

New or Additional Moss Records from Nova Scotia and Québec

RENÉ J. BELLAND

Biology Department, Memorial University of Newfoundland, St. John's, Newfoundland A1B 3X9

Belland, René J. 1984. New or additional moss records from Nova Scotia and Québec. *Canadian Field-Naturalist* 98(3): 372-374.

Seven mosses, *Entodon concinnus*, *Pohlia filiformis*, *Seligeria diversifolia*, *S. donniana*, *S. recurvata*, *S. tristichoides*, and *Timmia norvegica* var. *excurrens*, are reported new to Nova Scotia while five, *Brachythecium collinum*, *Grimmia incurva*, *Pseudoleskea patens*, *Schistidium trichodon* and *Seligeria donniana*, are new to Québec. Distributional notes are provided for five additional moss species that are rare in southeastern Canada, or are major range extensions to this region.

Key Words: mosses, Québec, Nova Scotia, phytogeography, distribution

This paper reports on new or additional moss records from Nova Scotia and Québec. The records result mainly from field work during 1982 in the Cape Breton Highlands (Nova Scotia) and Gaspé Peninsula (Québec).

All collection numbers are the author's, except where otherwise indicated. Voucher specimens are deposited in the Bryophyte Herbarium at Memorial University of Newfoundland (NFLD).

Arctoa fulvella (Dicks.) B.S.G.

Québec: Tabletop Mountain, 1065-1110 m, 2-7 August 1906, *Collins* 4308, 4435 (FH-Bartram) (verified by Guy R. Brassard); Comté de Matane, Chic-Choc Mountains, north-facing cirque on Mont Logan, 49° 53'N, 66° 37'W, 5266, 5270.

These citations document the occurrences of *Arctoa fulvella* from Québec. Ireland, Birch, Schofield, and Vitt (1980), and Crum and Anderson (1981) reported the species from "Québec", and Brassard (1983) mapped one locality in Gaspé. No specimens were cited in any of those reports.

Arctoa fulvella is an alpine moss (Mårtensson 1956) which is disjunctive in North America between the Western Cordillera and the Northern Appalachians (Crum and Anderson 1981). The species was mapped for North America most recently by Brassard (1983).

Brachythecium collinum

(Schleich. ex C. Muell.) B.S.G.

Québec: Comté de Gaspé-Est, Percé area, Pic de l'Aurore, ca. 48° 31' N, 64° 14' W, 5091, 5092; Comté de Gaspé-Est, Percé area, "l'Ampithéâtre", ca. 48° 31' N, 64° 14' W, 5097, 5105; Comté de Gaspé-Est, Forillon Peninsula, Mont St-Alban, 48° 48' N, 64° 13' W, 5153.

New to eastern North America. *Brachythecium collinum* is disjunctive from western North America. Lawton (1971) cites its distribution there as "... all states and provinces of the Pacific Northwest ... ; Saskatchewan, North Dakota".

Cyrtomnium hymenophylloides (Hüb.) Kop.

Nova Scotia: Inverness County, Cape Breton Highlands National Park, Corney Brook gorge, 46° 43' N, 60° 52' W, 4852; Inverness County, Cape Breton Highlands National Park, near mouth of Big Southwest Brook, 46° 45' N, 60° 41' W, 4933; Pictou County, Drysdale Falls, *Brassard* 12390.

Cyrtomnium hymenophylloides is a rare arctic-alpine species in the Maritimes where it has been reported only twice previously, from New Brunswick (Ireland 1982).

At Big Southwest Brook, *Cyrtomnium hymenophylloides* was found with two other arctic-alpine mosses, *Plagiobryum zierii* (Hedw.) Lindb., and *Timmia norvegica* var. *excurrens* Bryhn. All three taxa are generally considered calcicolous. In studies of calcicolous arctic-alpine vascular plants at this site, Hounsell and Smith (1968) reported the pH of soil samples as acidic (pH 3.8 and 5.5), and with low amounts of exchangeable calcium and magnesium. They attributed the survival of the arctic-alpine vascular plants at Big Southwest to a combination of physical factors other than pH, including shade, moisture, low temperature, exposure, and instability of habitat (cliffs and talus). It is possible that some of these factors, particularly low temperature and moisture, may account for the existence of the arctic-alpine bryophytes at Big Southwest.

