

Among insects, 'chivalry' isn't dead (w/ video)

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This image shows a female field cricket at the entrance of her burrow with the remains of her former partner after he was predated. Credit: University of Exeter

Some male crickets will apparently put the lives of their mating partners ahead of their own. When a mated pair is out together, a male will allow a female priority access to the safety of a burrow, even though it means a dramatic increase in his own risk of being eaten. That's according to infrared video observations of a wild population of field crickets (*Gryllus campestris*) reported online on October 6 the Cell Press journal *Current Biology*.

"Many people probably think that 'chivalrous' behavior is exclusive of humans or closely related [mammals](#), linking it in some way to education, [intelligence](#), or [affection](#)," said Rolando Rodríguez-Muñoz of the University of Exeter. "We show that even males of small insects, which

we would not define as intelligent or affective, can be 'chivalrous' or protective with their partners. Perhaps it shines a light on the fact that apparently chivalrous acts may have ulterior motives. Did Sir Walter Raleigh throw his cape onto a muddy pool in front of Queen Elizabeth just because he was a nice guy? I think not."

The results are contrary to the usual interpretation of male guarding behavior as an attempt to manipulate females and prevent them from mating with rivals. However, the male crickets in this case are rewarded for their risky behavior, as their extended stays with females win them more offspring. Still, the new findings suggest that conflict between the sexes is not inevitable, the researchers say.

Most previous studies of cricket mating behavior had been conducted in the lab. Those findings had led researchers to conclude that male crickets coerce females into remaining with them to prevent the removal of their spermatophore (a small package of sperm that males insert into females) or to keep the female from mating with other males.

In the new study, Rodríguez-Muñoz, Amanda Bretman, and Tom Tregenza watched what happens in the wild as field crickets live their lives by marking and genotyping individual insects. They found that lone female and male crickets suffer similar rates of predation, but when a pair is attacked, the female's chances of survival increase as the male's chances drop. In compensation for their increased predation risk, paired males mate more frequently and father more of their partner's offspring.

Tregenza said males do tend to stay farther away from burrows when females are around, but that didn't seem to be enough to explain the findings. "It looks like males really wait until a female is under cover before getting themselves to safety," he said. "Guarding seems to be their top priority."

In effect, the male [crickets](#) trade a longer life span for greater success in fathering offspring with each of their partners. The researchers suspect that the degree of chivalrous behavior among [males](#) should vary depending on factors such as the size of the cricket and predator populations.

"We are looking forward to seeing whether chivalry prevails in future generations," Rodríguez-Muñoz said, noting that the current study is based on three consecutive mating seasons. "There may be some years when both sexes behave in a more obviously selfish fashion and attempt to escape down the burrow first."

Provided by Cell Press

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