

15

Ant Foraging on Plant Foliage: Contrasting Effects on the Behavioral Ecology of Insect Herbivores

*Paulo S. Oliveira, André V. L. Freitas,
and Kleber Del-Claro*

ANTS ARE DOMINANT ORGANISMS WHOSE INDIVIDUAL COLONIES may contain several million workers. Their numerical dominance in terrestrial habitats is combined with a broad taxonomic diversity and a widespread distribution throughout the Globe (Hölldobler and Wilson 1990). The ecological success of ants is attributed to their eusocial mode of life, local abundance, and diversity of adaptations, among other things (Wilson 1987). Such traits result in a wide variety of feeding habits and foraging strategies, including the use of plant foliage as a foraging substrate (Carroll and Janzen 1973). Intense foraging on vegetation appears to have set the scenario for a multitude of interactions with many plant species worldwide, ranging from facultative to obligate ant-plant associations (reviewed by Davidson and McKey 1993; Bronstein 1998). Incidentally, by frequently foraging on the plant surface, ants often affect the life of a particular trophic group: the herbivores.

Why are ants so common on foliage? First, ants may nest in plant structures, and therefore the plant itself is part of the colony's immediate patrolled area (Janzen 1967). Second, ground-nesting ants may extend their foraging areas by climbing on plants to search for food (Carroll and Janzen 1973). A predictable food source can reinforce ant visitation to a particular plant location, and plant-derived food products such as