Entodon concinnus (De Not.) Par.

Nova Scotia: Inverness County, Cape Breton Highlands National Park, Corney Brook gorge, 46° 43' N, 60° 52' W, 4859, 4875.

New to the Maritimes. In eastern North America, *Entodon concinnus* has a disjunct distribution, where it is also known from Newfoundland (see map in Belland and Brassard 1981), North Carolina and Tennessee (Crum and Anderson 1981). Steere (1978) has mapped its North American distribution, and Belland (1981) has discussed the phytogeography of the species in Newfoundland.

Grimmia incurva Schwaegr.

Québec: Comté de Matane, Chic-Choc Mountains, north-facing cirque on Mont Logan, 49° 53'N, 66° 37'W, 5271, 5313; Comté de Gaspé-Ouest, Lac aux Américains area, barrens and cliffs above north side of lake, 48° 58'N, 66° 01'W, 5396; Comté de Gaspé-Ouest, Mont Jacques-Cartier area, 48° 59'N, 65° 56'W, 5552.

The only previous report of this species from eastern North America (excluding Greenland) is in Newfoundland (Hedderston et al. 1982). *Grimmia incurva* is a mountain moss which is disjunctive from western North America where its range is "... Oregon; Colorado, South Dakota" (Lawton 1971).

Myurella tenerrima (Brid.) Kindb.

Québec: Comté de Matane, Chic-Choc Mountains, north-facing cirque on Mont Logan, 49° 53'N, 66° 37'W, 5295.

This is the first record of this arctic-alpine moss in southeastern Canada, and represents a major range extension from the north and west. The nearest stations are from the Schefferville area, Québec (Crum and Kallio 1966; Ireland, Bellolio-Trucco and Kallio 1980), central Labrador (Brassard and Weber 1978), and Ouimet Canyon and Canyon Lake Canyon, Ontario (Ireland and Bellolio-Trucco 1979).

Orthothecium chryseum

(Schwaegr. ex Schultes) B.S.G.

Québec: Comté de Gaspé-Ouest, Chic-Choc Mountains, granite cliffs above Lac aux Américains, 48° 57'N, 66° 00'W, 5447, 5454.

This is yet another arctic-alpine moss with a major range extension to southeastern Canada. The nearest published reports are from northern Québec (Ireland et al. 1980a) and Labrador (Brassard and Weber 1978).

The habitat of *Orthothecium chryseum* at Lac aux Américains is a small, exposed, N-facing granite "quarry" at about 960 m. Scoggan (1950) has erroneously reported the nature of the bedrock in this area as "... calcareous" (p. 3) and "... limestone" (p. 373, plate IIB). I was unable to locate any limestone outcroppings at Lac aux Américains despite extensive searches. *O. chryseum* is calcicolous, but was growing over granite bedrock in seepage which had a pH of 4.8-5.1. Several other calcicolous bryophytes were found at or near the *O. chryseum* site (e.g., *Ditrichum flexicaule* (Schwaegr.) Hampe, and *Plagiopus oederiana* (Sw.) Limpr.) as well as several calcicolous arctic-alpine vascular plants (e.g., *Anemone parviflora* Michaux, and *Saxifraga aizoon* Jacq. var. *neogaea* Butters). As with *Cyrtomnium hymenophylloides*, physical factors other than pH may allow the persistence of the plants in this habitat.

Plagiobryum zierii (Hedw.) Lindb.

Nova Scotia: Inverness County, Cape Breton Highlands National Park, Corney Brook gorge, 46° 43'N, 60° 52'W, 4856, 4870.

This is only the second station for this arctic-alpine moss in Nova Scotia. It was previously collected from nearby Big Southwest Brook (Ireland 1982).

Pohlia filiformis (Dicks.) Andr.

