



Small Island, Big Biodiversity

Hayden Rylott and Benjamin Waife

Mentor: Mr. Daniel Williams

Shelter Island Union Free School District



Abstract

This is a modified version of our project, we compared ants collected this year versus similar sites from last year to identify species diversity and see if any potential invasive or unknown species are now on Shelter Island

Introduction

Shelter Island is an Island located at the eastern end of Long Island in between the North and South forks. Shelter Island only has about 2,500 year round residents, however, when summer arrives the population shoots up to a whopping 15,000, almost three quarters of houses on the Island are vacation homes.

Shelter island has a variety of habitats including woodlands, fields and salt marshes, this combination leads a lot biodiversity around the island. However, in this study we proposed to focus on ants. Ants often show great biodiversity in small locations, you can often find different species from ant hill to ant hill, this can lead to insights about the health of the island. A large biodiversity indicates a healthy island, invasive species can be an indicator of climate change or human activity.

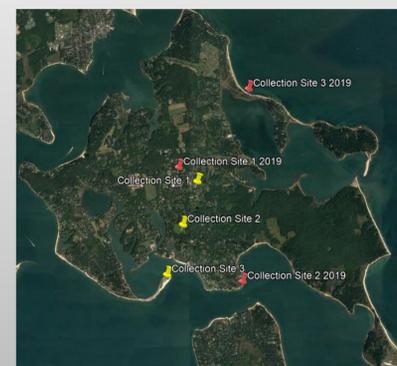
Materials & Methods

Due to the Corona Virus our locations and methods changed. Ants were collected by using baits (cookies) in our individual backyards or a close location. They were photographed. We did not have access to our school lab, so we identified species by photo comparison with last years results for reference. We hope to be able to verify our results using DNA Barcoding in the Fall.

Results

Three types of ants were identified by photographs; *Camponotus castaneus*, *Monomorium minimum* and *Tetramorium caespitum*. Other ants were collected but we were unable to identify them without school microscopes for better pictures or without DNA

Tables & Figures



Collection Site 2019	Species Identified	Collection Site 2020	Potential Species
1 Rural Town Center	Lasius ants <i>Myrmica Americana</i> <i>Camponotus castaneus</i> <i>Monomorium minimum</i>	1 Rural Town Center	4 ants of <i>Tetramorium caespitum</i> 1 ant of Unknown Type
2 South Ferry Deciduous Forest	<i>Tetramorium caespitum</i>	2 Deciduous Forest surrounding a Fresh water pond	3 ants of <i>Monomorium minimum</i> 1 ant of Unknown Type
3 Rams Island Beach Environment	No Ants found	3 Shell Beach	8 ants of <i>Camponotus castaneus</i>

Ants that are highlighted in color were found two years in a row

Discussion

The ants in collection sites 1 + 2 were similar from last year; *Monomorium minimum* and *Tetramorium caespitum*. This is not a surprise as the town center of the island is not that different from the forest, it is a rural community. We did not find as much variety this year as last, but that might be because we mislabeled some ants by visually identifying them. *Camponotus Castaneus* was identified at Shell beach. This is unique as last year they did not find any ants at the beach, but these ants were found under a log, which is more expected where these ants live. This ant is mostly a southern ant which nests in the ground under stones and logs in open woods. This ant is rarely found in the northern states and we think we found it two years in a row in different locations on Shelter island –this could be a significant indicator of species movement due to climate change.

Acknowledgements

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