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CHECKLIST

Macromycetes of the Palace Park in Poznań-Radojewo (Wielkopolska Region, Poland)

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Abstract

This work aimed to present the diversity of fungal species in the Poznań-Radojewo park. It was characterized based on literature data, unpublished master's theses, the authors' data, as well as data collected during two mycological trips organized by the Mycological Section of the Polish Botanical Society. Between 1980 and 2017, as many as 333 species of macromycetes have been found within the park in Poznań-Radojewo (among them 19% are rare and endangered), including eight protected species (*Mitrophora semilibera*, *Morchella esculenta* (var. *esculenta* and var. *umbrina*), *Geastrum corollinum*, *G. fornicatum*, *Hericium coralloides*, and *Myriostoma coliforme*), as well as two species new to the Polish mycobiota: *Psathyrella bipellis* and *P. larga*. The park in Poznań-Radojewo is very important for maintaining a high species diversity of fungi within the city of Poznań. During revitalization works, it is of paramount importance to take the needs of rare, threatened, and protected species under consideration and to preserve the natural character of plant communities. It is also vital to ensure the presence of coarse woody debris at different decomposition phases, which serves as an important substratum type for rare fungi.

Keywords

species diversity; refuges; protected and rare fungi

1. Introduction

Rural and urban parks may serve as refuges of biological diversity in urbanized areas. In Poland, several parks have been thoroughly studied, in terms of their mycobiota (Bujakiewicz & Kujawa, 2000; Friedrich, 2010; Józwiak & Wrzosek 2007/2008; Kwiatkowska, 2017; Lisiewska, 2004; Lisiewska & Celka, 1995; Lisiewska & Galas-Świdurska, 2005; Lisiewska & Nowicka, 1979; Lisiewska & Płaczek, 1993; Lisiewska & Ratyńska, 1984; Lisiewska & Rybak, 1990; Lisiewska & Wypij, 1985; Stasińska, 1994; Szczepkowski, 2007, 2016; Wojewoda, 2002), showing their positive role in preserving many rare species of fungi in towns and the country. Additionally, data from some town parks come from studies of the mycobiota of towns, among others (Flisińska, 1996; Friedrich & Orzechowska, 2002; Ławrynówicz & Adamczyk, 1991; Wojewoda, 1996).

The palace park in Poznań-Radojewo (21.66 ha) is located in the northern part of the city. Detailed location information with maps has been presented by Lisiewska and Ratyńska (1984), Zychła (2007), and Czarna et al. (2009), and the exact park descriptions of by Lisiewska and Ratyńska (1984). Until 1987, it was a separate suburban village, Radojewo (Resolution of the Voivodship National Council, 1986).

The park is included in the Natura 2000 Biedrusko PLH300001 area (Directive of the Regional Directorate for Environmental Protection in Poznań, 2013) and it is a listed object (reg. No. A407). At the beginning of the nineteenth century, a palace was built in the park, around which a landscape park with romantic elements was created (Łukasik & Targońska, 2010). The park is partly located on a high slope and its tree stand harmoniously merges into the forests, meadows, and fields in the Warta River valley. From the analysis of the nineteenth-century maps, we can infer that the park was created in a deforested area (Łukasik & Targońska, 2010). At present, according to Łukasik and Targońska (2010), there are 29 tree species in the park (only three coniferous ones), in which: *Quercus robur* L. (28.5%), *Fraxinus excelsior* L. (23.4%), *Acer platanoides* L. (14.1%), *Robinia pseudoacacia* L. (10.8%), and *Tilia cordata* Mill. (6.5%) have the largest share. Czarna et al. (2009) reported 16 species in the tree stand. Originally, trees such as *Abies* sp. and *Picea* sp. also grew there. The flora consists of 165 plant species, creating about 20 different plant communities (Czarna et al., 2009). There are riparian forests, *Quercus-ulmetum minoris violetosum odoratae*, growing in the largest part of the park. In the southern part, there grows *Galio sylvatici-Carpinetum*, and the rest of the park is *Chelidonio-Robiniatum*. The shrubs represent communities with lilacs, *Syringa vulgaris*, as well as *Aegopodium sambucetum nigrae* and *Euonymo-Prunetum spinosae*. Open spaces are meadows *Arrhenatheretum elatioris* (Czarna et al., 2009). It is currently planned to adapt the park for tourism using its natural values (Mikołajczak & Borowiak, 2013).

Mycosociological studies have been carried out in the park in Radojewo, and the results have either been published (Lisiewska & Ratyńska, 1984) or are unpublished in master's theses (Gabor, 1985; Jaśkowiak, 1999). Reports on single fungi species have been published from this area (Kujawa & Gierczyk, 2007, 2011a, 2011b, 2012; Zychła, 2007). In May and October 2017, there were two field trips by members of the Mycological Section, Polish Botanical Society (PBS) covering its monthly meetings. This work aims to show the diversity of fungi species within the Poznań-Radojewo park.

2. Material and Methods

Both published (Kujawa & Gierczyk, 2007, 2011a, 2011b, 2012; Lisiewska & Ratyńska, 1984; Zychła, 2007) and unpublished (Gabor, 1985; Jaśkowiak, 1999) materials have been taken into account, as well as the authors' data, occasionally collected from 2009 to 2016 and gathered during the two field trips of the Mycological Section (PBS), on 2017-05-06 and 2017-10-14, by route method. The sporocarps collected were identified by standard methods used in fungal taxonomy, i.e., determination of micro- and macrocharacters using a stereomicroscope and light microscope. Standard staining techniques using aqueous ammonia solution, 10% KOH in water, Congo red in ammonia, Melzer reagent have been applied. Macrochemical reactions have included tests with aqueous ammonia solution, 10% KOH in water, FeSO₄ in water, and guaiac resin in ethanol. Specimens have been identified using the following general keys: *Funga Nordica* (Knudsen & Vesterholt, 2008, 2012), *Nordic Macromycetes* (Hansen & Knudsen, 1992, 1997, 2000), and *Flora Agaricina Neerlandica* (Bas et al., 1988, 1990, 1995a, 1995b; Noordeloos et al., 2001, 2005). The material collected is kept in the Adam Mickiewicz University in Poznań herbarium (POZM), as well as the authors' private fungaria.

The fungal nomenclature follows that of Knudsen and Vesterholt (2012), and for other taxa – Index Fungorum (<http://www.indexfungorum.org/>). Threatened species categories have been listed according to the red list (Wojewoda & Ławrynowicz, 2006), and the protected species according to the regulation (Regulation of the Minister of Environment, 2014).

3. Results

Three hundred thirty-three species of macromycetes have been recorded in the park in Poznań-Radojewo across the years 1980–2017. Special attention should be paid to the protected species (eight taxa): *Mitrophora semilibera*, *Morchella esculenta* (var. *esculenta* and var. *umbrina*), *Geastrum corollinum*, *G. fornicatum*, *Hericium*

coralloides, and *Myriostoma coliforme*, as well as two species new to the Polish mycobiota: *Psathyrella bipellis* and *P. larga*. Moreover, a great number (about 19%) of rare and endangered species was observed (Table 1).

