

Noteworthy lichen species in Poland collected in the Świętokrzyski National Park

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In this paper 25 species of the lichens new to the Świętokrzyski National Park are presented on the basis of recent collection and revision of the herbarial material from this area. Some of these species are new to the Świętokrzyskie Mountains and one have not been recorded in Poland so far.

Key words: lichenized fungi, rare species, distribution, Świętokrzyski National Park

INTRODUCTION

The Świętokrzyski National Park (ŚNP) belongs to the areas of quite well investigated lichens biota. Lichenological studies have been conducted there since the end of the XIX century, but they have been accelerated in the last forty years (e.g. Halicz and Kuziel 1965, 1966; Cieśliński and Halicz 1971; Cieśliński 1985, 1991).

The ŚNP is located in the Świętokrzyskie Mountains, the oldest and the northernmost mountains in Poland, in the south-eastern part of physico-geographical subprovince of Wyżyna Małopolska (Małopolska Upland), in the macroregion of Wyżyna Kielecka (Kielecka Upland) and mezoregion Góry Świętokrzyskie (Świętokrzyskie Mountains) (Kondracki 2000). The study area was described in details by Čmak and Wojdąns (2000).

During the last examination of anthropogenic changes in lichens biota in the ŚNP, 25 species of lichens were found that have not been noticed so far (Fig. 1). Some of them were already collected in the past, however they were passed over or incorrectly identified. There are 15 species among them, which are new also for the Świętokrzyskie Mts., as well as one species new for Poland.

MATERIAL AND METHODS

The lichens were collected in 1997-2002. Geographical co-ordinates of investigated sites were measured using GPS. The author analysed also an historical herbarial materials: lichens collected by Halicz and Kuziel in the period 1955-1959 and Sroczyński in 1960 (deposited in the herbarium at the University of Łódź – LOD) and material collected by Cieśliński in the period 1962-1985 (deposited in the herbarium at the Świętokrzyska Academy – KTC).

Distribution of species examined is given in the 10×10 km ATPOL grid square system (acc. to Cieśliński and Fałtynowicz 1993).

Nomenclature of species follows Vězda and Liška (1999) and Scholtz (2000).

Abbreviations: MS – M. Sroczyński; BH, SK – B. Halicz and S. Kuziel; KT – K. Toborowicz; KC – K. Czyżewska; SC – S. Cieśliński; ST – S. Titov; PC – P. Czarnota; AŁ – A. Łubek; !! – species new to Poland; ! – species new to the Świętokrzyskie Mountains; * – lichenicolous fungus.

LICHENIZED FUNGI

Absconditella lignicola Vězda et Piaüt

On wood in wet places (Fig. 1). **Ee65:** Wilkowska Valley (50°55'N/20°49'E); **Ee66:** 'Czarny Las' reserve, forest unit no 42 (50°54'N/20°55'E); **Ee76:** Łysica Mountain (leg. BH, SK 1957), *Łysogórskie* Range, forest units nos. 146/147, 164; **Ee77:** Łysa Mountain, forest unit no B-1 (leg., det. BH, SK 1959 as *Biatorella moriformis*) and leg. AŁ 2002 (50°51'N/21°01'E); **Ee87:** Bielińskie Range, forest units nos. 131/132 (50°49'N/21°03'E).

This species was often reported from Poland, among others from: Karpaty Mts. (Kiszka, Piórecki 1992; Kiszka 1997; Nowak 1998; Bielczyk and Kiszka 2001; Czarnota 2002), as well as from large forests of NE Poland: Puszcza Borecka (Zalewska and Rutkowski 2001 and bibliography cited in), Puszcza Białowieska (Czyżewska et al. 2001), Puszcza Knyszyńska (Czyżewska et al. 2002, see also Bielczyk and Kiszka 2001). It has been recorded in several sites in Central Poland as well (Czyżewska, unpubl.). In the ŚNP *A. lignicola* occurs in a few sites in wet and shaded areas of well preserved forests plant communities.

