

Stoichiometry of zooplankton in the Baltic Sea: spatial and interspecific variation

Sanna Rönkkönen¹, Eveliina Lindén², Miina Karjalainen¹ and Markku Viitasalo¹



¹ Finnish Institute of Marine Research
² University of Helsinki



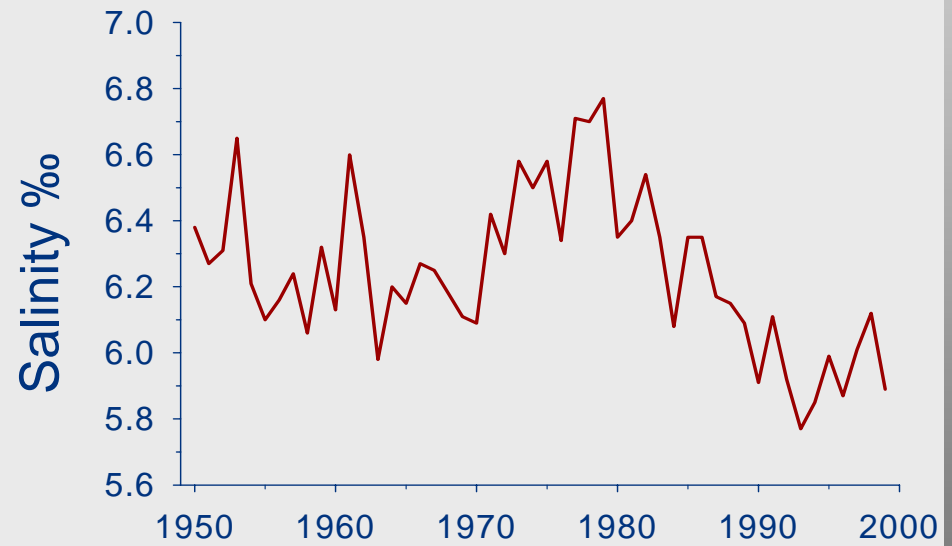
The Baltic Sea



