

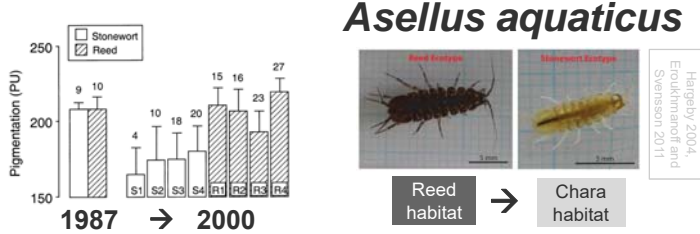
# Adaptive population divergence in *Asellus aquaticus*?

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## Background:

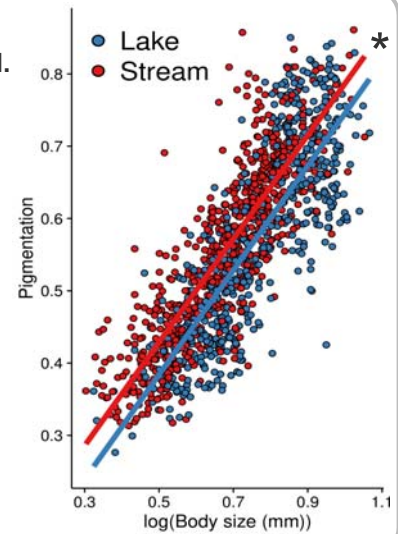
Previous research in Swedish lakes shows rapid phenotypic evolution (body size and pigmentation) of the freshwater isopod



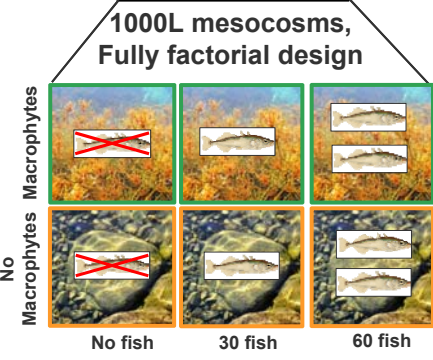
*Asellus aquaticus* is common in Switzerland. Can we find similar patterns here?

**YES**  
**Stream isopods are darker than isopods from Lake Lucerne**

**BUT**  
 The variation is not bimodal and the drivers are unknown.



6 months  
 > 4000 phenotyped isopods



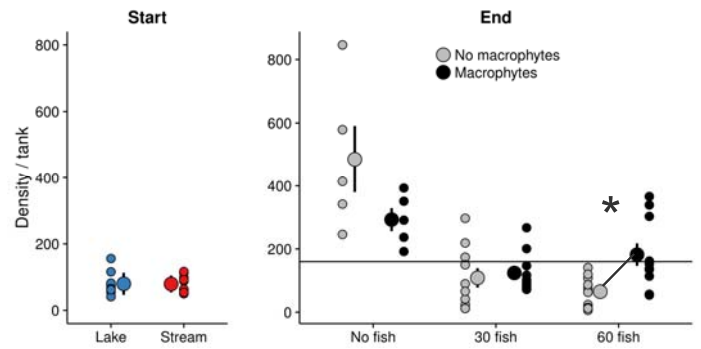
## Selection experiment

What factors affect body size and pigmentation in swiss *A. aquaticus*?



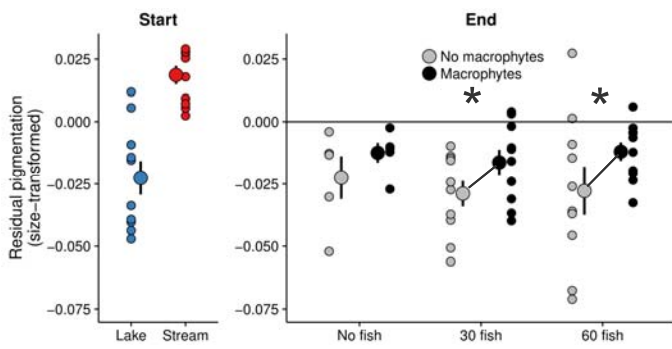
## RESULT 1:

Fish greatly reduce isopod densities, but with fish present macrophytes increase survival



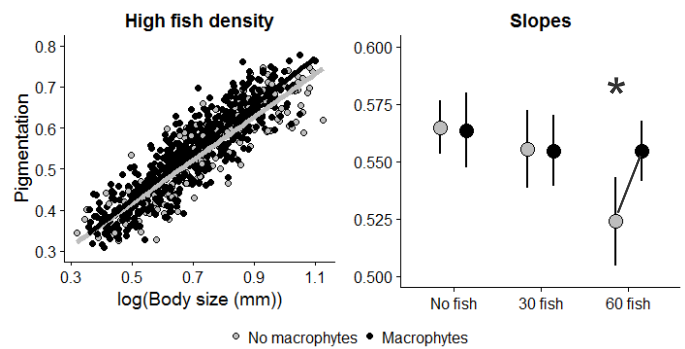
## RESULT 2:

Isopods are lighter in the presence than in the absence of macrophytes. This difference in pigmentation increases with fish density



## RESULT 3:

Under high fish density and in the absence of macrophytes, the relationship between pigmentation and body size is shifted towards lighter phenotypes



## Summary:

Fish predation has a strong effect on isopod densities, which is reduced by macrophyte presence. Macrophytes also affect the strength and direction of selection on pigmentation and body size in *Asellus aquaticus*.



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