

Researchers reveal parasitic threat to animals and the environment

May 25 2010

Researchers at Queen's University Belfast have discovered animal populations may often be under a much larger threat from parasites than previously recognised.

It is widely believed that the absence of parasites in species which 'invade' ecosystems gives these 'invaders' an advantage in their new homes (the 'enemy release hypothesis'). But now, researchers from Queen's have discovered quite the opposite, with the presence of parasites in these [invasive species](#) actually increasing the damage they can do.

The research was carried out by scientists in the School of [Biological Sciences](#) at Queen's using invasive and native crustacean species from Belfast's River Lagan and Lake Kiltonga in Newtownards.

The first results have been published in *Biology Letters*, a prestigious Royal Society Journal.

Explaining the significance of the finding, Dr Jaimie Dick from Queen's, Principal Investigator on the project said: "We have uncovered a significant threat from parasites which is lurking in our rivers and lakes, and which could have major implications for [animal populations](#) across the globe, the environment and the economy.

"It is widely known that 'invaders', those species which become transplanted from their native range, can have a negative impact on local

invertebrates and [fish stocks](#) and cause wider [ecological harm](#). Now, we have made the discovery that the presence of parasites can actually increase, rather than decrease, the damage that these invaders can cause.

"Our experimental approach at Queen's used a fresh water shrimp 'invader' species as a first direct test of theory. We found that this particular invader had more impact on our freshwater animals when it actually harboured parasites, than when it was without them. This has significant implications for previous thinking, that when invaders are free from their parasites they do well in new locations.

"The next vital step for researchers worldwide is to use this information from Queen's to help understand and predict the impacts of invasive species and their parasites. This is a global research priority and if work is not carried out in this area, we could reach a situation where our native species disappear, ecosystem services are affected by issues such as water purification, and we suffer great economic losses. In short, we need to protect biodiversity and reduce the economic impact of invaders."

The next stage of the research will see how the effects of [parasites](#) propagate through entire communities, using experiments, surveys, new mathematical models and analysis of isotopes in body tissues that reveal the feeding history of invasive species in our freshwaters.

Provided by Queen's University Belfast

Citation: Researchers reveal parasitic threat to animals and the environment (2010, May 25) retrieved 19 April 2024 from <https://phys.org/news/2010-05-reveal-parasitic-threat-animals-environment.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.