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# Size-dependent harvesting modifies the trophic niche of medaka *Oryzias latipes* in a mesocosm experiment

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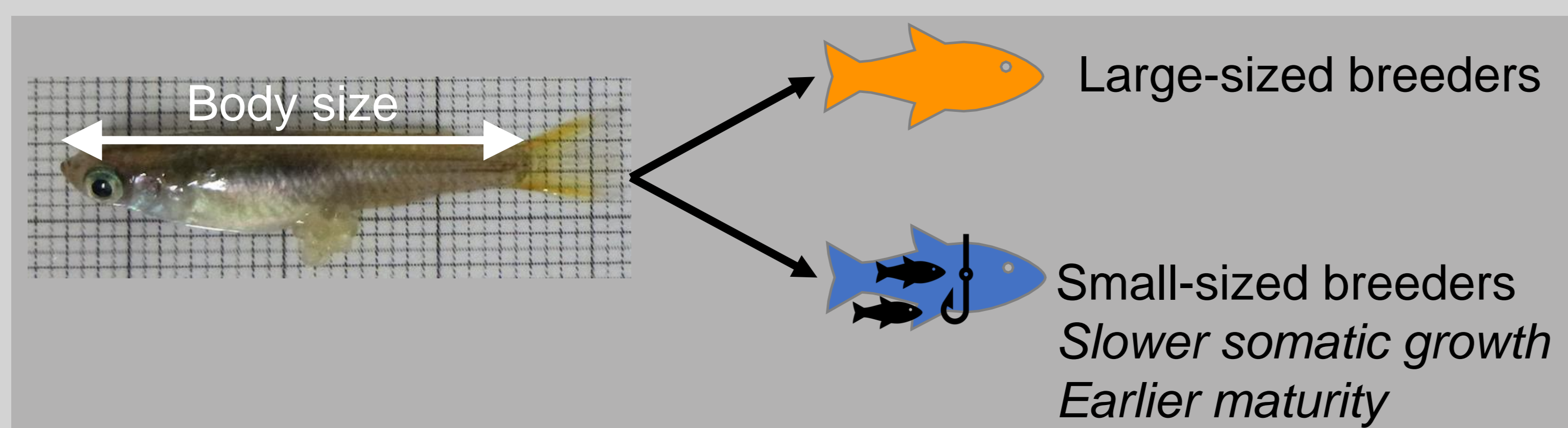


## INTRODUCTION

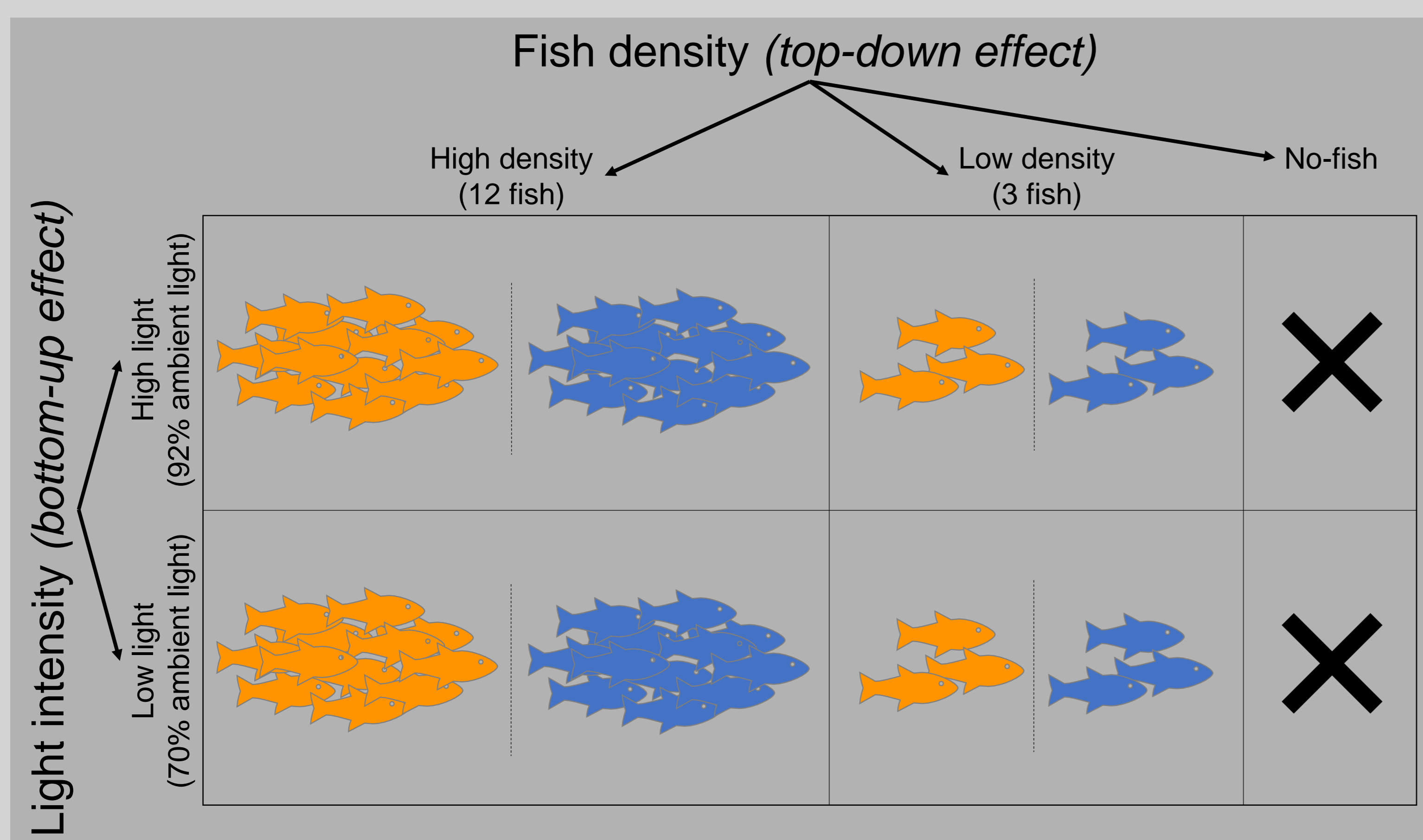
Size-selective fishing has important consequences for population dynamics due to direct reduction of population density and shift of energy allocation from somatic growth to earlier reproduction<sup>1,2</sup>. Whether intraspecific life-history changes induced by size-selective fishing have consequences for the functioning of ecosystems remain rarely explored<sup>3</sup>.

