



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/123456789/3292>

Title:	Effect of temperature on life-history traits and mating calls of a field cricket, <i>Acanthogryllus asiaticus</i>
Authors:	Singh, Richa (/jspui/browse?type=author&value=Singh%2C+Richa) Prathibha, P. (/jspui/browse?type=author&value=Prathibha%2C+P.) Jain, Manjari (/jspui/browse?type=author&value=Jain%2C+Manjari)
Keywords:	Body size Developmental plasticity Developmental temperature Temperature-size rule
Issue Date:	2020
Publisher:	Elsevier
Citation:	Journal of Thermal Biology, 93
Abstract:	Ectotherms are sensitive to changes in ambient temperature that impact their physiology and development. To compensate for the effects of variation in temperature, ectotherms exhibit short or long-term physiological plasticity. An extensive body of literature exists towards understanding these effects and the solutions ectotherms have evolved. However, to what extent rearing temperature during early life stages impacts the behaviour expressed in adulthood is less clearly understood. In the present study, we aimed to examine the effects of developmental temperature on life-history traits and mating call features in a tropical field cricket, <i>Acanthogryllus asiaticus</i> . We raised <i>A. asiaticus</i> at two different developmental conditions: 25 °C and 30 °C. We found developmental time and adult lifespan of individuals reared at 30 °C to be shorter than those reared at 25 °C. Increased developmental temperature influenced various body size parameters differentially. Males raised at 30 °C were found to be larger and heavier than those raised at 25 °C, making <i>A. asiaticus</i> an exception to the temperature-size rule. We found a significant effect of change in immediate ambient temperature on different call features of both field-caught and lab-bred individuals. Developmental temperature also affected mating call features wherein individuals raised at higher temperature produced faster calls with a higher peak frequency compared to those raised at lower temperature. In addition, an interactive effect of both developmental and immediate temperature was found on mating call features. Our study highlights the importance of understanding how environmental temperature shapes life-history and sexual communication in crickets.
URI:	https://www.sciencedirect.com/science/article/pii/S030645652030512X?via%3Dihub (https://www.sciencedirect.com/science/article/pii/S030645652030512X?via%3Dihub) http://hdl.handle.net/123456789/3292 (http://hdl.handle.net/123456789/3292)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:


File	Description	Size	Format

Need to add pdf.odt
(/jspui/bitstream/123456789/3292/1/Need%20to%20add%20pdf.odt)

8.63 OpenDocument
kB Text

[View/Open \(/jspui/bitstream/123456789/3292/1/Need%20to%20add%20pdf.odt\)](#)

[Show full item record \(/jspui/handle/123456789/3292?mode=full\)](#)

 [\(/jspui/handle/123456789/3292/statistics\)](#)

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