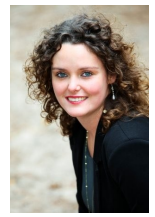


# Antidepressant effects on *Gammarus pulex* behaviour, lab versus field testing

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## Behaviour as effect endpoint

Fluoxetine is the worlds' most prescribed antidepressant and is frequently found in surface waters all over the world. Through lab studies, fluoxetine has become known to cause changes in the behaviour of many organisms, including invertebrates like *Gammarus pulex*. However, conditions in the lab are strictly controlled, and fluoxetine effects in the field remain unknown.

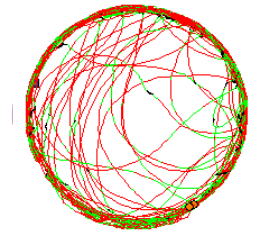


Outdoor cosms

## Lab- and field-experiments

Fluoxetine concentrations were 0.2, 2, 20 and 200 µg/L and we had a control and a solvent control (each 4 replicates).

After short- (4 days) and long-term (21 days) exposure, we tracked the movement of the



Tracked path

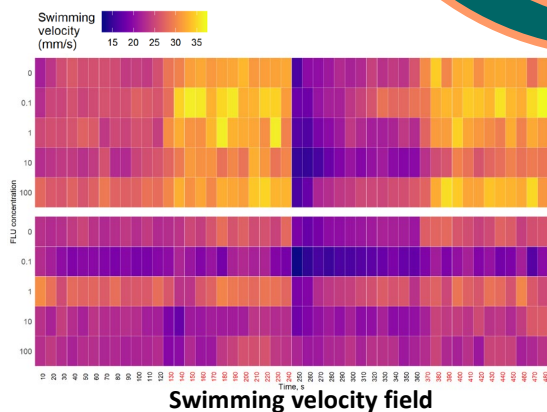
individuals using an infrared

device (Viewpoint). From this we determined swimming velocity. Light was turned on or off in 2-minutes intervals.

Difference in invertebrate behaviour between the field and the lab has an influence on the effect of fluoxetine

## Results field

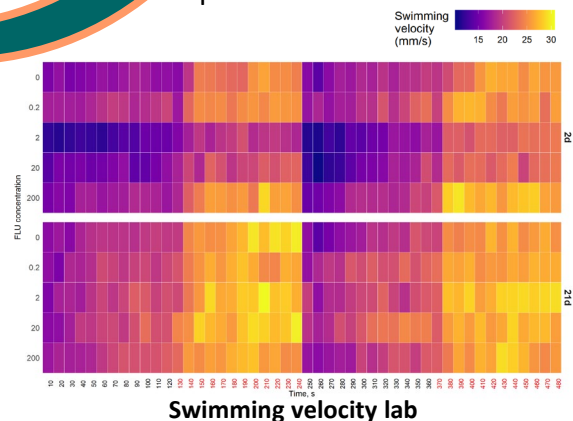
Significant differences in baseline behaviour between acute and chronic exposure. No effects of fluoxetine.



Swimming velocity field

## Results lab

Significant effects found at low fluoxetine conc. after short-term exposure. No effects after long-term exposure.



Swimming velocity lab

## Conclusions

- Effects of fluoxetine found on swimming velocity in the lab, not in the field
- Identified importance of experimental set-up on invertebrate behaviour



Field container

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