Table 1 Rare and endangered species in the Poznań-Radojewo park.

Species	Status
<i>Ascotremella faginea</i> (Peck) Seaver	V
<i>Discina ancilis</i> (Pers.) Sacc.	R
<i>Gyromitra gigas</i> (Krombh.) Cooke	V
<i>Mitrophora semilibera</i> (DC.) Lév.	R, PP
<i>Morchella esculenta</i> (L.) Pers. var. <i>esculenta</i>	R, PP
<i>Morchella esculenta</i> (L.) Pers. var. <i>umbrina</i> (Boud.) S. Imai	R, PP
<i>Agaricus comtulus</i> Fr.	R
<i>Agrocybe elatella</i> (P. Karst.) Vesterh.	R
<i>Antrodiella serpula</i> (P. Karst.) Spirin & Niemelä	R
<i>Artomyces pyxidatus</i> (Pers.) Jülich	R
<i>Bolbitius reticulatus</i> (Pers.) Ricken f. <i>reticulatus</i>	R
<i>Boletus pulverulentus</i> Opat.	R
<i>Bovista graveolens</i> Schwalb	E
<i>Conocybe ambigua</i> Watling	E
<i>Coprinopsis krieglsteineri</i> (Bender) Redhead, Vilgalys & Moncalvo	BCL
<i>Coriolopsis gallica</i> (Fr.) Ryvar den	R
<i>Dacrymyces capitatus</i> Schwein.	V
<i>Dendrothele acerina</i> (Pers.) P. A. Lemke	R
<i>Disciseda bovista</i> (Klotzsch) Hollós	E
<i>Entoloma mougeotii</i> (Fr.) Hesler	V
<i>Entoloma rusticoides</i> (Gillet) Noordel.	E
<i>Entoloma speculum</i> (Fr.) Qué l.	E
<i>Entoloma tjallingiorum</i> Noordel.	BCL
<i>Exidia glandulosa</i> (Bull.) Fr.	R
<i>Galerina triscopa</i> (Fr.) Kühner	R
<i>Geastrum corollinum</i> (Batsch) Hollós	E, PP
<i>Geastrum fimbriatum</i> Fr.	R
<i>Geastrum fornicatum</i> (Huds.) Hook.	E, SP
<i>Geastrum rufescens</i> Pers.	E
<i>Geastrum striatum</i> DC.	E
<i>Hericium coralloides</i> (Scop.) Pers.	V, PP
<i>Hypsizygu s ulmarius</i> (Bull.) Redhead	V
<i>Ischnoderma resinosum</i> (Schrad.) P. Karst.	V
<i>Lepiota echinella</i> Qué l. & G. E. Bernard	E
<i>Lepiota griseovirens</i> Maire	E
<i>Leratiomyces squamosus</i> (Pers.) Bridge & Spooner	I
<i>Melanoleuca friesii</i> (Bres.) Bon	BCL
<i>Mycena cyanipes</i> Godey	V
<i>Mycena olida</i> Bres.	V
<i>Mycena olivaceomarginata</i> (Masse) Masee	R
<i>Myriostoma coliforme</i> (Dicks.) Corda	E, SP
<i>Myxarium nucleatum</i> Wallr.	V
<i>Ossicaulis lignatilis</i> (Pers.) Redhead & Ginns	V
<i>Panus conchatus</i> (Bull.) Fr.	R
<i>Phaeomarasmius erinaceus</i> (Fr.) Kühner	R
<i>Phleogena faginea</i> (Fr.) Link	E
<i>Pholiota limonella</i> (Peck) Sacc.	BCL
<i>Picipes melanopus</i> (Pers.) Zmitr. & Kovalenko	E
<i>Pleurotus cornucopiae</i> (Paulet) Rolland	V
<i>Pluteus petasatus</i> (Fr.) Gillet	R
<i>Pluteus plautus</i> (Weinm.) Gillet	I
<i>Porostereum spadiceum</i> (Pers.) Hjortstam & Ryvar den	R
<i>Psathyrella bipellis</i> (Qué l.) A. H. Sm.	BCL, NPL
<i>Psathyrella larga</i> (Kauffman) A. H. Sm.	BCL, NPL
<i>Psathyrella spintrigeroides</i> P. D. Orton	BCL
<i>Ramaria ochracea</i> (Bres.) Corner	BCL

Continued on next page

Table 1 continued

Species	Status
<i>Russula amoenolens</i> Romagn.	R
<i>Steccherinum fimbriatum</i> (Pers.) J. Erikss.	R
<i>Tricholoma acerbum</i> (Bull.) Quél.	E
<i>Volvariella caesiotinctoria</i> P. D. Orton	BCL
<i>Volvariella volvacea</i> (Bull.) Singer	V
<i>Xerula longipes</i> (Bull.) Maire	R

Status: BCL – not included in the checklist (Wojewoda, 2003); NPL – new to Poland; PP – partially protected species; SP – strictly protected species. Red list category (Wojewoda & Ławrynowicz, 2006): E – endangered; I – indeterminate; R – rare; V – vulnerable.

The list of species has been presented according to the following scheme: species [synonyms according to the checklists (Chmiel, 2006; Wojewoda, 2003), status, source of data (the name according to the quoted source)]. Short descriptions of macro- and microscopic features are provided for species new to Poland.

Abbreviations used:

- Published data sources: Kujawa and Gierczyk (2007, 2011a, 2011b, 2012), Lisiewska and Ratyńska (1984), Zychla (2007).
- Unpublished data sources: Jaškowiak (1999) – in this work, there are author's data as well as unpublished data from H. Gabor master's thesis (1985); npbl2009-16 – unpublished materials collected by the authors from 2009 to 2016; PTBV2017 – material collected during the field trip on 2017-05-06; PTBX2017 – materials collected during the field trip on 2017-10-14.
- Status: BCL – not included in the checklist (Wojewoda, 2003); NPL – new to Poland; PP – partially protected species; RL-E – E category in the red list; RL-I – I category in the red list; RL-R – R category in the red list; RL-V – V category in the red list; SP – strictly protected species.

3.1. List of Species: Ascomycota

Aleuria aurantia (Pers.) Fuckel: Jaškowiak (1999)

Ascocoryne cylichnium (Tul.) Korf.: Jaškowiak (1999), PTBX2017

Ascocoryne sarcooides (Jacq.) J. W. Groves & D. E. Wilson: PTBX2017

Ascotremella faginea (Peck) Seaver (Figure 1): RL-V, PTBX2017



Figure 1 *Ascotremella faginea*. Photo by B. Kudławiec.

