

BAKTERIONEUSTON ZBIORNIKÓW WODNYCH

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1. Wprowadzenie. 2. Budowa mikrowarstwy powierzchniowej. 3. Czynniki determinujące przeżywalność i aktywność bakterioneuston. 4. Bakterioneuston. 5. Podsumowanie

Bacterioneuston of water bodies

Abstract: The zone of contact between water makes air and the organic layer that is formed on the surface of water and constitutes a unique habitat for microorganisms. Increased number of bacteria called bacterioneuston is observed there. This organic layer is defined as the surface microlayer, surface film or air-water interface. Adhesive forces acting as a result of intermolecular attraction at the border of two phase centres-water and air-contribute to the existence of a surface membrane. That layer makes a very stable environment for microorganisms as concerns nutrients abundance. On the other hand, due to high temperatures, sunlight radiation and presence of toxic substances it is not very favourable for their growth and development as compared to the depth of water. All the above mentioned factors are selective and affect the microbiological composition of this environment. Biochemical activity of bacteria living in the surface microlayer is lower than that of bacteria coming from deeper water layers. In spite of this, the concentration of ATP as an index of biomass and biochemical activity is higher in the surface membrane. Identification of bacteria strains isolated from the surface biofilm reveal that most of them represented the genera *Bacterium*, *Chromobacterium*, *Pseudomonas*, *Flavobacterium*, *Vibrio-Aemmonas* group and the *Enterobacteriaceae* family. Probably in surface microlayer water also exist very specialized bacteria, capable of taking advantage of prevailing here conditions (high temperature, abundance of nutritional substances) and actively carrying out metabolic transformations.

1. Introduction. 2. Surface microlayer structure. 3. Factors determined survival and activity of bacterioneuston. 4. Bacterioneuston. 5. Conclusion

Słowa kluczowe: bakterioneuston, mikrowarstwa powierzchniowa, środowiska ekstremalne
Key words: bacterioneuston, surface microlayer, extreme environments

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