
Discomycetes inhabiting oak (*Quercus*) leaves and fruits in Lithuania

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In Lithuania, 18 species of discomycetes were identified on fallen leaves of *Quercus*, 4 species on fallen acorns. Six species, *Arachnopeziza aurelia*, *Calycellina populina*, *Hymenoscyphus phyllophilus*, *Lophodermium petiolicolum*, *Mollisia spectabilis*, and *Pezizella rubescens* have been recorded for the first time in Lithuania.

Key words: *Quercus*, leaves, fruits, discomycetes, Lithuania

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INTRODUCTION

The approach to study discomycetes with respect to their habit to grow on a specific kind of substrate has proven its value in the practice of mycology. Oak (*Quercus*) wood, bark, leaves and other parts yield a wide variety of fungal species, both host specific and plurivorous. About 45 species of discomycetes inhabiting oak leaves and 3 species occurring on fruits (acorns and cupules) were described in the identification book "Microfungi on Land Plants" [1]. Three oak species are mainly distributed in Lithuania. *Q. robur* L. is the most common oak species in Lithuania and form stands of its own or may be present in stands of other trees; *Q. petraea* Liebl. and *Q. rubra* L. rarely grow in woods and parks. Nine foliicolous and 2 carpophilic species have been recorded in Lithuania during a preliminary inventory of Lithuanian discomycetes [2, 3]. Further studies of fungi on such a substrate revealed a bigger diversity and wider distribution of discomycetes.

The aim of this paper was to summarise investigations on discomycetes inhabiting oak leaves and fruits in Lithuania and to provide the comments on their distribution.

MATERIAL AND METHODS

Oak leaf and fruit debris was searched for discomycetes during the field work in various administrative districts of Lithuania in 1996–2000. The publications [2, 3] based on the material collected in previous years were also considered for compilation of the list of species. Microscopic examination of the material has been performed following standard procedures in ascomycete studies [4]. The 69 voucher specimens collected by the authors are preserved at Herbariums of Institute of Botany (BILAS) and of Vilnius University (WI).

RESULTS AND DISCUSSION

Fallen leaves of *Quercus* are a prolific host for many discomycetes. In total, 18 species of discomycetes were identified on dead leaves and their petioles in Lithuania (Table). Fungi start to grow on last-year leaves and continue to utilise them up to the certain stage of decay, until leaves break to minute pieces of tissues, veins and petioles. In Lithuania the fruit-bodies of foliicolous discomycetes were observed from May till October, but the greatest species diversity was exhibited in August and September.

Table. Distribution of species according to their host plants, substrate and fruiting time (V, May; VI, June; VII, July; VIII, August; IX, September; X, October). Species marked with an asterisk (*) are new for Lithuanian mycobiota

Taxa	Host plants	On leaves (No. of collections)	On fruits (No. of collections)	Fruiting time
Ascobolaceae				
<i>Ascobolus foliicolus</i> Berk. et Broome	<i>Q. robur</i>	1	–	VII–IX
Dermateaceae				
* <i>Mollisia spectabilis</i> Kirschst.	<i>Q. robur</i>	1	–	IX
Hyaloscyphaceae				
* <i>Arachnopeziza aurelia</i> (Pers.: Fr.) Fuckel	<i>Q. rubra</i>	1	1	V
* <i>Calycellina populina</i> (Fuckel) Höhnelt	<i>Q. robur</i>	1	–	VIII
<i>C. punctata</i> (Fr.) Lowen et Dumont	<i>Q. robur</i>	8	–	VIII–X
<i>Lachnum capitatum</i> (Peck) Raitv.	<i>Q. robur</i>	1	–	VI
<i>L. ciliare</i> (Schröd.: Fr.) Rehm	<i>Q. robur</i>	18	–	VI–X
<i>L. rhytismatis</i> (W. Phillips) Nannf.	<i>Q. robur</i>	4	–	VI–VII
<i>L. virgineum</i> (Batsch.: Fr.) P. Karst.	<i>Q. rubra</i>	1	1	V
<i>Phialina lachnibrachya</i> (Desm.) Raitv.	<i>Q. robur</i>	1	–	IX
Leotiaceae				
<i>Hymenoscyphus caudatus</i> (P. Karst.) Dennis	<i>Q. robur</i>	5	–	VII–IX
<i>H. epiphyllus</i> (Pers.: Fr.) Rehm	<i>Q. rubra</i>	1	–	IX
<i>H. fructigenus</i> (Bull.: Fr.) Gray	<i>Q. robur</i>	–	13	VIII–X
* <i>H. phyllophilus</i> (Desm.) O. Kuntze	<i>Q. robur</i>	1	–	IX
* <i>Pezizella rubescens</i> Monton	<i>Q. robur</i>	1	–	IX
Rhytismataceae				
<i>Coccomyces tumidus</i> (Fr.) De Not.	<i>Q. robur</i>			
	<i>Q. rubra</i>	2	–	VIII–IX
* <i>Lophodermium petiolicolum</i> Fuckel	<i>Q. rubra</i>	1	–	V
Rutstroemiaceae				
<i>Rutstroemia petiolorum</i> (Roberge) W. L. White	<i>Q. robur</i>	1	–	IX
<i>R. sydowiana</i> (Rehm) W. L. White	<i>Q. robur</i>	4	–	VIII–X
Sclerotiniaceae				
<i>Ciboria batschiana</i> (Zopf) N. F. Buchw.	<i>Q. robur</i>	–	2	IX–X

