Seasonal variation and species-specific production and transfer of the essential vitamin B₁ (thiamine) from bacteria and phytoplankton to zooplankton

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Background

For several decades, top predators in the Baltic Sea have been suffering from a deficiency syndrome called M74, caused by low levels of thiamine.

However, the reason for these low levels remains unresolved. Alterations in community composition in the pelagic food web have been suggested to have an effect on the transfer of vitamins in the Baltic Sea food web.

Methods

- Monthly field samplings in the Baltic Sea 2013-2016
- Field samplings in the Gullmar fjord 2015-2016
- Thiamine and CHN content samples

Results

- Seasonal peaks of thiamine in producers are not present in coepods.
- Some seasonal and annual variation of thiamine content
- Consequently higher thiamine content in smaller size fraction of producers

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