
Discomycetes from the environs of Puvočiai

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A checklist of 58 species of midsummer discomycetes from the environs of the village Puvočiai is presented. *Geopyxis majalis*, *Godronia ribis*, *Peziza lobulata* and *Tympanis alnea* are registered for the first time in Lithuania. The information on substrates, habitats and distribution of the listed discomycetes is provided.

Key words: discomycetes, Puvočiai, South-eastern Lithuania

INTRODUCTION

Forests and meadows, rivers and lakes constitute the diverse nature around the village Puvočiai in which a field station of Vilnius University is situated. The training of biology students has been carried in these places for several last decades. The studies of fungi were annually performed in July, therefore, the knowledge about the midsummer fungal diversity of the locality has been accumulated year by year. Some data concerning operculate discomycetes has been already published [1]. Nevertheless, a comprehensive list of fungal species inhabiting this territory was not compiled.

The aim of this paper was to present the checklist of midsummer discomycetes from the surroundings of Puvočiai and to provide few comments on their distribution.

STUDY AREA

Investigations were carried out in the south-eastern part of Lithuania in the vicinities of the village Puvočiai (geographical co-ordinates: longitude 24°17', latitude 54°04'). The study area is ca. 25 km² and stretches from Puvočiai to the east (banks of the Grūda River, up to the village Kašėtos), to the south (up to Lake Trikampis) and to the west (banks of the Skroblus River, the villages Trasninkas and Dubininkas). The northern border of the area is lined by the Merkys River. The surroundings of Puvočiai fall in the territory of the Dzūkija National Park and partly penetrate the Skroblus River hydrological preserve.

The geomorphologic structure consists of a fluvio-glacial plain with clearly defined continental dunes of various shape, where fine-grain sand is dominating, and of steep river slopes containing sediments of denudation and sufosic origin. Shallow podzol soils prevail in the area. The climate is characterised as moderately cold, long-term averages of air temperature are 6.0 °C. The mean annual precipitation is about 600 mm, the length of vegetation period is 195 days.

Nearly 80% of the study area is covered by wood (Paskroblis, Paliepė, Luciškė and Trikampis forests). Premature and mature pure pine (*Pinus sylvestris*) stands, especially cow-berry pine woods, are prevailing. Some patches of pine–birch, pine–spruce (*Picea abies*) and mixed stands are present. The black alder (*Alnus glutinosa*) stands dominate on the banks of the rivers and in some marshy places. Some grasslands and the plots of arable land are present as well.

MATERIALS AND METHODS

The field work in the surroundings of Puvočiai has been done mainly in July during 1993–2000. Some specimens were collected in the beginning of August and in May (single specimens of *Gyromitra esculenta*). 110 voucher specimens collected mainly by the author are preserved at Herbarium of Vilnius University (WI). Several collections of discomycetes were provided by other collectors: G. Adamonytė, J. Bakūnaitė, M. Bitenikytė, R. Gegelevičius, I. Grigaluskaitė, J. Kostkevičienė, D. Lukoševičius, Ž. Palubeckaitė, J. Rukšėnienė and L. Šveistytė. Part of

microscopic studies were made on fresh material. Further studies of microscopic characters were made on dried material revived in water. The revived material was cut by razor blade or squashed. The sections or squashed material were studied in mount of Methylene blue and Lugol solution.

RESULTS AND DISCUSSION

Fifty-eight species of midsummer discomycetes were identified in the study area. The checklist provides an information on species names, authors, substrates and habitats. Four species marked with an asterisk (*) are new for Lithuanian mycobiota.

