

MR imaging as a monitoring tool for gonadal growth in fish

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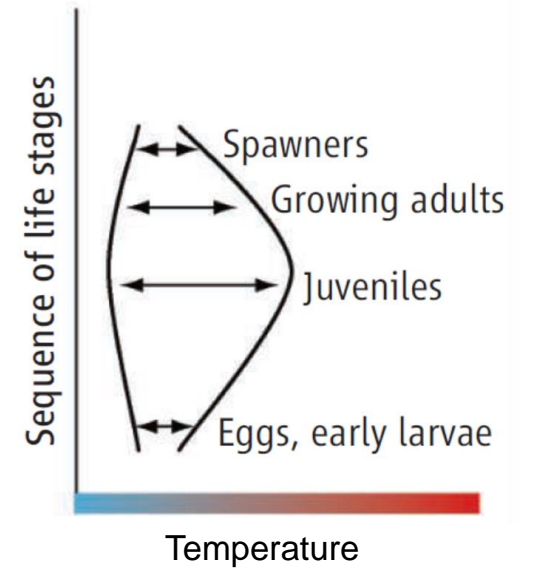
² University of Bremen, Department of Chemistry, in-vivo-MR Group



Background

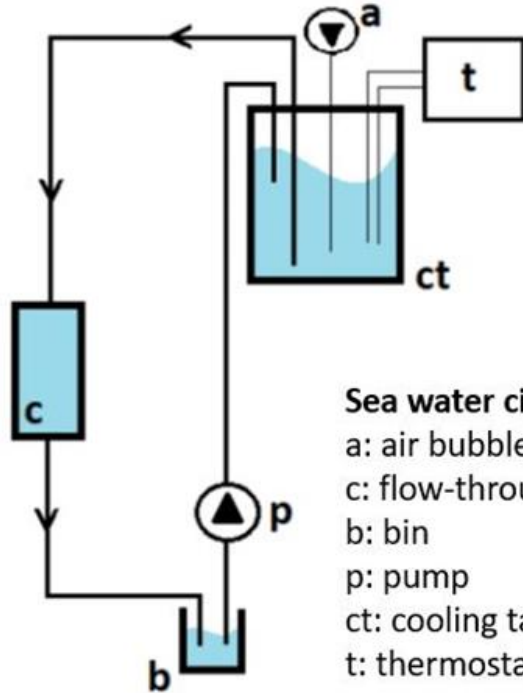
- Arctic spawners are particularly sensitive to rapid warming

Polar cod (*Boreogadus saida*)



