The Preservation Point at Which Peat Bogs Hinder Natural Decomposition in Organic Matter

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Introduction

There are peat bogs all over Northern Europe that preserve organic matter, specifically animals and human bodies. The preservative properties of peat bogs are due to the Sphagnum (polysaccharides) that are present in the peat moss. When the moss slowly decomposes, it releases sphagnum which binds calcium and nitrogen. This calcium and nitrogen inhibition turns the skin deep brown and dyes the hair red as well as the bones become soft and deformed.

The project was trying to find a timeline of the decomposition stages in bog environments and trying to see what variables contribute to this preservation.

Methodology

- Bog Ingredients
  - Organic peat moss, 75% V/V Sulfuric Acid, Lignin, boiled water, sand/sediment
- Environments
  - Parent bog, room temperature, high acid, vacuum, and control
- Gray Squirrel Carcasses
  - *Sciurus carolinensis*

Results & Findings

Figure 1. Documentation of squirrel carcasses from each environment

- The carcass placed in the room temperature environment decomposed at an accelerated rate
- The low temperature of the bog environment is a contributing factor of the preservation
- The carcasses placed in the main bog environment decomposed slower
- The carcass placed in higher acidic bog and the vacuum chamber showed no limited signs of macroscopic decomposition

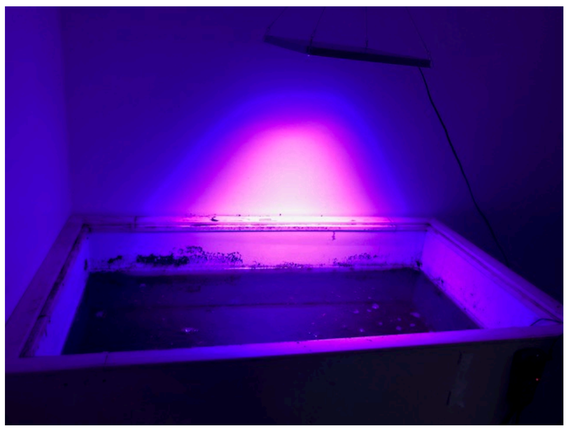

Figure 2. Parent bog environment

Conclusion

- The low temperature is the greatest contributor to preservation within the bog
- The vacuum chamber and higher acid concentration did not effect the decomposition rate
- The main bog environment preserved the carcasses as hypothesized

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References

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