

# Is love at first sight real? Geneticists offer tantalizing clues

April 7 2009

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Leave it to geneticists to answer a question that has perplexed humanity since the dawn of time: does love at first sight truly exist? According to a study published in the April 2009 issue of the journal *Genetics*, a team of scientists from the United States and Australia discovered that at the genetic level, some males and females are more compatible than others, and that this compatibility plays an important role in mate selection, mating outcomes, and future reproductive behaviors. In experiments involving fruit flies, the researchers found that before mating, females experience what amounts to "genetic priming," making them more likely to mate with certain males over others.

"Our research helps to shed light on the complex biochemistry involved in mate selection and reproduction," said Mariana Wolfner, Professor of Developmental Biology at Cornell University and the senior scientist involved in the study. "These findings may lead to ways to curb unwanted insect populations by activating or deactivating [genes](#) that play a role in female [mating](#) decisions," she added.

To reach their conclusions, scientists mated two different [strains](#) of fruit fly females to males either from their own strain or to males from the other strain. They noted the males with which females of each strain tended to mate and then examined whether the females showed differences in behavior soon after mating and in reproduction-related activities, such as how many [offspring](#) were produced and how many sperm were stored. They also examined the females' [RNA](#) to compare the genes expressed in females mated to males of different strains. They

found that despite observed differences in mating behaviors and reproduction activities in females mated to different strains of males, there were only negligible mating-dependent differences in gene expression between the groups. This suggests that [genetic changes](#) involved in mate choice and reproduction were in place before mating began.

"It appears that females really do care about the character of their consorts," said Mark Johnston, Editor-in-Chief of the journal *GENETICS*, "but they may not have as much control over our choice of mates as they'd like to think."

More information: <http://www.genetics.org>

Source: Federation of American Societies for Experimental Biology

Citation: Is love at first sight real? Geneticists offer tantalizing clues (2009, April 7) retrieved 10 April 2024 from <https://phys.org/news/2009-04-sight-real-geneticists-tantalizing-clues.html>

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