

The role of benthic megafauna in Spitsbergen fiords (Rola megafauny bentosowej we fiordach Spitsbergenu)

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Until now has been studied distribution of Echinodermata species in Spitsbergen coastal waters. Thirty two species of echinoderms from epibenthic sledges, dredges, scuba diving, and other samples (in total: 467 samples, c. 20 000 specimens) collected between 1996 and 2014 in fjords and coastal waters off Spitsbergen were analysed. Data were compared with historical records (1900-1970) to check for shifts in species distribution and abundance. We found four species not reported before 1996, and eight species known from old records were not present in our collection. The echinoderms do not form any clear assemblages according to depth or distance from glacial sedimentation and substrate.

Additionally, during the research on megabentos with the use of drop down camera, were also discovered bottom life of plankton in Arctic fjords. The underwater imagery demonstrate that closer to the glacier front, where turbid and freshwater occurs, most of macroplankters leave the upper water column and descends to the bottom (about 100m depth). High concentrations of macroplankton are of prime interest for fish, seals and other carnivores. Conditions in the nearbottom waters are in many respects better than in the upper water column - better oxygenated, cold, fully saline and transparent waters with rich food deposited on the seabed surface (sinking pelagic micoplankton). This phenomenon is probably related to the increase of glacier melt and freshwater discharge intensity.