

Not 1, but 2 kinds of males found in the invasive round goby

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Scientists have found the existence of two types of males of a fiercely invasive fish spreading through the Great Lakes, which may provide answers as to how they rapidly reproduce.

The research, published in the *Journal of Great Lakes Research*, looks at the aggressive round goby, a bottom-dwelling fish which infested the Great Lakes watersheds around 1990. Presently, they are working their way inland through rivers and canal systems and can lead to the decline of native species through competition and predation.

Researchers at McMaster University discovered evidence that in addition to round goby males which guard the nest from [predators](#) and look after their offspring, there exists what scientists call "sneaker" males - little males that look like females and sneak into the nests of the larger males.

"The existence of these two kinds of males will help scientists understand how round gobies reproduce, how quickly their populations grow, and track how these populations change over the course of invasion," says Julie Marentette, lead author and a Ph.D. student in the department of Psychology, Neuroscience & Behaviour at McMaster University. "This has the potential to have a significant impact on how researchers tackle what has become a very difficult problem in the [Great Lakes](#)."

Because males expend lots of energy or eat less while guarding their

nests, and attracting females while providing care can be difficult, males in some species have found a sneakier way to mate, Marentette explains. Instead of courting females and protecting the young, some males will parasitize the courtship -and sometimes the parenting duties -of conventional males. They do this by sneaking into the nests of big males or pretending to be females.

"Prior to our findings, only one type of male reproductive behaviour would have been incorporated into projections and modeling analyses of the population dynamics of round goby invasive capacities", says Sigal Balshine, associate professor in the department of Psychology, Neuroscience & Behaviour and academic advisor on the study. "Our results will shed light on how populations of this invasive species are likely to grow and spread through time and space."

The McMaster scientists compared the physical, hormonal and sperm traits of hundreds of males, and found that the nest-guarding, parental males were big, black and had wide heads. The small female-like sneaker males were tiny, mottled brown and had narrow heads. Both types of males produced sperm, but sneakers produced more sperm than the parental males, and had bigger testes. By contrast, parental males have bigger glands used to produce pheromones that attract females.

Source: McMaster University ([news](#) : [web](#))

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