Urbanization Effects on Biodiversity

Award Year:
2015

Principal Investigator:
Christopher Trisos, SESYNC

Associated Program:
Postdoctoral Socio-Environmental Immersion Program 2015 [1]

For the first time in human history the majority of humanity now live in cities, and these cover nearly 3% of Earth’s land surface. Cities are often located in areas of high biodiversity and thus rapid urbanization threatens biodiversity globally. Because urban environments are relatively similar across different cities there are concerns that urbanization will cause a reduction in the diversity among plant and animal communities across the Earth, a process known as biotic homogenization. However, ecologists do not know whether such strong similarities in the patterns of urban biodiversity exist across cities globally or if the same processes influence the assembly of urban plant and animal communities in different cities, such as those in tropical and temperate environments. Moreover, cities are complex systems where both social (e.g. household preferences) and environmental (e.g. climate) factors influence plant and animal occurrences, requiring a deeper understanding of the relative importance of these factors in order to understand the negative (or potentially positive) responses of biodiversity to urbanization. My project aims to synthesize data on the occurrence, ecology, and evolutionary history of plant and bird species across the world’s cities to test for biotic homogenization in urban biodiversity and to understand whether similar processes structure urban biodiversity globally. I will also combine perspectives and analytical techniques from ecology with those from social science, using data on the backyard plant species and socioeconomic status of households across six North American cities to test whether social or environmental factors are most important in structuring urban plant biodiversity.

Associated SESYNC Researcher(s):
ctrisos [2]

Source URL:

Links
[1] https://www.sesync.org/opportunities/postdoc-immersion