

num 1.1; *Peucedanum cervaria* 1.1; *Cruciata glabra* 1.2; *Carlina vulgaris* +; *Scabiosa ochroleuca* +; *Linum catharticum* +; *Sanguisorba minor* +; *Pteridium aquilinum* 1.2; *Centaurea scabiosa* +; *Dianthus carthusianorum* +; *Hieracium pilosella* 1.1; *Hypericum perforatum* 1.1; *Fragaria vesca* +; *Galium boreale* 1.2; *Euphorbia cyparissias* +; *Veronica chamaedrys* +; *Anthyllis vulneraria* 1.1; *Knautia arvensis* +; *Solidago virgaurea* r; *Briza media* +.

D: *Brachythecium albicans* 2.2.

At the other known Polish localities *Dictamnus albus* occurs in similar ecological conditions. At the newly recorded locality the species seems to be seriously endangered by expanding *Pteridium aquilinum* and introduced *Padus serotina*.

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New and noteworthy species of *Lepraria* and *Leproloma* to Ukraine

Lepraria Ach. and *Leproloma* Nyl. ex Cromb. have been much neglected in lichenological studies. Only in recent years the interest in these groups increased, and many taxa have been described as new (e.g., Laundon 1992; Tønsberg 1992; Lohtander 1994; Leuckert *et al.* 1995). Knowledge of the distribution and occurrence of these lichens is still insufficient, especially in Central Europe and adjacent areas.

In Ukraine these two genera are rather poorly recognized. So far five species of *Lepraria* and two of *Leproloma* have been reported from this country (Kondratyuk *et al.*

1998). Besides *Lepraria incana* (L.) Ach. and *Leproloma membranaceum* (Dicks.) Vain., other species were noted in 1998, known mostly from a few localities (e.g., Khodosovtsev 1998; Coppins *et al.* 1998). In this paper two additional taxa are reported from the country as new: *Lepraria crassissima* (Hue) Lettau and *L. eburnea* J. R. Laundon. Also, *Leproloma membranaceum* and *L. vouauxii* (Hue) J. R. Laundon are reported from new localities. The specimens were identified during revision of lichens collected by Professor Tadeusz Sulma in 1931–1937 in the Chivchino-Grinyavskie Mts (Czywczyńskie Mts in Polish; see also Fałtynowicz & Sulma 1994) in the Eastern Carpathians. A map with all localities investigated by T. Sulma is presented in Fałtynowicz & Sulma (1994). Herbarium specimens are deposited in the Lichen Herbarium of the University of Gdańsk (UGDA-L). Chemical compounds were identified by thin-layer chromatography (TLC) in solvent C (methods according to White & James 1985).

Lepraria crassissima (Hue) Lettau

Thallus thick, mostly delimited and sometimes lobed, with a very thick white medulla; soredia bluish to greenish, often eroded and giving the thallus a whitish appearance.

Chemistry – zeorin, divaricatic and nordivaricatic acids.

According to Kümmerling *et al.* (1991), *Lepraria crassissima* is placed in synonymy with *L. incana* (L.) Ach. because of their similar chemistry, but it differs morphologically by its thick stratified thallus, and chemically by the presence of large amounts of nordivaricatic acid (Tønsberg 1992; Boom *et al.* 1994).

L. crassissima strongly resembles *L. lobificans* Nyl. morphologically, but the latter differs chemically by the presence of stictic acid complex, zeorin and atranorin in the thallus (Tønsberg 1992). Also *L. nivalis* J. R. Laundon is similar in morphology, but the chemistry is different: *L. crassissima* contains zeorin, divaricatic and nordivaricatic acids while *L. nivalis* contains atranorin, fatty acids and substances from the depsidone- β -orcinol series (fumarprotocetraric, protocetraric and psoromic acids) or stictic acid complex (Leuckert *et al.* 1995).

SPECIMEN EXAMINED – UKRAINE. EASTERN CARPATHIANS. Chivchino-Grinyavskie Mts, Gnetesa Mt., altitude not recorded, on mosses on rocks, 23 July 1933, *leg.* T. Sulma (UGDA-L).

