertical cliffs near the top, then round the mountain and back to Kapp Pettersen. Some birds were nesting in the cliffs, and below them there was a bird-cliff vegetation, otherwise the vegetation was almost the same as in the foregoing localities.
- Storøya. August 15. We went on the western side of Storøya, which was a most barren place with great stones. A single vascular plant, *Phippsia algida*, was found.
- Nordaustlandet: Halfway and on the western side of Duvefjorden. August 16. A barren place with stony ground and a vegetation mainly consisting of *Luzula confusa*.
- Innermost part of Rijpfjorden. August 17. This locality resembled the foregoing, but it was somewhat better. There were some bogs at the bottom of the fjord with some bog plants.
- Southernmost peninsula of Phippsøya in Sjuøyane. August 18. We went around the southernmost peninsula. The vegetation was barren with few vascular plants.

In this paper I have used the geographical terms: the south-eastern coast and South-eastern Svalbard. I define the south-eastern coast as the coast from Kapp Hann and southwards to Keilhauneset. South-eastern Svalbard includes the south-eastern coast, Barentsøya, Edgeøya, and the adjacent inlands.

#### Enumeration of Vascular Plants.

## Pteridophyta.

#### Equisetum arvense L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: South-western side of Steinbeisfjellet.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

This plant was first recorded by Malmgren: Walther Thymen Strait 5: At Freemansundet somewhat east of Kapp Lee. Michelmore states that it is common, occasionally fruiting, and I think he is right, but he does not give any locality for it. There is no earlier accurate locality of it on Barentsøya and on the S. E. Coast.

#### Equisetum variegatum Schleich.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

We did not find this plant on the south-eastern coast, but I think that it is pretty common on the islands of South-eastern Svalbard. Michelmore writes: Common, not seen in fruit. I can find no exact record of it from South-eastern Svalbard in the literature, but in the Oslo herb. there is a plant from Edgeøya: Plain of the Russian Base (Michelmore). New to Barentsøya.

Lycopodium Selago L. has been recorded from Stans forland 5: Edgeøya: Kvalpynten by Keilhau. This plant has caused a great deal of confusion in the question of Lycopodium Selago at Bjørnøya. In the Copenhagen herb. there is a plant labelled Beeren Eiland (Keilhau) the label written by Kierbou. Later it has, as far we can find out, never been found at Bjørnøya. In the Upsala herb. there is no plant from this island, but in Oslo there is a plant labelled Bjørnøya (Keilhau) after the Copenhagen specimen. But Sommerfelt, who worked up the collections of Keilhau, never mentions L. Selago from any locality except from Stans forland in his publication on the material of Keilhau. It seems to me that there must be a confusion of the labels, and that the record of this plant from Bjørnøya must be dubious. L. Selago should so far be excluded from the Bjørnøy flora. L. Selago is not subsequently mentioned from South-eastern Svalbard.

### Spermatophyta.

#### Dicotyledones.

Arenaria ciliata subsp. pseudofrigida Ostenf. & Dahl.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Seems to be extremely rare in S. E. Svalbard, and was found but once at the fine plant locality at Kapp Lee. The plants were well developed and bore ripe fruits. We have never seen any record of it from S. E. Svalbard.

#### Cerastium alpinum L. (sensu latiore).

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, On the southernmost peninsula of Phippsøya in Sjuøyane.

*Cerastium alpinum* is a very common plant in Storfjorden and on Kong Karls Land, and was found at nearly every locality visited. The oldest record is by Keilhau, who found it at Edgeøya: Kvalpynten. It was later found at the same locality by Kükenthal. Heuglin records it from S. E. Coast: Agardhbukta, and from "Ostküste des Storfjordes", but he did not separate this species from *C. Regelii* Ostf. and we do not know whether the plants of Heuglin are *C. alpinum* or *Regelii*. Andersson and Hesselmann found it on both the large islands of Kong Karls Land, where it was later found by O. Hanssen at Retziusfjellet. Michelmore gives localities of it from Barentsøya: Freemansundbreen (=Freeman Strait Glacier) and from Edgeøya: Negerdalen (Negro V.).

Earlier two different species, *C. alpinum* and *C. hyperboreum*, were recorded from Svalbard. The latter was described by the Russian botanist, A. Tolmatchev. The specific difference between *C. alpinum* and *C. hyperboreum* was very doubtful (Scholander 1934, Gelting 1934). In the large: Flora of U. R. S. S. under redaction of V. L. Komarov, Tolmatchev has written on the genus Cerastium in this flora, and there he records *C. hyperboreum* as synonymous to *C. alpinum*, with no reservations. We must therefore consider that also Tolmatchev regards *C. hyperboreum* as the same species as *C. alpinum*.

#### Cerastium Regelii Ostf.

S. E. Coast: Davishamna, Southern side of Kvalhovden.

Barentsøya: North-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet.

Seems to be fairly common in Eastern Svalbard. It is a good species well distinguished from *C. alpinum*. Michelmore gives a single locality of it from Edgeøya: Below Kuhrbreen. At Kong Karls Land it is found by Andersson and Hesselman on both the large islands, and it was found at Retziusfjellet by Hanssen in 1930. Many of the older authors did not distinguish this species from *C. alpinum*. I have seen no older record of it from the south-eastern coast and Barentsøya.

Cerastium alpinum  $\times$  Regelii. Edgeøya: Between Rosenbergdalen and Kapp Lee. This plant might be referred to this hybrid. There were typical and well-developed plants. We do not know whether it really is a hybrid or not; no experimental work has been done on Cerastium, as far as we know. But on account of the intermediate appearance of it leaves, etc., we can do nothing but name it a hybrid. It is impossible to refer it either to *C. alpinum* or to *C. Regelii*. The same intermediate form was noticed in Edgeøya: Keilhaubukta by Michelmore.

Melandryum apetalum (L.) Fenzl.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Seems not to be rare on moraines and gravel. It was first found by Malmgren at Edgeøya: At Freemansundet somewhat east of Kapp Lee, later by Heuglin on the south-eastern coast at Agardhbukta. Michelmore found it in many localities, viz., S. E. Coast: Kvalvågen, Mohnbukta. Barentsøya: Mistakodden. Edgeøya: Keilhaubukta, Kapp Lee, and the plain below Kuhrbreen. He records it as local.

Melandryum affine J. Vahl. This plant is reported together with Melandryum apetalum from the S. E. Coast: Agardhbukta abt. 800 feet above the level of the sea, by Heuglin. It must be a very rare species in South-eastern Svalbard, since it has not later been recorded from this district.

#### Minuartia biflora (L.) Schinz & Thell.

S. E. Coast: Southern side of Kvalhovden. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

Has nearly the same distribution as *Melandryum apetalum* and seems to have almost the same frequency as this plant. It was found on gravel and earth, and its characteristic tufts were easy to recognize.

It was already found by Malmgreen at Edgeøya: At Freemansundet somewhat east of Kapp Lee, and by Heuglin "Ostküste des Storfjordes". Michelmore states: locally common, but he gives no accurate record. As far we can see never earlier recorded from the south-eastern coast.

#### Minuartia rubella (Wg.) Graebn.

S. E. Coast: Revnosa in Agardhbukta.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Seems to be fairly common in South-eastern Svalbard. In Kong Karls Land it must be very rare, only recorded from a single locality, viz., Svenskøya: Kapp Hammerfest by Andersson and Hesselman. Keilhaus *Alsinella arctica* from Edgeøya: Kvalpynten must be this species. Michelmore writes: common, but he gives, as is usual for common plants, no accurate record of it. Not earlier recorded from the south-eastern coast.

#### Sagina intermedia Fenzl.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta. Barentsøya: North-western side of Steinbeisfjellet, South-western side of

Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet.

Nordaustlandet: Halfway and on the western side of Duvefjorden.

Is certainly a very common plant in somewhat moist places in South-eastern Svalbard, but not quite so common in Kong Karls Land. It often grows in the coldest places near the glaciers, and is frequently found at the shore. Malmgren records it from Edgeøya: At Freemansundet somewhat east of Kapp Lee. Andersson and Hesselman write: "Am Kapp Weißenfels im Osten des Schwedischen Vorlandes" at Kong Karls Land. Michelmore reports that it is common in South-eastern Svalbard and in the paper on the ecology he gives the locality: S. E. Coast: Mohnbukta. Not previously recorded from Barentsøya.

#### Silene acaulis L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhoukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Seems to be very common around Storfjord, where it was found especially on marine terraces. It was first found by Keilhau at Edgeøya: Kvalpynten, and later at the same locality by Kükenthal. Michelmore writes: Common on dolerite sills on the coast, but not found elsewhere. It has never been recorded from Kong Karls Land, and not earlier from the south-eastern coast and Barentsøya.

#### Stellaria humifusa Rottb.

Edgeøya: South of Habenichtbukta.

Must be a rare species in South-eastern Svalbard. At Habenichtbukta it was found growing on maritime rocks which were wetted by salt water. It is earlier recorded from Edgeøya: At Freemansundet somewhat east of Kapp Lee by Malmgren, and by Kükenthal from Kvalpynten. It is peculiar that this rare plant has been recorded by Kükenthal from Kvalpynten where no-one else has found it, but he does not mention the abundant *Stellaria longipes*.

#### Stellaria longipes Goldie.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Stellaria longipes was an abundant species in South-eastern Svalbard whereever we went. Earlier investigations: Edgeøya: Kvalpynten. (Keilhau sub. nom. Stellaria Edwardsii.) Kong Karls Land: On both the two large islands (Andersson & Hesselman). Retziusfjellet (O. Hanssen). Michelmore states: abundant, and gives the localities: S. E. Coast: Kvalvågen, Mohnbukta and Edgeøya: Kuhrbreen. All my specimens must be referred to the var. humilis, although some specimens from Kvalhovden had some resemblance to var. pedunculata Bunge. New to Barentsøya.

Braya purpurascens (R. Br.) Bunge.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Seems to be rare in South-eastern Svalbard, and was found but once by us. Palibin records it from Edgeøya: Siegelfjellet (Achmatoff sub. nom. *Braya alpina* f. glabella). Michelmore found it in quantities on the moraines at Freemansundbreen at Barentsøya, and on Edgeøya: Kuhrbreen. Otherwise it has never been found in South-eastern Svalbard.

#### Cardamine bellidifolia L.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

This plant was found at many localities in sand or between stones, but at each locality it was scarce, two or three plants together. It has a wide distribution, but was not found at the south-eastern coast. It has earlier been found at Edgeøya: Kvalpynten by Kükenthal, and by Heuglin at S. E. Coast: Agardhbukta. Achmatoff found it at Edgeøya: Siegelfjellet. Andersson and Hesselman records it from Svenskøya and Kongsøya in Kong Karls Land. Michelmore states that it is common, but gives no exact locality of it. Not previously recorded from Barentsøya.

#### Cardamine pratensis L.

S. E. Coast: Southern side of Kvalvågen.

Barentsøya: South-western side of Steinbeisfjellet.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Kapp Heuglin.

