

Termites' role as promoters of soil nutrient composition and gas flux in the Brazilian Savanna



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Introduction

Termites have been recognized as essential ecosystem engineers and biotic drivers worldwide. For instance, some species build mound nests for their inhabitants, and these structures may have secondary ecological roles, such as nutrient hotspots. They also contribute 4% and 2% of CH₄ and CO₂, respectively, and their ecological roles might be essential to compensate for these emissions.

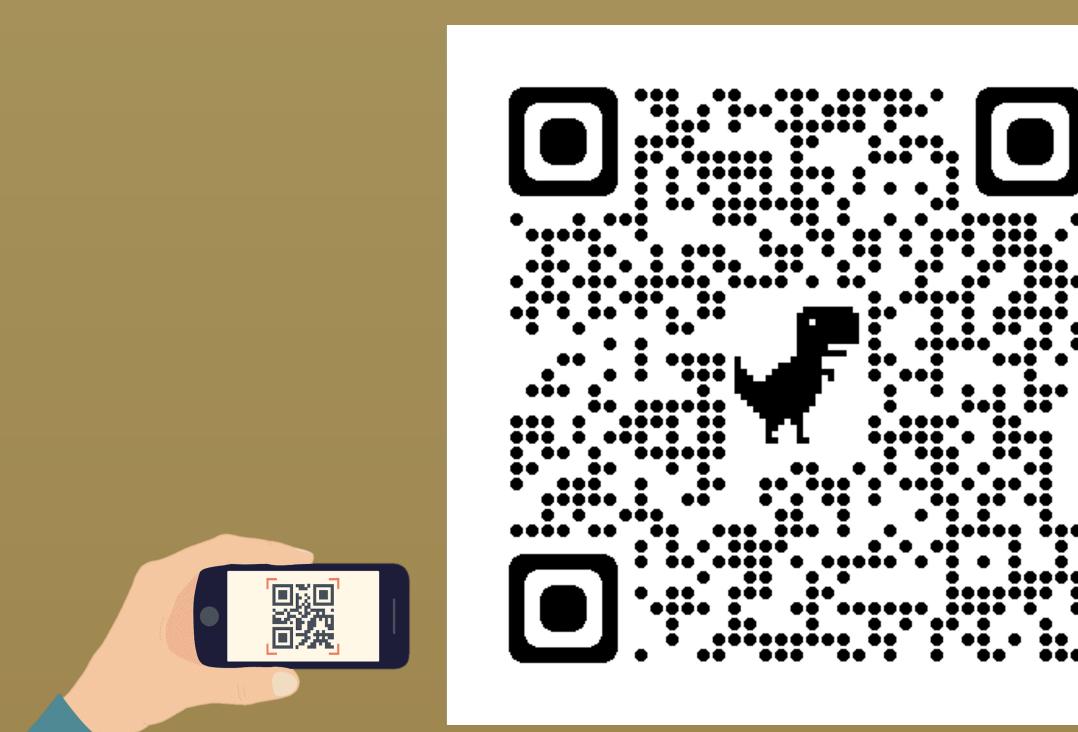
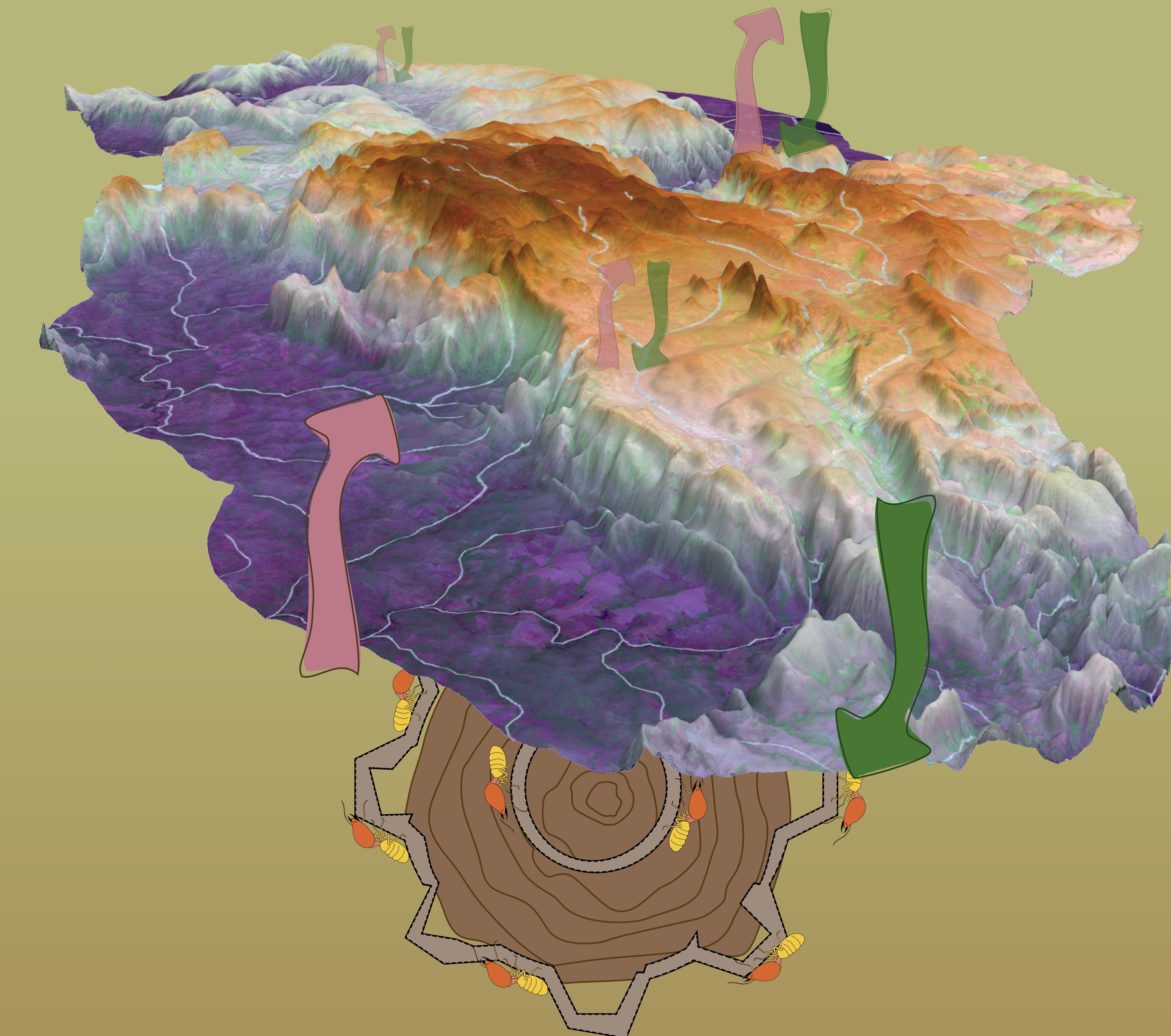