CHECKLIST OF SPECIES

- Anthracobia maurilabra* (Cooke) Boud., on burned soil, in bonfire site.
- A. melaloma* (Alb. et Schwein.: Fr.) Arnould, on burned soil, in bonfire site.
- Ascobolus carbonarius* P. Karst., on burned soil, in bonfire site.
- A. furfuraceus* Pers.: Fr., on cow dung, in meadow and mixed forest.
- Cheilymenia granulata* (Bull.: Fr.) J. Moravec, on cow dung, in meadow and forests.
- Crocicreas cyathoideum* (Bull. ex Mérat) S.E. Carpenter, on stem of *Urtica dioica*.
- Cryptomycina pteridis* (Rebent.: Fr.) Höhnelt, on *Pteridium aquilinum*, in pine forest.
- Cudonia circinans* (Pers.: Fr.) Fr., on litter, in mixed forest.
- C. confusa* Bres., on needle litter, in spruce and alder stand.
- Geopora arenicola* (Lév.) Kers, on burned soil, in bonfire site.
- Geopyxis carbonaria* (Alb. et Schwein.: Fr.) Sacc., on burned soil, in bonfire site.
- **G. majalis* (Fr.) Sacc., on sandy soil, on the verge of pine forest road.
- **Godronia ribis* (Fr.) Seaver, on branches of *Ribes rubrum*, in alder stand.
- Gyromitra esculenta* Fr., on soil, in pine wood.
- Helvella crispa* (Scop.: Fr.) Fr., on soil, in edge of pine wood, along the asphalt road.
- H. elastica* Bull.: Fr., on soil, on the bank of river, in edge of pine wood.
- H. ephippium* Lév., on soil, in mixed forest.
- H. lacunosa* Afzel.: Fr., on soil and litter, in birch stand and in edge of pine wood.
- H. macropus* (Pers.: Fr.) P. Karst., on soil and litter, in wood and bonfire site.
- H. nigricans* Pers., on soil, in mixed forest.
- Hymenoscyphus calyculus* (Sowerby: Fr.) W. Phillips, on wood of *Alnus glutinosa*.
- Humaria hemisphaerica* (Wigg.: Fr.) Fuckel, on soil and litter, in forest, bonfire sites.
- Lasiobolus cuniculi* Velen., on cow dung, in meadow.
- Lophodermium pinastri* (Schrad.) Chev., on needles of *Pinus sylvestris*.
- Miladina lechithina* (Cooke) Svrček, on soaked wood of *Alnus glutinosa*.
- Mollisia cinerea* (Batsch) P. Karst., on dead wood, in forests.
- Monilinia fructigena* Honey, anamorph on *Malus domestica* fruits, in gardens.
- Neottiella hetieri* Boud., associated with mosses, in bonfire site.
- N. rutilans* (Fr.) Dennis, associated with *Polytrichum* mosses, in bonfire site.
- Otidea alutacea* (Pers.) Masee, on soil and litter, in coniferous and mixed forests.
- O. bufonia* (Pers.) Boud., on soil, in mixed forest.
- O. leporina* (Batsch) Fuckel, on soil and spruce needles, in mixed forest.
- Pachyella babingtoni* (Berk. Et Broome) Boud., on soaked wood, in forest.
- Pezicula corticola* (Jorg.) Nannf., on bark of *Pyrus* sp., in pine forest.
- Peziza arvernensis* Boud., on soil and strongly decayed wood, in forests.
- P. badia* Pers., on sandy soil and litter, in pine and mixed forests.
- P. celtica* (Boud.) M.M. Moser, on soil, in coniferous and mixed forests.
- P. echinospora* P. Karst., on burned soil, in bonfire site.
- **P. lobulata* (Velen.) Svrček, on burned soil, in bonfire site.
- P. micropus* Pers., on decaying wood of branch, in mixed forest.
- P. tenacella* W. Phillips, on burned soil, in bonfire site.
- Plicaria carbonaria* (Fuckel) Fuckel, on burned soil, in bonfire site.
- P. endocarpoides* (Berk.) Rifai, on burned soil, in bonfire site.
- Pyronema domesticum* (Sowerby: Fr.) Sacc., on burned soil, in bonfire site.
- Rhizina undulata* Fr., on needle litter and soil, burned soil, in coniferous forests, bonfire sites and fire place.
- Rhytisma acerinum* (Pers.) Fr., on leaves of *Acer platanoides*.
- Scutellinia kerguelensis* (Berk.) O. Kuntze, on moist soil and soaked wood, in forest.
- S. scutellata* (L.: Fr.) Lambotte, on wood and moist soil, in forests.
- S. trechispora* (Berk et Broome) Lambotte, on sandy soil, in pine and mixed forests.