The Baltic Sea



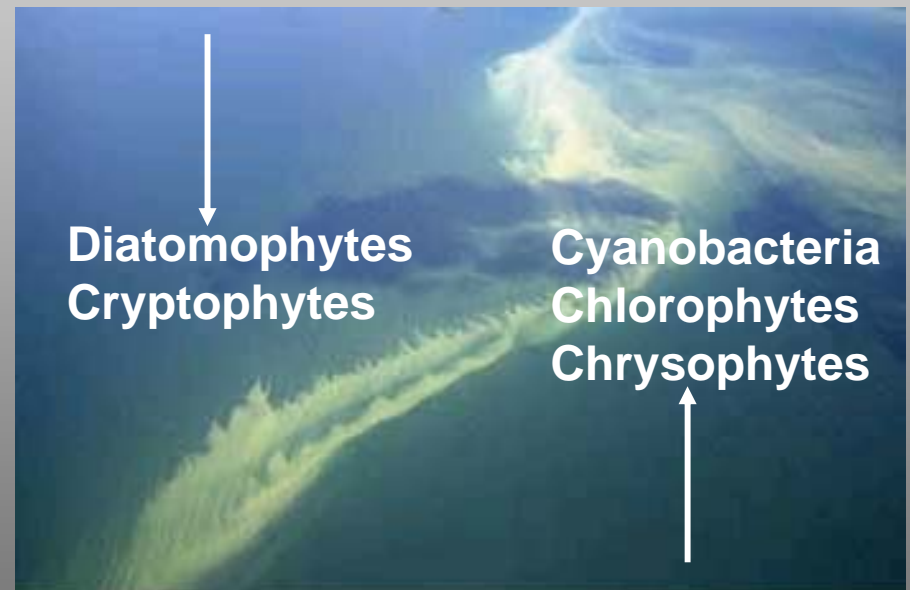
Salinity in the Gulf of Finland



The Baltic Sea



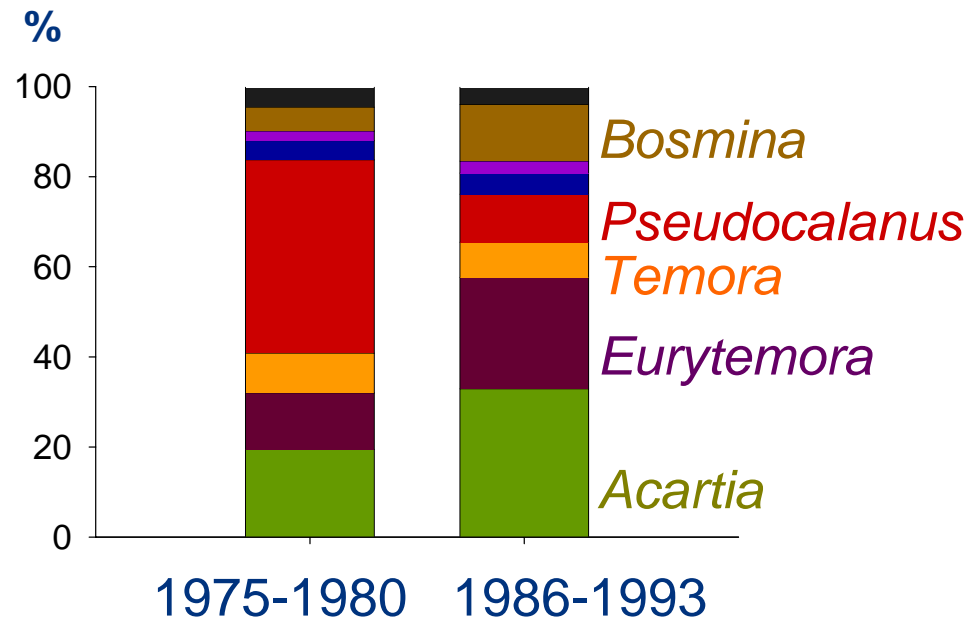
Eutrophication



The Baltic Sea



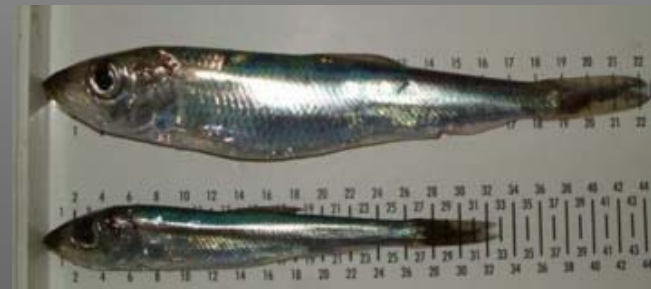
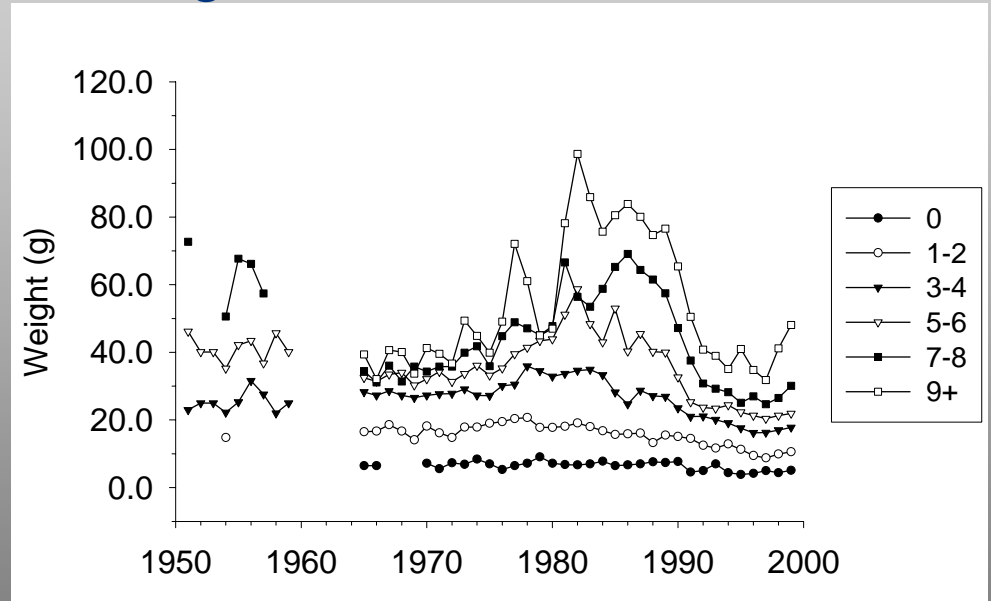
Zooplankton community structure



