



# Effects of urbanization on small mammals across levels of biological organization



Nicholas S. Green<sup>1</sup>, Bri Casement<sup>2</sup>, Leslie Lopez<sup>1</sup>, Sydney Morton<sup>1</sup>, Kaitlyn Nestor<sup>3</sup>

<sup>1</sup>Department of Ecology, Evolution, and Organismal Biology, Kennesaw State University; <sup>2</sup>West Virginia Cooperative Fish and Wildlife Research Unit, West Virginia University; <sup>3</sup>Office of Research, Kennesaw State University

Contact: [ngreen62@kennesaw.edu](mailto:ngreen62@kennesaw.edu)



Visit our lab website! →

## Methods

## Individuals

## Populations

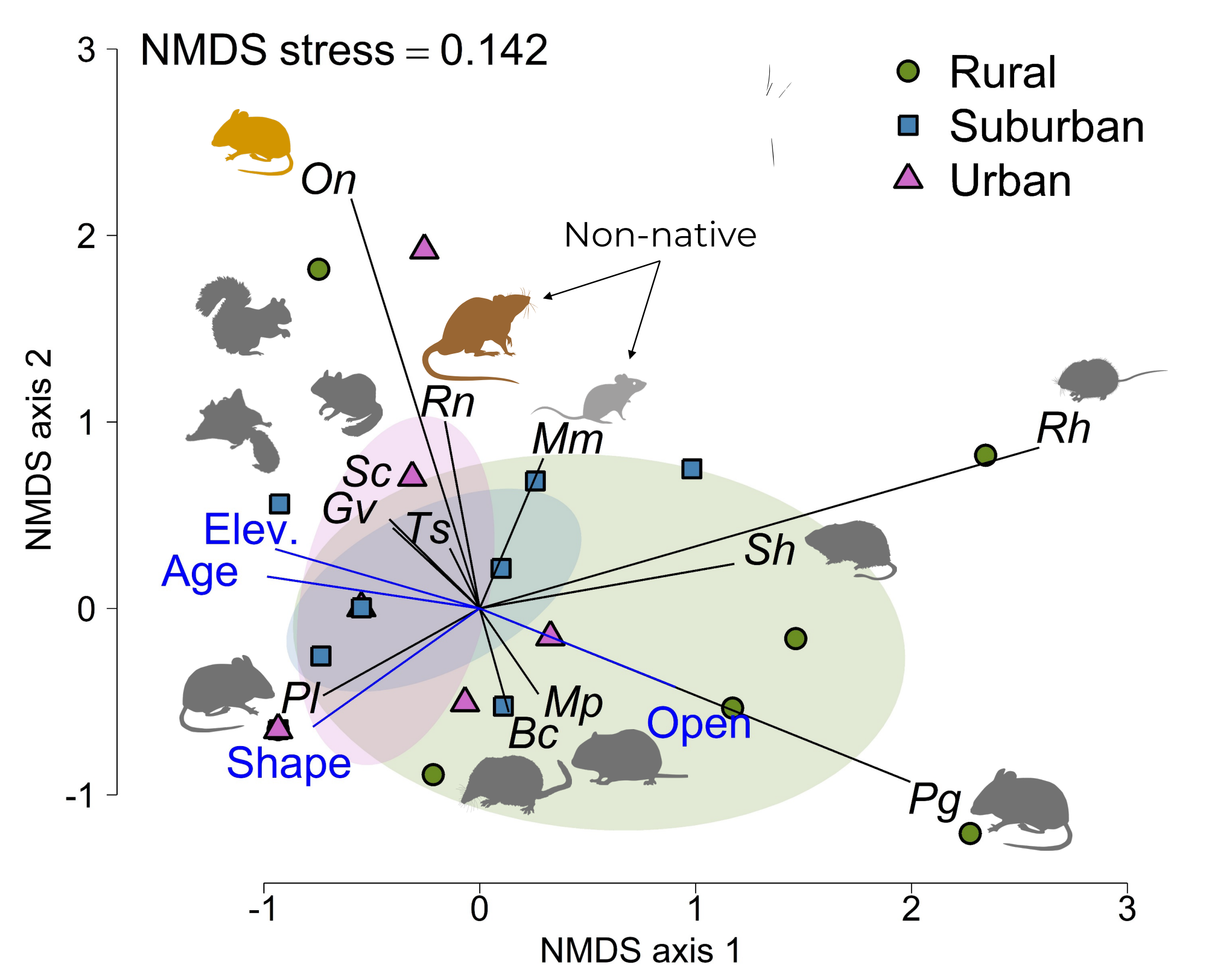
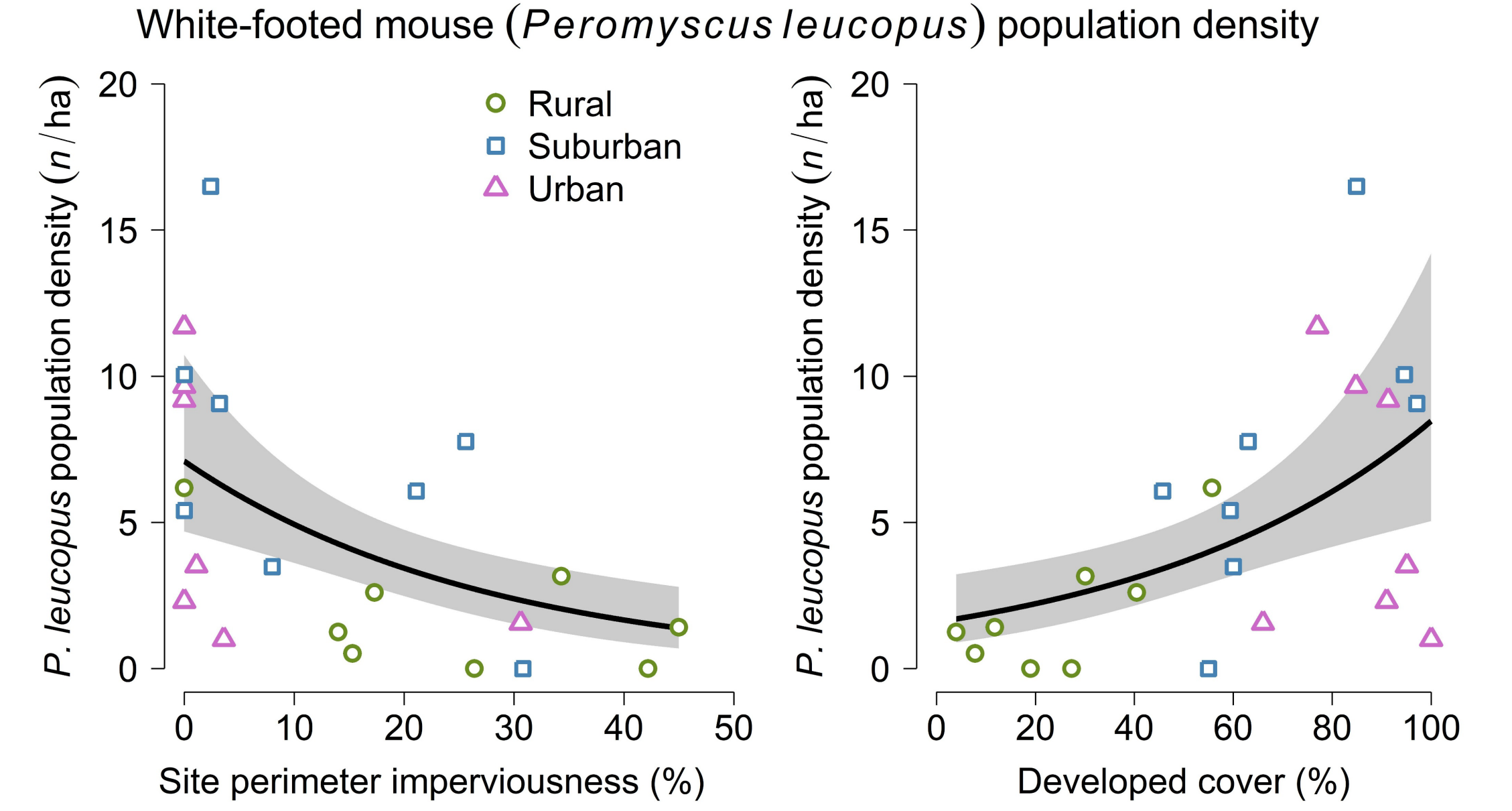
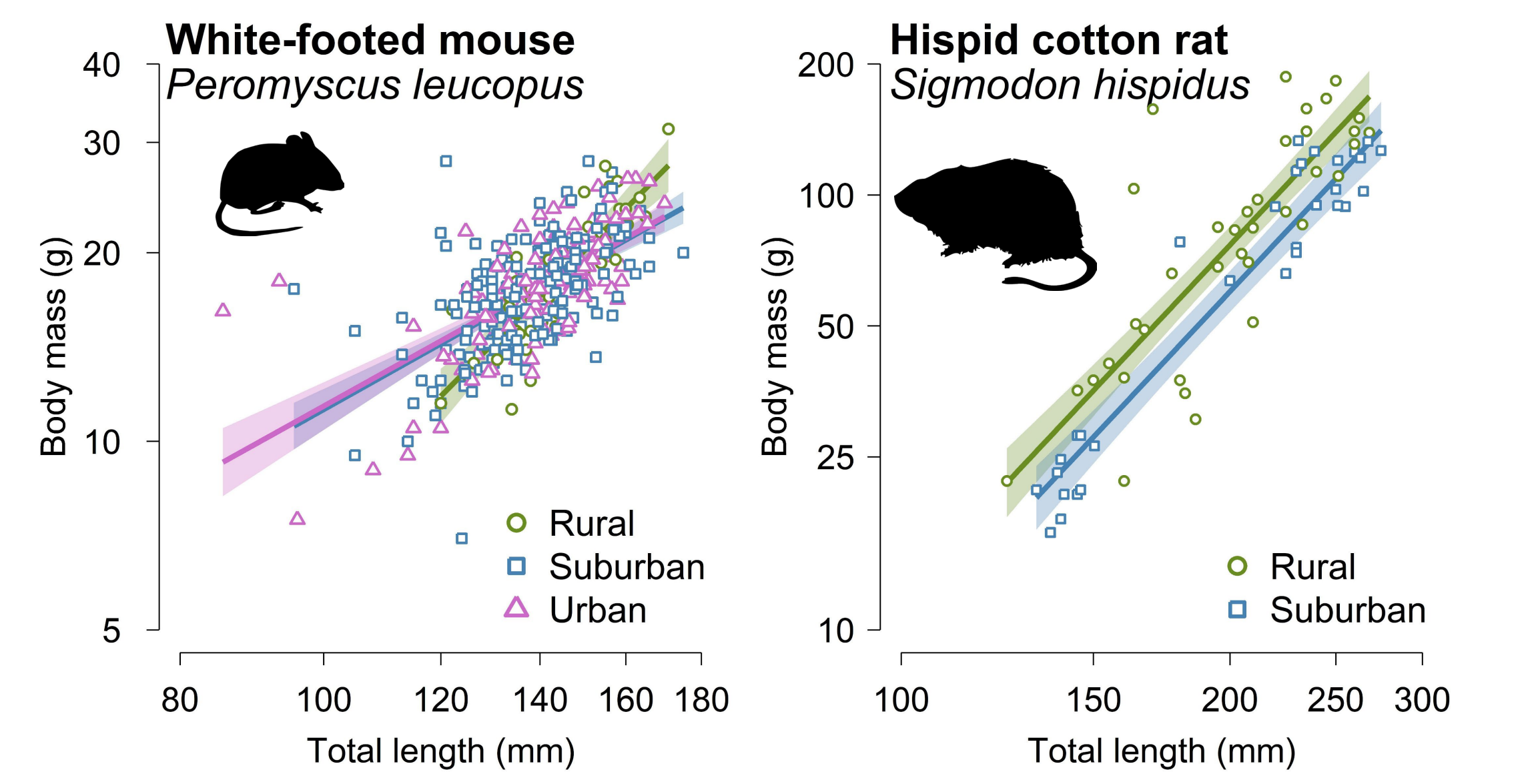
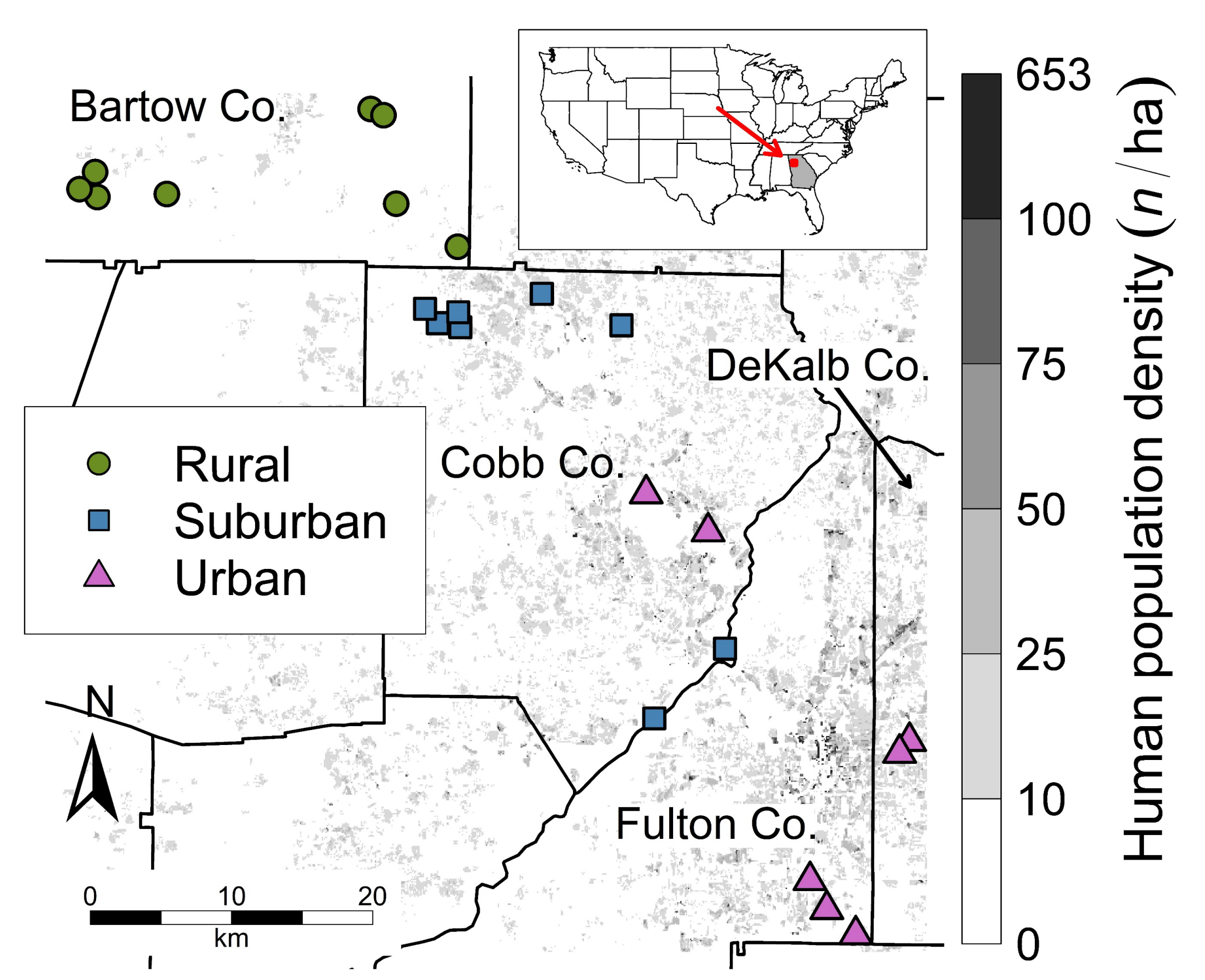
## Communities