Modified after Pörtner & Farell 2008

Experimental set up



Sea water circulating system

a: air bubble stone

c: flow-through chamber

b: bin

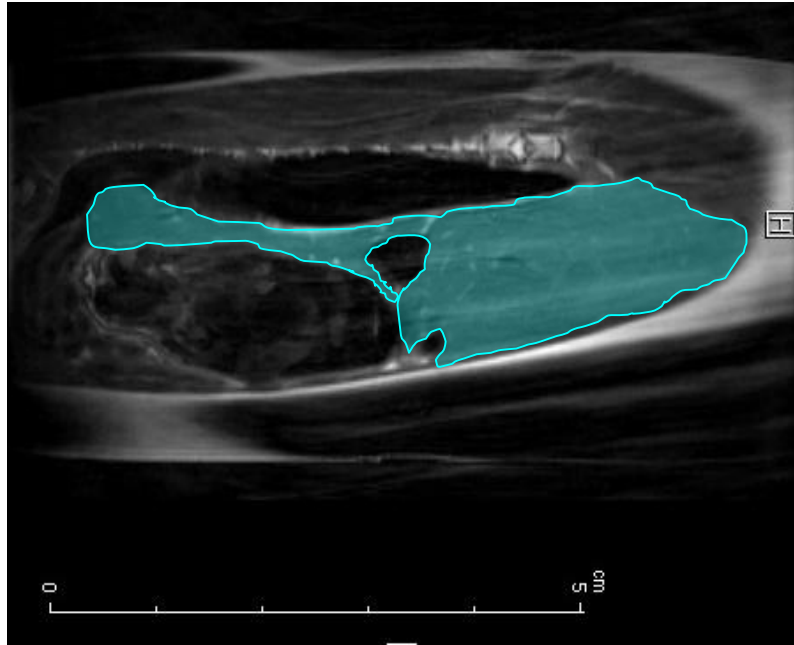
p: pump

ct: cooling tank

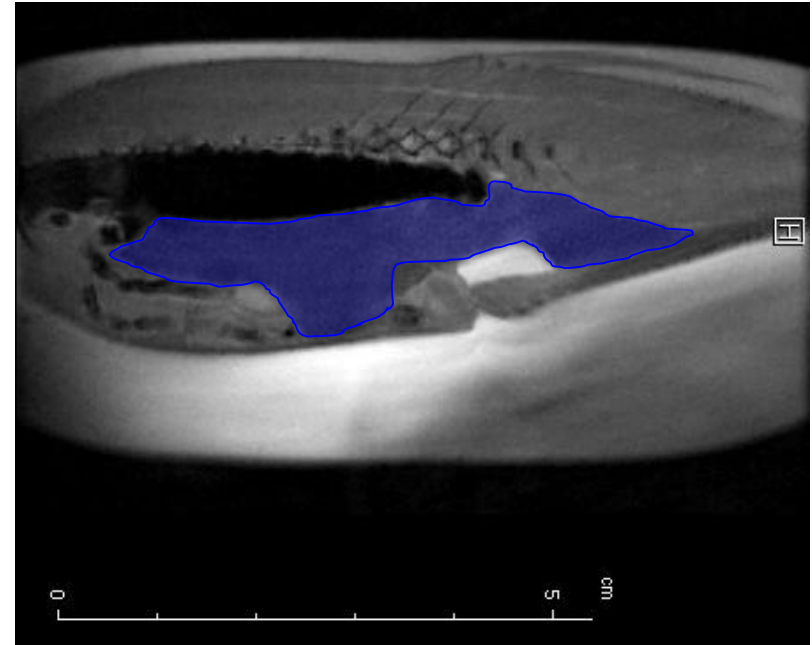
t: thermostat



Comparison of male and female gonads

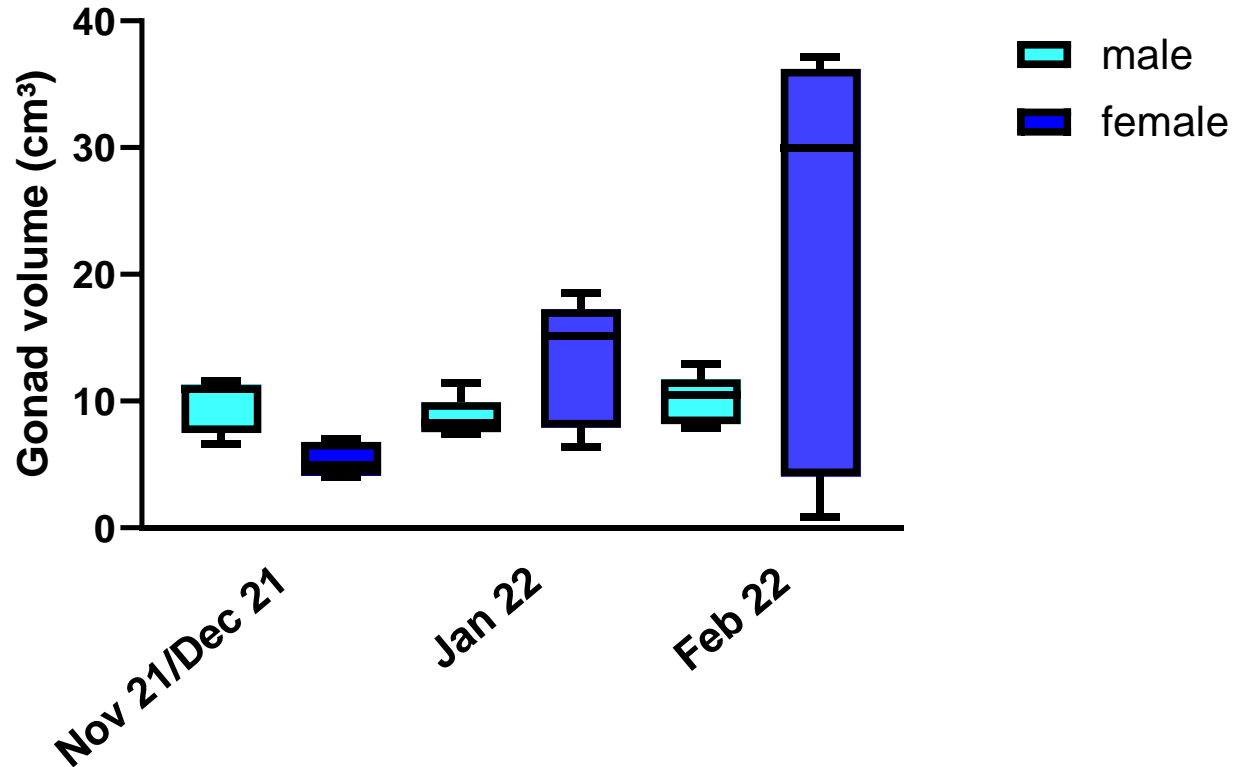


Sagittal RARE of male polar cod



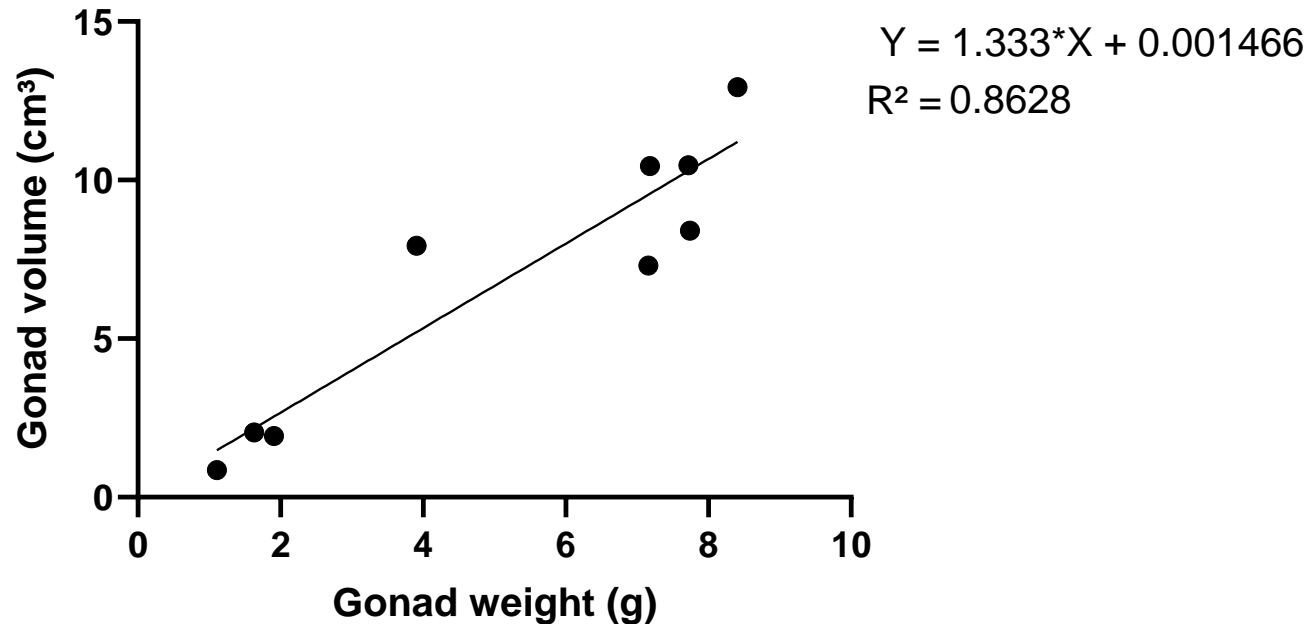
