ZERO

ZACKENBERG ECOLOGICAL RESEARCH OPERATIONS

ZERO LINE

Final Report 1997

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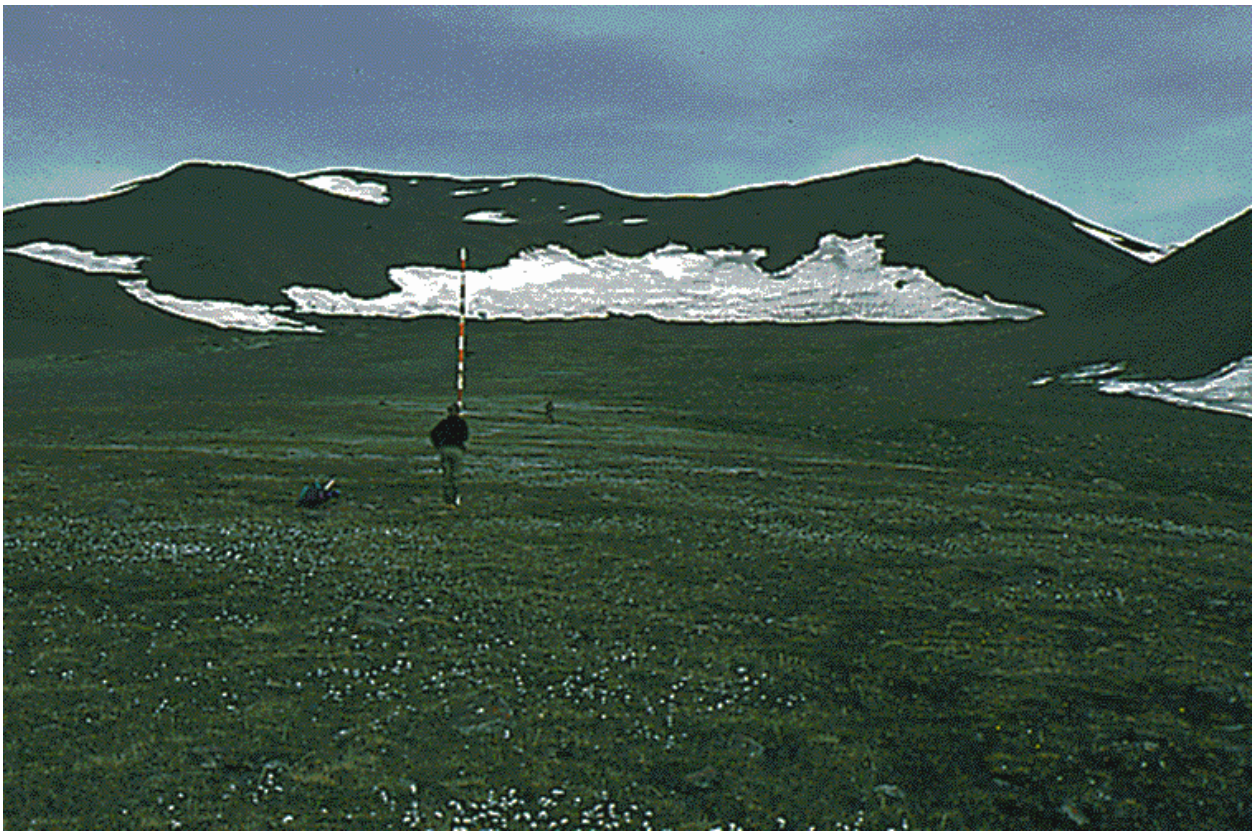

A description of the plant communities along the ZERO line from Young Sund to the top of Aucellabjerg and the common plant communities in the Zackenberg valley Northeast Greenland

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&
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Introduction

In order to make possible a monitoring of future changes in distribution and composition of plant communities, a permanent reference line has been established from sea level to the peak of Aucellabjerg at 1040 m a.s.l.

This line, called 'ZERO line', was intiated in 1992 by Bent Fredskild and Gert Steen Mogensen who registered the vegetation along a line from Young Sund to a point at 610 m a.s.l. All borders between major changes in the vegetation were marked by a total of 106 wooden pegs.

The altitude of these and the distance between any two pegs were double checked by means of a theodolite by Birger Ulf Hansen and Anne Jacobsen. The accuracy level is 0.1 m. Photos showing the position of all the pegs along the line were taken, as were close-ups of the vegetation where analyses were made.

In 1994 Gert Steen Mogensen, assisted by Eric Steen Hansen, Kirsten Ramskov, and Mads Dalsgaard extented the line from 610 m to 1040 m a.s.l., and the wooden pegs were replaced by numbered aluminum pegs, now totalling 129.

Vegetation on the West Bank of Zackenberg River. Soil source is gneissic material rendering aci-dic and nutrient-poor soils. Snowbed vegetation composed of Potentilla hyparctica, Salix arctica *and* Luzula confusa *(confer analysis 134).*

Photo: 96-87. August 2 1996.

As 'Point Zero' of the line, the top of a stony moraine c. 3 km from the fjord was chosen in 1992. Starting here, 64 down-slope pegs were numbered -1 to -64, and 41 upslope pegs were numbered 66 to106 from 'Point Zero' (= point 65).

In 1994 the extension to the top was made with pegs numbered 133 to 155. Thus, when following the line starting at the fjord, the points are numbered as follows: -64 to -1, 65 to 106, and 133 to 155.

Plant communities along the ZERO line

Point -64 to point 106 (B.Fredskild)

Below, a summary description of the vegetation between the pegs are given, together with information on the altitude and the distance from the fjord (point 1). If vegetation analyses have been made on the line the number of the analysis and table is given. The descriptions were made in the period July 20-25, and the vegetation analyses July 23 – August 14, 1992.

In the descriptions of the plant communities those plant genera represented in the Zackenberg area with only one species are mentioned by the name of the genus only, e.g. *Cassiope* (*tetragona*), *Papaver* (*radicatum*), *Huperzia* (*selago*), and *Polygonum* (*viviparum*).

If nothing else is stated *Salix* means *Salix arctica*. *Dryas* includes the hybrid *D. octopetala* x *integrifolia* (by far the most important) and possibly some "pure" *D. octopetala*. *Stellaria* includes *S. longipes*, *S. edwardsii*, and *S. crassipes*.

A total of 63 vegetation analyses were made on the line (B.Fredskild), using the Böcher-modified Raunkjær method (Böcher 1935).

A species gets 1 point if rooted (or if a dwarf-shrub has its buds within) only in the 1/10 m^2, 2 if found within the 1/100 m^2, and 3 if found within the 1/1000 m^2 circle. Thus, the maximum score in 10 circles is 30.

Besides, the frequency is given in % in Tables 1-8. A species, found just outside one of the circles but not within any, is marked with a +.

In these tables those analyses for which the altitude is given in exact metre (*e.g.* 64 m, 420 m) are from the line, whereas the altitude for analyses elsewhere is less precise, given with a c. or an interval (*e.g.* 10-20 m).

Usually, the 10 circles were placed on the line with regular intervals between the two points, or, if the belt was too narrow, on two lines parallel to the ZERO-line.

Besides, elsewhere in the valley or on Aucella mountain, 40 analyses were made in 1992 and 33 in 1996, using the same method.

A survey of these, followed by a brief survey of the vegetation types in which the analyses have been grouped, are presented on pages 14 - 19. The tables are given on pages 20 - 36**.** Mosses are determined by G. S. Mogensen, lichens by E. S. Hansen.

Point -64 (0.7 m a.s.l.)

Point -64 is placed on a 10-20 cm high 'cliff' down to the salt marsh vegetation at the inner part of the large delta. Here, first a few metres of fairly recently

slided, humous soil with *i.a. Koenigia* and *Saxifraga rivularis*, then a *Carex subspathacea* zone with *Stellaria humifusa*, and *Carex ursina*, and then, finally, *Puccinellia phryganodes* takes over to be the only phanerogam on the outer part of the delta.

Towards point -63 a mosaic of mossy *Vaccinium-Salix-Dryas-Cassiope* heaths intermingled with depressions with *Carex misandra, C. bigelowii, Saxifraga oppositifolia, Eriophorum triste, Arctagrostis, Juncus biglumis*, and *Eriophorum scheuchzeri.*

Point -63
(1.9 m a.s.l. - 32.5 m from point 1)

Dupontia psilosantha-Eriophorum scheuchzeri fens with *i.a. Juncus triglumis, Luzula wahlenbergii*, and *Pedicularis flammea*. The c. 50 m nearest to point -62 very wet, mostly with standing water. *Dupontia* dominating, with many *E. scheuchzeri* and *Carex subspathacea*, the latter dominating in the last c. 10 m before point -62.

Point -62
(3.1 m - 170.3 m)

A very wet (still standing water), mossy *Phippsia algida* snowbed on clayey soil, with *i.a. Saxifraga foliolosa, S. tenuis, Sagina intermedia, Cardamine pratensis, Ranunculus hyperboreus*, and *Pleuropogon*. Anal. 59 (Table 4): ten circles placed with one step interval on the line.

Point -61
(3.5 m - 177.3 m)

A very open *Salix* snowbed vegetation. Firstly, *Luzula confusa* and *L. arctica* are fairly frequent, upwards gradually decreasing in number. On the contrary, *Draba lactea, Ranunculus pygmaeus, R. nivalis, Polygonum, Oxyria, Potentilla hyparctica, Equisetum variegatum, Saxifraga foliolosa, S. tenuis*, and *Minuartia biflora*, all missing or only occasionally growing in the first few metres, increase in number upslope. Here, anal. 61 (Table 4) is made, placing a circle every second step from point -60 downslope.

Point -60
(5.7 m - 196.4 m)

A terrace with a very open (in the northernmost part open) *Dryas* vegetation with *i.a. Chamaenerion* and *Potentilla hookeriana* on fine gravel. In the southern part the terrace is dissected by very deep cracks which continue to the upper part of the slope.

Point -59
(8.1 m - 234.3 m)

A marked transition to a slightly NE-tilting, mossy *Cassiope-Salix* 'heath' with *Saxifraga oppositifolia, Luzula confusa*, and *Carex misandra*.

Point -58
(7.5 m - 239.4 m)

A marked transition to a meltwater 'channel', still with open water in the *Carex saxatilis-Eriophorum scheuchzeri-E. triste-Salix* fen.

Point -57
(7.8 m - 250.8 m)

A marked transition to a drier, open heath with *Carex misandra* and *Luzula arctica*. Much of the ground is covered by organic crust. The line just 'touches' a typical *Vaccinium* heath east of the line, and anal. 11 (Table 1) is made on a parallel line eight steps east of the line, placing a circle every second step.

Point -56
(8.5 m - 273.8 m)

A mossy, hummocky area with gradual transitions between closely related vegetations with *Salix, Cassiope, Vaccinium, Dryas*, and a few *Empetrum*. *Arctagrostis* and *Carex bigelowii* grow on the hummocks, *Eriophorum scheuchzeri, Carex saxatilis, Juncus biglumis*, and *Equisetum arvense* between them.

The southernmost 30-35 m covered by a hummocky, fairly dry *Carex saxatilis* fen with *Salix* on the hummocks. Here, anal. 75 (Table 6) is made with a circle every three step along the line from point 9.

In the middle of the area still, clear water between the hummocks, where *Luzula wahlenbergii, Carex marina*, and many *C. bigelowii* grow. Here, anal. 85 (Table 6) is made at 10 randomly placed circles within 10-15 m on the line. Just to the west of it a dense *Dupontia psilosantha* vegetation is seen.

A little further to the west a c. 4 x 8 m wide *Carex subspathacea* fen has been analysed by 10 randomly placed circles, avoiding the hummocks with *Salix* (Table 6, anal. 74).

Point -55
(10.9 m - 411.3 m)

A marked transition to an *Eriophorum scheuchzeri-Carex bigelowii* fen, still with open water in late July but not on August 9. Most *Carex bigelowii* are hybrids with another *Carex*.

Point -54
(10.9 m - 413.8 m)

A moist, hummocky, somewhat fen-like *Salix*-moss 'snow-patch heath' with *Cassiope, Hierochloë, Pedicularis hirsuta, Dryas,* and *Vaccinium* on the low, tiny hummocks, and *Arctagrostis, Eriophorum scheuchzeri,* and *Juncus biglumis* in between. Anal. 38 (Table 3): a circle every four steps on the line.

Point -53
(12.6 m - 455.2 m)

A mossy *Salix-Alopecurus* 'snow-patch heath'. In the lower part some *Eriophorum triste* and *Ranunculus nivalis*. Anal. 48 (Table 3): a circle every 0.75 m on the line.

Point -52
(13.0 m - 464.3 m)

A *Salix-Poa arctica* 'snow-patch heath' with *Silene, Polygonum,* and *Luzula confusa*. Much aeolian litter and sand/silt. Inclination in the lower part 5°, increasing upwards to 20°. Anal. 47 (Table 3): a circle every second metre on the line.

Point -51
(17.7 m - 486.7 m)

An open *Dryas-Carex rupestris* heath with *Kobresia, Poa glauca, Festuca brachyphylla, Luzula,* and *Silene*. Here is much, freshly deposited sand. Upwards it gradually changes to a more dense *Dryas-Carex rupestris* heath with *Vaccinium* and *Cassiope* in some frost cracks.

Point -50
(22.4 m - 521.1 m)

An open *Dryas-Carex rupestris* heath with many *Luzula confusa* and some *Silene, Salix,* and *Poa glauca*. Locally, patches of bare, coarse sand/gravel is seen.

Point -49
(23.4 m - 541.0 m)

A *Cassiope* heath with *Dryas, Salix,* and *Vaccinium* in a little depression.

Point -48
(23.9 m - 551.5 m)

A very open *Dryas* fell-field resembling that between points 19 and 20.

Point -47
(24.6 m - 565.9 m)

A *Dryas-Carex rupestris* fell-field with *Kobresia myosuroides, Salix,* and *Poa glauca*. Anal. 28 (Table 2): a circle every three (short) steps on the line.

Point -46
(24.8 m - 590.9 m)

A very open *Dryas* fell-field with many *Carex rupestris* on coarse sand/gravel, which is exposed on at least half of the surface. Locally more clayey. Soil cracking.

Further to the common fell-field species: *Melandrium triflorum, Arenaria pseudofrigida, Saxifraga nivalis, S. caespitosa, Lesquerella,* and *Draba arctica*. The wind erosion very obvious. No or very little cover of lichen/organic crust. Anal. 27 (Table 2): a circle every four steps on the line.

Point -45
(25.3 m - 629.1 m)

An open *Dryas-Kobresia myosuroides-Carex rupestris* fell-field vegetation with many *Armeria,* especially in the southernmost part. Most of the ground covered by lichen/organic crust. Anal. 31 (Table 2): a circle every 1.25 m on the line.

Point -44
(25.4 m - 641.5 m)

An area with a very complex vegetation pattern. Moist, mossy, very open *Cassiope-Salix-Dryas-Vaccinium-Eriophorum triste-Arctagrostis-Luzula confusa-Hierochloë* vegetation, *Salix-Eriophorum scheuchzeri* fens, hummocky *Carex saxatilis* fens with the dwarf-shrubs on top of the hummocks, and other combinations are intermingled. Other species seen are *Juncus castaneus, J. biglumis,* and *Alopecurus*.

The southernmost 10-15 m are covered by some 1-1.5 m wide *Salix* 'snow-patch heaths' on slightly elevated ground, mostly covered with organic crust, only very exceptionally with fresh soil. Here, anal. 40 (Table 3) is made by placing a circle in the middle of ten of these 'inverted plates'.

The 'plates' are separated by narrow 'channels' with a mossy *Poa arctica-Eriophorum scheuchzeri-Alopecurus* fen vegetation. Here, anal. 80 (Table 6) has been made by 10 randomly placed circles.

Point -43
(26.8 m - 775.5 m)

A hummocky *Dupontia psilosantha-Eriophorum scheuchzeri-E. triste* fen with *Salix* and *Pedicularis hirsuta* especially on the hummocks. Obviously,

meltwater flows through this fen as it does through the narrow 'channels' in the preceding area. Anal. 73 (Table 6): a circle every 0.75 m along the line.

Point -42
(26.9 m - 784.6 m)

The first c. 24 m with a *Salix-Dupontia psilosantha* fen with almost total moss cover. *Salix* and *Eriophorum triste* mainly grow on hummocks or on several metres long, undulating 'beads', 10-20 cm high, 10-40 cm broad, separated by 'pure' moss-monocot fens. The last c. 12 m is a *Salix*-moss snowbed vegetation with *Aulacomnium turgidum* and *Ranunculus nivalis*.

Point -41
(27.5 m - 818.2 m)

A very gradual transition to the lower part of a 5° slope (with nothing green on July 23) with a very open *Salix-Alopecurus-Luzula confusa* snowbed vegetation with *Eriophorum triste*, and with many mosses, *Stereocaulon*, and a blackish algae-cover. Analyses 49-52 (Table 4) are made on hori-zontal lines with 2.5 m distance, perpendicular to the Zero-line, starting 7.5 m above point -41. The lowermost (anal. 52) is a late, very open *Salix-Luzula confusa* organic crust snowbed, the following (anal. 51 and 50) are open *Salix-Sagina in-termedia-Luzula confusa* snowbeds, and the uppermost (anal. 52) is made in an early *Salix-Trisetum* snowbed.