Sepultariella semiimmersa nom. provis., on burned soil, in bonfire site.

Spathularia flavida Pers., on needle and leaves litter, in mixed forest.

Sphaerospora brunnea (Alb. et Schwein.: Fr.) Svrček et Kubička, on burned soil and charred wood, in bonfire site.

Tarzetta catinus (Holmsk.: Fr.) Korf et J.K. Rogers, on soil and litter, in spruce stand.

T. cupularis (L.: Fr.) Lambotte, on soil, in alder stand and mixed forest.

Trichopeziza mollissimus (Lasch) Fuckel, on dead stems of *Urtica dioica*.

Trichophaea hemisphaerioides (Mouton) Graddon, on charred wood, in bonfire site.

**Tympanis alnea* (Pers.) Fr., on dead branches of *Alnus glutinosa*.

The listed species belong to the orders *Leotiales* (11 species), *Rhytismatales* (3) and *Pezizales* (44). The knowledge on inoperculate discomycetes is insufficient, and pending further investigations. The number of operculates comprise 28% of 158 species registered for Lithuania [1] and vividly represents the nature diversity and size of the study area. *Ascobolus furfuraceus*, *Cheilymenia granulata*, *Geopyxis carbonaria*, *Helvella crispa*, *H. lacunosa*, *Humaria hemisphaerica*, *Rhizina undulata* and *Scutellinia scutellata* are the most common species in the area and appear annually in several localities. Even 20 species, both pyrophilous and soil-inhabiting, were recorded in bonfire sites, especially in those established in forest quarter lines by burning the logging waste. An intensive fructification of *R. undulata* was observed in the burnt area close to Lake Trikampis. This burnt area occupied 64 ha and was formed during the forest fire in 1992. One year later after the fire the enormous quantities of *R. undulata* fruitbodies were formed, up to 62 apothecia in 25 m² [2]. In the two following years the fructification strongly decreased, and the fungus was not found afterwards.

If to exclude pyrophilous and coprophilous species, the pure pine forest exhibited a rather low occurrence of discomycetes. Some soil-inhabiting

species such as *Geopyxis majalis*, *Peziza badia* and *Scutellinia trechispora* preferred the disturbed soil of forest quarter lines and roads. Several well-established populations of *Helvella crispa* and *H. lacunosa* thrive in the edge of a pine wood along the verge of an asphalt road.

A comparatively diverse composition of discomycetes has been detected in a ca. 30-year-old plantation of mixed forest (*Picea abies*, *Pinus sylvestris*, *Acer palatanoides*, *Betula* spp., *Tilia cordata*) which occupies ca. 1 ha on the west side of Puvočiai. Shady lighting due to densely planted trees, scarce cover of herbs and grasses, surplus of litter formed the microclimate and habitat conditions suitable for many discomycete species such as *Cudonia circinans*, *Helvella ephippium*, *H. macropus*, *H. nigricans*, *Humaria hemisphaerica*, *Otidea alutaceae*, *O. bufonia*, *O. leporena*, *Peziza micropus*, *Spathularia flavida* and some others. Black alder stands on the banks of rivers also exhibited a wide range of substrates and favourable moisture conditions for discomycetes, even during dry periods in midsummer. On the wood soaked with river water, *Miladina lechitina*, *Pachyella babingtoni* and several species of the genus *Scutellinia* were recorded.

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References

1. Kutorga E. Ausūniečiai (*Pezizales*). In: Lietuvos grybai [Mycota Lithuaniae] 3 (5). Vilnius. 2000.
2. Šveistytė L. Molėtų, Vilniaus ir Varėnos rajonų karbotrofiniai makromicetai. Diplominis darbas (rankraštis). Vilnius. 1995.

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PUVOČIŲ APYLINKIŲ DISKOMICETAJ

S a n t r a u k a

Puvočių apylinkių diskomicetai tirti 1993–2000 m., daugiausia liepos mėnesį. Iš viso nustatyta 58 diskomicetų rūšys, kurių dauguma priklauso ausūniečių (*Pezizales*) eilei (44 rūšys). Keturius diskomicetų rūšys užregistruotos Lietuvoje pirmą kartą.