



Feeling Antsy? LI Ants vs. Tropical Ants found on Plants

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Introduction:

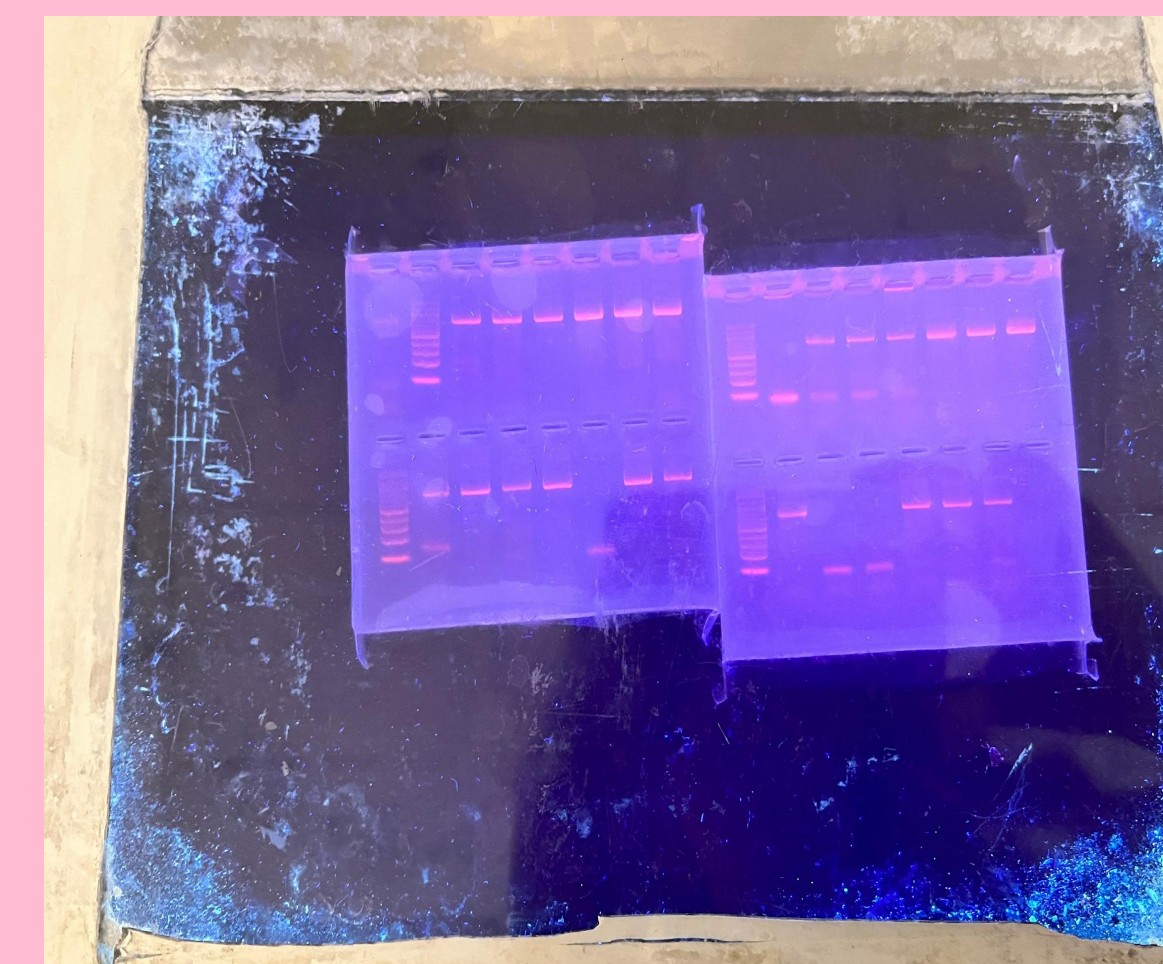
Our goal of this project is to figure out the diversity of ants found on long islands compared to ants that are typically found on tropical plants residing in the plant nursery in Mattituck. We are using DNA barcoding because it is an efficient and accurate way of obtaining the specific gene code found in the CO1 region. When collecting these ants we found many different species in the gardens. We didn't find any new species and we tested our hypothesis. Unfortunately, our hypothesis was incorrect. When we were searching for ants inside the plant nursery we didn't find any ants. We believe that since no ants were found, pesticides are sprayed regularly there to protect the tropical plants. Our objective was to be able to find tropical ants found on these plants and compare them to ants found on long islands, but our results were different than we expected.

Results:

Our results for this project did not match our original hypothesis. We were hoping to find ants that survive in more tropical regions because we searched near tropical plants. We did not find any ants in the indoor environment from plants that were imported from tropical areas. We concluded that this was from the pesticides used on the property. There were many diverse, rare tropical plants that needed to be protected from different insects that could harm them. Since the pesticides were used we found many ants outside of the nursery that are commonly found on Long Island. We found 3 main species of ants. This consisted of the *Prenolepis Imparis* Voucher species, *Casius neoniger* Voucher, and *Monomorium Emarginatum* Voucher. Our group also found an ant species called *Tetramorium Caespitum* Voucher, which ended up not being native to Long Island. This species is commonly found in Russia.



