

THREE INTERESTING LICHEN FINDS FROM SOUTHEAST GREENLAND

F. J. A. DANIËLS and H. F. FERWERDA

Instituut voor Systematische Plantkunde, Utrecht

SUMMARY

Stereocaulon condensatum Hoffm. is recorded as new to Greenland, *Physcia orbicularis* (Neck.) Poetsch as new to the entire East Coast, and *Physcia intermedia* Vain. as new to the South-east Coast. Descriptions of their habitats are given.

1. INTRODUCTION

Our knowledge of the macrolichen flora of Greenland is mainly based on the publications of LYNGE (1923, North Greenland), LYNGE & SCHOLANDER (1932, Northeast Greenland), LYNGE (1937, West Greenland), DAHL *et al.* (1937, Southeast Greenland), DAHL (1950, Southwest Greenland) and HANSEN (1962, 1971, West and South Greenland, respectively). Together these publications provide a rather solid knowledge of the macrolichen flora of this arctic island. The microlichen flora is less well known. However, Greenland has a very long coastline and a not easily accessible coast (in particular in the North and East), and travel and logistics are difficult in this country. Consequently still many areas exist the lichen flora of which is as yet poorly known or even quite unknown. Lichenological investigations in such areas in particular can be expected to yield additions to the lichen flora of the island or else other valuable contributions to the phytogeography.

In 1966 a Dutch botanical expedition was made to the Angmagssalik area (c. 65°30'N.lat–66°30'N.lat.), a vast ice-free area on the South-east coast of Greenland, which stretches from about 61°N.lat.–69°N.lat. This area was lichenologically poorly known (DANIËLS 1968). The lichen collection of 1966 of only two localities proved to comprise at least 56 species, many of which were new to this area, and one of them, *Cladonia cyanipes* (Somm.) Nyl., new to the South-east Coast (DANIËLS 1968). In 1968 and 1969 the floristical and phytosociological investigations started in 1966 in this area were continued (see also DANIËLS & DE MOLENAAR 1970), and the lichen collection brought home proved to contain again a number of species new to this area. In anticipation of the full results of these botanical studies the most interesting macrolichen finds are treated here separately. They concern species which had not been recorded before from most or the whole of Greenland. The nomenclature of the species, which are treated here alphabetically, is in accordance with HALE & CULBERSON (1966). The specimens are incorporated in the collection of the

Botanical Museum and Herbarium, Utrecht. All are rather well developed, but apothecia are lacking.

2. SPECIES

Physcia intermedia Vain.

This species was found and collected at Falkefjeld (Qingertivaq), an inland locality, at c. 66°04'N.lat., 37°12'W.long., on 2 August 1969. This species is an addition to the lichen flora of Southeast Greenland. It was first recorded by LYNGE & SCHOLANDER (1932), who found it in Northeast Greenland, where it was said to be rare. Later lichenological investigations in southern parts of the East Coast did not yield this species again (see DAHL *et al.* 1937, LAMB 1940, DANIËLS 1968, HAWKSWORTH 1968).

In the Angmagssalik area we found it to occur associated with *Xanthoria elegans* on granitic rock surfaces influenced by bird excrements. The habitats were wind-sheltered and situated below 100 m a.s.l. DAHL (1950) reported the species as common and nitrophilous from rocks on the South-west Coast, probably from similar habitats as in the Angmagssalik area. *Physcia intermedia* is an arctic-temperate (KROG 1968), circumpolar species. It must be considered in Greenland as a somewhat southern species (SSN distribution type, see HANSEN 1971).

Physcia orbicularis (Neck.) Poetsch

This species was found and collected in Elvbakker, a coastal locality close to Angmagssalik, at c. 65°36'N.lat., 37°39'W.long., on 23 June 1969.

This record is the first for the entire East Coast and the second for Greenland. *Physcia orbicularis* was previously only recorded by DAHL (1950) from the Julianehaab District, Southwest Greenland, where it was found on mosses and bare rock. In the Angmagssalik area it is a rare species. We found it only once, on a wind-sheltered, strongly sloping surface of a charnokitic boulder at about 60 m a.s.l. The part of the rock surface where the species was growing did not receive direct sunlight. *Physcia orbicularis* is circumpolar-boreal-temperate in its distribution (KROG 1968). Surprisingly it was not recorded by HANSEN (1971) from the relatively mild South Coast. Like the former species, *Physcia orbicularis* must be regarded as a somewhat southern species in Greenland (SSN distribution type, see HANSEN 1971).

Stereocaulon condensatum Hoffm.

This species was found and collected in two inland localities: at Qingertivaq at the foot of Ivnatsiait, at c. 66°06'N.lat., 37°15'W.long., on 18 July 1969, and at Tasilaq valley at c. 66°06'N.lat. 37°01'W.long. on 17 August 1969. These finds are very interesting as the species has not been recorded before from Greenland and as far as we can trace, this is equally true for the entire Arctic (sensu POLUNIN 1951). According to POELT (1969) *Stereocaulon condensatum*

has a boreal distribution. However, it also, though less frequently, occurs in subarctic and temperate regions (cf. a.o. FREY 1933, THOMSON *et al.* 1969). It mostly grows on open sandy soils (FREY 1933, POELT 1969), in the Netherlands, for example, in the inland dunes. In both localities the species was found in similar habitats. Both were in the vicinity of melt water brooks of a glacier. The fluvo-glacial substrate consists of gravel and sand constituting a desert-pavement-like surface. pH (Hellige) was about 7. In spring the substrate is presumably flooded, in summer it dries up superficially. Snowcover in winter is probably continuous. The species was found to occur on the sandy parts of the substrate, at Qingertivaq (at an altitude of 30 m a.s.l.) associated with *Psoroma hypnorum*, in the Tasilaq valley (at an altitude of c. 25 m a.s.l.) with, i.a., *Psoroma hypnorum*, *Polytrichum piliferum*, *Silene acaulis*, *Oxyria digyna*, and *Epilobium latifolium*.

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