

# Picky females prefer well-fed males

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Andrew Kahn is researching how a square meal can help male mosquitofish hook that special lady. Photo by Tegan Dolstra.

(PhysOrg.com) -- A good upbringing can make you more attractive to females – if you are a mosquitofish, that is.

Researchers from The Australian National University have shown that female mosquitofish prefer males who had a solid nutritional upbringing, even if the males are superficially identical to their poorly-fed brothers. Their findings are published online today in *Biology Letters*.

“Males similar in body size, but differing in developmental history, are not equally attractive to [females](#),” said Andrew Kahn, the study’s lead author and a PhD candidate in the ANU Research School of Biology.

Mosquitofish are an invasive species in Australia, originally introduced

to control mosquitoes. Jules Livingston, an ANU honours student and co-author of the paper, previously showed that juvenile mosquitofish born into a food-scarce environment will undergo accelerated growth when food becomes available and delay sexual maturation to catch up with well-fed males of the same age.

In this study, Mr Kahn and his colleagues investigated how this bump in the road to development affected adult mating.

“We gave female fish a choice between two full brothers who were born on the same day: one brother grew normally and the other had a period of poor nutrition and compensated for it by accelerating growth and delaying maturation,” said Mr Kahn.

“The really interesting thing was that the females seemed to be able to tell the difference between them and preferred those that had undergone normal growth.”

Mr Kahn said that how the female mosquitofish are able to detect which males have undergone compensatory growth is unclear, but the attraction of a well-fed male is two-fold.

“If males have undergone a period of poor nutrition they might be more susceptible to diseases which they could then pass on to the female. And there are the indirect genetic reasons – by choosing [males](#) who have had a better development history, your offspring have a good chance of being better at getting food when they are young.

“This work demonstrates there are hidden costs to a poor start in life.”

Provided by Australian National University

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