

Shorter lives for male fruit flies forced to compete

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fruit fly

A University of Liverpool study of fruit flies has revealed that males forced to compete with other males become less attractive to females and die young.

In the test, male [fruit flies](#) of the species *Drosophila subobscura* were kept either alone or in groups. The [females](#) of this species are monandrous – they only mate once in their lives, meaning that males have to get very lucky to mate at all. As a result males compete furiously for access to females.

Evolutionary biologist, Dr Anne Lizé, who led the study said: "When we see stags fighting over mates, it's obvious what the potential costs to the males are, but in this case it's more subtle. The flies aren't using antlers

to beat each other into submission, but instead are harassing each other to the point where exhaustion causes them to die young."

Dr Lizé and her colleagues from the University's Institute of Integrative Biology, think that rivals disrupt the flies' sleep patterns, which has already been identified as a cause of early death in many other species, and is potentially harmful to humans.

Males exposed to rivals fare even worse when they finally do meet a virgin female. Females strongly prefer the males that were kept alone, with females refusing to mate with three quarters of the [males](#) that previously had to battle with rivals.

Dr Lizé concluded: "The idea that competition has more subtle effects on a male could be extended to other species that humans are trying to breed or keep healthy."

More information: Extreme cost of rivalry in a monandrous species: male–male interactions result in failure to acquire mates and reduced longevity, Published 14 May 2014 [DOI: 10.1098/rspb.2014.0631](https://doi.org/10.1098/rspb.2014.0631)

Provided by University of Liverpool

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