Calloria neglecta (Lib.) B. Hein: PTBV2017

Cyathicula coronata (Bull.) Rehm [*Crocicreas coronatum* (Bull.) S. E. Carp.]: Jaškowiak (1999)

- Discina ancilis* (Pers.) Sacc.: **RL-R**, Jaškowiak (1999)
Dumontinia tuberosa (Bull.) L. M. Kohn: Jaškowiak (1999)
Gyromitra gigas (Krombh.) Cooke: **RL-V**, PTBV2017
Humaria hemisphaerica (F. H. Wigg.) Fuckel: Lisiewska and Ratyńska (1984), PTBV2017
Hymenoscyphus calyculus (Fr.) W. Phillips: PTBX2017
Kretzschmaria deusta (Hoffm.) P. M. D. Martin: PTBV2017
Lanzia luteovirescens (Roberge ex Desm.) Dumont & Korf: PTBX2017
Mitrophora semilibera (DC.) Lév. [*Morchella gigas* (Batsch) Pers.]: **PP, RL-R**, PTBV2017
Mollisia cinerea (Batsch) P. Karst.: Jaškowiak (1999)
Mollisia discolor var. *longispora* Le Gal: Jaškowiak (1999)
Morchella esculenta (L.) Pers. var. *esculenta*: **PP, RL-R**, Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
Morchella esculenta (L.) Pers. var. *umbrina* (Boud.) S. Imai: **PP, RL-R**, PTBV2017
Nectria cinnabarina (Tode) Fr.: Jaškowiak (1999), PTBV2017
Otidea cochleata (L.) Fuckel: Lisiewska and Ratyńska (1984)
Peziza ampliata Pers.: PTBX2017
Peziza micropus Pers.: Jaškowiak (1999), PTBV2017, PTBX2017
Rhytisma acerinum (Pers.) Fr.: PTBV2017, PTBX2017
Scutellinia scutellata (L.) Lambotte: Jaškowiak (1999), PTBV2017
Scutellinia subhirtella Svrček: PTBX2017
Xylaria hypoxylon (L.) Grev.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
Xylaria longipes Nitschke: Jaškowiak (1999), npbl2009-16, PTBX2017
Xylaria polymorpha (Pers.) Grev.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), npbl2009-16, PTBV2017, PTBX2017

3.2. Basidiomycota

- Agaricus arvensis* Schaeff.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
Agaricus bitorquis (Quél.) Sacc.: Lisiewska and Ratyńska (1984)
Agaricus comtulus Fr.: **RL-R**, Jaškowiak (1999)
Agaricus moelleri Wasser: Jaškowiak (1999)
Agaricus semotus Fr.: Jaškowiak (1999)
Agaricus sylvicola (Vittad.) Peck: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
Agaricus xanthodermus Genev.: Jaškowiak (1999)
Agrocybe elatella (P. Karst.) Vesterh. [*A. paludosa* (J. E. Lange) Kühner & Romagn.]: **RL-R**, Jaškowiak (1999)
Agrocybe erebia (Fr.) Singer: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
Agrocybe praecox (Pers.) Fayod: Jaškowiak (1999), Lisiewska and Ratyńska (1984),
Amanita rubescens Pers.: Lisiewska and Ratyńska (1984)
Ampulloclitocybe clavipes (Pers.) Redhead, Lutzoni, Moncalvo & Vilgalys [*Clitocybe clavipes* (Pers.) P. Kumm.]: Jaškowiak, 1999
Antrodiella serpula (P. Karst.) Spirin & Niemelä [*A. hoehnelii* (Bres.) Niemelä]: **RL-R**, Jaškowiak (1999)
Armillaria borealis Marxm. & Korhonen: PTBX2017
Armillaria mellea (Vahl.) P. Kumm. s. l.: Lisiewska and Ratyńska (1984)
Armillaria ostoyae (Romagn.) Herink: Jaškowiak (1999)

- Artomyces pyxidatus* (Pers.) Jülich [*Clavicornia pyxidata* (Pers.) Doty]: **RL-R**, npbl2009-16, PTBX2017
- Auricularia auricula-judae* (Bull.) Quél.: PTBV2017, PTBX2017
- Bjerkandera adusta* (Willd.) P. Karst.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Bjerkandera fumosa* (Pers.) P. Karst.: npbl2009-16
- Bolbitius reticulatus* (Pers.) Ricken f. *reticulatus*: **RL-R**, PTBV2017
- Bolbitius titubans* (Bull.) Fr.: Lisiewska and Ratyńska (1984)
- Boletus pulverulentus* Opat.: **RL-R**, Jaškowiak (1999), npbl2009-16, PTBX2017
- Botryobasidium conspersum* J. Erikss.: Jaškowiak (1999)
- Bovista graveolens* Schwalb: **RL-E**, PTBX2017
- Bovista nigrescens* Pers.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Bovista pusilla* (Batsch) Pers. [*B. dermoxantha* (Vittad.) Toni]: Jaškowiak (1999)
- Byssomerulius corium* (Pers.) Parmasto: PTBX2017
- Calocera cornea* (Batsch) Fr.: Jaškowiak (1999)
- Calocybe gambosa* (Fr.) Donk: PTBV2017
- Cerioporus squamosus* (Huds.) Quél. [*Polyporus squamosus* (Huds.) Fr.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
- Cerioporus varius* (Pers.) Zmitr. & Kovalenko [*Polyporus varius* (Pers.) Fr.]: PTBV2017
- Chlorophyllum rachodes* (Vittad.) Vellinga [*Macrolepiota rhacodes* (Vittad.) Singer]: Jaškowiak (1999), PTBX2017
- Chondrostereum purpureum* (Pers.) Pouzar: PTBV2017
- Clitocybe candicans* (Pers.) P. Kumm.: Jaškowiak (1999)
- Clitocybe ditopa* (Fr.) Gillet: Jaškowiak (1999)
- Clitocybe gibba* (Pers.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Clitocybe nebularis* (Batsch) P. Kumm. Jaškowiak (1999), PTBX2017
- Clitocybe odora* (Bull.) P. Kumm.: Jaškowiak (1999)
- Clitocybe phaeophthalma* (Pers.) Kuyper [*C. hydrogramma* (Bull.) P. Kumm.]: **RL-R**, Jaškowiak (1999)
- Clitocybe phyllophila* (Pers.) P. Kumm.: Jaškowiak (1999)
- Clitocybe rivulosa* (Pers.) P. Kumm. [*C. dealbata* (Sow.) P. Kumm.]: Jaškowiak (1999)
- Clitocybe vibecina* (Fr.) Quél.: Jaškowiak (1999)
- Coniophora puteana* (Schumach.) P. Karst.: PTBX2017
- Conocybe ambigua* Watling: **RL-E**, PTBV2017
- Conocybe macrocephala* Kühner & Watling: PTBX2017
- Conocybe mesospora* Kühner & Watling: PTBX2017
- Conocybe rickeniana* P. D. Orton: Lisiewska and Ratyńska (1984)
- Conocybe tenera* (Schaeff.) Fayod: Lisiewska and Ratyńska (1984)
- Coprinellus disseminatus* (Pers.) J. E. Lange [*Coprinus disseminatus* (Pers.) Quél.]: Lisiewska and Ratyńska (1984), npbl.2009-16
- Coprinellus domesticus* (Bolton) Vilgalys, Hopple & Jacq. Johnson [*Coprinus domesticus* (Bolt.) Gray]: Jaškowiak (1999), PTBX2017
- Coprinellus impatiens* (Fr.) J. E. Lange [*Coprinus impatiens* (Fr.) Quél.]: PTBX2017
- Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Jacq. Johnson [*Coprinus micaceus* (Bull.) Fr.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Coprinellus saccharinus* (Romagn.) P. Roux, Guy García & Dumas (*Coprinus saccharinus* Romagn.): PTBX2017