## MATERIAL & METHODS

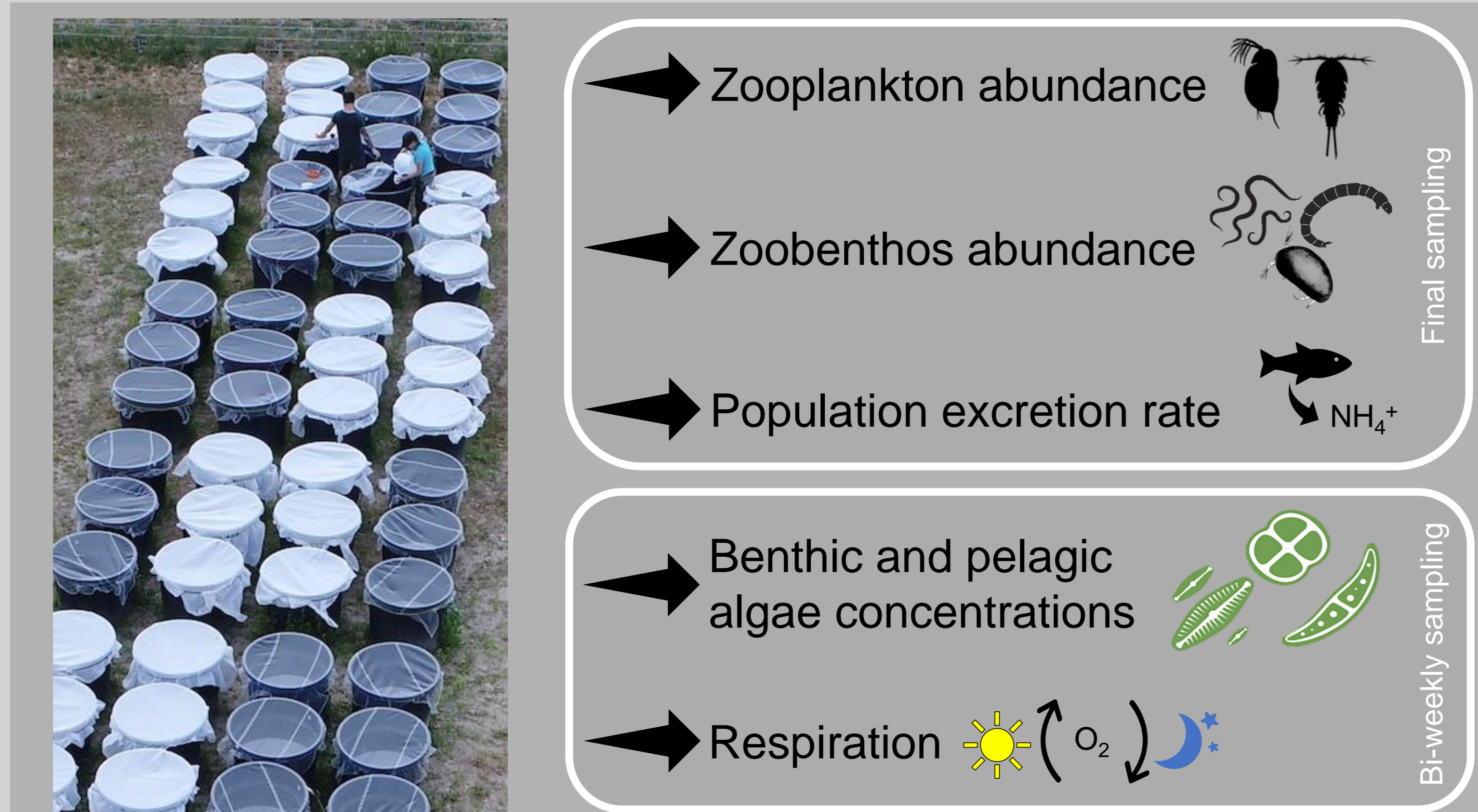
- two lines of medaka *Oryzias latipes*



- full crossed design: Line × Fish density × Light intensity



- 60 outdoor-mesocosms (400L); 3 month



## Acknowledgements

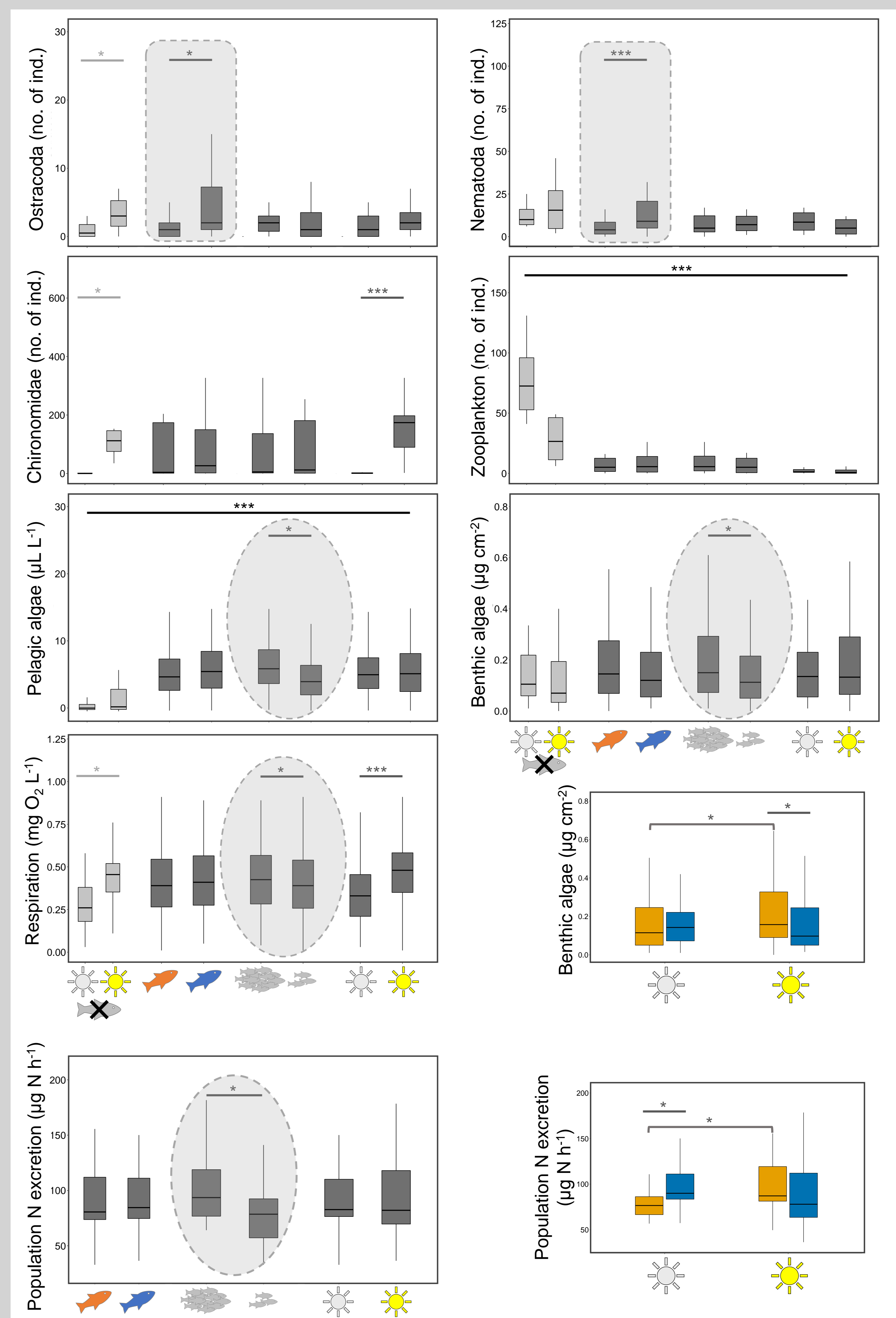
We are grateful to numerous colleagues and particularly Clementine Renneville and Arnaud Le Rouzic for initiating the medaka lines.

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## RESULTS



## DISCUSSION

- Small-sized breeder line displayed lower capacity to exploit benthic resource<sup>4</sup>.
- Density had a positive effect on algae concentration through nutrient-mediated effect.
- Adaptation to size-selective mortality modulated excretion rate when light was limited but this did not lead to changes in algae concentration.
- Large-sized breeder line excreted more in high light conditions, which positively affected benthic algae concentration.

## References

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