23 sites spanning an Atlanta urban-rural gradient

Species-specific changes in body morphology

Impervious surface concentrates rodents in urban fragments

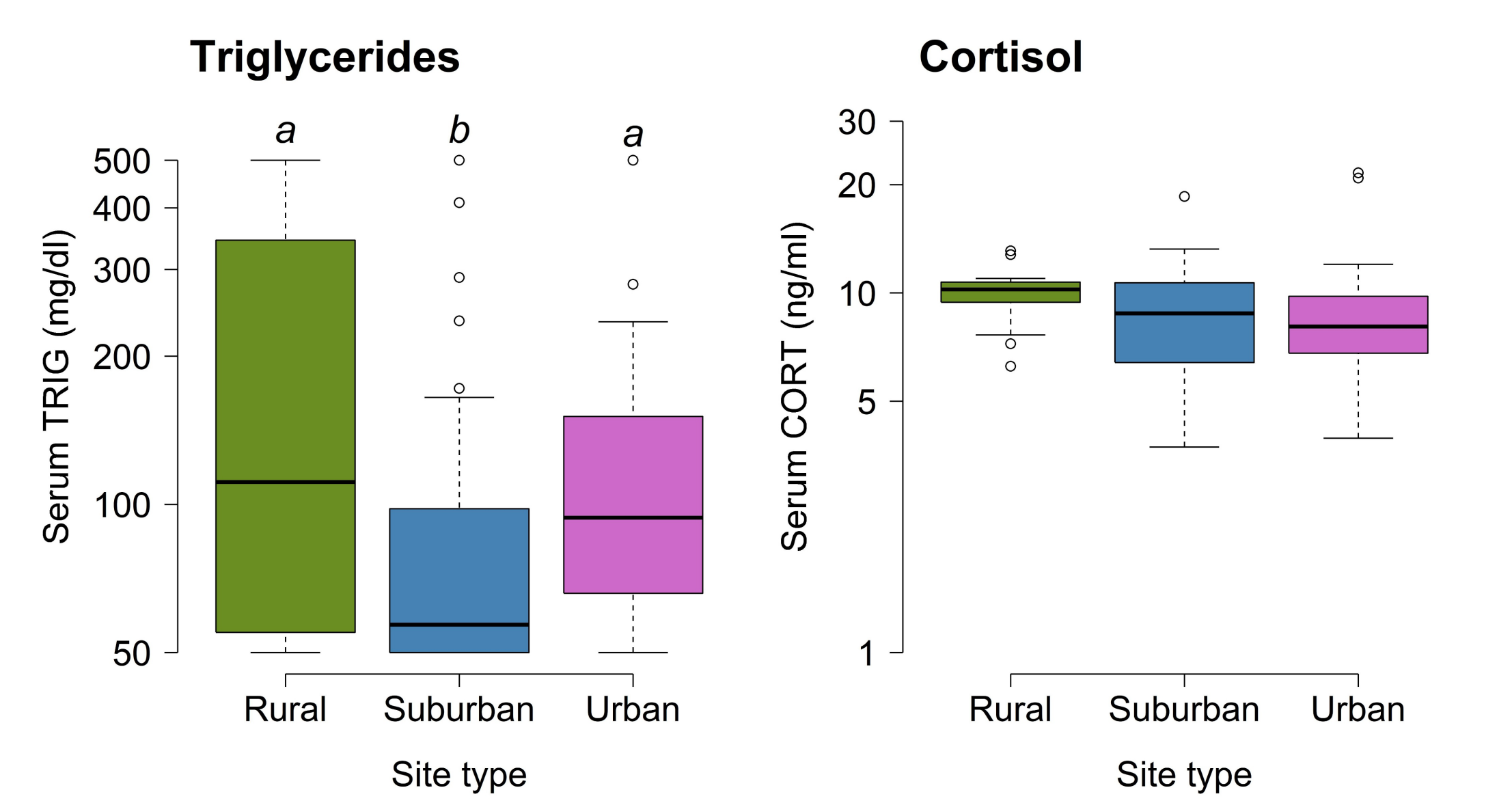
Isolation changes composition without reducing diversity