*Cardamine pratensis* is not a very common plant around Storfjord. Often only two or three leaves were found in a bog, nearly always together with *Ranunculus hyperboreus*, but at Edgeøya: Between Rosenbergdalen and Kapp Lee, we found fine flowering specimens attaining 10 cm in height. This plant was first found by Kükenthal at Edgeøya: Kvalpynten. Michelmore records it from the following localities: S. E. Coast: Kvalvågen, Mohnbukta. Barentsøya: Mistakodden. Edgeøya: Keilhaubukta, Plain of the Russian base, Andréetangen.

#### Cochlearia officinalis L. (s. lat.).

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

*Cochlearia officinalis* is a very common plant in Eastern Svalbard, found at every locality visited. It grows in nearly every situation from bird-cliffs to strandflats. It varies considerably in size and habitus.

The first to record this plant in South-eastern Svalbard was Keilhau, who found it at Edgeøya: Kvalpynten (sub. nom. *C. anglica*). Later it was found at the same locality by Kükenthal. Heuglin records it from Kong Ludvigøyane (sub. nom. *C. arctica*) and from "Ostküste des Storfjordes" (sub. nom. *C. danica*). J. K. Tornøe found it at S. E. Coast: Davishamna. Andersson and Hesselman record it from Kong Karls Land: The two large islands, in quantities especially at Kapp Weissenfels. During the Russian expedition 1901 Michailowsky found it at the south-eastern coast: Agardbukta and Achmatoff at Edgeøya: Siegelfjellet. Michelmore notes: Abundant, and records it from Edgeøya: Below Kuhrbreen and from Edgeøya: Plain of the Russian base (sub. nom. *C. arctica*).

As to the systematic value of the different types, opinions differ greatly. Some regard them as different species, other regard them as worthless formae. I consider it impossible to regard them as different species; to regard them as varieties is better, but I think they should so far be reduced to formae. The author who has dealt best with the problem of Cochlearia is Gelert, and his results are published by Andersson (1900). He notes that the differences in the shape of the fruits are not corellated with the differences in the forms of the leaves. He bases his system of varieties on the form and shape of the fruits. that character which seems to be the most constant in the different formae. But the characters are not quite constant in each forma, transitional forms between groenlandica and arctica, and between groenlandica and oblongifolia are pretty common, it is better to say that these three varieties mark centres in the form series. Gelting (1934) states that they are not constant, and he says on the question between groenlandica and oblongifolia, that "individuals with the same shape of capsules in one and the same raceme may be encountered". Also Asplund (1918) states that the limits between the formae are diffuse. Andersson says that there is some correlation between the vegetative shape and the shape of the capsules, but his correlation cannot be absolute. As far I know, no cytological research has been done on arctic Cochlearia, and no other characters distinguishing the formae have been found. On the other hand I cannot say wether the v. typica is different from the v. groenlandica group, but it looks as if the difference is based on more important characters. I then think the best thing is to record two different varieties of Cochlearia officinalis: the v. typica and the v. groenlandica, and record two forma of the v. groenlandica the f. arctica and the f. oblongifolia. We have not collected typical plants of f. oblongifolia in our area, the plant from Edgeøya: South of Habenichtbukta must be referred to f. arctica, the others are v. groenlandica. The plants of Keilhau called C. anglica belong to C. officinalis v. groenlandica.

18

#### Draba alpina L.

S. E. Coast: Southern side of Kvalhovden.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Draba alpina is not of the most common species of Draba in South-eastern Svalbard and prefers warmer localities. It has earlier been found at the south-eastern coast: Agardhbukta and "Ostküste des Storfjordes" by Heuglin, and by Michelmore at Edgeøya: Negerdalen, Keilhaubukta and Kapp Lee. We have seen no earlier record from Barentsøya.

#### Draba Bellii Holm.

Barentsøya: North-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee. *Kong Karls Land*: Western side of Retziusfjellet. *Nordaustlandet*: Innermost part of Rijpfjorden.

Draba Bellii is also no common plant in Eastern Svalbard, and although Draba was eagerly collected, it was found at only four places. Its nearest relatives are Draba alpina and Draba oblongata. But there are many good characters distinguishing Draba Bellii from alpina and oblongata. It is characterized by having hairy capsules with long style (compared with oblongata), the form of the capsule, and by having a different pubescence on the upper and under side of the leaves. It must be very closely related to Draba Kjellmanni Lid and Draba macrocarpa Adams, and I do not think that they are specifically distinct. In the University herbar. of Oslo there are many plants from Northern America determined by Tolmatchew to D. macrocarpa (it was Tolmatchew who called attention to this species), but they are all, as far we can see, determined by Elisabeth Ekman to D. Bellii. Draba macrocarpa was distinguished from D. Bellii by the pubescence of the leaves and the broadly dilatated filament of the stamens. It seems after this that the pubescence is not so constant as to distinguish the forms (most of the specimen from Northern America were in fruit), and the broad filament alone is not enough to give D. macrocarpa specific rank different from Draba Bellii. To distinguish D. Kjellmannii from D. macrocarpa is still worse. They have both the broad filament of the stamens, but D. Kjellmanni is distinguished from D. macrocarpa by the pubescence of the leaves having (acc. to E. Ekman 1931) much thinner and shorter unbranched hairs in the margins than D. macrocarpa. I think this should be a very meagre difference on which to base a new species, especially when plants of D. Kjellmanni have not been cultivated in gardens. And to all this we found a plant at Edgeøya: Between Rosenbergdalen and Kapp Lee which in the hairiness of the leaves agreed well with *Draba Kjellmanni*, but whose filament of the stamens was of the common type of *D. Bellii*. But the plant looked really peculiar on account of the pubescence of the leaves. I think that these three species should be united in *D. Bellii* which would then be a clear and good species. We cannot after our observations in Svalbard agree with Fernald (Rhodora 1934), who reduces *D. Bellii* to a variety of *D. alpina*, the v. nana Hook.

Draba Bellii is earlier recorded by Michelmore from Barentsøya: Moraine of Freemanbreen and Edgeøya: Keilhaubukta (sub. nom. Draba glacialis Adams). The plants from Edgeøya: Kvalpynten (leg. Keilhau) which were determined by Sommerfelt as D. oblongata belong partly also to Draba Bellii. My plants from Kong Karls Land differ somewhat from the main form in having longer and not such broad leaves as usual. Not previously recorded from Kong Karls Land. Our plant from Kong Karls Land was sterile.

#### Draba micropetala Hook.

S. E. Coast: Davishamna.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Steinbeisfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden.

Draba micropetala is one of the most common Draba in Eastern Svalbard, but it prefers colder places. At Kong Karls Land it was abundant. It has earlier been found by Michelmore at Keilhaubukta on Edgeøya. It is probably this plant, collected by Palibin at, Kvalpynten, which is named Draba leptopetala by Pohle in "Drabae asiaticae". Andersson and Hesselman writes that they saw perhaps two species of Draba at Kong Karls Land. One of them was surely Draba micropetala. One plant of the material of Keilhau from Edgeøya: Kvalpynten is also this species. We have no accurate earlier record of it from the south-eastern coast, Barentsøya and Kong Karls Land.

At Kong Karls Land: Western side of Retziusfjellet and Mohnhøgda there occurred a very peculiar forma of *Draba micropetala*. In the shape and hairiness of the capsules, the form of the leaves etc. it agreed well with *D. micropetala*, but the pubescence of the leaves was very different. It had only branched or simple hairs on the leaves, and never, as far I can see, stellulate hairs. It should certainly bear a forma name.

Draba micropetala Hook. f. simplicipilia. n. f. Differt ab forma principali pilis simplicibus vel ramosis solum supra folia; pili stellati numquam evolutiscent. Locus classicus: Kong Karls Land: Western side of Retziusfjellet. This forma has been found at the two places mentioned.

Elisabeth Ekman (1935) finds that the type material of *Draba micropetala* Hook is uniform, but the type material of *Draba oblongata* R. Br. is a mixture of *Draba Bellii* and *D. micropetala* Hook. She also thinks that *D. micropetala* and the plant called *D. oblongata* is not specifically different, and that the plants called *D. oblongata* should bear the name *D. micropetala*.

#### Draba cinerea Adams.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Under birdcliffs between Rosenbergdalen and Kapp Lee in company with *Papaver*, *Taraxacum arcticum*, *Ranunculus nivalis* a. o. there was found a Draba which must be referred to this species. It has white flowers, leaves with stellulate hairs, but the capsules had unbranched hairs, and it therefore looks somewhat uncommon. It must be a very rare species in Eastern Svalbard, I have seen no older record of it from South-eastern Svalbard.

#### Draba daurica D. C.

Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow.

Draba daurica is certainly one of the rarest plants of South-eastern Svalbard, found at but one place. The plants are flowering and partly fruiting, being very typical with glabrous fruits and dentate leaves. I have not seen any older record of it from South-eastern Svalbard.

#### Draba rupestris (R. Br.) Lindblom.

Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow.

Under birdcliffs between Steinbeisfjellet and Kapp Wojeikow there was found a Draba which must be referred to this species. It has not much resemblance to the common *Draba rupestris* of Svalbard, it has nearly glabrous capsules, and looks very similar to the leiocarp *D. rupestris* from Norway. Previously never recorded from South-eastern Svalbard.

#### Draba lactea Adams.

Barentsøya: North-western side of Steinbeisfjellet. Nordaustlandet: Halfway on the western side of Duvefjorden.

Draba lactea must be much more common in Eastern Svalbard than these few stations might indicate. It has earlier been found by Malmgreen at Edgeøya: Kvalpynten (sub. nom. D. Wahlenbergii). Michelmore notes that it is frequent. Not previously recorded from Barentsøya. Draba alpina x lactea. A plant brought home from Barentsøya: Southwestern side of Steinbeisfjellet was determined by Mr. J. Lid for this hybrid. It was characterised by its panicle branches almost hairless, and by the rosettes of old leaves. The same hybrid is recorded by O. E. Schulz from "Walther Thymenland" and "Edgeland" (leg. Brühl.).

#### Draba nivalis Liljeblad.

S. E. Coast: Southern side of Kvalhovden.

Draba nivalis must be a rare species in Eastern Svalbard. It is very characteristic with its stellulate hairs on the leaves and the glabrous capsules. It has earlier been recorded by Malmgren from Edgeøya: Kvalpynten, and later from the same locality by Kükenthal. Not previously found on the south-eastern coast.

#### Draba subcapitata Simm.

S. E. Coast: Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Kong Karls Land: Hårfagrehaugen.

Nordaustlandet: Southernmost peninsula of Phippsøya in Sjuøyane.

One of the more common plants in Eastern Svalbard, and found at many places there earlier. Malmgren records it from Edgeøya: At Freemansundet somewhat east of Kapp Lee (sub. nom. *D. Martinsiana* J. Gay.), and Michailowsky found it at Edgeøya: Siegelfjellet. Olav Hanssen found it at Kong Karls Land: Retziusfjellet. Michelmore writes: Common, but he gives no accurate locality. As far we can see never earlier recorded from Barentsøya.

One Draba could not be determined.

It was collected at Edgeøya: Between Rosenbergdalen and Kapp Lee. It is low, suppressed, ca. 2 cm in height, with fine fruits. The form of the capsule has a close resemblance to that of *Draba alpina*, being broadest near the base and glabrous. The sperms have an olive-brown colour, a colour I have never seen in any other Draba. The leaves have some resemblance to those of *D. Bellii*, and the pubescence consisting of stellulate hairs with unbranched or branched hairs in the margins. It does not resemble anything I have seen of Draba and I could not refer it to any species of Draba known to me. But I dare not describe it as a nova species till it has been cultivated. Enough poor and indistinct species of Draba have been described.

