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WHAT IS LEPIDIUM GROENLANDICUM HORNEM.?

BY

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WITH 3 FIGURES IN THE TEXT

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In the third edition of his "Forsøg til en dansk oeconomisk Plantelære" (Part 1, 1821 p. 698—699) Professor J. W. HORNEMANN describes a new species, *Lepidium grønlandicum*. His description runs as follows (translated from Danish): "Greenland Cress (*L. groenlandicum*) with stem. Leaves cordate-orbiculate, crenated, petiolated. Fl. D. T. 569. Fl. N. 1069 (in both places under the name *L. alpinum*). Description: Root undivided, long, filiform. Stem erect, undivided to the top, terete, glabrous, with two linear, subulate bracts, about two inches high. The leaves are all situated at the root, on reddish petioles about half an inch long, between which are situated small, linear scales. The leaf itself is barely one line wide and long, glabrous. On the petioles, immediately below the blade there are two opposite or slightly alternate, very small and subulate leaves. The flowers are situated at the top of the stem in a corymb. The sepals are ovate, pointed, and half as long as the petals. Petals ovate-lanceolate, indistinctly emarginate, white. Stamens 6. Silicle lanceolate-ovate. Annual? Flowers in July. — This plant which according to Fl. Dan. was found in Greenland by Surgeon BRASEN, and which I have not seen either living or preserved, has been regarded as LINNE's *Lepidium alpinum*, but as the form of the leaves, the inflorescence and the number of stamens are quite different, I have not hesitated to classify it as a distinct species."

BRASEN's plants from Greenland are said to have come to Copenhagen in 1767 (see WARMING 1889 p. 262). HORNEMANN's reference to Flora Danica, Plate 569, applies to the 10th part published by G. C. OEDER in 1771 (see Fig. 1). In his Flora Norvegica (Pars II, 1772 p.139, No. 1069) Bishop J. E. GUNNERUS, who was a friend of OEDER, merely reproduces what was already stated in Flora Danica.

As mentioned above, HORNEMANN's description was written in Danish. Professor JOH. LANGE, who included *Lepidium groenlandicum* in his Conspectus Florae Groenlandicae, (1880 p. 45) gives a Latin description of the plant. LANGE is very doubtful about this species of which he had seen no specimens, and he adds "an *Cardamines bellidifoliae* β specimen juvenile, male pictum." Even stronger doubt is ex-

pressed by Professor KOLDERUP-ROSENVINGE in "Andet Tillæg til Grønlands Fanerogamer og Bregner" (1892). KOLDERUP-ROSENVINGE is of the opinion that *Lepidium groenlandicum* should be excluded from Greenland's flora (1892 p. 650), and adds (p. 672) "*Lepidium groenlandicum* Horn. Planta omnio dubia, vix species destincta. Figura in Fl. Dan. tab. 569 forsan *Arabidem humifusam* (J. VAHL) S. WATSON male pictam

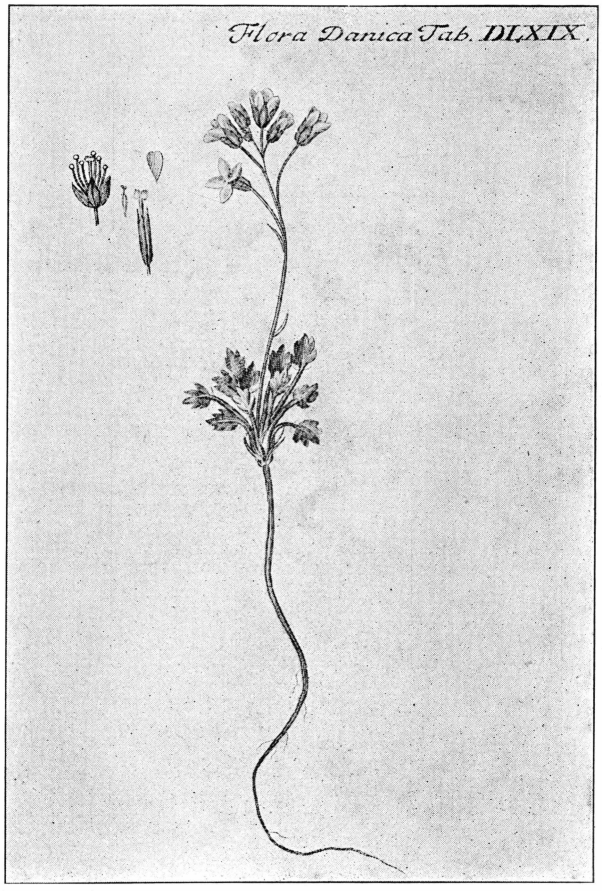

Fig. 1. "Lepidium alpinum L." Table 569 in Flora Danica. Natural size.

