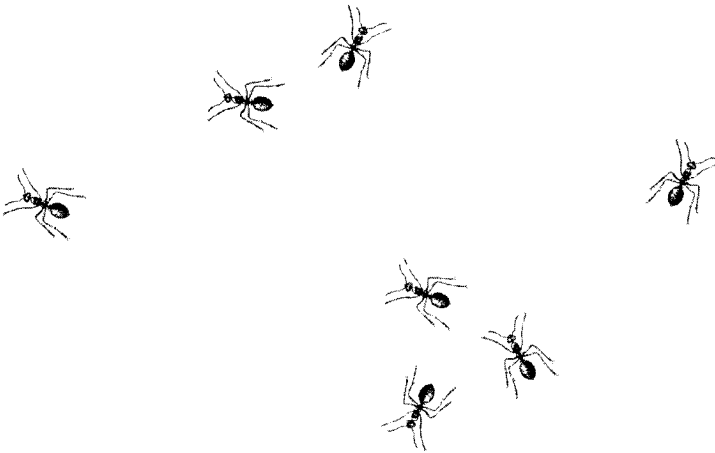# Ants as Indicators of Diversity

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With the increasing loss of habitats and biodiversity around the world, there is an urgent need for biodiversity assessments to be carried out during the conservation planning process. Since time, money, and limited available taxonomic expertise prohibit a complete survey of all taxonomic groups, several "rapid" strategies for measuring biodiversity have been developed and implemented (e.g., Schulenberg and Awbrey 1997; Mack 1998). One approach to is to focus on selected taxonomic groups, referred to variously as indicator taxa (Lawton et al. 1998), priority taxa (New 1987), surrogate taxa (Oliver and Beattie 1996a), predictor sets (Kitching 1993), focal groups (Di Castri et al. 1992), or target taxa (Kremen 1992). Measurements of the species richness or diversity of such indicator groups have been proposed as a representative measure of the species richness or diversity of other taxa, and therefore as an indicator of the overall diversity of an area.

Indicator taxa are also used to detect environmental change. The ecological responses of selected taxa sensitive to habitat modification have been used as indicators of responses in other taxa (Landres et al. 1988; Noss 1990; Pearson and Cassola 1992; Spellerberg 1992; see Chapter 7 for a discussion of the responses of ants to environmental change).

To be a successful indicator of species richness or diversity, selected taxa should meet four basic criteria. They should (1) be easily sampled and monitored, (2) represent fairly diverse groups and/or groups of biological importance in the ecosystem under study, (3) have known relationships to the diversity of other taxa, and