#### Papaver radicatum Rottb. (s. lat.).

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden.

The beautiful Arctic Papaver with whitish-yellow flowers was one of the prettiest plants, and it was found everywhere. The most common colour of the flower is whitish yellow, but it is found with almost white or with yellow flowers. According to Nordhagen (1935) all the Papaver from Svalbard should be referred to *Papaver Dahlianum* Nordh. The fact that all the specimens tried by me had white milky juice, speaks in favour of the view held by Nordhagen. But it must be a highly variable species. There is not much resemblance between the coarse, hairy form with leaves only 2—3 cm long which is found at Kong Karls Land, and the plants collected at Edgeøya: Between Rosenbergdalen and Kapp Lee with long and slender peduncels, leaves which attain 10 cm in length, large yellow flowers and coarse and few hairs. A revision of the Svalbard material of Papaver would be desirable.

Earlier *Papaver radicatum* was found many times in South-eastern Svalbard. It has been recorded from Edgeøya: Kvalpynten (Keilhau), later found at the same locality by Kükenthal, Kapp Lee (Heuglin), Kuhrbreen (Michelmore). S. E. Coast: Agardhbukta and Mohnbukta (Heuglin), Mohnbukta and Kvalvågen (Michelmore). "Ostküste des Storfjordes" (Heuglin). Kong Karls Land: "Auf den beiden großen Inseln, überaus reich blühend" (Andersson and Hesselman). The Russians records it from two places: Barentsøya: Mistakodden (Michailowsky) and Edgeøya: Siegelfjellet (Achmatoff). Michelmore writes: "Abundant, even in the bleakest situations setting plenty of seed."

#### Koenigia islandica L.

S. E. Coast: Southern side of Kvalhovden. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

Does not appear to be common in moist or wet places in Southeastern Svalbard, although it has no doubt been overlooked many times. The fine little species with the characteristic red colour was found to be rather scarce at each place. It has previously been reported only once from South-eastern Svalbard viz. Edgeøya: Andréetangen (= Andréeøya, which is, however, not an island) on a rather damp muddy part of a patch of fjellmark on a shale between two dolerite outcrops (Michelmore). Never earlier recorded from the south-eastern coast.

#### Oxyria digyna (L.) Hill.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Nordaustlandet: Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Oxyria digyna is a common plant around the coasts of Storfjorden. Especially the specimens found under the birdcliffs are very fine and high. It is reported from Edgeøya: Kvalpynten by Keilhau, and it was also found at the same locality by Kükenthal. Heuglin reports it from Edgeøya: Kapp Lee, and the Russians from Edgeøya: Siegelfjellet (Achmatoff). Michelmore states that it is abundant, and he records it from S. E. Coast: Mohnbukta, and Edgeøya: Below Kuhrbreen. New to Barentsøya.

#### Polygonum viviparum L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet.

Seems to be common at the coasts of Storfjorden; the specimens often high and well developed. It is more rare and scarce in Kong Karls Land. It has earlier been found by Keilhau at Edgeøya: Kvalpynten, later also found there by Kükenthal. Andersson and Hesselman found it in the southern part of Svenskøya in Kong Karls Land. Michelmore writes that it is common, and in his publication on ecology we find the locality: Edgeøya: Below Kuhrbreen. Never earlier recorded from the south-eastern coast and Barentsøya.

*Ranunculus glacialis* L. Kükenthal records this plant from Edgeøya: Kvalpynten. It has later never been recorded from South-eastern Svalbard. The determinations of Dr. Büsgen are not always correct, but there is no reason to assume that this plant should not be found at Kvalpynten.

> Ranunculus lapponicus L. x Pallasi Schlecht. (Ranunculus Pallasi subsp. spetsbergensis Nath.)

Edgeøya: South of Habenichtbukta in great quantities in bogs.

This proposed hybrid must be a very rare plant in South-eastern Svalbard, being found only once by us. Earlier there is but one record viz. that of Michelmore who found it at Edgeøya: In the extensive bogs of the Plain of the Russian base. It is in one of these bogs that we found it.

*Ranunculus lapponicus* L. is recorded by Michelmore from Edgeøya: A single patch in moss bog on the plain of the Russian base.

#### Ranunculus hyperboreus Rottb.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta. Barentsøya: North-western side of Steinbeisfjellet, South-western side of

Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta. Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet. Nordaustlandet: Innermost part of Rijpfjorden.

*R. hyperboreus* seems to be very common in bogs and rivulets in South-eastern Svalbard. It was first recorded by Malmgren from Edgeøya: At Freemansundet somewhat east of Kapp Lee and Kvalpynten, and by Kükenthal from the last-mentioned locality. It was found by Andersson and Hesselman at Kong Karls Land: Kapp Hammerfest, and the bay between Nordneset and Kapp Koburg. (Perhaps the same locality as our Hårfagrehaugen.) The Russians found it on the south-eastern coast at Agardhbukta (Michailowsky). Michelmore states that it is abundant, but he gives no accurate locality. We did not often see it fruiting. We have seen no earlier record of it from Barentsøya and the south-eastern coast.

#### Ranunculus nivalis L.

S. E. Coast: Southern side of Kvalhovden. Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow. Edgeøya: Between Rosenbergdalen and Kapp Lee, Keilhaubukta.

Cannot be common in Storfjord, since it has never been found there before. It is especially to be found on slopes under birdcliffs, often together with *Ranunculus pygmaeus*. It seems to thrive well, flowers early, and was always found with ripe fruits.

#### Ranunculus pygmaeus Wg.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

*Ranunculus pygmaeus* seems to be frequent in somewhat moistened places, especially under birdcliffs. It was recorded by Keilhau from Edgeøya: Kvalpynten, and was later found by Malmgren at Edgeøya: At Freemansundet somewhat east of Kapp Lee. Michelmore records: Common on wellwatered spots other than bogs. I have seen no earlier record of it from Barentsøya.

#### Ranunculus sulphureus Soland.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway on the western side of Duvefjorden, On the southernmost peninsula of Phippsøya in Sjuøyane.

This beautiful Ranunculus was seen wherever we went. It must be very common in Eastern Svalbard and it prefers moist places. Earlier records: S. E. Coast: Agardhbukta (Heuglin, Michailowsky sub. nom. *R. nivalis*), Kvalvågen and Mohnbukta (Michelmore). Barentsøya: Mistakodden (Michailowsky). Edgeøya: Kvalpynten (Keilhau, Kükenthal). Kong Karls Land: "Auf den beiden großen Inseln" (Andersson and Hesselman), Retziusfjellet (O. Hanssen). It flowers somewhat later than *R. nivalis*.

#### Dryas octopetala L.

S. E. Coast: Southern side of Kvalhovden. Barentsøya: South-western side of Steinbeisfjellet. Edgeøya: Between Rosenbergdalen and Kapp Lee.

Does not appear to be common in South-eastern Svalbard and we never found it in such quantities as in Western Svalbard. It has already been recorded by Keilhau from Edgeøya: Kvalpynten, and it was found by Heuglin at the south-eastern coast at Agardhbukta and at Edgeøya: Kapp Lee. Achmatoff found it at Edgeøya: Siegelfjellet, and Michelmore found it in three localities, S. E. Coast: Kvalvågen and Mohnbukta, and Edgeøya: Kapp Lee. Never recorded from Kong Karls Land. I have seen no earlier record of it from Barentsøya.

#### Potentilla emarginata Pursh.

S. E. Coast: Southern side of Kvalhovden.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta. *Nordaustlandet*: Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Potentilla emarginata is not suggested to be a very common plant in South-eastern Svalbard, and it was always scarce where it was found. It has been mentioned by Keilhau from Edgeøya: Kvalpynten, and Malmgren found it at Freemansundet somewhat east of Kapp Lee. Michelmore states that it is local and gives the following localities: S. E. Coast: Kvalvågen. Barentsøya: Mistakodden and Edgeøya: Kapp Lee. The Russians also found it at Edgeøya: Gothavika (Michailowsky and Achmatoff) and Siegelfjellet (Achmatoff) (sub. nom. *Potentilla fragiformis v. pulchella*).

#### Potentilla pulchllea R. Br.

Edgeøya: Rosenbergdalen.

We found this plant but once in the finest plant locality visited by us in South-eastern Svalbard. It was found there with *Carex ursina* and *Melandryum apetalum*, and it must be rare in the area investigated. It has been found by Malmgren at Edgeøya: At Freemansundet somewhat east of Kapp Lee. Michelmore says that it is local, and he has published the following localities: Edgeøya: Plain of the Russian base, Andréetangen (= Andréeøya) and the moraine of Kuhrbreen. In South-eastern Svalbard it has only been recorded from Edgeøya, but there at several points.

#### Salix polaris Wg.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

An abundant species in Eastern Svalbard especially near melting snow. It has been recorded from Edgeøya: Kvalpynten (Keilhau) and from the same locality by Kükenthal. Andersson and Hesselman found it "Auf den beiden großen Inseln" in Kong Karls Land. Michelmore states: Abundant, and the following localities are recorded: Edgeøya: Keilhaubukta and below Kuhrbreen. S. E. Coast: Mohnbukta. We have seen no earlier record of it from Barentsøya. The locality at Phippsøya is the northernmost locality recorded for this species.

Salix polaris Wg. x herbacea L. This hybrid (?) was found by Michelmore on the south-eastern coast at Kvalvågen and Mohnbukta. The plants were determined by Floderus. Although we tried to find it we did not succeed.

Chrysosplenium alternifolium v. tetrandum N. Lund.

Barentsøya: Kapp Wojeikow in moist places under a birdcliff.

This plant must be rare in Eastern Svalbard. It is earlier recorded by Malmgren from Edgeøya: At Freemansundet somewhat east of Kapp Lee, and by Kükenthal: Edgeøya: Kvalpynten (sub. nom. *Chrysosplenium*  *alternifolium*). Michelmore found it at one place, viz., Edgeøya: Beside a big pond with vertical, mossy banks on the Plain of the Russian base. The plants from Barentsøya were well developed and bore ripe fruits at Aug. 3. Not previously recorded from Barentsøya.

#### Saxifraga groenlandica L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

This pretty and characteristic Saxifraga is very common in Eastern Svalbard and Kong Karls Land. Most of the plants seen were low and tufted, and belong to v. *uniflora*. Earlier records: S. E. Coast: Agardhbukta (Heuglin), Mohnbukta (Michelmore). Barentsøya: Mistakodden (Michailowsky). Edgeøya: Kvalpynten (Keilhau, Kükenthal), Below Kuhrbreen (Michelmore), Gothavika (Michailowsky and Achmatoff). "Ostküste des Storfjordes" (Heuglin). Kong Karls Land: Both the large islands (Andersson and Hesselman), Retziusfjellet (O. Hanssen).