❖ ***Monomorium emarginatum* voucher**



Abstract:

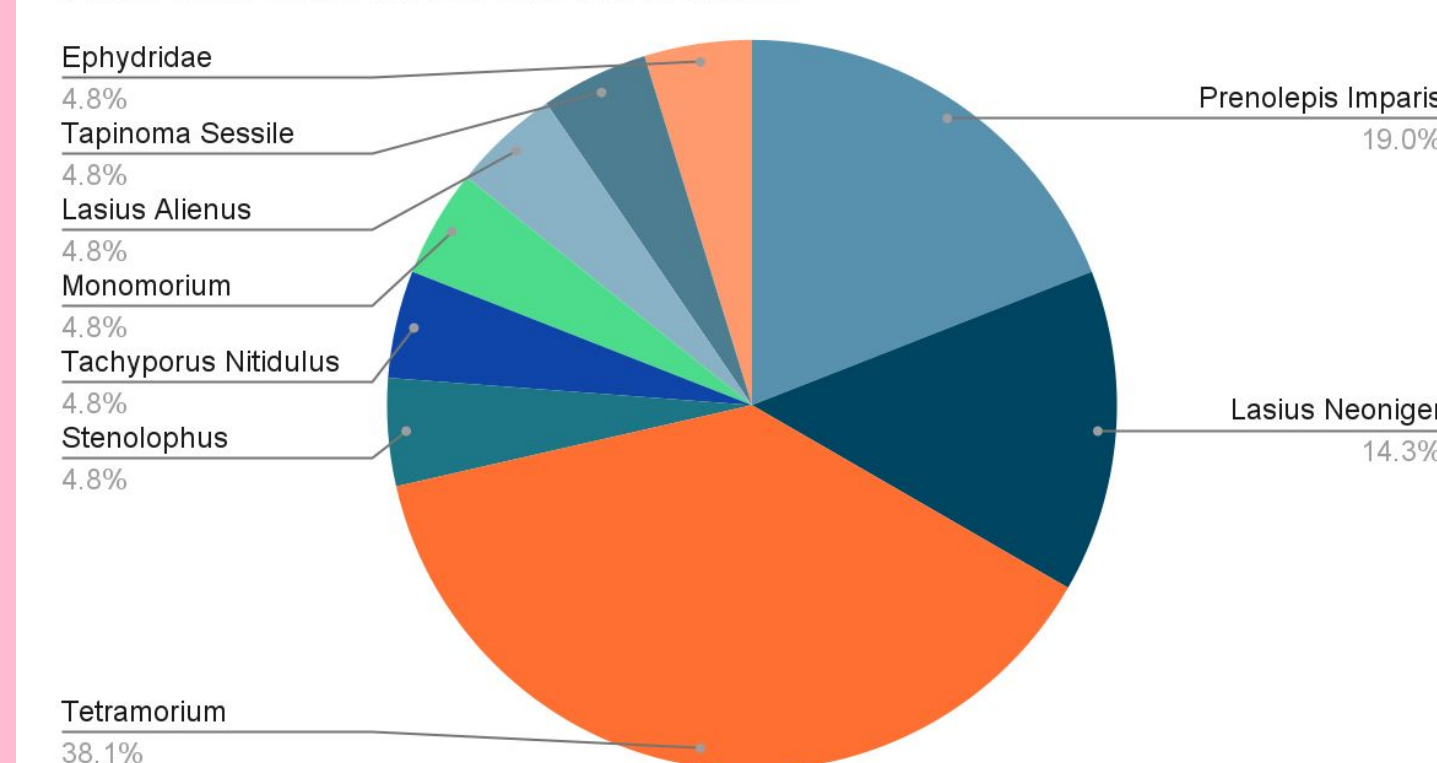
Barcoding is a scientific process that is used to identify and differentiate different species. Our group went to the Landcraft Garden Foundation located in Mattituck LI. For our project we collected ants in the garden and also ants that were found in the plant nurseries. Our goal for this project is to find the difference in ant species found in the garden compared to the ants found in the plant nursery near the tropical plants. Our group thought we could get different ant species found in the plant nursery due to the fact that many of those plants were from all over the world. For this project we need the tools and materials necessary to collect, barcode and analyze our results. Barcoding requires many steps of isolating and manipulating the CO1 region. One of the most important components of the project is the collection. Our group will sift and bait the invertebrates to collect and store them before barcoding. Another very important thing is the Chelex and electrophoresis process that we need to isolate the DNA and sequences.



Discussion

The results we received showed that there is diversity of ants on Long Island, but the tropical ants we expected were not found. Our results are not what we expected because of the use of pesticides by the garden. The pesticides used killed any insects inside of the nursery and altered our collection. We had to collect outside the nursery because there were no organisms inside. Our results still show the diversity of ant species, but no tropical species. For a future study we would have to collect from an area that does not use pesticides and would have different species.

Ants collected In Landcraft Garden



❖ ***Prenolepis Imparis***

