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If you're a mosquitofish, size matters

By SHERYL UBELACKER

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Canadian Press

Toronto — When it comes to females and a male's ... uh ... equipment, it seems size really does matter — at least among certain fish.

A study of mosquitofish — guppy-like creatures that feed on mosquito larvae — shows that females definitely prefer well-endowed males to their shrimpier brothers.

But sex aside, being bigger isn't necessarily better. Male mosquitofish with large genitalia have a greater risk of dying — even if it is with a smile.

"It's a classic evolutionary trade-off between attracting mates and avoiding predation," said Brian Langerhans, a graduate student in evolutionary biology at Washington University, whose study was published this week by the Proceedings of the National Academy of Sciences.

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"Having a large genital organ may increase your probability of mating, but it also may increase your probability of being eaten."

That's because mosquitofish with large genitalia — known as a gonopodium — can't swim as quickly, Mr. Langerhans said Tuesday from St. Louis, Mo.

"Females may prefer to mate with males exhibiting a large gonopodium ... but having such a large non-retractable organ hanging off the body might contribute substantially to drag and would contribute nothing to thrust.

"So it will decrease your swimming ability, so when you want to burst away from a predator you're going to be slower," said Mr. Langerhans, describing the gonopodium as a rod-like appendage hanging from the male's belly that can measure 35 per cent of body length.

Male mosquitofish use their gonopodium in courtship, waving it in front of females, he explained, noting that mosquitofish are among the few fish species that don't lay eggs but copulate and give birth to live babies.

Mr. Langerhans captured about 350 mosquitofish in waters off Texas and the Bahamas, including specimens living in areas thronged with predator fish and areas without.

He found males from predator-free areas were more likely to have larger genitalia — about 15 per cent bigger than males living in waters inhabited by fish that considered them a meal.

To test for mating preference, 50 female mosquitofish were placed in separate aquariums, which were each furnished with side-by-side video screens showing the same male mosquitofish: on one screen he was life-sized, on the other his genitalia had been digitally enhanced by 15 per cent.

"They chose the larger one over and over. All females had the same preference," Mr. Langerhans said, noting that they spent 80 per cent more time at the end of the tank with the screen showing the more amply endowed male.

"They choose a male and they attempt to get to that male, which means they essentially attempt to swim through the glass."

The study is aimed at furthering the understanding of genital variations within species, Mr. Langerhans said.




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