SOME NEW TAXA OF JUNGERMANNIALES

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I. New Taxa from South Greenland

During the course of a joint expedition to South Greenland in the summer of 1982 we discovered a number of new taxa of Hepaticae. Although these are described at length, and illustrated, in a general account by the senior author, in The Hepaticae of South Greenland [Nova Hedwigia, Beiheft 92, 1988], no Latin diagnoses are given in that work. In order to validate these taxa, the following brief Latin diagnoses and type citations are offered.

In addition, a brief Latin diagnosis of Scapania pseudocalcicola Schust. is appearing here. The basis for this new species is discussed below.

Lophozia hyperborea ssp. helophila Schust. & Damsh., ssp. n.

Subspecies a ssp. hyperborea differens (a) praesentia pigmentationis typi anthocyanini; (b) amphigastriis parvis minutisve; (c) praesentia gemmarum. Type. Tasiussaq Fjord (RMS & KD 82-1667).

Schuster and Damsholt (1972) reported L. hyperborea first from South Greenland, on the basis of a single collection; the numerous collections we made in 1982 show rather conclusively that the South Greenland plants differ in both pigmentation patterns and in their ability to form gemmae from the species proper.

Lophozia rubescens Schust. & Damsh., sp. n.

Species a L. hatcheri differens (a) praesentia pigmentationis anthocyanini; (b) amphigastriis reductis; (c) cellulis magnis, 28-36 um in marginibus loborum; (d) praesentia guttarum olei (5-7)9-22(26) in omni cellula; (e) gemmis raris, 21-29 x 31-46 um. Type. Amitsuarssuk Fjord (RMS & KD 82-1192).

L. rubescens is the fourth species in subg. Barbilophozia. Although there is some variability in cell size, this taxon clearly has much larger average-sized leaf cells than the other three taxa of the subgenus. In the small underleaves of mature plants L. rubescens is similar to the otherwise remotely allied L. barbata. Possibly a

polyploid derivative of L. hatcheri or of L. lycopodioides is at hand. The often striking reddish pigmentation separates it from both.

Lophozia debiliformis Schust. & Damsh., sp. n.

Species L. elongatae (subg. Protolophoziae) atque L. alpestri (subg. Lophoziae) cognata. Distincta a prima: (a) inflorescentiis dioeciis; (b) praesentia gemmarum rubellarum; (c) cellulis (1)2-5 (6-14) guttas olei habentibus. Distincta a secunda: (a) cellulis multis solum (1)2-3(4) guttas olei permagnas habentibus; (b) amphigastria conspicuis; (c) foliis angulariter, saepe profundissime bilobatis. Type. Kangikitsoq Fjord (RMS & KD 82-1798).

L. debiliformis includes a variable ensemble of very small Lophoziae that, on one hand, show similarities to L. longidens, on the other, to L. alpestris. The infinitely variable ensemble of phenotypes aggregated under this name has been the source of major difficulties. Virtually all phenotypes develop distinct to conspicuous underleaves.

Lophozia debiliformis var. concolor Schust. & Damsh., var. n.

Varietas a debiliforme typica distincta: (a) amphigastriis sporadice permagnis, 350-700 um long.; (b) ora perianthii crenulato-denticulata, dentiis adsummum unicellulis. Type. Christian IV's Ø, Tasiussaq (RMS & KD 82-1645).

This paradoxical taxon, initially believed to be an autonomous species, seems to be a luxuriant extreme of L.debiliformis. However, additional collections may show that an autonomous species is at hand. The collections came from a unique habitat in which var. debiliformis was not seen: the fine silt laid down from ice melt from upstream glaciers.

Lophozia bicrenata var. immersa Schust. & Damsh., var. n.

Varietas a var. bicrenata distincta: (a) pigmentatione profunde subpurpureo-brunnea; (b) cellulis leptodermatis etiam in lobis, omnibus (5)6-10(11) guttis olei habentibus, lamella media conspicua atraque. Type. Kangikitsoq Fjord (RMS & KD 82-1810).

Although the color, compactness and aspect recall L. excisa var. succulenta, which it was believed to be in the field, the perianth mouth, distinctly toothed, is as in L. bicrenata. It differs from phases of the latter in the thin-walled cells with fuscous middle lamellae, and in the retention of oil-bodies in all leaf cells.

Marsupella spiniloba Schust & Damsh., sp. n.

