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 It was characterized based on literature data, unpublished master’s theses, the authors’ data, as well as data collected during two mycological trips organized by the Mycological Section of the Polish Botanical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; Jóźwiak & 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; Ławrynowicz & 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), Zychla (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, Querco-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-Robinietum. The shrubs represent communities with lilacs, Syringa vulgaris, as well as Aegopodo sambucetum nigrae and Eusynomyo-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; Zychla, 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; Zychla, 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, 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 |
|---------|--------|
| *Ascotremella faginea* (Peck) Seaver | V |
| *Discina ancilis* (Pers.) Sacc. | R |
| *Gyromitra gigas* (Krombh.) Cooke | V |
| *Mitrophora semilibera* (DC.) Lév. | R, PP |
| *Morchella esculenta* (L.) Pers. var. *esculenta* | R, PP |
| *Morchella esculenta* (L.) Pers. var. *umbrina* (Boud.) S. Imai | R, PP |
| *Agaricus comatus* Fr. | R |
| *Agrocybe elatella* (P. Karst.) Vesterh. | R |
| *Antrodia serpula* (P. Karst.) Spirin & Niemelä | R |
| *Artomyces pyxidatus* (Pers.) Jülich | R |
| *Boletus pulverulentus* Opat. | R |
| *Bovista graveolens* Schwäbl | E |
| *Conocybe ambigua* Watling | E |
| *Coprinopsis krieglsteineri* (Bender) Redhead, Vilgalys & Moncalvo | BCL |
| *Coriolopsis gallica* (Fr.) Ryvarden | R |
| *Dacrymyces capitatus* Schwein. | V |
| *Dendrothele acerina* (Pers.) P. A. Lemke | R |
| *Discomycetes bovista* (Klotzsch) Hollos. | E |
| *Entoloma mougeotii* (Fr.) Hesler | V |
| *Entoloma rusticoideus* (Gillet) Noordel. | E |
| *Entoloma speculum* (Fr.) Quél. | E |
| *Entoloma tajllingiorum* Noordel. | BCL |
| *Exidia glandulosa* (Bull.) Fr. | R |
| *Galerina triscopa* (Fr.) Kühner | R |
| *Geastrum corollinum* (Batsch) Hollos | E, PP |
| *Geastrum fimbriatum* Fr. | R |
| *Geastrum fornicatum* (Huds.) Hook. | E, SP |
| *Geastrum rufescens* Pers. | E |
| *Geastrum striatum* DC. | E |
| *Hericium coralloides* (Scop.) Pers. | V, PP |
| *Hypsiyugus ulmarius* (Bull.) Redhead | V |
| *Ischnoderma resinosum* (Schrad.) P. Karst. | V |
| *Lepiota echinella* Quél. & G. E. Bernard | E |
| *Lepiota griseovirens* Maire | E |
| *Leratiomyces squamosus* (Pers.) Bridge & Spooner | I |
| *Melanoleuca friesii* (Bres.) Bon | BCL |
| *Mycena cyanipes* Godoy | V |
| *Mycena alba* Bres. | V |
| *Mycena olivacea* (Massee) Masssee | R |
| *Myriostoma coliforme* (Dicks.) Corda | E, SP |
| *Myxaria nummatum* Wallr. | V |
| *Oxicultulus lignatilis* (Pers.) Redhead & Ginns | V |
| *Panus conchatus* (Bull.) Fr. | R |
| *Phaeomarasmius erinaceus* (Fr.) Kühner | R |
| *Phleogena faginea* (Fr.) Link | E |
| *Pholiota limonella* (Peck) Sacc. | BCL |
| *Picipes melanopus* (Pers.) Zmitr. & Kovalenko | E |
| *Pleurotus cornucopae* (Paulet) Rolland | V |
| *Pluteus petasatus* (Fr.) Gillet | R |
| *Pluteus platus* (Weinn.) Gillet | I |
| *Porostereum spadiceum* (Pers.) Hjortstam & Ryvarden | R |
| *Psathyrella bipellis* (Quél.) A. H. Sm. | BCL, NPL |
| *Psathyrella larga* (Kauffman) A. H. Sm. | BCL, NPL |
| *Psathyrella spinigeroides* P. D. Orton | BCL |
| *Ramaria ochracea* (Bres.) Corner | BCL |

