**Herbivory rates of Amazonian melastomes are unaffected by the presence of domatia-inhabiting ants**

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**Abstract**

Symbiotic interspecies relationships are common in the tropics, where high levels of biodiversity have enabled many opportunities for species to coevolve. In some instances, however, the ecological parameters of these relationships remain unclear. For example, some plants in the family Melastomataceae house ants that emerge from hollow domatia at the petioles when the plant is disturbed. Assuming that these domatia-inhabiting ants help protect the melastome in exchange for shelter, we predicted that melastomes with domatia suffer less leaf damage than melastomes without domatia. To test this, we located over one-thousand leaves from sixty melastomes at the ACTS research station near Iquitos, Peru, and assigned each leaf to one of seven categories based on the percent leaf damage. We then compared damage percentages between melastome leaves with and without domatia. In contrast to our hypothesis, our analysis discovered no significant damage difference between the two types of leaf, suggesting that the presence of domatia has no effect on melastome herbivory. These results expose the need for further research to determine whether domatia-inhabiting ants provide any service to their melastome hosts, and if not, why some melastome species invest in domatia while others do not.