



Food Preferences and Rate of Mortality caused by Aspartame on *Camponotus*

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Abstract : *Camponotus* (Carpenter ants) are large ants with high sensory abilities. To access the preferred sweetener, the *Camponotus* were provided different sweeteners which included natural sweeteners such as jaggery, brown sugar, table sugar, glucose, fructose, sucrose and artificial sweeteners such as aspartame, sucralose and stevia. Preferred sweeteners were examined by the quantity they consumed most. Results indicated that ants first prefer natural sugar with high caloric value and greater sweetness. Their preference level was highest for jaggery followed by brown sugar and then table sugar. They were further more attracted

to fructose and sucrose and were least attracted to glucose, sucralose, aspartame and stevia. The effect of aspartame and sugar on the mortality rate of ants, if any, was also studied. It was found that aspartame based sweeteners do not cause serious mortality in ants. The overall mortality rate due to aspartame as compared to that of sugar was only 3.23%. It helps to understand that at low concentration aspartame is not lethal for the survival of *Camponotus*.

Keywords : Carpenter ants, Sweeteners, Food preferences, Aspartame, Mortality rate.

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Introduction:

Camponotus (Carpenter ants) are the eusocial insects of the Order Hymenoptera, Family Formicidae of Class Insecta. They are easily identified by their elbowed antennae and distinctive node like structure that forms their slender waists. They are large measuring about 0.76-2.54cm. These ants are indigenous to many forests of the world. They build nests inside the woods consisting of galleries, but they do not consume wood. Carpenter ants were used for this experiment because they have high sensory abilities than other insects.

Cammaerts (2016) stated that ants are used as models for studying effects of substances used by humans and they have a rapid development, being small can be collected in smaller samples.