In the middle part (10-15°) of the slope *Trisetum* is fairly common, with *Oxyria* and *Minuartia biflora*. Here, most of the ground is bare, wind deposited sand. The upper, steeper part (20°) of the slope has a *Salix* snowbed vegetation. In the uppermost, earliest snowfree part some *Potentilla hyparctica, Pedicularis hirsuta, Trisetum, Silene, Luzula confusa, Hierochloë* and 5-6 specimens of *Cassiope* are growing. They did not flower in 1992 but had been flowering in 1991. Anal. 19 (Table 1) is made in a *Salix-Dryas-Cassiope* heath with a circle every 0.40 m downslope on the line, beginning at point -40.

Point -40
(32.6 m - 873.3 m)

The position of the upper border of the snow drift on July 17, 1992, actually marked the lower border of the three metre broad belt of *Cassiope* heath with *Salix*, but also with some *Dryas*, especially on the very line. Slightly south-facing.

Point -39
(33.0 m - 876.0 m)

An area with *Dryas-Carex rupestris* heaths alternating with *Cassiope-Vaccinium-Salix* heaths on an undulating surface.

Point -38
(35.1 m - 917.7 m)

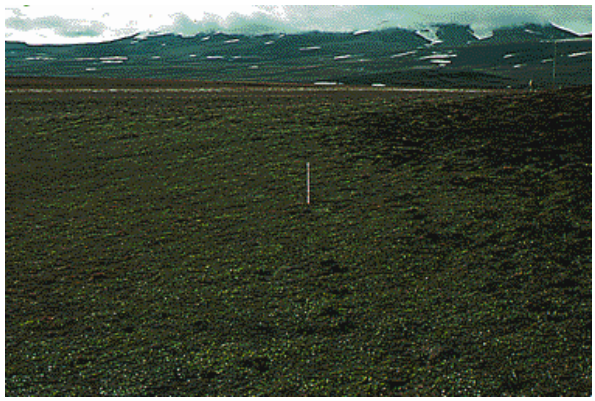
An open *Vaccinium-Cassiope* heath with many *Dryas*. Also seen: *Poa arctica*. Anal. 18 (Table 1): a circle every seven steps on the line.

Point -37
(36.5 m - 996.0 m)

Transition area towards the airstrip (to the west) with its almost bare surface. The area along the line consists of bare, gravelly, coarse sand intermingled with tiny 'depressions' with *i.a. Cassiope, Dryas, Vaccinium, Carex nardina*. East of the line a *Dryas* heath resembling the following.

Point -36
(36.4 m - 1025.0 m)

A 20-30 cm higher plateau with an open *Dryas-Carex rupestris-C. nardina* fell-field. Anal. 21 (Table 2): a circle every five steps on the line. Also seen: *Poa arctica, Papaver, Armeria*, and *Kobresia myosuroides*. The vegetation more open than the following.



The snow-patch vegetation around point -40. Dominated by Cassiope *to the right and* Salix *to the left. August 14 1992.*

Point -35
(36.2 m - 1081.0 m)

A windswept area with mainly *Dryas-Carex rupestris-C. nardina* heaths with *Silene, Saxifraga oppositifolia, Poa glauca* and *Armeria*. The soil partly 'fresh', coarse sand, partly covered by lichens/organic crust. In slightly deeper (c. 10 cm) depressions are stands of *Cassiope, Luzula confusa*, and *Vaccinium*.

Point -34
(36.4 m - 1116.6 m)

A *Cassiope* heath with many *Salix*, and with *Luzula arctica, L. confusa, Poa arctica, Stellaria, Stereocaulon*, and whitish organic crust. A very few *Empetrum*. Anal. 12 (Table 1): a circle every ten steps on the line.

Point -33
(36.9 m - 1231.0 m)

A moist depression with a mossy *Salix-Arctagrostis* vegetation with *Carex misandra* and *Eriophorum triste*.

Point -32
(32.1 m - 1243.0 m)

A *Cassiope-Salix* heath with some *Dryas*. Anal. 2 (Table 1): every 15 step along the line, beginning 25 steps south of point -31. Here, only very little cryoturbation: virtually all ground covered by lichens and mosses.

In the northernmost part the ground is active, yet most of the soil is covered by *Stereocaulon*, whitish organic crust, and mosses. Here, *Papaver* is more common. A 'lemming garden' is seen one metre to the west of the line, c. 20 m from point -32. From here the slightly south-facing vegeta-tion contains some *Hierochloë, Silene,* and *Carex rupestris*.

Point -31
(39.1 m - 1461.0 m)

A *Salix-Luzula arctica* 'snow-patch heath' with some *Dryas* and *Cassiope*. Many *Stereocaulon*, much organic crust, few mosses. Anal. 45 (Table 3): a circle every long step on the line.

Point -30
(34.0 m - 1474.0 m)

A gradual transition to the southern half with a mosaic of mossy, two metres wide, more or less circular 'hummocks' with *Salix, Polygonum, Equisetum arvense, E. variegatum*, and many *Eriophorum triste* and *Alopecurus*, separated by 0.5 m wide 'furrows' with a fen-like vegetation, dominated by *Arctagrostis* and *Alopecurus*. Anal. 71 (Table 3): randomly placed circles in the 'hummocks' with a *Salix-Equisetum* 'snow-patch heath'. Anal. 78 (Table 6): randomly placed circles in the 'furrows'.

In the northern half an open *Salix*-dominated vegetation on frost-active ground, as indicated by fairly much fresh soil. Quite many monocots: *Arctagrostis, Luzula confusa, L. arctica, Poa arctica, Festuca brachyphylla, Eriophorum triste, Carex misandra*.

Point -29
(39.2 m - 1589.0 m)

A late snow-free *Salix-Hierochloë-Stereocaulon* heath with some *Dryas*. In the southern part no *Cassiope*, in the northern very few. Vegetation resembling the following, yet without *Papaver*. *Stereocaulon* frequent. Anal. 46 (Table 3): a circle every 15 steps on the line.

Point -28
(40.1 m - 1711.0 m)

A *Cassiope-Salix* heath with many *Dryas* and *Vaccinium*. Monocots sparse: *Arctagrostis, Luzula confusa, L. arctica, Poa arctica, Carex misandra, C. rupestris*. Other species: *Pedicularis hirsuta, Papaver, Huperzia*. Most of the hummocky ground covered by *Stereocaulon* and brown *Cetraria*, to a lesser extent by mosses or organic crust. Very little fresh soil. Anal. 7 (Table 1): a circle every 12 steps on the line.

Point -27
(39.1 m - 1820.0 m)

A late snowbed vegetation with hardly anything green in the lower part (July 22). The slightly north-facing ground hummocky. *Salix* dominates. Many monocots: *Luzula confusa, Poa arctica, Alopecurus, Festuca brachyphylla*. Other species: *Potentilla hyparctica, Stellaria, Dryas*. Mosses, but also a little fresh soil.

Point -26
(37.8 m - 1834.1 m)

Moss-fen with *Alopecurus, Salix, Polygonum, Ranunculus nivalis*. Water running here during snowmelt. Anal. 82 (Table 6): a circle every second step through the fen, starting halfway between the two large stones 10 m east of the line. The circles placed on a line, almost perpendicular to the zero-line.

Point -25
(37.8 m - 1838.1 m)

A fairly open *Salix* 'snow-patch heath' with many *Luzula confusa* and *Poa arctica*, but with no *Cassiope*. Other species: *Alopecurus, Stellaria, Pedicularis hirsuta, Potentilla hyparctica,* and *Oxyria*. Much organic crust. In the southern, lower part much fresh, clayey soil.

Here, nothing was green on July 22. Green leaves on *Salix* and *Potentilla hyparctica* on July 30, but still no flowers.

Point -24
(39.6 m - 1875.0 m)

A hummocky *Salix-Cassiope-Vaccinium* heath with many *Dryas*, mainly on the hummocks, of which many are active (fresh soil). Also rich in *Arctagrostis, Stellaria, Alopcurus, Poa arctica, Polygonum, Pedi-*

cularia hirsuta, Papaver, and *Luzula confusa*. Other species: *Festuca brachyphylla, Carex rupestris*. In the southern half *Dryas* is rarer, and no *Vaccinium* is seen. In this *Salix-Cassiope-Arctagrostis* heath anal. 4 (Table 1) is made: a circle every six steps on the line.

Point -23
(38.8 m - 1985.0 m)

Gradual transition to a slightly hummocky *Salix-Arctagrostis-Carex misandra* vegetation with *Luzula arctica, Pedicularis hirsuta, Dryas, Vaccinium, Eriophorum tri-ste, Stellaria,* and *Festuca brachyphylla*. Much organic crust, moss cover not total. Three metres to the east of the line a muskox carcass with a lush *Alopecurus* vegetation.

Point -22
(38.7 m - 1994.0 m)

First a *Dupontia psilosantha-Salix* fen with *Arctagrostis, Eriophorum triste, Alopecurus, Pedicularis hirsta, Ranunculus nivalis*, intermingled with mossy *Salix-Eriophorum triste* patches on hummocks, and *Alopecurus* fens. The moss cover is total. The last few metres before point -21 dominated by *Salix* and *Arctagrostis*, with *Carex misandra*. The ground hummocky, partly caused by big stones (river bed / washed-out till).

Point -21
(38.9 m - 2034.0 m)

Gradual transition to an open *Salix* 'snow-patch heath' with scattered *Cassiope, Dryas, Luzula confusa, L. arctica,* and *Hierochloë*. Most of the ground covered by whitish organic crust, mainly of lichen-prothallus, or by mosses. Very little bare ground.

Point -20
(38.6 m - 2058.0 m)

The area is covered by two well-defined vegetations (their border not marked by a peg). On the level ground above the slightly northeast-facing slope towards the brook a *Cassiope-Salix* heath, anal. 5 (Table 1). On the northeast-slope a *Cassiope-Vaccinium-Salix* heath, anal. 6 (Table 1). Both analyses made by placing a circle every ten steps on the line, and on a closely placed, parallel line.

Point -19
(36.8 m - 2157.1 m)

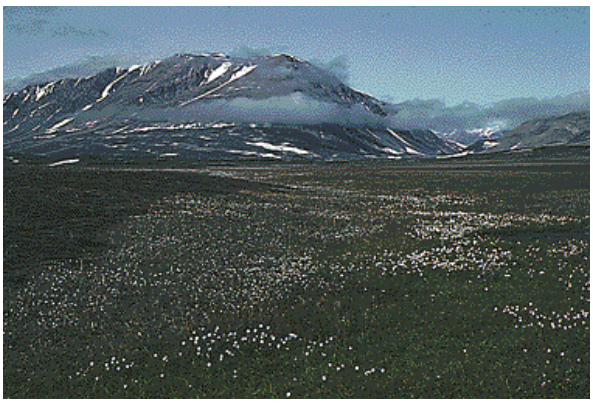
Salix-Festuca vivipara snowbed with much open soil. In addition to the species given in the analysis, some *Cassiope* and *Ranunculus sulphureus* were seen. Anal. 56 (Table 4): a circle every 1.5 m on the line.

Point -18
(36.1 m - 2171.9 m)

An *Arctagrostis-Eriophorum triste-Salix* fen-like vegetation with much water deposited clay and gravel. *Ranunculus sulphureus* and quite many mosses. Anal. 81 (Table 6): a circle every 0.5 m on the line in the northernmost part where the vegetation is fairly homogenous.

Point -17
(36.1 m - 2191.8 m)

A brook bed with water running during the entire summer.



The vegetation in the vicinity of point -24. To the left a Cassiope *heath, in the middle a* Eriophorum triste - Arctagrostis - Salix *snow-patch heath, and to the right a* Dupontia psilo-santha - Eriophorum scheuchzeri *fen. Far to the right a hummocky, moss-rich* Salix - Arctagrostis *vegetation.*

Photo 92-319. August 18 1992.

Point -16
(36.7 m - 2225.9 m)

The peg marking the snowmelt high water mark. A *Salix-Festuca brachyphylla-Luzula confusa* 'snow-patch heath' with much open soil on a 5° slope. Anal. 43 (Table 3): a circle every second step on the line, beginning four steps from point -15.

Point -15
(39.0 m - 2250.0 m)

In the southern part first a hummocky heath, followed by an open *Salix-Dryas-Cassiope* heath with *Vaccinium, Pedicularis hirsuta, Hierochloë,*

Alopecurus, and *Papaver*. This gradually changes to a *Salix* 'snow-patch heath' with much open ground. The more stable part of the ground covered by grey-whitish lichen crust or by mosses. Locally, small stands of *Cassiope*. Other species: *Silene, Luzula confusa, L. arctica, Carex bigelowii, Poa arctica, Dryas, Stellaria,* and *Arctagrostis*.

Point -14
(42.5 m - 2367.9 m)

A *Cassiope-Salix* heath on a very low terrace in a former river bed. Other species: *Carex misandra, C. bigelowii, Dryas, Poa arctica, Hierochloë, Luzula confusa, L. arctica, Oxyria, Huperzia*, and, on the highest level, some *Vaccinium*. Anal. 1 (Table 1): every eight steps on the line.

Point -13
(43.5 m - 2438.8 m)

A late snow-free *Salix-Dryas-Carex bigelowii* heath with *Polygonum, Pedicularis hirsuta*, and *Hierochloë*.

Point -12
(43.7 m - 2458.8 m)

An *Arctagrostis-Eriophorum triste-Carex bigelowii-Salix* fen, locally with a few *Eriophorum scheuchzeri*, but very few other phanerogams. Only a few, small hummocks. Anal. 86 (Table 6): a circle every seven steps on the line.

Point -11
(44.0 m - 2528.8 m)

A hummocky *Carex saxatilis-Eriophorum triste* fen, with *Salix* and *Dryas* on the hummocks. Many *Arctagrostis* and *Equisetum arvense*, scattered *Carex misandra* and *C. bigelowii*.

Point -10
(45.5 m - 2571.8 m)

A heath, dominated by *Vaccinium*, and with many *Salix, Cassiope*, and *Dryas*, on a stony (big stones), washed-out moraine. Many *Carex rupestris* and *C. misandra*. Other species: *Saxifraga oppositifolia, Pedicularis hirsuta, P. flammea, Armeria, Hierochloë, Eriophorum triste, Stellaria, Rhododendron, Oxyria, Luzula confusa, Papaver, Arctagrostis*, and *Equisetum arvense*.

Point -9
(47.0 m - 2679.8 m)

A moist, mossy heath, dominated by *Salix* and *Vaccinium*, with many *Cassiope* and some *Dryas*. Very hummocky, but the hummocks are tiny. Other species: *Tofieldia coccinea, Pedicularis hirsuta, Carex saxatilis, C. rupestris, Arctagrostis, Luzula wahlenbergii*, and *Equisetum arvense*.

Point -8
(47.4 m - 2728.6 m)

A fen, almost totally dominated by *Dupontia psilosantha, Eriophorum scheuchzeri*, and *Arctagrostis*, with a few Salix. Anal. 72 (Anal. 6): a circle every third step on the line.

Point -7
(47.8 m - 2759.8 m)

A slightly hummocky *Eriophorum scheuchzeri-E. triste-Salix* fen with many *Arctagrostis*, and with *Dupontia psilosantha, Equisetum arvense, E. variegatum, Carex norvegica, C. bigelowii, C. misandra, C. saxatilis, Juncus biglumis, Alopecurus, and Pedicularis hirsuta*, and even with some *Vaccinium*. This 'fen' is a complex of many closely related vegetation types.

Point -6
(48.5 m - 2799.8 m)

The area consists of a complex of many fen types, depending on where, and how long the meltwater flows. It is hummocky, still locally with clear water between the hummocks. *Eriophorum triste* and/or *E. scheuchzeri* dominate, *Carex saxatilis* and *Arctagrostis* are frequent. *Salix* preferably on the hummocks, and a few *Dryas* and *Vaccinium* on their very tops. Other species: *Juncus biglumis, Carex misandra, Equisetum arvense, Eriophorum callitrix*, and a species of *Pezizales*.

Point -5
(50.8 m - 2871.8 m)

A mossy fen (100% moss cover), with *Ranun-culus nivalis* closest to the snowdrift. Monocots all dominating, in the upper part *Dupontia psilosantha*, in the lower, major part of the fen *Eriophorum scheuchzeri, Carex saxatilis*, and *Arctagrostis*.

Many *Polygonum* and *Saxifraga cernua*, and also some *Poa arctica* and a few, small *Salix*. Anal. 79 (Table 6): a circle every six step on the line from point -5, thus only in the fairly homogenous vegetation.

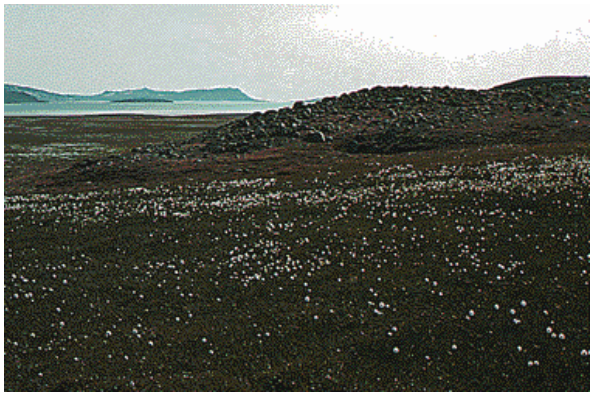
Point -4
(55.3 m - 2936.0 m)

The very latest snow-free part of the slope. By the end of July still covered by a snowdrift, and conse-

quently the placing of the peg at point -3 may not mark the transition to the next vegetation.

Point -3
(55.0 m - 2947.3 m)

A later snow-free vegetation of scattered *Trisetum, Oxyria, Minuartia biflora, Luzula confusa, Cerastium arcticum*, but, strangely enough, no *Salix*. Most of the ground bare covered by wind-deposited litter.



