

New records of Myxomycetes to the Åland Islands

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We present eight species of Myxomycetes new to the Åland Islands: *Arcyodes incarnata*, *Arcyria major*, *Cribraria argillacea*, *Didymium nigripes*, *Physarum auriscalpium*, *Stemonitis foliicola*, *Stemonitopsis typhina* and *Trichia contorta*. The record of *S. foliicola* is the second in Finland. Specimens were collected mainly in September 2013. Altogether the number of Myxomycetes species found from the Åland Islands is now 49.

Introduction

Altogether 214 Myxomycetes species are found in Finland (Härkönen & Varis 2012, Kunttu et al. 2013). Knowledge about occurrence of Myxomycetes in the Åland Islands is poor. In time of writing the first Finnish distribution list (Härkönen & Sivonen 2011) there were only 15 species collected, but number of species rose rapidly after that: before this study 41 species were found from the Åland Islands (Härkönen & Varis 2012, Kunttu et al. 2013).

The Åland Islands are a large archipelago area between Finland and Sweden, situated in the middle of the Baltic Sea, at the entrance to the Gulf of Bothnia. Land area is approximately 1552 km² and it comprises of 6757 islands and islets, each of an area of at least 0.25 hectares (Åkerberg 2010). In the scale of Finland, there are many special features in the nature of the Åland Islands: growing season is long (195 days), diversity of

biotopes is broad, herb-rich forests are common, wood pastures and semi-natural woodlands and meadows are still commonly grazed by domestic animals. The tree species diversity is the highest in Finland. Comparing to the forests of other areas in Southern Finland, the largest volume of dead wood has been measured in the forests of the Åland Islands (Finnish Forest Research Institute 2012).

Material and methods

The material was collected as part of a biogeographical inventory on Myxomycetes in the Åland Islands. These islands constitute their own biogeographic province (Ahvenanmaa, Alandia) and it is located in the hemiboreal zone (Knudsen & Vesterholt 2012). Authors Panu Kunttu (PK) and Sanna-Mari Kunttu (nee Rivasto) sampled material mainly 27.–30.IX.2013 and some spec-

imens also 14.–18.VII.2013. They collected altogether 95 specimens of Myxomycetes. Inventory was made by method of opportunistic sampling of species (Stokland & Sippola 2004). The main goal was to collect as many different species as possible in different kind of biotopes.

Specimens were identified mainly by author Elina Varis (EV) and Marja Härkönen (MH) gave remarkable help. Voucher specimens are deposited in the herbarium of Turku University (TUR). Finnish national uniform grid system 27° E (Uniform Coordinate System, UCS) is according to Heikinheimo and Raatikainen (1981). Nomenclature follows Härkönen & Varis (2012) and an online nomenclatural information system of Eumycetozoa (Lado 2005–2014). The decay stage classification (1–5) of trunks is according to Renvall (1995).

Study sites

The area of Brättö in Föglö is 44 hectares (Kulves 2004). It is an old-growth forest with many features and structures which remain natural state, like fallen trunks and various age classes. Major forest types are rocky and barren *Pinus sylvestris* dominated forest and *Myrtillus* type heath forest dominated by *Picea abies* where *Populus tremula* also occurs. Forests on sea shore are mainly dominated by *Alnus glutinosa*.

Herröskatan in Lemland is the southernmost point of Åland's main island (Kulves 2004). Surface area of Herröskatan in Lemland is 27 hectares and there are grazed meadows and forests and herb-rich forests dominated by deciduous tree species.

Kastelholm, Lillnäsberget in Sund is area of ca 50 hectares (Kulves 2004). The area is topographically variable and it affects to forest types: rocky and barren *Pinus sylvestris* dominated forests, herb-rich forests with *Picea abies* and *Populus tremula*. There are high volumes of dead wood at some places.

Nätö in Lemland is a herb-rich forest dominated mainly by *Corylus avellana* and *Quercus robur*. Other common tree species are *Fraxinus excelsior*, *Betula pendula* and *Pinus sylvestris*. Old trees of *Picea abies* can also be found. Vegetation is diverse and it contains many rare and

specialized vascular plant species. The area of Nätö is ca 30 hectares and these are managed by grazing of sheep and cows (Kulves 2004). These kinds of herb-rich forests of hardwood tree species are very rare biotopes in Finland.

Ängesskogen in Finström is a *Picea abies* dominated old-growth forest. Area of this forest is ca 20 hectares. This forest contains many structures which are typical to forests in natural state, like large amount of dead wood, diversity of tree species and ground without remarkable human disturbance.

Önningeby, Sandvikberget (ca 10 hectares) in Jomala is located in forestry area of active use. The forest is mainly *Myrtillus* type heath forest with *Pinus sylvestris* or *Picea abies* as dominated tree species. The forest is not especially old and the volume of dead wood is low.

Results and discussion

The Åland Islands are a biogeographically inadequately known part of Finland because of its somewhat remote location from continental part of Finland. In general, occurrence of Myxomycetes is poorly known also in many other parts of Finland. Accumulation of knowledge of Myxomycetes' distribution is slow because there are only few researchers in Finland who are specialized on Myxomycetes.

There are now 49 species of Myxomycetes found in the Åland Islands. Comparing this amount of species to other biogeographic provinces in Southern Finland, it is obvious that dozens of species can still be found there.

List of species

Arcyodes incarnata (Alb. & Schwein.) O.F. Cook
Specimen examined: Alandia, Lemland, Herröskatan, UCS 6670:3119, 29.IX.2013, PK 8149, det. EV & MH, on fallen trunk of *Alnus glutinosa*, diam. 18 cm, decay stage 3.