!!**Chaenothecopsis nigra* Tibell

On the base of the trunk of *Alnus glutinosa* in wet place (Fig. 1). **Ee66:** 'Czarny Las' reserve, forest unit no 42 (50°54'N/20°55'E) (det. ST).

It is the first record of this species from Poland. It has been reported so far from Australia, South America, as well as from Europe: Scotland and Finland (Palice 1999). *Ch. nigra* was reported from Central Europe for the first time by Palice (1999) from Western Bohemia.

***Cyphellium notarisii* (Tul.) Blomb. et Forssell**

On the trunk of lonely *Alnus glutinosa* in wet place (Fig. 1). **Ee77:** Chełmowa Mountain, near Słupianka rivier (50°53'N/21°05'E).

***Fellhaneropsis vezdae* (Coppins et P. James) Sérus. et Coppins**

On wood, on the base of trunks of *Fraxinus excelsior* and *Fagus sylvatica* (Fig. 1). **Ee65:** Wilkowska Valley, forest unit no 122 (50°56'N/20°48'E); **Ee66:** Uroczysko Chrusty, forest unit no 13; **Ee77:** Chełmowa Mountain, forest unit no A-3 (50°53'N/21°05'E), Szklana Huta village.

It is very rare species in the ŚNP, which occurs in old forest. The species has been reported from NE Poland, so far (Czyżewska et al. 2002). It is known also from four forest reserves in Central Poland (Czyżewska, unpubl.). This species is regarded an old-growth forest indicator (Motiejūnaitė et al. 2003).

***Hypocnomyce antracophila* (Nyl.) P. James et Gotth. Schneid.**

On trunks of *Pinus sylvestris* and *Larix decidua* ssp. *polonica*. **Ee66:** 'Mokry Bór' reserve, forest unit no 30 (leg. SC 1982); **Ee76:** Uroczysko Plecionki, forest unit no 50; **Ee77:** Chełmowa Mountain, forest units nos. A-2 (50°52'N/21°05'E) and A-4 (leg., det. BH, SK 1958 as *H. scalaris* and leg. AŁ 2001 (50°53'N/21°06'E).

***Hypocnomyce caradocensis* (Leight. ex Nyl.) P. James et Gotth. Schneid.**

On trunks of *Abies alba*, *P. sylvestris* and *L. decidua* ssp. *polonica*. **Ee65:** Wilkowska Valley, forest units nos. 122 (50°56'N/20°48'E), 128 (50°55'N/20°49'E); **Ee66:** Wilkowska Valley, forest unit no 41 (50°55'N/20°56'E), 'Mokry Bór' reserve, forest unit no 30; **Ee76:** Uroczysko Plecionki, forest unit no 50; **Ee77:** Chełmowa Mountain, forest unit no A-2 (50°53'N/21°06'E).

H. antracophila and *H. caradocensis* are common lichens noted in North, Central and South Poland. These species occur both in natural and anthropogenically changed forest communities (Czarnota 1997a, 2002; Fałtynowicz 1997; Kiszka 1997; Czyżewska 1998; Jando and Kukwa 1999; Kowalewska et al. 2000). They have been reported from the Świętokrzyskie Mts., Chęciny area (Tobolewicz 1983) and Białe Ługi reserve (Cieśliński 2000).

***Hypocnomyce sorophora* (Vain.) P. James et Poelt**

On wood and on a trunk of *P. sylvestris*. **Ee66:** 'Mokry Bór' reserve, forest units nos. 30, 31, Wilkowska Valley, forest unit no 62 (leg. SC 1983); **Ee76:** Uroczysko Chrusty, forest unit no 51 (leg., det. SC 1982 as *Trapeliopsis flexuosa*); **Ee77:** Uroczysko Serwis-Dąbrowa, forest unit no 7.

This species has been noted in Tatry Mts. (Bielczyk 1997 and bibliography cited in), Beskidy Mts. and Krakowska-Częstochowska Upland so far (Nowak and Tobolewski 1975).