repraesentat, quam suspicationem jam beat. J. VAHL (mscr.) emisit". *Arabis humifusa* is a synonym of *Arabis arenicola*, see below. ALBERT THELLUNG, who erroneously ascribes Plate 569 in "Flora Danica" to O. F. MÜLLER instead of to OEDER, (1906 p. 316 & 317) excludes *Lepidium groenlandicum* from the genus Lepidium. In the last survey of Greenland's flora, (OSTENFELD 1926) the species is entirely omitted from the flora of Greenland.

After the plant had been figured in Flora Danica in 1771, the original

specimens appear to have been lost. Nor was the species found again in Greenland. One or two entries in MORTEN WORMSKIOLD's Diary from Greenland in 1813 (*Lepidium alpinum* from Julianehaab July 4th, Arsuk Insel near Ivigtut July 15th, and Ekaluit near Frederikshaab July 26th) may be disregarded as there are neither descriptions or preserved specimens (see LANGE 1887, p. 250, and WARMING 1889, p. 290, 292 & 295). None of the numerous botanical expeditions to Greenland have been able to procure new material, and *Lepidium groenlandicum* has remained

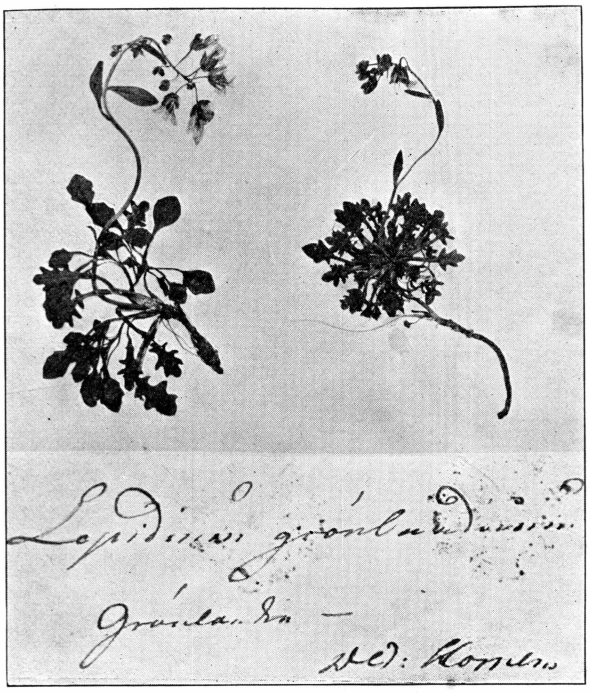

Fig. 2. "Lepidium groenlandicum Hornem." The two specimens with Blytt's label in the Botanical Museum, Oslo. Natural size. Photo Liv Barstad.

a mystery. In November 1929, however, there appeared in the University Botanical Museum at Oslo a herbarium sheet with two plant specimens which may perhaps help to clear up the matter. The sheet bears the label "Lepidium grønlandicum Grønlandia — Ded: Hornem.", written in Professor M. N. BLYTT's well-known hand-writing (see Fig. 2). The specimens are old but otherwise in a fairly good state of preservation. The enlarged drawings (Fig. 3) show further details of pubescence and the form of the leaves.

Both plants must undoubtedly be referred to *Arabis petraea* (L.) Lam., more particularely to those varieties which are known from the Faroes and Iceland, and which formerly were given the names *Arabis*

hispida Murr. f. *hastulata* Horn., *Cardamine faeroensis* Horn., or even *Lepidium alpinum* (MARTINS 1848 p. 372. See also OSTENFELD 1901 p. 66).