One of the commonest species on damp oak leaves is *Lachnum ciliare*. Every third examined collection of leaves bears stipitate and hairy whitish apothecia of this species; its ascospores are fusoid, rather long and narrow, 15–21 (25) × 2–2.5 µm. Two other collected foliicolous species of the genus *Lachnum*, *L. rhytismatis* and *L. capitatum*, have also white apothecia and may be confused with *L. ciliare*. Although these species are very similar macroscopically, *L. rhytismatis* and *L. capitatum* have much shorter asci and ascospores. *L. rhytismatis* has long stalked apothecia and grow usually in summer and spring [5]. *L. capitatum* differs from *L. rhytismatis* in its very thick-walled hairs and short stalked apothecia. All three mentioned species of the genus *Lachnum* have hairs capped by groups of crystals. Two other foliicolous species, *L. patulum* (Pers.: Fr.) Rehm (hymenium yellow to orange, hairs fine granulate, up to 175–250 µm long, with apical crystals) and *L. soppitii* (Masse) Raitv. (hymenium pale cream, hairs up to 100–130 µm long, without apical

crystals) are not yet found on oak leaves in Lithuania, but can be expected on account of their geographical distribution. The common lignicolous fungus, *L. virgineum*, was also recorded on leaves and cupules of *Q. rubra*.

Another common foliicolous species in autumn is *Calycellina punctata*. It has small, sessile, yellow apothecia scattered over the leaf surface, sometimes up to hundred apothecia on one leaf. The specimen with whitish sessile apothecia, whose excipulum was composed of thick-walled prismatic cells, fitted with a concept of *C. populina* as circumscribed by Lowen and Dumont [6], except the nearly glabrous margin of the fruit-body.

Rutstroemia sydowiana and *R. petiolorum* are usually found on stromatized areas of petioles and main veins of fallen leaves in late summer and autumn. The secondary and also sometimes the main veins inhabit species of the genera *Hymenoscyphus* and *Lachnum*. A single leaf may serve as a substrate for several species; e.g., 4 species, *H. caudatus*, *L. cilia-*

re, *Mollisia spectabilis*, *Pezizella rubescens*, were observed on a last-year leaf of *Q. robur*.

Most species were recorded on leaves of *Q. robur*. Five species have been found on leaves of *Q. rubra*. Only 3 species, *Lachnum capitatum*, *Mollisia spectabilis*, and *Rutstroemia sydowiana*, are confined to the leaves of *Quercus*, however, other species are known to occur on other host plants as well.

On fallen acorns, 4 species were identified in Lithuania (Table). *Hymenoscyphus fructigenus* is a widespread species on rotting acorns, nuts of *Corylus avellana*, and chestnuts of *Aesculus hippocastanum*. Bright yellow-orange apothecia, seated on the subiculum, has *Arachnopeziza aurelia*. The species is known in Lithuania from a single collection from Jurbarkas district. The fungus inhabited strongly decayed leaves and cupules of acorns of *Q. rubra*. An occasionally collected species and known in various countries of Europe on stromatized acorns and galls on oak leaves is *Ciboria batschiana* [7]. It has been recorded two times in Lithuania on mummified acorns fallen on the soil or buried in it.

The identified species belong to 7 families of discomycetes: *Hyaloscyphaceae* (8 species), *Leotiaceae* (5), *Rhytismataceae* (2), *Rutstroemiaceae* (2), *Dermateaceae* (1), *Sclerotiniaceae* (1), and *Ascobolaceae* (1). Six species, *Arachnopeziza aurelia*, *Calycellina populina*, *Hymenoscyphus phyllophilus*, *Lophodermium petiolicolum*, *Mollisia spectabilis*, and *Pezizella rubescens*, are recorded for the first time in Lithuania.

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AŽUOLŲ (*QUERCUS*) LAPŲ IR VAISIŲ DISKOMICETAI LIETUVOJE

S a n t r a u k a

Ant ažuolų nukritusių lapų ir jų lapkočių nustatyta 18, ant vaisių (gilių ir goželių) – 4 diskomicetų rūšys. Daugiausia rūšių priklauso *Hyaloscyphaceae* (8) ir *Leotiaceae* (5) šeimoms. Labiausiai išplitusios ir dažniausiai aptinkamos ant ažuolų lapų yra *Lachnum ciliare*, *L. rhytismatis*, *Calycellina punctata*, *Rutstroemia sydowiana* ir *Hymenoscyphus caudatus*. Ant ažuolų gilių negyvų kevalų ir goželių dažniausiai auga *H. fructigenus*. Šešios diskomicetų rūšys – *Arachnopeziza aurelia*, *Calycellina populina*, *Hymenoscyphus phyllophilus*, *Lophodermium petiolicolum*, *Mollisia spectabilis* ir *Pezizella rubescens* – rastos Lietuvoje pirmą kartą.