

Male crickets use female scent to rate fertility prospects

March 27 2019



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A new study by researchers at The University of Western Australia has found that male insects are able to use female scent to assess not only how many eggs she will produce but also the egg-laying potential of their

daughters.

Research published today in *Evolution* builds on previous UWA research that found that male Australian field crickets chose female mates using chemicals on the female's exoskeleton.

Lead researcher Dr. Jacob Berson, a research associate in UWA's School of Biological Sciences, said the earlier research raised the question as to why male crickets used these "perfumes" when choosing a mate.

"Our current research found that these [chemical compounds](#) are genetically linked to the number of eggs a female has available to lay," Dr. Berson said.

"But choosing a female that produces the greatest number of eggs is not necessarily the best strategy, as we know from previous work that the eggs from females that produce many eggs are less likely to survive.

"This raises an exciting avenue for [future research](#) that will aim to discover the optimum number of [eggs](#) a male prefers his mating partner to have, and how this optimum egg number is reflected in the chemicals found on the female's exoskeleton."

Dr. Berson said that a number of previous studies had also found a link between chemicals on the exoskeleton of social insects and fertility.

"Here we find this same relationship, but this time in a solitary insect that shares a common ancestor with the social insects. Our results indicate that a link between female scent and fecundity or fertility may be very old in evolutionary terms, and so a feature of insect mating systems more generally."

More information: Jacob D. Berson et al. Female cuticular

hydrocarbons can signal indirect fecundity benefits in an insect,
Evolution (2019). [DOI: 10.1111/evo.13720](https://doi.org/10.1111/evo.13720)

Provided by University of Western Australia

Citation: Male crickets use female scent to rate fertility prospects (2019, March 27) retrieved 24 April 2024 from <https://phys.org/news/2019-03-male-cricket-female-scent-fertility.html>

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