Trophic ecology of icefishes (Notothenioidei, Perciforms) in a context of climate change: focus on two widespread genera (*Lepidonotothen* and *Trematomus*)

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Introduction

- Southern Ocean (SO) undergoes major **environmental modifications** (changes in sea ice cover, temperature, pH, …)
- **Icefishes** (Notothenioidei) living in the SO can exploit various ecological niches and are an important component of food webs

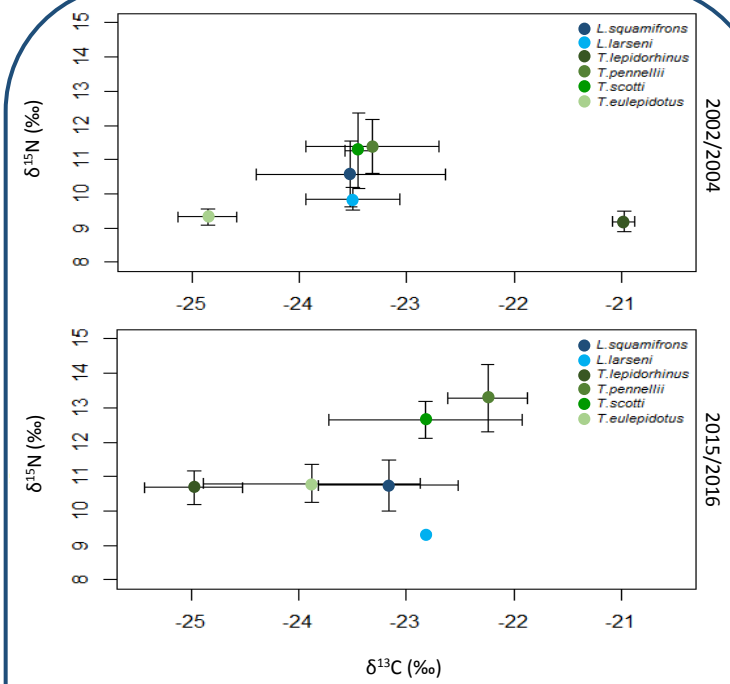
➡ How will two widespread genera of icefishes react to environmental changes? Will it influence their ecology, and notably resources partitioning?

Methods

- *Lepidonotothen* and *Trematomus* sampling in Weddell and Scotia seas during RV Polarstern campaigns of 2002-04 and 2015-16
- Use of **stable isotopes ratios** of carbon ($\delta^{13}C$) and nitrogen ($\delta^{15}N$) to build isotopic niches (proxies of realized ecological niches)

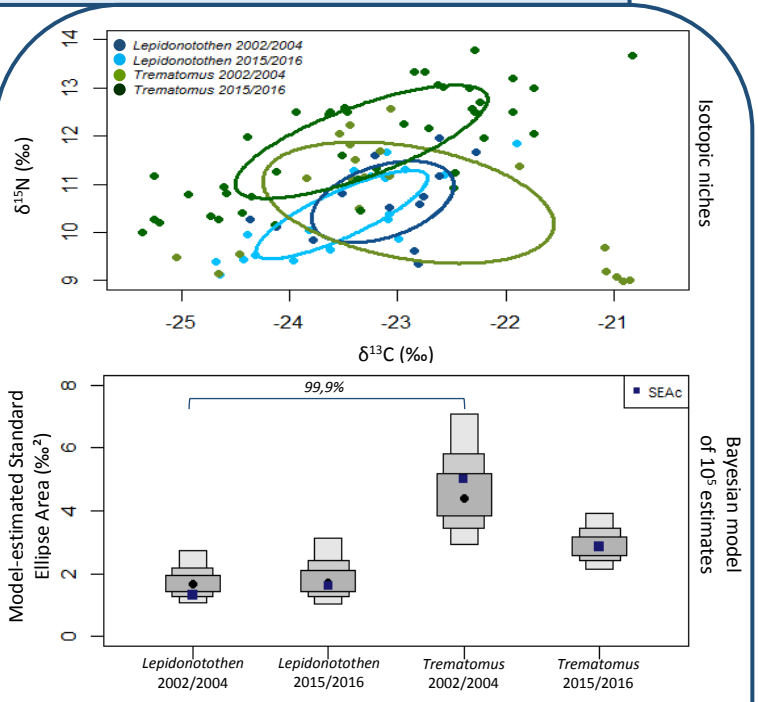
Icebreaker "RV Polastern" of the AWI

Results



Temporal variation of isotopic composition depends on the considered species

➡ Taxon-specific ecological plasticity (e.g. *T. Lepidorhinus*)



Overlap of isotopic niches in 2002/2004 between the genera ➡ Jointly exploitation of resources?

In 2002/2004: SEA of *Trematomus* is larger than the one of *Lepidonotothen* ➡ More exploited resources

Discussion and conclusion

- Great variation in isotopic compositions among icefishes: they exploit a wide array of resources, especially *Trematomus*.
- Temporal evolution of niches: taxon-specific **ecological plasticity** in response to variation in environmental parameters and/or prey availability.
- Over time: decrease of the amounts of resources exploited by *Trematomus* and of the overlap between niches of the two genera. Result of **past competition**?

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