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Title: *Bacterial community composition in Arctic fiord under high deglaciation impact*

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The aim of investigations was to state whether melting glaciers cause mass mortality of the sea stenohalyne organisms, what in consequence can lead to an increase of accumulation and growth of psychrophilic bacteria. It may be also that fresh melting water is unfavourable to the sea bacteria and front glacier's regions are not the areas of their intensive development. The summer field investigations were done in Hornsund Fjord (West Spitsbergen) in August 2006 in two areas: under the great impact of a melting glacier and deprived of such an influence. The seven stations, at various distances from the front of the glaciers (Hornbreen, Hansbreeen, Mendelejevbreen, Korberbreen) were chosen. On each station samples have been taken from the eight different water depths. Physico-chemical and biological parameters: salinity, temperature, concentration of suspended mater, chlorophyll a and dissolved organic carbon (DOC) concentration were researched. Number, biomass, structure and live activity of bacteria (Live/Dead BacLight, Molecular Probes) were measured. Field work results showed a strong variation of the fjord water, depended on the distance of glacier head and water mass dynamic. It causes of variable environmental conditions, which may suggest existence of different transitory environments for microorganisms (ecotons). We expect to confirm earlier observations concerning of changes of the structure and the activity bacteria in the fjord. Our research showed that central part of the fjord, were fresh glacier water and salty ocean water are mixed, is area of most intense growth of bacterioplancton. It means, that none of our early hypothesis can not be proved. This effect is possibly connected with presence of large bird colonies causing high nutrient input into the fjord. Further investigation in earlier season (when glaciers are already ablating but birds are not present yet) can verify this thesis.