Continued on next page
Table 1 continued

| Species                     | Status |
|-----------------------------|--------|
| 
| Russula amoenolens Romagn.  | R      |
| Steccherinum fimбриatum (Pers.) J. Erikss. | R      |
| Tricholoma acerbum (Bull.) Quél.      | E      |
| Volvariella caesiotincta P. D. Orton | BCL    |
| Volvariella volvacea (Bull.) Singer | V      |
| Xerula longipes (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 & Ławrynowcz, 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: Jaśkowiak (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: Jaśkowiak (1999)

Ascocoryne cylichnium (Tul.) Korf.: Jaśkowiak (1999), PTBV2017

Ascocoryne sarcoides (Jacq.) J. W. Groves & D. E. Wilson: PTBV2017

Ascotremella faginea (Peck) Seaver (Figure 1): RL-V, PTBV2017

![Figure 1 Ascotremella faginea. Photo by B. Kudlawiec.](image)

Calloria neglecta (Lib.) B. Hein: PTBV2017

Cyathicula coronata (Bull.) Rehm [Crocicreas coronatum (Bull.) S. E. Carp.]: Jaśkowiak (1999)
Discina ancilis (Pers.) Sacc.: RL-R, Jaśkowiak (1999)
Dumontinia tuberosa (Bull.) L. M. Kohn: Jaśkowiak (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: PTBV2017
Mitrophora semilibera (DC.) Lév. [Morchella gigas (Batsch) Pers.]: PP, RL-R, PTBV2017
Mollisia cinerea (Batsch) P. Karst.: Jaśkowiak (1999)
Mollisia discolor var. longispora Le Gal: Jaśkowiak (1999)
Morchella esculenta (L.) Pers. var. esculenta: PP, RL-R, Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
Morchella esculenta (L.) Pers. var. umbrina (Boud.) S. Imai: PP, RL-R, PTBV2017
Nectria cinnabaria (Tode) Fr.: Jaśkowiak (1999), PTBV2017
Otidea cochleata (L.) Fuckel: Lisiewska and Ratyńska (1984)
Peziza ampliata Pers.: PTBX2017
Peziza micropus Pers.: Jaśkowiak (1999), PTBV2017, PTBX2017
Rhytisma acerinum (Pers.) Fr.: PTBV2017, PTBX2017
Scutellinia scutellata (L.) Lambotte: Jaśkowiak (1999), PTBV2017
Scutellinia subhirtella Srvcék: PTBX2017
Xylaria hypoxylon (L.) Grev.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
Xylaria longipes Nitschke: Jaśkowiak (1999), npbl2009-16, PTBX2017
Xylaria polymorpha (Pers.) Grev.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), npbl2009-16, PTBV2017, PTBX2017

3.2. Basidiomycota

Agaricus arvensis Schaeff.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Agaricus bitorquis (Quél.) Sacc.: Lisiewska and Ratyńska (1984)
Agaricus comatus Fr.: RL-R, Jaśkowiak (1999)
Agaricus moelleri Wasser: Jaśkowiak (1999)
Agaricus semotus Fr.: Jaśkowiak (1999)
Agaricus sylvicola (Vittad.) Peck: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Agaricus xanthodermus Genev.: Jaśkowiak (1999)
Agrocybe elatella (P. Karst.) Vesterh. [A. paludosa (J. E. Lange) Kühner & Romagn.]: RL-R, Jaśkowiak (1999)
Agrocybe erebia (Fr.) Singer: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
Agrocybe praecox (Pers.) Fayod: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), Amanita rubescens Pers.: Lisiewska and Ratyńska (1984)
Ampulloclitocybe clavipes (Pers.) Redhead, Lutzoni, Moncalvo & Vilgalys [Clitocybe clavipes (Pers.) P. Kumm.]: Jaśkowiak, 1999
Antrodiella serpula (P. Karst.) Spirin & Niemelä [A. hoehnelii (Bres.) Niemelä]: RL-R, Jaśkowiak (1999)
Armillaria borealis Marxm. & Korhonen: PTBX2017
Armillaria mellea (Vahl.) P. Kumm. s. l.: Lisiewska and Ratyńska (1984)
Armillaria ostoyae (Romagn.) Herink: Jaśkowiak (1999)
Artomyces pyxidatus (Pers.) Jülich [Clavicorona pyxidata (Pers.) Doty]: RL-R, npbl2009-16, PTBX2017

