

VERTICAL DISTRIBUTION AND LIPID STATUS OF THREE *CALANUS* SPECIES IN FRANZ JOSEF LAND IN AUGUST 2013

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The new real-time approach was applied to collect the plankton samples in accordance to the oceanographic structure. Five local water masses have been found in the area SM – Shallow Mixed waters; BAR –North Atlantic origin; DAR – Deep Arctic water; BAT – Bottom Atlantic; and SAR – Surface Arctic. All three *Calanus* species were found at all stations and in each type of water mass. *Calanus glacialis* dominated by biomass, up to 75% in BAR and SAR, 54–69% in DAR, SM and BAT. Females were dormant or did not feed. *C. glacialis* accumulated high amount of lipids (up to 88% of dry weight), the wax esters and triacylglycerols dominated, they were the energetic components during starvation and diapause. *C. hyperboreus* has been found in surface layers. The CIV copepodites fed actively. Cholesterol was the key lipid, indicating adaptation to temperature and feeding conditions. Most of CV and females were dormant. The CIV, CV, and females were characterized by different spectra of total lipids and fatty acids (FA). Dormant females of *C. finmarchicus* were found at four stations out of 22 performed, in BAR and BAT. Complex hydrological regime in FJL provides a significant variability of both vertical distribution of *Calanus* species and their lipid status observed during a short time period.

Supported by "Pristine Seas" project, National Geographic Society (USA), and the project of Presidium of Russian Academy of Sciences "Ecological and biochemical characteristics of sustainability of aquatic organisms in the Russian Arctic in the Era of climate change" (2014–2016).

Keywords : zooplankton, copepods, *Calanus*, Franz Josef Land, lipids

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