

PANNARIA LURIDA IN ATLANTIC CANADA*

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The cyanophilic lichen *Pannaria lurida* has been collected from seventeen localities in southern Nova Scotia and two in southern New Brunswick. Previous reports of this lichen from Quebec are based on ill-identified or doubtful materials.

Le lichen cyanophile *Pannaria lurida* a été ramassé de dix-sept localités dans le sud de la Nouvelle Ecosse et de deux localités dans le sud du Nouveau Brunswick. Des rapports antérieures de ce lichen provenant du Québec sont fondés sur des échantillons mal-identifiés ou d'origine douteuse.

Apart from several unconfirmed reports of *Pannaria lurida* (Mont.) Nyl. in Quebec (Lepage, 1947, 1958; to be discussed below) and a very doubtful one from Newfoundland or Labrador (Eckfeldt 1895, as *Physma luridum* Mont.), nothing is known about the occurrence of this interesting but often overlooked species in Canada. *Pannaria lurida* belongs to the *P. rubiginosa* group (Jørgensen 1978) and is distinguished from the most closely related species, *P. rubiginosa* (Ach.) Bory, by its larger, conspicuously wrinkled and often greyish green thallus lobes (Fig 1A & B). The more greyish coloration is caused by the pronounced accumulation of pannarin, a chlorinated depsidone which is produced in lesser amounts in *P. rubiginosa* and its sorediate counterpart *P. conoplea* (Ach.) Bory. The algal symbiont is *Nostoc* as is usual with members of Pannariaceae.

Specimens in the Smithsonian Institution (US) and the Farlow Herbarium (FH) indicate that *P. lurida* had been collected at least as far north as Maine (South Thomaston and Warren in Knox County and Salisbury Cove in Hancock County). The species seems to be restricted to the eastern seaboard of northern North America, the southeastern U.S.A. (Hale 1979) and some mountains in the Caribbean, although some misidentified specimens of *Pannaria* from the Hawaiian Islands have been seen under this name (GB, Göteborg). During our surveys of forest lichens in eastern Canada and the adjacent parts of Maine we have noted the presence of *P. lurida* in southern Nova Scotia and less frequently along the Northumberland Straits and in eastern Maine (Fig 2). These areas are more or less strongly influenced by an oceanic climate and lie outside or along the edge of the boreal coniferous zone. The habitats are mostly very wet mixed forests in which *Fraxinus americana* L., *F. nigra* Marsh. and *Acer rubrum* L. are dominant. *Pannaria lurida* is a rare member of the Lobarion. It often grows together with related species of *Pannaria*, most often *P. rubiginosa* and *P. conoplea* but also *P. ahlneri* P. M. Jørg. and *P. leucosticta* (Tuck. in Darl.) Nyl. (in southern Nova Scotia). By contrast to these species, all of which are able to grow on coniferous bark, especially on that of *Thuja*, *P. lurida* has been found only on deciduous trees. We have seen the lichen on the following phorophytes (number of observations in parentheses): *Acer rubrum* (8), *A. saccharum* Marsh. (1), *Fagus grandifolia* Ehrh. (1), *Fraxinus americana* (5), *F. nigra* (1), *Malus pumila* Mill. (1),

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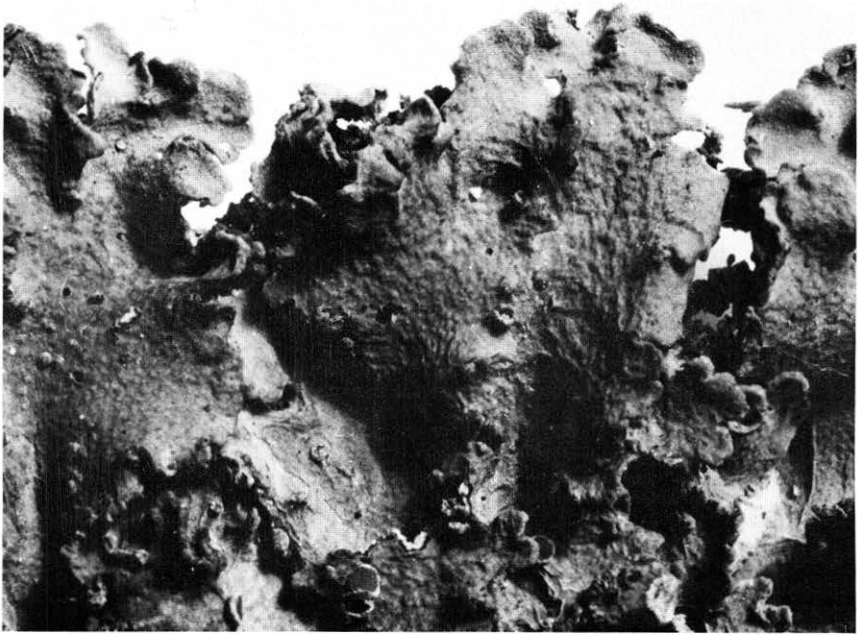


Fig 1A *Pannaria lurida*. Marginal lobes of thallus in air dried condition, showing the characteristic wrinkles which are caused by an inhomogeneous algal layer (Jørgensen 1978). x6.

