

Sexy snacks: Study finds female mate searching evolves when mating gifts are important

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This is a male katydid with sperm packet and mating gift. Credit: Professor Jay McCartney, Massey University, New Zealand

In the animal world, males typically search for their female partners. The mystery is that in some species, you get a reversal -- the females search for males.

A new study of katydids in the latest issue of the journal [Proceedings of the Royal Society B](#) -- co-authored by U of T Mississauga professor Darryl Gwynne -- supports a theory that females will search if males offer a lot more than just sperm.

"In this beast [in this study], it's a big cheesy, gooey substance that the

male ejects when he copulates," says Gwynne. "It's attached to his sperm packet, so while she's being inseminated, she can reach back and grab this mating gift and eat it."

Gwynne met the lead author of the study, Jay McCartney, while on sabbatical at Massey University in New Zealand. Since part of his own research expertise covered the mating [behaviours](#) of these types of insects, Gwynne was asked to act as a co-supervisor of the project and suggested that the data could provide clues into the diversity in nature of how animals search for mates.

"Males mostly do the searching, because the Darwinian [sexual selection](#) process is typically stronger in males; they're competitive," says Gwynne. "As a consequence of their eagerness to get to the females, the females just hang out waiting for the males to come to them."

In the insects that Gwynne works with, some males sing to advertise that they have a safe burrow to offer the females, while in other species, they offer the females a nutritional perk. In the katydids, where a female searched for a male, she stood to gain the largest nutritional gift.

And from the male's perspective, a large food gift not only potentially benefits his offspring, but distracts the female long enough to ensure that he has time for a full [insemination](#). Otherwise, says Gwynne, "she's hungry...if he didn't give her this gift, she'd just pull off the sperm packet and snack on that like a little hors d'oeuvre."

Gwynne says that female searching behaviour exists elsewhere in the animal kingdom -- for example, in singing animals like frogs -- and deserves further study.

Provided by University of Toronto

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