Auricularia auricula-judae (Bull.) Quél.: PTBV2017, PTBX2017

Bjerkandera adusta (Willd.) P. Karst.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Bjerkandera fumosa (Pers.) P. Karst.: npbl2009-16

Bolbitius reticulatus (Pers.) Ricken f. reticulatus: RL-R, PTBV2017

Botryobasidium conspersum J. Erikss.: Jaśkowiak (1999)

Bovista graveolens Schwalb: RL-E, PTBX2017

Bovista nigrescens P.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Bovista pusilla (Batsch) Pers. [B. dermoxantha (Vittad.) Toni]: Jaśkowiak (1999)

Byssomerulius corium (Pers.) Parmasto: PTBX2017

Calocera cornea (Batsch) Fr.: Jaśkowiak (1999)

Calocybe gambosa (Fr.) Donk: PTBV2017

Cerioporus squamosus (Huds.) Quél. [Polyporus squamosus (Huds.) Fr.]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017

Cerioporus varius (Pers.) Zmitr. & Kovalenko [Polyporus varius (Pers.) Fr.]: PTBV2017

Chlorophyllum rachodes (Vittad.) Vellinga [Macrolepiota rhacodes (Vittad.) Singer]: Jaśkowiak (1999), PTBX2017

Chordostereum purpureum (Pers.) Pouzar: PTBV2017

Clitocybe candidans (Pers.) P. Kumm.: Jaśkowiak (1999)

Clitocybe ditopa (Fr.) Gillet: Jaśkowiak (1999)

Clitocybe gibba (Pers.) P. Kumm.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Clitocybe nebularis (Batsch) P. Kumm Jaśkowiak (1999), PTBV2017

Clitocybe odora (Bull.) P. Kumm.: Jaśkowiak (1999)

Clitocybe phaeophthalma (Pers.) Kuyper [C. hydrogramma (Bull.) P. Kumm.]: RL-R, Jaśkowiak (1999)

Clitocybe phyllophila (Pers.) P. Kumm.: Jaśkowiak (1999)

Clitocybe rivulosa (Pers.) P. Kumm. [C. dealbata (Sow.) P. Kumm.]: Jaśkowiak (1999)

Clitocybe vibecina (Fr.) Quél.: Jaśkowiak (1999)

Coniophora puteana (Schumach.) P. Karst.: PTBX2017

Conocybe ambiguа Watling: RL-E, PTBV2017

Conocybe macrocephala Kühner & Watling: PTBX2017

Conocybe mesospora Kühner & Watling: PTBX2017

Conocybe rickeniana P. D. Orton: Lisiewska and Ratyńska (1984)

Conocybe tenerа (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]: Jaśkowiak (1999), PTBX2017

Coprinellus impatiens (Fr.) J. E. Lange [Coprinus impatiens (Fr.) Quél.]: PTBV2017

Coprinellus micaceus (Bull.) Vilgalys, Hopple & Jacq. Johnson [Coprinus micaceus (Bull.) Fr.]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017

