

# Risky behaviour more likely in male fish than female

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Male stickleback fish are bolder and more willing to take risks than females, say scientists.

The new research, published in *PLoS ONE*, set out to understand how personalities differed across the 48 sticklebacks tested, and whether [males](#) and females showed any differences.

'We thought the males would be more likely to be bolder in a new environment,' says Dr Andrew King of Swansea University, lead researcher on the project. 'Males can take risks because they haven't got as much to lose.'

The team caught the fish out of a large tank using a net and numbered them in the order they were caught.

Then then put them into a new tank on their own, with a shelter at one end and a tile hiding food at the other.

'After both experiments we tested if the time a fish spent out of shelter was correlated with the order we caught them. We found the fish that were caught first were also more likely to be exploratory in the new tank,' says King.

While the fish that were brave enough to explore behind the tile did get fed, their curiosity could also hurt them in other situations.

'If you're really bold and go in search of food you're more likely to be caught by a predator, or an experimenter with a net,' King explains. 'You might get more food, but you're also more likely to get eaten.'

During the experiments the researchers didn't know which fish were male and which were female.

In winter sticklebacks of both sexes have a similar silver colouring, making it difficult to tell them apart. Once the experiment was finished the fish's environment was changed to simulate summer, and the males began to show their distinctive red breeding colouration.

It turned out that the fish which were caught first, and spent more time away from shelter, tended to be male – something which hadn't been found by other researchers.

The environment a fish grows up in can have a huge impact on the behaviour it exhibits. For example, if a fish is used to lots of predators then even males would be less likely to leave sheltered areas. Such differences across populations may explain why others didn't find [sex differences](#) in the fish they examined,' says King.

The team are interested to find out more ways that individuals within a group, such as a shoal of [fish](#) or a flock of birds, may differ from each other.

'It's fascinating really, that while we see these groups as one, there's huge variation amongst individuals. You can take two females of the same age, same background, same everything, and you put them in similar situations but they behave entirely differently, one goes off exploring and the other doesn't move,' King concludes.

**More information:** King AJ, Fürtbauer I, Mamuneas D, James C, Manica A (2013) Sex-Differences and Temporal Consistency in Stickleback Fish Boldness. *PLoS ONE* 8(12): e81116. [DOI: 10.1371/journal.pone.0081116](#)

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