The two specimens are somewhat different. The one to the right



Fig. 3. "Lepidium groenlandicum Hornem." The two specimens in the Botanical Museum, Oslo, enlarged $2^1/_2$ times. Drawings by Liv Barstad.

(in the Figures 2 and 3) corresponds most closely to the Faroe and Icelandic varieties of Arabis petraea both as regards pubescence and form of the leaves. It is true that I have not seen specimens of *Arabis petraea* with quite so marked pubescence on the upper part of the stem as in this case, right up to the lower pedicel, but in Norway and on the

Faroes and Iceland there occur forms of *Arabis petraea* even more pubescent on the basal leaves and the lower part of the stem. The specimen to the left in the figures is less pubescent and has a number of leaves which are almost entire. Certain characters, especially the form of the youngest leaves in the rosette resemble *Arabis arenicola* (Rich.) Gelert which is doubtless the Greenland species which resembles it most closely. But other characters, especially the pubescence and the subpinnate leaves refer this specimen also to *Arabis petraea.*

We have no information as to how and when in BLYTT's time these specimens reached Oslo. We know that BLYTT was in very active communication with HORNEMANN and that he received many Greenland plants from him. After BLYTT's deadth in 1862 his collections of plants were purchased by the University. That part of the herbarium in which these specimens were preserved remained stored until about 1900, when OVE DAHL, Curator, arranged and mounted them. Since then the plants remained unnoticed in the general herbarium until they were brought out in 1929.

It is now difficult to decide with certainty whether the two specimens here under consideration really belonged to BRASEN's plant collection from Greenland. However, judging from the general appearance, the size, form and position of the leaves, and the number of flowers, it may be possible that the specimen figured to the right (Figures 2 and 3) is the original of Plate 569 in Flora Danica. A simple schematisation would easily place the specimen in accordance with the figure. The small, linear scales between the leaves, which are mentioned in HORNEMANN's description, might be remains of old petioles which are so characteristic of *Arabis petraea.* The two opposite or slightly alternate, very small, subulate leaves on the petioles just below the blade might be the hairs which the draughtsman has tried to reproduce in this way. The configuration of the leaf rosette in our specimen has formerly been even more like that of the figure in Flora Danica, the upper part of the longest leaves to the right of the stem being now broken off.

In order to form an opinion as to whether the two plant specimens come from Greenland, it is necessary to consider a little more closely the only report of *Arabis petraea* which we have from Greenland. We owe this to COPELAND and PANSCH who are said to have found it in East Greenland in "Die zweite deutsche Nordpolarfahrt" in 1869—1870. BUCHENAU and FOCKE who worked up the botanical material from this expedition say concerning this discovery (1874 p. 29):

"*Arabis petraea* Lam. Leider nur ein einziges Exemplar dieser interessanten Pflanze, dessen Fundort sich überdies nicht mehr sicher ermitteln lässt; wahrscheinlich aber stammt es aus dem Franz-Josephs-Fjord. Auf einer starken Hauptwurzel sitzt eine dichte Blattrosette,

aus der sich vier Stengel erheben. Ausläufer fehlen. Die Stengel, Fruchstiele, und Früchte sind mit weissen Gabelhaaren dicht besetzt; die linealisch-spatelförmigen, entfernt gesägten Laubblätter besitzen nur gegen die Spitze hin einige Gabelhaare. Die Stengel (von etwa 8 cm Höhe) tragen 1—2 Laubblätter; alle übrigen Blätter sind grundständig; zwei Trauben haben an den untersten Blüten laubige Deckblätter. Die Früchte sind kurz gestielt (die Stiele etwa ein Viertel so lang als die Früchte), aufrecht-abstehend, linealisch und meist etwas gekrümmt. — Herr Professor GRISEBACH, der die Freundlichkeit hatte, diese Pflanze zu untersuchen, glaubte eine eigentümliche Form von *Arabis ciliata* R. Br. mit behaarter Schote und etwas verlängertem Griffel darin zu erkennen. Nach sorgfältiger Vergleichung können wir indess dieser Ansicht nicht beipflichten, zweifeln vielmehr durchaus nicht an der Richtigkeit unserer obigen Bestimmung."

