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Christel Hoffeins[1], Hans Werner Hoffeins[1], Ryszard Szadziewski[2, 3]

Checklist of Macromycetes (Fungi) from the Wyskok village in Masurian Lakeland, NE Poland

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[1] Liseistieg 10, D-22149 Hamburg, Germany

[2] University of Gdańsk, Department of Invertebrate Zoology and Parasitology, PL 80-309 Gdańsk, ul. Wita Stwosza 59, Poland

[3] e-mail: ryszardszadziewski@gmail.com

Abstract: From a small village Wyskok and its surroundings 324 species of Macromycetes are recorded in years 1998–2017. Among the species reported 38 are Polish red-listed mushrooms: rare (23), vulnerable (8), endangered (3), extinct (1) and of indetermined threat (3). *Ganoderma lucidum* and *Polyporus umbellatus* are partially protected by law in Poland. At present in the vicinity of the Oświn lake (Nature Reserve of the Seven Islands Lake) 325 species of Macromycetes are known to occur.

Key words: Fungi, Macromycetes, Poland, Masurian Lakeland, Oświn lake, Nature Reserve of the Seven Islands Lake.

INTRODUCTION

Wyskok is a small village situated at the Oświn Lake (Fig. 1) in north Masurian Lakeland on the area protected by Natura 2000 covered by two bird's refuges: western part – Ostoja Warmińska PLB 280015; eastern part – Jezioro Oświn i okolice PLB 280004. In northern Masuria distribution of Macromycetes is poorly studied. In the vicinity of the Oświn Lake (Nature Reserve of the Seven Islands Lake) only 18 species of Macromycetes were reported earlier by Kloss & Kucharski (2005).

Senior authors Christel and Hans W. Hoffeins of Hamburg during their holidays spent in the Wyskok village, dokumented findings of mushrooms year by year.

During a long period from 1998 to 2017 they were able to identify 324 mushrooms to species level herewith presented.

MATERIAL AND METHODS

Mushrooms were collected in the Wyskok village 10 km north of Srokowo, 15 km north-west of Węgorzewo, at the Oświn Lake (Fig. 1). Study area stretches between longitudes 21°31' – 21°33' E and latitudes 54°16' – 54°19' N. Forests and fields with wooden patches here are typical of Masuria. Forests usually mixed with *Picea*, *Pinus*, *Quercus*, *Betula*, *Populus*, *Tilia*, *Fraxinus*, *Carpinus*, *Acer*, *Sorbus*, *Corylus*, etc.

Macromycetes were collected in the following periods: 19 June – 2 July 1999, 28 August to 25 September 1998, 2000 – 2017. In September 2002 no mushrooms at all were found except of perennial *Polyporales* because of extremely high aridness without any rain since June.

For identification we used keys by Gerhardt (2001), Lange & Lange (1973) and Peter (1960).

The classification and systematics we follow www.mycobank.org. If a taxon name was not on display, information was drawn from https://wikipedia.org/wiki/Portal:Fungi. Of course, some species found in forests and fields remained unidentified, especially those of the Cortinariaceae family and mushrooms growing on faeces of wild animals.

Photos of mushrooms were made with Nikon E4500, Nikon Coolpix S8000, Canon IXUS 140 and Samsung Android 5.0.

Abbreviations for Polish red list of fungi (Wojewoda & Ławrynowicz 2006) are as follows: **Ex** – extinct or lost, **E** – endangered, **V** – vulnerable, **R** – rare, **I** – indetermined threat.

RESULTS

Systematic list of species

Ascomycota

Pezizomycetes

Pezizales

Discinaceae

Gyromitra infula (Schaeff.) Quél.

Helvellaceae

Helvella bulbosa (Hedw.) Kreisel

Helvella crispa Bull.

Helvella elastica Bull.

Helvella lacunosa Afzelh. (**R**)

Helvella macropus (Pers.) P. Karst.

