

OR099

Synthetic pheromone reduces the competitive ability of an invasive ant

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The globally distributed Argentine ant *Linepithema humile* has been reported to break the trade-off between interference and exploitative competition, achieve high population densities, and overpower nests of many endemic ant species. One of the factors contributing to the success of Argentine ants is their effective recruitment system, which allows them to quickly divert workers from depleted to newly discovered resources. We tested if the dominance and competitive ability of this invasive species could be reduced, by the use of a synthetic trail pheromone. Argentine ant foraging success was reduced with increasing pheromone concentration, which benefited competing resident species and allowed them to increase foraging. The mechanism for the observed increase in resource acquisition of resident species appears to be a decrease in aggressive behaviour displayed by the Argentine ant, which created an opportunity for other resident species to forage more successfully. Our demonstration of modified species interactions with increasing trail pheromone concentrations is the first known case of reduced competitive dominance under a pheromone treatment in ants. Reducing the competitive ability of an invader could have important applications for invasive species management and enable native species to reclaim native habitats.