JOH. LANGE (1880 p. 49) refers to BUCHENAU and FOCKE and points out that he has not seen the specimen. As *Arabis petraea* was once found in Greenland, and as it is extensively found in Arctic America, Iceland, the Faroes and Norway, LANGE assumes that it is to be found in several parts of Greenland. This conclusion, however, is based upon somewhat dubious premises, since it clearly appears from the description of BUCHENAU and FOCKE quoted above, that the COPELAND and PANSCH's specimen cannot have been *Arabis petraea*, but *Torularia humilis* (C. A. Meyer) O. E. Schulz; (syn. *Sisymbrium humile* C. A. Meyer; *Braya humilis* (C. A. Meyer) Robins), a plant which in recent times has been found to be widely distributed in the district around Franz Josef's Fjord. The linear, curled siliques with bifurcated hairs can scarcely belong to any species but *Torularia humilis* (see SCHULZ 1924 p. 223). Already HARTZ (1895 p. 330) excludes *Arabis petraea* from Greenland's flora. He refers, however, COPELAND and PANSCH's plant to *Braya alpina* Sternb. et Hoppe. We have thus no certain record of *Arabis petraea* from Greenland, and it is therefore quite natural to look elsewhere for the origin of the plant figured in Plate 569 in Flora Danica, and our two specimens in the Botanical Museum at Oslo. It might be suggested that these plants originate from the Surgeon SCHRØDER who collected plants for Flora Danica in the Faroes at the same time as Surgeon BRASEN collected plants in Greenland (see Flora Danica Part 10, Plate 568).

The solution of the problem *Lepidium groenlandicum* seems to be that the plant which is figured in Flora Danica under the name *Lepidium alpinum* L., and which HORNEMANN afterwards named *Lepidium groenlandicum* is *Arabis petraea*, possibly from the Faroes.

My thanks are due to Frøken LIV BARSTAD who has photographed the plants and made the drawings. Also to mag. scient. JOHS. GRØNTVED who has undertaken the reproduction of Plate 569 in Flora Danica.

Literature cited:

Buchenau, F. und Focke, W. O., Gefässpflanzen. (Die zweite deutsche Nordpolarfahrt in den Jahren 1869 und 1870 unter Führung des Kapitän Karl Koldewey.) Part 2. Leipzig 1874.

Gunnerus, J. E., Flora Norvegica. Part 2, Kjøbenhavn 1772.

Hartz, N., Fanerogamer og Karkryptogamer fra Nordøst-Grønland, c. 75°—70° N. Br., og Angmagsalik, c. 65°40′ N. Br. (Meddelelser om Grønland 18.) Kjøbenhavn 1895.

Hornemann, J. W., Forsøg til en dansk oeconomisk Plantelære. Edition 3. Part I. Kjøbenhavn 1821.

Lange, Joh., Conspectus Florae Groenlandicae. (Meddelelser om Grønland 3.) Kjøbenhavn 1880.

— Conspectus Florae Groenlandicae, Part 2. (Meddelelser om Grønland 3.) Kjøbenhavn 1887.

Martins, Ch., List des végétaux vasculaires croissant spontanément dans l'archipel des Feroe. (Voyages en Scandinavie, en Laponie, au Spitzberg et aux Feröe.) Part 2. Paris 1848.

Oeder, G. C., Flora Danica. Part 10. Kjøbenhavn 1771.

Ostenfeld, C. H., Phanerogamae and Pteridophyta. (Botany of the Færöes.) Part 1. Kjøbenhavn 1901.

— The Flora of Greenland and its Origin. (Biologiske Meddelelser 6.) København 1926.

Rosenvinge, L. Kolderup, Andet Tillæg til Grønlands Fanerogamer og Karsporeplanter. (Meddelelser om Grønland 3.) Kjøbenhavn 1892.

Schulz, O. E., Cruciferae-Sisymbrieae. (Das Pflanzenreich IV. 105.) Leipzig 1924.

Thellung, A., Die Gattung Lepidium (L.) R. Br. Zürich 1906.

Warming, Eug., Morten Wormskiold. En biografisk Skizze. (Videnskabelige Meddelelser fra den naturhistoriske Forening.) Kjøbenhavn 1889.