

Permanent monitoring of macrofungi in taiga zone of Western Siberia: the results of 5-year observations

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We initiated a long-term monitoring program for macrofungi communities in permanent plots in peatland and forest ecosystems in central part of West Siberia (nearby Khanty-Mansiysk), with the goal to also elucidate the relationship between carpophore abundance and climate variables. A series of monitoring plots to study the quantitative and spatial characteristics of macromycete communities was established in 2014 following the protocols in [1]. A total of 277 circular 5-m² (for a total area of 1385 m²) plots were established in a peatland, equally representing communities of treed sphagnum bogs and wet sphagnum lawn communities. In the forest ecosystem, a total of 250 circular 5-m² plots (for a total area of 1250 m²) were established representing different stages of after-cut succession and stages of paludification. The plots in peatlands were visited weekly during vegetation seasons 2014-2018, and the plots in forests once in 2-3 weeks during 2015-2018, resulting in 4 and 5 years of observations for bog and forest ecosystems respectively. All carpophores of different fungal taxa were counted within the circular borders, specimens of under-identified species were collected and accessed in the Fungarium of Yugra State University. Climatic data were collected from temperature loggers and rain gauges established nearby the plots.

The resulting database with fruitbodies counts in micro-plots was published in GBIF as two different datasets of "Sampling event type" [2, 3]. The dataset on observations in raised bogs includes about 15000 micro-plot-based observations (=sampling events) made from 2014 until 2017 with corresponding about 5000 occurrence records of macromycetes identified to species. The dataset on observations in forests includes the results of the first year of observations, totally 60 plot-based observations corresponding to 746 occurrence records made in 2015.

The study will reveal long-term dynamics of community composition, quantitative structure, seasonal dynamics and phenological patterns of different species as well as spacial structure of macrofungi community in taiga zone of Western Siberia. The goals for further statistical analyses on relation of fungal fruiting dynamics and weather parameters are established.

Источники и литература

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