

Mother knows best: Females control sperm storage to pick the best father

September 8 2009



Field cricket

(PhysOrg.com) -- Scientists have found new evidence to explain how female insects can influence the father of their offspring, even after mating with up to ten males. A team from the University of Exeter has found that female crickets are able to control the amount of sperm that they store from each mate to select the best father for their young.

The research team believes the females may be using their abdominal muscles to control the amount of sperm stored from each mate. Their findings are now published in the journal *Molecular Ecology*.

Female crickets mate with several different males, including their closest relatives. In general, offspring produced with close relatives are more likely to have genetic disorders. Different animals employ a range of behaviours to avoid this, such as not [mating](#) other animals from the

group they grow up in. Crickets do not avoid mating with relatives, but this research shows that they produce more offspring fathered by males that are unrelated to them.

To conduct their study, the researchers bred field crickets in the laboratory. They used new DNA-based techniques to determine the quantity stored by each the female. They found that the [females](#) stored a higher content of sperm from unrelated males. They then tested young crickets to determine their paternity. The results showed that, regardless of the order in which they had mated, an unrelated mate was more likely to become a father. This must have been under female control, because the methods the team used meant that males could not influence the amount of sperm they passed to the female.

Though the study focused on field crickets, the findings are likely to be relevant in other insect species and possibly other sections of the animal kingdom. For example, chickens are known to store more [sperm](#) from dominant males.

Lead author Dr Amanda Bretman of the University of Exeter said: "Our study shows that even after mating, female insects control who fathers their offspring. We're only really just beginning to understand the reasons for the different mating strategies in the insect world and that is thanks to new techniques."

Source: University of Exeter ([news](#) : [web](#))

Citation: Mother knows best: Females control sperm storage to pick the best father (2009, September 8) retrieved 24 April 2024 from <https://phys.org/news/2009-09-mother-females-sperm-storage-father.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.