Moss Abundance Correlation with Urban Heat Island Effect in Greensboro, North Carolina Forest Fragments

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Due to an abundance of buildings and paved surfaces which retain heat and shed water, cities are generally hotter and drier than the surrounding countryside. This phenomenon is termed urban heat island effect.

Mosses tend to prefer habitats which are cool and moist. A city is therefore not an ideal site for mosses to thrive.

The sensitivity of mosses to heat and moisture regimes may cause them to be a useful tool for estimating the ‘ecological health’ of a city by assessing the degree of urban heat island effect.
Project outcomes

- I sampled urban forest fragments throughout Greensboro, North Carolina for the number of species and the overall abundance of mosses present.
- The project is ongoing. Similar sampling from nearby forested areas outside Greensboro city limits remains to be carried out.
- By correlating the data I have gathered with satellite images showing the heat of the selected forest fragments and the extent of proximate paved surfaces, I will be able to form an evaluation of Greensboro’s ‘ecological health’ and assess the advantage of mosses as an environmental indicator.
- I hope to have found in mosses a useful indicator which may be employed in similar studies in other urban areas.