Populations of invasive ants die out naturally, saving millions in control and eradication

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(PhysOrg.com) -- New research shows populations of an invasive species of ants frequently collapse without human involvement, potentially saving millions of dollars on control and eradication.

The research, led by Meghan Cooling and Dr Phil Lester in the School of Biological Sciences at Victoria University, focused on large infestations of Argentine ants in New Zealand. These infestations, often covering many hectares, were observed to collapse and disappear 10-20 years after arrival.

"This invasive ant was predicted to cost New Zealand up to $68 million per year, in addition to it being a major threat to our biodiversity. That populations seem to naturally collapse on their own accord represents a major saving to taxpayers and our biodiversity," says Dr Lester.

He says that Argentine ants substantially alter biodiversity in the area but native species appeared to recover quickly after the ant populations collapsed.

"The biodiversity in areas where Argentine ants had collapsed was indistinguishable from areas that were never invaded, within just a few years post-collapse. Our next big challenge is to understand why these populations collapse."

He believes native pathogens or parasites are likely to be responsible.

"Our ultimate goal is to manipulate or enhance such pathogens for invasive species control," he says.

Genetic work in the laboratory at Victoria University indicated the Argentine ants came to New Zealand via Australia, and likely arose from the introduction of a single nest.

"We found that the ants formed a 'supercolony' where ants from different areas cooperated, probably because they were genetically similar. Importantly, this lack of genetic diversity might also make them more susceptible to pathogens."

The research also noted that the time it took for populations to collapse was extended in areas with higher temperature and decreased rainfall, indicating that climate change may extend the lifespan of infestations, but only by a few years.

The research was published today in the prestigious journal *Biology Letters*.

Provided by Victoria University