Coprinellus saccharinus (Romagn.) P. Roux, Guy Garcia & Dumas (Coprinus saccharinus Romagn.): PTBV2017
Coprinellus silvaticus (Peck) Gminder (Coprinus silvaticus Peck): Jaśkowiak (1999)
Coprinellus xanthothrix (Romagn.) Vilgaly, Hopple & Jacq. Johnson (Coprinus xanthothrix Romagn.): Lisiewska and Ratyńska (1984), PTBV2017
Coprinopsis atramentaria (Bull.) Redhead, Vilgaly & Moncalvo [Coprinus atramentarius (Bull.) Fr.]: Jaśkowiak (1999)
Coprinopsis kriegsteineri (Bender) Redhead, Vilgaly & Moncalvo: BCL, PTBX2017
Coprinopsis lagopus (Fr.) Redhead, Vilgaly & Moncalvo [Coprinus lagopus (Fr.) Fr.]: Lisiewska and Ratyńska (1984), PTBX2017
Coprinopsis marcescibilis (Britzelm.) Örstad & E. Larss. [Psathyrella marcescibilis (Britzelm.) Sing.]: PTBV2017
Coprinopsis spelaiophila (Bas & Uljé) Redhead, Vilgaly & Moncalvo [Coprinus extinctorius (Bull.) Fr.]: PTBV2017
Coriolopsis gallica (Fr.) Ryvarden: RL-R, Jaśkowiak (1999)
Crepidotus caspari Velen.: PTBX2017
Crepidotus cesatii (Rabenh.) Sacc. var. cesatii: Jaśkowiak (1999)
Crepidotus cesatii (Rabenh.) Sacc. var. sphaerosporus (Pat.) A. Ortega & Buendia: PTBX2017
Crepidotus mollis (Schaeff.) Staude var. mollis: PTBX2017
Crepidotus mollis (Schaeff.) Staude var. calolepis (Fr.) Pilát: PTBX2017
Crepidotus variabilis (Pers.) P. A. Lemke: RL-R, PTBX2017
Cyathus striatus (Huds.) Willld.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Cystoderma amianthinum (Scop.) Fayod: Jaśkowiak (1999)
Cystolepiota seminuda (Lasch) Bon: Jaśkowiak (1999), PTBX2017
Dacrymyces capitatus Schwein.: RL-V, Jaśkowiak (1999)
Dacrymyces stillatus Nees: Jaśkowiak (1999)
Daedalea quercina (L.) Pers.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017
Daedaleopsis confragosa (Bolton) J. Schröt.: Jaśkowiak (1999), PTBV2017, PTBX2017
Datronia mollis (Sommerf.) Donk: Jaśkowiak (1999), PTBX2017
Dendrothele acerina (Pers.) P. A. Lemke: RL-R, PTBX2017
Disciseda bovista (Klotzsch) Hollós: RL-E, PTBV2017
Echinoderma aspera (Pers.) Bon [Lepiota aspera (Pers.) Quél.]: Jaśkowiak (1999), PTBX2017
Efibula tuberculata (P. Karst.) Zmitr. & Spirin [Phanerochaete tuberculata (P. Karst.) Parmasto]: Jaśkowiak (1999)
Entoloma araneosum (Quél.) M. M. Moser: PTBX2017
Entoloma dythaloideas Noordel.: Jaśkowiak (1999)
Entoloma hirtipes (Schumach.) M. M. Moser: Jaśkowiak (1999)
Entoloma inutile (Britzelm.) Noordel.: Jaśkowiak (1999)
Entoloma mougeotii (Fr.) Hesler: RL-V, Lisiewska and Ratyńska (1984)
Entoloma occultipigmentatum Arnolds & Noordel. var. occultipigmentatum: npbl2009-16
Entoloma percarpium Noordel.: Jaśkowiak (1999)
Entoloma rhodopolium (Fr.) P. Kumm.: Jaśkowiak (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.: Jaśkowiak (1999)

Entoloma sordidulum (Kühner & Romagn.) P. D. Orton: Jaśkowiak (1999)

Entoloma speculum (Fr.) Quél.: RL-E, Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Entoloma tajlingiorum Noordel.: BCL, PTBX2017

Entoloma vernum S. Lundell: Kujawa and Gierczyk (2011a), Lisiewska and Ratyńska (1984)

Exidia glandulosa (Bull.) Fr. (E. truncata Fr.): RL-R, Jaśkowiak (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.: Jaśkowiak (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.: Jaśkowiak (1999), npbl2009-16, PTBV2017, PTBX2017

Galerina clavata (Velen.) Kühner [Galerina heterocystis (G. F. Atk.) A. H. Sm. & Singer]: Jaśkowiak (1999)

Galerina hypnorum (Schrank) Kühner: Jaśkowiak (1999)

Galerina marginata (Batsch) Kühner s. l.: Jaśkowiak (1999), PTBX2017

Galerina triscopa (Fr.) Kühner: RL-R, Jaśkowiak (1999)

Galerina uncialis (Britzelm.) Kühner: Jaśkowiak (1999)

Ganoderma applanatum (Pers.) Pat.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017

Geastrum corollinum (Batsch) Hollós: PP, RL-E, PTBV2017

Geastrum fimbriatum Fr.: RL-R, Jaśkowiak (1999)

