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Title:	Local maladaptation due to density-dependent natural selection
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Abstract:	Local maladaptation due to density-dependent natural selection Natural selection usually leads to adaptation, but can also lead to declining population fitness or maladaptation despite evolution at the individual level. In this study, populations subjected to over 250 generations of strong density-dependent natural selection were hypothesised to be locally adapted. I assayed their adult fitness in a common-garden environment to test the local (mal)adaptation hypothesis. Additionally, I performed fitness assays separately in males and females to test whether density-dependent natural selection had any sex specific effects. Males from populations evolving under density-dependent natural selection were maladapted in comparison to their ancestral control populations. In contrast, females showed both local adaptation and local maladaptation. Ecological causes for such maladaptation are most likely a combination of poor culture environment, unstable population dynamics and frequency-dependent selection.
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