Micarea botryoides (Nyl.) Coppins

On the base of trunks of *P. sylvestris*, *A. alba* and other decaying wood. **Ee65**: Klonowskie Range, forest units nos. 17 (50°58'N/20°49'E), 31/32, Wilkowska Valley, forest units nos. 107 (50°56'N/20°48'E), 122, 220, 264, 266, 267; **Ee66**: Klonowskie Range, forest unit no 19 (50°56'N/20°54'E), Wilkowska Valley, forest units nos 40 (50°54'N/20°56'E), 42/43 (50°54'N/20°55'E), 'Czarny Las' reserve, forest units nos. 59/60, Uroczysko Chrusty, forest unit no 36 (50°55'N/20°58'E); **Ee76**: Łysogórskie Range, forest units nos. 130 (50°53'N/20°58'E), 146/147, 172/C-2, Uroczysko Chrusty, forest unit no 48 (50°54'N/20°58'E); **Ee77**: Łysogórskie Range, forest unit no B-1 (50°51'N/21°02'E), Bielińskie Range, forest units nos. 12 (50°50'N/21°03'E), 26 (50°49'N/21°02'E), 111 (50°50'N/21°03'E).

This species occurs frequently in the ŚNP and other regions of Poland (Czarnota 2000; Kukwa et al. 2000; Czyżewska et al. 2002).

Micarea erratica (Körb.) Hertel, Rambold et Pietschm.

On rocks (Fig. 1). **Ee65**: Klonów village (leg., det. KT 1971), Bukowa Mountain (leg. MS 1960, det. PC).

Micarea hedlundii Coppins

On decaying wood (Fig. 1). **Ee65**: Wilkowska Valley, forest unit no 267; **Ee66**: Wilkowska Valley, forest unit no 43 (50°55'N/20°55'E); **Ee76**: Wilkowska Valley, forest unit no 70; **Ee77**: Bielińskie Range, forest unit no 26 (50°49'N/21°02'E).

The specimens found in Wilkowska Valley, had well shaped pycnidia and numerous apothecia. *M. hedlundii* was occurring in pine forest with *Placynthiella icmalea* and *Micarea prasina* on wet and rot stump of coniferous tree, similarly to the specimens found in Gorce Mts. (Czarnota 1997b) and Puszcza Knyszyńska forest (Czyżewska et al. 2002).

Micarea misella (Nyl.) Hedl.

On decaying wood and on a trunk of *P. sylvestris*. **Ee65**: Klonowskie Range, forest unit no 17 (50°58'N/20°49'E); **Ee66**: Klonowskie Range, forest units nos. 222, 238, Wilkowska Valley, forest units nos. 40 (50°54'N/20°56'E), 43, 'Czarny Las' reserve, forest units nos. 42/43 (50°54'N/20°55'E); **Ee76**: Wilkowska Valley, forest units nos. 69 (leg. SC 1982), 110; Święta Katarzyna village, Łysica blockfield, Agata blockfield, Łysogórskie Range, forest units nos. 128 (50°52'N/20°58'E), 146/147, 173, 192, 195; **Ee77**: Łysogórskie Range, forest units nos. 197/196 (50°51'N/21°03'E), 205 (50°50'N/21°03'E), 209 (50°50'N/21°02'E); **Ee87**: Bielińskie Range, forest unit nos. 131/132 (50°49'N/21°03'E).

This species occurs frequently in the ŚNP and other regions of Poland (Czyżewska 1998; Czarnota 2000; Kukwa et al. 2000; Czyżewska et al. 2002).

***Micarea nigella* Coppins**

On trunks of *P. sylvestris*, *A. alba* and on wood (Fig. 1). **Ee65**: Wilkowska Valley, forest unit no 268; **Ee76**: Łysogórskie Range, forest units nos. 128 (50°52'N/20°58'E), 161/160 (50°52'N/20°56'E), 195; **Ee87**: Bielińskie Range, forest units nos. 131/132 (50°49'N/21°03'E).