Figure 1: Earthmounds in the National Park Chapada dos Veadeiros

Objectives

We aim to disentangle 1) how termite assemblages vary in a heterogeneous savanna landscape composed of different vegetation types and soil structures; and 2) how these patterns might, in turn, drive gas flux dynamics across different sites.

Ecosystem engineers: Assessing how termites diversity drives carbon cycling in a heterogeneous tropical savanna



Methods

This experiment will be carried out in the Brazilian **Cerrado**. The first part of this project focuses on *collecting termites* in different vegetation and soil structures using *linear transects* and *baits*. Besides, we will measure *gas flux* of the soil using *LICOR* in the sampled termites sites.

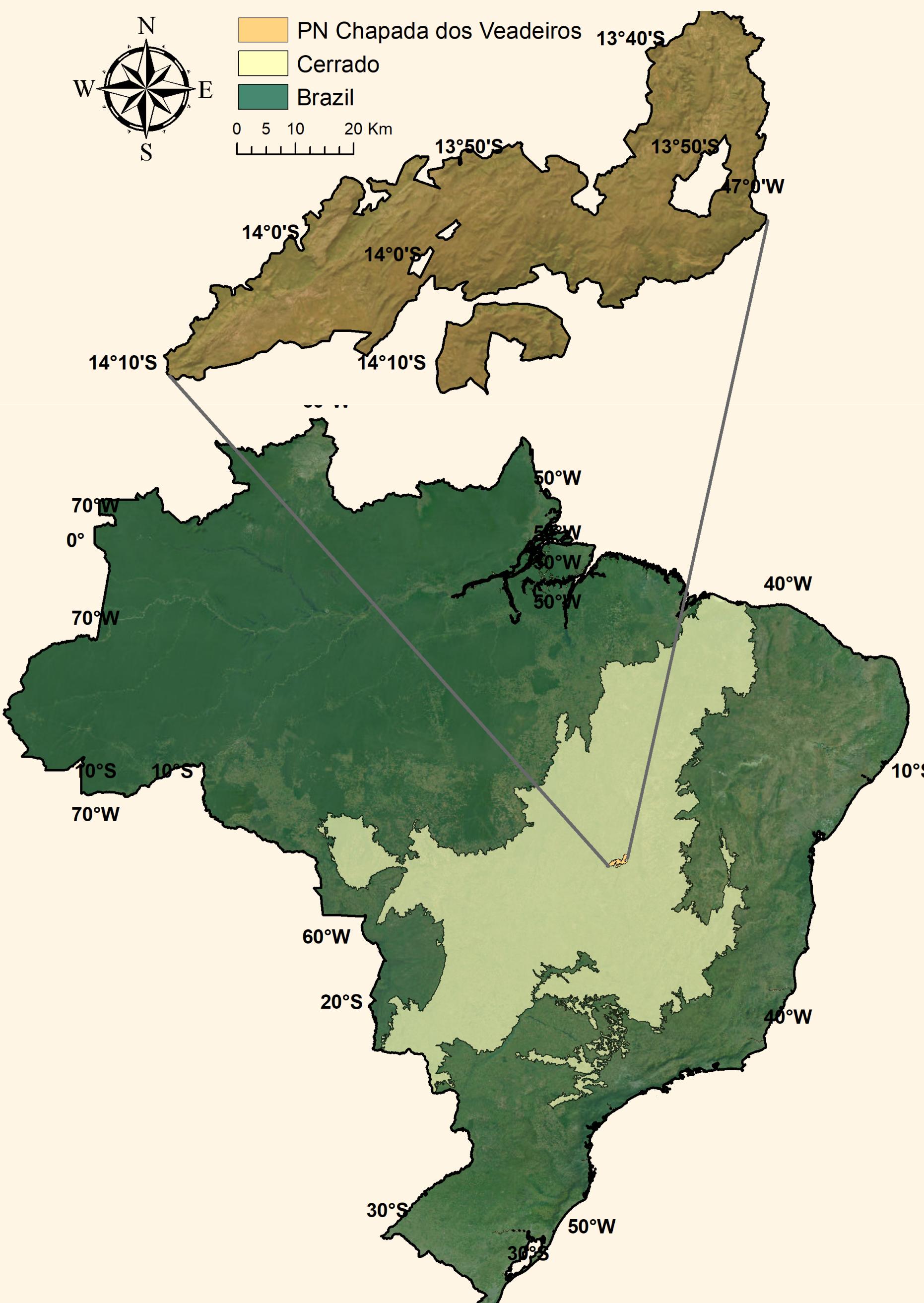


Figure 2: National Park Chapada dos Veadeiros

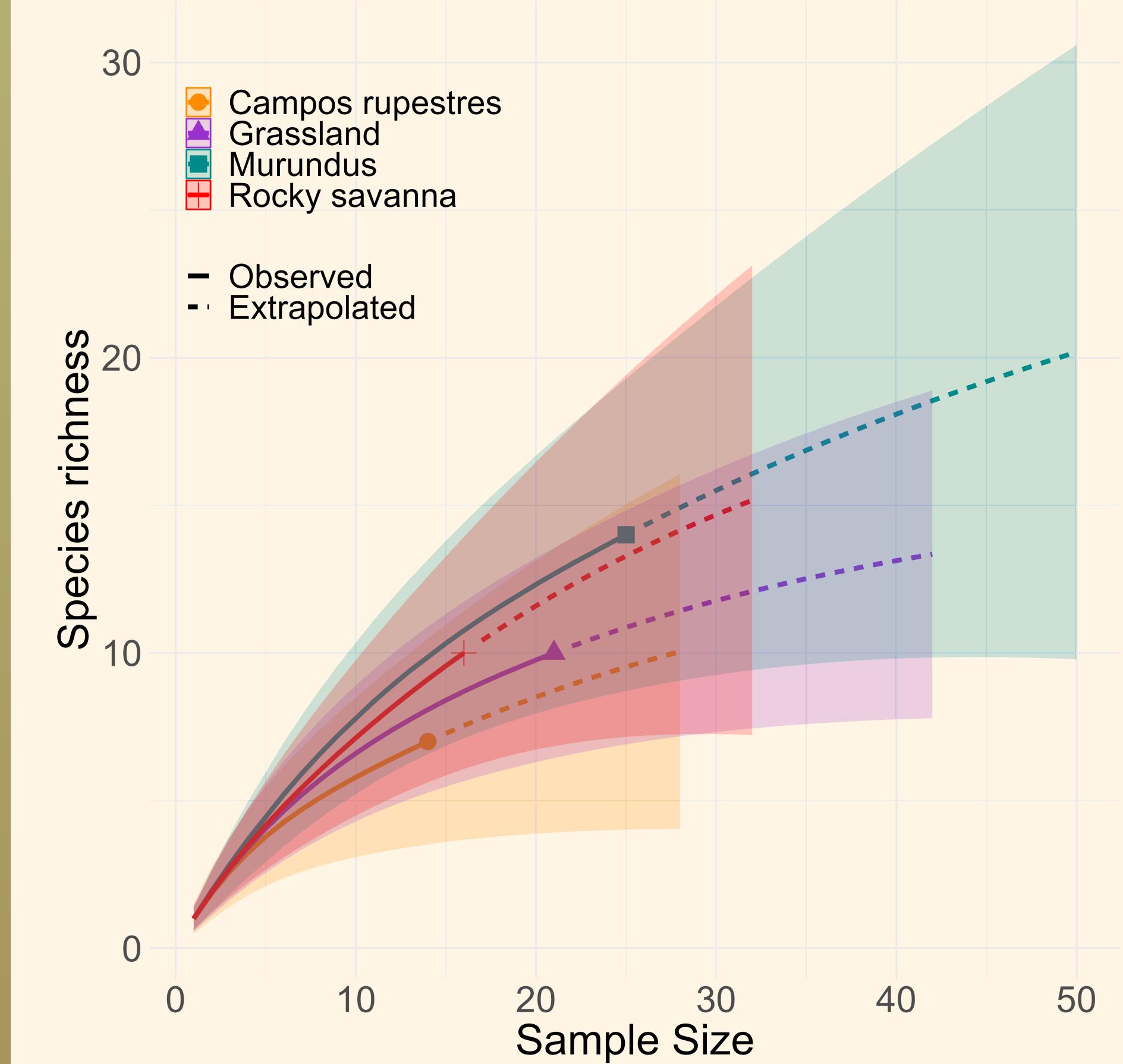


Figure 3: Species curve accumulation from a pilot project

Hypothesis

We hypothesize that termites' effects can locally vary depending on *feeding groups* and *landscape structure and conditions*, such as the differences in soil, water, and vegetation.