WILL THE INTRODUCED SPECIES CAUSE THE ENVIRONMENTAL CHANGE TO THE PLANTS DIVERSITY OF LOCAL ECOSYSTEM

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Abstract

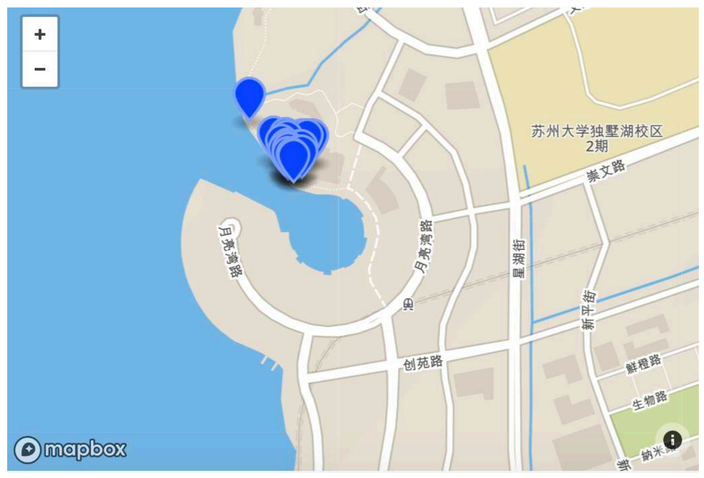
Our project will discover whether the plants near Suzhou Industry Area are exotic, invasive or neutralized. We will discover the trees that people grew for beautiful appearance are good or not. Did they made contribution to Suzhou Industry Area or they totally break the ecosystem here.

Introduction

Species that are introduced to a new area can be exotic or invasive and influence the settled area. Based on research, exotic animal or plant species that been introduced to a certain area influenced this area mostly in a good way. [3] However, introduced non-native or invasive species can influence the ecosystem in a bad way. [3] Invasives may break the balance of the ecosystem, and hard to get rid off. Naturalized species are species been introduced from another area, after decades, the influence of the native area has become invisible or adapted by the environment or ecosystem. Our hypothesis is the introduced species will cause the environmental change to the plants diversity of local ecosystem.

Materials and Methods:

Methods: Collected samples from the Dushu lake, 20 different types of trees. Isolated the target DNA which is the rbcL DNA Barcode of plants, which contains the informations that we need to identify all the different plants. We used the silica method to isolate the DNA. After we PCR the rbcL region, we electrophoresis of all the 20 samples, showed 13 samples that were isolated successfully, so we send those samples to GENEWIZ company let them help us to sequence the DNA. We used DNASubway to classify those 13 samples. When we got those samples results, we determined weather those plants are native, exotic, invasive or naturalized.



Countries. Samples. Genus/Species

Colombia
- PZT001. *Schefflera lancifoliolata*

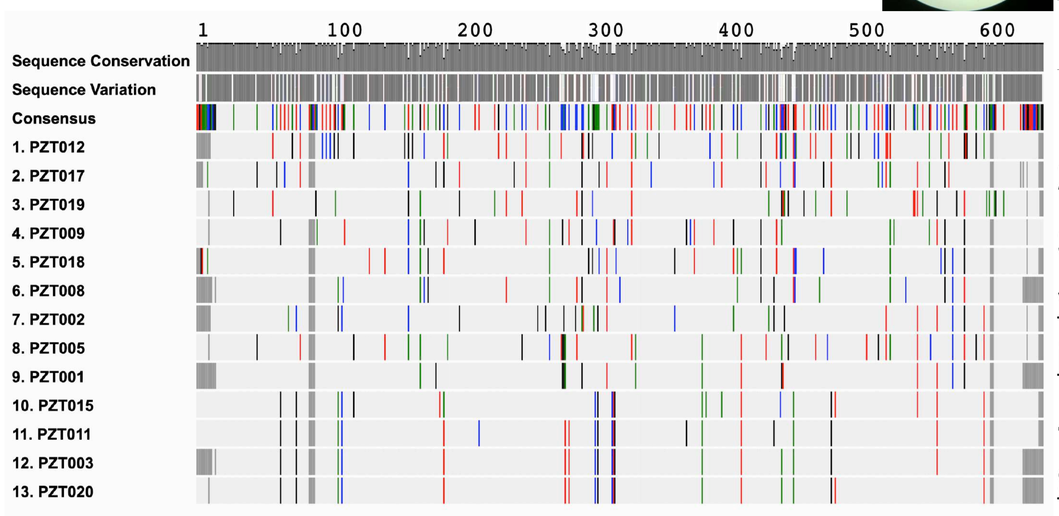
Fujian.
- PZT002. *Calystegia sepium*
- PZT008. *Bambusa arundinacea*
- PZT012. *Rhododendron mucronulatum*

India.
- PZT003. *Ligustrum ovalifolium*
- PZT015. *Olea europaea*
- PZT018. *Cinnamomum aromaticum*

United States
- PZT009. *Berberis thunbergii*
- PZT011. *Ligustrum vulgare*
- PZT017. *Euonymus europaeus*

Jiangsu
- PZT020. *Ligustrum japonicum*

Unknown.
- PZT005. *Petasites frigidus*
- PZT019. *Rhododendron mucronulatum*



Result:

Of the 13 samples, we found that there was only 1 plant was native, and the rest of them were introduced from other province even other countries. However, of the 12 introduced plants, they have all became naturalized.

Discussion

As with many environmental problems, continued research will yield insight into effective control measures. For example, research studies have been conducted to determine how effective traps are in catching pythons.Genetic studies can also yield important information about how invasive have spread in an area and their potential to hybridize with native species.Predicting how the geographic range of an invasive species will increase is important for preparing new areas that may be invaded. they can incur.

This is some expand knowledge of the aline species in the history

Many other examples exist of invasive species hitching rides on cargo to enter new habitats. For example, the fungus known as chestnut blight came from chestnut trees that were imported from Japan in the late 19th century.

Acknowledgements:

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References

1. http://dnasubway.dnalcasia.net
2. https://blast.ncbi.nlm.nih.gov
3. https://www.environmentalscience.org/invasive-species
4. https://www.pnas.org/content/98/10/5433