Pezizaceae

Humaria hemisphaerica (Hoffm.) Fuckel

Otidea alutacea (Pers.) Massee
Otidea onotica (Pers.) Fuckel
Peziza badia Pers.
Peziza endocarpoides Berk.
Peziza repanda Pers.
Peziza varia (Hedw.) Alb. & Schwein.
Scutellina scutellata (L.) Lambotte

Sordariomycetes
Hypocreales
Clavipitiaceae

Claviceps purpurea (Fr.) Tul.
Elaphocordyceps capitata (Holmsk.) G.H. Sung, J.M. Sung & Spatafora (**R**) (Fig. 2)

Nectriaceae

Nectria cinnabarina (Tode) Fr.

Leotiomycetes
Helotiales
Leotiaceae

Leotia lubrica (Scop.) Pers.

Bulgariaceae

Bulgaria inquinans (Pers.) Fr.

Dermataceae

Chlorosplenium aeruginosum (Oeder) De Not.

Pyronemataceae

Aleuria aurantica (Pers. Fr.) Fuckel

Xylariales
Xylariaceae

Hypoxylon deustum (Hoffm.) Grev.
Xylaria hypoxylon (L.) Grev.
Xylaria polymorpha (Pers.) Grev.

Basidiomycota
Agaricomycetes
Geastrales
Geasteraceae

Geastrum rufescens Pers. (**E**)

Agaricales
Agaricaceae

Agaricus arvensis Schaeff.
Agaricus augustus Fr.
Agaricus bitorquis (Quél.) Sacc.
Agaricus bisporus var. *hortensis* Lange
Agaricus campestris (L.)
Agaricus silvaticus Schaeff.
Bovista plumbea Pers.
Bovistella radicata (Durieu & Mont.) Pat.
Calvatia gigantea (Batsch) Lloyd
Calvatia utriformis (Bull.) Jaap
Chlorophyllum rhacodes (Vittad.) Vellinga
Coprinus comatus (O.F. Müll.) Pers.
Coprinus silvaticus Peck
Coprinopsis atramentaria (Bull.) Redhead, Vilgalys & Moncalvo
Cystoderma amiantinum Fayod
Lepiota aspera (Pers.) Quél.
Lepiota erminea (Fr.) P. Kumm. (**Ex**) (Fig. 3)
Lepiota excoriata (Schaeff.) P. Kumm.
Lepiota fulvella Rea
Lycoperdon echinatum Pers. (**R**)
Lycoperdon molle Pers.
Lycoperdon perlatum Pers.
Lycoperdon pusillum Batsch
Lycoperdon pyriforme Willd.
Lycoperdon umbrinum Pers.
Macrolepiota mastoidea var. *rickenii* (Velen.) Gminder
Macrolepiota procera (Scop.) Singer

Amanitaceae

Amanita citrina (Schaeff.) Pers. (**R**)

Amanita crocea (Quél.) Singer
Amanita excelsa (Fr.) Bertill.
Amanita fulva Pers.
Amanita muscaria (L.) Lam.
Amanita phalloides (Fr.) Link
Amanita phalloides var. *alba* Costantin & L.M. Dufour
Amanita rubescens Pers.
Amanita strobiliformis (Paulet ex Vittad.) Bertill. (**R**) (Fig. 4)
Amanita vaginata (Bull.) Lam.
Limacella guttata (Pers.) Konrad & Maubl.

Bolbitiaceae

Panaeolus acuminatus (Schaeff.) Quel.
Panaeolus papilionaceus (Bull.) Quél. (**R**)
Panaeolus semiovatus (Sowerby) Lundell & Nannf.

Clavariaceae

Clavaria argillacea Pers. (**R**)
Clavaria helvola var. *dispar* Per.

Cortinariaceae

Cortinarius alboviolaceus (Pers.) Fr.
Cortinarius anomalus (Fr.) Fr.
Cortinarius bolaris (Pers.) Fr.
Cortinarius caninus (Fr.) Fr.
Cortinarius caperatus (Pers.) Fr.
Cortinarius cinnamomeus (L.) Gray
Cortinarius infractus (Pers.) Fr.
Cortinarius paleaceus (Weinm.) Fr.
Cortinarius semisanguineus (Fr.) Gillet
Cortinarius sphagneti Orton
Cortinarius spilomeus (Fr.) Fr.
Cortinarius subtortus (Pers.) Fr.
Cortinarius subvalidus Henry
Cortinarius trivialis J.E. Lange
Cortinarius violaceus (L.) Gray (**V**) (Fig. 5)

Crepidotaceae

Crepidotus variabilis (Pers.) P. Kumm.

