



Sex in murky waters: algal induced turbidity increases sexual selection in pipefish

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Algal induced turbidity has been shown to alter several important aspects of reproduction and sexual selection. However, while turbidity has been shown to negatively affect reproduction and sexually selected traits in some species, it may instead enhance reproductive success in others, implying that the impact of eutrophication is far more complex than originally believed. In this study, we aimed to provide more insight into these inconsistent findings. We used molecular tools to investigate the impact of algal turbidity on reproductive success and sexual selection on males in controlled laboratory experiments, allowing mate choice, mating competition and mate encounter rates to affect reproduction. As our study species we used the broad-nosed pipefish, *Syngnathus typhle*, a species practicing male pregnancy and where we have previously shown that male mate choice is impaired by turbidity. Contrary to our expectations, turbidity enhanced sexual selection on male size and mating success as well as reproductive success. Effects from mating competition and mate encounter rates may thus override effects from mate choice based on visual cues, producing an overall stronger sexual selection in turbid waters. Hence, seemingly inconsistent effects of turbidity on sexual selection may depend on which mechanisms of sexual selection that have been under study.

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