

Lustful beetles desire water, not sex

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Seed beetles mating.

(PhysOrg.com) -- Female seed beetles are known for their promiscuity, a surprising fact given that the males of the species have dangerously sharp spikes on their sex organs. Now a U of T Mississauga team led by an undergraduate student has discovered that this perplexing hunger for sex may in fact be driven by a thirst for water.

The female's desire to mate multiple times appears to be linked to her need for hydration, which she receives from males during copulation, says lead researcher Claudia Ursprung. The beetles live in arid environments where the benefits of being hydrated likely offset the potential damage to the female reproductive tract from the male's sharp edges.

"The male seed beetle's ejaculate is very large for its body size - close to

10 per cent of its body weight - and we wanted to know whether there was something that he was giving to the female to make her want to come back for multiple matings," said Ursprung, who conducted the study in 2007 for her fourth-year thesis in the lab of biology professor Darryl Gwynne. The research was published in a recent issue of the journal *Behavioral Ecology and Sociobiology*.

"Males of many insects transfer substances in the ejaculate to females," said Gwynne, a co-author on the paper. "With this beetle, 'drinks and food' were the two likely material benefits from male ejaculate."

To test their hypothesis, the researchers contained 79 female seed beetles for eight days in one of four groups receiving either water, sugar-water, food or nothing. When virgin male seed beetles arrived on the scene, only the females receiving water and sugar-water showed less than their usual interest in coupling. Female beetles who received water in the experiment also had a longer lifespan.

"We were surprised that water and not food was the important factor in the female's mating behaviour, because in other species it's often a matter of receiving nutrition from the male," said Ursprung, now a second-year student in veterinary medicine at the University of Guelph.

Provided by University of Toronto

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