Entolomaceae

Entoloma rhodopolium (Fr.) P. Kumm.

Hydnagiaceae

Laccaria amethystea (Bull.) Murrill
Laccaria laccata (Scop.) Cooke
Laccaria proxima (Boud.) Pat.

Hygrophoraceae

Ampulloclitocybe clavipes (Pers.) Redhead, Lutzoni, Moncalvo & Vilgalys
Hygrocybe conica (Schaeff.) P. Kumm.
Hygrophorus cerasinus Berk.
Hygrophorus nemoreus Fr.
Hygrophorus olivaceoalbus (Fr.) Fr.
Hygrophorus pustulatus (Pers.) Fr.

Inocybaceae

Inocybe adaequata (Britzelm.) Sacc.
Inocybe dulcamara (Pers.) P. Kumm.
Inocybe flocculosa Sacc.
Inocybe geophylla (Sowerby) P. Kumm.
Inocybe lacera (Fr.) P. Kumm.

Lyophyllaceae

Asterophora lycoperdoides (Bull.) Ditmar (**R**) (Fig. 6)
Lyophyllum decastes (Fr.) Singer

Marasmiaceae

Gymnopus androsaceus (L.) Mata & Petersen
Gymnopus dryophilus (Bull.) Murrill
Gymnopus foetidus (Sowerby) Mata & Petersen
Gymnopus perforans (Hoffm.) Antonín & Noordel.
Marasmiellus ramealis (Bull.) Singer
Marasmius alliaceus (Jacq.) Fr.

Marasmius oreades (Bolton) Fr.
Marasmius rotula (Scop.) Fr.
Marasmius torquescens Quél.
Marasmius undatus (Berk.) Fr.
Rhodocollybia maculata (Alb. & Schwein.) Singer

Mycenaceae

Mycena galericulata (Scop.) Gray
Mycena galopus var. *nigra* Rea
Mycena haematopus (Pers.) P. Kumm. (Fig. 7)
Mycena polygramma (Bull.) Gray
Mycena pura (Pers.) P. Kumm.
Mycena vitilis (Fr.) Quél.
Panellus serotinus (Pers.) Kühner
Panellus stypticus (Bull.) Karst.
Xeromphalina campanella (Batsch) Kühner & Maire

Nidulariaceae

Crucibulum laeve (Huds.) Kambly
Cyathus striatus (Huds.) Willd.

Pleurotaceae

Pleurotus cornucopiae (Paulet) Rolland (**V**) (Fig. 8)
Pleurotus dryinus (Pers.) P. Kumm.
Pleurotus ostreatus (Jacq.) P. Kumm.
Pleurotus sapidus Quél.
Pleurotus sapidus var. *albidum* Kalchbr.

Pluteaceae

Pluteus cervinus (Schaeff.) P. Kumm.
Pluteus romellii (Britzelm.) Sacc.
Volvariella bombycina (Schaeff.) Singer (**R**) (Fig. 9)
Volvariella gloiocephala (DC.) Boekhout & Enderle

Psathyrellaceae

Coprinellus disseminutus (Pers.) Lange
Coprinellus micaceus (Bull.) Vilgalys, Hopple & Johnson

Coprinopsis atramentarius Fr.
Coprinopsis cinerea (Schaeff.) Redhead, Vilgalys & Moncalvo
Coprinopsis radiata (Bolton) Redhead, Vilgalys & Moncalvo
Lacrymaria lacrymabunda (Bull.) Pat.
Panaelus fimicola (Fr.) Quel.
Panaeolina foenisecii (Pers.) Maire
Parasola plicatilis (Curtis) Redhead, Vilgalys & Hopple
Psathyrella berolinensis Ew. Gerhardt
Psathyrella spadicea (Schaeff.) Singer
Psathyrella piluliformis (Bull.) Orton

Physalacriaceae

Armillaria mellea (Vahl) P. Kumm.
Flammulina fennae Bas
Strobilurus esculentus (Wulfen) Singer
Xerula radicata (Relhan) Dörfelt

Schizophyllaceae

Schizophyllum commune Fr.

