

LICHENS OF BEAVER BROOK, NOVA SCOTIA

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Thirty-three lichen species were collected from a woodland in Colchester County, Nova Scotia. Several 'old growth forest' lichens were identified indicating the value of further lichen studies in Nova Scotian woodlands.

Key words: lichens, old growth forests.

Introduction

Rather few lichenologists have studied the lichens of Nova Scotia. In the 1950s, a local teacher encouraged the study of lichens (Erskine, 1957) and in the same decade, MacKenzie Lamb (1954) surveyed the lichens of Cape Breton. A more recent list is included by David Lawley in his guide to the Cabot Trail (Lawley, 1995). An early study of the lichens in Halifax was published by Ward (1968) and Wolfgang Maas has examined lichens in the province for many years (Maas & Richardson, 1994). There are no comprehensive keys to the lichens of Nova Scotia, but that provided in the publication on the Lichens of the Fundy National Park in New Brunswick is extremely useful in helping to identify specimens (Gowan & Brodo, 1988).

Study Area

The area surveyed is located in Beaver Brook, Colchester County, Nova Scotia (45° 17'30"N, 63° 25'00"W). It is within the New England Section of Eastern Hemlock-White Pine-Northern Hardwoods Forest Region (Braun, 1950) and is analogous to the Acadian Forest Region (Rowe, 1972). The dominant climax tree species are representative of a more southerly floral element and include red spruce (*Picea rubens* Sarg.), eastern hemlock (*Tsuga canadensis* (L.) Carr), sugar maple (*Acer saccharum* Marsh.), American beech (*Fagus gradifolia* Ehrh.), and yellow birch (*Betula alleghaniensis* Britt.). Some sites are occupied by species of the more northerly boreal floral element and these are increasing in abundance as a result of man's activities over the forested landscape.

The study site is characterized by a cool, humid climate - a modified continental climate, the result of interactions between continental and maritime air masses. The prevailing winds are westerly. Winters are cold with frequent snowfall; springs are late, cool and wet, and summers are cool and humid with moderate precipitation and frequent fog. Topographically, the site is part of a gently undulating to rolling till plain with well to imperfectly drained loamy to clay-loamy soils derived from soft red Triassic sandstones, limestones and gypsum.

The collection area includes a well drained, moderately-steep slope covered with climax deciduous forests and an imperfectly drained flat area with an admixture of climax deciduous and coniferous forests. A variety of age classes exists within these forests, ranging from 30 to 125 years of age. Elevation ranges between 75 to 90 meters. The aspect of the site is northwest.

Lichens were collected (Richardson & Seaward) from the various trees in April, 1993 and subsequently identified.

The Lichen List

- Anaptychia palmatula* (Michaux) Vainio on sugar maple and yellow birch (Herb.MRDS 107461)
- Bryoria* sp.
- Candelaria concolor* (Dickson) B. Stein
- Cladonia caespiticia* (Pers.) Florke on spruce stump (one of the northernmost records in North America - T. Ahti in litt.) (Herb.MRDS 106524)
- Collema furfuraceum* (Arnold) Du Rietz
- Graphis scripta* (L.) Ach. on yellow birch and hemlock (Herb.MRDS 106518)
- Heterodermia galactophylla* (Tuck.) Culb. on sugar maple (Herb.MRDS 106672)
- Lecanora carpinea* (L.) Vainio on red maple
- L. chlarotera* Nyl. agg. on sugar maple
- Lecidella elaeochroma* (Ach.) M. Choisy
- Leptogium laceroides* (B. de Lesd.) P. Jorg. on sugar maple (det. P.M. Jorgensen) (Herb.MRDS 106678)
- Lobaria pulmonaria* (L.) Hoffm. on white ash (Herb.MRDS 106510)
- L. scrobiculata* (Scop.) DC. on sugar maple & white ash (Herb.MRDS 106592)
- Lopadium disciforme* (Flotow) Kullhem on yellow birch & hemlock (det. B.J. Coppins) (Herb.E; MRDS 106517)
- Loxospora cismonica* (Beltram.) Hafellner on hemlock (det. B.J. Coppins) (Herb.E; MRDS 106515)
- Nephroma parile* (Ach.) Ach.
- Normandina pulchella* (Borrer) Nyl. on sugar maple
- Ochrolechia trochophora* on balsam fir &/or hemlock (det. B.J. Coppins) (Herb.MRDS 106520)
- Pannaria* sp. on sugar maple
- Parmelia squarrosa* Hale on yellow birch & sugar maple (Herb.MRDS 106590, 107229)
- Parmeliella* cf. *triptophylla* (Ach.) Mull. Arg. on hemlock
- Parmotrema chinense* (Osbeck) Hale & Ahti
- Pertusaria amara* (Ach.) Nyl.
- P. sp.* K + brown-red, KC -, Pd + red on balsam fir
- Phlyctis argena* (Sprengel) Flotow
- Physconia detersa* (Nyl.) Poelt (det. R. Moberg) (Herb.MRDS 106673)
- Platismatia glauca* (L.) Culb. & C. Culb.
- Pseudocyphellaria crocata* (L.) Vainio
- Ramalina americana* Hale on yellow birch (Herb.MRDS 107228)
- Thelotrema lepadinum* (Ach.) Ach.
- Trypethelium virens* Tuck. ex Michen. on birch (det. B.J. Coppins) (Herb.E; MRDS 106516)
- Usnea* cf. *florida* (L.) Weber ex Wigg. on red maple
- U. trichodea* Ach. on yellow birch (Herb.MRDS 107462)

Discussion

The lichen flora of this woodland included a number of interesting old growth forest species including genera such as *Lobaria*, *Pannaria* and *Normandina*. Of special note is *Ochrolechia trochophora* which may be new to North America. The flora is probably typical of older regrowth forest in mainland Nova Scotia. The list from this brief survey reveals a reasonable diversity. Further studies on this type of woodland, as well as on old growth forest areas like Abrahams Lake, would be very worthwhile.

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