The moss dominated fen vegetation between points -5 and -4. Analysis 79.

Photo: 92-218. July 30 1992.

Point -2
(60.7 m - 2968.5 m)

A herb-slope like, open *Potentilla hyparctica-Trisetum* snowbed with *i.a. Polygonum, Minuartia biflora, Salix*, and *Oxyria*. Some mosses and lichens, but most of the ground is barren. Anal. 68 (Table 5): a circle every half metre on the line, beginning 1.5 m from point -1.

The uppermost 1-2 metres covered by a *Dryas-Carex rupestris* heath with *i.a. Melandrium triflorum*.

Point -1
(63.1 m - 2975.1 m)

An abrasion ridge with very scattered *Carex nardina, C. rupestris, Poa glauca, Potentilla hookeriana*, and *Dryas*. Anal. 35 (Table 2): a circle every second step on the line.

Point 65
(64.3 m - 2993.8 m)

First a *Vaccinium-Carex rupestris* heath with *Betula* (slightly to the west of the line), gradually changing to a slightly more moist *Vaccinium-C. rupestris* heath with many *Pedicularis flammea*, and some *Eriophorum triste* and *Arctagrostis*.

Point 66
(64.3 m - 2999.2 m)

First a c. 3.5 m belt dominated by *Carex saxatilis, Salix*, and *Eriophorum triste*. In this grassland vegetation, anal. 90 (Table 7) is made by placing a circle every metre on the first four metres on the line from point 66, and by three circles on each of two parallel lines.

After this grassland follows an *Arctagrostis-Dupontia psilosantha-Eriophorum scheuchzeri* fen with a total moss cover of *i.a. Polytrichum, Drepanocladus*, and *Calliergon sarmentosum*. Few *Salix*.

Point 67
(64.2 m - 3018.2 m)

A hummocky fen with increasing numbers of hummocks up the line. *Salix* dominating on the hummocks, where also *Vaccinium* and *Dryas* grow. *Aulacomnium turgidum* on hummocks. The soil between the hummocks totally covered by moss. *Arctagrostis, Carex saxatilis, Equisetum arvense*, and *Eriophorum triste common, Juncus biglumis* scattered.

'Point ZERO'. A Carex nardina *fell field / abrasion ridge adjacent to point -1.*

Photo: 92-183. July 24 1992.

Upwards a gradual change: *Cassiope* on the hummocks and *Carex misandra* in the "fens" in between. The last few metres before point 68 is best characterised as a *Salix-E. triste-C. bigelowii* "fen"/ snowbed with some open soil between the hummocks.

Point 68
(66.5 m - 3082.1 m)

A *Cassiope*-snowbed with *Silene* and *C. bigelowii*. Much open soil (with some algae) but also mosses like *Rhacomitrium* sp., *Tomenthypnum nitens, Dicranum* sp., and *Bryum pseudotriquetrum*.

Point 69
(67.0 m - 3086.2 m)

A *Salix-Silene* snowbed with *Dryas, Luzula confusa, Polytrichastrum alpinum, Ceratodon purpureus, Polytrichum piliferum,* and *Bra-chythecium turgidum*. At the transition to the next zone some *Draba lactea*.

Point 70
(67.9 m - 3090.1 m)

A *Carex rupestris-Hierochloë* vegetation with *Potentilla hyparctica, Cardamine bellidifolia, Stellaria, Poa arctica,* and *Luzula confusa*. *Tortula ruralis, Hypnum revolutum, Polytrichum piliferum, P. juniperinum,* and *Pohlia* sp.

Point 71
(68.5m - 3092.1 m)

A terrace with a mosaic vegetation locally dominated by *Dryas-Cassiope-Vaccinium*, locally by *C. bigelowii* and *Salix*, or by *Eriophorum triste* and *Salix*. The 2-3 metres before next point heavily disturbed by frost activity and meltwater erosion (in a small scale).

Point 72
(70.4 m - 3129.9 m)

An *Eriophorum triste-Salix* fen with almost total moss cover apart from the upper part of the little slope where the soil is covered by black algae. Here, *Ranunculus nivalis* and *Equisetum arvense* grow.

Point 73
(70.9 m - 3136.0 m)

A *Cassiope-Salix* heath with *Dryas*.

Point 74
(71.4 m - 3138.0 m)

An early snow-free *Salix-Silene* "snow-patch heath" with *Polygonum, Arnica* and *Potentilla hyparctica*. Anal. 44 (Table 3): a circle every 0.5 m on the line from point 74.

Point 75
(72.6 m - 3142.0 m)

A *Carex rupestris-Dryas-Hierochloë* heath with *Polygonum, Papaver, Melandrium affine, M. triflorum, Pedicularis flammea, Arnica,* and *Draba glabella*.

Point 76
(73.6 m - 3143.6 m)

A *Polygonum-Carex bigelowii* grassland with a 40 cm high front of a solifluction lobe on which *i.a.* some *Vaccinium* grows. Anal. 93 (Table 7): a circle every 0.5 m on the line, starting 1 m south of point 77 towards point 76.

On the terrace below the solifluction lobe the soil is drier, both to the east and west of the line, with *Vaccinium* and *Betula* dominating.

Point 77
(74.4 m - 3149.6 m)

A terrace with a mosaic of small *Carex saxatilis* fens and *Arctagrostis-Alopecurus-Eriophorum scheuchzeri* fens just behind the edge of the terrace, and a less moist, mossy fen with *Salix* dominating together with *Arctagrostis*, and further with *Dryas, Pedicularis hirsuta, Juncus biglumis, Erio-phorum triste* and, in the upper half, *Cassiope* and *Vaccinium*. Moss cover 100%.

Point 78
(75.3 m - 3179.7 m)

In the lower half a mossy (almost total moss cover) *Salix-Cassiope* heath with some *Vaccinium*. Scattered monocots, mainly *Arctagrostis*, but also *Eriophorum triste* and *Alopecurus*. Anal. 13 (Table 1): a circle every third step on the line, starting at point 78.

In the upper half the vegetation is drier, with many *Carex bigelowii* and also some *Dryas*. Then it gradually changes (a point should have been placed here) to a *Salix* snowbed with *Poa arctica, Stellaria, Cassiope, Luzula confusa,* and *Dryas,* but without *Vaccinium*.

Point 79
(81.1 m - 3251.5 m)

An early *Salix-Silene-Dryas* snowbed with *i.a. Poa arctica, Luzula confusa, Festuca brachyphylla,* and *Draba lactea*. Most of the ground is a fresh, clayey soil. Anal. 60 (Table 4): a circle every second step on the line.

Point 80
(83.3 m - 3269.3 m)

An open *Cassiope* heath. The first c. 5 m with *Salix-Silene*, then *Dryas-Salix-Carex rupestris*. Anal. 16 (Table 1): a circle every three steps, beginning 10 steps from point 80.

Point 81
(89.5 m - 3303.8 m)

A stony *Dryas* heath with *Kobresia myosuroides, Arenaria pseudofrigida, Carex rupestris, C. supina, Poa glauca,* and *Hierochloë*. Many lichens, few mosses.

Point 82
(94.3 m - 3332.4 m)

A *Cassiope-Dryas* heath with *Vaccinium* and *Carex rupestris*.

Point 83
(95.9 m - 3344.9 m)

A stony ridge with a very open *Dryas* fell-field vegetation. Other species: *Salix, Carex nardina, C. rupestris, Kobresia myosuroides, Poa glauca, Draba arctica,* and *Potentilla hookeriana*. Anal. 36 (Table 2): a circle every six steps on the line.

At the line a "bird-stone" with many *Melandrium triflorum, Potentilla hookeriana,* and *Carex rupestris*.

Point 84
(98.7 m - 3403.9 m)

A slightly more dense *Dryas-Kobresia myosuroides-Carex rupestris* fell-field, but the stony ground mostly bare. Anal. 29 (Table 2): a circle every seven steps on the line, beginning at point 85.

Point 85
(98.1 m - 3414.0)

A *Cassiope-Dryas* heath. Half a metre to the west of the line *Cassiope* stops, and then the vegetation is like that between points 86 and 87.

Point 86
(98.0 m - 3416.0 m)

A *Dryas-Carex nardina-Kobresia myosuroides* vegetation with *Silene, Polygonum*, and small specimens of *Salix*.

Point 87
(98.2 m - 3421.8 m)

A mixed, mossy heath with *Carex bigelowii, C. rupestris, Arctagrostis,* and *Eriophorum triste*. Anal. 8 (Table 1): a circle every ten steps.

In the upper part it gradually changes from a heath rich in *Vaccinium* to a *Salix-Cassiope* heath without *Vaccinium*.

Point 88
(102.3 m - 3508.1 m)

A mossy *Salix-Carex bigelowii* (snowbed) heath with *Dryas* and a few *Cassiope*. Anal. 9 (Table 1): a circle every third step on the line.

Point 89
(105.5 m - 3542.6 m)

A moist, small hummocky, mixed heath with *Dryas, Cassiope*, and *Vaccinium*, and with many *Eriophorum triste* and *Arctagrostis*.

Point 90
(136.4 m - 3862.4)

A hummocky *Salix-Dryas* 'snow-patch heath' with many *C. bigelowii*, and some *Dryas* and *Silene*. High degree of cover but fresh soil between the hummocks. Anal. 42 (Tabel 3): a circle every seven steps on the line.

Point 91
(147.4 m - 3930.9 m)

A hummocky *Vaccinium* heath with patches of *Dryas* or *Cassiope* heaths. Many *Salix, Oxyria,* and *Papaver*. Almost all the ground covered. Anal. 3 (Table 1): a circle every 17 steps on the line.

Point 92
(169.4 m - 4074.3 m)

An area with very dense frost cracks. The patterned ground consists mainly of 0.5 m wide polygons, but also bigger ones occur, as do some stripes. *Dryas-Carex rupestris-Polygonum* "heaths" dominate, locally with *Vaccinium* and *Salix*.

Dead or withered Dryas *as well as* Silene acaulis *between points 92 and 93.*

Photo: 92-211. July 29 1992.

Many *Dryas* here, as well as further down the line, are dead or withered. Some of the otherwise withered plants have survived and have fresh leaves on the tip of the branches. The underlying reason most likely is an extremely late snowmelt some or a couple of years ago.

Point 93
(209.8 m - 4325.8 m)

A *Dryas-Carex nardina* fell-field, upwards with decreasing number of plants. *Dryas, Kobresia myosuroides, Salix,* and, locally, *Vaccinium* or *Cassiope,* mainly grow in frost cracks in the very stony (small stones) ground. Anal. 32 (Table 2): a circle every 50 steps on the line.

Point 94
(262.4 m - 4743.2 m)

An area with a very varying micro-topography. No attempt has been made to describe the complex vegetation.

Vegetation on the south slope of a morraine hill. Analysis 25. Carex supina - Potentilla hookeriana - Carex rupestris *fell-field with* Arnica angustifolia.
Photo: 92-264. August 5 1992.

Point 95
(267.6 m - 4803.7 m)

A stony solifluction area with a dense *Vaccinium-Dryas,* or a *Dryas-Carex rupestris-Kobresia myosuroides* vegetation between open, more or less active areas either with *Stereocaulon* or covered by black, organic crust, mainly consisting of (partly fresh) algae.

Point 96
(279.2 m - 4899.0 m)

A *Dryas-Salix* heath with *Vaccinium* on moving soil. Many open, active spots. Striping very marked. *Vaccinium* disappears in the upper third. Anal. 97 (Table 8): a circle every 25 steps on the line.

Point 97
(310.1 m - 5113.4 m)

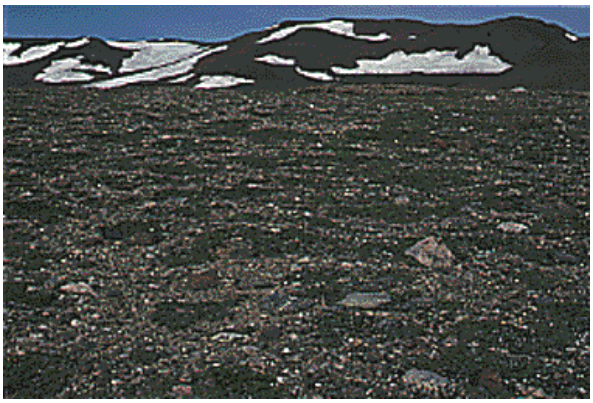
First a *Salix* snowbed on moving soil. Anal. 62 (Table 4): a circle every ten steps on the line. Upwards it gradually changes to a fell-field on moving soil. Here, extremely little vegetation, mainly *Dryas* with some *Salix* in small depressions or cracks.

Point 98
(347.0 m - 5292.5 m)

A slope of stony, moving soil. A *Dryas* dominated fell-field vegetation with many *Salix* is mainly seen on transverse, minor solifluction lobes. In spite of the open vegetation the degree of cover is higher than in the preceeding zone. Anal. 20 (Table 2): a circle every 15 steps on the line.

Point 99
(373.5 m - 5420.8 m)

A *Salix-Eriophorum triste-Dryas* vegetation below a 2-3 m high solifluction lobe, rich in species, *e.g. Draba alpina, D. lactea, D. glabella, Silene, Minuartia rubella, M. biflora, Arnica, Trisetum, Poa glauca, Polygonum, Pedicularis hirsuta, Melandrium affine, Potentilla hyparctica,* and *Ranun-culus sulphureus*.



View upslope along the line with open Dryas *fell-field between points 98 and 99. Analysis 20.*
Photo: 92-230. July 31 1992.

Point 100
(376.9 m - 5438.1)

This peg is placed in the upper part of the front of the solifluction lobe at a transition to a stony, moving soil, by the end of July dry, but with deep muskox footprints. In c. 0.5 m wide depressions a *Dryas*-vegeta-tion with *Polygonum, Salix, Kobresia myosuroides*.

Between these downsloping furrows the soil is almost barren, yet with single *Arenaria pseudofrigida*. Anal. 37 (Table 2): a circle every 20 steps on the line.

Point 101
(419.5 m - 5750.0 m)

A gradual transition to a moist to very wet (still with seeping water) solifluction area. Fairly densely vegetated with species-rich vegetation, ranging from *Dryas-Carex nardina* on dry soil, to wet *Nostoc* covered soil with *Deschampsia brevifolia-Alopecurus-Juncus biglumis* communities. Anal. 98 (Table 8): a circle every 20 steps on the line.

Point 102
(446.7 m - 5938.9 m)

Gradual transition to a slightly less wet area with more *Dryas* and fewer of the wet soil species. Downsloping stripes.

Point 103
(452.6 m - 5970.9 m)

An area with very complex vegetation. The ground with many stones (up to 0.5 m in diameter). Some areas covered by *Eriophorum triste-Salix-Dryas* vegetation, other, especially in the lower part, with more dense rich fen communities, still with seeping water.

View downslope between points 101 and 102. Secies rich fen vegetation with i.a. Melandrium apetalum. *In foreground solifluction area with seeping water.*
Photo: 92-202. July 24 1992.

In the latter communities extremely many species grow, *e.g. Festuca baffinensis, Juncus triglumis, J. castaneus, J. biglumis, Carex misandra, C. atrofusca, Deschampsia brevifolia, Poa arctica, Luzula arctica, Eriophorum callitrix,* and - among forbs - *Saxifraga hirculus, S. cernua, S. foliolosa, S. platysepala, S. tenuis, Ranunculus nivalis, R. glacialis, Melandrium apetalum,* but also *Dryas* and *Salix*. Locally, the ground is extremely "soft", at other places more consolidated. Anal. 100 (Table 8): a circle every 50 steps on the line.

Point 104
(564.9 m - 6485.1 m)

Flushed, clayey-stony moving soil with scattered specimens of most of the species from the preceeding zone, but also with many *Deschampsia brevifolia, Koenigia,* and some *Ranunculus glacialis*. Locally *Carex maritima*.

Ranunculus sulphureus - Bryum cryophilum *vegetation just west of the line between points 104 and 105.*
Photo: 92-233. July 31 1992.

Point 105
(? m - c. 6611.7 m)

Species rich moss snowbed on moving soil with scattered *Luzula confusa, Alopecurus, Salix, Ranunculus sulphureus,* and *Bryum cryophilum*. Anal. 99 (Table 8): a circle every third step on the line.

Point 106
(601.3 m - 6639.7 m)

The position of the lower edge of a permanent snowdrift on July 24.

Points 107 - 132

Please confer text under Point 133 to point 155

Point 133 to point 155 (G.S.Mogensen)

In 1994 the peg at point 106 was covered with snow. It is placed at the foot of a very steep, loose scree, which on its lower third is covered by a permanent snowdrift.

The change in topography from the very wet, fairly steep slope with fen-like communities, to the even steeper scree with the snowdrift is connected

with a change in the bedrock from underlying sediments to an easily disintegrating basalt cover. This basalt scree is almost without vegetation, whether phanerogams or crypto-gams, yet single specimens of *Polemonium boreale* and *Ranunculus affinis* are seen.

Because of the unstable character no pegs were placed here, even if the number of specimens increased upslope. However, for future division of the scree, including the snowdrift, points 107-132 have been deposited with the Danish Polar Center personnel at Zackenberg.

At the uppermost edge of the scree a little stone cairn was built. Here, point 133 was placed. Unfortunately, we had no possibility of measuring the distance from point 106 to point 133.

In the following text, this distance is termed: k (metre). Thus, the position of the pegs 134 to 155 is given as 6639.7 m + k + the distance from point 133. The elevation was measured by altimeter. The establishment of this part of the line was made on July 31. A list of the phanerogams and cryptogams seen along the line is given as **Table 17**.