Strophariaceae

Alnicola melinoides (Bull.) Kühner
Deconica coprophila (Bull.) Karst.
Galerina hypnorum (Schrank) Kühner
Galerina marginata (Batsch) Kühner
Hebeloma crustuliniforme (Bull.) Quél.
Hebeloma mesophaeum (Pers.) Quél.
Hemipholiota populnea (Pers.) Bon
Hypholoma capnoides (Fr.) P. Kumm.
Hypholoma fasciculare (Huds.) P. Kumm.
Hypholoma radicosum J.E. Lange
Hypholoma sublateritium (Fr.) Quél.
Kuehneromyces mutabilis (Schaeff.) Singer & Sm.
Pholiota carbonaria (Fr.) Singer
Pholiota flammans (Batsch) P. Kumm.
Pholiota spumosa (Fr.) Singer
Pholiota squarrosa (Oeder) P. Kumm

Stropharia aeruginosa (Curtis) Quél.
Stropharia coronilla (Bull.) Quél.
Stropharia rugosoannulata Farl. ex Murrill
Tubaria conspersa (Pers.) Fayod

Tricholomataceae

Artomyces pyxidatus (Pers.) Jülich (**V**) (Fig. 10)
Clitocybe candicans (Pers.) Fayod
Clitocybe fragrans (With.) P. Kumm.
Clitocybe nebularis (Batsch) P. Kumm.
Clitocybe odora (Bull.) P. Kumm.
Clitocybe phyllophila (Pers.) P. Kumm.
Clitocybe splendens (Pers.) Gillet
Collybia cirrhata (Schumach.) Quel.
Hemimycena cucullata (Pers.) Singer
Lepista flaccida (Sowerby) Pat.
Lepista nuda (Bull.) Cooke
Lepista saeva (Fr.) Orton
Leucopaxillus giganteus (Sowerby) Singer (Fig. 11)
Phyllotopsis nidulans (Pers.) Singer (**V**)
Tricholoma album (Schaeff.) P. Kumm.
Tricholoma atrosquamosum Sacc. (**I**)
Tricholoma columbetta (Fr.) P. Kumm. (**R**)
Tricholoma equestre (L.) P. Kumm. (**I**)
Tricholoma imbricatum (Fr.) P. Kumm.
Tricholoma myomyces (Pers.) J.E. Lange
Tricholoma populinum J.E. Lange
Tricholoma portentosum (Fr.) Quél.
Tricholoma sulphureum (Bull.) P. Kumm.
Tricholomopsis rutilans (Schaeff.) Singer

Aphyllophorales
Coriolaceae

Daedalea quercina (L.) Pers.
Fomitopsis pinicola (Sw.) Karst.
Gloeophyllum sepiarium (Wulfen) Karst.

Auriculariales

Exidiaceae

Exidia nigricans (With.) Roberts
Exidia saccharina (Alb. & Schwein.) Fr.
Pseudohydnum gelatinosum (Scop.) P. Karst.

Boletales

Boletaceae

Boletus edulis Bull.
Boletus luridus Schaeff. (**R**) (Fig. 12)
Boletus pinophilus Schaeff.
Boletus pulverulentus Opat. (**R**) (Fig. 13)
Chalciporus piperatus (Bull.) Bataille
Leccinum aurantiacum (Bull.) Gray
Leccinum duriusculum (Schulzer ex Kalchbr.) Singer
Leccinum griseum (Quél.) Singer (**I**)
Leccinum quercinum (Pilát) Green & Watling
Leccinum scabrum (Bull.) Gray
Leccinum versipelle (Fr. & Hök) Snell
Tylopilus felleus (Bull.) Karst.
Xerocomus badius (Fr.) Gilbert
Xerocomus chrysenteron (Bull.) Quél.
Xerocomus rubellus (Krombh.) Quél.
Xerocomus subtomentosus (L.) Quél.