Sagittal RARE of female polar cod

Development of gonad volume



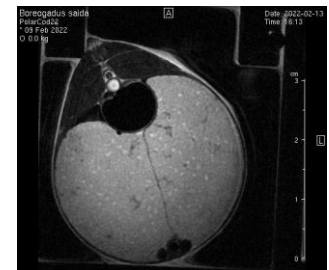
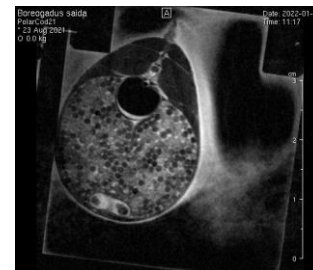
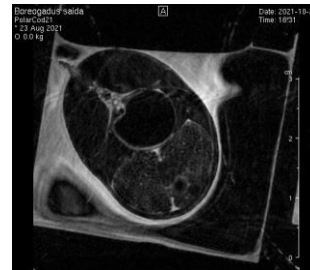
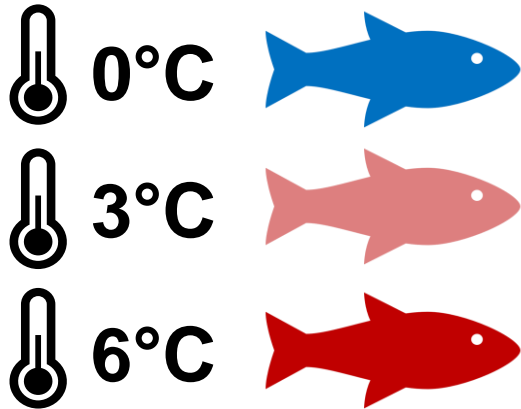
Validation of MR Method

- Gonad weight (in vitro) versus volume (in vivo)



Experimental Approach

- Long-term incubation of polar cod and monthly gonad monitoring (August 2022 to February 2023)



Thank you!

