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SOME SPHAGNA FROM GREAT WASS ISLAND, MAINE

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The Sphagnum flora of the state of Maine is poorly known. The only available checklist is Andrews' dating back to 1906 in which 43 taxa are listed. With updated generally accepted taxonomic concepts, this number could be reduced to something like 31 taxa. In this paper, 21 species all previously reported from Maine are reported to occur on Great Wass Island.

Great Wass Island (44°30'N - 67°35'W) is located along the coast in Washington County, Maine, off the Town of Jonesport. The island is 3.5 miles long, approximately 3000 acres in size, and composed of granitic bedrock. A cool, moist maritime climate prevails in the area. The Nature Conservancy, a non-profit conservation organization, owns 1500 acres at the southern end of the island where this study was conducted.

There are several large peatlands "bogs" at the southern end of Great Wass Island. Damman (1977) and Worley (1982) have described these coastal raised peatlands which are unusual because jack pine (Pinus banksiana) grows on the peatland.

The southern portion of the island was crossed on August 17, 1975 (collecting numbers 5530 to 5553) and on August 14, 1976 (collecting numbers 5627A to 5638) in company with Dr. Charles D. Richards, former professor of the University of Maine at Orono. The purpose of the study was only to get an idea of which Sphagnum species are growing on this part of the island. The nomenclature of vascular plants follows Fernald (1950). Sphagnum nomenclature follows Isoviita's 1966 treatment.

Sectio Sphagnum

Sphagnum imbricatum Russ. (1) Very open jack pine bog forest with a Kalmia angustifolia shrub layer and Empetrum nigrum spreading on a Sphagnum moss carpet dominated by Sphagnum fuscum forming hummocks (5531). (2) At edge of bog, dense thicket of Nemopanthus mucronata with a few scattered jack pines and a dense shrub layer made of Gaylussacia baccata, Kalmia angustifolia and Myrica gale (5535 mixed with S. magellanicum).

Sphagnum magellanicum Brid. (1) Wet depression in a Carex exilis - Scirpus cespitosus var. callosus - Gaylussacia dumosa var. bigeloviana - Sphagnum fuscum - Sphagnum flavicomans bog community (5538). (2) Black spruce - red maple open forest along a brook with a dense thicket of Nemopanthus mucronata, Myrica gale, Viburnum cassinoides and an understory of Kalmia angustifolia with a Sphagnum covered ground (5544). (3) At edge of bog, dense thicket of Nemopanthus mucronata with a few scattered jack pines and a dense shrub layer made of Gaylussacia baccata, Kalmia angustifolia and Myrica gale (5533 mixed with S. imbricatum).

Sphagnum palustre L. (1) Black spruce open forest with Calamagrostis canadensis, Aster nemoralis, Iris versicolor and Lycopus uniflorus herb layer scattered with clumps of Myrica gale (5546). (2) Black spruce - white birch forest with Carex trisperma and Sphagna (5550).

Sphagnum papillosum Lindb. (1) Cedar swamp with ground covered with Sphagnum colonies and Carex trisperma (5631).

Sectio Rigida

Sphagnum compactum DC. (1) Black spruce-jack pine open forest on shallow

glacial till with Kalmia angustifolia shrub layer and Cladonia ground covered (5548).

Sectio Subsecunda

Sphagnum subsecundum Nees (1) Just above the high tideline, depression with Juncus sp. with water table above the surface. Plant more or less floating (5634)

Sphagnum pylaesii Brid. (1) Drying out wet depression in a jack pine forest with diffuse Gaylussacia baccata, Kalmia angustifolia shrub layer and lichens (mostly Cladonia) covered ground on shallow loose material derived from desintagrating bedrock of granitic rock (5522). (2) Along the shore, wet depression covered with Sphagnum pylaesii and scattered Triglochin maritima; the Sphagnum carpet broken up by low mounds colonised with Poa sp. and Vaccinium macrocarpon (5633).
Previously known in Maine only from Mount Desert Island (Crum, 1984).

Sectio Cuspidata

Sphagnum cuspidatum Hoffm. (1) In a very wet depression with Drosera intermedia in a Carex exilis - Rhynchospora alba - Sphagnum pulchrum wet bog community (5541). (2) Floating into shallow water in a ditch by the gravel road (5638).

Sphagnum fallax (Klinggr.) Klinggr. emend Isov. (1) Black spruce-white birch forest with Carex trisperma and Sphagna (5551).

Sphagnum majus (Russ.) C. Jens. (1) In a jack pine forest; a very wet depression of small size with Rhynchospora alba, Drosera rotundifolia, Eriophorum angustifolium and Sphagnum spp. (5628).

