ABSTRACT

MACROPHYTE'S PHYLLOSPHERE OF SELECTED LAKES SUBJECTED TO ANTHROPOPRESSURE AS A RESERVOIR OF PHYTOPATHOGENS IMPORTANT IN MEDICAL MYCOLOGY

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The aim of the study was to assess the taxonomic and ecological diversity of microfungi inhabiting the surface of leaves of coastal vegetation of bathing lakes in terms of sanitary and epidemiological aspects.

The research material consisted of fragments of 11 plant species with visible disease lesions, collected in a sterile field, in two growing seasons (2017 and 2018). The sites were located around three lakes in Olsztyn: Długie, Kortowskie and Skanda.

The isolated fungi were identified using classical methods (macro- and microscopic analyses) and molecular methods, in accordance with standard procedures recommended in diagnostic mycological laboratories.

A total of 435 plant samples were collected, 425 (98%) of which contained microfungi belonging to the *Ascomycota* phylum - 120 species and *Basidiomycota* - 7 species. The greatest diversity of fungi was found on *Phragmites australis* - 64 taxa, the lowest on *Nuphar lutea* - 7 taxa. Phytopathogenic fungi from the group of facultative parasites or facultative saprotrophs predominated.

Among the isolated fungi, 40 species potentially pathogenic to humans were recorded. The most frequently isolated species were the following genera: *Alternaria*, *Cladosporium*, less frequently *Fusarium, Acremonium, Bipolaris, Botrytis, Curvularia, Exophiala, Phialophora* and *Phoma*. All of them are capable of causing disease states (mycoses, mycotoxicoses, mycoallergoses) of varying severity, up to and including death, in people with reduced immunity and disturbed general biological balance.

The obtained results prove that the phyllosphere of lake coastal vegetation in an anthropogenic environment is characterized by a large diversity of microfungi of various trophic status, including a large number of phytopathogens, interesting in the context of diseases of fungal etiology.

The most dangerous and most versatile seem to be fungi of the *Fusarium* genus, which are capable of causing mycosis, mycotoxicosis and mycoallergosis in predisposed people. The habitats of *Fusarium* require special attention, and one of them is the aquatic environment and the vegetation associated with it, which are relatively poorly researched in terms of the occurrence of these fungi.

The current approach of most laboratory diagnosticians to the presence of phytopathogens in clinical materials should be changed and these fungi should be treated as potential pathogens and not as contaminants.