

Male fish deceive rivals about their top mate choice

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When competitors are around, male Atlantic mollies try to hide their top mate choice, reveals a new study published online on July 31st in *Current Biology*.

They feign disinterest in females after onlookers enter the scene. What's more, after encountering a rival, the tricky males direct their first sexual advances toward females that really aren't their first pick. Male mollies are known to copy other males' mate choices, the researchers noted.

" I find it particularly interesting that fish are capable of such a sophisticated behavior," said Martin Plath of the University of Potsdam in Germany and the University of Oklahoma. "The study highlights that traits that we typically ascribe to humans only can also be found in other, seemingly simpler animals and that no consciousness or self-awareness is needed for a behavior like deception to occur."

Deception among animals has been seen before, he noted. For instance, ravens try to trick rivals about where they hide food. Male pied flycatchers also may deceive females about whether they've already mated so as to have another go. Nevertheless, Plath said, the new study may be the first to show that males deceive other males about their preferred mate.

The new findings came as a surprise to the researchers. Plath had expected to corroborate earlier findings of his team, showing that male Atlantic mollies curb sexual activity when other males are around, acting

as though they've lost interest in the opposite sex altogether. That previous study didn't allow full contact among the fish, however, and was therefore not well-suited to detect deception.

In the new study, the researchers first placed two "stimulus" females into a tank. They then introduced a male and observed his sexual advances—including nipping and mating attempts—for five minutes, repeating the experiment several times with different individuals. Immediately after those trials, they repeated the experiment, this time including an "audience male" in half of the encounters. Those onlookers could watch, but they couldn't interfere.

In the first experiments, males more often directed their initial advances toward the larger of the two females, they found. In the presence of another male, however, the focal male's interest in the females suddenly slumped and, when it did make a move, it was initially directed toward the punier, apparently less-preferred female.

The researchers suggest that deceptive signals may be a powerful mating strategy used by males to lead competitors away from preferred females, thereby increasing the chance that the deceivers will father the offspring, they said.

" Future studies will need to evaluate the potential for male mate choice copying and deception in natural populations, because male mate choice copying cannot be evolutionarily stable if males always have an opportunity to deceive rivals," they said. After all, if males always attempt such deception, any competitor who didn't fall for the ruse would have easy access to the choicest mating partner.

Source: Cell Press

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