Nova Scotia: Inverness County, Cape Breton Highlands National Park, south branch of Corney Brook, 46° 42'N, 60° 54'W, 4909.

Reported only once previously in the Maritimes from New Brunswick (Ireland 1982). In eastern Canada *Pohlia filiformis* is also known from Ontario, Québec, Newfoundland and Labrador (Ireland, Bird, Schofield and Vitt 1980).

Pseudoleskea patens (Lindb.) Kindb.

Québec: Comté de Matane, Chic-Choc Mountains, north-facing cirque on Mont Logan, 49° 53'N, 66° 37'W, 5268.

In eastern North America, *Pseudoleskea patens* is known also from Michigan, Ontario, New Hampshire, Nova Scotia, and Newfoundland (Crum and Anderson 1981). According to Crum and Anderson (1981), and Lawton (1971), *P. patens* grows mainly in alpine habitats.

Schistidium trichodon (Brid.) Poelt

Québec: Comté de Bonaventure, Ruisseau Allard, "Les Falls", 48° 12'N, 66° 22'W, 4987.

The only previous reports of this rare moss in eastern North America are from Newfoundland (Hedderston et al. 1982). The species is rare and widely disjunct in North America. The North American locality nearest to the Gulf of St. Lawrence stations is in coastal Alaska (Bremer 1980). According to Bremer, *Schistidium trichodon* is restricted to mountain areas.

Seligeria diversifolia Lindb.

Nova Scotia: Victoria County, near MacLeods Pool on North River, 49° 19'N, 60° 40'W, 4769.

Seligeria diversifolia is rare in the Maritimes, where the only other known station is northern New Brunswick (Ireland 1982).

Seligeria donniana (Sm.) C. Muell.

Nova Scotia: Victoria County, Cape Breton Highlands National Park, Little Southwest Brook, 46° 48'N, 60° 38'W, 4808; Inverness County, Cape Breton Highlands National Park, MacIntosh Brook, 46° 48'N, 60° 46'W, 4810.

Québec: Comté de Bonaventure, Ruisseau Allard Est, 48° 10'N, 66° 22'W, 4985; Comté de Gaspé-Est, Percé area, "La Grotte", ca. 48° 31'N, 64° 14'W, 5059.

New to the Maritimes and Québec. *Seligeria donniana* has a wide distribution in eastern North America (see map in Vitt 1976) and its occurrence in Québec and the Maritimes was to be expected.

Seligeria recurvata (Hedw.) B.S.G.

Nova Scotia: Pictou County, Welsford area, along River John near Welsford, 4962.

Seligeria recurvata is rare in the Maritimes, where it has been reported from a single locality in New Brunswick (Ireland 1982). Vitt (1976) regards *S. recurvata* in North America as "rare and sporadic".

Seligeria tristichoides Kindb.

Nova Scotia: Victoria County, Cape Breton Highlands National Park, Little Southwest Brook, 46° 48' N, 60° 38' W, 4809.

New to the Maritimes. In eastern North America, the species occurs from Newfoundland and Gaspé Peninsula southward to northern Vermont (Vitt 1976).

Timmia norvegica Zett. var. *excurrens* Bryhn

Nova Scotia: Inverness County, Cape Breton Highlands National Park, near the mouth of Big Southwest Brook, 46° 45' N, 60° 41' W, 4918.

This is the first report of the species *Timmia norvegica* from the Maritimes. However, both var. *norvegica* and var. *excurrens* have been reported from Newfoundland (Tuomikoski et al. 1973; Brassard 1979; Belland and Brassard 1981). Brassard (1979) has mapped the world distribution of var. *excurrens*.

Acknowledgments

These studies were supported by a Natural Sciences and Engineering Research Council of Canada grant (A-6683) to Guy R. Brassard. Thanks are due to Parks Canada for permission to collect in Cape Breton Highlands National Park, and to the Gouvernement du Québec for permission to collect in Parc de la Gaspésie. I thank Guy R. Brassard for his examination of critical specimens, and for help with the manuscript. Appreciation is extended to W. Alexander MacDonald for his assistance and companionship in the field.