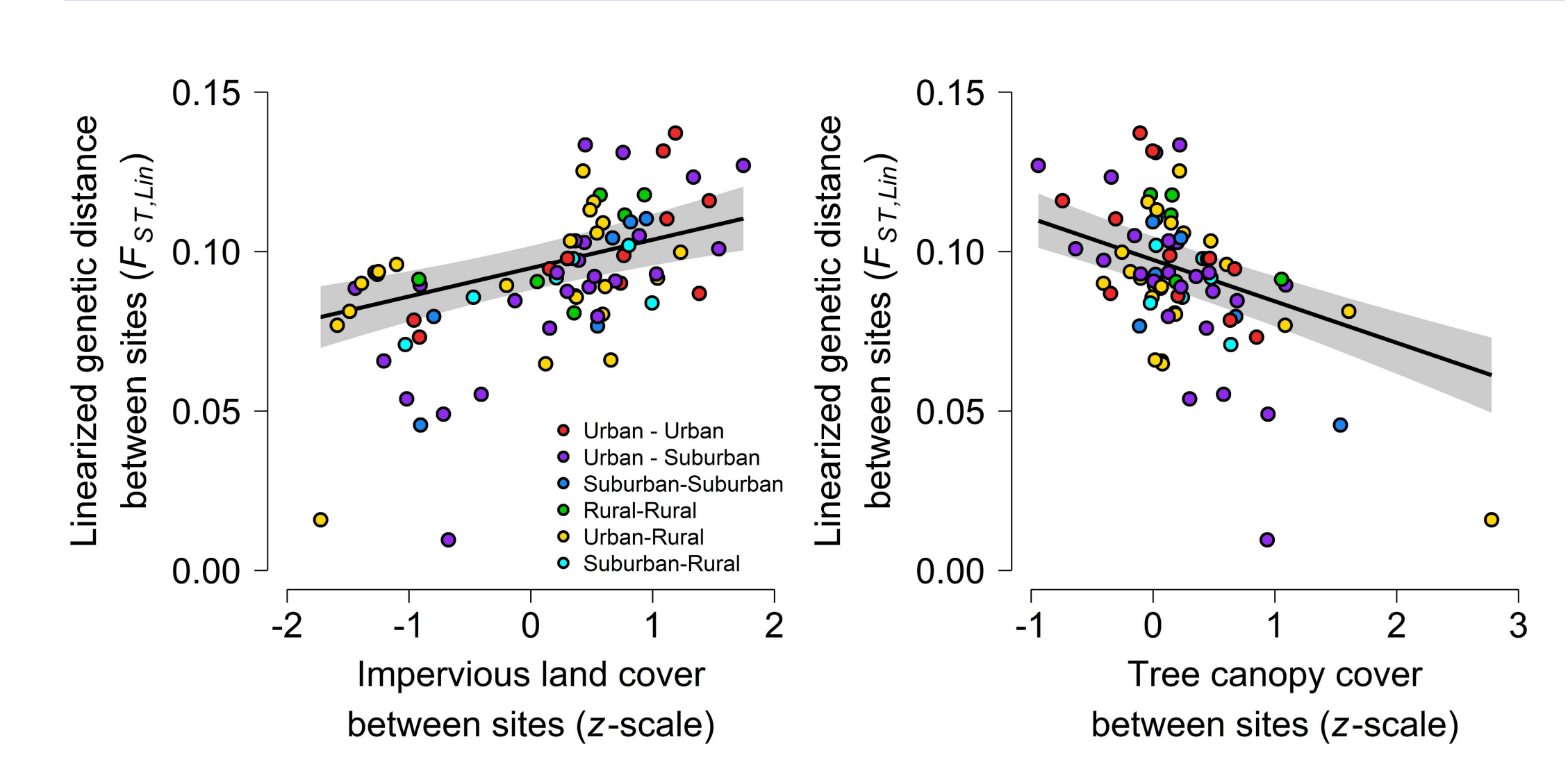
Measured responses at 3 biological levels:  
Individuals  
Populations  
Communities



