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Individual Resaerch Project

Census of Insects and Arachnids Present in Ginger Flowers on Dominica

Insect are a fundumental part of any ecosystem. An understanding of the relationships between insects and the plant community is therefore vital to understanding the whole ecosystem. The ginger plant (Alpinia purpurata) is a common ornamental plant throughout the Caribbean. It blooms year round. I performed an experiment intended to determine if there is a pattern to which insects make use of the ginger flower. I hypothesize that there will be a group of insects that are commonly found in the brachts of the ginger plant.

Methods: I cut ten ginger blossoms from the secondary forest at the ruins of the Mt. Joy site. The flowers were chosen in several size ranges. The flowers were placed in plastic bags to keep them seperate and to contain the insects. I transported the blooms back to the laboratory at Springfield where I counted and identified the insects and arachnids present in each flower.

Results: I found a total of thirteen species and sixty-two individuals. The most common insect found was the mealy worm. The second most common inhabitant was the formacidae sp.1. In addition to these, I observed two other species of formacidae, immature Blabberous, Aphidae, Columbulae, Pseudophylinae, Coccoidae, Mutillidae, Salticidae, Thomisidae, and Tetranychidae. I also observed that the larger flowers had more insects than the smaller flowers. Additionaly, the flowers with many spider webs had fewer insects than those without spider webs. See the attached graphs for the distribution of each species.

Conclusion: My hypothesis was proven true. The isects found in all of the ginger flowers surveyed were similar.

Discussion: I believe that the ginger flowers showed common patterns of insect use because the insects present are able to use the ginger flowers better than other species of plants. I think that the larger flowers had more insects than the smaller ones simply because they provide more room. The absence of insects in the blossoms with heavy spider webs can be explained by the predatory habits of the spiders. There is much room for further studies in this area. I would suggest a project to determine the benefits and costs to the ginger plant from each of the common insects. Anothr possible project would be a study of the many ants living in the plants.

Insects Per Flower

Flower Number	1	2	3	4	5	6	7	8	9	10
Mealyworms	1		3		2	1		1		10
Blabberus	1	1			3					
Formacidae sp.1		3	1		1	3	1	4		
Formacidae sp.2			3					1	1	2
Formacidae sp.3					1					
Aphidae			2							
Columulae					3					
Pseudophylinae						1				
Coccoidae						1				
Mutillidae								1		
Salticidae									1	2
Thomisidae										1
Tetranychidae	5	1								