Sphagnum pulchrum (Braithw.) Warnst. (1) Wet depression in a Carex exilis - Scirpus cespitosus var. callosus - Gaylussacia dumosa var. bigeloviana - Sphagnum fuscum - Sphagnum flavicomans bog community (5536).

Sphagnum tenellum (Brid.) Brid. (1) Along a path in a very open jack pine bog forest with a Kalmia angustifolia shrub layer and Empetrum nigrum spreading on a Sphagnum moss carpet dominated by Sphagnum fuscum forming hummocks (5534). (2) Wet depression in a Carex exilis - Scirpus cespitosus var. callosus - Gaylussacia dumosa var. bigeloviana - Sphagnum fuscum - Sphagnum flavicomans bog community (5537). (3) Open jack pine forest on granitic rock with Kalmia angustifolia and Cladonia spp. (5627B).

Sectio Polyclada

Sphagnum wulfianum Girg. (1) Balsam fir - white birch forest with mountain ash and red spruce (5553).

Sectio Acutifolia

Sphagnum angermanicum Melin emend Maass (1) Black spruce - red maple open forest along a brook with a dense thicket of Nemopanthus mucronata, Myrica gale, Viburnum cassinoides and an understory of Kalmia angustifolia with a Sphagnum covered ground (5543).
Reported to be rather common on Mount Desert Island by Maass (1967) being the only previously known locality in Maine. Recently reported from New Hampshire (Holcombe, 1979). Known also from New York and New Jersey. A rather rare plant in New England. Our specimen bears sporophytes.

Sphagnum fimbriatum Wils. (1) Black spruce open forest with Calamagrostis canadensis, Aster nemoralis, Iris versicolor and Lycopus uniflorus herb layer scattered with clumps of Myrica gale (5545). (2) Along the shore, disturbed area with Agrostis scabra, Hypericum virginicum

and Ribes glandulosum (5635). (3) On granitic rocks along the shore in a Vaccinium macrocarpon - Aster nemoralis - Drosera rotundifolia community (5637).

Sphagnum flavicomans (Card.) Warnst. (1) Very open jack pine bog forest with a Kalmia angustifolia shrub layer and Empetrum nigrum spreading on a Sphagnum moss carpet dominated by Sphagnum fuscum forming hummocks (5532). (2) In a Carex exilis - Rhynchospora alba - Sphagnum pulchrum wet bog community (5540). (3) Black spruce - red maple open forest along a brook with a dense thicket of Nemopanthus mucronata, Myrica gale, Viburnum cassinoides and an understory of Kalmia angustifolia with a Sphagnum covered ground (5542). (4) Open black spruce-red maple swamp with Nemopanthus mucronata and Myrica gale. Plant forming large high hummocks (5630).

Previously known in Maine only from Mount Desert Island (Crum, 1974).

Sphagnum fuscum (Schimp.) Klinggr. (1) Very open jack pine bog forest with a Kalmia angustifolia shrub layer and Empetrum nigrum spreading on a Sphagnum moss carpet dominated by Sphagnum fuscum forming hummocks (5530).

Sphagnum girgensohnii Russ. (1) Black spruce - white birch forest with Carex trisperma and Sphagna (5549).

Sphagnum nemoreum Scop. (1) Along the shore, black spruce-red spruce-white birch forest with Kalmia angustifolia shrub layer (5547). (2) Wet depression with Carex canescens and Sphagnum recurvum s.l. (5672A). (3) Cedar swamp with ground covered with Sphagnum colonies and Carex trisperma (5632).

Sphagnum rubellum Wils. (1) Along a path in a very open jack pine bog forest with a Kalmia angustifolia shrub layer and Empetrum nigrum spreading on a Sphagnum moss carpet dominated by Sphagnum fuscum forming hummocks (5533).

Sphagnum warnstorfii Russ. (1) In a Carex exilis - Rhynchospora alba - Sphagnum pulchrum - Gaylussacia dumosa var. bigeloviana - Myrica gale wet bog community (5539).

The humid climate of Great Wass Island combined with a good diversity of habitats has resulted in a rather rich Sphagnum flora. Nearly all the terrestrial coastal species possibly occuring on the island have been collected. One rare species namely Sphagnum angermanicum has been recorded. A search throughout the whole island would have provided us with more than the 21 species listed above. For example, Sphagnum russowii and Sphagnum squarrosum, two very common species, are surely occuring on the island but were not met with.

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LICHENOLOGICAL LITERATURE

The Farlow Library has received a considerable number of books and reprints from Dr. Carroll W. Dodge, prominent American lichenologist.

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