Literature Cited

- Belland, R. J.** 1981. Ecology and phytogeography of the mosses of the Bonne Bay region, western Newfoundland. M.Sc. thesis, Memorial University of Newfoundland. St. John's. 133 pp.
- Belland, R. J., and G. R. Brassard.** 1981. New or additional moss records from Newfoundland VII. *Bryologist* 84: 560-563.
- Brassard, G. R.** 1979. The moss genus *Timmia*. 1. Introduction, and revision of *T. norvegica* and allied taxa. *Lindbergia* 5: 39-53.
- Brassard, G. R.** 1983. Bryogeography, with special reference to mosses. Pp. 361-384 in *Biogeography and ecology of the island of Newfoundland*. Edited by G. R. South. Junk, The Hague. 723 pp.
- Brassard, G. R., and D. P. Weber.** 1978. The mosses of Labrador, Canada. *Canadian Journal of Botany* 56: 441-466.
- Bremer, B.** 1980. A taxonomic revision of *Schistidium* (Grimmiaceae, Bryophyta) 2. *Lindbergia* 6: 89-117.
- Crum, H. A., and L. E. Anderson.** 1981. Mosses of eastern North America. Volumes 1 and 2. Columbia University Press, New York. 1328 pp.
- Crum, H., and P. Kallio.** 1966. Bryophytes of Labrador and Ungava. National Museum of Canada, Bulletin 216, Contributions to Botany IV: 87-101.
- Hedderson, T., G. R. Brassard, and R. J. Belland.** 1982. New or additional moss records from Newfoundland VIII. *Bryologist* 85: 442-443.
- Hounsell, R. W., and E. C. Smith.** 1968. Contributions to the flora of Nova Scotia. IX. Habitat studies of arctic-alpine and boreal species. *Rhodora* 70: 176-192.
- Ireland, R. R.** 1982. Moss flora of the Maritime Provinces. National Museums of Canada, Publications in Botany 13. 738 pp.
- Ireland, R. R., and G. Bellolio-Trucco.** 1979. Mosses new to Ontario and Québec. *Canadian Field-Naturalist* 93: 431-433.
- Ireland, R. R., G. Bellolio-Trucco, and P. Kallio.** 1980. Bryophytes of northern Québec and Labrador. *Canadian Journal of Botany* 58: 321-329.
- Ireland, R. R., C. D. Bird, G. R. Brassard, W. B. Schofield, and D. H. Vitt.** 1980. Checklist of the mosses of Canada. National Museums of Canada, Publications in Botany 8. 75 pp.
- Lawton, E.** 1971. Moss flora of the Pacific Northwest. Hattori Botanical Laboratory, Nichinan, Japan. 362 pp.
- Mårtensson, O.** 1956. Bryophytes of the Torneträsk area, northern Swedish Lappland. II. Musci. Kungl. Svenska Vetenskapsakademiens Avhandlingar I Naturskyddsårenden Nr. 14: 1-321.
- Scoggan, H. J.** 1950. The Flora of Bic and the Gaspé Peninsula, Québec. National Museum of Canada, Bulletin 115. 399 pp.
- Steere, W. C.** 1978. The Mosses of Arctic Alaska. *Bryophytorum Bibliotheca* 14. 508 pp.
- Tuomikoski, R., T. Koponen, and T. Ahti.** 1973. The mosses of the island of Newfoundland. *Annales Botanici Fennici* 10: 217-264.
- Vitt, D. H.** 1976. The genus *Seligeria* in North America. *Lindbergia* 3: 241-275.

Received 14 February 1983

Accepted 23 December 1983



Belland, René J. 1984. "New or additional moss records from Nova Scotia and Québec." *The Canadian field-naturalist* 98(3), 372–374.

<https://doi.org/10.5962/p.355169>.

View This Item Online: <https://www.biodiversitylibrary.org/item/89187>

DOI: <https://doi.org/10.5962/p.355169>

Permalink: <https://www.biodiversitylibrary.org/partpdf/355169>

Holding Institution

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Sponsored by

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Ottawa Field-Naturalists' Club

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.