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Title:	Examining effects of bacterial infection on survival and male calling effort in a field cricket, <i>Acanthogryllus asiaticus</i>
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Abstract:	<p>Secondary sexual characters are expected to be costly to produce and are expected to be indicators of male quality. Females that select males based on such characters are likely to accrue increased fitness. Immunocompetence on the other hand is also energetically expensive and is crucial for survival. Under stressful conditions like an infection, individuals may need to trade off one for the other. On the other hand, it may so happen that males who are better in terms of their secondary sexual traits are also better at fighting infection. In this study, I examined the effect of infection on male calling effort in a field cricket species that is known to have conspicuous mating calls, <i>Acanthogryllus asiaticus</i>. In order to evoke infection, I have used a gram-negative bacterium <i>Pseudomonas entomophila</i> which is known to cause mortality in many different insect orders. The protocol for infecting the insects was standardized as part of this study. The survival, body weight and calling behaviour of males pre and post-infection was examined to understand whether the bacterial infection affected these naturally-selected and sexually selected traits in this species. I successfully standardized the protocol of infection of <i>Acanthogryllus asiaticus</i> by <i>Pseudomonas entomophila</i>. My findings suggest that the crickets suffer significant mortality and reduced survival as a result of bacterial infection, wherein, about 60% of the crickets died within three days post-infection. The crickets also exhibited significant weight loss post-infection. Finally, I found that male calling effort also reduces significantly post-infection, whereas sham infection does not significantly impact calling effort. The study provides compelling evidence towards the cost of infection on traits that are shaped by natural selection and sexual selection. This study is the first study to exhibit a cost of infection in <i>Acanthogryllus asiaticus</i>, and will pave way for future studies examining trade-off models for immunity and reproduction.</p>
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