Gomphidiaceae

Chroogomphus helveticus (Singer) Moser (**E**)
Chroogomphus rutilus (Schaeff.) Mill.
Gomphidius glutinosus (Schaeff.) Fr. (**R**) (Fig. 14)

Gyroporaceae

Gyroporus castaneus (Bull.) Quél. (**R**) (Fig. 15)
Gyroporus cyanescens (Bull.) Quél. (**R**) (Fig. 16)

Hygrophoropsidaceae

Hygrophoropsis aurantiaca (Wulfen) Maire

Paxillaceae

P*axillus involutus* (Batsch) Fr.
Paxillus rubicundulus Orton (**R**)

Sclerodermataceae

Scleroderma areolatum Ehrenb.
Scleroderma citrinum Pers.
Scleroderma verrucosum (Bull.) Pers.

Suillaceae

Suillus granulatus (L.) Roussel
Suillus grevillei (Klotzsch) Singer
Suillus luteus (L.) Gray
Suillus variegatus (Sw.) Kuntze

Tapinellaceae

Tapinella atrotomentosa (Batsch) Sutura

Cantharellales
Cantharellaceae

Cantharellus amethysteus (Quél.) Sacc.
Cantharellus cibarius Fr.
Cantharellus cibarius var. *pallens* Pilát
Cantharellus cinereus Pers.
Cantharellus ianthinoxanthus (R. Maire) Kühner
Cantharellus tubaeformis Fr.
Cantharellus tubaeformis var. *lutescens* Fr.
Craterellus cornucopioides (L.) Pers.

Clavulinaceae

Clavulina coralloides (L.) Schröt.

Hydnaceae

Hydnum repandum L.
Hydnum repandum var. *albidum* Fr.
Hydnum repandum var. *rufescens* (Pers.) Barla
Sistotrema confluens Pers. (**E**)

Dacrymycetales
Dacrymycetaceae

Calocera viscosa (Pers.) Fr.

Gomphales
Gomphaceae

Ramaria stricta (Pers.) Quél.

Hymenochaetales
Hymenochaetaceae

Coltricia perennis (L.) Murrill
Phellinus igniarius (L.) Quél.
Phellinus igniarius var. *trivialis* (Bres. ex Killerm.) Niemelä
Phellinus nigricans (Fr.) Karst.
Phellinus pini (Brot.) Ames (**R**)
Phellinus tuberculosus (Baumg.) Niemelä
Onnia triquetra (Pers.) Imazeki

Rickenellaceae

Rickenella fibula (Bull.) Raitelh.

Schizoporaceae

Schizopora paradoxa (Schrad.) Donk

Phallales
Phallaceae

Phallus impudicus L.

Polyporales
Coriolaceae

Trametes suaveolens (L.) Fr.
Fomes fomentarius (L.) Fr.

Fomitopsidaceae

Climacocystis borealis (Fr.) Kotl. & Pouzar (**R**)
Grifola umbellata (Pers.) Pilát
Ptychogaster albus Corda
Pycnoporellus fulgens (Fr.) Donk (**V**) (Fig. 17)

Ganodermataceae

Ganoderma applanatum (Pers.) Pat.

Ganoderma lucidum (Curtis) Karst. Partially protected (Rozporządzenie Ministra Środowiska 2014) (**R**).

Meruliaceae

Phlebia radiata Fr.

Polyporaceae

Antrodia serialis (Fr.) Donk

Daedaleopsis confragosa (Bolton) J. Schröt. (**R**) (Fig. 18)

Hapalopilus rutilans (Pers.) Murill

Laetiporus sulphureus (Bull.) Murrill

Lenzites betulinus (L.) Fr.

Panus conchatus (Bull.) Fr. (**R**) (Fig. 19)

Piptoporus betulinus (Bull.) Karst.

Polyporus badius (Pers.) Schwein.

Polyporus brumalis (Pers.) Fr.

Polyporus leptocephalus (Jaqc.) Fr.

Polyporus umbellatus (Pers.) Fr. Partially protected (Rozporządzenie Ministra Środowiska 2014) (**V**) (Fig. 20).

Trametes gibbosa (Pers.) Fr.

Trametes hirsuta (Wulfen) Pilát

Trametes suaveolens (L.) Fr.

