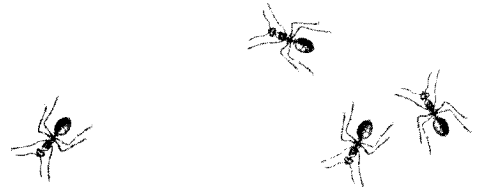


# The Interactions of Ants with Other Organisms

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There is little doubt that the common ancestor of all ants was eusocial and that it maintained some sort of stable nest environment. From this auspicious groundplan a broad variety of complex behaviors has evolved. Coupled with the sheer abundance of the Formicidae, this behavioral diversity has produced a spectacular array of interactions between ants and other organisms. Properly understood, these interactions could be used to predict ecological conditions within a given habitat by the presence of a particular ant species, with the goal of using ground-dwelling ants as indicators of biodiversity.

Two broad factors work against the realization of this goal. First, given our current understanding of ecological processes, we are unable to draw reliable inferences about general ecological conditions from knowledge of particular

interactions between species. A more direct approach would be to establish empirically correlations between the presence of particular ant species and particular ecological conditions, and to use these correlations as predictors. This practical goal will likely be expedited if we pay special attention to ant species that participate in precise, obligate interactions with other species, or in which interactions are very complex, since we might expect such species to be most sensitive to general ecological conditions.

A second factor that mitigates against using the interactions of ants with other organisms for inferring biodiversity is our poor understanding of these interactions. Knowledge of ant biology relies heavily on the intensive study of only a few species. In many cases the diets of entire genera are unknown. Many plants are known to