

## **Experimentally reducing the competitive ability of a dominant invader increases resource acquisition by resident species.**

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Eligible for student prize

The invasive Argentine ant *Linepithema humile* often becomes the dominant species in its invaded range, frequently overpowering competitors. One of the factors conferring advantages to Argentine ants is the dynamic and effectiveness of their recruitment system. It allows them to quickly divert workers from depleted to newly discovered resources. We tested if the dominance of this invasive species can be broken, by confusing it with synthetic trail pheromone, reducing its competitive ability. We offered baits and applied pheromone in close proximity to study the effects on foraging success and behavioural interactions. By disrupting the trail following behaviour of Argentine ants, other resident ant species were able to significantly increase their foraging success. Differences in behavioural reactions of the invader and the competing ant species towards each other provide an explanation for differences in foraging success of the competing resident species. Our results suggest that the mechanism determining an increase in resource acquisition of resident ant species is a decrease in aggressive behaviour displayed by the Argentine ant, which is presumed to create an opportunity for other resident species to forage without being attacked. Reducing the competitive ability of an invader could have important applications for invasive species management and enable native species to reclaim native habitats.