#### Saxifraga cernua L.

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda. Nordaustlandet: Halfway and on the western side of Duvefjorden, Inner-

most part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

A very common and widespread species found at every place visited by us in South-eastern Svalbard. It is recorded by Keilhau from Edgeøya: Kvalpynten, Kükenthal found it at the same place (he records having found two different formae), Heuglin reports it from the southeastern coast: Agardhbukta, and from the "Ostküste des Storfjordes". Andersson and Hesselman write from Kong Karls Land: "Häufig an Kapp Weißenfels im Osten des Schwedischen Vorlandes, sonst zerstreut auf die beiden großen Inseln". O. Hanssen found it at Retziusfjellet and Brühl found it on the south-eastern side of Kongsøya. The Russians report it from Barentsøya: Mistakodden (Michailowsky) and Edgeøya: Siegelfjellet (Achmatoff). Michelmore states: Abundant, and in the paper on the ecology he gives the following localities: S. E. Coast: Mohnbukta. Edgeøya: Below Kuhrbreen.

#### Saxifraga flagellaris Willd.

S. E. Coast: Southern side of Kvalhovden, Revnosa i Agardhbukta. Barentsøya: South-western side of Steinbeisfjellet. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

*S. flagellaris* seems to be rather rare on open and moist earth around Storfjord. It is earlier recorded by Michelmore from S. E. Coast: Kvalvågen. Barentsøya: Mistakodden. Edgeøya: Keilhaubukta, Plain of the Russian base and Andréetangen, and by the Russians from Edgeøya: Gothavika (Michailowsky and Achmatoff) and Siegelfjellet (Achmatoff).

#### Saxifraga hieraciifolia.

S. E. Coast: Southern side of Kvalhovden.

*Edgeøya:* Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

This fine characteristic Saxifraga does not seem to be common at Storfjord. Of earlier investigators only Michelmore found it. He gives the following localities: S. E. Coast: Kvalvågen. Edgeøya: Plain of the Russian base, Keilhaubukta and Kapp Lee, precisely the same localities where we found it. The plants seemed to thrive well, and some plants seen by us were 10 cm high.

#### Saxifraga Hirculus L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya:* Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

This, the most beautiful of all Saxifraga in Eastern Svalbard, was found at nearly all places visited by us and must be common there. It has been recorded by Keilhau from Edgeøya: Kvalpynten. In 1889 Kükenthal visited the same place and brought home a Saxifraga which was named *S. alpinus* L. Andersson (1900) thinks that this plant must have been *S. aizoides*, for Linne never described a *S. alpinus*, but he thinks that Dr. Büsgen, who determined the greater part of Kükenthals plants, must have meant *S. alpinus* Salisb. which is synonymous with *S. aizoides*. This record has been taken up by Hanna Resvoll-Holmsen (1913). I think there is no doubt that the Saxifraga Dr. Büsgen has seen must have been a yellow-flowered Saxifraga which somewhat resembled S. aizoides. S. aizoides has not later been found in Southeastern Svalbard, and we consider the supposition that S. alpinus L. should be the same as S. alpinus Salisb. which is identical with S. aizoides, is too frail a foundation on which to record a plant new to a district where it has never before been found. The only plant this is likely to be is S. Hirculus, which has also been found at the same locality by Keilhau and is common in South-eastern Svalbard. Kükenthal also never records S. Hirculus from Eastern Svalbard, I think there is not much doubt that S. alpinus L. det. Büsgen must have been S. Hirculus L. S. Hirculus is recorded by Heuglin from S. E. Coast: Agardhbukta. Edgeøya: Kapp Lee with its variety Heuglini and "Ostküste des Storfjordes". Malmgren found it at Edgeøya: At Freemansundet somewhat east of Kapp Lee. Michelmore states that it is common, but he gives no accurate locality. Not previously recorded from Barentsøya.

#### Saxifraga nivalis L.

S. E. Coast: Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin?

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet. Nordaustlandet: Innermost part of Rijpfjorden.

S. nivalis is a common plant at Storfjord. It prefers places under birdcliffs, and the places must not be too dry. The v. tenuis Wg is always found in bogs. S. nivalis was first recorded by Keilhau: Edgeøya: Kvalpynten, but he does not separate the v. tenuis, and we do not know wether his plants are the v. tenuis or not. The same is the case with Kükenthal, who found it at the same locality and the Russians who record it from Edgeøya: Siegelfjellet (Achmatoff). Andersson and Hesselman record S. nivalis from Kong Karls Land: On both Svenskøya and Kongsøya. Michelmore states that it is common at Storfjorden, but, as usual with common plants, he gives no exact locality. I have seen no earlier record of it from the south-eastern coast and Barentsøya.

#### Saxifraga nivalis L. v. tenuis Wg.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side and South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

- *Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.
- Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Innermost part of Rijpfjorden.

S. nivalis v. tenuis is found in every place visited in South-eastern Svalbard and Kong Karls Land except one, and must be a very common species in bogs. I am not quite clear whether to raise this variety to a species or not. There are cases where it is difficult to say whether a plant is tenuis or nivalis, but they are few. There is also a difference in growing places. The v. tenuis prefers places in bogs, but, as mentioned, nivalis prefers places under birdcliffs not too dry. But I think it is, so far, safest to regard it as a variety. It has been mentioned by Andersson and Hesselman from the two large islands in Kong Karls Land, and they add: "In dürren Platzen", a view that is at variance with ours. Michelmore writes that this plant is probably more common in South-eastern Svalbard than S. nivalis, and we have the record: Edgeøya: Negerdalen (Negro Valley). Not previously recorded from the south-eastern coast and Barentsøya.

#### Saxifraga oppositifolia L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya:* Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Innermost part of Rijpfjorden.

S. oppositifolia was abundant at nearly every locality visited. It was first recorded by Keilhau from Edgeøya: Kvalpynten, where it was later also found by Kükenthal. Heuglin gives the following localities: S. E. Coast: Agardhbukta and "Ostküste des Storfjordes". It was found at the two large islands of Kong Karls Land by Andersson and Hesselman, and it was also found there by O. Hanssen at Retziusfjellet. Michailowsky found it at Barentsøya: Mistakodden and Achmatoff at Edgeøya: Siegelfjellet. Michelmore states: Abundant, and we have the following localities: S. E. Coast: Mohnbukta and Edgeøya: Below Kuhrbreen.

#### Saxifraga rivularis L.

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: South of Habenichtbukta, Keilhaubukta.

- Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.
- Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Very common in the coldest places in Eastern Svalbard. First it was recorded by Heuglin from the south-eastern coast at Agardhbukta (the v. *hyperborea*). Later it was found at Edgeøya: Kvalpynten by Kükenthal, and in 1928 it was found on the south-eastern coast at Davishamna as one of the three plants found there by J. Kr. Tornøe. Andersson and Hesselman note: In varying localities on Svenskøya in Kong Karls Land. It was also noted by Brühl from the south-western side of Kongsøya. Michelmore writes: Common in moist and wet places. Never earlier recorded from Barentsøya.

#### Saxifraga foliolosa R.Br.

#### (Syn. S. comosa (Retz.) Fellm.)

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden.

This good species of Saxifraga is, as it seems, common in Eastern Svalbard and Kong Karls Land. It is found in wet places. It is recorded by Keilhau from Edgeøya: Kvalpynten, and was later found in the same locality by Malmgren and Kükenthal. Andersson and Hesselman report it from both the large islands of Kong Karls Land. Michelmore writes that it is frequent on coastal terraces, and gives the following localities: S. E. Coast: Kvalvågen. Barentsøya: Mistakodden and Edgeøya: Keilhaubukta, Plain of the Russian base and Andréetangen.

*S. hirsutus* is recorded by Kükenthal from Edgeøya: Kvalpynten. What plant hides under this name I cannot say, but we do not think that it is really *S. hirsutus*, which is a species found in Ireland and the Pyrenees.

#### Erigeron Unalaschkensis (D. C.) Vierh.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

This plant was found under some cliffs where Uria grylle are nesting, and it grew in fairly large quantities in company with Taraxacum arcticum, Ranunculus nivalis, Papaver radicatum, and others, and was well developed and flowering on Aug. 6.

Never earlier recorded from South-eastern Svalbard.

#### Taraxacum arcticum (Trautv.) Dahlst.

S. E. Coast: Southern side of Kvalhovden. Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow. Edgeøya: Between Rosenbergdalen and Kapp Lee.

Edgeøya: South of Habenichtbukta, Keilhaubukta.

This beautiful whitish-yellow flowered Taraxacum is not of the most common plants in South-eastern Svalbard. It especially prefers slopes under birdcliffs, where it flowers so abundantly that it can be observed at a great distance. It flowers late. The oldest record of this plant is that of Malmgren, who found it at Edgeøya: At Freeman-sundet somewhat east of Kapp Lee. Later it was found by Heuglin on the south-eastern coast: Agardhbukta (Sub. nom. *Taraxacum laevie-gatum*), and from the "Ostküste des Storfjordes" (sub. nom. *Taraxacum officinale* v. *livida*). Michelmore found it on the south-eastern coast at Kvalvågen and at Edgeøya: Kapp Lee. It was also observed by Mr. Lowndes at Edgeøya: Moraine of Kuhrbreen. Not previously recorded from Barentsøya.

#### Pedicularis hirsuta L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, Southern side of Habenichtbukta, Keilhaubukta.

Michelmore states that *Pedicularis hirsuta* is abundant around Storfjord, and we agree with him. The oldest record is that of Keilhau from Edgeøya: Kvalpynten. Malmgren found it at Edgeøya: At Freemansundet somewhat east of Kapp Lee. Heuglin records it from the south-eastern coast: Agardhbukta and Mohnbukta, and from Edgeøya: Kapp Lee. It has also been found at Edgeøya: Gothavika (Michailowsky and Achmatoff) and Siegelfjellet (Achmatoff). It prefers, strandflats. We have seen no earlier record of it from Barentsøya.

#### Monocotyledones.

#### Carex Lachenalii Schkuhr.

#### S. E. Coast: Southern side of Kvalhovden.

This plant must be a very rare one in South-eastern Svalbard and has not previously been recorded from this district. It was found to be growing sparsely (few tufts) on gravel in a somewhat moist place. It was well developed and had ripe fruits.

#### Carex rupestris All.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

A very rare species in Eastern Svalbard, and like the foregoing species never recorded from this district. It seems to prefer the same localities as *Andromeda tetragona*, a species not found in Eastern Svalbard. At Edgeøya it was found in a somewhat dry place over a small sill where *Uria grylle* nests, and it was found sterile.

#### Carex subspathacea Wormskj.

S. E. Coast: Southern side of Kvalhovden. Edgeøya: South of Habenichtbukta in quantities. Nordaustlandet: Innermost part of Rijpfjorden.

*Carex subspathacea* must be rare in South-eastern Svalbard and is not previously recorded from this district. At Habenichtbukta it was found in great quantities in the floristically fine bogs together with *Ranunculus Pallasi* × *lapponicus* and *Eriophorum Scheuzeri*. It seems to prefer the same places as Eriophorum. At Rijpfjord, the northernmost locality of this species, it was also found in company with *Eriophorum Scheuzeri*.

Carex ursina Dew.

Edgeøya: Rosenbergdalen.

*Carex ursina* must be a pretty rare plant in South-eastern Svalbard, and in earlier literature it is noted but once. Michelmore found a single tuft at Edgeøya: Andréetangen. At Rosenbergdalen it was found on the banks of a river with *Ranunculus hyperboreus* and *Cardamine pratensis*. A very nice plant and it is always characteristic and easy to recognize on the flat tufts, the colour and the typical heads and fruits.

