



Great Lakes Fishery Commission

ESTABLISHED BY CONVENTION BETWEEN CANADA AND THE UNITED STATES TO IMPROVE AND PERPETUATE FISHERY RESOURCES

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SCIENTISTS USE ODOUR CUES TO LURE INVASIVE ROUND GOBIES INTO TRAPS

ANN ARBOR, MI—New research conducted by scientists from the University of Windsor and the Ontario Ministry of natural resources provide initial evidence that one of the Great Lakes' most invasive pests, the round goby, could be lured into traps by the scent of male round goby urine. Male round goby urine, it was found, contains sex steroids that serve to attract female round gobies. The research, funded by the Great Lakes Fishery Commission, could lead to management techniques aimed at reducing round goby abundance in critical habitats or limiting and possibly preventing their spread into new waterways.

Round gobies were first discovered in the Great Lakes in 1990 and have since spread rapidly. In fact, the round goby is the fastest spreading vertebrate ever reported in the Great Lakes. They entered the lakes through the discharge of ballast water from oceangoing vessels. Being exotic to the ecosystem, gobies have disrupted the environment and the economy of the region. They are known to displace native fish, consume young fish and fish eggs, become over-abundant in prime habitat, and survive in areas of poor water quality. They spawn several times a year, proliferate in great numbers, and steal anglers' bait. There is no commercial or recreational value for round gobies and fishery managers would welcome methods to control their spread.

The current research built upon on the hypothesis that the reproductive male round goby releases a sex attractant to lure spawning females. Earlier studies showed that a single round goby male can lure up to 15 spawning females to one nest, so anything fishery managers can do to attract round gobies could disrupt their behavior and spawning cycles. To test the hypotheses, the researchers used a variety of odours (males, females, male urine, food) to lure round gobies to traps in flowing and still water.

“Our findings showed that life-like models of male round gobies, inserted with a time-release tablet of reproductive male urine, attracted spawning female round gobies,” said Dr. Lynda Corkum, of the University of Windsor, the principal investigator of this research. “We found that combining the odour with model is more effective at luring round gobies than using food or adult gobies alone, probably because round gobies use both visual and odour cues to attract mates.”

Corkum continued: “Overall, our findings show that there is potential of using reproductive male round goby urine to lure females to traps. Without this scent, we have shown that traps seeded with food or adult gobies are not effective in luring round gobies to traps. While our data are based on limited research, we do believe they are encouraging enough to warrant further studies into this area.”

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The Great Lakes Fishery Commission is an international organization established by the United States and Canada through the 1954 Convention on Great Lakes Fisheries. The commission has the responsibility to support fisheries research, control the invasive sea lamprey in the Great Lakes, and facilitate implementation of A Joint Strategic Plan for Management of Great Lakes Fisheries, a provincial, state, and tribal fisheries management agreement. WWW.GLFC.ORG