Geastrum fornicatum (Huds.) Hook. (Figure 2): SP, RL-E, PTBV2017, PTBX2017

Geastrum rufescens Pers.: RL-E, PTBV2017

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

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

Figure 2 Geastrum fornicatum. Photo by B. Kudlawiec.
Granulobasidium vellereum (Ellis & Cragin) Jülich: PTBX2017
Gymnopilus penetrans (Fr.) Murrill: PTBX2017
Gymnopus aquosus (Bull.) Antonín & Noordel.: Jaśkowiak (1999)
Gymnopus confluens (Pers.) Antonín, Halling & Noordel.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Gymnopus dryophilus (Bull.) Murrill: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Gymnopus erythropus (Pers.) Antonín, Halling & Noordel.: Lisiewska and Ratyńska (1984), PTBV2017
Gymnopus hariolorum (Bull.) Antonín, Halling & Noordel.: Jaśkowiak (1999), PTBV2017
Gymnopus peronatus (Bolton) Gray: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Hapalopilus nidulans (Fr.) P. Karst.: Lisiewska and Ratyńska (1984)
Hemipholiota populnea (Pers.) Bon [Pholiota populnea (Pers.) Kuyper & Tjall.]: Jaśkowiak (1999)
Hericium coralloides (Scop.) Pers. (Figure 3): PP, RL-V, PTBX2017

Figure 3 Hericium coralloides. Photo by B. Kudławiec.

Heterobasidion annosum (Fr.) Bref.: Jaśkowiak (1999), PTBX2017
Hohenbuehelia reniformis (G. Mey.) Singer: RL-E, Jaśkowiak (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]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Hyphodontia paradoxa (Schrad.) Langer & Vesterh. s. l.: Lisiewska and Ratyńska (1984)
Hypholoma fasciculare (Huds.) P. Kumm. [Psilocybe fasciculare (Huds.) Noordel.]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
Hypholoma lateritium (Schaeff.) P. Kumm. [H. sublateritium (Fr.) Quél., Psilocybe lateritia (Schaeff.) Noordel.]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Hypholoma radicosum J. E. Lange [Psilocybe radicosa (J. E. Lange) Noordel.]: Jaśkowiak (1999)
Hypsipyzus ulmarius (Bull.) Redhead: RL-V, PTBX2017

Inocybe asterospora Quél.: Jaśkowiak (1999)

Inocybe geophylla (Fr.) P. Kumm.: Jaśkowiak (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.: Jaśkowiak (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. Kudlawiec.

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

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

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

Lacrymaria lacrymabunda (Bull.) Pat.: Jaśkowiak (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.: Jaśkowiak (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.): Jaśkowiak (1999), npbl2009-16

Lepiota castanea Quél.: Jaśkowiak (1999)

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

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

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

Mycena galopus (Pers.) P. Kumm.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017

Mycena haematopus (Pers.) P. Kumm.: Jaśkowiak (1999)

Mycena hiemalis (Osbeck) Quél.: Lisiewska and Ratyńska (1984), PTBX2017

Mycena inclinata (Fr.) Quél.: PTBX2017

Mycena leptocphala (Pers.) Gillet: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Mycena mucor (Batsch) Quél.: Jaśkowiak (1999)

Mycena niveipes (Murrill) Murrill: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Mycena olida Bres. [M. minutula (Peck) Sacc.]: RL-V, PTBX2017

Mycena olivaceomarginata (Masseo) Masseo: RL-R, Lisiewska and Ratyńska (1984)

Mycena pura (Pers.) P. Kumm.: Jaśkowiak (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: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Mycena stipata Maas Geest. & Schwöbel: Jaskowiak (1999), Lisiewska and Ratyńska (1984)

Mycena vitilis (Fr.) Quél.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017

Mycena zephirus (Fr.) P. Kumm.: Jaśkowiak (1999)

Mycenella bryophila (Voglino) Singer: Jaśkowiak (1999)

Mycetinis scorodonius (Fr.) A. Wilson & Desjardin [Marasmius scorodonius (Fr.) Fr.]: Jaśkowiak (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

Nautoria salicis P. D. Orton: PTBX2017

Ossicaulis lignatilis (Pers.) Redhead & Ginns: RL-V, Jaśkowiak (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 conopila (Fr.) A. Pearson & Dennis]: Jaśkowiak (1999), PTBV2017