The Baltic Sea



Herring WAA in the Gulf of Finland



Objectives

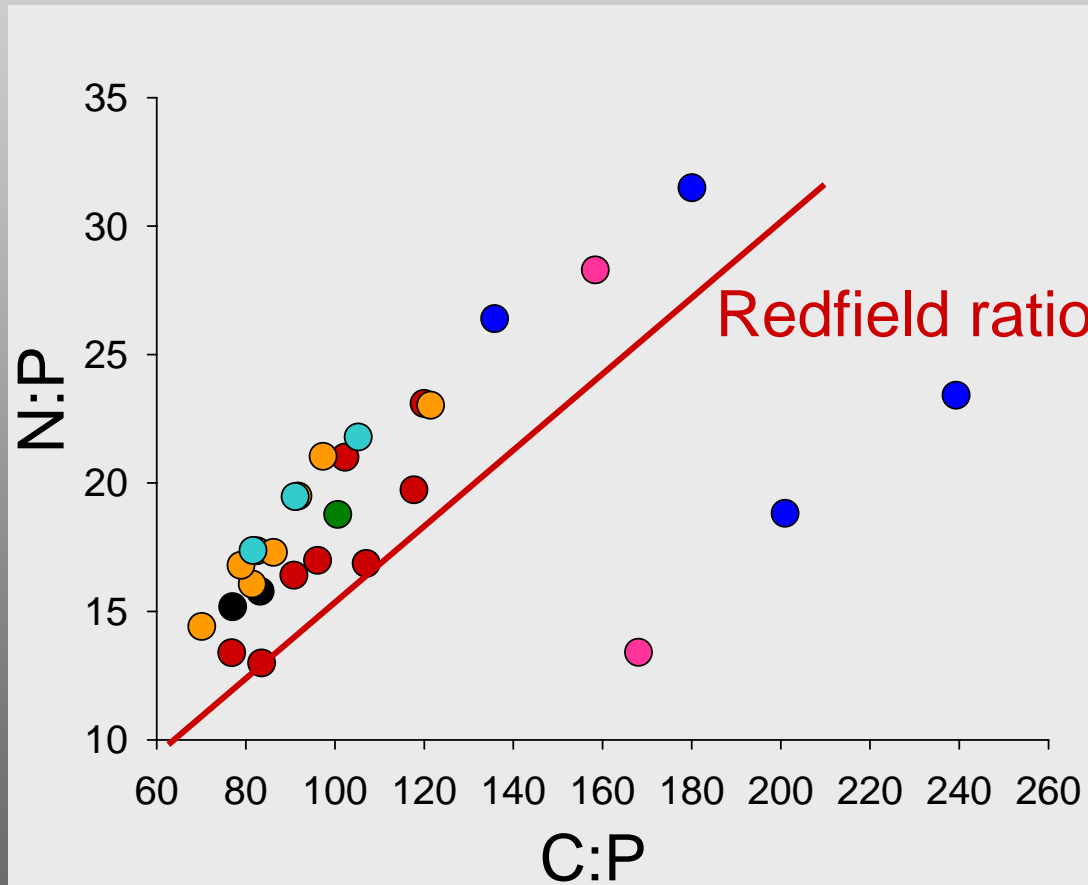
- Determine elemental ratios of different zooplankton species in different areas of the Baltic Sea
- Study if environmental factors explain variations in zooplankton stoichiometry