The species is rare in Poland, it has been reported also from Beskidy Zachodnie Mts (Czarnota 2000).

***Micarea nitschkeana* (J. Lahm ex Rabenh.) Harm.**

On a trunk of *P. sylvestris*, on twigs of *Vaccinium myrtillus* and on wood. **Ee65**: Wilkowska Valley, forest units nos. 264, 268; **Ee66**: 'Czarny Las' reserve, forest unit no 42 (50°54'N/20°55'E).

The species is rare in Poland (K u k w a et al. 2000 and bibliography cited in).

***Micarea peliocarpa* (Fr.) Hedl.**

On wood. **Ee66**: 'Mokry Bór' reserve, forest unit no 31; **Ee77**: Łysogórskie Range, forest units nos. 115/116 (50°52'N/21°03'E).

The species is rare in Poland (K u k w a et al. 2000 and bibliography cited in).

***Micarea sylvicola* (Flot.) Vězda et V. Wirth**

On a rock (Fig. 1). **Ee77**: Nowa Słupia village, at the edge of a forest (leg. BH, SK 1958 as *Micarea lutulata*, det. PC).

The species has been reported among others from Pieniny Mts (K i s z k a 1997).

***Mycoblastus fucatus* (Stirt.) Zahlbr.**

On trunks of *Alnus glutinosa*, *Quercus robur*, *Sorbus aucuparia*, *Betula pubescens*, *P. sylvestris*, *P. tremula*, *Acer pseudoplatanus*, *Fagus sylvatica* and on wood.

Ee65: Wilkowska Valley, forest units nos. 107, 122 (50°56'N/20°48'E), 258, 261, 263, 264, 266, 267; **Ee66**: Wilkowska Valley, forest units nos. 41 (50°55'N/20°56'E), 43 (50°55'N/20°55'E), 59/60, 249 (50°56'N/20°51'E), 258, Psarska Mountain, forest unit no 17, 'Mokry Bór' reserve, forest units nos. 30, 31, Uroczyisko Chrusty, forest units No. 12 (50°54'N/20°57'E), 35 (50°54'N/20°58'E), 37, 'Czarny Las' reserve, forest units nos. 42/43 (50°54'N/20°55'E); **Ee76**: Agata blockfield (leg. SC 1982 and AŁ 2001), Łysogórskie Range, forest units nos. 136, 193, Uroczyisko Chrusty, forest units nos. 49/50, 53; **Ee77**: Łysogórskie Range, forest units nos. 79 (50°52'N/21°04'E), 123, 178, Łysa Mountain (leg. SC 1982), Łysa Mountain, forest units nos. 114 (50°51'N/21°03'E), 125 (50°52'N/21°00'E), 178; **Ee87**: Bielińskie Range, forest units nos. 122 (50°49'N/21°04'E), 141.

Pertusaria pupillaris (Nyl.) Th. Fr.

On trunks of *S. aucuparia*, *A. pseudoplatanus* and on wood (Fig. 1). **Ee66**: 'Czarny Las' reserve, forest unit no 42 (leg., det. SC 1982 as *Pertusaria chloropolia*), Wilkowska Valley, forest unit no 16 (50°55'N/20°55'E); **Ee76**: Łysica Mountain (leg. BH, SK 1955); Łysogórskie Range, forest units nos. 136 (leg., det. SC 1982 as *Pertusaria chloropolia*), 138 (leg., det. SC 1982 as *Pertusaria chloropolia*), 139 (leg., det. SC 1983 as *Pertusaria chloropolia*), 156/130 (leg., det. SC 1982 as *Pertusaria chloropolia*); **Ee77**: Łysogórskie Range, forest units nos. 123 and 125 (leg., det. SC 1983 as *Pertusaria chloropolia*), Łysa Mountain, forest unit no 116 (leg., det. SC 1983 as *Pertusaria chloropolia*).

