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## **INTRODUCTION:**

We conducted leaf surveys of perfect, untouched leaves and leaves subjected to mining and herbivory. Our question was this: Is there more herbivory on the forest floor or in the canopy? Two surveys were conducted along the forest floor, and two surveys were conducted in the ACTS canopy.

## **FOREST FLOOR SURVEYS (2):**

For our first trial, we were in NAPO on the forest floor. Our results may have been slightly skewed due to our lack of experience in collecting accurate and unbiased samples. Nonetheless, seven groups with two or three partners in each counted one hundred leaves each. On average, about 1/6, or 16/100 leaves were found perfect (15%). (This data set has a few outliers. One group found 30 out of 100 perfect, whereas others were only about 10.) The second forest floor sampling was conducted as we headed to ACTS from Explornapo Lodge. This seemed slightly more accurate with an average of 11/100 perfect leaves (11%). (Our results were probably more accurate in this sampling, because we had a group discussion prior to counting. In this discussion, Meg clarified how to take unbiased samples.) The average between the two samples is thus 13% herbivory in the forest floor.

## **CANOPY SURVEYS (2):**

Once we arrived at ACTS Lodge, we climbed up the canopy (WOW! Incredible biodiversity and beauty!) For our first canopy sampling, again, with the same seven groups, we found an average of 7/100 perfect leaves. This was interesting because this seemed to show that there are less perfect leaves in the canopy. To make sure that this was in fact true, we conducted a second sampling of the canopy and found similar results, 8/100 on average were perfect.

## **CONCLUSION:**

Our data reveals that an average of 13.3% perfect leaves were found on the forest floor, and only 8.35% perfect leaves exist in the canopy. Thus our conclusion is that the canopy has more herbivory resulting in fewer perfect leaves. This may be due to the high number of insects living in the canopy. Or it could possibly be due to the season in which we collected our data. It's unclear at the moment what the cause of our difference in data is. We would need to collect samples for many more weeks, months, and even years to conclude if this is true and if so why. For now, we did conclude that there is more insect evidence, higher percentage of herbivory and fewer perfect leaves in the canopy than the forest floor.

**(See data tables on following pages.)**

**Forest Floor Trial 1: NAPO**

<b>Group</b>	<b># Perfect Leaves</b>	<b># Total Leaf Sample</b>
Hannah, Leslie, Jason	11	100
Pat, Jude	18	100
Princess, Aubrey, Haley	12	100
Nicole, Danielle	1	10
Tarn, Bill	18	100
Wendy, Annie	30	110
Heather, Dave	7	100
<b>TOTAL</b>	<b>97</b>	<b>620</b>

**Perfect Leaves: 97/620 = about 16/100 or about 1/6 or 15.6%**

**Forest Floor Trial 2: Headed to ACTS**

<b>Group</b>	<b># Perfect Leaves</b>	<b># Total Leaf Sample</b>
Hannah, Leslie, Jason	4	100
Pat, Jude	4	100
Princess, Aubrey, Haley	15	100
Nicole, Danielle	22	100
Tarn, Bill	9	100
Wendy, Annie	12	100
Heather, Dave	11	100
<b>TOTAL</b>	<b>77</b>	<b>700</b>

**Perfect Leaves: 77/700 or 11/100 or 11%**

**FOREST FLOOR AVERAGE OF TWO TRIALS (15.6% and 11%) = 13.3%**

**ACTS Canopy Trial 1:**

<b>Group</b>	<b># Perfect Leaves</b>	<b># Total Leaf Sample</b>
Hannah, Leslie, Jason	4	100
Pat, Jude	10	100
Princess, Aubrey, Haley	3	100
Nicole, Danielle	1	100
Tarn, Bill	27	100
Wendy, Annie	10	100
Heather, Dave	0	100
<b>TOTAL</b>	<b>55</b>	<b>700</b>

**55/700 = about 7/100 or 7.8%**

**ACTS Canopy Trial 2:**

<b>Group</b>	<b># Perfect Leaves</b>	<b># Total Leaf Sample</b>
Hannah, Leslie, Jason	0	40
Pat, Jude	0	100
Princess, Aubrey, Haley	14	100
Nicole, Danielle	1	10
Tarn, Bill	32	100
Wendy, Annie	5	110
Heather, Dave	5	100
<b>TOTAL</b>	<b>57</b>	<b>640</b>

**57/640= about 8/100 or 8.9%**

**CANOPY AVERAGE (7.8% and 8.9%) = 8.35%**