- Coprinellus silvaticus* (Peck) Gminder (*Coprinus silvaticus* Peck): Jaškowiak (1999)
- Coprinellus xanthothrix* (Romagn.) Vilgalys, Hoppole & Jacq. Johnson (*Coprinus xanthothrix* Romagn.): Lisiewska and Ratyńska (1984), PTBV2017
- Coprinopsis atramentaria* (Bull.) Redhead, Vilgalys & Moncalvo [*Coprinus atramentarius* (Bull.) Fr.]: Jaškowiak (1999)
- Coprinopsis kriegelsteineri* (Bender) Redhead, Vilgalys & Moncalvo: **BCL**, PTBV2017
- Coprinopsis lagopus* (Fr.) Redhead, Vilgalys & Moncalvo [*Coprinus lagopus* (Fr.) Fr.]: Lisiewska and Ratyńska (1984), PTBV2017
- Coprinopsis marcescibilis* (Britzelm.) Örstadius & E. Larss. [*Psathyrella marcescibilis* (Britzelm.) Sing.]: PTBV2017
- Coprinopsis spelaiophila* (Bas & Uljé) Redhead, Vilgalys & Moncalvo [*Coprinus extintorius* (Bull.) Fr.]: PTBV2017
- Corioloopsis gallica* (Fr.) Ryvarden: **RL-R**, Jaškowiak (1999)
- Crepidotus caspari* Velen.: PTBV2017
- Crepidotus cesatii* (Rabenh.) Sacc. var. *cesatii*: Jaškowiak (1999)
- Crepidotus cesatii* (Rabenh.) Sacc. var. *sphaerosporus* (Pat.) A. Ortega & Buendía: PTBV2017
- Crepidotus mollis* (Schaeff.) Staude var. *mollis*: PTBV2017
- Crepidotus mollis* (Schaeff.) Staude var. *calolepis* (Fr.) Pilát: PTBV2017
- Crepidotus variabilis* (Pers.) P. Kumm.: Lisiewska and Ratyńska (1984)
- Crucibulum laeve* (Huds.) Kambly: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
- Cyathus striatus* (Huds.) Willd.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
- Cystoderma amianthinum* (Scop.) Fayod: Jaškowiak (1999)
- Cystolepiota seminuda* (Lasch) Bon: Jaškowiak (1999), PTBV2017
- Dacrymyces capitatus* Schwein.: **RL-V**, Jaškowiak (1999)
- Dacrymyces stillatus* Nees: Jaškowiak (1999)
- Daedalea quercina* (L.) Pers.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
- Daedaleopsis confragosa* (Bolton) J. Schröt.: Jaškowiak (1999), PTBV2017, PTBV2017
- Datronia mollis* (Sommerf.) Donk: Jaškowiak (1999), PTBV2017
- Dendrothele acerina* (Pers.) P. A. Lemke: **RL-R**, PTBV2017
- Disciseda bovista* (Klotzsch) Hollós: **RL-E**, PTBV2017
- Echinoderma aspera* (Pers.) Bon [*Lepiota aspera* (Pers.) Quél.]: Jaškowiak (1999), PTBV2017
- Efibula tuberculata* (P. Karst.) Zmitr. & Spirin [*Phanerochaete tuberculata* (P. Karst.) Parmasto]: Jaškowiak (1999)
- Entoloma araneosum* (Quél.) M. M. Moser: PTBV2017
- Entoloma dysthaloides* Noordel.: Jaškowiak (1999)
- Entoloma hirtipes* (Schumach.) M. M. Moser: Jaškowiak (1999)
- Entoloma inutile* (Britzelm.) Noordel.: Jaškowiak (1999)
- Entoloma mougeotii* (Fr.) Hesler: **RL-V**, Lisiewska and Ratyńska (1984)
- Entoloma occultpigmentatum* Arnolds & Noordel. var. *occultpigmentatum*: npbl2009-16
- Entoloma percandidum* Noordel.: Jaškowiak (1999)
- Entoloma rhodopolium* (Fr.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

- Entoloma rhodopolium* (Fr.) P. Kumm. f. *nidorosum* (Fr.) Noordel.: Lisiewska and Ratyńska (1984)
- Entoloma rusticoides* (Gillet) Noordel.: **RL-E**, npbl2009-16
- Entoloma sericeum* Quél.: Jaškowiak (1999)
- Entoloma sordidulum* (Kühner & Romagn.) P. D. Orton: Jaškowiak (1999)
- Entoloma speculum* (Fr.) Quél.: **RL-E**, Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Entoloma tjallingiorum* Noordel.: **BCL**, PTBX2017
- Entoloma vernum* S. Lundell: Kujawa and Gierczyk (2011a), Lisiewska and Ratyńska (1984)
- Exidia glandulosa* (Bull.) Fr. (*E. truncata* Fr.): **RL-R**, Jaškowiak (1999), Kujawa and Gierczyk (2011a), PTBV2017, PTBX2017
- Exidia nigricans* (With.) P. Roberts [*E. plana* (F. H. Wigg.) Donk, *E. glandulosa* sensu auct.]: Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Flammulina velutipes* (Curtis) P. Karst.: Lisiewska and Ratyńska (1984)
- Fomes fomentarius* (L.) Fr.: Jaškowiak (1999), PTBV2017
- Fomitopsis betulina* (Bull.) B. K. Cui, M. L. Han & Y. C. Dai [*Piptoporus betulinus* (Bull. Fr.) P. Karst.]: PTBX2017
- Fomitopsis pinicola* (Sw.) P. Karst.: Jaškowiak (1999), npbl2009-16, PTBV2017, PTBX2017
- Galerina clavata* (Velen.) Kühner [*Galerina heterocystis* (G. F. Atk.) A. H. Sm. & Singer]: Jaškowiak (1999)
- Galerina hypnorum* (Schränk) Kühner: Jaškowiak (1999)
- Galerina marginata* (Batsch) Kühner s. l.: Jaškowiak (1999), PTBX2017
- Galerina triscopa* (Fr.) Kühner: **RL-R**, Jaškowiak (1999)
- Galerina uncialis* (Britzelm.) Kühner: Jaškowiak (1999)
- Ganoderma applanatum* (Pers.) Pat.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Geastrum corollinum* (Batsch) Hollós: **PP, RL-E**, PTBV2017
- Geastrum fimbriatum* Fr.: **RL-R**, Jaškowiak (1999)
- Geastrum fornicatum* (Huds.) Hook. (Figure 2): **SP, RL-E**, PTBV2017, PTBX2017



Figure 2 *Geastrum fornicatum*. Photo by B. Kudławiec.

