Ant-lanta: Ant Diversity as a Proxy for Ecosystem Health

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Urban Ant Abstract:

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Ants are found across a wide range of habitat types and play a crucial role in supporting ecosystem health. Because of this ubiquity, ants are considered an indicator species – one whose diversity in an ecosystem can be used as a proxy for ecosystem health. Our study examines the presence of ants across an urban gradient in Atlanta to understand how urbanization may be affecting our local community inhabitants. A total of 48 Sites were organized into three groups: Urban Managed Land, Urban Park, and Urban Forest. Sites were grouped based on ground cover percentages. We used bait samples to measure the diversity of ants at each site. Baits were composed of 5 liquid food sources (salt water, sugar water, olive oil, protein water, and tap water) to see if ants had a food preference. As we move from less urban to urban sites, we find that urbanization has a significant negative impact on the diversity of species. We also find that ants had a food preference towards sugar water and olive oil. Our research indicates that as Atlanta continues to grow and expand, we should expect a decrease in ant diversity and the correlated decline in ecosystem health.