Analysis of Soil and eDNA from the Rhizosphere of a Live Oak

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Introduction

Sequence eDNA strands collected from soil from rhizospheres of trees on Baylor's campus

- Background on why we chose the rhizosphere and our specific extraction method. Mention how we modified other purification ways to make ours and reference the articles.
- Why we decided to do the 18SV4 and proper references.

Methods

Soil Collection and Analysis

Ciliate Isolation and DNA Extraction

Gel Electrophoresis

PCR Amplification

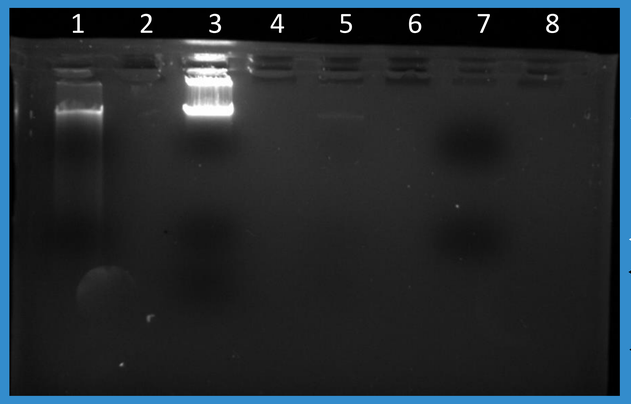
Results

Soil Metadata	MNH Sample:	KRM Sample:	MAA Sample:
Percent Water Content	4.494%	16.47%	15.38%
pH	7.0	6.5	6.5
Soil Texture	Sandy Loam		Sandy Clay
Ciliate Cultures	2	2	1

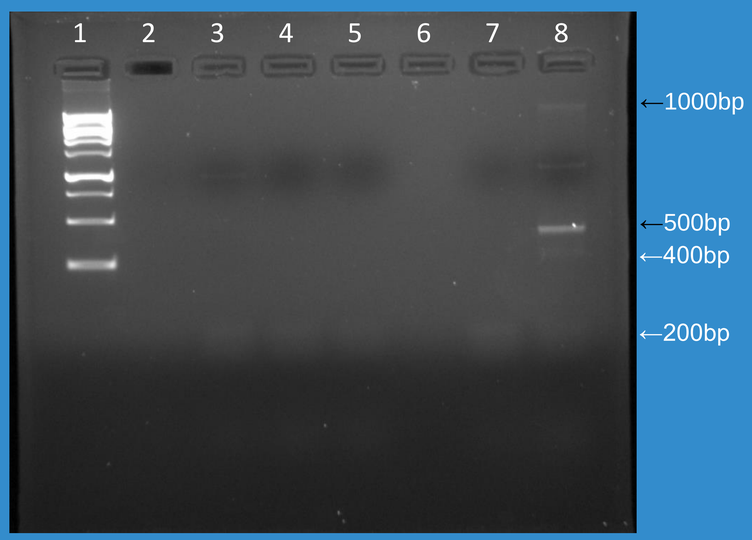
Tree and Leaf Metadata	
Tree Identification:	*Quercus virginiana*
Shape and Arrangement	Linear
Margin	Entire
Venation	Pinnate

Results

Concentration	A260/280:	A260/320:
326.3ng/µl	1.44	0.52



The soil sample was collected from the rhizosphere, near the shallow root of a tree. The DNA was extracted using a lysate method involving charcoal and silica beads. The DNA was then analyzing using a 1.5% agarose gel for electrophoresis. Lanes from left to right, Lane 1: DNA Sample, Lane 2: blank, Lane 3: 5,000ng mass standard, Lane 4: 15ng mass standard, Lane 5: blank, Lane 6: blank, Lane 7: DNA Sample, Lane 8: blank. The image was taken by the MCB C305.



The DNA was prepared using the 2x Master Mix and the 18S V4 primer. The DNA was then analyzing using a 1.5% agarose gel for electrophoresis. Lanes from left to right, Lane 1: 5ul 1 kb ladder (company unknown), Lane 2: MM control, Lane 3: MM DNA, Lane 4: KRM control, Lane 5: KRM treatment, Lane 6: blank, Lane 7: LL control, Lane 8: LL DNA. The image was taken by the MCB C305.

Conclusion and Discussion

What our results mean in regards to the community profile (environmental factors) and soil ciliate biodiversity.
Why we think we got the results we did and how we could improve-include metadata if needed
Why certain locations at Baylor were better than others
More discussions on 18SV4 and ciliates and possible connections to the ecosystem and biodiversity

Acknowledgments

Baylor University
CILI-CURE
Dr. Tamarah Adair, Aadil Sheikh, Kaitlyn Armijo

References

First reference in Calibri, 32 points, bold, with a reverse indent: alphabetical or numerical order.

http://texastreeid.tamu.edu/content/idByLeaf/