Trametes versicolor (L.) Lloyd

Spongiporus tephroleucus (Fr.) David

Sparassidaceae

Sparassis crispa (Wulfen) Fr. (**R**) (Fig. 21)

Russulales

Albatrellaceae

Albatrellus ovinus (Schaeff.) Kotl. & Pouzar

Auriscalpiaceae

Auriscalpium vulgare Gray

Russulaceae

Lactarius deliciosus (L.) Gray
Lactarius camphoratus (Bull.) Fr.
Lactarius deterrimus Gröger
Lactarius helvus (Fr.) Fr.
Lactarius pyrogalus (Bull.) Fr.
Lactarius quietus (Fr.) Fr.
Lactarius rufus (Scop.) Fr.
Lactarius semisanguifluus R. Heim & Leclair
Lactarius subdulcis (Pers.) Gray
Lactarius thejogalus (Bull.) Gray
Lactarius torminosus (Schaeff.) Pers.
Lactarius turpis (Weinm.) Fr.
Russula adusta (Pers.) Fr.
Russula aeruginea Lindblad
Russula amoenolens Romagn. (**R**)
Russula aurea Pers.
Russula badia Quél.
Russula cyanoxantha (Schaeff.) Fr.
Russula decolorans (Fr.) Fr.
Russula delica Fr.
Russula fellea (Fr.) Fr.
Russula foetens Pers.
Russula grata Britzelm.
Russula graveolens Romell
Russula nigricans Fr.
Russula nobilis Velen.
Russula ochroleuca Pers.
Russula paludosa Britzelm.
Russula queletii Fr.
Russula solaris Ferd. & Winge
Russula turci Bres.
Russula vesca Fr.
Russula vinosa Lindblad
Russula virescens (Schaeff.) Fr.
Russula xerampelina (Schaeff.) Fr.

Stereaceae

Stereum hirsutum (Willd.) Pers.

Thelephorales

Bankeraceae

Sarcodon imbricatus (L.) Karst. (**V**) (Fig. 22)

Thelephoraceae

Thelephora caryophyllea (Schaeff.) Pers. (**V**)

Thelephora palmata (Scop.) Fr.

Tremellales

Tremellaceae

Tremella mesenterica (Schaeff.) Retz.

CONCLUDING REMARKS

Most of 324 species of mushrooms collected in Wyskok are common in Poland (Kujawa 2017). They belong to Ascomycota (25 spp.) and Basidiomycota (299 spp.). More than ten percent species (38) are Polish red-listed mushrooms with two partially protected by law (*Ganoderma lucidum* and *Polyporus umbellatus*).

The red-listed species of mushrooms reported from Wyskok are included to the following groups of threat (Wojewoda & Ławrynowicz 2006):

Extinct or lost (1) *Lepiota erminea*.

Vulnerable (8): *Artomyces pyxidatus*, *Cortinarius violaceus*, *Phyllotopsis nidulans*, *Pleurotus cornucopiae*, *Polyporus umbellatus*, *Pycnoporellus fulgens*, *Sarcodon imbricatus*, *Thelephora caryophyllea*.

Rare (23): *Amanita citrina*, *Amanita strobiliformis*, *Asterophora lycoperdoides*, *Boletus luridus*, *Boletus pulverulentus*, *Clavaria argillacea*, *Climacocystis borealis*, *Elaphocordyceps capitata*, *Ganoderma lucidum*, *Gomphidius glutinosus*, *Gyroporus castaneus*, *Gyroporus cyanescens*, *Helvella lacunosa*, *Lycoperdon echinatum*, *Panus conchatus*, *Panaeolus papilionaceus*, *Paxillus rubicundulus*, *Phellinus pini*, *Pycnoporus cinnabarinus*, *Russula amoenolens*, *Sparassis crispa*, *Tricholoma columbetta*, *Volvariella bombycina*.

Endangered (3): *Chroogomphus helveticus*, *Geastrum rufescens*, *Sistotrema confluens*.

Indetermined threat (3): *Leccinum griseum*, *Tricholoma atrosquamosum*, *Tricholoma equestre.*

At present, the Oświn lake surroundings include 325 species of Macrofungi as among 18 species previously reported by Kloss & Kucharski (2005) in the Oświn lake vicinity *Morchella esculenta* (L.) Pers. is not recorded in present studies.