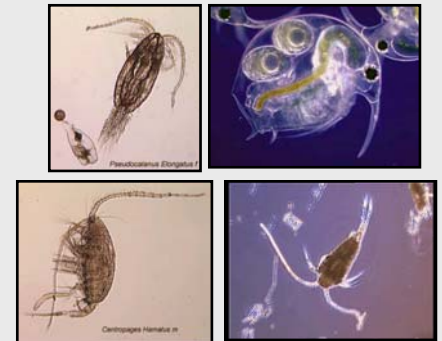
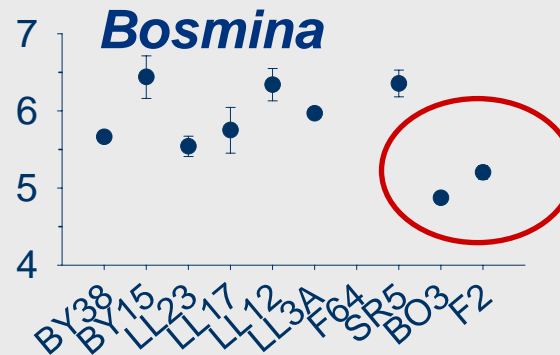
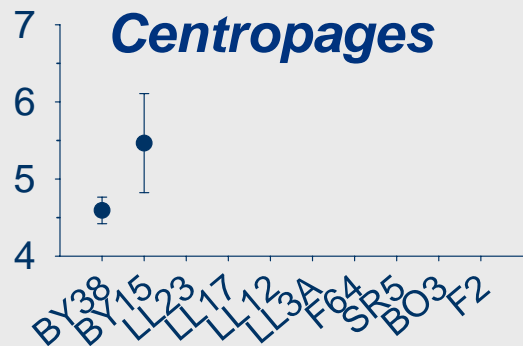
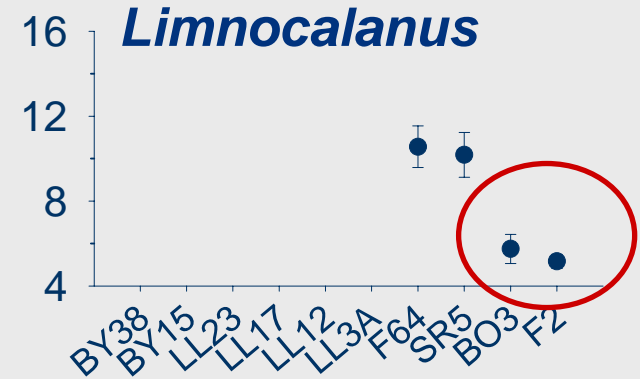
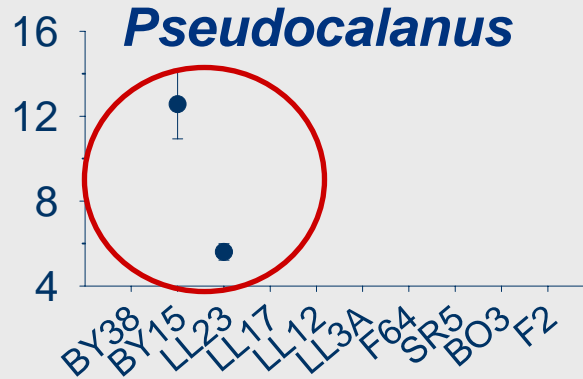
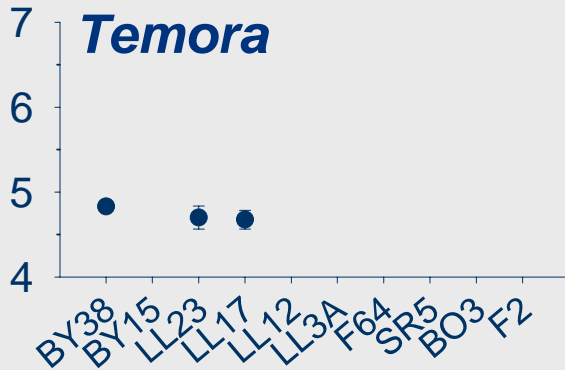
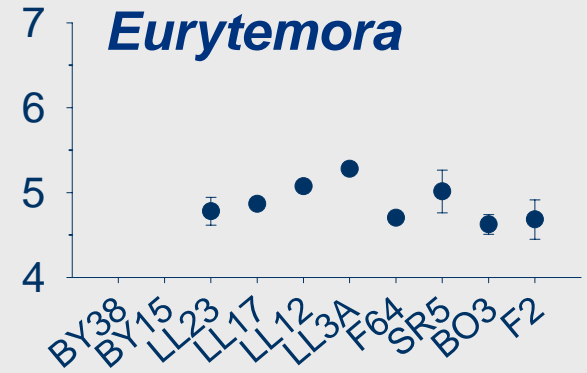
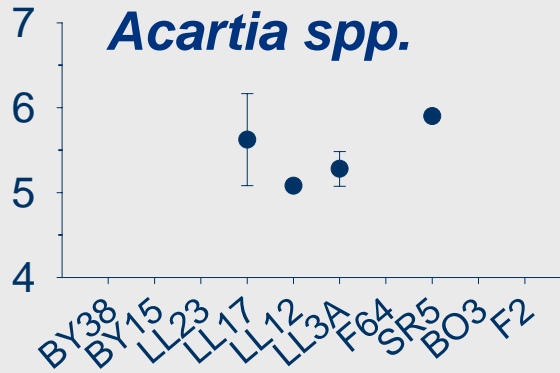


- Samples were collected in August 2002 onboard R/V *Aranda*
- 5-20 individuals were picked per sample, 1-6 replicates for each species and station