Point 133
(850 m - 6639.7 + k m)

Rocky plain without cryoturbation. Single forbs, some grasses, and many lichens, epilithic as well as crustose.

Point 134
(842 m - 6702.6 + k m)

Rocky plain with slight cryoturbation.

Point 135
(850 m - 6739.9 + k m)

Moist fell-field with solifluction; scattered, larger stones; polygons.

Point 136
(850 m - 6758.1 + k m)

Slightly sloping, west facing fell-field dominated by larger stones and some blocks. Solifluction in long stripes.

Point 137
(855 m - 6829.4 + k m)

Rocky plain with only slight solifluction. Rather heterogenous, locally with some vegetation, especially in connection with larger blocks.

Point 138
(868 m - 6946.9 + k m)

Plain with solifluction in stripes, caused by meltwater from a snowdrift c. 200 m away (not on the line). Cryoturbation weakly pronounced, yet the blocks are arranged in stripes.

Point 139
(872 m - 6956.8 + k m)

The peg is placed at the transition to a markedly drier area with less vegetation. As this fell-field area is steeper than the preceeding, the effect of the meltwater is hardly visible.

Point 140
(880 m - 7012.0 + k m)

Undulating, dry fell-field with great variation in the size of stones. The peg placed in a little pile of stones.

Point 141
(910 m - 7174.0 + k m)

Steep, windswept, long ridge with large blocks. No solifluction.

Point 142
(910 m - 7204.9 + k m)

Wet, fen-like, south-facing meltwater stripe. *Alopecurus alpinus* dominating.

Point 143
(912 m - 7218.8 + k m)

Dry fell-field with solifluction stripes. Most frequent phanerogam: *Luzula arctica*.

Point 144
(920 m - 7267.1 + k m)

Fell-field, especially with epilithic lichen vegetation.

Point 145
(952 m - 7453.4 + k m)

Dry, rocky plain with polygons. In the upper part of the area towards point 146 the polygons are forming stripes. Here, the soil seems more stable. Largely, the vege-tation cover stops at point 146.

Point 146
(960 m - 7530.8 + k m)

Sloping fell-field below a snowdrift, generally with smaller stones than in the preceeding zone. Patterned ground as a result of solifluction. Only few larger stones.

Point 147
(970 m - 7621.2 + k m)

Rocky plain with only weakly developed polygons. In the upper part gradual transition to a scree.

Point 148
(980 m - 7666.0 + k m)

Rocky plain with loose flakes of slate, almost without polygons.

Point 149
(980 m - 7674.5 + k m)

High-center, patterned ground with large blocks at the edge of the polygons. Rich in lichens.

Point 150
(980 m - 7713.5 + k m)

Rocky plain with polygons of large stones.

Point 151
(991 m - 7806.0 + k m)

Undulating, heterogenous fell-field.

Point 152
(1000 m - 7872.8 + k m)

Basalt scree.

Point 153
(1018 m - 7924.5 + k m)

Fell-field. Less than 10 phanerogam specimens observed along the line to point 154.

Point 154
(1018 m - 7939.1 + k m)

Scree, forming the top of Aucellabjerg.

Point 155
(1040 m - 7988.1 + k m)

The peg placed in a little stone cairn on the very top.

Other vegetation analyses

1992 (B.Fredskild)

With one exception (anal. 101) the 103 analyses carried out in 1992 were made east of the river.

Peninsula 5 km southeast of the airstrip

Here, a *Salix-Dryas-Carex rupestris* heath was analysed on the plateau (Table 1, anal. 10).

Lowland at the airstrip

On lower plateaus south of the airstrip: a *Kobresia myosuroides-Carex rupestris-Dryas* fell-field (**Table 2**, anal. 30), a *Carex bigelowii-C. capillaris*-grassland (**Table 7**, anal. 88), a ***Carex saxatilis-C. bigelowii-Arctagrostis*** grassland (Table 7, anal. 89), and an ***Eriophorum scheuchzeri-Arctagrostis-Carex saxatilis*** fen (**Table 6**, anal. 77).

Lowland just north of the Zackenberg traping station

A rich fen with oozing water, locally fresh clay, but the soil mostly covered with a black algae crust. The dwarf-shrubs grow on the hummocks (**Table 8**, anal. 101).

Lowland north of the airstrip, towards and between the moraines

South of the largest moraine: a *Vaccinium-Dryas-Arctagrostis* heath. Most of the ground covered, but a few active spots (Table 1, anal. 17). A *Kobresia myosuroides-Carex rupestris*-fell-field on hard, cracked clay, often with salt-crust (Table 2, anal. 22).

A *Carex marina-Arctagrostis-Eriophorum callitrix* fen (Table 6, anal. 76). On slightly lower, more moist ground this is replaced by a *Dupontia psilosantha-Erio-phorum scheuchzeri* fen.

A heath-like community on dry ground (in mid August) with polygons and frost cracks. Low degree of cover. Dominating are *Salix, Dryas, Carex rupestris, Kobresia myosuroides* (**Table 3**, anal. 91). Closer to a moraine with a now totally melted snow-drift this vegetation is replaced by a *Carex saxatilis-Eriophorum triste-Salix* grassland (**Table 7**, anal. 92).

South of the largest moraine a *Salix-Equi-setum variegatum* 'snow-patch heath'. The ground locally very dry, locally still slightly moist and with *Nostoc* plates (Anal. 41, phot. 320).

On a south slope of the innermost moraine: an *Empetrum-Salix-Betula* heath (Table 1, anal. 14) and a *Betula-Salix* heath (Table 1, anal. 15).

On the largest moraine: a *Carex supina-Potentilla hookeriana* fell-field (Table 2, anal. 24). On other moraines: On the upper part of a south slope: a *Carex supina-Potentilla hookeriana-Carex rupestris* fell-field (Table 2, anal. 25). Downwards it is replaced by an *Arnica-Carex rupestris* fell-field (Table 2, anal. 26), which then is replaced by an early snowfree *Salix arctica* dominated vegetation.

On the south slope of another moraine a tiny E-W "gully" has a *Salix herbacea-Luzula confusa* snowbed vegetation (**Table 4**, anal. 55) just below a narrow *Cassiope* belt. On another south slope a *Salix arctica-Carex rupestris-Dryas* heath on stiff, bright clay is replaced downwards by a *Trisetum-Minuartia biflora-Cerastium arcticum* herb-slope (**Table 5**, anal. 64) which is replaced downwards by a *Trisetum-Minuartia biflora-Ranunculus pygmaeus* snowbed (Table 4, anal. 57). Even further downslope comes a snowdrift.

Aucellabjerg

Southeast slope, c. 2 km east of the Zero-line: a *Carex lachenalii-Salix arctica* fen-like community with a total moss cover on a l-2 m wide belt along a tiny brooklet (**Table 6**, anal. 83).

West of the Zero-line on a slope to a former brook bed below a mixed heath is a c. 5 m wide belt with a *Silene-Oxyria* herb-slope (Table 5, anal. 66). Downslope, this is replaced by a *Salix arctica* snowbed.

In front of a giant solifluction lobe: an *Erigeron humilis-Minuartia biflora-Festuca rubra* herb-slope (Table 5, anal. 65). On the west slope, vis-à-vis Store Sødal, a *Salix-Festuca vivipara-Poa glauca* fell-field (**Table 2**, anal. 23) on cracked clay. On the same level, 50 m away, on dried-out soil, a *Salix-Alopecurus* 'snow-patch heath' (**Table 3**, anal. 39).

On the southwest slope an *Oxyria-Saxifraga cernua-Ranunculus pygmaeus* herb slope on moist, sliding clay (**Table 5**, anal. 70). Upwards, it is replaced by a *Silene-Salix arctica* snowbed with a high degree of cover.

On the southwest slope a rich fen-like com-munity on moist, moving soil (**Table 8**, anal. 96). Similar communities were found on other slopes of the mountain: a c. 5 m wide belt in an otherwise open *Dryas* community. Most of the soil covered by a black, now (August 8) dry algae-moss crust (Table 8, anal. 102). And even higher up the mountain on a southwest slope with stripes of basaltic gravel and stones, the "furrows" between the stripes harbour a mossy community with *Saxifraga hirculus, Potentilla hyp-arctica*, and *Stellaria* (Table 8, anal. 103).

On a dry (August 8) southwest slope with basaltic solifluction ground a very open *Potentilla nivea-Chamaenerion latifolium* fell-field (Table 2, anal. 33), and next to this an even more open *Campanula uniflora* fell-field (Table 2, anal. 34) are found.

Ulvehøj

Two km east-northeast of the eastern end of the airstrip a c. 30 m high moraine is rising on the large fen and 'snow-patch heaths' area c. 10 m a.s.l. Because of its many *Euphrasia frigida*, otherwise rare in the Zackenberg area, it was named 'Euphrasia-knolden' in Fredskild & Bay (1993). However, in Meltofte & Thing (1996) it is termed 'Ulvehøj'.

On the lowland just southwest of the large snowdrift on the southwest slope (**see sketch p. 17**) a *Carex rariflora-C. sax-atilis* fen on August 2 still had standing water (Table 6, anal. 84). On the lowermost steep, 1-2 m high slope down to the fen are small patches of *Erigeron humilis-Oxyria* herb slopes (**Table 5**, anal. 67).

On the outer part of the first "shoulder" a *Juncus castaneus-Euphrasia-Carex bigelowii* grassland (**Table 7**, anal. 87) on only slightly sloping ground, which is covered by mosses or a black algae-crust. Soil dry, humous. Closer to the partly melted snow-drift on the next slope, this vegetation is replaced by a *Carex bigelowii-Eriophorum triste-Arctagrostis* grassland (Table 7, anal. 94), still fairly wet below the rem-nants of the snowdrift on August 12, but drier westwards on the slightly sloping area. Even closer to the slope this is replaced by a *Salix arctica-Alopecurus-Erio-phorum triste* grassland (Table 7, anal. 95).

The latter type is also found where the snow was melted away on August 12. Here, it is upslope replaced by a *Salix-Ranunculus pygmaeus-Alopecurus* snowbed (Table 4, anal. 53). A further 15-20 m upslope, where the latest snow had been lying, a late *Salix arctica-Luzula confusa-Ranunculus pygmaeus* snowbed was found. Nothing was green here on August 12 (Table 4, anal. 54). Further up came a not so late (*i.e.Salix* had green leaves) *Salix arctica-Luzula confusa-Potentilla hyparctica* snowbed (Table 4, anal. 63). 5-10 m higher up, just below a *Cassiope* belt, was an early *Salix-Trisetum-Luzula confusa* herb-slope (Table 5, anal. 69) with many species flowering.

1996 (B.Fredskild)

In addition to the 103 vegetation analyses carried out in 1992 (with one exception east of the river), 33 analyses were made between July 27 and August 2 1996, concentrating on vegetation types not earlier analysed. Generally, as a result of the sedimentary mountains capped with basalt, the soil is rich in nutrients east of the river, but poor and acidic west of it because of the gneissic mountains.

The major part of the analyses were made west of the river or in the large delta. They are all from the lowland (< 110 m a.s.l.). The results are given in tables 10-16, in which some 1992 analyses are included for comparison.

Most of the vegetation analyses are included in a manuscript, submitted by B. Fredskild to Meddelelser om Grønland, Bioscience entitled 'The vegetation types of Northeast Greenland. A phytosociological study based mainly on material left by Th. Sørensen from the 1931-35 expeditions'.

General description of the vegetation types in the Zackenberg area (B.Fredskild)

Dwarf-shrub heaths (Tables 1 and 13)

The first 14 analyses in Table 1 are all from the extended, level lowland areas. The ground often has small hummocks, almost covered by mosses and lichens, depending on the degree of cover of the dwarf-shrubs. The ratio between the species varies, but *Salix arctica*, *Dryas*, and *Cassiope* are found in all, *Vaccinium uliginosum* in most analyses, whereas *Betula nana* is infrequent. Especially in the lowland west of the river, fairly open *Cassiope* heaths with *Salix arctica* cover large areas.

A deviating type was seen on the top plateau of the low peninsula c. 5 km southeast of the station. Here, a *Salix arctica-Dryas-Carex rupestris* heath with quite many, tiny frostboils with *i.a. Juncus biglumis*, *Phippsia*, and *Cochlearia*(!) - a transitional type to a fell–field - was found (Anal. 10).

On a south slope on the innermost moraine, below a dry, open *Dryas* heath, two rare types, *viz*. an *Empetrum-Betula-Salix arctica* heath (Anal. 14) and a *Betula-Salix* heath (Anal. 15) were found. The first was so dense that hardly any moss or lichen was found, contrary to the latter which was slightly more open. The two heath types were partly intermingled.

Anal. 9 is from a mossy *Salix arctica-Carex bigelowii-Dryas* heaths with much frost activity, a transition to the "snow-patch heaths", as is the case too of anal. 19, which is from an open *Salix arctica-Dryas* heath with few *Cassiope*. It was found as a 4 m broad, later snowfree belt on a south slope, below a dense *Cassiope* heath.

The fairly few *Empetrum* heaths are found primarily to the west of the river, either as a belt between an earlier snowfree *Dryas* heath and a later snowfree *Cassiope* heath (Table 13, anal. 114), between a *Kobresia myosuroides-Dryas* heath and a *Vaccinium* dominated heath (anal. 136), or as small, only a couple of m^2 large vegetations in different heath types on level ground.

Fell-fields and abrasion plateaus (Table 2)

Characterising the abrasion ridges in the lowland is the low cover of phanerogams and the often many lichens, epigeic as well as epilithic. Mostly, the only two dwarf-shrubs are *Dryas* and *Salix arctica*. Most common graminoids are *Poa glauca* and *Carex rupestris*, among forbs *Cerastium arcticum*, *Potentilla hookeriana*, and *Melandrium triflorum*. One type is characterised by *Kobresia myosuroides* (first 6 analyses in Table 2), another by *Carex nardina* (the four next) and a third by *Carex supina* (the three next analyses).

The five analyses to the right in Table 2 are from high levels on Aucellabjerg. All, especially those from the highest levels, are even more open. Anal. 37 and 20 are *Dryas* fell-fields on stony-clayey solifluction lobes. Deep muskox footprints show that the now hard as stone clay at the time of snowmelt was extremely soft. Likewise, anal. 23 is from a clayey slope. Here, almost all the ground was bare, only at the *Salix arctica* individuals some moss could be found. In this vegetation *Festuca vivipara* was fairly common.

The two last analyses (34 and 33) are from a now dry (Aug. 8) basaltic solifluction slope with coarse material in between. Rare species like *Polemonium boreale* and *Campanula uniflora* were growing here, but no dwarf-shrubs were found.

Snow-patch heaths (*Salix arctica* heaths) (Table 3)

Typically, these heaths are found on level ground or slopes with a long-lasting snow-cover. On the slopes they are always seen as a belt below the *Cassiope* heaths. As a result of cryoturbation the ground is hummocky or divided into 0.5 -1 m wide, slightly convex polygons. Sometimes, these polygons are more or less bare (fresh clay), with the dwarf-shrubs on the more stable "net" between the polygons. At other places with less active ground the dwarf-shrubs grow on the polygons, while fen-like vegetations are seen in the more moist furrows in between.

A common type on fairly dry ground is characterised by *Pedicularis hirsuta*, *Luzula arctica*, and *Hierochloë* (Table 3, anal. 43, 46, 45), another type on more moist ground has *Eriophorum triste* and *Juncus biglumis* as characteristic species (Anal. 41, 40, 38). Other types may also be found, and as seen from Table 3 the species composition within the 'snow-patch heaths' is highly variable.

Snowbed vegetation (Tables 4, 10, 12, and 16)

On not too steep slopes the transition be-tween 'snow-patch heaths' and true snowbed vegetation can be very gradual, especially because *Salix arctica* is also common in most snowbeds (the term 'snowbed' means snowbed vegetation as opposed to snowdrifts). Generally, the number of, usually tiny, forbs is higher in the snowbeds, but *Arctagrostis*, *Hierochloë*, and, almost always, *Eriophorum triste* are missing here.

The two analyses with many *Dryas* (Table 4, anal. 62 and 60) are from inter-mediate types. The main reason for including these under snowbeds is their richness in forbs. A *Minuartia biflora-Ranun-culus pygmaeus-Trisetum spicatum* snowbed without *Salix arctica* (Anal. 57) was seen as a belt just above a snowdrift, but below a herb slope (Table 5, anal 64) on a south slope of another moraine.

An example on the otherwise low Arctic *Salix herbacea* snowbed vegetation (Table 4, anal. 5) was found as a belt below a *Cassiope* zone on a south slope on one of the moraines east of the river in a tiny E-W "gully" on one of the moraines below a *Cassiope* heath. West of the river *Salix herbacea* snowbeds are not infrequent. Like all snowbeds they appear as mostly 1-3 m broad belts between different heath types and some later snow-free vegetation. Thus, anal. 104 (Table 12) was made between a *Salix arctica-Cassiope* heath and a *Salix arctica* snowbed, and anal. 105 between a *Cassiope* heath and a *Luzula confusa-Anthelia* snowbed. Mosses cover almost all the ground, lichens are frequent, but organic crust is missing.

