

THE LICHEN SPECIES *LEPRARIA EBURNEA* FOUND IN POLAND

MARTIN KUKWA & BEATA SĄGIN

Abstract. The lichen species *Lepraria eburnea* J. R. Laundon is reported as new to Poland. A description of the species is given, with remarks on chemical variability, ecology and distribution.

Key words: *Lepraria*, taxonomy, distribution, Poland

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Studies of the lichen genus *Lepraria* Ach. have been neglected in Poland. Up to 1993 only three species were known from the country (Fałtynowicz 1993). Further investigations produced reports of a few more species (Kümmerling *et al.* 1995; Bielczyk 1997; Fałtynowicz 1997; Guzow 1997; Kukwa & Owe-Larsson 2000). Knowledge of their occurrence and ecology is still insufficient. Many of the species seem to be quite common (Kukwa unpubl.) although only a few records have been published.

During revision of herbarium materials of *Lepraria* from Poland, *Lepraria eburnea* J. R. Laundon, a taxon not previously reported here, was found.

Lichen substances were identified by TLC in solvent C (methods after White & James 1985). The specimens are deposited in KTC and UGDA-L. The distribution of the species examined is given in the 10 × 10 km ATPOL grid square system (Cieśliński & Fałtynowicz 1993). The names of the physiogeographical units (mesoregions) follow Kondracki (1994).

Lepraria eburnea J. R. Laundon

Thallus leprose, diffuse or more or less delimited, but without marginal lobes, stratified; soredia up to 0.2 mm in diameter, with only short or sometimes also with long projecting hyphae; whitish grey, usually greenish or yellowish tinged.

CHEMISTRY. Alectorialic and barbatolic acids (both benzyldepsides) detected in all specimens, and protocetraric acids (depsidones) in only four of six specimens. Those with protocetraric acids represent chemotype I, while others belong to chemotype III (Orange 1997). A further chemotype (II) with psoromic and 2'-O-demethylpsoromic acids (both depsidones) as reported by Orange (1997) has not yet been found in Poland.

Chemotype III was earlier treated in the literature as a separate taxon, *Lepraria frigida* J. R. Laundon (e.g., Laundon 1992a; Leuckert *et al.* 1995; Lohtander 1994). However, the holotype of *L. frigida* also contains protocetraric acid, so this taxon was included in *L. eburnea* (Orange 1997).

AFFINITIES. *Lepraria eburnea* is chemically similar to *L. neglecta* (Nyl.) Erichsen, but that species differs in its granular thallus and in a few chemical features. *L. eburnea* may produce depsidones in addition to alectorialic acid (e.g., protocetraric acid), whereas *L. neglecta* yields higher aliphatic acids (e.g., Tønberg 1992; Leuckert *et al.* 1995). *Lepraria vouauxii* (Hue) J. R. Laundon also resembles *Lepraria eburnea* but differs in the presence of alectorialic acid instead of dibenzofuranes (Laundon 1992b).

During studies of *Lepraria* in Poland a few specimens were found containing substances typical for both *Lepraria eburnea* (alectorialic acid) and *L. lobificans* Nyl. (atranorin, stictic acid complex

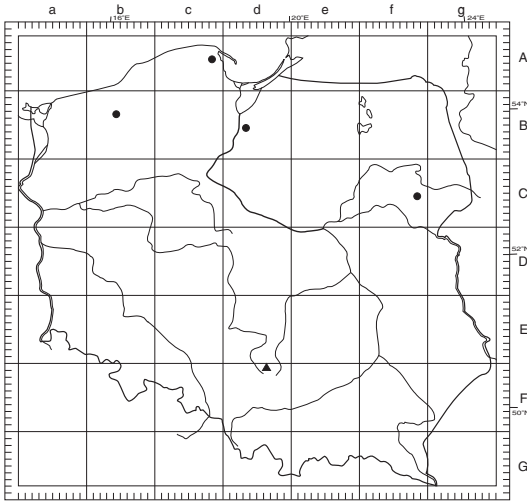


Fig. 1. Localities of *Lepraria eburnea* J. R. Laundon in Poland; ● – chemotype I, ▲ – chemotype III.

and zeorin) at the same time. These specimens probably represent mixtures of the thalli of these two species (after fusion of either soredia or very young individuals of these two taxa).

ECOLOGY. *Lepraria eburnea* occurs in Poland on mosses growing on limestone, concrete and bricks which are modified by calcareous dust exposure. As an epiphyte it was found on *Quercus* sp. and *Pinus sylvestris* in the vicinity of Wejherowo city.

DISTRIBUTION IN POLAND. The species has been found in six localities located in five ATPOL grid squares (Fig. 1). It is probably more common but overlooked.

GENERAL DISTRIBUTION. *Lepraria eburnea* has been reported from several countries and seems to be a common species in temperate Europe. It has been found in Austria [as *Lepraria frigida* (Laundon 1992a, b)], Estonia (Randlane & Saag 1999; Saag & Saag 1999), Finland (Lohtander 1994; Saag & Saag 1999), France (Laundon 1992a, b), Germany (Wirth 1995; Wirth & Heklau 1995; Scholz 2000), Great Britain (Laundon 1992a, b), Iceland (as *Lepraria frigida*; see Kristinsson 1999), Ireland (Orange 1997), Italy (Mar-

tellos & Nimis 2000), Lithuania (Motiejūnaitė 1999), the Netherlands (Aptroot *et al.* 1999), Norway (Tønberg 1992, Orange 1997), Slovakia (Kukwa 2001), Sweden (Muhr 1993; Santesson 1993), Switzerland (Dietrich & Scheidegger 1997) and Ukraine (Kukwa 2001). It has been also reported from North America (Laundon 1992a, b; Orange 1997) and Greenland (as *Lepraria frigida*; see Laundon 1992a, b).

SPECIMENS EXAMINED. Grid square Ac-58 – PRA-DOLINA ŁEBY I REDY VALLEY, ca 1 km N of Wejherowo city, on bark of *Quercus* sp. and *Pinus sylvestris*, 28 May 1999, leg. M. Kukwa (UGDA-L) – chemotype I. Bb-34 – RÓWNINA BIAŁOGARDZKA PLATEAU, between Bobolice and Połczyn Zdrój, Stare Dębno village, on concrete, 09 Oct. 1994, leg. B. Sągín (UGDA-L) – chemotype I. Bd-53 – POJEZIERZE IŁAWSKIE LAKELAND, ca 2.5 km W of Jezioro Liwieniec lake, on mosses on concrete in shade, 28 July 1999, leg. M. Kukwa (UGDA-L) – chemotype I. Cf-58 – RÓWNINA BIELSKA PLATEAU, 0.5 km W of Hodyszewo village, on brick, ??.1991, leg. S. Cieśliński (KTC) – chemotype I. Fd-06 – WYŻYNA CZĘSTOCHOWSKA UPLAND, between Mirów and Bobolice castles, on mosses growing on limestone, 30 Apr. 2000, leg. M. Kukwa (UGDA-L) – chemotype III; 1 km NE of Mirów, on mosses growing on limestone, 30 Apr. 2000, leg. M. Kukwa (UGDA-L) – chemotype III.

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