

FLORISTIC OBSERVATIONS IN FINNMARK
(NORTHERN NORWAY)

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Since 1954 The Zoological and Botanical Society in Turku and the Subarctic Research Station Kevo in Utsjoki have organized a thorough inventory of the flora and vegetation in the eastern part of Finnish Lapland, including Inari and Utsjoki communes. During this inventory, many excursions have been extended also to Norwegian Lapland. Although most of the floristic observations made during these excursions will be discussed in connection with a future survey of the flora of the eastern part of Finnish Lapland, some observations made by the writer together with other persons will be described in the following. Specimens of most of the plants are deposited in the Herbarium of the University of Turku (TUR).

1. *Matteuccia struthiopteris*. According to DAHL (1934 p. 230) and HULTÉN (1950 p. 9) this species is very rare in the inner parts of Finnmark. It has been found in four localities along the Tana River in Polmak: (1) abundantly, together with *Milium effusum*, *Stellaria nemorum*, *Myosotis silvatica* and (introduced) *Barbarea stricta* E of the mouth of the Borsse R. opposite the Junttila farm in Finland, near the road in damp shrubbery beside a pond; (2) beside a small brook running into the Tana R. in Vanasgiedde village, and in similar locations in the villages of (3) Horma and (4) Polmak. It was found also in Vetsikko village on the Finnish bank of the Tana R.

2. *Juncus bufonius*. According to DAHL (1934 p. 280) the species is found only near the sea shore. In 1961 it was found in Polmak village, where large and many-branched individuals grew along the road near the school (on the northern bank of Tana R.) over a distance of 50—100 meters. It was observed here also in 1962 and 1963. This species spreads especially by becoming attached to the tyres of motor vehicles. The northernmost locality in Finland where it has been found is Kaamanen village (68°5'), where it grows on the muddy bottom of a gravel pit.

3. *Platanthera bifolia*. In 1955, Prof. Paavo Kallio found this species beside the road near Adamsfoss, Lebesby (2 ind.). DAHL (1934 p. 289) cites only one locality in Finnmark (Alta, Lille Laerrisfjorden, 70°19—20'), and the species is rare also in Troms (BENUM 1958 p. 112). Adamsfoss is situated at 70°23' N, and this locality thus marks the northern limit of the species. According to HULTÉN (1950 p. 136) the species has been found also in another locality in Alta.

4. *Carex lapponica*. According to DAHL (1934 p. 263) and HULTÉN (1950 p. 88) this species occurs in only one locality in Finnmark (at the mouth of the Munkelven River in Sør-Varanger). In 1961, we found the species growing very abundantly on the path leading from the Näätämö frontier guard station in Finland to Neiden in Sør-Varanger. About 2 km from the Finnish border the path crosses a swamp, and *C. lapponica* grows together with *C. canescens* and *C. brunnescens* along the path in muddy places on the east side of the swamp. Also the hybrid *canescens* × *lapponica* was collected there. The species has been found in only a few places in Troms (BENUM 1958 p. 155); it occurs in adjacent regions of Finland in some localities E and N of Lake Inari.

5. *Eriophorum brachyantherum*. DAHL (1934 p. 276) found the species in Lebesby, on the northern shore of Varanger fjord, and in several localities in Sør-Varanger. In 1961 two localities where it grows in Polmak were found: (1) an open muddy place in a birch forest E of the Borsse River, ca. 0.5 km N of the Tana R.; (2) together with *Tussilago farfara* near the northern end of the Lake Polmakvatn, on a muddy slope on the eastern bank of the Polmakelven River.

6. *Epipogium aphyllum*. In the autumn of 1961 *Epipogium* was found in many localities in Utsjoki in Finnish Lapland (KANKAINEN 1962). The species was discovered also in one locality in Finnmark on the eastern bank of the Polmakelven River, ca. 0.5 km S of the "Sprengstoff" depot (70°4'). It grew in a moss carpet with *Lastrea dryopteris* and *Equisetum scirpoides* in a damp birch forest. No flowering shoots were seen in August, 1963, when the locality was re-examined. DAHL (1934 p. 289) mentions only one locality in Finnmark (Leirbotndalen in Talvik) where the species also grew on mosses and mouldering leaves in a birch forest.