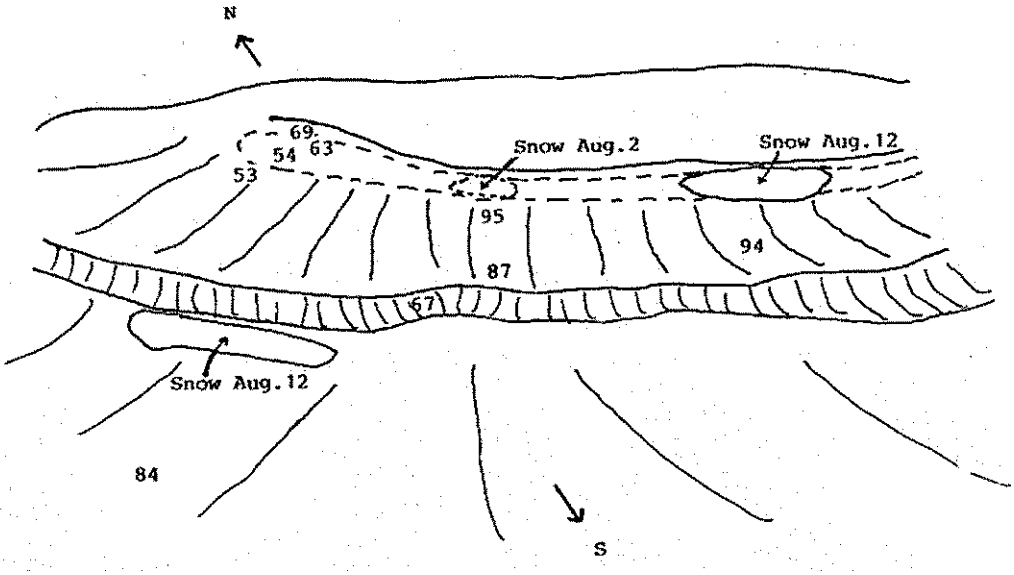
The typical late snowbeds - *Phippsia algida-Luzula confusa* snowbeds - are found on (almost) level ground, or on more or less steep, south-facing slopes as a belt below a *Cassiope* heath, often above an even later *Salix arctica* snowbed (Table 10). Generally, the ground is all covered by organic crust, mosses, and lichens. In the extremely late snowbeds where the snow remains until the beginning of August, no phanerogams are seen. *Phippsia algida* is the most tolerant species, occurring as very scattered, al-ways sterile specimens as the first phane-rogam where the snow has melted a little earlier. Likewise, most herbs, espe-cially *Saxifraga hyperborea*, but also *S. tenuis*, *S. cernua*, *S. oppositifolia* and *S. foliolo-sa* are sterile when growing in the latest snowbeds, and the very few, always sterile *Salix arctica* occurring here have the size of a *Salix herbacea*. The herbs are not flowering in that late snowbeds.

The following successsion was found on the south-slope at the east end of the airstrip: On the level ground along the airstrip a *Dryas-Carex rupestris* heath, intermingled with a *Cassiope - Vaccinium uliginosum - Salix arctica* heath. At the transition to, and on the uppermost part of the slope, a *Cassiope* heath with *Dryas* was followed by a *Salix* snowbed, divided into three belts. First with *Poa arctica, Luzula confusa, Trisetum,* and *Oxyria* (Table 4, anal. 49), then with *Alopecurus, Luzula confusa, Poa arctica, Sagina intermedia* (Anal. 50), and, finally, with the same graminoids, yet fewer individuals, and more *Sagina* plus *Ranunculus pygmaeus* and *Saxifraga cernua*.

Downslope, the plant coverage decreases. The ground consists mainly of fresh aeolian sand. The lower, major part of the slope has a very open vegetation with *Salix arctica* and *Luzula confusa*. Here, the ground is partly covered by mosses, *Stereocaulon*, and black algae (Anal. 52). On July 17 the snowdrift reached the lower border of the *Cassiope* heath.

The 5-6 specimens, still covered by snow, did not flower in the very late summer of 1992, yet they had flowered in 1991. Four days later even the uppermost part of the area with the very open vegetation (Anal. 52) was free of snow, and around August 1 all snow had gone.

A deviating *Potentilla hyparctica - Salix arctica* snowbed was found below a *Cassiope* belt west of the river on a 10° S slope, c. 20 m a.s.l. (Table 16). With the exception of the atypical Anal. 62 all snowbed vegetation analysed was found in the lowland below 100 m a.s.l., yet some snowbeds may be found at higher elevations.



The position of the vegetation analyses on the south slope of Ulvehøj. The dashed line surrounds the main snowdrift, of which the major part had melted away on August 12 1992

Herb-slopes (Table 5)

The herb slope vegetation is found on south slopes either on the moraines, along brooks, or on the front of solifluction lobes. Generally, they are gradually replaced downslope by snowbeds. Common to all are *Minuartia biflora*, *Polygonum*, and *Cerastium arcticum*, and *Oxyria* as well as *Ranunculus pygmaeus* are found in most. Characteristic to the most common type is *Erigeron humilis*. Among the graminoids *Festuca rubra*, otherwise rare in the Zackenberg area, should be mentioned. Usually, the moss carpet is dense. The highest, somewhat deviating, herb slope (Anal. 70) was found as a belt on a southwest slope on the west side of Aucellabjerg. Most of the stony ground was bare. This vegetation could as well be termed a snowbed. Upslope it was replaced by a *Silene-Salix arctica* snowbed with a higher degree of cover.

Fens (Table 6)

With the exception of one atypical fen (Anal. 82) the fens are found only in the lowland. Common to all are *Arctagrostis*, *Eriophorum scheuchzeri*, *Salix arctica*, and *Polygonum*. The few *Dryas* were growing on hummocks. The most common types are *Dupontia psilosantha-Eriophorum scheuchzeri* fens and *Carex saxatilis* fens, in between with *Carex bigelowii* and *Juncus castaneus*. Three rare species of *Carex* each dominated a fen: *Carex lachenalii* (Anal. 83), *C. rariflora* (Anal. 84), and *C. marina* ssp. *pseudolagopina* with *Eriophorum callitrix* (Anal. 76). Besides, *Carex subspathacea*, otherwise characteristic of salt-marshes, dominated a fen 11 m a.s.l. (Anal. 74). No pH measure-ments have been made, but anal. 76 and 84 must be considered rich fens.

Grasslands (Table 7)

Contrary to the fens, the soil under grass-land vegetation dries out during summer. Because of this, *Eriophorum scheuchzeri*, characteristic for fens, is always missing in the grasslands, where it is replaced by *E. triste*. Most grasslands are dominated by *Carex bigelowii*. *C. capillaris* is common, and *C. rupestris* and other dry ground species are fairly common. A special grassland rich in tiny forbs, *i.a.* many *Euphrasia* (Anal. 87), and with *Juncus castaneus* the dominant graminoid, was found on Ulvehøj (**see p. 17**). Like the fens, grassland is only found in the lowland.

Fen-like, species-rich communities on moist, minerogenous soil (Tables 8 and 11)

On south slopes with seeping water, especi-ally at higher altitudes, some communities rich in species can be found. The average number of fanerogams in the eight analyses in Table 8 is 27.5, ranging from 22 to 34. Most often the ground is covered by mosses or a black organic crust, sometimes with "plates" of *Nostoc*. But as a result of the solifluction, spots with fresh clay occur.

A somewhat deviating type (Table 8, anal. 103) was found at 775 m on a south slope with small solifluction stripes of more finely grained basaltic gravel on the otherwise stony slope. In these, slightly moist, mossy stripes, often 1 m broad and 3-5 m long, *Stellaria longipes*, *Saxifraga hirculus*, *Draba lactea*, *Potentilla hyparc-tica*, and, among graminoids, *Poa arctica* and *Luzula confusa* were dominating.

In the lowland a species-rich vegetation is found on a clayey slope with seeping water just north of the Zackenberg trapping station (Anal. 101). Other species-rich communities, yet without seeping water, are found in the old delta on stony, raised beaches, 1-2 m broad (Table 11, anal. 122), and in the 10-15 cm lower lying former tidal creeks between these (anal. 119 and 123).

Salt marshes (Table 14)

A major part of the old delta is flooded at high tide. Furthest towards the coast, a fairly large part is all covered by *Pucci-nellia phryganodes* (Table 14, anal. 124). On only slightly elevated ground landwards this is replaced by a belt with *Puccinellia phryganodes* and *Stellaria humifusa* (Anal. 125), on still more elevated terrain, a transition to a former coastal slope, *Puc-cinellia phryganodes* and *Stellaria humifusa* are found in a *Saxifraga hyperborea-Phipp-sia algida* snowbed (anal. 127).

In the innermost part of the old delta a system of tidal creeks are seen, often bordered by *Puccinellia phryganodes*, upwards replaced by a *Carex ursina-Puccinellia phryganodes* belt, sometimes with an inserted, narrow belt of *Carex subspathacea* growing alone, or with *Puccinellia phryganodes*. At the transition to the non-halophilous, moist heaths a more species-rich vegetation is often seen, *e.g.* with the rare *Carex glareosa*, here close to its northern limit. Along the highest tidal creeks the belt with only *Puccinellia phryganodes* is replaced by a *Stellaria humifusa-Carex ursina-Puccinelia phryganodes* belt (Anal. 130), which on slightly higher ground may include *Carex subspathacea* as well as *Koenigia islandica* (Anal. 129).

Carex subspathacea-moss vegetations at 'geese-lakes' (Table 14)

In Northeast Greenland *Carex subspathacea* is not exclusively growing in salt marshes and on rich soil between raised beaches (Table 6, anal. 74) but also in dense moss carpets at the edge of lakes and ponds in the inland where large flocks of geese are grazing and fertilising the ground (Table 14, anal.

107 and 135). Frequent mosses here are *Aulacomnium turgidum, A. palustre, Scorpidium turgescens,* and *Drepanocladus exannulatus*.

Kobresia myosuroides-Carex rupestris steppe (Table 15)

An open, steppe-like vegetation rich in *Armeria scabra* was found on a windswept plain 40 m a.s.l. just above the western bankside of the river north of 'Vesterport'.

Lakes and ponds

Pleuropogon sabinei and *Ranunculus hyper-boreus* - mostly sterile - are frequent in the ponds in the lowland, as is *Hippuris vulgaris* in the ponds east of the river. In the lowland west of the river no limnophytes were found in the few lakes with water depths exceeding three metres.

Further, the average number of species and - in parenthesis - the variation within each group, as well as the total score for phanerogams is given. This number provides primarily the diversity of species, illustrated by the fact that the species-rich, fen-like communities have the highest score.

However, when dividing the "total score" by the average number of species, an impression of the degree of plant coverage is obtained. Quite naturally, fell-fields get the lowest number, but next follows those species-rich fen-like communities, which get a high score by graminoids and tiny forbs that do not, contrary to the dwarf-shrubs of the heaths, cover much of the ground.

In Fredskild *et al.* (1995) and in Hansen (1996) a number of lichen analyses, including the vertical distribution of 98 lichen species on Aucellabjerg, is given, and in Fredskild & Bay (1993) an example of a 20 x 20 m permanent plot with phanerogam as well as cryptogam analyses, made by G. S. Mogensen, are presented.

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Tables

TABLE 1

Analysis, no.	5		4		2		1		12		7		6		8		13		11		17		18		3		16		10		14		15		9		19	
Exposure			NE		SW		SW				NE		NE		SW		SW		SW		SW		SW		SW		SW		NE		S		S		SW		SW	
Inclination, °	0		5		1		1		0		1		1		4		7		3		<5		2		14		16		1-2		20		20		8		8	
Altitude, m a.s.l.	37		39		39		44		37		39		37		98		75		9		c.50		37		147		83		c.25		c.100		c.100		102		33	
Salix arctica	16	100	25	100	19	100	10	80	11	80	13	100	16	100	17	100	23	100	7	50	14	90	1	10	7	50	15	80	19	100	20	90	27	100	26	100	21	100
Dryas sp.	2	10	3	20	7	40	9	50	7	40	10	40	4	30	16	80	1	10	17	90	16	90	14	70	23	100	13	80	16	90	3	10	6	40	16	70	16	80
Cassiope tetragona	28	100	10	80	25	100	28	100	26	100	20	90	28	100	11	50	17	80	5	40	5	30	17	70	11	60	19	70							2	20	11	40
Vaccinium uliginosum					1	10	2	10	+	+	3	10	17	80	14	60	11	40	26	100	27	100	23	90	10	40												
Betula nana																															10	70	21	80				
Empetrum hermaphroditum																															27	100	2	10				
Polygonum viviparum	3	20	4	40	3	30	6	40	4	20	6	40	5	40	9	60	9	60	12	70	4	30			14	90	8	50	14	90	5	30	5	50	21	100	1	10
Stellaria longipes s.l.	2	20	12	70	1	10	+	+	1	10	6	50	3	10	3	30	4	30			5	50	+	+	2	20	1	10			1	10	3	30	3	30	5	30
Pedicularis hirsuta			2	20	1	10			1	10	1	10			3	20	+	+	+	+					+	+	2	10	1	10	1	10			+	+	2	20
Papaver radicatum			3	20	+	+	1	10	1	10	2	10									1	10	+	+	1	10			2	20								
Cardamine bellidifolia	2	10	3	30	1	10			3	20									+	+					1	10												
Draba lactea			1	10							1	10			+	+											1	10									+	+
Saxifraga cernua			1	10							1	10													1	10												
Saxifraga oppositifolia					1	10																			1	10			5	50								
Silene acaulis									1	10					+	+							1	10	+	+	3	20	1	10							8	60
Oxyria digyna									+	+																									1	10		
Armeria scabra															+	+													3	30								
Potentilla hyparctica																	1	10											1	10					4	40	4	40
Arnica angustifolia																																	5	50				
Draba arctica																																	4	20				
Cerastium arcticum																																	1	10				
Melandrium triflorum																							1														+	+
Minuartia biflora																																					+	+
Draba glabella																																					+	+
Luzula confusa	3	30	6	40	6	40	1	10	1	10	7	30	3	20	6	50	1	10	4	20	3	30	4	40	3	30			3	30	1	10			7	50	6	40
Poa arctica	7	50	6	50	6	50			+	+	8	60	1	10	12	80	+	+	2	20	1	10			1	10	1	10	1	10	10	90	14	90	7	60	3	20
Hierochloë alpina	2	20			2	20	9	60	5	30	5	40	2	20	+	+	5	20	1	10	1	10	1	10			+	+	12	80	3	20			4	30	5	30
Alopecurus alpinus	5	40			1	10			+	+	1	10	4	40			9	60			2	10			+	+					7	60			5	30		
Arctagrostis latifolia	1	10	12	90	3	30			2	10	7	60	4	30	2	20	17	90			13	90			+	+												
Luzula arctica	3	30	3	30	5	50	3	20	6	30	5	40	4	30	4	40	3	30	4	40	1	10													3	20		
Carex misandra	1	10			+	+			+	+	1	10	1	10	1	10			1	10																		
Carex rupestris			1	10	+	+	2	20	3	10	2	20			14	70					14	70	4	20	10	70	9	80	26	100					1	10		
Festuca brachyphylla			10	60			1	10	1	10	1	10					1	10			1	10	1	10	+	+	5	40	5	50	1	10	6	40	4	30	1	10
Eriophorum triste					1	10											9	60	2	20																		
Carex bigelowii															3	20	12	90	18	100					1	10									19	90		
Carex capillaris															+	+	1	10	+	+																		
Juncus biglumis															1	10													4	30								
Carex nardina																							1	10	5	30												
Poa glauca																							4	20									1	10				
Kobresia myosuroides																									2	10	2	10	1	10								
Trisetum spicatum																																	1	10			6	40
Huperzia selago									+	+			1	10																								
Equisetum arvense													2	20	10	70	5	40							2	10												
Equisetum variegatum															3	20																						
Mosses, div.	26	100	18	100	17	90	21	100	22	100	20	100	26	100	18	90	30	100	19	100	19	100	10	80	16	100	18	90	12	80			5	30	20	90	17	90
Polytrichum sp.					10	50					11	60			11	60									6	30	11	60							24	100		
Lichens, div.	1	10	12	90	10	50	6	60	19	100	4	20	2	20	14	70	1	10	16	80	12	100	7	50	2	20	17	90	26	100					10	60	2	20
Stereocaulon	6	50	13	90	23	100	14	70	9	50	16	100	13	80	11	80	3	20			+	+	8	50	11	70									3	20		
Cetraria sp., white	10	40			1	10	11	60	14	70			12	70					8	60			8	60														
Cetraria sp., brown	15	90			21	100	12	60			14	60	2	20	3	30									4	20	18	100							7	40		
Peltigera sp.			3	20			4	30			2	20	5	40			5	30							1	10					1	10	6	60				
Thamnolia sp.															2	10							1	10														
Candelariella vitellina																																			2	20		