Parasola plicatilis (Curtis) Redhead, Vilgalys & Hopple [Coprinus plicatilis (M. A. Curtis) Fr.]: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)

Peniophora cinerea (Pers.) Cooke: Jaśkowiak (1999), PTBX2017

Peniophora incarnata (Pers.) P. Karst.: Jaśkowiak (1999)

Peniophora lycii (Pers.) Höhn. & Litsch.: Jaśkowiak (1999)

Peniophora quercina (Pers.) Cooke: Gabor (1985), PTBX2017

Phaeomarasmius erinaceus (Fr.) Kühner: RL-R, Lisiewska and Ratyńska (1984)

Phallus impudicus L.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017

Phellinus pomaceus (Pers.) Maire: PTBV2017

Phlebia radiata Fr.: Jaśkowiak (1999), PTBX2017

Phlebia tremellosa (Schrad.) Nakasone & Burds.: Jaśkowiak (1999), PTBX2017

Phloeogena faginea (Fr.) Link: RL-E, npbl2009-16, PTBV2017, PTBX2017
Pholiota limonella (Peck) Sacc.: BCL, PTBX2017
Pholiota squarrosa (Weigel) P. Kumm.: Jaśkowiak (1999)
Pholiota arrhenii (Fr.) Singer [Conocybe arrhenii (Fr.) Kits van Wav.]: PTBX2017
Pholiota dasypus (Romagn.) P.-A. Moreau: PTBV2017
Pholiota stripes (Cooke) M. M. Moser [Conocybe striaepes (Cooke) S. Lundell]: PTBX2017
Pholiota sulcata Arnolds & Hauskn. [Conocybe plicatella (Peck) Kühner]: Jaśkowiak (1999)
Phylloporia ribis (Schumach.) Ryvarden: npbl2009-2016
Picipes badius (Pers.) Zmitr. & Kovalenko [Polyporus badiu (Pers.) Schwein.]: Jaśkowiak (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, Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Pleurotus ostreatus (Jacq.) P. Kumm.: Jaśkowiak (1999), PTBV2017
Pleurotus phlebophorus (Diitmar) P. Kumm.: Jaśkowiak (1999)
Pleurotus plautus (Weinm.) Gillet: RL-I, Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Pleurotus salicinus (Pers.) P. Kumm.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
Pleurotus semibulbosus (Lasch) Quél.: Jaśkowiak (1999)
Pleurotus umbrosus (Pers.) P. Kumm.: Jaśkowiak (1999), PTBX2017
Porostereum spadiceum (Pers.) Hjortstam & Ryvarden: RL-R, npbl2009-16
Postia subcaesia (A. David) Jülich [according to Wojewoda (2003) it is Oligoporus abni (Niemelä & Vampola) M. Piątek]: Jaśkowiak (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: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Psathyrella cernua (Vahl.) G. Hirsch: PTBX2017
Psathyrella corrugis (Pers.) Konrad & Maubl. s. l. [P. gracilis (Fr.) Quél.]: Jaśkowiak (1999) (as P. gracilis and P. caudata), PTBX2017
Psathyrella fusca (Schumach.) A. Pearson: Jaśkowiak (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, hygrophanous. Stems fragile, white, whitish to pale ochraceous. Gills
crowded. Veil fugacious, white, limited to the edge of the cap. Spores 7–9.5 × 6.5–6 µm, 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 × 9–26 µm. Pleurocystidia numerous, of the same shape, 35–100 × 12–24 µm. Basidiomata grow on litter, twigs and wood.