In the past the species often occurred in exposed places at the edge of a blockfield and forests. At present there is only one site reported from the ŚNP. *P. pupillaris* belongs to rare species in Poland. It has been reported from one site in Puszcza Borecka forest (Zalęwska and Rutkowski 2001), two sites in Puszcza Białowieska forest (Czyżewska et al. 2001) and two sites in Puszcza Knyszyńska forest (Czyżewska et al. 2002). This species is regarded as old-growth forest indicator (Mottjūnaitė et al. 2003).

Placynthiella dasaea (Stirt.) Tønsberg

On trunks of *P. sylvestris*, *S. aucuparia* and on wood. **Ee65**: Klonowskie Range, forest units nos. 17 (50°58'N/20°49'E), 30, Wilkowska Valley, forest units nos. 107, 122 (50°56'N/20°48'E), 264, 267, Klonowskie Range, forest units nos. 218, 220 (50°57'N/20°49'E), 234 (50°56'N/20°49'E); **Ee66**: Klonowskie Range, forest unit no 239, Psarska Mountain, forest unit no 18, 'Czarny Las' reserve, forest unit no 42 (50°54'N/20°55'E); **Ee76**: Łysica blockfield, Agata blockfield, Łysogórskie Range, forest units nos. 110, 164, 156 (50°52'N/20°58'E), 182 (50°51'N/20°57'E), 186, 192, Uroczysko Chrusty, forest unit no 48 (50°54'N/20°58'E); **Ee77**: Łysogórskie Range, forest units nos. 150, 197/194 (50°51'N/21°03'E), 205 (50°50'N/21°03'E), 207 (50°51'N/21°02'E), 209 (50°50'N/21°02'E), Łysa Mountain, forest units nos. 117, 118, Uroczysko Serwis-Dąbrowa, forest unit no 1, Chelmowa Mountain, forest units nos. A-1, A-2 (50°53'N/21°06'E), A-3 (50°53'N/21°05'E), A-4, Bielińskie Range, forest unit no 26 (50°50'N/21°02'E); **Ee87**: Bielińskie Range, forest units nos. 131/132 (50°49'N/21°03'E).

Placynthiella icmalea (Ach.) Coppins et P. James

On decaying wood, bryophytes, ground and on the base of trunks of *Q. robur*, *Salix fragilis*, *A. alba*, *F. sylvatica*, *S. aucuparia*. **Ee65**: Wilkowska Valley, forest units nos. 107 (50°56'N/20°48'E), 122, 218, 264, 267, 268, Klonowskie Range, forest units nos. 17 (50°58'N/20°49'E), 30, 218, 220, 234 (50°56'N/20°49'E), 243 (50°56'N/20°50'E), Bukowa Mountain (leg., det. MS 1960 as *P. uliginosa*); **Ee66**: Hucisko village (50°58'N/20°52'E), Psary-Kąty village (50°57'N/20°51'E), Klonowskie Range, forest units nos. 13/8 (50°55'N/20°56'E), 223, 240, Miejska Mountain, forest units nos. 15/16, Wilkowska Valley, forest units nos. 40, 41 (50°54'N/20°55'E), 59/60, 'Mokry