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Fig. 1. Geographic position of the Wyskok village. Study area within elliptic line. Position of Wyskok 2 marked with red dot.

Ryc. 1. Położenie geograficzne wsi Wyskok. Obszar badawczy zaznaczony linią eliptyczną. Położenie Wyskok 2 zaznaczone czerwonym punktem.

Fig. 2. *Elaphocordyceps capitata* (Holmsk.) G.H. Sung, J.M. Sung & Spatafora. Mixed forest, near *Quercus* and *Populus*, 2009.

Ryc. 2. *Elaphocordyceps capitata* (Holmsk.) G.H. Sung, J.M. Sung & Spatafora. Las mieszany, koło dębu *Quercus* i topoli *Populus*, 2009.

Fig. 3. *Lepiota erminea* (Fr.) P. Kumm. Edge of forest, in grass, 2012.

Ryc. 3. *Lepiota erminea* (Fr.) P. Kumm. Skraj lasu, w trawie, 2012.

Fig. 4. *Amanita strobiliformis* (Paulet ex Vittad.) Bertill. Wyskok 2, orchard, under *Corylus* and *Tilia*, 2016.

Ryc. 4. *Amanita strobiliformis* (Paulet ex Vittad.) Bertill. Wyskok 2, sad owocowy, pod leszczyną *Corylus* i lipą *Tilia*, 2016.

Fig. 5. *Cortinarius violaceus* (L.) Gray. Wyskok 2, orchard, 2017.

Ryc. 5. *Cortinarius violaceus* (L.) Gray. Wyskok 2, sad owocowy, 2017.

Fig. 6. *Asterophora lycoperdoides* (Bull.) Ditmar on *Russula nigricans* Fr. Riparian zone, 2006.
Ryc. 6. *Asterophora lycoperdoides* (Bull.) Ditmar na *Russula nigricans* Fr. Strefa nadbrzeżna, 2006.

Fig. 7. *Mycena haematopus* (Pers.) P. Kumm. Mixed forest, 2010.
Ryc. 7. *Mycena haematopus* (Pers.) P. Kumm. Las mieszany, 2010.

Fig. 8. *Pleurotus cornucopiae* (Paulet) Rolland. On *Populus*, 2013.

Ryc. 8. *Pleurotus cornucopiae* (Paulet) Rolland. Na topoli *Populus*, 2013.

Fig. 9. *Volvariella bombycina* (Schaeff.) Singer. Grove with *Populus*, *Betula* and *Malus domestica*, on *Populus*, 2009.

Ryc. 9. *Volvariella bombycina* (Schaeff.) Singer. Zagajnik z topolami *Populus*, brzozami *Betula* i jabłoniami *Malus domestica*, na topoli *Populus*, 2009.

Fig. 10. *Artomyces pyxidatus* (Pers.) Jülich. Mixed forest, on rotting *Populus*, 2010.
Ryc. 10. *Artomyces pyxidatus* (Pers.) Jülich. Las mieszany, na próchniejącej topoli *Populus*, 2010.

Fig. 11. *Leucopaxillus giganteus* (Sowerby) Singer. Wyskok 2, orchard, 2015.
Ryc. 11. *Leucopaxillus giganteus* (Sowerby) Singer. Wyskok 2, sad owocowy, 2015.

Fig. 12. *Boletus luridus* Schaeff. Wyskok 2, orchard, 2006.
Ryc. 12. *Boletus luridus* Schaeff. Wyskok 2, sad owocowy, 2006.

Fig. 13. *Boletus pulverulentus* Opat. Mixed forest, under *Fagus*, 2006.
Ryc. 13. *Boletus pulverulentus* Opat. Las mieszany, pod bukiem *Fagus*, 2006.

Fig. 14. *Gomphidius glutinosus* (Schaeff.) Fr. Mixed forest, under *Picea*, 2016.
Ryc. 14. *Gomphidius glutinosus* (Schaeff.) Fr. Las mieszany, pod świerkiem *Picea*, 2016.

Fig. 15. *Gyroporus castaneus* (Bull.) Quél. Mixed forest, 2008.
Ryc. 15. *Gyroporus castaneus* (Bull.) Quél. Las mieszany, 2008.