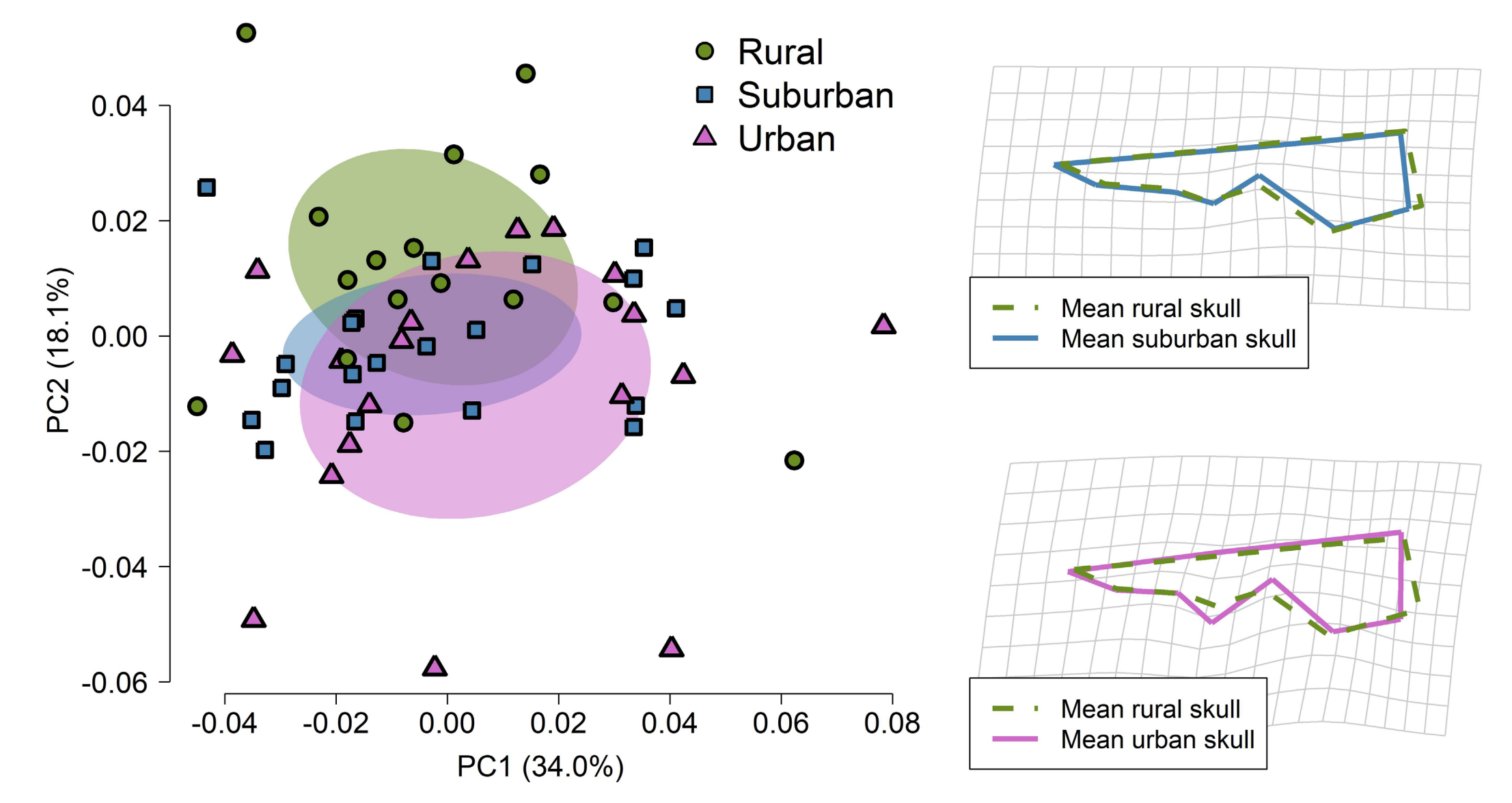
No evidence for urban caloric subsidy or additional stress