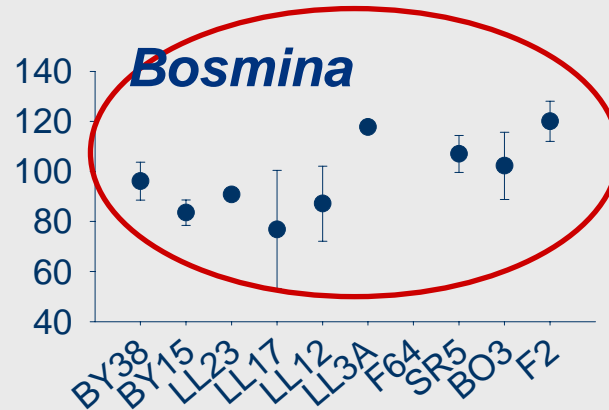
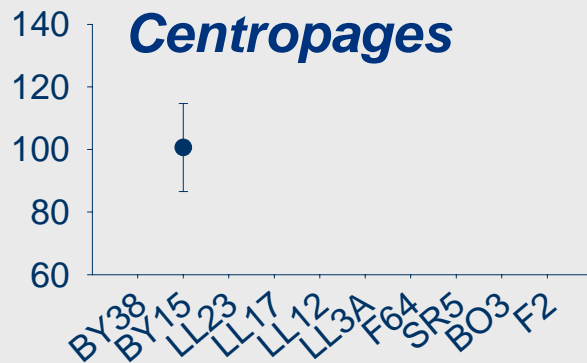
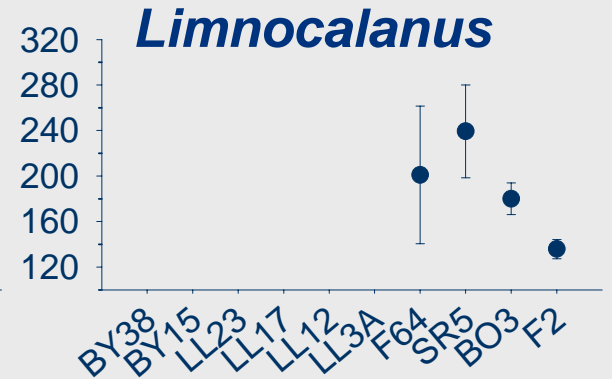
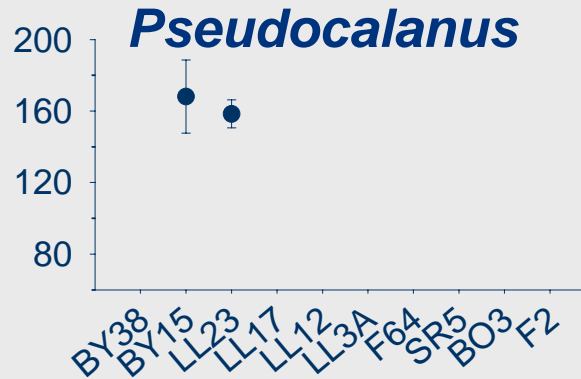
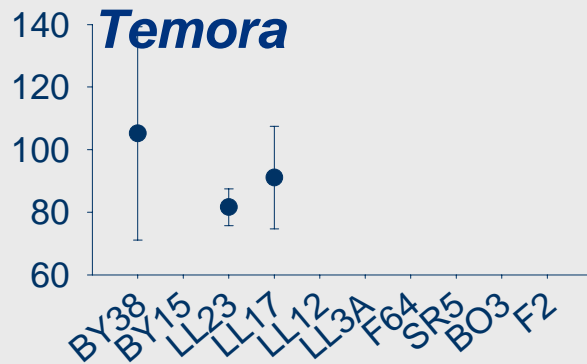
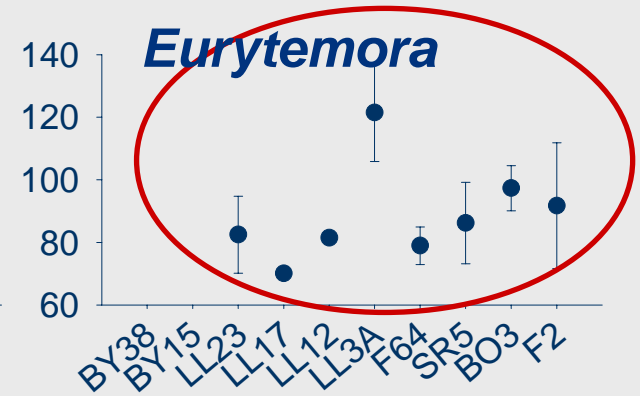
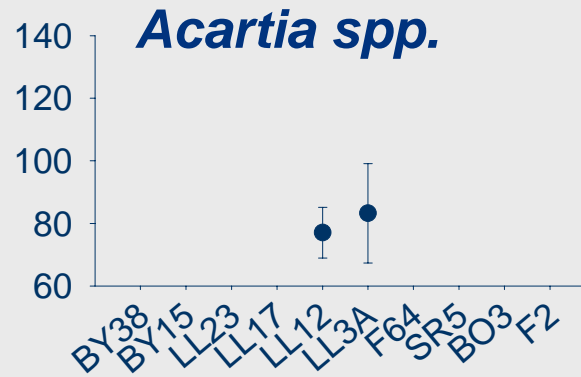
Elemental composition of zooplankton in the Baltic Sea



C:N ratio



C:P ratio



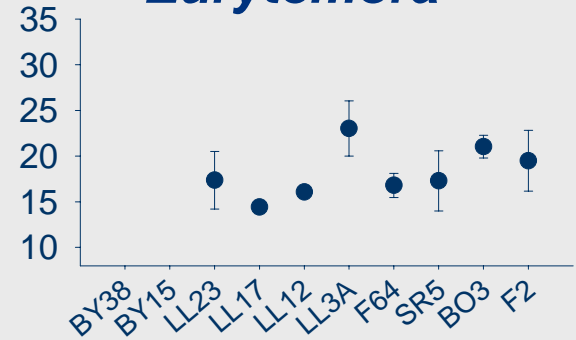
N:P ratio



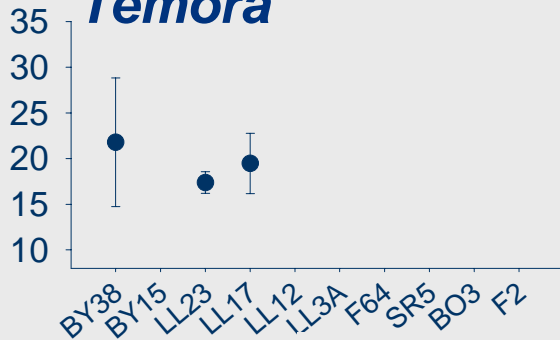
Acartia spp.