#### Eriophorum Scheuzeri Hoppe.

S.<sup>r</sup>E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta. Nordaustlandet: Innermost part of Rijpfjorden.

*Eriophorum Scheuzeri* is perhaps not a very common plant in Southeastern Svalbard, and it is local. It has been found at Edgeøya: Kvalpunten by Keilhau (sub. nom. *E. capitatum*) and was later also found there by Kükenthal. Michelmore states: Locally abundant in bogs, and he records the following localities: S. E. Coast: Kvalvågen. Edgeøya: Plain of the Russian base and Andréetangen.

#### Alopecurus alpinus Smith.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Innermost part of Rijpfjorden.

An abundant species in South-eastern Svalbard and Kong Karls Land. It is perhaps somewhat nitrophilous and prefers slopes under birdcliffs and skua hummocks, but it is also found at other places. At Kapp Koburg on Kongsøya in Kong Karls Land it was found on clay and it was there easy to see that the plant has a creeping root. The fine green colour that characterizes the birdcliffs come from this species. Earlier investigations: S. E. Coast: Agardhbukta (Heuglin, Michailowsky), Mohnbukta and Kvalvågen (Michelmore). "Ostküste des Storfjordes" (Heuglin). Edgeøya: At Freemansundet somewhat east of Kapp Lee (Malmgren), Kvalpynten (Kükenthal), Siegelfjellet (Achmatoff), Below Kuhrbreen (Michelmore). Michelmore writes: Abundant. Previously never recorded from Barentsøya.

## Deschampsia alpina (L.) R. et Sch.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Seems to be a common plant in moist places, especially on strand flats, in South-eastern Svalbard. It is not often mentioned in the literature from Eastern Svalbard. Malmgren records it from Edgeøya: At Freemansundet somewhat east of Kapp Lee, and Michelmore states: A common viviparous tussock grass, and in his paper om the ecology the following localities are given: S. E. Coast: Kvalvågen and Mohnbukta. Never earlier recorded from Barentsøya.

Arctophila fulva (Trin.) Rupr. is found by Malmgren at Edlundfjellet in the inner part of Storfjord, the first place at which it was found in Svalbard. Michelmore found it in bogs at Kvalvågen, a single specimen. We have visited the same place, but we did not find it.

# Dupontia Fisheri R. Br.

S. E. Coast: Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.

Kong Karls Land: Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjord, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Seems to be a fairly common plant in bogs and wet places in South-eastern Svalbard, but it is mostly scarce in each place. At Kong Karls Land it must be a rare plant, since it was never detected by Andersson and Hesselman. *Holcus arcticus* from Edgeøya: Kvalpynten (Keilhau) is this plant. Michelmore records it from a single place: S. E. Coast: Kvalvågen in a moss bog and on the mossy banks of a little stream. This locality must be the same locality as our southern side of Kvalhovden. Dupontia occurs in two varieties, if not even species, the main form and the var. *psilosantha* (Rupr.). I do not think that it has to be raised to a good species, but they are almost always, when well developed, easy to distinguish. It seems to us that the var. psilosantha develop later than the main form. Developed plants of var. psilosantha are nearly always collected later than Aug. 1, especially in the latter half of August. There is also some difference in distribution in Svalbard. Var. psilosantha is found only in warmer and better localities, the main form is found in the coldest places like Nordaustlandet and Kong Karls Land. In our collection the var. psilosantha occurs at Kvalhovden and at Habenichtbukta, the best localities for bog plants which were visited. At Purpurdalen in Wijdefjorden the variety psilosantha and the main form occurred together in enormous quantities on the banks of a river, but, though eagerly searched for, no single intermediate plant could be found. I think that the main cause of confusion is that the plants of var. *psilosantha* have not been developed. One should try to have the two forms in culture and see if new differences could be found. Perhaps the var. psilosantha should be raised to a good species, as quoted by Ruprecht. Dupontia Fisheri has not previously been recorded from Barentsøya and Kong Karls Land. The locality at Phippsøya is the northernmost locality recorded for this plant.

# Dupontia Fisheri v. psilosantha (Rupr.) Schol.

S. E. Coast: Southern side of Kvalhovden. Edgeøya: South of Habeniktbuchta.

This variety is earlier recorded by Malmgren from Edgeøya: At Freemansundet somewhat east of Kapp Lee. Previously never recorded from the south-eastern coast.

# Festuca brachyphylla Schultes.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

The fine little plant was not rare in dry places in South-eastern Svalbard. In the great banks in the valley between Steinbeisfjellet and Kapp Wojeikow it occurred in great quantities; otherwise it was scarce. It is recorded by Michelmore from the south-eastern coast: Kvalvågen, and he notes that he has seen plants from: S. E. Coast: Hayesbreen and Edgeøya: Kuhrbreen. Palibin records *Festuca ovina* v. *violacea* from Edgeøya: Siegelfjellet (leg. Achmatoff). We have seen no earlier record of it from Barentsøya.

# Festuca vivipara (L.) Sm.

S. E. Coast: Southern side of Kvalhovden.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Kong Karls Land: Hårfagrehaugen.

*Festuca vivipara* cannot be a common species in South-eastern Svalbard and Kong Karls Land, and it is found scattered and scarce. It prefers places between stones on the southern side of hills and is often found together with *Festuca brachyphylla*. There are extremely few earlier records of it, we have found but one, viz., Edgeøya: Kvalpynten (Kükenthal sub. nom. *Festuca ovina* v. *vivipara*). Not previously recorded from the south-eastern coast, Barentsøya and Kong Karls Land.

# Festuca rubra v. arenaria (Osb.) E. Fries.

S. E. Coast: Revnosa in Agardhbukta.

Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta. *Kong Karls Land*: Western side of Retziusfjellet.

This plant must be more common than *Festuca brachyphylla*, although we found it at the same number of localities. It often occurs under bird-cliffs and on skua hummocks, but also often on sand. In the great valley between Steinbeisfjellet and Kapp Wojeikow it was found in enormous quantities in company with *Festuca brachyphylla* and *Poa abbreviata*. Malmgren records *Festuca ovina* v. *arenaria* from Edgeøya: At Freemansundet somewhat east of Kapp Lee and Kvalpynten. Michelmore notes: Widely distributed but not very common, and we have found the record: S. E. Coast: Mohnbukta. Previously never recorded from Barentsøya and Kong Karls Land.

# Phippsia algida (Soland) R. Br.

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Storøya.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

*Phippsia algida* is the only plant found at every locality visited by us during the "Heimland" expedition. That shows how common it is in Eastern Svalbard. It prefers wet places, often under bird-cliffs and often near melting snow. Earlier records: Edgeøya: Kvalpynten (Kükenthal sub. nom. *Catabrosa algida*). S. E. Coast: Davishamna (J. Kr. Tornøe). Andersson and Hesselman state from Kong Karls Land that it is found in different places on both the two large islands. It has also been found by O. Hanssen at Retziusfjellet. Michelmore notes: Common, moist to wet places, and the following locality is given: Edgeøya: Below Kuhrbreen. Curiously enough, there is no earlier accurate locality of it from Barentsøya.

### Phippsia concinna (Th. Fr.) Lindeb.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Kapp Heuglin.

This fine and characteristic plant cannot be very rare on Barentsøya and Edgeøya and must have been overlooked, since it has not previously been recorded from South-eastern Svalbard. I am not quite convinced of its specific difference from *Phippsia algida*. There are many forms of *Phippsia algida* which have tendencies to *Phippsia concinna*, viz., the f. vestita Holmb. There are also plants of *Phippsia concinna* which have tendencies to *Phippsia algida*, viz., the *Phippsia concinna* v. algidiformis (H. Smith) Holmb. But Holmberg (1924) says that there exists a sterile hybrid between the two species, and if he is right *Phippsia algida*. The *Phippsia algida* f. vestita cannot be very rare in Svalbard and all the plants from Svalbard determined as *Phippsia concinna* v. algidiformis perhaps belong to this forma.

## Poa abbreviata R. Br.

Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow.

*Poa abbreviata* must be an extremely rare species in South-eastern Svalbard since it has previously never been recorded from this district. It was found on sand in the valley between Steinbeisfjellet and Kapp Wojeikow with *Festuca rubra* v. *arenaria* and *F. brachyphylla*. It was well developed and had lots of open anthers. It is peculiar that this plant should be so rare in South-eastern Svalbard, since it is rather common in the Hinlopen district (Scholander 1934) and also seems to be by no means rare in Isfjorden.

38

#### Poa Hartzii Gdgr. em. Sørensen.

S. E. Coast: Revnosa in Agardhbukta.

This rare and highly interesting species was found on "loess" formations in Agardhbukta. We were not aware of the interesting nature of the plant when it was collected, for it has a somewhat different appearance from the main *Poa Hartzii*. It has a somewhat spread panicle, and the ligule is not so long as usual. But there are so many facts that suggest *Poa Hartzii* that I do not hesitate in the determination. The anthers are not to be found, although specimens of *Poa abbreviata* collected two days before at Barentsøya had open anthers. The plant is much higher and taller than *Poa abbreviata*, and the ligule is too long for this species. It has evidently tendencies to extravaginal shoots. The spikelets have too many flowers for *Poa abbreviata*. It seems to me that the determination is well founded. In Svalbard it has previously been found at Dicksonfjorden and Wijdefjorden.

# Poa alpigena (E. Fries) Lindman.

S. E. Coast: Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

Seems to be fairly common in South-eastern Svalbard, although not collected in all localities. It prefers places under bird-cliffs, but is also found in other localities. Earlier recorded by Malmgren from Edgeøya: At Freemansundet somewhat east of Kapp Lee. Heuglin found it at Agardhbukta and Mohnbukta on the south-eastern coast, and at the "Ostküste des Storfjordes". Michelmore brought home plants from Edgeøya: Kapp Lee, the only locality given by him. Not previously recorded from Barentsøya.

#### Poa alpigena v. colpodea (Th. Fr.) Schol.

S. E. Coast: Southern side of Kvalhovden.

Barentsøya: South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Seems to be rather common in South-eastern Svalbard and Kong Karls Land. It appears to be more common in cold and rough places than in the more warm and protected ones. It is a very clear variety which is easy to distinguish. It has, as far we can see, never been recorded under this name in literature, but Michelmore notes that *Poa* alpigena  $\times$  rigens was: "Probably abundant almost everywhere". The greater part of this *Poa* alpigena  $\times$  rigens must be *Poa* alpigena v. colpodea.

At Davishamna a Poa was collected, the only Poa found there, which looks like an intermediate between *Poa alpigena* and *Poa arctica*, but it cannot be referred either to *Poa alpigena* v. colpodea or to *Poa alpigena* v. vivipara, and not to *Poa arctica* v. vivipara. I have so far under great hesitation named it *Poa alpigena* arctica, although we do not know whether it is a hybrid or not. It is viviparous, the spikelets being too large for v. colpodea, and too broad for arctica. It has contracted panicle branches like *Poa alpigena* v. colpodea, but the base suggests *Poa alpigena*. It does not resemble anything I have seen in the Oslo herbaria. The same plant was also found in West Spitsbergen: Dicksonfjorden: Northern side of Lyckholmdalen.

