

**OR180**

*Priority effects in ants: implications for behavioral dominance and tradeoffs*

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Studies of priority effects in ant communities have focused on the slow time scale of competition for space, in which the first species to colonize a patch can resist invasion. Priority effects at this colonization stage are most relevant for species that establish territories. Ground dwelling ants, which rarely establish territories, compete for food resources on a much faster time scale in a race for exploitation with other colonies. In this context, priority effects influence competitive outcomes by favoring the species that mobilized foragers to the resource first regardless of its relative behavioral dominance. If priority effects were common, they should weaken the strength of important ecological tradeoffs, such as the behavioral dominance-resource discovery ability tradeoff. Behaviorally dominant species would not always be able to successfully usurp resources from behaviorally subordinate species. We explored the role of priority effects and its impact on measures of behavioral dominance in one of the most diverse Amazonian ground-dwelling ant communities (Madre de Dios, Peru). We monitored competitive interactions at baits (980) almost continuously for two hours, keeping track of the timing of their arrival, interactions and recruitment for all species in 12 quadrats of 25m by 25m distributed over an area of ~670 ha. To account for priority effects, we distinguished 'wins' at local resources in which a species successfully defends the resource from an intruder ('repels') from those in which the species usurps the resource from a previous owner ('takeovers'). We recorded 1085 pairwise interactions that resulted in either repels or takeovers. This study was restricted to the 635 interactions involving the most common species. Using generalized linear models, we found that priority effects increase the probability that a species will repel an intruder but did not favor subordinate species consistently enough to mask the effect of the behavioral dominance-discovery ability tradeoff.