

ICES/PICES 6th Zooplankton Production Symposium

Abstract for Session S3: The diversity and role of macrozooplankton in marine ecosystems

Spatiotemporal distribution, biomass and ecological role of chaetognaths in the Nordic and Barents Seas.

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Abstract: Chaetognaths constitute a very abundant class of carnivorous zooplankton, feeding mainly on copepods but also consume other mesozooplankton as well as fish larvae. Even though this group is assumed to play an important role in open ocean food-webs, it remains a relatively little studied zooplankton predator group in these regions. Chaetognaths are known to perform diel vertical migrations, and in high-latitude ecosystems this behavior is likely to be influenced significantly by seasonality.

We present results on both horizontal and vertical distribution obtained with the MOCNESS and WP2 sampling gears, and relate these distributions to hydrographic factors such as temperature, salinity and chlorophyll as well as prey distribution. In addition, potential relationships between the vertical distributions versus surface irradiation and light extinction in the water column are investigated. Furthermore, an estimate of average total biomass (2007 to 2015) is presented. Finally, we calculate the consumption and production of chaetognaths in our study area based available literature on feeding rates, growth and energetic expenditure of chaetognaths.

Keywords: Zooplankton, chaetognaths, spatial distribution, vertical migration, biomass, Nordic seas, Barents Sea

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