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Title: Disentangling the costs of mating and harassment across different environments

Authors: Jigisha (/jspui/browse?type=author&value=Jigisha)

Keywords: Callosobruchus maculatus

Sexual conflict

Cost of harassment
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Abstract:

Why females mate multiply has been a long-standing question in evolutionary ecology. In attempts to answer this question, many studies on diverse taxa have highlighted various costs and benefits associated with reproduction. However, how the costs of mating differ from the costs of harassment and whether they vary with environmental conditions are unknown. To explore this, we compared various fitness traits of singly mated Callosobruchus maculatus females, with or without access to water, subjected to different levels of male exposure: no male (i.e. no mating or harassment), ablated male present (i.e. harassment only), intact male present (i.e. both mating and harassment), exposure to males for a short time (i.e. repeated mating but with minimal harassment). We found that, overall, females lived longer in wet than in dry environments, and that the effects of male exposure on female life span differed between environments: wet environments showed cumulative costs of harassment and mating, while differing levels of male exposure had no effect in dry environments. Further, while females laid more eggs in dry environments, females mating repeatedly were more fecund than females housed with ablated males in both environments, suggesting both benefits of repeated mating and costs of harassment, which are environmentally independent. Finally, offspring survival was dependent on a complex interaction between environment and male exposure, potentially reflecting environmental differences in resource allocation trade-offs.

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