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Individual, group and colony dominance among invasive ants

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Ants figure prominently among the worst invasive species because of their enormous ecological and economic impacts. Here, we explored interactions among several highly invasive ant species, which have been shown to have overlapping suitable areas. Each of the species included in this study is capable of becoming numerically and behaviourally dominant and of displacing native species. However, it remains to be investigated which species would be behaviourally dominant when confronted with another invasive ant species, should two species be introduced in the same area. The aim of this study was to evaluate the performance in interference competition of the 7 of the world's worst invasive ant species (*Anoplolepis gracilipes*, *Paratrechina longicornis*, *Myrmica rubra*, *Linepithema humile*, *Lasius neglectus*, *Wasmannia auropunctata* and *P. megacephala*). We conducted pairwise confrontations, testing the behaviour of each species against each of the 6 other species (in total 21 dyadic confrontations). We used single worker confrontations and group interactions of 10 versus 10 individuals to establish a dominance hierarchy among these invasive ant species. We discovered two different behavioural strategies among invasive ants: Three species displayed evasive behaviour when individuals or groups were confronted, while the four remaining species were highly aggressive during encounters and formed a linear dominance hierarchy. Among these four, interactions at the colony level led to a similar hierarchy, although with more complex extinction processes and more variability.