Resilience in the Peruvian Amazon: Butterflies, Brazil Nuts, and Beginnings

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Background

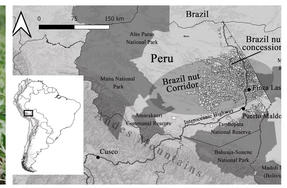
"Biodiversity Capital of the World"






The Trans-national Brazil Nut Corridor





"Threatened by illegal gold mining & rapid deforestation"

Methods

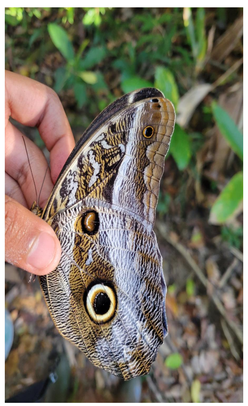
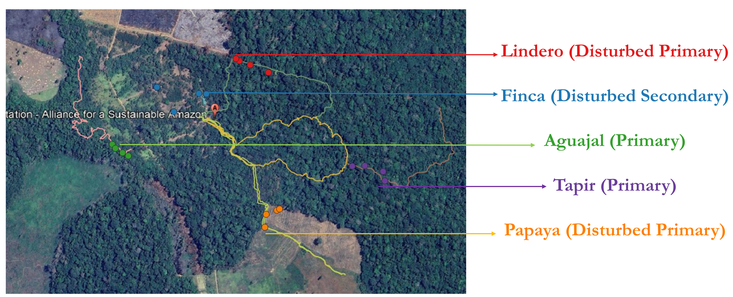




Illustration 1: Spatial location of microhabitats and traps

Identify habitat types → Place traps and bait → Sample every 24hrs

- 20 fruit-baited traps deployed across five microhabitats (four traps each) using rotten banana as bait
- Sampled every 24 hours for 10 days; butterflies photographed (dorsal and ventral) and released
- Statistical analyses performed in R utilizing vegan, iNext and BiodiversityR packages

Results

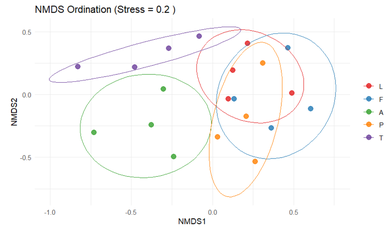


Figure 1: NMDS Plot of species assemblage in microhabitats

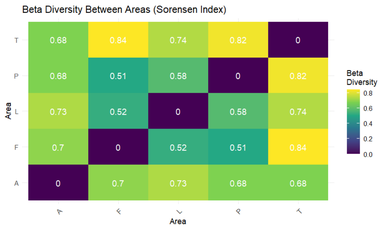


Figure 2: Beta Diversity of microhabitats

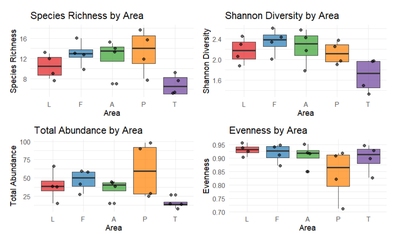


Figure 3: Diversity measurements across microhabitats

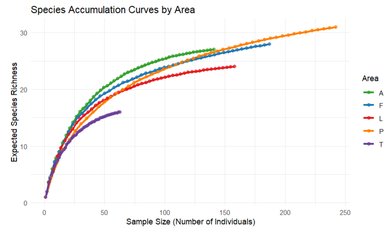


Figure 4: Species accumulation curve in microhabitats

Butterfly assemblages varied extensively across microhabitats, with results indicating significant species turnover.

Accumulation curves suggest that additional sampling is needed to accurately capture the full extent of diversity.

Discussion & Insights

- Butterfly (Lepidoptera) communities vary significantly in study areas due to habitat difference
- Primary forests harbor unique specialist species
- Microhabitat diversity drives assemblage composition due to diet and host plant specialization
- Disturbance increases overall butterfly abundance despite reducing species uniqueness


Next Steps

- Increase sampling with varied baits and traps methods
- Integrate environmental variable and habitat characterization
- Protect these forests before it's too late

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