

# Pantry pests trade immunity for sex

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(Phys.org) —When presented with a bevy of beauties, male meal moths - the scourge of many a household pantry - will prefer to invest in sex over self-preservation, according to researchers.

The study led by behavioural [ecologist](#) Dr Kathryn McNamara, from The University of Western Australia's Centre for [Evolutionary Biology](#), found the more sex available, the more the male meal moth will invest in reproduction, even at the risk of weakening its immune system.

The results, published in the journal *Biology Letters*, appear to contradict previous research on [dung flies](#) where males were found to invest more in reproduction - by increasing the size of their testes - in more competitive male-dominated environments.

The researchers kept Indian meal moths for more than 80 generations in an experimental evolution study conducted by team member Professor Nina Wedell at the University of Exeter.

The [moths](#) were kept in three different communities: one dominated by males, a second dominated by females and a third that had equal numbers of [males and females](#).

The researchers assessed the immunity of both male and female larvae from each group and found males in the female-dominated communities had lower immunity than those in the other groups.

This result led the scientists to conclude that rather than competing with other males driving them to invest more in reproduction, the meal moth appeared to prefer to take advantage of the many females around.

Dr McNamara said the study shows the trade-off between immunity and reproduction is complex and works differently in different species.

"It shows it's important to consider the species when you are testing these classic trade-offs between immunity and reproduction," she said.

**More information:** [dx.doi.org/10.1098/rsbl.2013.0262](https://doi.org/10.1098/rsbl.2013.0262)

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