Geastrum rufescens Pers.: **RL-E**, PTBV2017

Geastrum striatum DC.: **RL-E**, npbl2009-16

Gloiothele lactescens (Berk.) Hjortstam: Jaškowiak (1999), PTBX2017

Granulobasidium vellereum (Ellis & Cragin) Jülich: PTBX2017

Gymnopilus penetrans (Fr.) Murrill: PTBX2017

Gymnopus aquosus (Bull.) Antonín & Noordel.: Jaškowiak (1999)

Gymnopus confluens (Pers.) Antonín, Halling & Noordel.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Gymnopus dryophilus (Bull.) Murrill: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Gymnopus erythropus (Pers.) Antonín, Halling & Noordel.: Lisiewska and Ratyńska (1984), PTBV2017

Gymnopus hariolorum (Bull.) Antonín, Halling & Noordel.: Jaškowiak (1999), PTBV2017

Gymnopus peronatus (Bolton) Gray: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Hapalopilus nidulans (Fr.) P. Karst.: Lisiewska and Ratyńska (1984)

Hemipholiota populnea (Pers.) Bon [*Pholiota populnea* (Pers.) Kuyper & Tjall.]: Jaškowiak (1999)

Hericium coralloides (Scop.) Pers. (Figure 3): PP, RL-V, PTBX2017



Figure 3 *Hericium coralloides*. Photo by B. Kudławiec.

Heterobasidion annosum (Fr.) Bref.: Jaškowiak (1999), PTBX2017

Hohenbuehelia reniformis (G. Mey.) Singer: RL-E, Jaškowiak (1999). **Notes:** Nomen dubium. The name *H. reniformis* (G. Mey.) Singer has been used for many different taxa (Knudsen & Vesterholt, 2008).

Hymenochaete rubiginosa (Dicks.) Lév.: PTBV2017, PTBX2017

Hymenopellis radicata (Relhan.) R. H. Petersen [*Xerula radicata* (Relhan) Dörfelt]: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Hyphodontia paradoxa (Schrad.) Langer & Vesterh. s. l.: Lisiewska and Ratyńska (1984)

Hypholoma fasciculare (Huds.) P. Kumm. [*Psilocybe fascicularis* (Huds.) Noordel.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017

Hypholoma lateritium (Schaeff.) P. Kumm. [*H. sublateritium* (Fr.) Quél., *Psilocybe lateritia* (Schaeff.) Noordel.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Hypholoma radicosum J. E. Lange [*Psilocybe radicosum* (J. E. Lange) Noordel.]: Jaškowiak (1999)

Hypsizygus ulmarius (Bull.) Redhead: **RL-V**, PTBX2017

Inocybe asterospora Quél.: Jaškowiak (1999)

Inocybe geophylla (Fr.) P. Kumm.: Jaškowiak (1999)

Inocybe lilacina (Peck) Kauffman [*I. geophylla* (Fr.) P. Kumm. var. *lilacina* (Peck) Gillet]: PTBX2017

Inocybe maculata Boud.: Lisiewska and Ratyńska (1984)

Inocybe pusio P. Karst.: Jaškowiak (1999), PTBX2017

Inonotus radiatus (Sowerby) P. Karst.: PTBX2017

Ischnoderma resinosum (Schrad.) P. Karst. (**Figure 4**): **RL-V**, npbl2009-16, PTBX2017



Figure 4 *Ischnoderma resinosum*. Photo by B. Kudławiec.

Kuehneromyces mutabilis (Schaeff.) Singer & A. H. Sm. [*Pholiota mutabilis* (Scop.) P. Kumm.]: Jaškowiak (1999), PTBX2017

Laccaria laccata (Scop.) Cooke: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Laccaria laccata (Scop.) Cooke var. *pallidifolia* (Peck) Peck: PTBX2017

Lacrymaria lacrymabunda (Bull.) Pat.: Jaškowiak (1999)

Lactarius pyrogalus (Bull.) Fr.: PTBX2017

Lactarius quietus (Fr.) Fr.: Lisiewska and Ratyńska (1984), PTBX2017

Laetiporus sulphureus (Bull.) Murrill: Lisiewska and Ratyńska (1984)

Langermannia gigantea (Batsch) Rostk.: Jaškowiak (1999); Kujawa and Gierczyk (2007, 2011b, 2012), Lisiewska and Ratyńska, 1984, npbl2009-16

Lentinus arcularius (Batsch) Zmitr. [*Polyporus arcularius* (Batsch) Fr.]: PTBV2017

Lentinus substrictus (Bolton) Zmitr. & Kovalenko (*Polyporus ciliatus* Fr.): Jaškowiak (1999), npbl2009-16

Lepiota castanea Quél.: Jaškowiak (1999)

Lepiota cristata (Bolton) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Lepiota echinella Quél. & G. E. Bernard: **RL-E**, PTBX2017

Lepiota griseovirens Maire (*L. pseudofelina* J. E. Lange): **RL-E**, Jaškowiak (1999)

