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Commentary

Habitat and Reproduction of *Crematogaster* Ants: An Overview

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DESCRIPTION

Despite being widely distributed, *Crematogaster* ants are most numerous and diverse in tropical and subtropical areas. These ants are typically found in locations like forests, woodlands, and shrublands, where they constitute a noticeable and frequently dominant part of the fauna. However, some tropical and numerous temperate zone species of *Crematogaster* also lay their eggs in the ground. This genus' worker ants can flex their gasters forward over the mesosoma while the petiole is pressed firmly against the propodeum to a few distinctive morphological characteristics, such as the dorsal attachment of the postpetiole to the fourth abdominal segment and the absence of a dorsal petiolar node.

The ants use their unique spatulate sting to apply their venom topically, which appears to be effective in deterring, if not killing, other ant adversaries. This is an aggressive response to every invader. An ecologically varied genus of ants known as *Crematogaster* is widespread throughout the world. They are distinguished by an unusually heart-shaped gaster (abdomen), which lends them the nickname "Saint Valentine ant." Due to their propensity to raise their abdomens in response to alarm, members of this genus are sometimes known as cocktail ants. Most species live in trees (tree-dwelling). Acrobat ants are another name for these ants [1].

The main way that acrobat ants get their food is by eating other insects like wasps. They paralyse their victims with poison, and they guide their allies to food sources by creating intricate trails. *Crematogaster* species procreate through nuptial flights, where the queen gathers the sperm needed to fertilize each egg she lays for the rest of her life. Various wasp species have been documented to be eaten by acrobat ants. Both big and tiny animals are hunted by acrobat ants. Foragers frequently enlist adjacent ants to help them when it's time to go hunting [2]. The ants can use a specific touch to label and find their prey. A queen of acrobat ants mates with a solitary male during a nuptial flight with many social ant species. The flying male and winged queen do mating during this journey, but the male passes away shortly after mating. Eventually, the female lands and takes off her own wings, which she no longer requires.

In their Dufour glands, *Crematogaster* ants (Myrmicinae) create a complex mixture of cross-conjugated polyenones, also known as long-chain electrophilic contact poisons, which they then expose on their sting lance. There are one, two, or no double bonds in the long chain. When released, they undergo hydrolysis to become alcohols and oxidation to become aldehydes [3]. They are initially kept as acetates. With the spatulate sting that the *Crematogaster* ants are able to bring forward across their bodies, the mixture is applied to the surface of potential assailants. By applying the aldehydes topically to *Myrmica* ants, it has been demonstrated that they are extremely poisonous.

Crematogaster sp., an ant, was collected for release in afflicted areas after it was reported to lessen hispid leaf miner attack. It was discovered that the pest's nymphs were preyed upon by *Crematogaster wroughtonii* Forel of the family *Formicidae* [4]. Numerous investigations have shown that ants are effective at removing and destroying insect herbivores, as has been widely seen. On *Tachigali myrmecophila* plants where he had removed *Pseduomyrmex concolor* ants, there were more than four times as many herbivores as there were on plants where the ant colonies were still intact. Additionally, the presence of ants decreased the daily rate of herbivory by nearly ten times, causing the cumulative herbivore damage to experimental plants without ants to be about twice as great over the course of the 18-month trial. Additionally, plants containing ants had noticeably longer-lasting leaves. The fact that these ants do not consume the herbivores they kill is interesting. Instead, they only consume the catenococcid insects that they raise inside the domatium, the compound leaf's hollow rachis [5].

Ants can effectively stop herbivory in mammalian predators. For instance, *Acacia drepanolobium*, an African myrmecophyte, has two different types of thorns. The enlarged thorns are domatia, which are homes for *Crematogaster* ants where they raise their young. Although browsing mammals are slowed down by the unswollen thorns, they may make up for it by eating more. Because *Crematogaster* ants have the ability to lift their

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abdomens above their thoraces and heads, they can aim their abdominal points in almost any direction. Acrobat ants may flex their abdomen areas to release venom when they are fighting. With each opponent to the ant, the venom's potency changes dramatically. Acrobat ants take engage in a type of mutualism known as myrmecophytism, where plants offer food and shelter while the ants guard the plants from predators. A lot of acrobat ants eat mostly from plants like *Macaranga*. When the plant is disturbed, the ants panic. They emerge from their plant shelter rapidly and turn hostile. This is true even if nearby plants are being attacked. They can also enlist the aid of other ants to strengthen their defence.

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