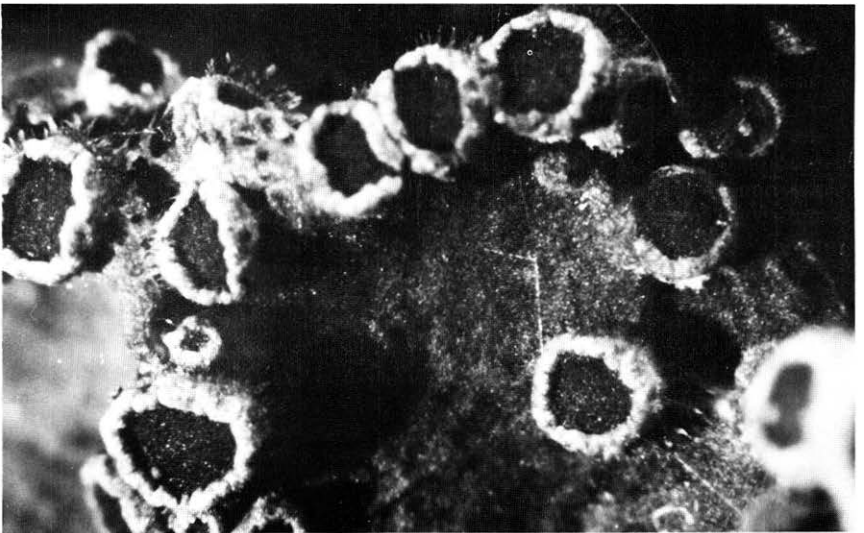


Fig 1B *Pannaria lurida*. Partial view of thallus with apothecia, hydrated for 30 min. The wrinkles are still in evidence. x15.

Populus tremuloides Michx. (2), *P. balsamifera* L. (1) and *Quercus ruba* L. (1). Additional phorophytes from Maine include *Salix* spp. (3), *Sorbus americana* Marsh. (1) and *Ulmus* sp. (1). On some trees in southern Nova Scotia (*Acer* and *Malus*), *P. lurida* was seen in great abundance, sometimes covering the trunk face up to a height of 3 m.

The distribution of *P. lurida* is predominantly of an Appalachian type. Together with *Anzia colpodis* (Ach.) Stizb., *Cetraria aurescens* Tuck., *Normandina pulchella* (Borr.) Nyl., *Pannaria leucosticta*, *Parmotrema perlatum* (Huds.) Choisy and, on *Fagus*, *Trypethelium virens* Tuck. in Darl. (Brodo 1968), *P. lurida* belongs to a distinct group of Appalachian elements which has become established in the interior of mainland Nova Scotia and shows no particular preference for coastal habitats. None of these lichens are found in Newfoundland but all of them occur sporadically in eastern New Brunswick (Kent and/or Northumberland Counties) and/or on the Gaspé Peninsula or further up in the valley of the St. Lawrence River (Lepage 1949, 1958; Brodo and Gowan 1982). At least several additional lichens with an Appalachian type of distribution are known to have isolated populations in the interior of Nova Scotia but are unknown from the Northumberland Straits area of eastern New Brunswick or from Quebec. To this group belong *Hypotrachyna imbricatula* (Zahlbr.) Hale, *Parmotrema mellissii* Vain., *Thelotrema subtile* Tuck., *Heterodermia squamulosa* (Degel.) W. Culb. and *Ochrolechia yasudae* Vain. (Maass, unpublished data).

Revisions of lichen specimens from the Herbarium of Lepage (in Herbarium Louis-Marie, QFA, Quebec) previously identified as *P. lurida* revealed that this species is not

