

# TEMPORAL DYNAMICS OF A LEAF LITTER ANT COMMUNITY

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## Introduction

Tropical rainforests are known for their high species diversity, making them an ideal biome for studying many different species, as well as species dynamics. Much can be learned from the intricate interactions within an ecosystem. In this study, ants are chosen as they are omnipresent and behave as predators, mutualists, scavengers, prey, and herbivores within a biome and respond to climate change quickly. Leaf litter ants, in particular, have also proved to be easily accessible. Our subject for this study is the leaf litter ant community in Costa Rica. The wet climate of tropical rainforests provides leaf litter ants with the perfect conditions to thrive, creating a phenomenal area of compressed biodiversity in which key ecosystem processes take place.

## Research Objectives

Our study is about community ecology and dynamics of species abundances across the whole community. By gathering litter samples and testing them for species diversity, we may contribute to the already existing research describing past species diversity of these areas, and evaluate any possible changes.

## Research Design

Leaf litter ants are sampled with a well-established technique called miniWinkler sampling. This process was repeated at varying elevations and on either side of Costa Rica's dividing mountain range, allowing for samples from discrete climate types. All samples were successfully brought back to the University of Utah where they are being sorted and the number of individuals from each site is documented to show trends.

## Anticipated Results and Significance

We hope to have a greater understanding of temporal dynamics of species-rich communities. How variable are ant communities from year to year? Are there long-term trends in overall richness? These are the questions we are looking to answer. Samples from our current year and from the previous years (this study was also completed in 2008 and 2010) are still being sorted and documented.