#### Poa alpina L. v. vivipara L.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

- Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet.
- *Edgeøya*: Between Rosenbergdalen and Kapp Lee, Kapp Heuglin. *Kong Karls Land*: Hårfagrehaugen.

This viviparous Poa cannot be rare in South-eastern Svalbard, but in Kong Karls Land it can hardly be common. It has earlier been reported only once from South-eastern Svalbard, viz., Edgeøya: Kvalpynten by Kükenthal. It is peculiar that this Poa was the only one recorded by Kükenthal from Svalbard. Not previously recorded from the southeastern coast, Barentsøya and Kong Karls Land.

From Edgeøya: Between Rosenbergdalen and Kapp Lee there was found a peculiar plant which so far has been determined *Poa alpigena* $\times$ *alpina*? The horisontal basal leaves suggest *Poa alpina*, but no intravaginal shoots are found, and the colour and the base resemble *Poa alpigena*. It has too broad spikelets for *alpigena*, but not so broad as in *P. alpina*. I have seen nothing like this in arctic Poa.

From Edgeøya: Keilhaubukta, Michelmore reports *Poa alpigena*  $\times$  *alpina*. There is a plant in the Oslo herbaria, and these plants are no doubt most closely related to *Poa alpina*, but no intravaginal shoots are to be found. It has a close resemblance to the *Poa herjedalica* found in the Scandinavian mountains.

# Poa arctica R. Br.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

- *Barentsøya*: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.
- Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.
- Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

One of the most common plants in South-eastern Svalbard and Kong Karls Land, found at nearly every locality visited. It prefers dry places. It is recorded from both the large islands of Kong Karls Land by Andersson and Hesselman. It is also found at Kongsøya: Hårfagrehaugen by O. Hanssen. Michelmore only states: Common, and gives a single locality viz. S. E. Coast: Kvalvågen. No earlier exact record from Barentsøya and Edgeøya exists.

#### Poa arctica R. Br. v. vivipara Hook.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

This variety must be rare in South-eastern Svalbard, and was found only at Barentsøya. It is a clear variety. The plants called *Poa alpigena*  $\times$  *rigens* v. *subrigens* by Michelmore collected at Edgeøya: Negerdalen must be this variety. Previously never recorded from Barentsøya.

# Puccinellia augustata (R. Br.) Rand. et Redf.

Barentsøya: Between Steinbeisfjellet and Kapp Wojeikow. Edgeøya: Between Rosenbergdalen and Kapp Lee. Kong Karls Land: Hårfagrehøugen. Nordaustlandet: Innermost part of Rijpfjorden.

*Puccinellia augustata* is not a common plant in South-eastern Svalbard and Kong Karls Land, and was collected in only three places by us. It was found in great quantities at the mouth of the great valley between Steinbeisfjellet and Kapp Wojeikow. It prefers dry to moist places. It is earlier recorded by Malmgren from Edgeøya: At Freemansundet somewhat east of Kapp Lee, and Michelmore records it from the following localities: Edgeøya: Keilhaubukta and Kapp Lee. Barentsøya: Freemansundbreen. Not previously recorded from Kong Karls Land.

#### Puccinellia phryganodes (Trin.) Scribn. et Merr.

Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Kapp Heuglin.

This characteristic salt-water species of Puccinellia was found at only three places on Edgeøya, and cannot be a common species. At Habenichtbukta it was found on cliffs at the sea in company with *Stellaria humifusa*. This species has previously been found by Malmgren at Edlundfjellet on the south-eastern coast and at Edgeøya: At Freemansundet somewhat east of Kapp Lee (sub. nom. *Glyceria vilfoidea* (Ands.) Th. Fr.).

# Puccinellia vacillans (Th. Fr.) Schol.

Barentsøya: North-western side of Steinbeisfjellet. Edgeøya: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

This fine and good species made clear by Scholander (1934) is rather rare and scarce in South-eastern Svalbard. At each locality only small quantities was found. It has earlier never been recorded from South-eastern Svalbard, where it can be found in moist or wet places, often with *Phippsia concinna*.

Puccinellia Vahliana (Liebm.) Scribn. et Merr.

Edgeøya: Between Rosenbergdalen and Kapp Lee.

*Puccinellia Vahliana* is found only at one locality and must be very rare. Michelmore found it at Edgeøya: Kapp Lee, doubtless the same locality as ours. It usually has a close resemblance to *Puccinellia vacillans*, which must be its nearest relative in the Arctic.

#### Trisetum spicatum (L.) P. Richter.

S. E. Coast: Revnosa in Agardhbukta. Edgeøya: South of Habenichtbukta.

This rare plant grows on gravel under bird-cliffs in places with high insolation. It has earlier been found by Michelmore at Edgeøya: Kapp Lee on dolerite sill, and on the south-eastern coast: Sandstone platform near the hut at Kvalvågen. Achmatoff found it at Edgeøya: Siegelfjellet.

#### Juncus biglumis Willd.

S. E. Coast: Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisflellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta, Kapp Heuglin.

Kong Karls Land: Hårfagrefjellet, Western side of Retziusfjellet.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

*Juncus biglumis* must be a common plant in South-eastern Svalbard, and was found in every locality where suitable localities were to be found.

Earlier investigations: Edgeøya: Kvalpynten (Keilhau), Below Kuhrbreen (Michelmore). S. E. Coast: Mohnbukta (Michelmore). Kong Karls Land: On the northern side of Kongsøya (Andersson and Hesselman). It has not previously been recorded from Barentsøya.

# Luzula confusa Lindeb.

S. E. Coast: Davishamna, Southern side of Kvalhovden, Revnosa in Agardhbukta.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet, Between Steinbeisfjellet and Kapp Wojeikow.

- *Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta, Keilhaubukta.
- Kong Karls Land: Hårfagrehaugen, Western side of Retziusfjellet, Mohnhøgda.

Nordaustlandet: Halfway and on the western side of Duvefjorden, Innermost part of Rijpfjorden, Southernmost peninsula of Phippsøya in Sjuøyane.

Luzula confusa is a very common plant in Eastern Svalbard, and was found in every locality around Storfjorden. It can be found on the most barren grounds such as Davishamna. It has also been found by nearly every earlier investigator. The oldest record is by Keilhau, who found it at Edgeøya: Kvalpynten. Later it was found in the same locality by Kükenthal. Andersson and Hesselman write from Kong Karls Land: "Im Schwedischen Vorlande am Kapp Weißenfels, auf der Hauptinsel an der breiten Bucht (between Kapp Koburg and Nordneset)". Michelmore writes: "Abundant. The considerable variation in size gave rise while collecting to the suspicion that there might be two species, but all specimens brought back are this species." It is peculiar that he did not find Luzula nivalis, which cannot be a rare species around Storfjord. I have only one accurate locality from Michelmore, viz., the southeastern coast: Kvalvågen. Never earlier recorded from Barentsøya.

## Luzula nivalis (Laest.) Beurl.

S. E. Coast: Southern side of Kvalhovden.

Barentsøya: North-western side of Steinbeisfjellet, South-western side of Steinbeisfjellet.

*Edgeøya*: Between Rosenbergdalen and Kapp Lee, South of Habenichtbukta.

Kong Karls Land: Hårfagrehaugen, Mohnhøgda.

Luzula nivalis is not a rare species in South-eastern Svalbard, but it is not by far so common as Luzula confusa. First recorded by Keilhau from Edgeøya: Kvalpynten (sub. nom. Luzula campestris v. nivalis Smrft.), later found in the same locality by Kükenthal, (sub. nom. L. arctica). Andersson and Hesselman found it on both the large islands of Kong Karls Land. Some of my plants from Edgeøya: South of Habenichtbukta and from Kong Karls Land: Mohnhøgda might be referred to the forma nana Schol. Not previously recorded from Barentsøya.

# Survey of the most important Finds.

Not previously recorded fromSouth-easternSvalbard:Arenaria ciliata v. pseudofrigidaCarex rupestrisDraba rupestris— subspathacea— dauricaPhippsia concinna— cinereaPoa abbreviataRanunculus nivalis— HartziiErigeron Unalaschkensis— alpigena v. colpodeaCarex LachenaliiPuccinellia vacillans

New to Kong Karls Land are:

Draba Bellii — micropetala Dupontia Fisheri Festuca vivipara Festuca rubra v. arenaria Poa alpigena v. colpodea — alpina v. vivipara Puccinellia angustata

Not previously recorded to the south-eastern coast:

Equisetum arvense Cerastium Regelii Minuartia biflora — rubella Silene acaulis Draba micropetala — nivalis Koenigia islandica Polygonum viviparum Ranunculus hyperboreus Ranunculus nivalis Saxifraga nivalis — nivalis v. tenuis Carex Lachenalii — subspathacea Dupontia Fisheri v. psilosantha Festuca vivipara Poa Hartzii — alpigena v. colpodea — alpina v. vivipara

Not previously recorded from Barentsøya:

Equisetum arvense -- variegatum Cerastium Regelii Sagina intermedia Silene acaulis Stellaria longipes Cardamine bellidifolia Draba alpina — micropetala --- daurica - rupestris — lactea — subcapitata Oxyria digyna Polygonum viviparum Ranunculus hyperboreus — nivalis — pygmaeus — sulphureus Salix polaris Dryas octopetala Chrysosplenium alternifolium v. tetrandrum

Saxifraga Hirculus — nivalis — nivalis v. tenuis — rivularis Taraxacum articum Pedicularis hirsuta Alopecurus alpinus Dupontia Fisheri Deschampsia alpina Festuca brachyphylla -- vivipara — rubra v. arenaria Phippsia algida — concinna Poa abbreviata — alpigena — alpigena v. colpodea - alpina v. vivipara *— arctica* —arctica v. vivivara Puccinellia vacillans Juncus biglumis Luzula confusa — nivalis

,

New to Edgeøya are:

Arenaria ciliata v. pseudofrigida Draba cinerea Erigeron Unalaschkensis Ranunculus nivalis Carex rupestris Carex subspathacea Phippsia concinna Poa alpigena v. colpodea — arctica Puccinellia vacillans

Northern limits:

Salix polaris. Nordaustlandet: On the southernmost peninsula of Phippsøya in Sjuøyane.

Dupontia Fisheri. Nordaustlandet: On the southernmost peninsula of Phippsøya in Sjuøyane.

Carex subspathacea. Nordaustlandet: Innermost part of Rijpfjorden.