TABLE 2

Analyse no.	22	31	27	28	30	29	36	35	32	21	25	26	24	37	20	23	34	33
Exposure	SW			SW		SW	SW		SW		S	S	SW	SW	SW	SW	SW	SW
Inclination, °	5	0	0	1	0	5	4	0	11	0	10–30	30–35	20–30	12	19	10	20	20
Altitude, m a.s.l.	50–100	25	25	25	c.20	99	96	64	210	36	c.75	c.75	c.100	377	347	c.425	c.750	c.750
Dryas sp.	7 70 16	80	22 100	20	80	50	9 70	1 10	10 70	13 80		5 30		6.5 35	12 80	5 30		
Salix arctica	12 80 10	70	3 20	8	50	2 20	1 10	+ +	1 10	1 10	1 10	6 40	1 10	1 10	6 40	13 90		
Vaccinium uliginosum							2 10	3 20		4 30	1 10	2 20	1 10	1.5 15	2 20	2 20	2 20	1 10
Cerastium arcticum	5 40	5 40	2 20	6	50	2 20	+ +				18 100	12 70	12 70	1.5 15		2 20	1 10	1 10
Potentilla hookeriana	2 20		1 10	2	20	7 50					18 80	6 50	4 40					
Melandrium triflorum	2 20		4 30	2	20	5 40	3 20	+ +		2 10	7 40	15 70	4 40	.5 5				
Draba arctica	1 10			7	70	1 10	3 10	2 20		3 20				3.5 35	11 90	13 100		
Polygonum viviparum	1 10	3 30				1 10			5 30				2 20			+ +		
Minuartia rubella	2 20			7	60						1 10		1 10					
Saxifraga nivalis	1 10										+ +		1 10					
Papaver radicatum		1 10	+ +	+	+ +			1 10					1 10				1 10	1 10
Potentilla hyparctica		+ +																3 30
Saxifraga oppositifolia			1 10	5	40	1 10	+ +		2 20	4 40					2 20			
Silene acaulis			2 10	3	20	1 10			+ +	1 10								
Armeria scabra			1 10											.5 5				
Saxifraga cernua				1	10	1 10			1 10	1 10							1 10	
Draba subcapitata						2 10		1 10									2 20	3 30
Arenaria pseudofrigida						+ +		+ +	+ +	1 10				.5 5	1 10			
Stellaria longipes s.l.							1 10					13 80				2 20		
Draba nivalis								1 10										
Arnica angustifolia											2 20	15 80		1.5 10		1 10		
Draba glabella												1 10				1 10		
Lesquerella arctica													+ +					
Draba lactea														.5 5	1 10			
Saxifraga caespitosa														1 5				
Pedicularis hirsuta															1 10			
Campanula uniflora																	5 50	3 30
Polemonium boreale																	4 20	3 20
Chamaenerion latifolium																	1 10	4 40
Potentille nivea																		1 10
Poa glauca	3 30	+	+ 2	20	5	30	2 20	+ +	1 10	1 10	2 10	6 30	5 40	4 40	1 10	2 20	12 80	1 10	2 20
Carex rupestris	16 80	18	90 11	60	19	90	12 90	5 30	5 40	6 50	2 20	19 90	16 90	18 70	1 10	2 10		
Kobresia myosuroides	18 100	19	90 4	40	4	40	17 90	12 80		1 10			2 10		2 10			
Festuca brachyphylla	10 60	30	30 1	10	7	50				3 30	2 20	6 40	2 20	1.5 15				
Poa arctica	1 10	6	60 1	10				+ +	+ +									
Alopecurus alpinus	3 20															+ +		
Luzula confusa		5	50 2	20						2 20								
Juncus biglumis		4	30															
Luzula arctica		+	+															
Hierochloë alpina			2	10	1	10				2 10		5 30				1 10		
Carex nardina							3 20	13 90	12 90	10 50	9 40			2 20			5 30	
Carex supina											20 90	3 30	14 90					
Calamagrostis purpurascens											4 40		+ +					
Trisetum spicatum												1 10				1 10		
Festuca rubra												3 10						
Festuca hyperborea														1.5 15				
Festuca vivipara																10 70		
Festuca baffinensis																	5 40	
Equisetum arvense	3 30		+ +											2 20				
Mosses, div.	8 70	21 100	5	40	10	90	2 10	3 30		15 90	13 70	8 60	13 50	5.5 30	6 50	7 60		
Polytrichum sp.			3	10								2 20						
Lichens, div.	20 100	24 100	15	80	16	80	1 10	24 100	28 100	29 100	2 20	13 70	21 80	20 90	12 90	16 70	1.5 15	6 40	3 30
Thamnolia sp.							4 30				11 50							
Bryoria chalybeiformis											4 20							
Cetraria sp.																		
Stereocaulon											6 40			5 25	15 100			

*incl. epilithic

TABLE 3

Analysis no.	43		46		45		47		39		41		40		38		48		42		44		71		91	
Exposure	SW		SW				SW		SW				SW		SW		SW		SW		SW		SW		SW	
Inclination, °	9		1		0		19		c.5		0		1		4		4		14		27		4		<5	
Altitude, m a.s.l.	39		40		39		18		c.425		c.50		27		13		13		136		71		39		c.50	
Salix arctica	23	100	25	100	25	100	27	100	26	100	24	100	25	100	25	100	28	100	39	80	21	100	20	100	17	100
Dryas sp.	2	20	5	40	7	40	7	30			4	30			2	10			12	70	1	10	8	60	14	90
Cassiope tetragona			1	10	1	10	3	20							4	30							4	20		
Vaccinium uliginosum															2	10										
Polygonum viviparum	5	40	4	30	3	20	8	50	16	80	23	100	20	100	11	80	1	10	21	100	26	100	18	100	17	100
Stellaria longipes s.l.	9	70	5	30	2	10			18	100	9	70					3	20	2	20	8	90	8	60	1	10
Potentilla hyparctica	11	70	+	+			8	50	4	40							2	20	3	30	11	60	5	40		
Pedicularis hirsuta	4	30	6	50	6	50									1	10							2	10		
Saxifraga cernua	1	10									5	40	4	30			1	10	2	20	4	30	2	10		
Papaver radicatum	1	10	+	+																					1	10
Draba lactea	1	10																	1	10	7	50	2	20		
Cardamine bellidifolia	1	10	+	+																					1	10
Silene acaulis							+	+											5	50	6	50	+	+	4	40
Cerastium arcticum							1	10	1	10									5	20	3	30				
Minuartia biflora							1	10											1	10						
Melandrium affine							1	10																		
Sagina intermedia									1	10									1	10			6	30		
Saxifraga tenuis									2	10									1	10						
Saxifraga hirculus											4	20	1	10												
Ranunculus sulphureus											1	10														
Ranunculus pygmaeus																	4	30								
Ranunculus nivalis																	1	10								
Oxyria digyna																			1	10						
Draba glabella																			1	10						
Arnica angustifolia																					3	30				
Saxifraga oppositifolia																							2	20	1	10
Melandrium apetalum																							2	20		
Armeria scabra																									2	10
Alopecurus alpinus	8	70	6	60	13	90	1	10	20	100	8	70	9	60	6	40	28	100	2	20			14	100		
Poa arctica	3	30	7	60	8	70	18	100	8	50	1	10	15	90			4	40	7	40	12	70	4	20	3	30
Luzula confusa	12	90	8	50	1	10	6	40	7	60			+	+					7	60	2	20	3	20	6	40
Arctagrostis latifolia	+	+	6	30	5	50							6	40	23	90	2	10					9	70	6	40
Luzula arctica	5	30	7	60	14	100	)				9	60			6	50			2	20			9	60		
Hierochloë alpina	3	30	14	80	4	40															3	30	1	10	1	10
Festuca brachyphylla	15	90					8	50			9	80	4	30	1	10			1	10			7	40	8	70
Juncus biglumis					+	+			10	90	8	60	13	90	5	50										
Trisetum spicatum							2	20											+	+	5	50				
Kobresia myosuroides							1	10					1	10											19	100
Festuca vivipara									14	90	4	40	19	100							6	40				
Eriophorum triste											6	40			16	100	6	40					13	90	+	+
Carex bigelowii											4	20	3	30					8	40					1	10
Carex capillaris											+	+														
Carex norvegica													4	20	8	40										
Eriophorum scheuchzeri													1	10					2	10	10	70	7	40	25	100
Carex rupestris					1	10													2	20						
Carex nardina																					1	10			4	30
Poa glauca			+	+																						
Carex misandra																										
Equisetum arvense	1	10					6	40			7	50	6	40											23	100
Equisetum variegatum							3	20			18	100			14	70	22	100								
Huperzia selago																	3	20			6	30	17	90		
Mosses, div.	15	100	25	100	24	100	9	60	30	100	30	100	29	100									1	10		
Polytrichum sp.			16	90	20	100	21	100			20	90			30	100	30	100	12	60	19	90	24	100	17	90
Rhacomitrium sp.					7	60											19	80	26	100	23	100	14	80		
Lichenes, div.	14	80	7	40	5	40	1	10	3	10	5	30	17	90												
Stereocaulon sp.			27	100	26	100							5	20												
Cetraria			10	60	11	70													9	50	20	100	16	80	18	90
Peltigera			2	10					3	30									9	60	9	60	21	80		
Candelariella placodizans															8	50			6	40						
																			1	10						
																			1	10						

⊗ Cetraria delisei

TABLE 4

Analyse no.	54		51		53		50		56		61		62		60		63		55		49		57		52		59		58	
Exposure	SW		SW		SW		SW		NE		SW		SW		SW		SW		S		SW		S		SW		SW		SW	
Inclination, °	20		5		5		10		4		8		18		11		10-20		5		15		20		5		5		5	
m a.s.l.	c.50		33		c.40		33		36		6		310		81		c.50		c.50		33		c.100		33		4		18	
Salix arctica	23	100	25	100	21	200	25	100	18	90	21	100	15	60	20	100	20	100	14	70	27	100			27	100	3	30		
Dryas sp.									2	20			11	70	11	60														
Salix herbacea																			23	100										
Cassiope tetragona																					1	10								
Saxifraga cernua	3	30	7	50	10	70	6	40	5	40	7	50	5	50	3	30	2	20	+	+			9	70						
Cerastium arcticum	3	20			1	10	4	20	2	10	1	10	9	60	2	20	4	40	2	10	3	30	1	10						
Oxyria digyna	3	30	1	10					3	10	10	70			+	+	1	10	12	60	6	30	9	60						
Taraxacum arcticum	4	30	1	10	1	10			1	10	+	+					+	+	+	+										
Ranunculus pygmaeus	7	60	8	50	12	90	5	40	9	50	4	30							3	30			15	90					6	50
Draba lactea			3	20	1	10	6	30	4	30	7	60	9	80	4	40	3	30			1	10								
Saxifraga tenuis			3	20	7	50			+	+	4	30	1	10	1	10	1	10												
Sagina intermedia			10	70	1	10	5	50	3	20	2	10																	+	+
Stellaria longipes s.l.					10	60	2	20	2	20	4	20	1	10	4	30	4	20	2	10										
Polygonum viviparum						10			17	90	7	40	18	90	3	30			12	90	3	20								
Saxifraga foliolosa					15	100			2	20	5	40															1	10		
Ranunculus nivalis							1	10	1	10	2	20							2	10										
Potentilla hyparctica									1	10	3	30			4	30	8	70	3	30	2	20								
Pedicularis hirsuta									2	20			1	10			1	10												
Silene acaulis									+	+	1	10			9	60			1	10										
Saxifraga oppositifolia											4	30	5	50	3	20														
Minuartia biflora											+	+			3	30			13	80	3	30	15	100			11	50		
Ranunculus hyperboreus																											1	10	16	80
Saxifraga hyperborea									2	20	1	10																		
Cardamine bellidifolia					2	20									+	+														
Minuartia rubella													1	10																
Erigeron humilis																							3	30						
Saxifraga nivalis											1	10																		
Alopecurus alpinus	5	40	12	70	15	100	15	100	9	60	1	10	6	40	1	10	3	30	10	80	4	20	1	10	9	60			+	+
Poa arctica	4	30	6	40	2	20	9	80	8	50	11	80	9	70	7	60	2	20	4	40	12	100			4	40				
Luzula confusa	15	80	16	90	14	90	19	100	7	40	18	100	1	10	8	50	11	80	16	90	12	90			17	90				
Luzula arctica	1	10			7	50	2	20	5	30	4	30	4	40	1	10	2	20	1	10										
Trisetum spicatum	1	10	3	30			3	30	2	20	2	20					7	60	1	10	12	70	23	100						
Phippsia algida			2	20	5	30					1	10									1	10					14	90	25	100
Juncus biglumis					6	40			+	+	5	50	2	20													2	20		
Carex misandra									1	10	+	+	1	10																
Festuca vivipara									10	80			6	40																
Kobresia myosuroides													2	20	1	10														
Festuca brachyphylla															5	50			3	20										
Carex nardina													1	10																
Carex bigelowii																			+	+										
Eriophorum triste																									1	10				
Equisetum arvense									16	90																				
Equisetum variegatum													1	10											1	10				
Mosses, div.	23	100	13	50	28	100	21	80	26	100	29	100	15	90	14	70	23	100	26	100	14	70	5	30	30	100	30	100	20	100
Polytrichum sp.	11	60					9	80					4	20	19	90					10	60			10	60				
Organic crust	29	100			26	100	1	10			+	+	8	30			24	100					100		100				100	
Stereocaulon sp.			2	20			4	30	10	80			16	90			17	90	5	40					3	20			2	20
Lichens, div.											20	90	5	40	17	90	25	100	2	20										
Cetraria									6	50					13	80	5	30												
Peltigera													3	20																

TABLE 5

Analysis no.	65		66		67		64		70		69		68	
Exposure	SW		S-SE		SW		S		SW		SW		SW	
Inclination, °	25-30		10-15		15-40		15-20		15		15		33	
Altitude, m a.s.l.	c.300		c.200		30-40		c.100		c.500		40-50		63	
Salix arctica	11	50	13	100	16	90	7	50			27	100	8	40
Vaccinium uliginosum					4	20								
Dryas sp.							1	10			4	30	2	20
Minuartia biflora	18	90	7	50	11	70	14	60	4	40	5	50	6	40
Polygonum viviparum	10	60	7	50	12	80	19	100	2	10	2	20	6	50
Cerastium arcticum	14	80	9	60	5	40	11	80	1	10	8	60	3	30
Oxyria digyna	11	60	21	90	27	100	3	20	20	100				
Ranunculus pygmaeus	5	50	6	50	7	60	2	10	12	80				
Saxifraga cernua	8	80	1	10					20	90	2	20	1	10
Potentilla hyparctica	6	50	7	50			1	10			10	80	11	80
Silene acaulis	5	40	17	100			2	10	1	10	1	10	9	50
Draba glabella	3	20			1	10	3	20			1	10		
Draba lactea	2	20	1	10							4	30	+	+
Erigeron humilis	15	90	9	50	19	90	8	60						
Ranunculus sulphureus	2	20	5	30					6	40				
Stellaria longipes s.l.	4	30			1	10								
Melandrium apetalum	1	10							1	10				
Arnica angustifolia	4	30												
Erigeron eriocephalus	1	10												
Melandrium affine	+	+												
Taraxacum arcticum			1	10			+	+						
Ranunculus nivalis			3	20										
Draba alpina									5	30	1	10		
Pedicularis hirsuta											+	+	+	+
Saxifraga tenuis											1	10		
Saxifraga oppositifolia											+	+		
Draba arctica													7	50
Saxifraga nivalis													2	10
Papaver radicatum													+	+
Trisetum spicatum	8	80	9	40	13	80	15	80	2	20	13	100	8	60
Poa arctica	8	60	10	70	20	100	12	60	2	20	5	40	1	10
Alopecurus alpinus	7	40	5	40	1	10	3	20	3	10				
Luzula confusa	7	50	2	20					1	10	12	90	2	20
Festuca rubra	22	100	2	20			2	10						
Carex bigelowii			17	80	29	100								
Festuca vivipara			4	40					2	20				
Juncus biglumis									2	20				
Festuca brachyphylla											2	10	3	30
Hierochloë alpina											1	10	2	10
Festuca hyperborea											1	10		
Carex rupestris													5	30
Poa glauca													1	10
Carex nardina													+	+
Equisetum arvense			12	70	2	20								
Equisetum variegatum			1	10					6	30				
Mosses, div.	11	70	29	100	4	30			13	90	21	100	24	100
Polytrichum sp.	11	50			9	60	16	90						
Peltigera rufescens			1	10	1	10							7	60
Lichens, div.							28	100			17	100	17	100
Stereocaulon sp.											7	50	2	20
Cetraria											3	30	7 ×	50
Organic crust											11	70		
Cetraria nivalis													9	50

× Cetraria islandica

TABLE 6

Analysis no.	72		73		77		75		85		86		79		80		81		78		82		83		74		76		84	
Exposure	SW		SW				SW		SW				SW		SW				SW				S		SW					
Inclination, °	1		1		0		2		2		0		4		1		0		4		0		5		2		0		0	
Altitude, m a.s.l.	48		27		c.25		11		11		44		55		27		36		39		38		c.150		11		25-30		c.10	
Salix arctica	7	40	20	90	19	90	11	70	20	100	17	90	8	40	4	40	20	80	6	60	24	90	23	100	10	70	15	80	4	30
Dryas sp.			1	10					2	20	5	30					1	10					1	10					4	30
Vaccinium uliginosum																													2	20
Polygonum viviparum	25	100	15	90	13	90	14	60	15	80	22	100	18	90	1	10	12	70	9	60	16	90	13	80	6	50	20	100	7	30
Saxifraga cernua	3	30	9	40					1	10			18	100							4	30	6	30						
Saxifraga foliolosa	+	+	1	10	1	10					1	10															1	10		
Potentilla hyparctica			1	10																	6	50	1	10						
Pedicularis hirsuta			+	+													+	+												
Pedicularis flammea									+	+																				
Stellaria longipes s.l.															+	+					5	50	1	10						
Taraxacum arcticum																					1	10								
Draba lactea																					+	+								
Ranunculus pygmaeus																					7	60	4	30						
Ranunculus nivalis																					4	30	1	10						
Ranunculus sulphureus																					1	10	1	10						
Arctagrostis latifolia	18	90	20	100	22	100	22	100	25	100	23	100	19	100	15	80	23	100	18	80			2	10	2	20	18	100	4	30
Eriophorum scheuchzeri	19	100	17	70	24	100	21	100	12	60	+	+	30	100	19	80	18	90	7	60			2	20	3	30	9	60	9	40
Dupontia psilosantha	29	100	27	100	11	50					1	10																		
Carex bigelowii	1	10					8	40	28	100	15	100																	5	30
Eriophorum triste			2	20	8	50	10	60	9	80	18	100			5	40	18	90	7	60			2	20	3	30	9	60	9	40
Juncus biglumis			1	10	2	10	4	30	11	80	6	60	1	10	5	30					5	40	1	10	3	20	+	+	4	40
Carex saxatilis					16	100	25	100	+	+	3	30	25	100													11	70	12	70
Luzula wahlenbergii					3	20	+	+	1	10																				
Juncus castaneus							4	30	6	30	+	+	1	10	1	10													1	10
Carex misandra											1	10																	1	10
Poa arctica			2	20									5	30	20	100					11	70	7	40						
Alopecurus alpinus									4	30					16	90	3	20	25	100	26	100	12	70	14	70				
Carex lachenalii																							19	100						
Carex subspathacea																									28	100				
Carex pseudolagopina							2	10																			24	100		
Eriophorum callitrix																											15	90	+	+
Carex rariflora																													24	100
Juncus triglumis																													4	20
Carex atrofusca																													4	20
Festuca brachyphylla	2	10																												
Carex capillaris							1	10																						
Luzula arctica																			1	10	2	10								
Luzula confusa																					4	40								
Trisetum spicatum																					1	10								
Kobresia simpliciuscula																													+	+
Equisetum arvense					2	10	3	30	14	80	19	100			3	10	21	90	14	80			1	10	16	100	4	30		
Equisetum variegatum											6	40					5	40					9	40			4	20		
Mosses, div.	30	100	30	100	30	100	30	100	30	100	30	100	30	100	27	100	25	90	30	100	30	100	30	100	30	100	30	100	30	100
Polytrichum sp.					17	100													15	100										
Peltigera scabrosa																			3	20										