Arcyria major (G. Lister) Ing
Specimen examined: Alandia, Jomala, Önningeby, Sandvikberget, UCS 6689:3112, 29.IX.2013, PK 8158, det. EV & MH, on fallen branch of *Pinus sylvestris*, diam. 4 cm, decay stage 1.

Cribraria argillacea (Pers. ex J.F. Gmel) Pers.

Specimen examined: Alandia, Föglö, Bråttö, UCS 6672036:3126967, 16.VII.2013, PK 7965, det. EV & MH, on fallen trunk of *Alnus glutinosa*, diam. 13 cm, decay stage 5.

Didymium nigripes (Link) Fr.

Specimen examined: Alandia, Finström, Ämnäs, Ängeskogen, UCS 6697:3119, 28.IX.2013, PK 8110, det. EV & MH, on fallen branch of *Pinus sylvestris*, diam. 3 cm, decay stage 1.

Physarum auriscalpium Cooke

Specimen examined: Alandia, Sund, Kastelholm, Lillnäsberget, UCS 6699:3115, 28.IX.2013, PK 8127, det. EV & MH, on fallen trunk of *Populus tremula*, diam. 35 cm, decay stage 3.

Stemonitis foliicola Ing

Specimen examined: Alandia, Lemland, Nätö, UCS 6680:3109, 27.IX.2013, PK 8087, det. EV & MH, on fallen leaf of *Populus tremula* (Fig. 1).

This is the second record from Finland. The first record was made in Liperi (Karelia borealis) where the fruiting bodies grew on fallen leaf of *Betula* sp. (Härkönen & Varis 2012).

Stemonitopsis typhina (F.H. Wigg.) Nann.-Bremek.

Specimen examined: Alandia, Lemland, Herröskatan, UCS 6670:3119, 29.IX.2013, PK 8147, det. EV, on fallen trunk of *Alnus glutinosa*, diam. 17 cm, decay stage 2.

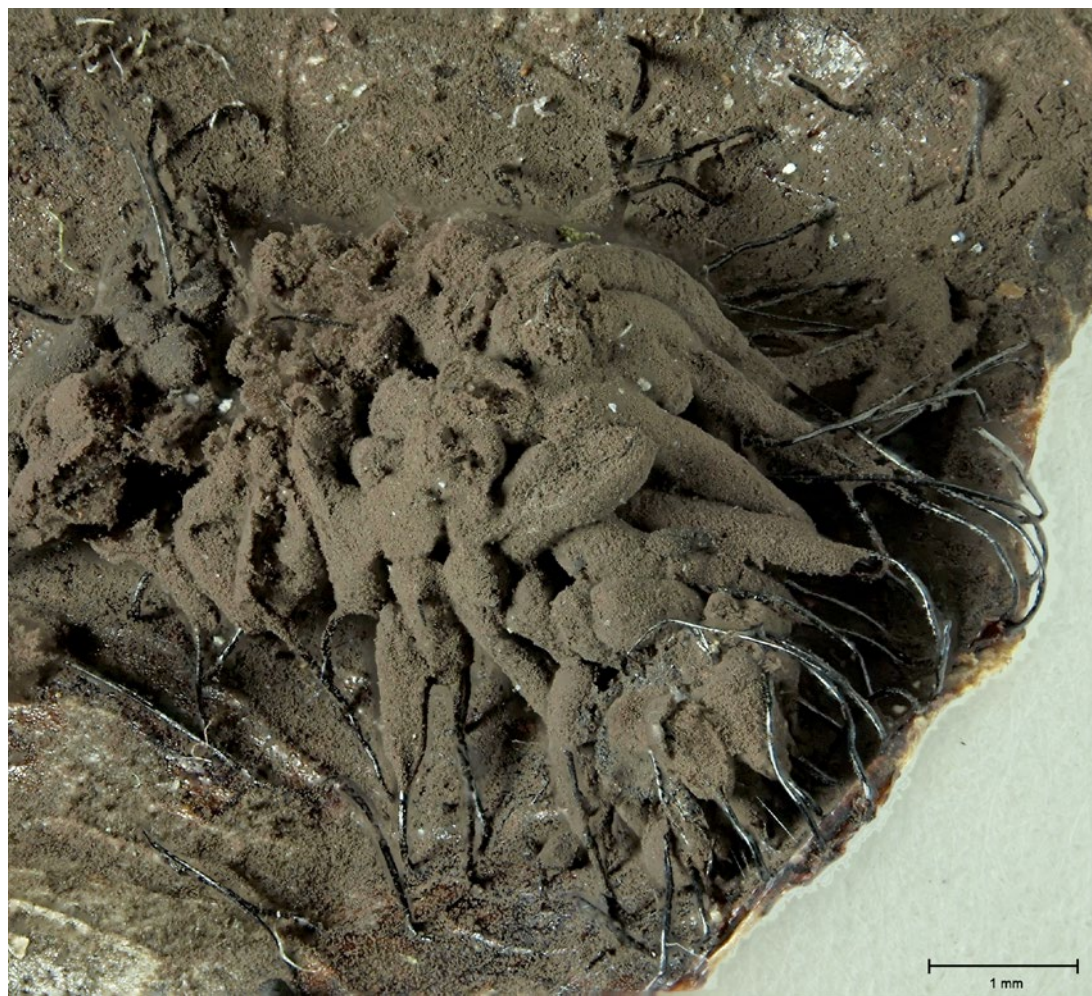


Fig. 1. *Stemonitis foliicola* (PK 8087). Photo Mikael Kukkonen.

***Trichia contorta* (Ditmar) Rostaf.**

Specimen examined: Alandia, Finström, Ämnäs, Ängeskogen, UCS 6697:3119, 28.IX.2013, PK 8120, det. EV, on fallen trunk of *Picea abies*, diam. 30 cm, decay stage 3.

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