# Bibliography.

- Andersson, G. and Hesselman, H. Verzeichnis der in König Karls Land während der Schwedischen Polarexpedition 1898 gefundenen Phanerogamen. (Vorläufige Mitteilung) Öfvers, av Kongl. Vetenskaps Akademiens Förh. 1898. No. 8. Stockholm.
  - Bidrag til Kännedomen om Spetsbergens og Beeren Eilands Kärlväxtflora grundade på iakttagelser under 1898 års svenska polarexpedition. Bihang till K. Svenska Vet.-Akad. Handlingar. Bd. 26 Afd. III. No. I. Stockholm 1900.
- Andersson, N. J. Bidrag till den nordiska floran. I. Et hittils obeskrifvit gräs från Spetsbergen. Öfvers. af K. Vet.-Akad. Förh. 1866.
- Asplund, Erik. Beitrage zur Kenntnis der Flora des Eisfjordgebietes. Arkiv för Botanik. Bd. 15. No. 14. Stockholm 1918.
- Engler, A., und Irmscher, E. Saxifragaceae Saxifraga in Das Pflanzenreich. IV 117. Leipzig 1919.
- Ekman, Elisabets. Contribution to the Draba flora of Greenland. Svensk Botanisk
   Tidskrift. I. Bd. 23. 1929; II. Bd. 24. 1930; III. Bd. 25. 1931; IV. Bd. 26.
   1932; V. Bd. 27. 1933; VI. Bd. 27. 1933; VII. Bd. 28. 1934; VIII. Bd. 29. 1935.
  - Zur Kenntnis der Nordischen Hochgebirgs-Draba. Kungl. Svenska Vet.-Akad. Handl. Bd. 27. No. 3. Stockholm 1912.
  - Några ord om släktet Drabas utbredning. Svensk Botanisk Tidskrift. Bd. 30. 1936.

Fernald, M. L. Draba in Temperate North-eastern America. Rhodora vol. 36. 1934.

- Fries, Th. M. Tillägg til Spetsbergens Fanerogamflora. Öfvers. af Kongl. Vet.-Akad. Förh. 1869. No. 2. Stockholm 1870.
- Gelting, Paul. Studies on the Vascular Plants of East-Greenland between Franz Joseph fjord and Dove bay. (Lat. 73° 15′-76° 20′). Meddelelser om Grønland. Bd. 101 nr. 2. Kjøbenhavn 1934.
- Hanssen, O. and Holmboe, J. The Vascular Plants of Bear Island. Nyt Magazin for Naturvidenskaberne. Bd. 62. Oslo 1925.
- Hanssen, O. and Lid, J. Flowering Plants of Franz Josef Land collected on the Norwegian scientific expedition 1930. Skrifter om Svalbard og Ishavet. Nr. 39. Oslo 1932.
- Heuglin, M. Th. von. Reisen nach dem Nordpolarmeer in den Jahren 1870 und 1871. Dritter Teil: Beitrage zur Fauna, Flora und Geologie. Braunschweig 1874.
- Holmberg, O. R. Handbok i Skandinaviens Flora. Hefte I og 11. Stockholm 1922 and 1926.
- Holmboe, J. and Hanssen, O. See Hanssen O. and Holmboe, J.

- Kjellman, F. R. Några Tillägg till Kännedomen om Spetsbergens Plantae Vasculares. Öfvers. af Kongl. Vet. Akad. Förh. Årg. 1. No. 3. Stockholm 1875.
- Komarov, V. L. Flora U.R.S.S. Bd. 6. Leningrad 1936 Mosqua.
- Kükenthal, W. Bericht über die von der Geographischen Gesellschaft in Bremen im Jahre 1889 veranstaltete Reise nach Ostspitzbergen. Petermanns Mitteil. Bd. 36. 1890.

Lid, J. and Hanssen, O. See Hanssen, O. and Lid, J.

- Lindman, C. A. M. Poa in Lynge: Vascular Plants from Novaya Zemlya. Report of the Scientific Results of the Norwegian Expedition to Novaya Zemlya 1921. Nr. 13. Kristiania 1923.
  - Svensk Fanerogamflora. Stockholm 1926.
- Lynge, Bernt. Vascular Plants from Novaya Zemlya. Report of the Scientific Results of the Norwegian Expedition to Novaya Zemlya 1921. No. 13. Kristiania 1923.
- Malmgren, A. J. Öfversikt af Spetsbergens Fanerogamflora. Öfvers. af Kongl. Vet.-Akad. Förh. 19 årg. 1862. Stockholm 1862.
  - Botanik in: Dunér, Malmgren, Nordenskiöld and Quennerstedt: Svenska expeditioner til Spetsbergen och Jan Mayen utförda under åren 1863 och 1864. Stockholm 1864.
- Michelmore, A. P. G. Botany of the Cambridge expedition to Edge Island S. E. Spitsbergen in 1927. Part I. Bulletin of Miscellaneous Informations. No. 1. London 1934.
  - Botany of the Cambridge expedition to Edge Island S. E. Spitsbergen in 1927. Part II. The vegetation. Journal of Ecology. Cambridge 1934.
- Nannfelt, J. A. Poa rigens Hartm. versus Poa arctica Br. Symbolae Botanicae Upsaliensis. Arbeten från botaniska institusjonen i Upsala. Upsala 1934.
  - Taxonomical and Plantgeographical Studies in the Poa laxa group. A contribution to the history of the North European mountain floras. Symbolae Botanicae Upsaliensis. 5. Upsala 1935.
- Nathorst, A. G. Nya Bidrag till Kännedomen om Spetsbergens Kärlväxter och dess växtgeografiska Förhållanden. Kongl. Svenska Vetenskapsakademiens handlingar. Bd. 20, nr. 6. Stockholm 1883.
- Nordhagen, Rolf. Studien über die Skandinavischen Rassen des Papaver radicatum Rottb. sowie einige mit derselben verwechselte neue Arten. Bergens Museums Årbok 1931. Naturvidenskaplige rekke. Nr. 2. Bergen 1931.
  - Om Arenaria humifusa og dens betydning for utforskningen av Skandinavias eldste floraelement. Bergens Museums Årbok 1935. Naturvidenskaplige rekke. Nr. 1. Bergen 1935.
- Palibin, J. Resultats botaniques du voyage a l'Ocean Glacial sur le bateau briseglacé "Ermak" pendant l'ete de l'année 1901. III. Quelqes données sur la flore du Spitsberg oriental. Bulletin du Jard. Imp. Bot. de St.-Petersbourg. Tome III. Liveraison 6. St. Petersbourg 1903.
- Pohle, R. Drabae asiaticae. Systematik und Geographie nord- und mittelasiatischer Draben. Repertorium specierum novarum regni vegetabilis. Herausgegeben von Prof. Dr. phil. Friedrich Fedde. Beihefte. Band XXXI. Berlin 1924.
- Resvoll-Holmsen, Hanna. Exploration du Nord-Ouest du Spitsberg entreprise sous les auspices de S.A.S. le Prince de Monaco par la Mission Isachsen. Cinquieme partie. (Resultat des Campagnes Scientifiques accomplies sur son Yacht par Albert I, prince souveraine de Monaco, publiées sous sa direction avec le conçours de M. Jules Richard.) Monaco 1913.
  - -- Svalbards flora, med endel om dens plantevekst i nutid og fortid. Oslo 1927.

- Scholander, P. F. Vascular Plants from Northern Svalbard with remarks on the vegetation in North-East Land. Skrifter om Svalbard og Ishavet. Nr. 62. Oslo 1934.
- Sommerfelt, Christ. Bidrag til Spitsbergen og Beeren-Eilands Flora efter Herbarier medbragte av M. Keilhau. Magazin for Naturvidenskaberne. Christiania 1832.

Schultz, O. E. Cruciferae-Draba et Erophila in Das Pflanzenreich. IV. 105. Sørensen, T. The Vascular Plants of East Greenland from  $71^{\circ}$  00' to  $73^{\circ}$  30' N. Lat.

Meddelelser om Grønland Bd. 101 nr. 3. Kjøbenhavn 1933.

- Tolmatchew, A. Die Gattung Cerastium in der Flora von Spitsbergen. Skrifter om Svalbard og Ishavet. No. 34. Oslo 1930.
  - Sur une espece critique du genre Draba du cycle Draba alpina. Traveaux du Musée botanique de l'academie des sciences de l'URSS. Bd. XXII. 1931.

Watkins, H. G. The Cambridge expedition to Edge Island. Geogr. Journ. 72. no. 2. Aug. 1928.

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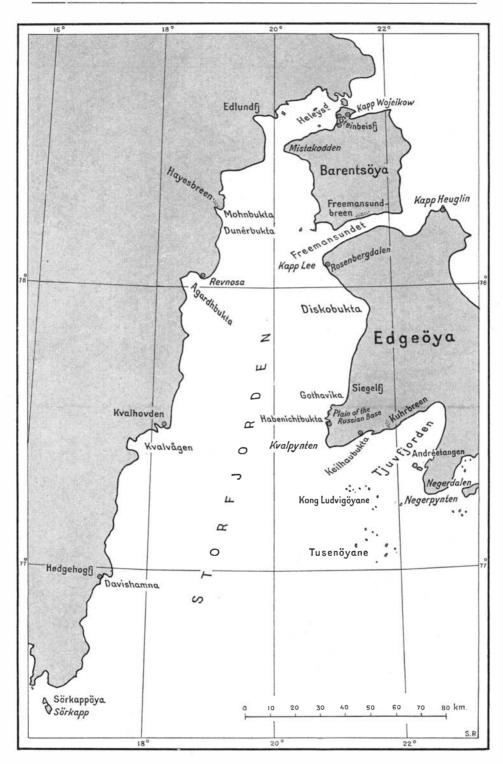


Fig. 1. Map of botanical localities in South-eastern Svalbard.

49

EILIF DAHL

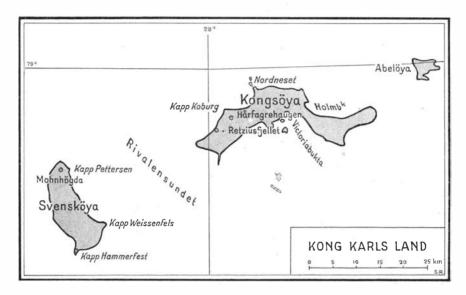


Fig. 2. Map of botanical localities in Kong Karls Land.



Fig. 3. Map of botanical localities in Nordaustlandet.

50

Charts:

- No.S. 1. Bear Island. 1:40000. 1932. Kr. 4,00. 5. 2. Bear Island Waters. 1:350000. 1937. Kr. 4,00.
- S. 3. From Bellsound to Foreland Reef with the Icefjord. 1: 200 000. 1932. Kr. 5,00. 22
- " S. 5. S. 5. Norway—Svalbard, Northern Sheet. 1:750 000. 1933. Kr. 4,00. S. 6. Norway—Svalbard, Southern Sheet. 1:750 000. 1933. Kr. 4,00.
- -
- Northern Svalbard. 1: 600 000. 1934. Kr. 4,00. S. 7. 22
- ---
- S. 8. Kings Bay and Cross Bay. 1 : 100 000. 1934. Kr. 4,00.
  S. 9. From South Cape to Hamburg Bay. 1 : 350 000. 1936. Kr. 4,00.
  S.11. East Greenland. 1 : 600 000. 1937. Kr. 4,00. 22

A preliminary edition of topographical maps (1: 50 000) covering the regions around Kings Bay, Ice Fjord, and Bell Sound, together with the map of Bear Island (1:25000), is published in: Svalbard Commissioner [Kristian Sindballe], Report concerning the claims to land in Svalbard. Part I A, Text; I B, Maps; II A, Text; II B, Maps. Copenhagen and Oslo 1927. Kr. 150,00.