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

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

*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: Jaskowiak (1999), Lisiewska and Ratyńska (1984)

*Psathyrella spintrigeroides* P. D. Orton: BCL, PTBX2017
Radulomyces confluens (Chaillet) M. P. Christ.: Jaśkowiak (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.) Raithelh.: Jaśkowiak (1999), PTBX2017
Russula amoeno lens Romagn.: RL-R, Lisiewska and Ratyńska (1984)
Russula cyanoxantha (Schaeff.) Fr.: Jaśkowiak (1999)
Russula foetens Pers.: Lisiewska and Ratyńska (1984)
Russula ochroleuca Pers.: Jaśkowiak (1999)
Russula risigallina (Batsch) Sacc.: Lisiewska and Ratyńska (1984)
Russula vesca Fr.: Lisiewska and Ratyńska (1984)
Russula xerumpelina (Schaeff.) Fr.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Sarcoma yxa serotina (Schrad.) P. Karst. [Panellus serotinus (Schrad.) Kühner]: Jaśkowiak (1999)
Schizophyllum amplum (Lév.) Nakasone [Auriculariopsis ampla (Lév.) Maire]: PTBV2017
Schizophyllum commune Fr.: PTBV2017
Scleroderma bovista Fr.: Jaśkowiak (1999), PTBX2017
Scleroderma verrucosum (Bull.) Pers.: Lisiewska and Ratyńska (1984)
Scopuloides rimosa (Cooke) Jülich: npbl2009-16
Simocybe centunculus (Fr.) Singer [Ramicola centunculus (Fr.) Watling]: Jaśkowiak (1999)
Simocybe haustellaris (Fr.) Watling [Ramicola haustellaris (Fr.) Watling]: Jaśkowiak (1999)
Simocybe sumptuosa (P. D. Orton) Singer [Ramicola sumptuosa (P. D. Orton) Watling]: Jaśkowiak (1999)
Steccherinum fimbriatum (Pers.) J. Erikss. [Irpex fimbriatus (Pers.) Kotiranta & Saarenoksa]: RL-R, PTBV2017
Steccherinum ochraceum (Pers.) Gray [Irpex ochraceus (Pers.) Kotiranta & Saarenoksa]: Jaśkowiak (1999), PTBV2017
Stereum hirsutum (Willd.) Pers.: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
Stereum subtomentosum Pouzar: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBX2017
Strobilurus steplanocystis (Hora) Singer: Jaśkowiak (1999)
Strobilurus tenacellus (Pers.) Singer: PTBV2017
Stropharia aeruginosa (Curtis) Quél. [Psilocybe aeruginosa (M. A. Curtis) Noordel.]: Jaśkowiak (1999)
Stropharia caerulea Kreisel [Psilocybe caerulea (Kreisel) Noordel.]: PTBX2017
Tapinella atrotomentosa (Batsch) Šutara [Paxillus atrotomentosus (Batsch) Fr.]: Jaśkowiak (1999)
Trametes hirsuta (Wulfen) Lloyd: PTBV2017
Trametes versicolor (L.) Lloyd: Jaśkowiak (1999), Lisiewska and Ratyńska (1984), PTBV2017, PTBX2017
Tremella mesenterica Retz.: PTBV2017, PTBX2017
Tricholoma acerbum (Bull.) Quél.: RL-E, Jaśkowiak (1999)
Tubaria furfuracea (Pers) Gillet s. l.: Jaśkowiak (1999) [as T. hiemalis (Pers) Gillet and T. hiemalis Romagn. ex Bon], PTBV2017
Volvariella caesiotincta P. D. Orton: BCL, Jaśkowiak (1999), PTBX2017
Volvariella volvacea (Bull.) Singer: RL-V, Lisiewska and Ratyńska (1984)
Xerocomus pascuus (Pers.) E.-J. Gilbert: Jaśkowiak (1999), Lisiewska and Ratyńska (1984)
Xerocomus rubellus (Krombh.) Quél.: Lisiewska and Ratyńska (1984)
Xerula longipes (Bull.) Maire [X. pudens (Pers.) Singer]: RL-R, npb2009-16

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 & Placzek, 1993), and the Przelewice Arboretum – 300 (Friedrich, 2010). These objects are twice (Kórnik and Przelewice) 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, Antrodiaella serpula, Artomyces pyxidatus, Bolbitius reticulatus f. reticulatus, Coriolopsis gallica, Dacrymyces capitatus, Dendrothele acerina, Entoloma tjallingiorum, Exidia glandulosa, Galerina triscopa, Hericium coralloides, Hypsizygus ulmarius, Ischnoderma resinosum, Mycena cyanipes, M. olida, Myxarium nucleatum, Ossicaulis lignatilis, Panus conchatus, Phaeomarasmius 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 woody debris in the Poznań-Radojewo park. Photo by B. Kudlawiec.
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