Dicranella riparia New to Greenland

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Abstract. Dicranella riparia *(H. Lindb.) Mårt. & Nyh. is reported for the first time from Greenland, where it was found on a fluvioglacial delta in the Angmagssalik District in plant communities belonging to the association* Calamagrosto-Ditrichetum *(all.* Calamagrostion neglectae*). This is the sixth locality known, and the first outside Fennoscandia.*

Dicranella riparia (H. Lindb.) Mårt. & Nyh. was up to the present regarded as a rare endemic of boreal Fennoscandia (Crundwell & Nyholm, 1968). Originally described as *Oncophorus riparius* H. Lindb., its taxonomic interpretation has been subject to various views until quite recently, when it was recognized as a separate species of the genus *Dicranella* (Mårtensson & Nyholm, 1954). An excellent description and a key to its identification are given by Nyholm (1954).

In the summer of 1969 I collected *D. riparia* at the head of the Qingertivaq or Kingorsuak Fjord (66°7′ N, 37°16′ W) in the Angmagssalik District, which constitutes the largest ice-free, central part of the mountainous, low-arctic southeast coast of Greenland. The samples bear nearly mature sporophytes. This material has been compared with the lectotype and other collections of *D. riparia* in the herbarium of the Botanical Museum in Helsinki.

Distribution.—Dicranella riparia is known from five localities in Fennoscandia, which are situated in the conifer belt, the subalpine belt, and the low-alpine belt (Crundwell & Nyholm, 1968; Mårtensson, 1956). The discovery of the species in Greenland implies a considerable extension of its known distribution, which in consequence at present can

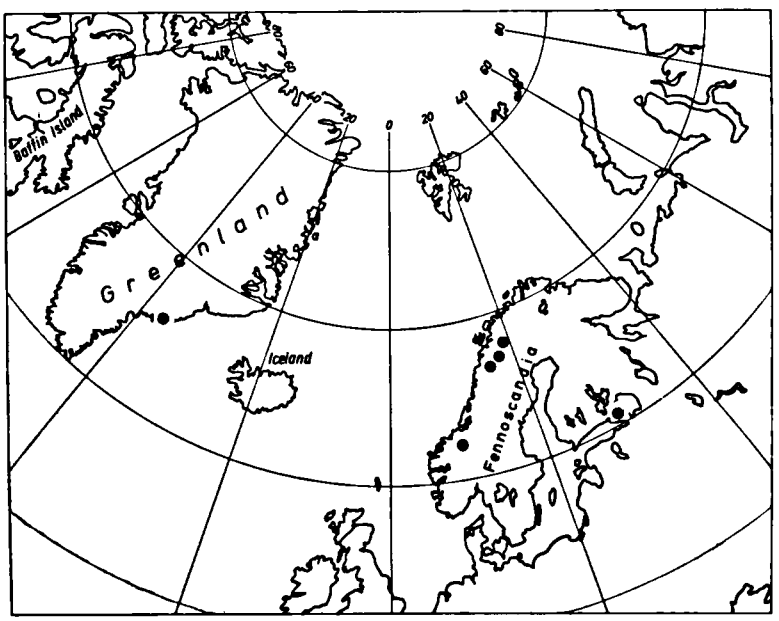

FIGURE 1. Distribution of *Dicranella riparia.*

FIGURE 2. The habitat of *Dicranella riparia* on the delta at the head of Qingertivaq Fjord.

be described as northern amphi-atlantic (Fig. 1), and ranging from the boreal to the low-arctic zone.

Ecology.—The labels of the herbarium collections and the cited literature describe the habitat of *D. riparia* with terms such as "humid sand," "alluvial sand," etc., but give no information on the type of vegetation in which it occurs. As the species was collected in southeast Greenland in the course of a phytosociological study, more extensive data could be collected on its ecology.

This study showed *D. riparia* to be a so-called faithful or characteristic taxon of the association *Calamagrosto-Ditrichetum* De Molenaar (unpublished; alliance *Calamagrostion neglectae* Nordhagen 1936), a plant community confined to flat, level banks in comparatively stable, wide parts of the beds of braided glacier rivers (Fig. 2). Its habitat is snow-covered from late September through June and is inundated in early summer, which involves sedimentation of small quantities of fine grades of fluvioglacial material; following the inundation, the groundwater level sinks to 10–30 cm below the surface of the moss layer in July-August, the upper soil layers remaining moist due to the protection provided by the dense vegetation. This syntaxon can be characterized synecologically as a periglacial and low-arctic (to possibly subarctic), hygrophytic-tropohydrophytic, neutrophytic to medium acidophytic, mesotrafent to eutrafent, minerotrafent community.

The data of one of the sample plots may serve to illustrate the (syn)ecological behavior of *D. riparia* (the coding of the estimated cover of the recorded taxa is according to the scale of Hult-Sernander, cf. De Molenaar, 1974*a*).

Location.—The delta at the head of Qingertivaq Fjord.

Substrate.—Graded silty-fine sandy fluvioglacial material near the surface, deeper down sandy to gravelly deposits; colorimetric *p*H of the rhizosphere (Hellige Pehameter): 5; ground-

water level: 25 cm below the surface of the moss layer; thin bands of silty sediments embedded in the moss carpet.

Plant Cover.—Total 100%, phanerogams 25%, cryptogams 95%.

Composition Field Layer.—*Calamagrostis neglecta* 3, *Carex bigelowii* +, *C. rariflora* +, *Salix herbacea* +.

Composition Moss Layer.—*Anthelia juratzkana* +, *Calliergon stramineum* 1, *Cephalozia ambigua* 3, *Cephaloziella arctica* 4, *Dicranella riparia* 1, *Ditrichum* cf. *pusillum* (sterile) 6, *Drepanocladus exannulatus* +, *D. uncinatus* 1, *Pohlia commutata* +, *Scapania irrigua* +, *S. lapponica* 2.

Notable taxa frequently found to occur in other sample plots considered to represent the *Calamagrosto-Ditrichetum* are *Bryum pallens*, *Cephalozia bicuspidata*, *Philonotis tomentella*, and the rare orchid *Corallorhiza trifida*. A full description of the *Calamagrosto-Ditrichetum* will appear in a future publication (De Molenaar, 1974*b*). In comparable vegetation types and synecological conditions, I collected in 1966 *Haplomitrium hookeri*, on the delta at the head of the nearby Tasîlaq Fjord (De Molenaar, 1968).

The *Calamagrosto-Ditrichetum* is so far only known from the Angmagssalik District (Qingertivaq, Tasîlaq, possibly also Sieraq and Tuno). Considering the occurrence of suitable habitats, the area of the majority of its faithful, constant, and accessory taxa as well as the synecology and area of the alliance to which it belongs, the association may be expected to have a wider distribution in Greenland and to occur also elsewhere in the boreal-alpine to low-arctic northern atlantic area. Thus it is not unlikely that *D. riparia* should also occur in Iceland and northern Canada.

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