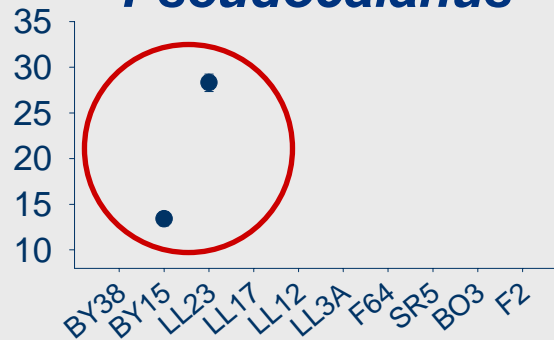
Eurytemora



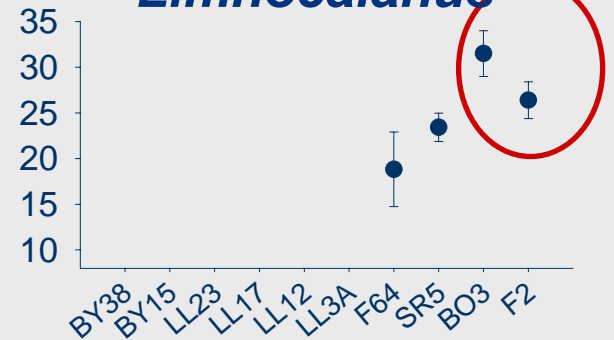
Temora



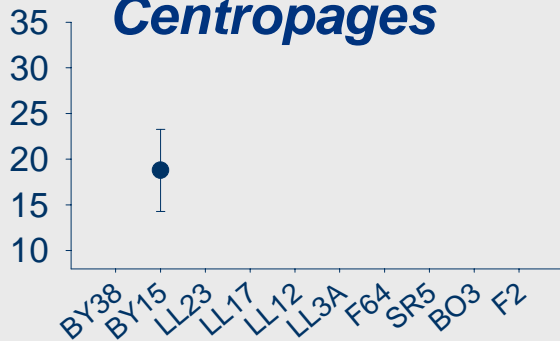
Pseudocalanus



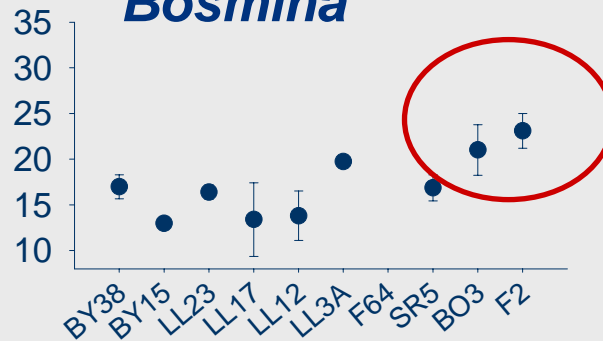
Limnocalanus



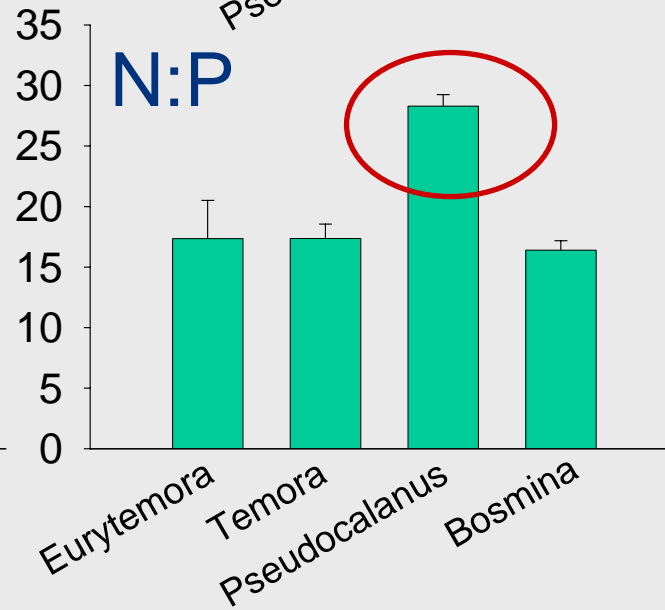
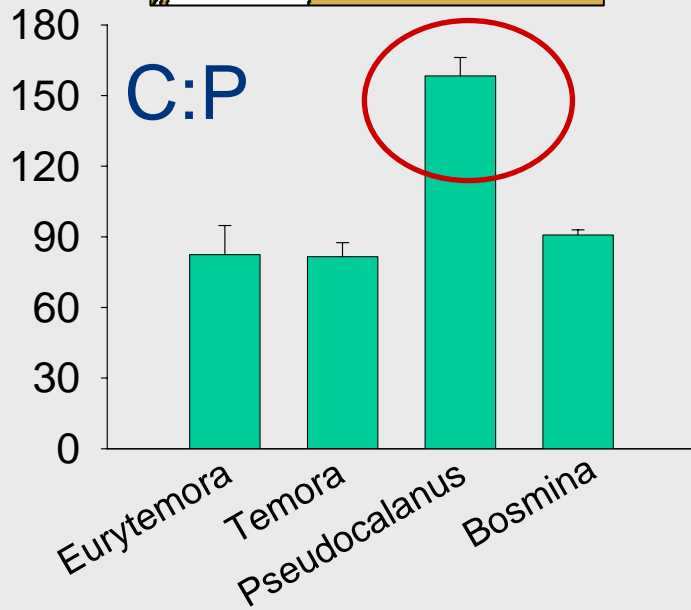
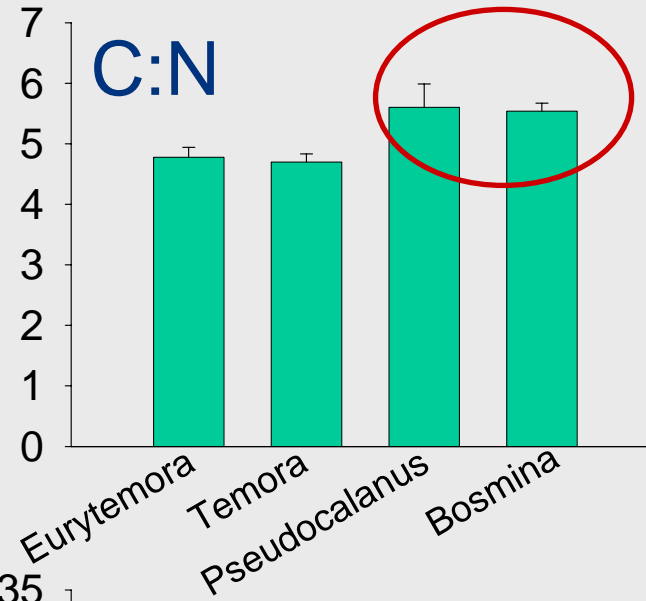
Centropages