- Lepiota ignicolor* Bres.: Jaškowiak (1999)
- Lepiota pseudolilacea* Huijsman (*L. pseudoheleola* Kühner ex Hora): PTBX2017
- Lepiota subincarnata* J. E. Lange: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Lepista flaccida* (Sowerby) Pat.: Jaškowiak (1999) [as *L. inversa* (Scop.) Pat.], PTBX2017
- Lepista glaucocana* (Bres.) Singer: PTBX2017
- Lepista irina* (Fr.) H. E. Bigelow: Jaškowiak (1999)
- Lepista nuda* (Bull.) Cooke: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Leratiomyces squamosus* (Pers.) Bridge & Spooner [*Psilocybe squamosa* (Pers.) P. D. Orton]: RL-I, Jaškowiak, 1999
- Lycoperdon perlatum* Pers.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Lycoperdon pyriforme* Schaeff.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Lycoperdon utriforme* Bull. [*Calvatia utiformis* (Bull.) Jaap.]: npbl2009-2016
- Lyophyllum connatum* (Schumach.) Singer: Lisiewska and Ratyńska (1984)
- Macrolepiota mastoidea* (Fr.) Singer: Jaškowiak, 1999
- Macrolepiota procera* (Scop.) Singer: Jaškowiak, 1999
- Marasmius bulliardii* Quél.: PTBX2017
- Marasmius epiphyllus* (Pers.) Fr.: Jaškowiak, 1999, PTBX2017
- Marasmius rotula* (Scop.) Fr.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Marasmius torquescens* Quél.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Marasmius wynneae* Berk. & Broome: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Megacollybia platyphylla* (Pers.) Kotl. & Pouzar: Lisiewska and Ratyńska (1984), PTBX2017
- Melanoleuca arcuata* (Bull.) Singer: Jaškowiak (1999)
- Melanoleuca brevipes* (Bull.) Pat.: Jaškowiak (1999), PTBX2017
- Melanoleuca cognata* (Fr.) Konrad & Maubl.: Jaškowiak (1999)
- Melanoleuca friesii* (Bres.) Bon: BCL, PTBX2017
- Melanoleuca melaleuca* (Pers.) Murrill s. l.: Lisiewska and Ratyńska (1984) (as *M. stridula*), Jaškowiak (1999)
- Mutatoderma mutatum* (Peck) C. E. Gómez [*Hyphoderma mutatum* (Peck) Donk]: PTBX2017
- Mutinus caninus* (Huds.) Fr.: Jaškowiak (1999)
- Mycena abramsii* (Murrill) Murrill: Jaškowiak (1999) (as *M. praecox*)
- Mycena acicula* (Schaeff.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Mycena algeriensis* Maire: PTBV2017
- Mycena amicta* (Fr.) Quél.: PTBX2017
- Mycena cyanipes* Godey: RL-V, Jaškowiak (1999)
- Mycena epipterygia* (Scop.) Gray: Jaškowiak (1999) [as *M. viscosa* (Secr.) Maire], PTBX2017
- Mycena epipterygia* (Scop.) Gray var. *eipiterygioides* (Pearson) Kühner: Jaškowiak (1999)
- Mycena erubescens* Höhn: PTBX2017
- Mycena filopes* (Bull.) P. Kumm.: Lisiewska and Ratyńska (1984)
- Mycena flavoalba* (Fr.) Quél.: Jaškowiak (1999)

- Mycena galericulata* (Scop.) Gray: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Mycena galopus* (Pers.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Mycena haematopus* (Pers.) P. Kumm.: Jaškowiak (1999)
- Mycena hiemalis* (Osbeck) Quél.: Lisiewska and Ratyńska (1984), PTBX2017
- Mycena inclinata* (Fr.) Quél.: PTBX2017
- Mycena leptcephala* (Pers.) Gillet: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Mycena mucor* (Batsch) Quél.: Jaškowiak (1999)
- Mycena niveipes* (Murrill) Murrill: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Mycena olida* Bres. [*M. minutula* (Peck) Sacc.]: **RL-V**, PTBX2017
- Mycena olivaceomarginata* (Massee) Massee: **RL-R**, Lisiewska and Ratyńska (1984)
- Mycena pura* (Pers.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Mycena rosea* (Bull.) Gramberg: PTBX2017
- Mycena sanguinolenta* (Alb. & Schwein.) P. Kumm.: Lisiewska and Ratyńska (1984)
- Mycena speirea* (Fr.) Gillet: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Mycena stipata* Maas Geest. & Schwöbel: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Mycena vitilis* (Fr.) Quél.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Mycena zephrus* (Fr.) P. Kumm.: Jaškowiak (1999)
- Mycenella bryophila* (Voglino) Singer: Jaškowiak (1999)
- Mycetinis scorodoni* (Fr.) A. Wilson & Desjardin [*Marasmius scorodoni* (Fr.) Fr.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Myriostoma coliforme* (Dicks.) Corda: **SP, RL-E**, Kujawa and Gierczyk, (2007), Zychla (2007)
- Myxarium nucleatum* Wallr. [*Exidia nucleata* (Schwein.) Burt]: **RL-V**, PTBX2017
- Naucoria salicis* P. D. Orton: PTBX2017
- Ossicaulis lignatilis* (Pers.) Redhead & Ginns: **RL-V**, Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Panus conchatus* (Bull.) Fr. [*Lentinus torulosus* (Pers.) Lloyd]: **RL-R**, Lisiewska and Ratyńska (1984)
- Panellus stipticus* (Bull.) P. Karst.: Lisiewska and Ratyńska (1984)
- Parasola conopila* (Fr.) Örstadius & E. Larss. [*Psathyrella conopilus* (Fr.) A. Pearson & Dennis]: Jaškowiak (1999), PTBV2017
- Parasola plicatilis* (Curtis) Redhead, Vilgalys & Hopple [*Coprinus plicatilis* (M. A. Curtis) Fr.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Peniophora cinerea* (Pers.) Cooke: Jaškowiak (1999), PTBX2017
- Peniophora incarnata* (Pers.) P. Karst.: Jaškowiak (1999)
- Peniophora lycii* (Pers.) Höhn. & Litsch.: Jaškowiak (1999)
- Peniophora quercina* (Pers.) Cooke: Gabor (1985), PTBX2017
- Phaeomarasmius erinaceus* (Fr.) Kühner: **RL-R**, Lisiewska and Ratyńska (1984)
- Phallus impudicus* L.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Phellinus pomaceus* (Pers.) Maire: PTBV2017
- Phlebia radiata* Fr.: Jaškowiak (1999), PTBX2017
- Phlebia tremellosa* (Schröd.) Nakasone & Burds.: Jaškowiak (1999), PTBX2017
- Phleogena faginea* (Fr.) Link: **RL-E**, npbl2009-16, PTBV2017, PTBX2017

