# The Influence of Rural Gravel Roads on Nest Mound Structure and Foraging Distances of Pogonomyrmex occidentalis

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Many people probably do not know this, but ants have a big impact on planet Earth. They help the environment, by controlling populations of other organisms, acting as a cleanup crew, and doing many other odd jobs. But besides having an effect on the environment, they also affect our lives as well. Today ants have many uses: they have some purposes in medicine, they can be used to gather food, or can be used as food in some countries, and also having a purpose in Paleontology. Today many Paleontologists have been collecting fossils (that are usually not spotted) off ant nests. But along with them affecting our lives, we affect their lives as well. The purpose of this experiment was to determine the distance Pogonomyrmex occidentalis workers travel to collect material for the nest mound and to see if rural gravel roads have an effect on the mound structure and foraging distance. I hypothesized that the Pogonomyrmex occidentalis would travel at least five meters away from the nest, and that rural gravel roads do affect the nest mound structure and foraging distances of workers. This experiment was conducted by measuring the dimensions of the nests: the height, diameters, the eccentricity of the mounds, and the distance between the road and nest yard, then spreading different colored rocks at certain distance intervals, and then counting how many of the rocks were found on the nest. This has shown that Pogonomyrmex occidentalis do travel at least five meters away from the nest, and that there is a correlation between nest mound structure and foraging distances with the distance from the road, therefore supporting my hypothesis.

**Awards Won:**