

Protoparmelia hypotremella in Poland and its distribution in Europe

MARTIN KUKWA

Department of Plant Taxonomy and Nature Protection, University of Gdańsk
Al. Legionów 9, PL-80-441 Gdańsk, Poland
e-mail: dokmak@univ.gda.pl.

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Protoparmelia hypotremella van Herk, Spier et Wirth is reported as a new species to Poland. The ecology and distribution of the lichen in Europe are presented.

Key words: *Protoparmelia hypotremella*, lichen, distribution, ecology, Poland.

In Poland the lichen genus *Protoparmelia* has been represented hitherto by two saxicolous taxa, *P. atriseda* (Fr.) R. Sant. et Wirth and *P. badia* (Hoffm.) Hafellner (F a ł t y n o w i c z 1993). In the present study the corticolous lichen species *P. hypotremella* van Herk, Spier et Wirth was found, which has not been recorded previously in Poland. The author came across it in an envelope with lichenicolous fungus *Sphinctrina anglica* Nyl. during the revision of herbarium collections (UGDA-L). The specimen is a duplicate. The original material is kept in the lichen herbarium University of Łódź (LOD-L). The collection was made available to the author by the collector, Prof. Czyżewska. The locality of the fungus was given in the work by C z y ż e w s k a (1981).

Protoparmelia hypotremella van Herk, Spier et Wirth

Affinities: *Protoparmelia hypotremella* is a crustose lichen species, which has never been found with apothecia till now (A p t r o o t et al. 1997). It is similar to the related *P. oleagina* (Harm.) Coppins, but this species has a continuous, isidiate thallus, whereas the thallus of *P. hypotremella* consists of squamulose granules, partly resembling isidia. Besides, these two taxa differ in colour and chemistry of the thallus (C o p p i n s 1992a, A p t r o o t et al. 1997).

Hypocnomyce caradocensis (Leighton ex Nyl.) P. James et G. Schneider also can be mistaken for *Protoparmelia hypotremella*. These species can be distinguished by the structure of their thalli as well as by their chemistry (Timdal 1984, Aptroot et al. 1997). *Bacidia rubella* (Hoffm.) Massal. also resembles *Protoparmelia hypotremella* in having similar isidia-like thallus, but it differs from this species in pale grey to yellow-greenish colour and in absence of paler margins. (Coppins 1992b, Aptroot et al. 1997).

Ecology: *Protoparmelia hypotremella* is a toxitolerant epiphytic lichen exhibiting wide ecological amplitude. It was collected mainly from deciduous (*Fagus sylvatica* and *Quercus* spp.) and rarely from coniferous trees (*Pinus sylvestris* and *Larix decidua*) on waysides as well as in a mountain forest and in a river valley (Aptroot et al. 1997). In Poland it grew on old *Alnus glutinosa* individuals in humid, natural deciduous forest. Associated lichen species are similar in some cases to those reported by Aptroot et al. (1997) and they include: *Cladonia* sp., *Hypocnomyce scalaris*, *Imshaugia aleurites*, *Lecanora argentata*, *L. conizaeoides*, *L. expallens*, *Melanelia fuliginosa*, *Ochrolechia androgyna*, *Parmelia sulcata* and *Phlyctis argena*.

Lichenicolous fungi: In Poland only *Sphinctrina anglica* was found. *Tremella wirthii* Diederich is the second characteristic lichenicolous fungus, but it was not found in the examined material. Both species are probably highly-specialized parasites, restricted to *Protoparmelia hypotremella* and *P. oleagina* (Aptroot et al. 1997). The occurrence of these fungi can indicate at least one of the two host species.

Distribution: The species is probably widespread and up to now reported from Austria, Germany, the Netherlands (Aptroot et al. 1997) and Sweden (Nordin and Hermansson 1999). In Poland it only is known from a single locality found in 1970. This collection is the oldest one in Europe. Aptroot et al. (1997) suggested that *Protoparmelia hypotremella* started to spread recently from the mountains in Central Europe. Probably this process had been initiated much earlier than the authors suggested, because of the age of the new locality and the distance from known distribution. The question when it started to spread is still open and the studies on the species in Europe should be conducted.

Specimen examined: Central Poland, Włoszczowska Basin, 'Dębowiec' Nature Reserve, forest section No 162; ATPOL grid square DE 78, 51°22'N/19°43'E; on *Alnus glutinosa* in *Tilio-Carpinetum stachyetosum sylvaticae*, 24.08.1970, leg. K. Czyżewska (LOD-L-797, duplicate UGDA-L-4454).

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Protoparmelia hypotremella w Polsce i jej rozmieszczenie w Europie

Streszczenie

Protoparmelia hypotremella została opisana dopiero w 1997 roku; dotychczas podano ten gatunek z kilkunastu stanowisk w Europie. W niniejszej pracy został podany po raz pierwszy z terenu Polski. Odkryty został w czasie rewizji zielnika porostowego Uniwersytetu Gdańskiego (UGDA-L). Okaz tam złożony jest duplikatem, zaś materiał oryginalny znajduje się w zielniku Uniwersytetu Łódzkiego (LOD-L). Okaz do publikacji został udostępniony przez Prof. K. Czyżewską. Nowe stanowisko tego gatunku z terenu Polski jest najstarszym notowaniem w Europie. Jego wiek i odległość od prawdopodobnego miejsca powstania gatunku mogą rzutować na dotychczasowe przypuszczenia, co do czasu rozprzestrzeniania się jego w Europie.

Protoparmelia hypotremella jest porostem, który stanowi podłoże dla dwóch gatunków grzybów naporostowych, *Sphinctrina anglica* i *Tremella wirthii*. Występowanie jednego z nich sugeruje obecność opisywanego porostu lub spokrewnionego z nim *P. oleagina*.

Protoparmelia hypotremella była prawdopodobnie często mylona z innymi porostami (np. *Hypocenomyce caradocensis*). Gatunek ten jest przypuszczalnie częstszy w Polsce, jak i w Europie, zwłaszcza w górach, lecz znany z nielicznych stanowiska ze względu na niedawne opisanie. Poznanie rzeczywistego rozmieszczenia wymaga dalszych poszukiwań.