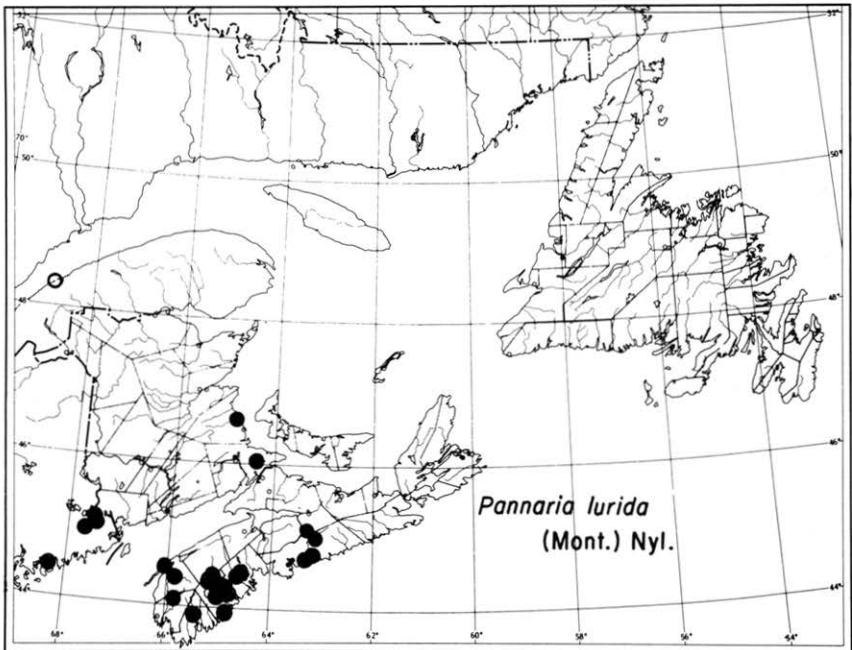


Fig 2 Distribution of *Pannaria lurida* in Atlantic Canada and the adjacent parts of Maine. The open circle refers to an unconfirmed and dubious report by Lepage (1958) as discussed in the text.

presently known from Quebec with any degree of certainty and should be struck from the checklists of that province. Specimens reported as *P. lurida* from Waterloo (Lepage 1949) and Ile Lemoine in James Bay (Lepage 1958) have been revised as *Lecanora cinereofusca* H. Magn. and *Pannaria rubiginosa* (Ach.) Bory respectively. Similarly, the *Pannaria* from calcareous rocks of the Rimouski R. Valley (# 4169 in Lepage 1949) turned out to be *P. leucophaea* (Vahl.) P. M. Jørg. The only specimen not seen was collected by LeGallo on rocks at Cap à l'Original, 48°22'N and 68°49'W (Lepage 1958). It is possibly at the Missouri Botanical Gardens (MO) or in Herb. Dodge (Burlington, Vt.) and was originally listed under the name *P. russellii* Tuck. (LeGallo 1954). It is highly unlikely that it represents *P. lurida*.

Specimens studied: Except as otherwise indicated the collections were made by the authors and are in their Herbarium.

NOVA SCOTIA

Colchester Co.: St. Andrews R. ca. 3 km W of Lanesville, 86J-1a.

Halifax Co.: Murchyville, about 1 km northwest from bridge over Little R., 82K-3a, c; Musquodoboit Harbour, between Petpeswick L. and Scots L., 82E-23a; and Porters Lake, along Hwy. 107 north of Grand L., 82E-22b.

Lunenburg Co.: New Cornwall, in floodplain of brook between Caribou L. and Little Mushamush L., 81D-90a; and West Northfield, on route 10 about 10 km northwest of Bridgewater, Brodo and Argus # 18955 (CANL).

Queens Co.: Kempt, 2.5 km on road to New Albany, 82D-39e; Kejimikujik National Park, on road from Fish Hatchery to George Bay, 0.5 and 2.5 km south from turnoff to McGinty L., 81K-4g, 81K-5c; between Hibernia and Caledonia near road to Maugher, 82I-4b; between north end of Ponhook L. and route 8, 82I-3b; between Greenfield and Buckfield in burnt-over swampy woodland, 82D-25a; between Bangs Falls and Riversdale, along Medway R. near Burnaby Bk., 82D-21a; Indian Gardens on logging road west of Mersey R., 1 km from gate, 82E-41e, g; and Summerville, in swampy woods south of Hwy. 103, 81E-30e.

Shelburne Co.: Ohio Road 12.8 km north from Hwy. 103, 83K-30a, b.

Yarmouth Co.: North Kemptville, near steel bridge over Tusket R. on road to Titus Ridge, 83A-30b.

Digby Co.: Sissiboo R. at Devils, 82D-14h; and Lake Medway, 82D-46r.

NEW BRUNSWICK

Westmorland Co.: Aboujagane Road 20 km north of Sackville, moist *Abies - Picea - Acer rubrum* moss herb forest near edge of *Alnus rugosa* swamp, Harries and Maass # 79H-1a, # 79065 in Herb. Harries.

Kent Co.: Headlands of Chockpish R., near Hwy. 11, 6 km south from Hwy. 134 jct. in Rexton, 83G-23c.

Acknowledgements

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