

promotorless gene. But the bacteria of this strain had decreased level of the pectate lyases and cellulases secretion.

As a result of the transposition of miniTn5xylE into the chromosome and introduction of the plasmid R471a::miniTn5xylE into these cell the donor strain was constructed. The lacZ mutation was transferred to the polyauxotrophic recipient and then auxotrophy mutations were substituted by mating. The prototroph strain has normal level of the expression of pathogenic factors. It was detected that the result of the transposition of miniTn5lacZ was 40% Lac+ transposants and 0,8% auxotrophs therefore we concluded suitability of our strain for the study of bacteria-plant interactions.

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STUDY OF AQUATIC HYPHOMYCETES -

INDICATORS OF ECOLOGICAL CONDITIONS OF WATERCOURSES.

Masses of allochthonous organic matter serving a substrata for saprotrophic fungi enter in freshwater lotic habitats. Aquatic hyphomycetes are main destructors of this rests. Their role in the trophic chains of lotic coenoses consists in transformation of deciduous leaves and other substrata into food for invertebrates. In addition, aquatic hyphomycetes are promising indicators of pollution with sewage. They also can be used for biological cleaning of water. Results of investigation fungal community structure of various types of watercourses is presented. Eighteen watercourses differed by hydrological conditions were observed.

The obtained data (table 1) demonstrate that: 1) species composition is richest in clean, fast watercourses with high aeration (forest river N 1 and forest stream N 2); 2) tendency of elimination of typical aquatic species with tetrastrate conidia take place in polluted watercourses (especially in small ones) in Minsk city (river Svisloch N 3, stream N 4 ("thermal pollution"), watercourses N 5,6 (slow flowings); in addition, increasing in percentage of scolecosporous species (*Anguillospora longissima*), semiaquatic, "water-borne" species (*Vargamyces aquaticus*, unident. sp. N 1 (possibly, belonging to *Volucrispora* - *Tricellula* complex or to genus *Lambdasporium*)) was noted.

The increase of p-art of aquatic comycetes and geofungi (*Fusarium*, *Macrosporium* and etc.) in polluted water was observed. Probably, the unfavorable for aquatic hyphomycetes conditions due to decrease of oxygen concentration in polluted water cause these changes. It is thought that the structure of fungal complexes and its changes can be considered as indicators of ecological conditions in watercourses and their pollution with sewage.

Table 1. The composition of fungal complexes in dependence of ecological conditions of watercourses.

Species	Numbers of watercourses					
	1	2	3	4	5	6
<i>Actinospora megalospora</i> Ingold	+	+				
<i>Alantospora acuminata</i> Ingold	+	+	+			
<i>Anquillospora crassa</i> Ingold	+					
<i>A. longissima</i> (de Wildeman) Ingold	+	+	+	+	+	+
<i>Clavariopsis aquatica</i> de Wildeman	+		+			
<i>Clavatospora longibrachiata</i> (Ingold)						
Nilsson ex Marvanova & Nilsson	+	+	+	+	+	
<i>Flagellospora curvula</i> Ingold	+	+				
<i>Heliscella Stellata</i> (Ingold & Cox)						
Marvanova	+					
<i>Heliscus Lugdunensis</i> Saccardo &						
Therry	+					
<i>Lemonniera aquatica</i> de Wildeman	+	+				
<i>L. terrestris</i> Tubaki			+			
<i>Mycocentrospora acerina</i> (Hartig)						
Deighton	+					
<i>Tetraccladium marchalianum</i> de						
Wildeman	+	+	+		+	
<i>T. setigerum</i> (Grove) Ingold	+	+		+	+	
<i>Tricladium angulatum</i> Ingold	+	+	+	+		
<i>T. anomalum</i> Ingold		+				
<i>Triscelophorus monosporus</i> Ingold	+		+			
<i>Vargamyces aquaticus</i> (Dudka)						
Toth	+	+	+	+		
<i>Varicosporium elodeae</i> Kegel			+			
Unidentified sp. #1	+		+	+	+	
Unidentified sp. #2	+	+				
Total number of species	18	12	11	6	5	1