

# Costly copulation - research reveals the price of having sex

January 9 2012

---



(PhysOrg.com) -- A recent study by Darrell Kemp, of Macquarie University, looking at the mating behaviour of the Australian plague locust has found that reproducing has a particularly high cost. According to Kemp, the rate at which the locusts are targeted by a predatory species—the black digger wasp—increases significantly during sex.

“The startling aspect of these data is that copulation magnified the risk of wasp-mediated death by up to 10 per cent and this happened at a time of maximum reproductive potential for the locusts” says Kemp.

The digger wasp is a parasite that stings and paralyzes its prey before dragging it off to a burrow to be buried and eaten alive. It excavates

living larders for its larvae, stocking them with the bodies of paralysed insect prey.

Last December, the locusts formed dense swarms in southeastern Australia just as the wasps were starting to collect fresh meat for their young. The interaction between these two species provided Kemp with the perfect opportunity to collect rare empirical data on the true cost of reproduction in nature.

Kemp found that mating locusts were far more likely to be targeted by the wasps than lone individuals. The pairs accounted for 3 percent of all the locusts in the area, but they made up 30 percent of the wasps' captures.

For lone locusts, the odds of being paralysed and buried by a wasp were 1 in 200 for females and virtually zero for males. If they were having sex, those odds went up to 1 in 10 for both genders. The risk was particularly poignant for the males, says Kemp.

“Male locusts were never directly paralysed by wasps—either while solo or in copula—but males in captured pairs lost their lives solely because they could not detach from their paralyzed female partner, and were ultimately buried alive” says Kemp.

While biologists generally believe sex to be a high-risk business for animals, largely due to the increased vulnerability to predatory attack, this research presents one of only a few solid examples of this idea.

“This study is rare empirical proof that illustrates the cost of reproduction in real terms,” says Kemp. “For [locusts](#) it can literally be a matter of life or death”.

Provided by Macquarie University

Citation: Costly copulation - research reveals the price of having sex (2012, January 9) retrieved 24 July 2024 from <https://phys.org/news/2012-01-costly-copulation-reveals-price.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.