

GURC Abstract

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Title: Deterrence of Ants by Chemical Compounds from Six Southeastern Plants

Abstract:

Ant interactions with plants are diverse; therefore, one of the most important aspects of ant-plant interactions is the exposure of ants to plant compounds. These compounds can serve as cues to either enhance or deter recruitment of ants to food. The purpose of this experiment is to measure the recruitment of ants to extracts that were made from six different southeastern native plants, all of which display a wide range of chemical diversity. Seven different extracts were mixed using a sugar solution. Six of the extracts had the dried leaf material of the plants *Solidago altissimus*, *Verbesina virginica*, *Callicarpa americana*, *Pycnanthemum muticum*, *Catalpa speciosa*, and *Cercis canadensis* dissolved in the solution while the seventh was a control. The experiment was conducted for 15 minutes per solution and the number of ants was counted at each one-minute interval. Overall, the ants were attracted more towards the control extract. During the first four minutes, the mean number of ants attracted to the extracts containing *Verbesina virginica* and *Catalpa speciosa* were high, however, this number declined over time. No significant signs of recruitment were shown by the other four extracts. Collectively, the data suggests that ants were more attracted to the sugar control. This conclusion presents an application that the chemistry of plant compounds may have a strong significance to ant deterrence.