Bór' reserve, forest units nos. 30, 31, 'Czarny Las' reserve, forest unit no 42 (50°54'N/20°55'E), Uroczyisko Chrusty, forest units nos. 36/37 (leg., det. SC 1983 as *P. uliginosa*), 36 (50°54'N/20°57'E), 37; Ee76: Wilkowska Valley, forest units nos. 69 (leg., det. SC 1982 as *P. uliginosa*), 71, Uroczyisko Chrusty, forest unit no 48 (50°54'N/20°58'E), Święta Katarzyna (leg., det. BH, SK 1958 as *P. uliginosa*), Łysica blockfield, Agata blockfield, Łysogórskie Range, forest units nos. 110 (leg., SC 1983), 128 (50°52'N/20°58'E), 129 (50°52'N/20°58'E), 138 (leg., SC 1982), 156 (50°52'N/20°58'E), 159 (50°52'N/20°57'E), 161/160 (50°52'N/20°56'E), 165, 182 (50°51'N/20°58'E), Bieliny Kapitulne village (50°51'N/20°57'E); Ee77: Szklana Huta village, at the edge of a forest, Łysogórskie Range, forest units nos. 81 (50°51'N/21°02'E), 114 (50°51'N/21°03'E), 115/116 (leg., SC 1983 and leg. AŁ) (50°51'N/21°03'E), 117, 118, 119, 197/194 (50°51'N/21°03'E), 204 (50°50'N/21°03'E), 205 (50°50'N/21°03'E), Łysa blockfield (leg., det. BH, SK 1958 as *P. uliginosa* and leg., det. SC 1983 as *P. uliginosa*), Uroczyisko Serwis-Dąbrowa, forest unit no 7, Chełmowa Mountain (leg., det. BH, SK 1958 as *P. uliginosa*), Chełmowa Mountain, forest units nos. A-1, A-2 (50°53'N/21°06'E), A-3 (50°53'N/21°05'E), Bielińskie Range, forest units nos. 1/2 (50°50'N/21°04'E), 12, 16 (50°49'N/21°03'E), 26; Ee87: Bielińskie Range, forest units nos. 131/132, 135, 141 (50°48'N/21°03'E).

!Phaeophyscia kairamoi (Vain.) Moberg

On bryophytes covering shelves of calcareous rocks (Fig. 1). Ee77: Uroczyisko Zapusty (det. KC).

P. kairamoi belongs to the rarest species in the Polish lichen biota. This lichen has been known only from two sites from Tatry Zachodnie Mts., so far (Nowak 1974; Olech 1981, 1985, 1999). In the ŚNP young thalli of *Ph. kairamoi* occur with *Leptogium lichenoides*, *Cladonia symphyocarpa* and *Mycobilimbia fusca* on mosses growing in cracks, light exposed rock shelves and insolated places. The site in the Świętokrzyskie Mts. is the northernmost one in Poland.

!Porina leptalea (Durieu et Mont.) A.L. Sm.

On trunks of *F. sylvatica*, *S. aucuparia* and *Carpinus betulus* (Fig. 1). Ee65: Klonowskie Range, forest unit no 243 (50°57'N/20°50'E); Ee66: Miejska Mountain, forest unit no 15, Wilkowska Valley, forest unit no 249 (50°56'N/20°51'E); Ee76: Wilkowska Valley, forest unit no 70.

Psilolechia clavulifera (Nyl.) Coppins

On roots of an uprooted *Picea abies* (Fig. 1). Ee65: Wilkowska Valley, forest unit no 164 (det. KC).

!Scoliciosporum pruinosum (P. James) Vězda

On trunks of *Q. robur* and *A. alba* (Fig. 1). Ee66: Psarska Mountain, forest unit no 17 (det. KC).

Trapeliopsis pseudogranulosa Coppins et P. James

On decaying wood. Ee76: Łysica blockfield (leg., det. KC 1999).

Xanthoria ulophyllodes Räsänen

On bryophytes and calcareous rocks (Fig. 1). Ee77: Uroczysko Zapusty (det. KC).

The species *Lepraria* and *Leproloma* identified by the thin-layer chromatography (TLC) method are also new for the ŚNP and Świętokrzyskie Mts. However, a separate paper will be prepared on this subject (Cieśliński, Łubek, Kukwa, in preparation).

