

Selective predation by perch (*Perca fluviatilis*) on a freshwater isopod, in two macrophyte substrates.

Supervisor: Anders Hargeby
Examiner: Karin Tonderski



Background

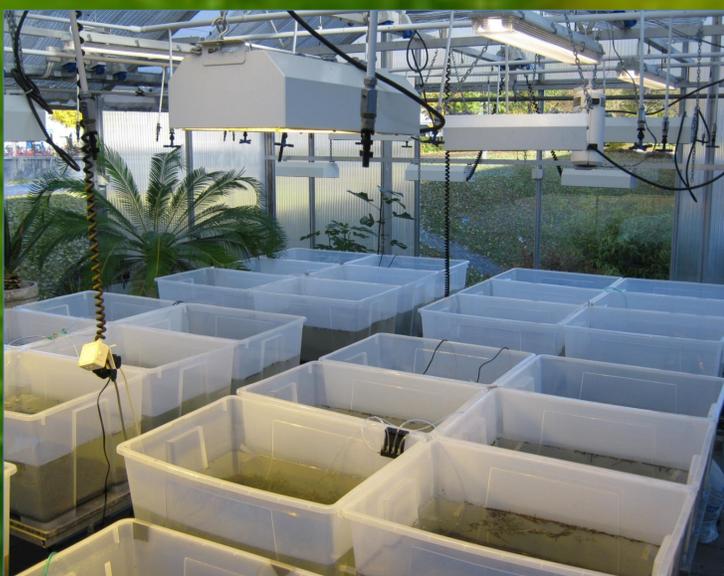
Populations of the freshwater isopod *Asellus aquaticus* L. can rapidly become locally differentiated when submersed stonewort (-*Chara spp.*) vegetation expands in lakes. In the novel *Chara* habitat, isopods become lighter pigmented and smaller than in the ancestral reed stands.

Aim

1. To find out if fish (perch) feed selectively on different phenotypes of *Asellus*.
2. And if this selectivity differs between the reed habitat and the *Chara* habitat.

Methods

Laboratory experiments with perch as the predator and *Asellus* as the prey in aquaria manipulated to mimic either the reed- or the *Chara* habitat.

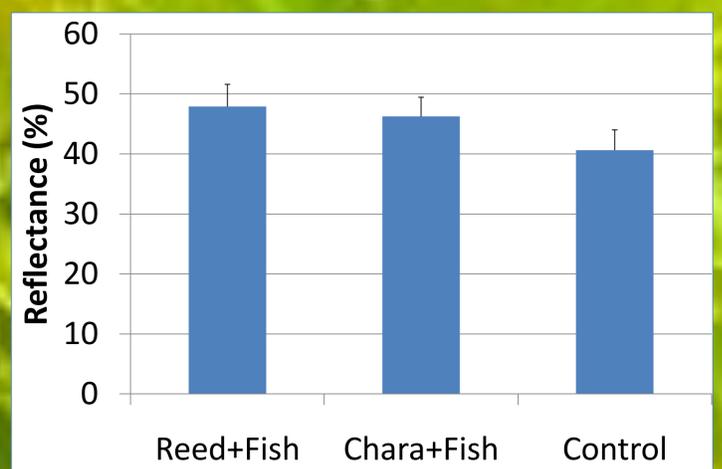


Results

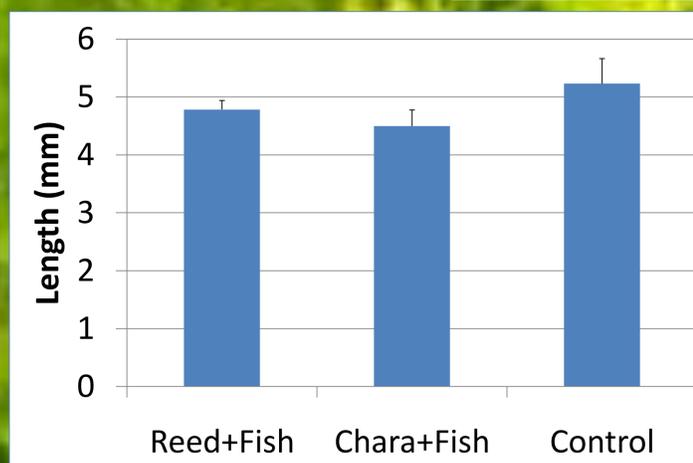
Remaining isopods were significantly smaller ($p > 0,000$) and lighter pigmented ($p > 0,000$) in the fish aquaria than in the controls, showing that the perch preferred to feed on large dark individuals. This selective pattern were the same in both substrates.

Conclusion

- A selective pressure like that would be likely to produce a population of small, lightly colored isopods.
- It is therefore likely that predation by visually hunting fish is an important force behind the habitat-specific adaptations seen in *Asellus* populations in the novel *Chara* habitat.



Pigmentation as standardized reflectance (mean + SD), for remaining *Asellus* after prey selection experiments.



Length (mean + SD) for remaining *Asellus* after exp.



Tfn: 070 6884487
magan464@student.lui.se