Fig. 16. *Gyroporus cyanescens* (Bull.) Quél. Mixed forest, 2008.

Ryc. 16. *Gyroporus cyanescens* (Bull.) Quél. Las mieszany, 2008.

Fig. 17. *Pycnoporellus fulgens* (Fr.) Donk. Grove with *Populus* and *Betula*, on *Populus*, 2006.

Ryc. 17. *Pycnoporellus fulgens* (Fr.) Donk. Zagajnik z topolami *Populus* i brzozami *Betula*, na topoli *Populus*, 2006.

Fig. 18. *Daedaleopsis confragosa* (Bolton) J. Schröt. On *Populus*, 2006.
Ryc. 18. *Daedaleopsis confragosa* (Bolton) J. Schröt. Na topoli *Populus*, 2006.

Fig. 19. *Panus conchatus* (Bull.) Fr. On *Betula*, 2006.
Ryc. 19. *Panus conchatus* (Bull.) Fr. Na brzozie *Betula*, 2006.

Fig. 20. *Polyporus umbellatus* (Pers.) Fr. Mixed forest, under *Quercus*, 2010.
Ryc. 20. *Polyporus umbellatus* (Pers.) Fr. Las mieszany, pod dębem *Quercus*, 2010.

Fig. 21. *Sparassis crispa* (Wulfen) Fr. Marszałki, under *Pinus*, 2007.
Ryc. 21. *Sparassis crispa* (Wulfen) Fr. Marszałki, pod sosną *Pinus*, 2007.

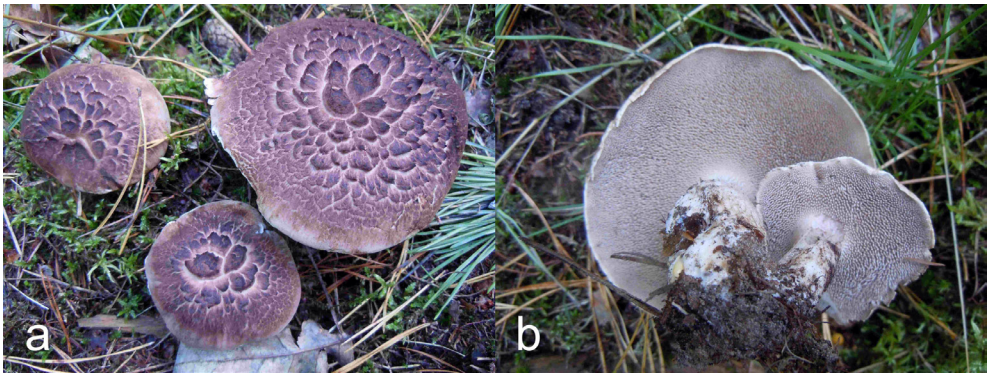

Fig. 22. *Sarcodon imbricatus* (L.) Karst. Wayside, near *Pinus* and *Betula*, associated with *Vaccinium*; 2015; a – dorsal view, b – ventral view.

Ryc. 22. *Sarcodon imbricatus* (L.) Karst. Pobocze drogi, w pobliżu sosny *Pinus* i brzozy *Betula*, wraz z borówkami *Vaccinium*; 2015; a – widok z góry, b – widok od spodu.

STRESZCZENIE

Wykaz grzybów wielkoowocnikowych (Fungi: Macromycetes) miejscowości Wyskok na Pojezierzu Mazurskim

W najbliższej okolicy wsi Wyskok na Mazurach zanotowano występowanie 324 gatunków grzybów wielkoowocnikowych w latach 1998–2017. Wśród nich 38 znajduje się na polskiej czerwonej liście grzybów: rzadkich R (23), narażonych V (8), wymierających E (3), wymarłych i zaginionych Ex (1), i o nie oznaczonym zagrożeniu I (3). *Ganoderma lucidum* and *Polyporus umbellatus* są w Polsce objęte ochroną częściową. Obecnie w otoczeniu Jeziora Oświn objętego Rezerwatem Przyrody Jezioro Siedmiu Wysp liczba gatunków Macromycetes wzrosła do 325.

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