Lepraria eburnea J. R. Laundon

Thallus crustose, leprose, diffuse, without marginal lobes, whitish grey, usually with greenish or yellowish tinge, true medulla absent; soredia usually with short projecting hyphae.

Chemistry – the species comprises three chemotypes (Orange 1997). Alectorialic and barbatolic acids are present in all of them. In addition, protocetraric acid is produced in chemotype I, and psoromic and 2'-O-demethylpsoromic acids in chemotype II. Only alectorialic and barbatolic acids are present in specimens representing chemotype III. In the past the latter was recognized as a separate taxon, *L. frigida* J. R. Laundon, but it has been reduced to a synonym of *L. eburnea* by Orange (1997). The specimen from Ukraine belongs to chemotype I.

L. eburnea is similar to *L. neglecta* (Nyl.) Erichsen which also produces alectorialic

acid, but it differs from the latter by its granular thallus. The ecology also differs. *L. neglecta* grows in unshaded habitats exposed to rain, whereas *L. eburnea* grows on steep or overhanging surfaces sheltered from direct rain (e.g., Laundon 1992).

L. eburnea differs from other morphologically similar taxa with leprose thalli by the presence of alectorialic acid (Laundon 1992; Tønsberg 1992).

SPECIMEN EXAMINED – UKRAINE. EASTERN CARPATHIANS. Chivchino-Grinyavskie Mts, Al'bin Mt., altitude not recorded, on rocks in stream, 21 July 1935, *leg. T. Sulma* (UGDA-L).

Leproloma membranaceum (Dicks.) Vain.

Thallus leprose, delimited, with distinct marginal rounded lobes, yellowish white, medulla distinct; soredia with or without short projecting hyphae.

Chemistry – pannaric and rocellic acids; atranorin also sometimes present as in the specimen cited below.

Leproloma membranaceum differs from other members of the genus by its lobate thallus, and chemically by the presence of pannaric acid as a major compound (Laundon 1992; Leuckert *et al.* 1995).

The species is rare in Ukraine. According to Makarevich *et al.* (1982) it has not been reported earlier from the Chivchino-Grinyavskie Mts.

SPECIMEN EXAMINED – UKRAINE. EASTERN CARPATHIANS. Chivchino-Grinyavskie Mts, Chivchin Mt., altitude not recorded, on rocks in humid forest, 22 Aug. 1937, *leg. T. Sulma* (UGDA-L).

Leproloma vouauxii (Hue) J. R. Laundon

Thallus leprose, diffuse to delimited, without marginal lobes, pale yellowish grey, sometimes with a greenish tinge; soredia with or without projecting hyphae.

Chemistry – pannaric acid-6-methyl ester as major compound, in addition, other related dibenzofurans in minor to trace amounts. Rocellic acid and atranorin also present rarely (Leuckert *et al.* 1995). In the Ukrainian specimen only pannaric acid-6-methyl ester was detected by TLC.

It differs from other *Leproloma* species mainly by the presence of large amounts of pannaric acid-6-methyl ester (Laundon 1992; Tønsberg 1992; Leuckert *et al.* 1995).

The species was reported recently from Ukraine (Coppins *et al.* 1998). Here it is reported as new to the Chivchino-Grinyavskie Mts.

SPECIMEN EXAMINED – UKRAINE. EASTERN CARPATHIANS. Chivchino-Grinyavskie Mts, Chivchin Mt., altitude not recorded, on mosses on calcareous rocks, 09 Aug. 1934, *leg. T. Sulma* (UGDA-L).

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The first records of two lichenicolous fungi, *Lichenocodium pyxidatae* and *Taeniolella beschiana*, in Poland

Lichenicolous fungi are rather poorly known in Poland. In the 19th and the early 20th centuries they were included in works as a supplement to lichens (e.g., Ohlert 1863; Boberski 1886; Eitner 1901). Only a few papers dealing exclusively with this group have been published in Poland (e.g., Zielińska 1963; Starmachowa & Kiszka 1965; Miądlikowska & Alstrup 1995; Alstrup & Olech 1996; Kukwa & Motiejūnaitė 1999), but some records of lichenicolous fungi are mentioned also in lichenological articles (e.g., Czyżewska 1998; Kukwa 2000).