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Saving Sperm Separates Species

Male animals tend to be pretty promiscuous and are more likely than their female counterparts to seek out and mate with members of other species. But a new study shows that male sailfin mollies produce more sperm when they are around females of their own species than when they're in the company of strangers. The findings suggest that a male's physiology can create a barrier to interspecies mating even when his behavior does not.



Sperm savers. Male sailfin mollies (bottom) produce less sperm in the presence of Amazon mollies (top) than they do when females of their own species are nearby.

CREDIT: CAITLIN GABOR/TEXAS STATE UNIVERSITY, SAN MARCOS

attempt to get it on with females of related species, especially if they live in close proximity.

Researchers at Texas State University in San Marcos therefore reasoned that other factors may help isolate species. To test their hunch, the scientists constructed a fish tank with a Plexiglas divider and placed a male sailfin molly on one side. They introduced a female from either the same species or a related Amazon molly species on the other side. The researchers collected sperm from the male after 1 week. As reported online this week in the *Proceedings of the*

New species arise when a group of animals becomes reproductively isolated: They no longer mate with closely related animals, or if they do, they don't produce fertile offspring. Scientists believe that one of the most important barriers keeping closely related species apart is mate choice: Most males simply stick to females of their own species. But some are not as picky; they will

National Academy of Sciences, males confronted with females of their own species produced significantly higher numbers of sperm cells than did those gazing at Amazon mollies.

The findings suggest that, despite the apparent sexual attraction, males slow down their sperm production when they're around females of another species--a mechanism that may contribute to reproductive isolation, says evolutionary ecologist Andrea Aspbury, who led the study.

"It's a nice paper," says Michael Ryan, an animal behaviorist at the University of Texas, Austin. Not only does the work suggest a new mechanism to separate species, he says; it also shows that males can change their reproductive physiology in response to sexual cues. "This work is going to cause behaviorists to pay additional attention to the relationship between physiology and mate recognition," he says.

--DAVID GRIMM

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 **PAGE TOP**

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