The Effect of Anthropogenic Noise on Bumblebee Foraging Patterns

Sverdrup , Lila (School: Wentzville Holt High School)

Bumblebee populations in Missouri and around the world have been dwindling. It is important to research these creatures as they are crucial to the ecosystem and can forage plants that other pollinators cannot. Noise pollution may be harming these insects and contributing to their decline. This project was conducted to see if there are positive or negative effects of anthropogenic noise on bumblebee foraging patterns. It was hypothesized that anthropogenic noise harms bumblebee foraging patterns, decreasing the amount of foraging or causing avoidance of high-noise areas. Bumblebees were allowed to forage in an arena with a grid of numbered artificial flowers that had PCR tubes of sugar water in them. Tests were conducted with different types of noises played while bumblebees were foraging. The amount of sugar water left in the tubes was measured, and the amount consumed was calculated. Results did not confirm nor deny the hypothesis and indicated that the noise played did not affect the foraging behavior of the bumblebees. Several technical issues could have impacted the lack of significance found in the data. However, graphical trends suggest bumblebees avoid high-noise areas. Ultimately, more research needs to be done on the effects of anthropogenic noise on bumblebees and the insect overall.

Awards Won:

Missouri University of Science and Technology: $500 tuition scholarship (nonrenewable)

Missouri University of Science and Technology: $575 Missouri S&amp

T summer camp scholarship