

## Online Resource / Electronic Supplementary Material

### Effects of sea ice decay and nutrient depletion on taxonomic composition and trophic structure in high-Arctic protist and metazoan communities

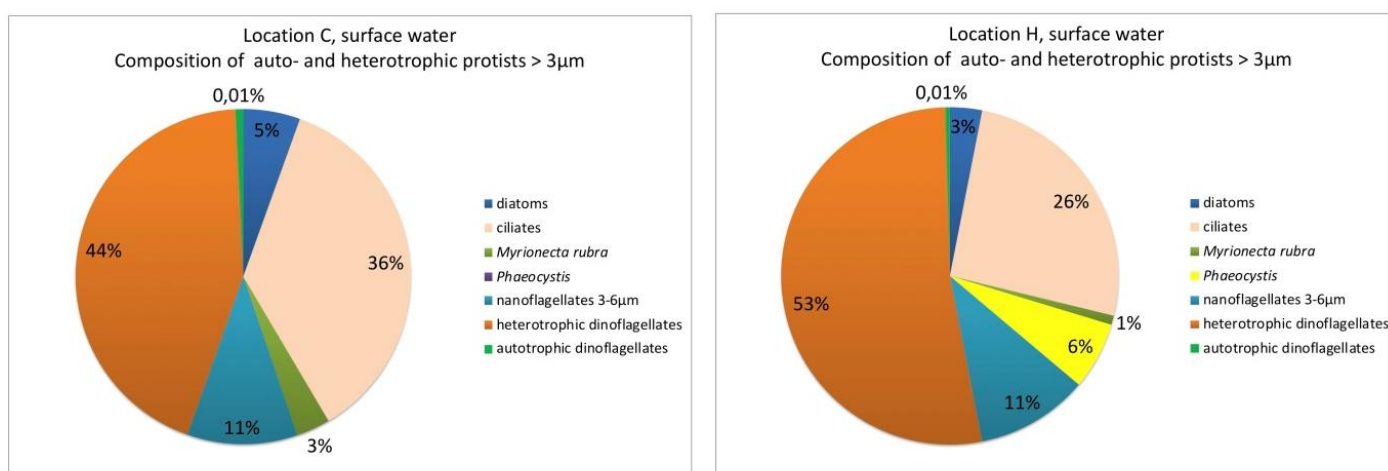
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#### Microscopic analysis of phyto- and protozooplankton (> 3µm)

##### Methodology

The taxonomic composition of auto- and heterotrophic unicellular protists larger than 3µm was analysed by light microscopy in two samples from the surface waters (approximately 10-20 m depth) of Location C and Location H. Seawater samples were preserved in hexamethylenetetramine-buffered formalin (final concentration 0.5%) and stored in brown glass bottles. For the microscopic analyses, 50-ml aliquots were transferred to settling chambers where the phytoplankton cells were allowed to settle for 48h. At least 400 cells of the most abundant phyto- and protozooplankton species or groups were counted with an inverted microscope using phase contrast and at four different magnifications (Utermöhl, 1958). Phyto- and protozooplankton cells were identified in most cases to the genus level, counted, and their sizes were measured with a scale bar in the ocular. The carbon content per litre was obtained by multiplying the cell counts/l by the carbon values for individual cells. The phytoplankton carbon content was calculated from cell volume as described in Edler (1979).

##### Results



**ESM3.** Share (% of carbon biomass) of dominating groups within the protistian plankton >3 µm at Locations C (left) and H (right).

##### References

- Edler L (1979) Recommendations on methods for marine biological studies in the Baltic Sea. Phytoplankton and chlorophyll. Baltic Marine Biologists Working Group 9, 38
- Utermöhl H (1958) Zur Vervollkommnung der quantitativen Phytoplankton-Methodik. Mitt. int. Ver. theor. angew. Limnol. 9, 1–38 (1958)