

Abstract:

Ants are important ecosystem engineers. Their activity has direct and indirect influence on soil chemistry inside their nest through processes such as bioturbation or accumulation of organic matter and its decomposition by the microbial community. These processes depend on environmental conditions such as soil properties and climate. However, there has not yet been a comparison of this influence on soil chemistry across different biomes. The aim of this thesis is therefore (1) describe the processes through which ants influence soil chemistry (2) summarize the resulting influence on soil properties such as the concentration of nutrients and the pH level in the ant nests and the surrounding soil (3) find out whether there is a common trend to these influences across biomes, or if every biome has its own specific trend. The findings of this thesis point to the conclusion that while there is a common trend across biomes, it heavily depends on conditions such as nest structure, feeding strategy of a particular species and the climatic conditions of the given ecosystem.

Key words: ants, soil, soil chemistry, biomes, nests, bioturbation, feeding strategy, macronutrients, pH, environmental conditions, climate