TABLE 7

Analysis no.	87		89		88		92		90		93		94		95	
Exposure	SW						SW		NE		SW		SW		SW	
Inclination, °	<5		0		0		<5		0		12		c.5		c.5	
Altitude, m a.s.l.	25-30		10-20		10-20		c.50		64		74		c.40		c.45	
Salix arctica	8	50	12	70	8	70	19	100	13	60			20	100	25	100
Vaccinium uliginosum	2	10	+	+	+	+	3	10			4	20	4	20		
Dryas sp.	2	10									3	10	1	10		
Polygonum viviparum	25	100	15	90	20	100	12	80	24	90	28	100	14	90	2	20
Pedicularis flammea	9	60			1	10	+	+								
Saxifraga cernua	1	10					2	10					3	30		
Stellaria longipes s.l.	3	20							1	10	+	+				
Potentilla hyparctica	1	10									6	60	+	+		
Euphrasia frigida	14	90														
Koenigia islandica	1	10														
Saxifraga foliolosa													1	10	4	30
Ranunculus nivalis	2	10														
Ranunculus pygmaeus	1	10														
Carex bigelowii	17	90	20	90	28	100	2	20	9	60	26	100	27	100		
Arctagrostis latifolia	7	50	13	100	1	10	12	80	21	100	5	30	13	100		
Juncus castaneus	21	100	11	80	+	+	10	80			4	20	12	70		
Juncus biglumis	6	40			+	+	11	90	10	60	15	80	13	90	4	30
Eriophorum triste	2	20	14	90	3	30	14	100	11	60			17	100	22	90
Carex capillaris	10	70	3	20	15	100	10	60	2	10	+	+				
Carex saxatilis	10	70	25	100	2	20	22	100	22	100						
Poa arctica	10	90					3	40	+	+	7	60	3	30	1	10
Alopecurus alpinus	11	70	3	10	1	10							+	+	21	100
Festuca brachyphylla	6	60							1	10	4	30	1	10		
Hierochloë alpina	3	20			5	40					11	70				
Carex rupestris					10	70	2	20	1	10	6	40				
Luzula arctica			1	10	+	+									2	20
Luzula confusa					+	+					2	20			9	70
Carex misandra					+	+										
Carex norvegica							2	10	+	+						
Luzula wahlenbergii													2	20		
Trisetum spicatum															1	10
Equisetum arvense	4	30	2	20	+	+	18	100								
Mosses, div.	30	100	20	80	23	100	26	100	27	100	5	30	30	100	30	100
Polytrichum sp.			10	70	24	100			25	90	19	80				
Lichens, div.			1	10	17	100	7	40	1	10	6	30				

TABLE 8

Analysis no.	96		100		101		98		102		97		99		103	
Exposure	SW		SW		SE		SW		S		SW		SW		SW	
Inclination, °	10-15		20		<5		13		5-10		24		21		5	
Altitude, m a.s.l.	c.450		453		c.25		420		c.425		279		600		c.775	
Salix arctica	23	100	16	90	9	50	14	90	7	50	17	90	14	70		
Dryas sp.	3	20	8	40	6	50	7	40	2	20	17	70				
Vaccinium uliginosum					9	60					4	20				
Cassiope tetragona					2	20										
Empetrum hermaphroditum					2	20										
Polygonum viviparum	20	100	26	90	11	60	17	90	16	90	24	100	3	20	7	30
Stellaria longipes s.l.	8	60	+	+			5	30	7	60	3	20	7	60	22	100
Saxifraga cernua	14	80			1	10	7	60	6	50	3	30	6	40	2	20
Saxifraga hirculus	3	30	1	10			2	20	1	10			2	10	15	80
Cerastium arcticum	1	10	1	10			9	70	4	40	3	30	5	40		
Melandrium apetalum	2	20	1	10			1	10			+	+	2	20	1	10
Pedicularis flammea	1	10	6	50	9	60	+	+	1	10						
Saxifraga foliolosa	3	20	+	+	4	20	4	20								
Ranunculus nivalis	2	20											2	20		
Koenigia islandica			9	50	1	10	6	30			1	10	1	10		
Saxifraga tenuis			+	+			+	+			1	10	6	30		
Draba alpina			1	10			5	50							2	20
Cerastium regelii			+	+			2	20								
Ranunculus sulphureus			+	+												
Tofieldia coccinea					1	10										
Draba lactea							2	20	7	60	4	20	2	20	11	90
Silene acaulis							1	10	2	20	1	10				
Pedicularis hirsuta							+	+			2	10				
Minuartia rubella							3	30			3	30				
Saxifraga flagellaris							1	10			1	10				
Sagina intermedia									1	10	3	20	1	10		
Ranunculus affinis									5	40					1	10
Saxifraga oppositifolia									13	80						
Cardamine bellidifolia											1	10			2	10
Arenaria pseudofrigida											1	10				
Melandrium affine											+	+				
Saxifraga nivalis													3	20	4	40
Taraxacum arcticum													1	10		
Potentilla hyparctica															10	70
Ranunculus glacialis															+	+
Juncus biglumis	14	90	8	60	7	60	7	70	15	100	4	40	6	40		
Alopecurus alpinus	7	40	3	20			15	90	8	60	6	60	8	80	9	50
Luzula arctica	2	20	1	10	3	10	5	50	1	10	8	70	11	80		
Eriophorum triste	21	100	18	80	7	60	8	30	1	10	+	+				
Carex maritima	13	70	1	10					5	50			3	10	8	50
Juncus castaneus	15	90	8	60	13	60			+	+						
Arctagrostis latifolia	19	100	15	100	12	80					1	10				
Juncus triglumis	6	30	9	70	13	80	2	10								
Carex capillaris	1	10	5	30	1	10			3	30						
Eriophorum callitrix	8	40			4	20										
Eriophorum scheuchzeri	1	10			3	20										
Trisetum spicatum	1	10							1	10					+	+
Carex misandra			10	60	3	30	9	80			+	+				
Carex bigelowii			3	30	14	80					2	10				
Carex atrofusca			7	40	12	60			1	10						
Deschampsia brevifolia			1	10			7	50	2	20						
Kobresia simpliciuscula			10	40	2	10										
Carex saxatilis			1	10	2	20										
Carex parallela			7	60												
Carex rupestris			4	30	1	10	9	70	6	50						
Festuca brachyphylla					1	10									2	10
Poa arctica							2	20	1	10	7	60	6	60	21	90
Festuca hyperborea							3	30	7	40	3	30	4	20		
Kobresia myosuroides							3	20	7	40	9	80				
Poa glauca							1	10	10	60	+	+				
Carex nardina							2	20							1	10
Festuca baffinensis							+	+			1	10				
Luzula confusa									1	10	6	50	5	40	16	90
Poa colpodea													1	10		
Equisetum arvense	10	60	4	30			13	70			15	90				
Equisetum variegatum			4	20												
Mosses, div.	30	100	23	90	29	100	14	70	12	60	20	90	30	100	30	100
Polytrichum sp.											13	60				
Lichens, div.					2	10			3	20	18	90			4	30
Peltigera leucophlebia											4	30			1	10
Nostoc	+	+			+	+	+	+	+	+			+	+		

TABLE 9

	Dwarf-shrub heaths Table 1		Fell-fields Table 2		"Snowpatch-heaths" Table 3		Snowbeds Table 4	
	Average score	no. species	Average score	no. species	Average score	no. species	Average score	no. species
shrubs	51.2	3.6 (2-4)	29.4	2.2 (1-4)	11.9	1.6 (0-2)	20.5	1.2 (0-2)
forbs	14.3	5.0 (3-9)	30.9	6.2 (2-12)	19.2	6.9 (4-10)	35.0	8.2 (0-15)
graminoids	29.8	7.2 (5-10)	51.8	7.7 (4-11)	26.0	4.8 (2-10)	33.1	5.3 (2-9)
pteridoph.	1.1	0.1 (0-2)	9.8	1.0 (0-3)	0.3	0.1 (0-1)	1.4	0.2 (0-1)
mosses	18.6		26.5		6.3		22.5	
lichens	15.6		13.8		16.5		7.5	
Σ fanerog.	96.3 (72-129)		121.8 (90-191)		57.3 (25-116)		90.0 (32-133)	
Σ fan.score: Σ fan. species	6.1		7.1		4.3		6.0	

	Herb-slopes Table 5		Fens Table 6		Grasslands Table 7		Rich fen-like Table 8	
	Average score	no. species	Average score	no. species	Average score	no. species	Average score	no. species
shrubs	13.3	1.4 (0-2)	15.5	2.0 (1-3)	14.9	1.5 (1-3)	20.0	2.1 (0-5)
forbs	71.7	11.7 (9-17)	23.8	3.3 (1-9)	18.9	2.9 (1-9)	53.5	11.9 (6-17)
graminoids	37.7	5.7 (4-8)	81.8	9.8 (7-13)	71.1	6.9 (4-13)	75.9	12.9 (7-16)
pteridoph.	3.0	0.6 (0-2)	3.0	0.4 (0-1)	8.1	0.9 (0-2)	5.8	0.6 (0-2)
mosses	17.7		26.6		29.5		23.8	
lichens	17.6		4.0		0.2		3.5	
Σ fanerog.	125.7 (77-172)		124.0 (94-176)		113.0 (80-148)		155.2 (98-198)	
Σ fan.score: Σ fan.species	6.5		8.0		9.3		5.6	

TABLE 10

Analysis no.	120	109	58	106	121	108	111	112	133	113	132
Exposure		SW	SW	S		SW	SE	SE	NW	SE	NW
Inclination	0°	10°	<5°	<5°	0°	<2°	5°	5°	<2°	15°	<2°
Altitude, m a.s.l.	c. 2	c. 80	18	c. 90	c. 2	c. 90	c. 50	c. 50	c. 20	c. 50	c. 20
Salix arctica (sterile)						*1* 10	*4* 40		*1* 10		*4* 40
Ranunculus hyperboreus	*1* 10		*6* 50								
Saxifraga hyperborea		*3* 30	*16* 80	*10* 60	*25* 100	*11* 70	*2* 20		*10* 70		*2* 10
Saxifraga foliolosa				*2* 20			*14* 100	*11* 80			
Saxifraga tenuis				*4* 20	*1* 10	*2* 20		*1* 10	*11* 90		*2* 10
Saxifraga oppositifolia					*1* 10	*4* 40					
Stellaria longipes s.l.				*1* 10				*1* 10			
Cardamine bellidifolia									*3* 30	*7* 60	*5* 50
Ranunculus pygmaeus					*1* 10						
Saxifraga cernua					*2* 10						
Sagina intermedia			+ +								
Phippsia algida	*20* 90	*24* 100	*25* 100	*16* 100	*27* 100	*21* 100	*5* 40	*19* 100	*18* 100		
Luzula confusa				*9* 70	*6* 40	*7* 50	*7* 50	*13* 100	*8* 70	*16* 90	*12* 90
Luzula arctica										*2* 10	
Alopecurus alpinus			+ +						*1* 10		
Equisetum arvense					+ +						
Moss, div.	*29* 100	*21* 100	*20* 100	*28* 100	*26* 100	*26* 100	*24* 100	*21* 100	*25* 100	*18* 90	*17* 100
Polytrichum sp.		*27* 100							*21* 100	*23* 100	*27* 100
Sauteria alpina					*3* 20						
Lichens, div.		*23* 100		*16* 100		*18* 100	*8* 70	*11* 80	*20* 100	*20* 100	*18* 100
Stereocaulon sp.	*2* 20	*3* 20	*2* 20		*22* 100		*14* 90	*9* 70	*14* 100	*23* 100	*20* 100
Cladonia pocillum		*x* x		*x* x		*x* x					*x* x
Cladonia borealis										*16* 100	*x* x
Cladonia stricta										*x* x	
Cetrariella delisei						*x* x	*21* 100	*13* 90	*22* 100	*2* 20	*28* 100
Solorina crocea										*25* 100	
Organic crust	*19* 100	*27* 100	100	*30* 100	*26* 100	*30* 100	*30* 100	*30* 100	*30* 100		*28* 100

TABLE 11

Analysis no.	98		102		97		99		119		122		123	
Exposure	SW		S		SW		SW							
Inclination	13°		5-10°		24°		21°		0°		0°		0°	
Altitude, m a.s.l.	420		c. 425		279		600		c. 2		c. 2		c. 2	
Salix arctica	*14*	90	*7*	50	*17*	90	*14*	70	*16*	100	*9*	70	*20*	100
Dryas sp.	*7*	40	*2*	10	*17*	70			*5*	40	*3*	20	*1*	10
Vaccinium microphyllum					*4*	20								
Polygonum viviparum	*17*	90	*16*	90	*24*	100	*3*	20	*10*	60	*1*	10	*19*	100
Stellaria longipes s.l.	*5*	30	*7*	60	*3*	20	*7*	60	*6*	60	*7*	50	*5*	40
Saxifraga cernua	*7*	60	*6*	50	*3*	30	*6*	40	*1*	10	*3*	30	*1*	10
Draba lactea	*2*	20	*7*	60	*4*	20	*2*	20			*1*	10	*1*	10
Sagina intermedia			*1*	10	*3*	20	*1*	10	*2*	10	*9*	90	*6*	50
Cerastium arcticum	*9*	70	*4*	40	*3*	30	*5*	40			*2*	20		
Saxifraga hirculus	*2*	20	*1*	10			*2*	10	*14*	100			*2*	10
Saxifraga tenuis	+	+			*1*	10	*6*	30	*6*	50	*4*	40		
Pedicularis hirsuta	+	+			*2*	10			*3*	20	*1*	10	*3*	30
Silene acaulis	*1*	10	*2*	20	*1*	10					+	+	*1*	10
Saxifraga platysepala	*1*	10			*1*	10					*9*	70	*2*	20
Koenigia islandica	*6*	30			*1*	10	*1*	10	*10*	60				
Melandrium apetalum	*1*	10			+	+	*2*	20					*3*	20
Saxifraga oppositifolia			*13*	80					*12*	70	*8*	70	*8*	60
Minuartia rubella	*3*	30			*3*	30					*1*	10		
Saxifraga foliolosa	*4*	20							*9*	80				
Pedicularis flammea	+	+	*1*	10										
Cardamine bellidifolia					*1*	10					*5*	30		
Saxifraga nivalis							*3*	20			*3*	20		
Draba adamsii									*3*	20	+	+		
Saxifraga caespitosa											+	+	*1*	10
Draba alpina	*5*	50												
Cerastium regelii	*2*	20												
Ranunculus affinis			*5*	40										
Arenaria pseudofrigida					*1*	10								
Melandrium affine					+	+								
Ranunculus nivalis							*2*	20						
Taraxacum arcticum							*1*	10						
Potentilla hyparctica									*4*	40				
Minuartia biflora											*3*	10		
Luzula arctica	*5*	50	*1*	10	*8*	70	*11*	80	*22*	100	*1*	10	*11*	80
Juncus biglumis	*7*	70	*15*	100	*4*	40	*6*	40	*1*	10			*1*	10
Poa arctica	*2*	20	*1*	10	*7*	60	*6*	60	*8*	60	*2*	20		
Luzula confusa			*1*	10	*6*	50	*5*	40	*1*	10	*10*	90	+	+
Festuca hyperborea	*3*	30	*7*	40	*3*	30	*4*	20			*5*	50		
Alopecurus alpinus	*15*	90	*8*	60	*6*	60	*8*	80						
Carex misandra	*9*	80			+	+			+	+			*2*	20
Poa glauca	*1*	10	*10*	60	+	+					*1*	10		
Kobresia myosuroides	*3*	20	*7*	40	*9*	80								
Eriophorum triste	*8*	30	*1*	10	+	+								
Carex rupestris	*9*	70	*6*	50										
Deschampsia brevifolia	*7*	50	*2*	20										
Festuca baffinensis	+	+			*1*	10								
Carex maritima			*5*	50			*3*	10						
Carex nardina	*2*	20												
Juncus triglumis	*2*	10												
Carex capillaris			*3*	30										
Carex atrofusca			*1*	10										
Trisetum spicatum			*1*	10										
Juncus castaneus			+	+										
Arctagrostis latifolia					*1*	10								
Carex bigelowii					*2*	10								
Poa colpodea							*1*	10						
Equisetum arvense	*13*	70			*15*	90								
Equisetum variegatum									*1*	10			*2*	10
Moss, div.	*14*	70	*12*	60	*20*	90	*30*	100	*27*	100	*29*	100	*17*	100
Lichens, div.			*3*	20	*18*	90			*28*	100	*30*	100	*13*	80
Peltigera leucophlebia					*4*	30								
Nostoc	+	+												
Organic crust									*30*	100	*2*	10	*30*	100