7. *Koenigia islandica*. This species is not rare in Finnmark (DAHL 1934 p. 308) and has been collected in many localities, also along the Varanger fjord, e.g., in Karlebotn. However, one more locality in Karlebotn deserves

to be mentioned. In 1959 we found the species growing on mosses along a small brook running down to the Varanger fjord ca. 0.5 km E of the village. Tens of thousands of individuals, which were relatively tall (even up to 15 cm) and often branched, dominated an area of several square meters. The major companions were *Montia fontana* ssp. *lamprosperma* and *Stellaria calycantha*. Another locality was a silty sea shore ca. 6 km E of Karlebotn.

8. *Mochringia lateriflora*. The only Norwegian localities where this eastern species occurs are in Sør-Varanger in Finnmark (DAHL 1934 p. 315, LID 1952 p. 272). In 1961 it was discovered at the foot of a steep cliff on a warm and sunny, south-facing slope together with *Cornus suecica* and *Dryopteris dilatata* in Polmak, near the village of Horma (70°5'). This is the northernmost locality in Fennoscandia and a rather isolated one; the nearest places where the species is found are at a distance of ca. 110 km in Sør-Varanger. In Finland the nearest localities are situated around Ivalo village on southern side of Lake Inari.

9. *Cakile maritima*. This species is rare and often unpersistent in Finnmark (DAHL 1934 p. 342). In 1959 we found it together with *Stellaria nemorum*, *S. media* and *Urtica dioeca* ssp. *eudioeca* in Båtsfjord, Persjord, between the rocks in a drift heap ca. 5 meters above the high tide line.

10. *Callitriche intermedia*. This species occurs in many localities along the Finnish side of Tana River in streaming places on sandy bottom. On the Norwegian side it has been found in two adjacent localities in the village of Sirma. According to DAHL (1934 p. 363) the species is found only in Kautokeino.

11. *Hippuris tetraphylla*. Nesseby, on the sea shore ca. 0.5 km S of the centre of Varangerbotn village. The species grew in a small pond almost at the level of the high tide. The whole pond (ca. 5 × 10 m) was nearly covered by the species. In an adjacent pond, only 10—20 meters away, only *H. vulgaris* was observed. According to DAHL (1934 p. 370) *H. tetraphylla* has been found only in three localities in Sør-Varanger; LID (1952 p. 471) mentions its occurrence in Nesseby and Nord-Varanger.

12. *Empetrum nigrum* (s. str.). In Finland this species is rather common on suitable sandy places up to the northern part of Inari commune. For instance, on the dry pine heaths around the Kaamanen road junction (69°9') *E. nigrum* is everywhere clearly more abundant than *E. hermaphroditum*, which occurs mainly in swamps and in moist birch forests. In some places

E. nigrum has spread even into the upper parts of the birch region, although it is mainly confined to the pine region. The northernmost locality in Finland is just opposite the Kevo Subarctic Research Station on a pine-growing heath sloping toward Lake Kevojärvi (69°45'). In adjacent parts of Norway the species has been observed in five separate regions: (1) The northernmost locality in Norway, and probably in the whole world, was found by HÄMET-AHTI (1963 p. 35) on the Tana River at Tanabro, Polmak (70°14' N). In the summer of 1963, we found that the species formed extensive carpets on sandy birch heaths on the western bank of the Tana River close to the bridge. (2) In Polmak the species was also discovered on sandy birch heaths sloping south in two adjacent localities on the eastern side of the Polmakelven R. (70°3'), and on a sandy slope on the western bank of the river, ca. 500 m N of Lake Polmakvatn. In all these places *E. hermaphroditum* was the dominant species and only scattered *E. nigrum* plants were observed. (3) In Sør-Varanger *E. nigrum* is common and abundant on sandy pine heaths between Neiden and the Finnish border. It has been observed almost continuously (a) along the path from the Näätämö frontier guard station to Neiden, (b) along the path from Jankkila to Neiden, (c) on the border between Munkelven and Neidenelven, except at its highest points, and (d) in some localities around Neiden village. (4) In Karasjok the species grows on a dry sandy heath ca. 200 m from the shore of the Anarjokka River, close to the road from Karigasniemi to Karasjok. *E. nigrum* is probably common along the Anarjokka River and also elsewhere between Karasjok and Anarjokka, although it has been overlooked. (5) HÄMET-AHTI (1963 p. 40) reports the species from two localities in Kautokeino, (a) 8 km NE of the church village, and (b) ca. 2 km N of the church village.