#### SKRIFTER OM SVALBARD OG ISHAVET

- Nr.
- HOEL, A., The Norwegian Svalbard Expeditions 1906—1926. 1929. Kr. 10,00.
   RAVN, J. P. J., On the Mollusca of the Tertiary of Spitsbergen. 1922. Kr. 1,60.
   WERENSKIOLD, W. and I. OFTEDAL, A burning Coal Seam at Mt. Pyramide, 33 Spitsbergen. 1922. Kr. 1,20.
  - 22
  - 22
  - WOLLEBÆK, A., The Spitsbergen Reindeer. 1926. Kr. 10,00.
     LYNGE, B., Lichens from Spitsbergen. 1924. Kr. 2,50.
     HOEL, A., The Coal Deposits and Coal Mining of Svalbard. 1925. Kr. 10,00. 33
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  - 8. HOLTEDAHL, O., Notes on the Geology of Northwestern Spitsbergen. 1926. Kr. 5,50. 33

  - 22
- LYNGE, B., Lichens from Bear Island (Bjørnøya). 1926. Kr. 5,80.
   IVERSEN, T., Hopen (Hope Island), Svalbard. 1926. Kr. 7,50.
   QUENSTEDT, W., Mollusken a. d. Redbay- u. Greyhookschichten Spitzb. 1926. Kr. 8,50. Nos. 1-11: Vol. I. From Nr. 12 the papers are only numbered consecutively.
- Nr. 12. STENSIÖ, E. A:SON, The Downtonian and Devonian Vertebrates of Spitsbergen. Part I. Cephalaspidae. A. Text, and B. Plates. 1927. Kr. 60,00.
  " 13. LIND, J., The Micromycetes of Svalbard. 1928. Kr. 6,00.

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  - 32
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  - 19. FREBOLD, H., Das Festungsprofil auf Spitzbergen. Jura und Kreide. II. Die Strati-33 graphie. 1928. Kr. 3,00.
  - FREBOLD, H., Oberer Lias und unteres Callovien in Spitzbergen. 1929. Kr. 2,50. 20. 22
  - 99
  - FREBOLD, H., Ammoniten aus dem Valanginien von Spitzbergen. 1929. Kr. 4,00.
     HEINTZ, A., Die Downtonischen und Devonischen Vertebraten von Spitzbergen. 22 II. Acanthaspida. 1929. Kr. 15,00.
  - 23. HEINTZ, A., Die Downtonischen und Devonischen Vertebraten von Spitzbergen. III. Acanthaspida. Nachtrag. 1929. Kr. 3,00.
  - HERITSCH, F., Eine Caninia aus dem Karbon des De Geer-Berges im Eisfjordgebiet 24. 29 auf Spitzbergen. 1929. Kr. 3,50.
  - ABS, O., Untersuchungen über die Ernährung der Bewohner von Barentsburg, Svalbard. 1929. Kr. 5,00. 25. - 11
  - 26. FREBOLD, H., Untersuchungen über die Fauna, die Stratigraphie und Paläo-geographie der Trias Spitzbergens. 1929. Kr. 6,00. 22
  - 33
  - 27. THOR, S., Beiträge zur Kenntnis der invertebraten Fauna von Svalbard. 1930. Kr. 18,00-28. FREBOLD, H., Die Altersstellung des Fischhorizontes, des Grippianiveaus und des 22 unteren Saurierhorizontes in Spitzbergen. 1930. kr. 4,00.
  - 29. HORN, G., Franz Josef Land. Nat. Hist., Discovery, Expl., and Hunting. 1930. Kr. 5,00. 22
  - 30. ORVIN, A. K., Beiträge zur Kenntnis des Oberdevons Ost-Grönlands. HEINTZ, A., Oberdevonische Fischreste aus Ost-Grönland. 1930. Kr. 4,00. 22
  - FREBOLD, H., Verbr. und Ausb. des Mesozoikums in Spitzbergen. 1930. Kr. 17,00.
     ABS, O., Über Epidemien von unspezifischen Katarrhen der Luftwege auf Svalbard. 22 22 1930. Kr. 2,00.
  - KIÆR, J., Ctenaspis, a New Genus of Cyathaspidian Fishes. 1930. Kr. 1,00. 33. 22
  - 22
  - TOLMATCHEW, A., Die Gattung Cerastium in der Flora von Spitzbergen. 1930. Kr. 1,00.
     SOKOLOV, D. und W. BODYLEVSKY, Jura- und Kreidefaunen von Spitzb. 1931. Kr. 15,00. " SMEDAL, G., Acquisition of Sovereignty over Polar Areas. 1931. Kr. 10,00.
     FREBOLD, H., Fazielle Verh. des Mesozoikums im Eisfjordgebiet Spitzb. 1931, Kr. 8,75.
     LYNGE, B., Lichens from Franz Josef Land. 1931. Kr. 3,00.
  - 22
  - 22 99
  - 39. HANSSEN, O. and J. LID, Flowering Plants of Franz Josef Land collected on the Nor-
  - wegian Scientific Expedition 1930. 1932. Kr. 3.50. 40. KIÆR, J.† and HEINTZ, A., The Downtonian and Devonian Vertebrates of Spits-Sbergen. V. Suborder Cvathaspida. 1935. Kr. 25,00.

Nr. 41. LYNGE, B. and P. F. SCHOLANDER, Lichens from N. E. Greenland. 1932. Kr. 9,50.

- " 42. HEINTZ, A., Beitr. zur Kenntnis d. devonischen Fischfauna O.-Grönlands. 1931. Kr. 4,00. 43—46. BJØRLYKKE, B., Some Vascular Plants from South East Greenland. Collected on the "Heimen" Expedition in 1931. Preliminary Report. LID, J., Vascular Plants from South East Greenland. LYNGE, B., Lichens from South East Greenland. OMANG, S. O.F., Beiträge zur Hieraciumflora Ost-Grönlands. 1932. Kr. 4,00. ---
- 22
- LYNGE, B., A Revision of the Genus Rhizocarpon in Greenland. 1932. Kr. 2,00.
   VAAGE, J., Vascular Plants from Eirik Raude's Land. 1932 Kr. 7,00.
   SCHAANNING, H. THO. L., 1. A Contribution to the Bird Fauna of East-Greenland.
   2. A Contribution to the Bird Fauna of Jan Mayen. Zool. Res. Norw. Sc. Exp. 23 22 to East-Greenland. I. 1933. Kr. 3,00.
- 50. JELSTRUP, H. S., Détermination astronomique de Mygg-Bukta au Groenland Oriental, 1932. Kr. 3,75.
- 51. BIRKELAND, B. J. et GEORG SCHOU, Le climat de l'Eirik-Raudes-Land. 1932. Kr. 2,00. 52. KIÆR, J.+, The Downtonian and Devonian Vertebrates of Spitsbergen. 33
- IV. Suborder Cyathaspida. Preliminary Report. 1932. Kr. 5,50. 1. MALAISE, R., Eine neue Blattwespe. 2. A. ROMAN, Schlupfwespen. 3. O. RINGDAHL, 53 33 Tachiniden und Musciden. 4. M. GOETGHEBUER, Chironomides du Groenland, oriental, du Svalbard et de la Terre de François Joseph. — Zool. Res. Norw. Sc. Exp. to East-Greenland. II. 1933. Kr. 4,00.
- 54. VARTDAL, H., Bibliographie des ouvrages norvégiens relatifs au Grænland 22 (Y compris les ouvrages islandais antérieurs à l'an 1814). 1935. Kr. 12,00.
- OMANG, S. O. F., Übersicht über die Hieraciumflora Ost-Grönlands und Bemerkungen betreffend zwei Monstrositäten des Hieracium Alpinum (L) Backh. 1933. Kr. 2,50. 55. -
- DEVOLD, J. and P.F. SCHOLANDER, Flowering Plants and Ferns of Southeast Greenland. 56. 22 1933. Kr. 20,00.
- ORVIN, A. K., Geology of The Kings Bay Region, Spitsbergen. 1934. Kr. 20,00. JELSTRUP, H. S., Détermination Astronomique à Sabine-Øya au Groenland Oriental. 1933. Kr. 2,50. 57. 22 58. \*\*
- 59. 44.
- LYNGE, B., On Dufourea and Dactylina. Three Arctic Lichens. 1933. Kr. 5,00. VOGT, TH., Late-Quaternary Oscillations of Level in Southeast-Greenland. 1933. 60. VOGT, 22 Kr. 5,00.
- 1. BURTON, M., M. SC., Report on the Sponges. 2. ZIMMER, C., Die Cumaceen. -61. 22 Zool. Res. Norw. Sc. Exp. to East-Greenland. III. 1934. Kr. 2,50.
- 62. SCHOLANDER, P. F., Vascular Plants from Northern Svalbard. 1934. Kr. 15,00. 22
- 63. RICHTER, S., A Contr. to the Archæology of North-East Greenland. 1934. Kr. 25,00. 64. SOLLE, G., Die devonischen Ostracoden Spitzbergens. 1935. Kr. 5,50. 22
- "
- FRIESE, H., Apiden. 2. LINDBERG, H., Hemiptera. 3. LINANIEMI, W.M., Collembolen. Zool. Res. Norw. Sc. Exp. to East-Greenland. IV. 1935. Kr. 2,50.
   I. NORDENSTAM, A., The Isopoda. 2. SCHELLENBERG, A., Die Amphipoden. 22
- 33 3. SIVERTSEN, E., Crustacea Decapoda, Auphausidacea, and Mysidacea. Zool. Res. Norw. Sc. Exp. to East-Greenland. V. 1935. Kr. 5,00. 67. JAKHELLN, A., Oceanographic Investigations in East Greenland Waters in the
- 22 Summers of 1930-1932. 1936. Kr. 7,00.
- 68. FREBOLD, H. und E. STOLL, Das Festungsprofil auf Spitzbergen. III. Stratigraphie und Fauna des Jura und der Unterkreide. 1937. Kr. 5,50. 69. FREBOLD, HANS, Das Festungsprofil auf Spitzbergen. IV. Die Brachiopoden- und
- 11 Nebst Beschreibung anderer Vorkommen in Svalbard. 1937. Kr. 10,00.
  70. DAHL, EILIF, LYNGE, B., and SCHOLANDER, P. F., Lichens from Southeast Greenland. 1937. Kr. 4,50. Lamellibranchiatenfauna und die Stratigraphie des Oberkarbons und Unterperms.
- 71. 1. KNABEN, NILS, Makrolepidopteren aus Nordostgrönland. 2. BARCA, EMIL, Mikro-35 lepidopteren aus Nordostgrönland. Zool. Res. Norw. Sc. Exp. to East-Greenland. VI. 1937. Kr. 3,50.
- 72. HEINTZ, A., Die Downtonischen und Devonischen Vertebraten von Spitzbergen. VI. 22 Lunaspis-Arten aus dem Devon Spitzbergens. 1937. Kr. 2,00.
- 73. Report on the Activities of Norge's Svalbard- og Ishavs-Undersøkelser 1927-1936. 1937. Kr. 10,00.
- 74. HØYGAARD, ARNE, Some Investigations into the Physiology and Nosology of Eskimos 11 from Angmagssalik in Greenland. A Preliminary Statement. 1937. Kr. 1,50.
- DAHL, EILIF, On the Vascular Plants of Eastern Svalbard. Chiefly Based on Material Brought Home from the "Heimland" Expedition 1936. 1937. Kr. 3,50. 75.

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