TABLE 12

Analysis no.	104		105		110		55		131	
Exposure	SE		S		S		S		S	
Inclination	c. 2°		<5°		c. 5°		5°		5°	
Altitude, m a.s.l.	c. 35		c. 80		c. 80		c.50		c.50	
Salix herbacea	*30*	100	*24*	100	*28*	100	*23*	100	*29*	100
Salix arctica	*20*	100	*9*	50	*20*	100	*14*	70	*8*	60
Cassiope tetragona			*2*	20	*8*	50			*1*	10
Oxyria digyna	*1*	10	*16*	100	*11*	70	*12*	60	*5*	30
Ranunculus pygmaeus			*14*	70	*1*	10	*3*	30	*3*	20
Polygonum viviparum			*10*	70	*7*	60	*12*	90	*16*	100
Potentilla hyparctica	*8*	70					*3*	30		
Minuartia biflora			*5*	50			*13*	80	*10*	70
Ranunculus nivalis	*1*	10	*3*	30	*6*	30	*2*	10		
Silene acaulis			*2*	20			*1*	10		
Cardamine bellidifolia	*2*	10								
Draba lactea					*1*	10				
Saxifraga oppositifolia					*1*	10				
Taraxacum arcticum			+	+			+	+	*1*	10
Pedicularis hirsuta			+	+						
Saxifraga cernua							+	+		
Cerastium arcticum							*2*	10		
Stellaria longipes s.l.							*2*	10		
Erigeron humilis									*7*	50
Luzula confusa	*11*	70	*8*	50	*7*	70	*16*	90	*5*	40
Poa arctica	*9*	70	*12*	80			*4*	40	*19*	100
Trisetum spicatum	*1*	10	*3*	30	*19*	100	*1*	10	*7*	60
Eriophorum triste			*1*	10						
Alopecurus alpinus	*3*	30	*2*	20	*2*	10	*10*	80		
Luzula arctica	*2*	20	*3*	10	*1*	10	*1*	10		
Phippsia algida	*1*	10								
Festuca brachyphylla							*3*	20		
Carex bigelowii							+	+	*21*	100
Festuca rubra									*3*	30
Equisetum variegatum			*11*	90						
Moss, div.	*26*	100	*28*	100	*26*	100	*26*	100	*29*	100
Lichens, div.	*28*	100	*16*	100	*22*	100	*2*	20		
Peltigera sp.			*2*	20	*2*	20			*17*	90
Stereocaulon sp.			*1*	10			*5*	40		

TABLE 13

Analysis no.	114		115		116		118		136		14		15	
Exposure	SW		NW		NW		S		SW		S		S	
Inclination	<5°		<2°		<2°		<5°		15°		20°		20°	
Altitude, m a.s.l.	c. 110		c. 90		c. 80		c. 40		c. 25		c. 100		c. 100	
Empetrum hermaphroditum	*30*	100	*20*	90	*27*	100	*27*	100	*28*	100	*27*	100	*2*	10
Cassiope tetragona	*23*	100	*26*	100	*26*	100	*23*	100	*23*	90				
Salix arctica	*21*	100	*13*	90	*13*	90	*14*	90	*16*	100	*20*	90	*27*	100
Vaccinium microphyllum	*26*	100	*24*	100	*24*	100	*27*	100	*25*	100				
Dryas sp.			*1*	10	*2*	20	*1*	10	+	+	*3*	10	*6*	40
Rhododendron lapponicum			+	+										
Betula nana											*10*	70	*21*	80
Polygonum viviparum	*6*	20			*1*	10	*5*	30			*5*	30	*5*	50
Tofieldia coccinea			+	+	*4*	30								
Stellaria longipes s.l.							*2*	20	*3*	30	*1*	10	*3*	30
Cardamine bellidifolia									*3*	20				
Draba arctica									*1*	10			*4*	20
Oxyria digyna							*1*	10						
Pedicularis hirsuta											*1*	10		
Arnica angustifolia													*5*	50
Cerastium arcticum													*1*	10
Carex bigelowii	*14*	100	*9*	50	*1*	10								
Hierochloë alpina	*3*	20					*1*	10			*3*	20		
Eriophorum triste			*12*	90	*13*	90	*5*	50						
Arctagrostis latifolia					*13*	80			*2*	20				
Poa arctica					*1*	10	*1*	10	*8*	60	*10*	90	*14*	90
Luzula confusa									*8*	50	*1*	10		
Alopecurus alpinus			*5*	30							*7*	60		
Carex rupestris							*2*	20						
Luzula arctica							*1*	10						
Festuca brachyphylla											*1*	10	*6*	40
Poa glauca													*1*	10
Trisetum spicatum													*1*	10
Moss, div.	*14*	70	*29*	100	*25*	100	*24*	100	*17*	90			*5*	30
Lichens, div.			*9*	70	*2*	20	*4*	30						
Peltigera sp.			*6*	20	*5*	30	*16*	80	*11*	90	*1*	10	*6*	60
Stereocaulon sp.			*12*	90	*5*	30								
Cetraria sp.			*6*	60			*1*	10						
Cetrariella delisei			*1*	10										

TABLE 14

Analysis no.	124		125		130		126		129		128		127		107		135	
Puccinellia phryganodes	*30*	100	*30*	100	*24*	100	*16*	80	*22*	100	*8*	50	*10*	80				
Stellaria humifusa			*26*	100	*26*	100	*4*	40	*20*	100	*12*	70	*23*	90				
Carex ursina			*1*	10	*24*	100	*29*	100	*15*	80								
Carex subspathacea					*3*	20			*17*	90	*27*	100			*30*	100	*30*	100
Koenigia islandica									*6*	40	*12*	70						
Saxifraga hyperborea											*3*	20	*21*	100				
Phippsia algida													*18*	100	*2*	10		
Carex glareosa											*3*	20						
Mosses							*10*	60	*15*	70	*24*	100	*27*	100	*30*	100	*30*	100

TABLE 15

Dryas sp.	*10*	80
Salix arctica	*9*	7
Vaccinium microphyllum	*2*	20
Armeria scabra	*12*	80
Cerastium arcticum	*3*	30
Stellaria longipes s.l.	*4*	20
Silene acaulis	*4*	20
Polygonum viviparum	*2*	20
Melandrium affine	*1*	10
Carex rupestris	*25*	100
Kobresia myosuroides	*19*	100
Festuca brachyphylla	*13*	80
Poa glauca	*9*	80
Moss, div.	*18*	100
Lichens, div.	*18*	100

TABLE 16

Salix arctica	*20*	100
Potentilla hyparctica	*21*	100
Cardamine bellidifolia	*12*	70
Draba lactea	*6*	50
Sagina intermedia	*5*	40
Saxifraga cernua	*3*	30
Ranunculus pygmaeus	*3*	20
Stellaria longipes s.l.	*3*	20
Oxyria digyna	*1*	10
Luzula confusa	*18*	100
Poa arctica	*13*	90
Luzula arctica	*12*	90
Alopecurus alpinus	*1*	10
Moss, div.	*29*	100
Lichens, div. (excluding Stereocaulon)	*19*	100
Stereocaulon sp.	*16*	100
Organic crust	*20*	100

TABLE 17

PART 1

	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154
Alopecurus alpinus					*	*				*		*										
Arenaria pseudofrigida																						
Campanula uniflora		*	*		*			*														
Cardamine bellidifolia							*			*	*		*	*	*		*	*		*		
Carex nardina	*		*	*	*				*			*										
Carex rupestris		*	*					*			*		*	*								
Cerastium alpinum					*					*		*										
Cerastium arcticum	*		*		*		*	*	*		*						*					
Draba sp(p).		*	*		*			*	*	*			*	*	*	*	*	*	*	*		
Festuca sp.		*			*				*	*												
Luzula arctica						*				*	*		*									
Luzula confusa					*	*			*	*	*		*									
Luzula sp.			*																			
Melandrium affine						*			*		*		*									
Melandrium apetalum						*																
Melandrium sp.			*																			
Minuartia sp(p).		*	*					*						*			*			*		
Papaver radicatum	*	*	*		*		*		*	*	*	*	*	*	*	*	*	*	*	*		
Poa arctica										*												
Poa abbreviata	*	*	*		*			*	*		*			*	*	*	*	*	*	*		
Poa glauca	*	*			*						*		*									
Polemonium boreale	*	*					*	*														
Potentilla hookeriana		*	*																			
Potentilla hyparctica	*				*																	
Potentilla pulchella	*	*			*			*														
Potentilla rubricaulis									*													
Potentilla sp.								*			*											
Ranunculus affinis				*																		
Ranunculus glacialis						*			*	*			*									
Ranunculus nivalis		*				*				*	*											
Ranunculus sulphureus						*																
Sagina intermedia							*				*		*									
Salix arctica		*				*																
Saxifraga caespitosa	*	*	*		*			*	*		*	*	*				*	*				
Saxifraga cernua		*	*				*		*	*	*		*	*	*			*		*		
Saxifraga flagellaris		*	*		*		*			*			*									
Saxifraga hirculus		*	*		*	*				*	*		*									
Saxifraga hyperborea							*			*					*							
Saxifraga nivalis		*	*			*	*		*		*		*							*		
Saxifraga oppositifolia	*	*	*	*																		
Saxifraga tenuis													*									
Silene acaulis	*	*																				
Stellaria crassipes		*		*			*		*	*	*		*							*		
Stellaria longipes			*																			
Taraxacum arcticum			*	*	*						*											
Trisetum spicatum	*	*																				
Woodsia glabella							*															
Woodsia sp.					*																	

TABLE 17
PART 2

	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154
Amphidium lapponium													*	*					*	*		
Andrea spp.																					*	*
Anoectangium aestivum																					*	*
Arctoa andersonia																					*	*
Aulacomnium palustre											*											
Aulacomnium turgidum											*		*									
Bartramia ithyphylla																			*			
Bryoerythrophyllum recurvirostre						*					*	*	*						*			
Bryum cryophilum										*												
Bryum pseudotriquetrum							*			*			*				*					
Bryum teres							*						*									
Bryum wrightii																			*	*	*	*
Bryum sp(p).						*					*	*	*		*		*	*	*			
Calliergon trifarium																	*					
Campylium stellatum						*	*															
Campylium sp.						*				*			*									
Catoscopium nigritum													*				*					
Ceratodon purpureus												*										
Cirriphyllum cirrosum						*	*			*			*				*					
Desmatodon leucostoma															*		*					
Dichodontium pellucida						*																
Dicranoweisia crispula																	*					
Distichium capillacium		*	*			*			*		*	*	*	*			*	*	*	*	*	*
Distichium inclinatium								*						*								
Ditrichum flexicaule				*	*	*	*				*	*					*					
Drepanocladus brevifolius						*				*			*									
Drepanocladus revolvens						*																
Drepanocladus uncinatus					*										*							
Drepanocladus vernicosus																	*					
Encalypta procera														*			*					
Encalypta alpina											*		*						*			
Encalypta rhabtocarpa		*		*	*		*	*	*	*	*	*	*	*	*		*	*	*		*	*
Heterocladium ?																	*					
Hygrohypnum ?																	*					
Hymenostylium recurvirostre													*				*					
Hypnum revolutum		*		*	*							*		*			*					
Hypnum vaucheri																						
Isopterygeum pulchellum								*					*	*								
Lyellia aspera													*									
Myurella julacea						*	*	*	*	*	*	*	*				*					
Myurella tenerrima								*					*	*								
Oncophorus virens		*		*	*		*			*	*	*	*				*					
Oncophorus wahlenbergii					*	*			*		*		*									
Orthotecium cryseum						*																

TABLE 17

PART 3

Orthothecium ?																	*				
Philonotis fontana							*	*		*		*									
Philonotis tomentella						*	*			*	*		*				*				
Pogonatum dentatum													*		*						
Pohlia cruda						*	*					*		*	*		*			*	*	*
Pohlia nutans												*						*				
Pohlia proligera														*								
Pohlia sp.												*							*			
Polytrichastrum alpinum							*				*	*	*				*			*		
Polytrichum hyperboreum				*		*			*								*					
Pseudoleskeella sp.																	*					
Racomitrium canescens				*	*		*					*					*					
Racomitrium sp(p).		*			*							*		*	*		*	*		*	*	*
Schistidium apocarpum					*																	
Schistidium sp.				*	*							*					*					
Stegonia latifolia var. latifolia														*			*					
Stegonia latifolia var. pilifera																		*				
Tetraplodon pallidus											*											
Timmia austriaca						*																
Timmia norvegica/sibirica						*																
Tortella arctica													*									
Tortella fragilis				*							*	*	*									
Tortula mucronifolia							*								*		*				*	*
Tortula ruralis	*	*	*	*	*	*	*	*			*	*	*	*	*		*	*		*		
Trematodon brevicollis			*																			

List of phanerogams found in the Zackenberg area, 0 - 900 m a.s.l. (B. Fredskild)

Alopecurus alpinus	4	Draba lactea	3
Arctagrostis latifolia	4	- nivalis	3
Arctostaphylos alpina	1	- subcapitata	1
Arenaria pseudofrigida	3	Dryas octopetala + D. octop. x integrifolia	5
Armeria scabra	3	Dupontia psilosantha	4
Arnica angustifolia	3	- fischeri	1
Betula nana	3	Empetrum nigrum ssp. hermaphroditum	3
Braya purpurascens	2	Epilobium arcticum	1
Calamagrostis purpurascens	3	Equisetum arvense	4
Campanula gieseckiana	1	- variegatum	4
- uniflora	2	Erigeron compositus	2
Cardamine bellidifolia	3	- ericocephalus	2
- pratensis	2	- humilis	2
Carex atrofusca	4	Eriophorum callitrix	3
- bigelowii	5	- scheuchzeri	5
- capillaris	4	- triste	5
- glareosa	1	Euphrasia frigida	2
- lachenalii	1	Eutrema edwardsii	1
- marina ssp. pseudolagopina	2	Festuca baffinensis	+
- maritima	2	- brachyphylla	4
- misandra	4	- hyperborea	+
- nardina	4	- rubra	2
- norvegica	2	- vivipara	3
- parallela	1	Hierochloë alpina	4
- rariflora	1	Hippuris vulgaris	3
- rupestris	5	Huperzia selago	3
- saxatilis	4	Juncus biglumis	3
- subspathacea	3	- castaneus	3
- supina ssp. spaniocarpa	4	- triglumis	3
- ursina	2	Kobresia myosuroides	4
Cassiope tetragona	5	- simpliciuscula	3
Cerastium arcticum	4	Koenigia islandica	2
- regelii	2	Lesquerella arctica	2
Chamaenerion latifolium	4	Luzula arctica	4
Cochlearia groenlandica	2	- confusa	4
Cystopteris fragilis	2	- wahlenbergii	2
Deschampsia brevifolia	+	Melandrium affine	3
- pumila	+	- apetalum	2
Draba adamsii	+	- triflorum	3
- alpina	3	Minuartia biflora	3
- arctica	3	- rubella	2
- bellii	1	- stricta	1
- fladnizensis	2	Oxyria digyna	4
- glabella	4	Papaver radicatum	4
- gredinii	1	Pedicularis flammea	3

Pedicularis hirsuta	4	Rumex acetosella	3
- lapponica	2	Sagina caespitosa	1
Phippsia algida	4	- intermedia	3
- - ssp. algidiformis	1	Salix arctica	5
Pleuropogon sabinei	3	- herbacea	2
Poa abbreviata	2	Saxifraga aizoides	2
- alpina	1	- caespitosa	3
- arctica	4	- cernua	4
- glauca	4	- foliolosa	3
- hartzii	1	- hieraciifolia	1
- pratensis var. colpodea	3	- hirculus	3
Polemonium boreale	2	- hyperboreus	2
Polygonum viviparum	5	- nathorstii	2
Potentilla hookeriana	4	- nivalis	3
- hyparctica	4	- oppositifolia	4
- nivea	1	- platysepala	2
- pulchella	3	- rivularis	2
- rubella	1	- tenuis	2
- rubricaulis	2	Silene acaulis	4
Puccinellia angustata	4	Stellaria longipes s.l. (inkl. S. crassipes)	4
- phryganodes	3	- edwardsii	+
- vaginata	1	- humifusa	3
Pyrola grandiflora	1	Taraxacum arcticum	3
Ranunculus affinis	1	- phymatocarpum	3
- glacialis	2	Tofieldia coccinea	3
- hyperboreus	3	- pusilla	2
- nivalis	3	Trisetum spicatum	3
- pygmaeus	3	Vaccinium uliginosum	4
- sulphureus	3	Woodsia glabella	2
Rhododendron lapponicum	4		

Nomenclature follows Böcher et al. (1978). Frequency is marked by 5 (very common), 4 (common), 3 (scattered), 2 (rare), 1 (very rare, *i.e.* 1 or 2 finds), + (collected, but frequency not estimated).