CONCLUSIONS

The lichens species mentioned above are, in most cases, epixylic or epiphytic lichens. It results from a high proportion of forest cover in the ŚNP. The most common

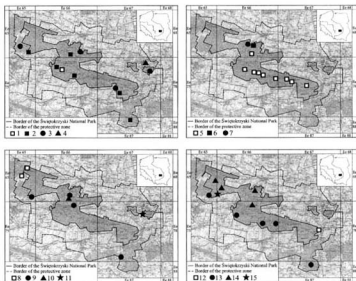


Fig. 1. Distribution of some lichenized fungi in the Świętokrzyski National Park: *Absconditella lignicola* in the year 1957 (1) and in 1997-2002 (2), *Fellhaneropsis vezdae* (3), *Phaeophyscia kairamoi* and *Xanthoria ulophyllodes* (4), *Pertusaria pupillaris* in 1955-1985 (5) and in 2001 (6), *Scoliciosporum pruinosum* (7), *Micarea erratica* in 1960 and in 1971 (8), *M. hedlundii* (9), *Chaenothecopsis nigra* (10), *Cyphellium notarisii* (11), *Micarea sylvicola* in 1958 (12), *M. nigella* (13), *Porina leptalea* (14), *Psilolechia clavulifera* (15).

species in the investigated area are: *Placynthiella icmalea* (over 50 sites), *Placynthiella dasaea* and *Mycoblastus fucatus* (over 20 sites) and *Micarea misella* (over 10 sites). They are also widespread in the whole Poland. In some single sites the following lichens connected with specific environmental conditions were recorded: *Fellhaneropsis vezdae*, *Micarea erratica*, *M. hedlundii*, *M. sylvicola*, *Phaeophyscia kairamoi*, *Psilolechia clavulifera* and *Xanthoria ulophylloides*.

A great majority of species recorded in the past occur in the ŚNP also at present. Only the occurrence of *Micarea erratica* and *M. sylvicola* has not been confirmed. These epilithic lichens are probably extinct from sites known from the past because of unfavourable location next to the human settlements. Not all of the sites of *Pertusaria pupillaris* known from the past have been found again at present.

Large number of species, which are new for the ŚNP enrich the lichens biota of the National Park and in general the whole Świętokrzyskie Mts. The presence of lichens species considered old-growth forest indicators testify of a good condition of some forest fragments. The great majority of sensitive species were found in Wilkowska Valley and 'Czarny Las' reserve.

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Wybrane interesujące gatunki porostów w Polsce
zebrane w Świętokrzyskim Parku Narodowym

Streszczenie

W pracy przedstawiono 25 gatunków porostów dotychczas nie podawanych z terenu ŚNP, w tym 15 nowych dla Gór Świętokrzyskich i 1 dla Polski.

Materiał badawczy pochodzi z dwóch źródeł: z badań własnych przeprowadzonych w latach 1997-2002 oraz z materiałów zielnikowych zgromadzonych w latach 1955-1959 przez B. Halicza i S. Kuziel, w roku 1960 przez M. Sroczyńskiego i w latach 1962-1985 przez S. Cieślińskiego.

Rozmieszczenie stanowisk podano w systemie siatki kwadratów ATPOL (Cieśliński, Faltynowicz 1993).

Większość stwierdzonych porostów to epiksylity lub epifity. Gatunkami najczęstszymi są *Placynthiella icmalea*, *Placynthiella dasaea*, *Mycoblastus fucatus* oraz *Micarea misella*. Porosty notowane z pojedynczych stanowisk to m.in. *Fellhaneropsis vezdae*, *Micarea hedlundii*, *M. nitschkeana*, *M. erratica*, *M. sylvicola*, *Phaeophyscia kairamoii*, *Psilolechia clavulifera*, *Xanthoria ulophyllodes*. Są one przywiązane do określonych warunków siedliskowych, np. do lepiej zachowanych, wilgotnych zbiorowisk leśnych, obrzeży lasów i gołoborzy, piaskowców kwarcytowych lub wychodni skal wapiennych. Na szczególną uwagę zasługują gatunki rzadkie w Polsce, np. *Fellhaneropsis vezdae*, *Micarea nigella*, *Phaeophyscia kairamoii*, *Scoliciosporum prunosum* oraz *Chaenothecopsis nigra* – gatunek nowy dla Polski.