- Pholiota limonella* (Peck) Sacc.: **BCL**, PTBX2017
- Pholiota squarrosa* (Weigel) P. Kumm.: Jaškowiak (1999)
- Pholiotina arrhenii* (Fr.) Singer [*Conocybe arrhenii* (Fr.) Kits van Wav.]: PTBX2017
- Pholiotina dasypus* (Romagn.) P.-A. Moreau: PTBV2017
- Pholiotina striipes* (Cooke) M. M. Moser [*Conocybe striaepes* (Cooke) S. Lundell]: PTBX2017
- Pholiotina sulcata* Arnolds & Hauskn. [*Conocybe plicatella* (Peck) Kühner]: Jaškowiak (1999)
- Phylloporia ribis* (Schumach.) Ryvarden: npbl2009-2016
- Picipes badius* (Pers.) Zmitr. & Kovalenko [*Polyporus badius* (Pers.) Schwein.]: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
- Picipes melanopus* (Pers.) Zmitr. & Kovalenko [*Polyporus melanopus* (Pers.) Fr.]: **RL-E**, Lisiewska and Ratyńska (1984), PTBV2017
- Pleurotus cornucopiae* (Paulet) Rolland: **RL-V**, Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Pleurotus ostreatus* (Jacq.) P. Kumm.: Jaškowiak (1999), PTBX2017
- Pluteus cervinus* (Schaeff.) P. Kumm. [*P. atricapillus* (Batsch) Fayod]: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Pluteus cinereofuscus* J. E. Lange: Jaškowiak (1999), PTBX2017
- Pluteus nanus* (Pers.) P. Kumm.: Lisiewska and Ratyńska (1984), PTBV2017
- Pluteus petasatus* (Fr.) Gillet: **RL-R**, Jaškowiak (1999)
- Pluteus phlebophorus* (Ditmar) P. Kumm.: Jaškowiak (1999)
- Pluteus plautus* (Weinm.) Gillet: **RL-I**, Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Pluteus salicinus* (Pers.) P. Kumm.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Pluteus semibulbosus* (Lasch) Quél.: Jaškowiak (1999)
- Pluteus umbrosus* (Pers.) P. Kumm.: Jaškowiak (1999), PTBV2017
- Porostereum spadiceum* (Pers.) Hjortstam & Ryvarden: **RL-R**, npbl2009-16, PTBV2017
- Postia subcaesia* (A. David) Jülich [according to Wojewoda (2003) it is *Oligoporus alni* (Niemelä & Vampola) M. Piątek]: Jaškowiak (1999)
- Postia tephroleuca* (Fr.) Jülich [*Oligoporus tephroleucus* (Fr.) Gilbertson & Ryvarden]: PTBX2017
- Psathyrella bipellis* (Quél.) A. H. Sm. (**Figure 5**): **BCL**, **NPL**, PTBX2017. **Notes:** Basidiomata with a characteristic, strong, narcotic smell. Caps 3–4.5 cm in diameter, wide-campanulate to plane, dark brown, with a reddish or purple tinge. Stems fragile, white to whitish. Veil abundant, as white flocci or fibres. Spores ovoid to narrowly ellipsoid, red-brown, 12–16 × 6.5–9 µm, with germ pore. Cheilocystidia of two kinds, balloon-like to spherical and obtuse to pointed, utriform to lageniform, 30–90 × 10–26 µm. Pleurocystidia of the same shape, 40–95 × 12–28 µm. It grows on the ground, litter and wood.
- Psathyrella candolleana* (Fr.) Maire: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Psathyrella cernua* (Vahl.) G. Hirsch: PTBX2017
- Psathyrella corrugis* (Pers.) Konrad & Maubl. s. l. [*P. gracilis* (Fr.) Quél.]: Jaškowiak (1999) (as *P. gracilis* and *P. caudata*), PTBX2017
- Psathyrella fusca* (Schumach.) A. Pearson: Jaškowiak (1999), PTBV2017
- Psathyrella gyroflexa* (Fr.) Konrad & Maubl.: Lisiewska and Ratyńska (1984)
- Psathyrella larga* (Kauffman) A. H. Sm. (**Figure 6**): **BCL**, **NPL**, npbl2009-16. **Notes:** Basidiomata large, massive with caps 5–9 cm in diameter, convex, dark brown to ocher brown, hygrophaneous. Stems fragile, white, whitish to pale ochraceous. Gills

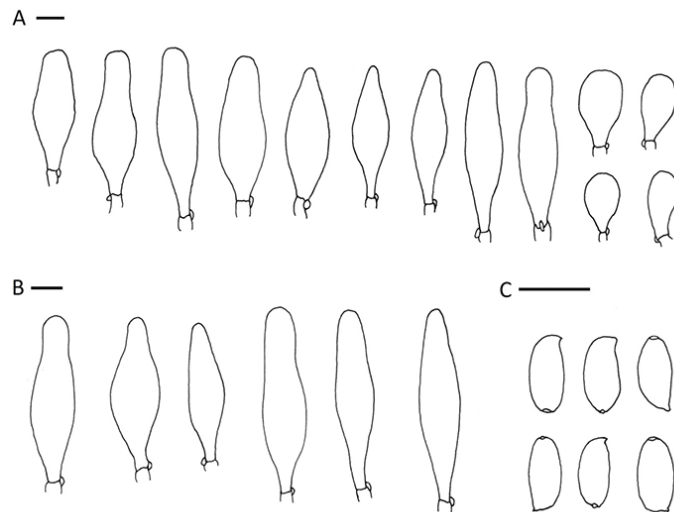


Figure 5 Microcharacters of *Psathyrella bipellis* (Quél.) A. H. Sm.: (A) cheilocystidia; (B) pleurocystidia; (C) spores. Scale bars: 10 μ m.

crowded. Veil fugacious, white, limited to the edge of the cap. Spores 7–9.5 \times 6.5–6 μ m, ellipsoid to ovoid, without germ pore, brown. Cheilocystidia of two types: few balloon-like to spherical and numerous narrowly utriform to lageniform, obtuse, 40–95 \times 9–26 μ m. Pleurocystidia numerous, of the same shape, 35–100 \times 12–24 μ m. Basidiomata grow on litter, twigs and wood.

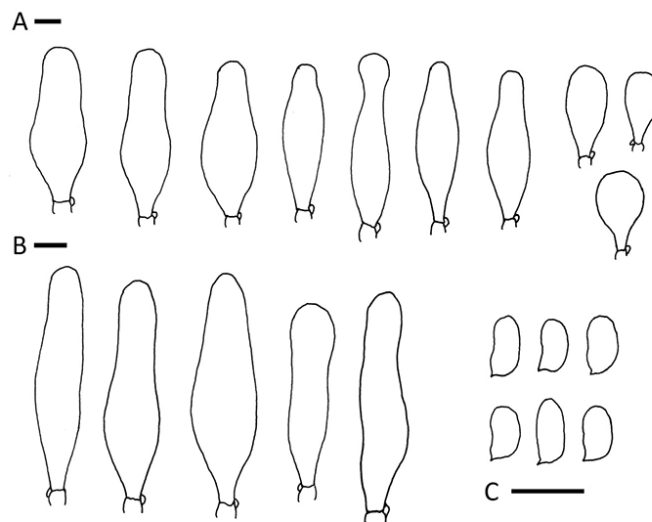


Figure 6 Microcharacters of *Psathyrella larga* (Kauffman) A. H. Sm.: (A) cheilocystidia; (B) pleurocystidia; (C) spores. Scale bars: 10 μ m.

