

Department of Ecology and Evolutionary Biology

Jason Kolbe, University of Rhode Island

City slickers: ecological and behavioral responses of *Anolis* lizards to urban environments.



Urbanization is a dramatic form of land use change and disturbance that results in a mixture of buildings, impervious surfaces, managed and unmanaged vegetation, and remnant natural areas. Cities often produce novel habitats to which animals must adjust if they are to persist. **Using *Anolis* lizards introduced to the Miami metropolitan area in South Florida, I investigated the behavioral and ecological changes associated with living in the city.** *Anolis* lizards expand their structural habitat niche in urban areas, primarily by occupying the wider artificial substrates (e.g., buildings, fences, and posts) only available in urban areas. These artificial substrates are typically smooth and vertical compared to the rough substrates, such as tree trunks and branches, found in natural forest habitats. Lizards run slower and pause, slip, and fall more often when running on smooth and vertical substrates. Yet, *Anolis* lizards occupy artificial substrates the majority of the time in human-modified areas, rejecting the habitat constraint hypothesis—the idea that lizards should more frequently occupy portions of the habitat in which they perform better. *Anolis* lizards also adjust their escape behavior in urban areas, fleeing at shorter distances and altering their mode of escape, which is influenced by the structural habitat. Lastly, **I evaluate whether urban areas are an evolutionary trap for *Anolis* lizards and the extent to which behavioral modifications and evolutionary adaptation help urban populations counteract this trap.**



RESEARCH TALK – Friday April 1, SERF 307, 3:30-4:30
Pre-talk reception and snacks at 3 PM in Dabney 568