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Study Abroad Dominica
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Frog Density in the Rainforest

This project originally was proposed as a survey of frog species that inhabit bromeliads. After searching 15 bromeliads and only discovering 2 frogs of unknown species I modified my project to determine what areas frogs are inhabiting and calling from. To make this determination I used 2 different ecological areas: high grassy plain and low streamside. At night frogs perch in different areas and call. The frogs usually do not move from their original territory, so finding a frog's calling perch should determine the range of inhabitation and preference of perch. Dominica is home to 3 different species of *Eleutherodactylus*, *E. martinicensis*, *E. johnstonei*, and *E. amplinympha*. The third frog is recently described and is not located in the study sites. *E. martinicensis* is a larger frog than *E. johnstonei* averaging about 45mm. *E. martinicensis* has a variable dorsal color pattern, usually with a pale midbody line and 2 dark dorsal chevrons. This frog occasionally will also have a red wash on its hindlimbs and groin. The main distinguishing characteristic is a dark interocular bar. *E. johnstonei* averages 35mm and lacks the midbody line, red wash on hindlimbs and groin, and the interocular bar. Otherwise the color pattern is variable and usually includes 1 dark dorsal chevron.

Methods and Materials

First I determined 2 areas to use as plots for observations. The 2 areas that I chose were by the stream below S.C.E.P.T.R.E. and a recently burned grassy area on top of Mt. Joy. In each of the areas I measured a 5sq meter area for observation. Using a head lamp I went to each of the 2 areas for one night and recorded all frogs seen, the species of each frog, perch preference and height of perch.

Results

Mt. Joy

Elevation=2150

<u>Species</u>	<u>#</u>	<u>Perch</u>	<u>Perch Height</u>
<i>E. martinensis</i>	2	lemongrass	122cm
<i>E. johnstonei</i>	5	lemongrass	122cm
<i>E. johnstonei</i>	1	rock	61cm
<i>L. fallax</i>	1	ground	0

Streamside

Elevation=1130

<u>Species</u>	<u>#</u>	<u>Perch</u>	<u>Perch Height</u>
<i>E. martinensis</i>	1	heleconia	122cm
<i>E. martinensis</i>	5	vine	20cm
<i>E. johnstonei</i>	2	watercress	122cm

<i>E. johnstonei</i>	1	rock	152cm
<i>L. fallax</i>	1	ground	0

Conclusion

E. johnstonei was found more often at the higher elevation sitethan *E. martinicensis*. At the Mt. Joy location, both species of frogs called from high elevated positions, either from large clumps of lemongrass or from large flat rocks. At the lower elevation *E. martinicensis* was the more common species. They called from large bladed leafy plants closer to the ground. This is possibly related to the fact that *E. martinicensis* hides in the leaf litter during the day and comes out after rains to call. *E. johnstonei* calls from higher postions; all calls from these frogs heard but not seen come from the upper canopy. Higher perch preference might result from *E. johnstonei* coming down out of the trees to call.

Other Observations

Both species of frogs are only evident after rains during late afternoon and dusk. On nights following days with no rain, few frogs of either species were observed. During the initial phase of my project I was frequently frustrated by the lack of frogs or eggs in all places observed, including bromeliads, undersides of leaves, and forest pools. When observing frogs at the streamside location I observed several gravid females. This denotes that the breeding season has just begun, and no nests have been constructed yet. The laying of eggs will probably occur in the middle of June.