Psathyrella microrhiza (Lasch) Konrad & Maubl.: PTBX2017

Psathyrella obtusata (Pers.) A. H. Sm. [*P. senex* (Peck) A. H. Sm.]: Lisiewska and Ratyńska (1984), PTBV2017

Psathyrella potteri A. H. Sm. [*P. albidula* (Romagn.) M. M. Moser]: PTBX2017

Psathyrella pseudocorrugis (Romagn.) Bon: PTBX2017

Psathyrella spadiceogrisea (Schaeff.) Maire: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Psathyrella spintrigeroides P. D. Orton: BCL, PTBX2017

- Radulomyces confluens* (Chaillet) M. P. Christ.: Jaškowiak (1999), npbl2009-16
- Radulomyces molaris* (Fr.) M. P. Christ.: PTBX2017
- Ramaria ochracea* (Bres.) Corner: BCL, PTBX2017
- Rhodocollybia butyracea* (Bull.) Lennox f. *asema* (Fr.) Antonín, Halling & Noordel.: PTBX2017
- Rickenella fibula* (Bull.) Raithelth.: Jaškowiak (1999), PTBX2017
- Russula amoenolens* Romagn.: RL-R, Lisiewska and Ratyńska (1984)
- Russula cyanoxantha* (Schaeff.) Fr.: Jaškowiak (1999)
- Russula foetens* Pers.: Lisiewska and Ratyńska (1984)
- Russula ochroleuca* Pers.: Jaškowiak (1999)
- Russula risigallina* (Batsch) Sacc.: Lisiewska and Ratyńska (1984)
- Russula vesca* Fr.: Lisiewska and Ratyńska (1984)
- Russula xerampelina* (Schaeff.) Fr.: Jaškowiak (1999), Lisiewska and Ratyńska (1984)
- Sarcomyxa serotina* (Schrad.) P. Karst. [*Panellus serotinus* (Schrad.) Kühner]: Jaškowiak (1999)
- Schizophyllum amplum* (Lév.) Nakasone [*Auriculariopsis ampla* (Lév.) Maire]: PTBV2017
- Schizophyllum commune* Fr.: PTBV2017
- Scleroderma bovista* Fr.: Jaškowiak (1999), PTBX2017
- Scleroderma verrucosum* (Bull.) Pers.: Lisiewska and Ratyńska (1984)
- Scopuloides rimosa* (Cooke) Jülich: npbl2009-16
- Simocybe centunculus* (Fr.) Singer [*Ramicola centunculus* (Fr.) Watling]: Jaškowiak (1999)
- Simocybe haustellaris* (Fr.) Watling [*Ramicola haustellaris* (Fr.) Watling]: Jaškowiak (1999)
- Simocybe sumptuosa* (P. D. Orton) Singer [*Ramicola sumptuosa* (P. D. Orton) Watling]: Jaškowiak (1999)
- Steccherinum fimbriatum* (Pers.) J. Erikss. [*Irpex fimbriatus* (Pers.) Kotiranta & Saarenoksa]: RL-R, PTBV2017
- Steccherinum ochraceum* (Pers.) Gray [*Irpex ochraceus* (Pers.) Kotiranta & Saarenoksa]: Jaškowiak (1999), PTBV2017
- Stereum hirsutum* (Willd.) Pers.: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Stereum subtomentosum* Pouzar: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
- Strobilurus stephanocystis* (Hora) Singer: Jaškowiak (1999)
- Strobilurus tenacellus* (Pers.) Singer: PTBV2017
- Stropharia aeruginosa* (Curtis) Quél. [*Psilocybe aeruginosa* (M. A. Curtis) Noordel.]: Jaškowiak (1999)
- Stropharia caerulea* Kreisel [*Psilocybe caerulea* (Kreisel) Noordel.]: PTBX2017
- Tapinella atrotomentosa* (Batsch) Šutara [*Paxillus atrotomentosus* (Batsch) Fr.]: Jaškowiak (1999)
- Trametes hirsuta* (Wulfen) Lloyd: PTBV2017
- Trametes versicolor* (L.) Lloyd: Jaškowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
- Tremella mesenterica* Retz.: PTBV2017, PTBX2017
- Tricholoma acerbum* (Bull.) Quél.: RL-E, Jaškowiak (1999)
- Tubaria furfuracea* (Pers) Gillet s. l.: Jaškowiak (1999) [as *T. furfuracea* (Pers) Gillet and *T. hiemalis* Romagn. ex Bon], PTBV2017

Volvariella caesiotincta P. D. Orton: BCL, Jaškowiak (1999), PTBX2017

Volvariella volvacea (Bull.) Singer: RL-V, Lisiewska and Ratyńska (1984)

Xerocomus pascuus (Pers.) E.-J. Gilbert: Jaškowiak (1999), Lisiewska and Ratyńska (1984)

Xerocomus rubellus (Krombh.) Quél.: Lisiewska and Ratyńska (1984)

Xerula longipes (Bull.) Maire [*X. pudens* (Pers.) Singer]: RL-R, npbl2009-16

4. Discussion

There is high fungal diversity and species richness in the park in Poznań-Radojewo. A similar level of species diversity has only been noted from the Kórnik Arboretum – 325 species (Lisiewska, 2004), the Gołuchów Arboretum – about 300 (Lisiewska & Płaczek, 1993), and the Przelewiec Arboretum – 300 (Friedrich, 2010). These objects are twice (Kórnik and Przelewiec) or 8 times (Gołuchów) as large as the park in Poznań-Radojewo, and more floristically diverse.

Mycological studies in urban and rural parks provide important information on the possibility of the survival of fungi (including forest species) in habitats, which are strongly influenced by humans.

Nowadays, the biodiversity is in decline, these substitute habitats are very important for its conservation. It implies the urgent need for cooperation between conservation officers (if the park is a historical monument), landowners or park managers (in the case of the Poznań-Radojewo park – State Forests) with biologists (botanists, zoologists, mycologists) and landscape architects. This cooperation is crucial in the planning of cultivation activities and revitalization practices.

The park in Poznań-Radojewo is a very important site for maintaining a high level of fungal species diversity within the city of Poznań. During revitalization works it is of paramount importance to take the needs of rare, threatened, and protected species under consideration, and to preserve the natural character of plant communities. It is also vital to ensure the presence of coarse woody debris (Figure 7) at different decomposition phases, that serves as a substratum for rare fungi, such as *Ascotremella faginea*, *Discina ancilis*, *Antrodiella serpula*, *Artomyces pyxidatus*, *Bolbitius reticulatus* f. *reticulatus*, *Coriopsis gallica*, *Dacrymyces capitatus*, *Dendrothele acerina*, *Entoloma tjallingiorum*, *Exidia glandulosa*, *Galerina triscopa*, *Hericium coralloides*, *Hypsizygus ulmarius*, *Ischnoderma resinatum*, *Mycena cyanipes*, *M. olida*, *Myxarium nucleatum*, *Ossicaulis lignatilis*, *Panus conchatus*, *Phaeomarasmium erinaceus*, *Phleogena faginea*, *Pholiota limonella*, *Picipes melanopus*, *Pleurotus cornucopiae*, *Pluteus petasatus*, *P. plautus*, *Porostereum spadiceum*, *Psathyrella bipellis*, *P. larga*, *Ramaria ochracea*, *Steccherinum fimbriatum*, *Volvariella caesiotincta* and *Xerula longipes*.



Figure 7 Coarse wood debris in the Poznań-Radojewo park. Photo by B. Kudławiec.

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