Species magnitudine et inflorescentiis paroeciis M. sprucei similis; distinct, autem: (a) marginibus foliorum revolutis; (b) lobis foliorum acute apiculatis; (c) foliis surcularum sterilium

pectinato-distichis. Type. Qornoq, Frederiksdal (RMS & KD 82-1297).

M. spiniloba is distinct from its near ally, M. sprucei, in the non-capitate ♀ shoots; in the pectinate-distichous sterile shoots; and in the sharply apiculate leaf lobe apices.

Cephaloziella mammillifera Schust. & Damsh., sp. n.

Plantae autoeciae sed pseudodioeciae (gametetangiis ♂ atque ♀ in axibus late remotis); amphigastria axium sterilium minuta aut vestigialia; folia basim versus 2-stratosa et superfacies abaxiales localiter mammillosae; caulis localiter armatus; cellulae oris perianthii (3)3.5-6(7):1. Type. Frederiksdal (RMS & KD 82-1040).

This puzzling plant, which we could not "wedge" into any other, is allied to C. uncinata, but has the stem locally armed with cellular protrusions and the abaxial surface of the bistratose leaf bases bear tumid or mammilliform abaxial surface protrusions.

Cephaloziella uncinata var. brevigyna Schust. & Damsh., var. n.

Varietas a varietate uncinata distincta: (a) lobis foliorum 8-10(11-12) cellulis latitudine; (b) cellulis majoribus, 13-17 um lat. ad bases loborum; (c) lobis foliorum atque bractearum ♀ fere numquam hamatis. Type. Qôrnoq, S. of Frederiksdal (RMS & KD 82-1258).

The var. brevigyna is a puzzling plant, assigned with some misgivings to C. uncinata s. lat., from which it differs in the wider leaf lobes, the larger leaf cells, the non-hamate lobe apices of ♀ bracts, and the tendency for gynoecia to form on abbreviated intercalary axes.

Cephaloziella byssacea var. polystratosa Schust. & Damsh., var. n.

Varietas a var. byssacea distincta quod (a) folia 2(3)-stratosa; (b) folia latissima, lobis saepe 13-15 cellulis latitudine. Type. Ordlerit (RMS & KD 82-2132).

The var. polystratosa is the only one of the innumerable variants of C. byssacea in which leaves are 2(3)-layered in a large basal field. They bear an analogous relationship to typical C. byssacea as L. opacifolia does to L. incisa and, possibly, should be regarded as forming an Arctic subspecies.

II. A New Species of Scapania subg. Kaalaasia

Scapania pseudocalcicola Schust., sp. n.

Species S. calcicolae similis, differens valde, autem: (a) ora perianthii tenuiter dentata, dentis humilibus 1(2)-cellulis; (b) perianthio vix plicato. Type. Newfoundland: N. of Daniels Harbour, N. Pen. (RMS 68-1454).

S. pseudocalcicola was attributed in Schuster (1974, p. 316) to S. calcicola (Arn. & Perss.) Ingham. It differs from this in the short-serrulate to denticulate perianth mouth (cf. Schuster, l. c., figs. 358:4, 359:7-8). At the time this attribution was made the perianth of true S. calcicola was unknown, although that of ssp. ligulifolia (Schust.) Damsh. & Long had been shown to bear a lobulate-dentate mouth, much as in S. gymnostomophila (cf. Schuster, l. c., fig. 356:2, 13-16). Damsholt and Long (1979) assumed that the minute, low teeth of the perianths of S. pseudocalcicola (S. calcicola in Schuster, l.c.) were due to poor development, associated with lack of fertilization. This assumption foots on an error: all taxa assigned to subg. Kaalaasia are known only from plants with unfertilized gynoecia. Plants figured in Schuster (l.c., figs. 356:2 and 358:4) are from populations where no ♂ plants grew nearby; both bear unfertilized perianths. Although even in the absence of fertilization the perianths show some growth subsequent to archegonium maturation (and decay) it is very rare to see perianths develop to the point sometimes seen in S. gymnostomophila (cf. fig. 354:4 in Schuster, l.c.). Furthermore, as is very well documented, perianth maturation is via a basal meristem: even on the youngest perianths the apices undergo maturation, whereas the basal meristem copiously proliferates cells only subsequent to fertilization. Assuming that if fertilization had occurred, the elaboration of teeth of the perianth mouth would have continued, has no basis in fact: in all three of the species of Kaalaasia for which perianth mouths are shown in Schuster (l.c., figs. 354:5, 356:2, 13-16, 358:4, 359:7-8), comparable stadia in development are illustrated.

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References

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