



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)

/ Publications of IISER Mohali (/jspui/handle/123456789/4)

/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/3419>

Title:	Absence of reproduction-immunity trade-off in male <i>Drosophila melanogaster</i> evolving under differential sexual selection
Authors:	Arun, M.G. (/jspui/browse?type=author&value=Arun%2C+M.G.) Prasad, N.G. (/jspui/browse?type=author&value=Prasad%2C+N.G.)
Keywords:	<i>Drosophila melanogaster</i> Immunity Sexual selection Trade-off
Issue Date:	2020
Publisher:	BioMed Central Ltd.
Citation:	BMC Evolutionary Biology 20(1).
Abstract:	<p>Background: The theory of trade-off suggests that limited resources should lead to trade-off in resource intensive traits such as, immunity related and sexually selected traits in males. Alternatively, sexual exaggerations can also act as an honest indicator of underlying immunocompetence, leading to positive correlations between these traits. Evidences in support of either hypothesis in invertebrates are equivocal. Whereas several studies have addressed this question, few have used naturally occurring pathogens and realized post infection realized immunity (e.g., survivorship) to assay the fitness correlations between these two sets of traits. Results: Adopting an experimental evolution approach, we evolved replicate populations of <i>Drosophila melanogaster</i> under high and low sexual selection regimes for over a hundred generations and found the following in virgin and mated males in three separate assays: A. Post infection survivorship against two natural pathogens-<i>Pseudomonas entomophila</i> (Pe) and <i>Staphylococcus succinus</i> (Ss): Mated males survived better against Pe, but were no different than virgins against Ss. b. Bacterial clearance ability against a third natural pathogen <i>Providencia rettgeri</i> (Pr): Mated males had significantly lower CFUs than virgins. However, sexual selection history had no effect on realized immunity of either virgin or mated males. Conclusion: We show that while mating can affect realized immunity in a pathogen specific way, sexual selection did not affect the same. The results highlight that complex polygenic traits such as immunity and reproductive traits not necessarily evolve following a binary trade-off model. We also stress the importance natural pathogens while studying sexual selection-immunity correlations.</p>
Description:	Only IISERM authors are available in the record.
URI:	https://bmcevolbiol.biomedcentral.com/articles/10.1186/s12862-019-1574-1 (https://bmcevolbiol.biomedcentral.com/articles/10.1186/s12862-019-1574-1) http://hdl.handle.net/123456789/3419 (http://hdl.handle.net/123456789/3419)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:


File	Description	Size	Format
------	-------------	------	--------

Need to add pdf.odt
(/jspui/bitstream/123456789/3419/1/Need%20to%20add%20pdf.odt)

8.63 OpenDocument
kB Text

[View/Open \(/jspui/bitstream/123456789/3419/1/Need%20to%20add%20pdf.odt\)](#)

[Show full item record \(/jspui/handle/123456789/3419?mode=full\)](#)

 [\(/jspui/handle/123456789/3419/statistics\)](#)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.