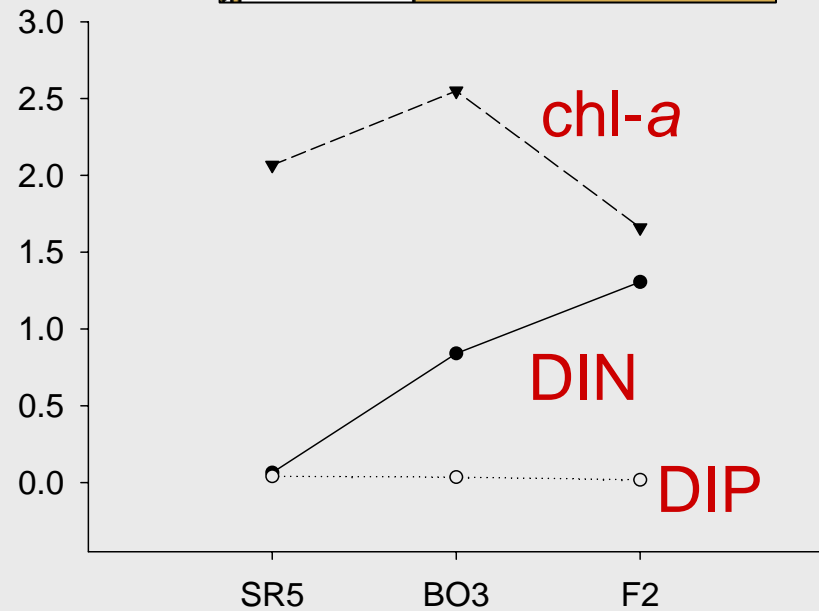
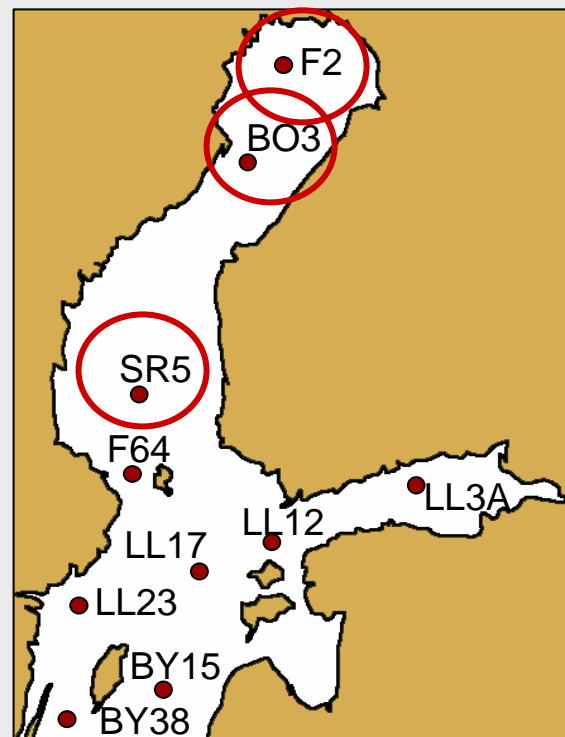
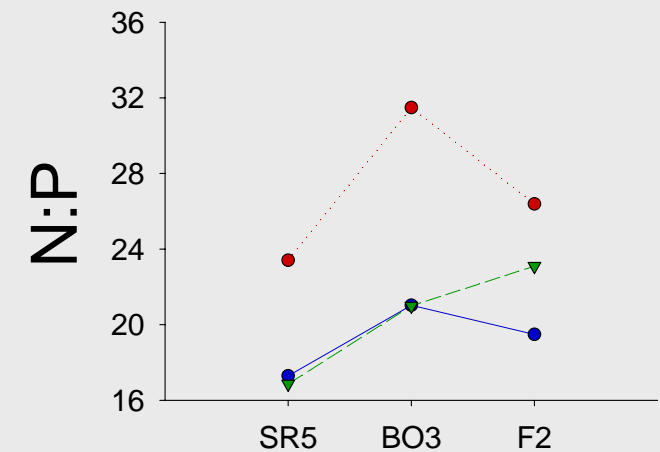
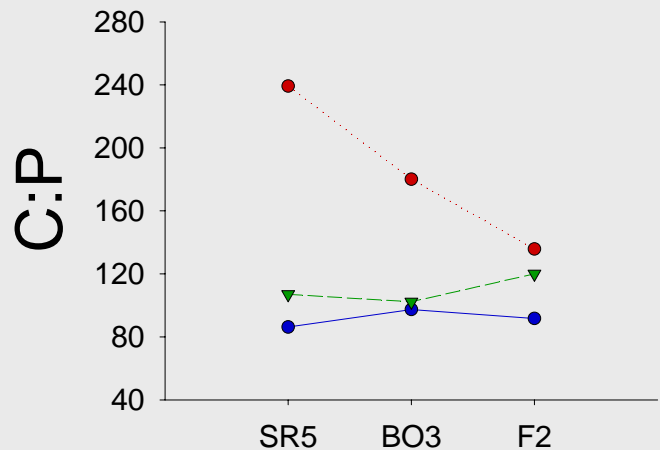
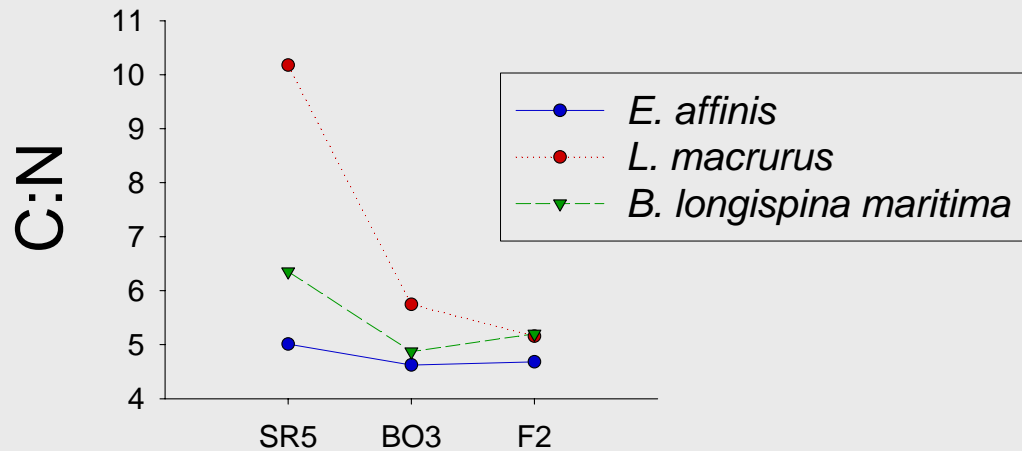


Bosmina



Interspecific variation





Summary

- C:N:P ratios reflected in general the species-specific differences in lipid storage capacities
- Zooplankton elemental composition did not depend on DIN, DIP, chl-*a* or the sea area – except in the Bothnian Bay

Summary

- Stable elemental ratios facilitate the determination of historic changes in the C:N:P ratios of the zooplankton community