13. *Prunella vulgaris*. This species seems to be very rare in Finnmark; DAHL (1934 p. 389) mentions only two localities, one in Polmak at the mouth of the Laevvajokka River. One additional locality appears in HULTÉN's map (1950 p. 383); the point for the Laevvajokka locality has been placed in Polmak village. In 1959 the species was found in the Polmak village, on the N bank of the Tana River, ca. 0.5 km E of the point where the border between Norway and Finland turns south. *Prunella* grew by the road on a dry slope, covering an area of ca. 1 sq. meter. The northernmost locality in Finland is situated in Ivalo village (68°39'), where the species was discovered already in 1925 (LINKOLA 1929) and again in 1961, growing together with *Fragaria vesca*.

14. *Veronica serpyllifolia*. According to DAHL (1934 p. 389) the species is rare in Finnmark, and almost limited to the sea shore. It was found in

1959 in Polmak near the mouth of the Laevvajokka River, in muddy shrubbery trampled by cattle. It occurs also in some localities along the Tana River on the Finnish side (KALLIO & MÄKINEN 1957 p. 27) and in several localities in Sør-Varanger, Neiden.

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ON THE MORPHOLOGY OF PRIMULA SIBIRICA JACQ.
 SSP. FINMARCHICA (JACQ.) HULT.

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Primula sibirica ssp. *finmarchica* is the leading species of the *Primula sibirica* group. This group includes plants which have more or less separate distribution areas in Fennoscandia: (1) the shores of the Gulf of Bothnia and (2) the shores of the White Sea and/or the shores of the Arctic Ocean. Some of the plants, like *Arctophila fulva*, are represented by morphologically clearly distinct, well recognised taxa in these two regions; most of the other species are, however, morphologically very similar in both regions. The latter species include *Primula sibirica* ssp. *finmarchica*.

The main subspecies, *Primula sibirica* ssp. *sibirica*, occurs only in Central Asia; all the Fennoscandian forms have been united under ssp. *finmarchica*. However, two distinct varieties have been described in the Fennoscandian material, viz., var. *integrifolia* (Oeder) Pax and var. *arctica* Pax. These varieties differ according to PAX (1905) mainly in the length of the calyx (v. *integrifolia*: 6—8 mm, v. *arctica* ca. 4 mm). As CHRISTOPHERSEN (1941) has shown, no difference is noted in the lengths of the calyx of specimens from Troms and Eastern Finnmark in Northern Norway, which according to PAX belong to different varieties. The mean lengths obtained by CHRISTOPHERSEN were 5.20 mm (Troms) and 5.18 mm (Eastern Finnmark). Furthermore, CHRISTOPHERSEN measured specimens from populations in Northern Russia and claimed these to be identical with the specimens from Northern Norway.

To compare the populations on the shores of the Gulf of Bothnia in Finland and on the coast of the Arctic Ocean in Northern Norway, a number of measurements were made on plants collected in Oulunsalo in Finland and in Börselv in Northern Norway. Preliminarily, only the length of the calyx and the ratio of the length and breadth of the leaves were measured. The results showed that the populations analysed differed very clearly in both characters. As Fig. 1 reveals, the leaves of the Norwegian population are relatively narrower than the leaves of the Finnish population. The mean length-breadth ratios are 1.75 ± 0.04 for the Norwegian and 1.41 ± 0.03 for