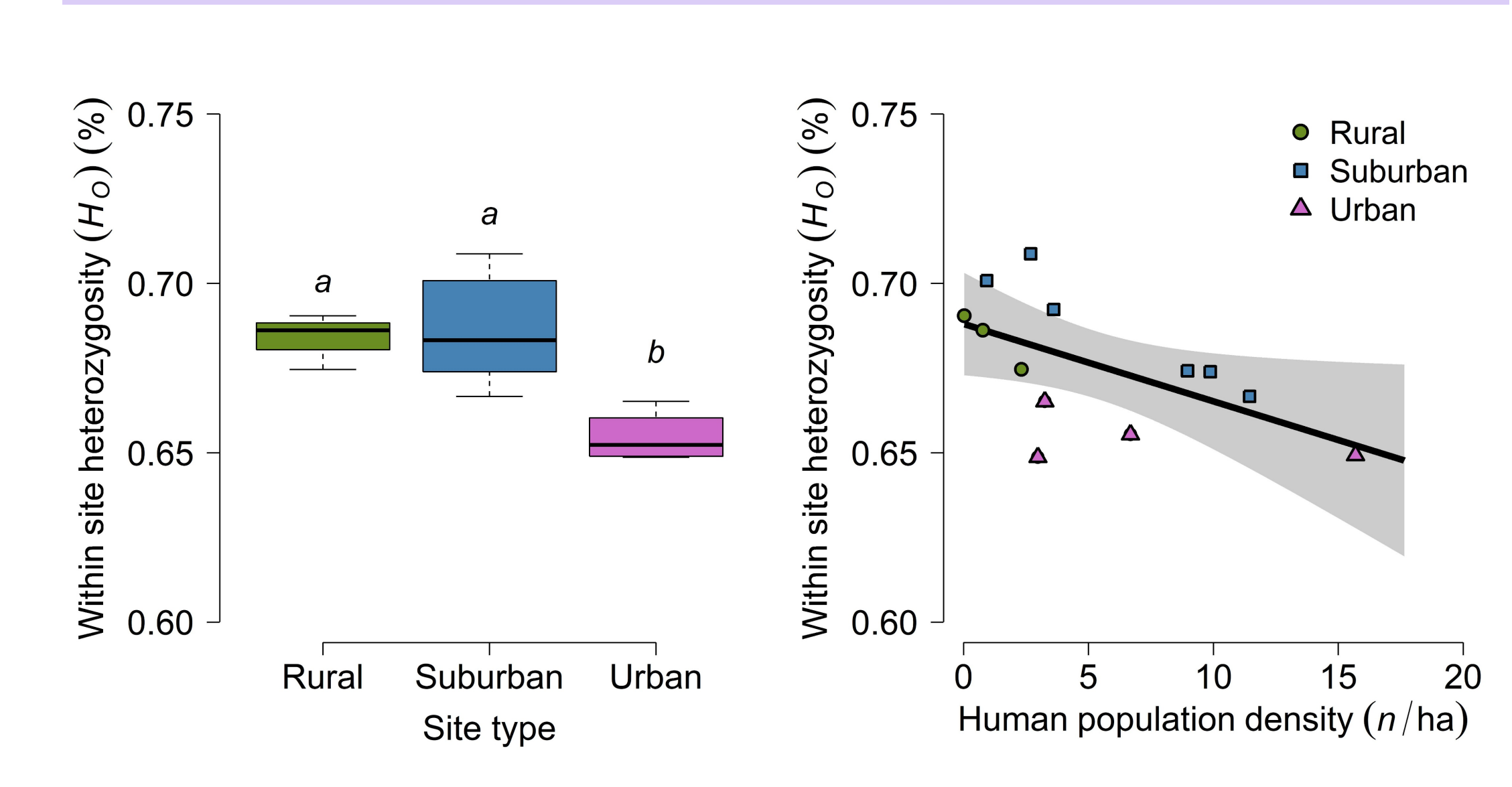
Natural land cover maintains connectivity between populations



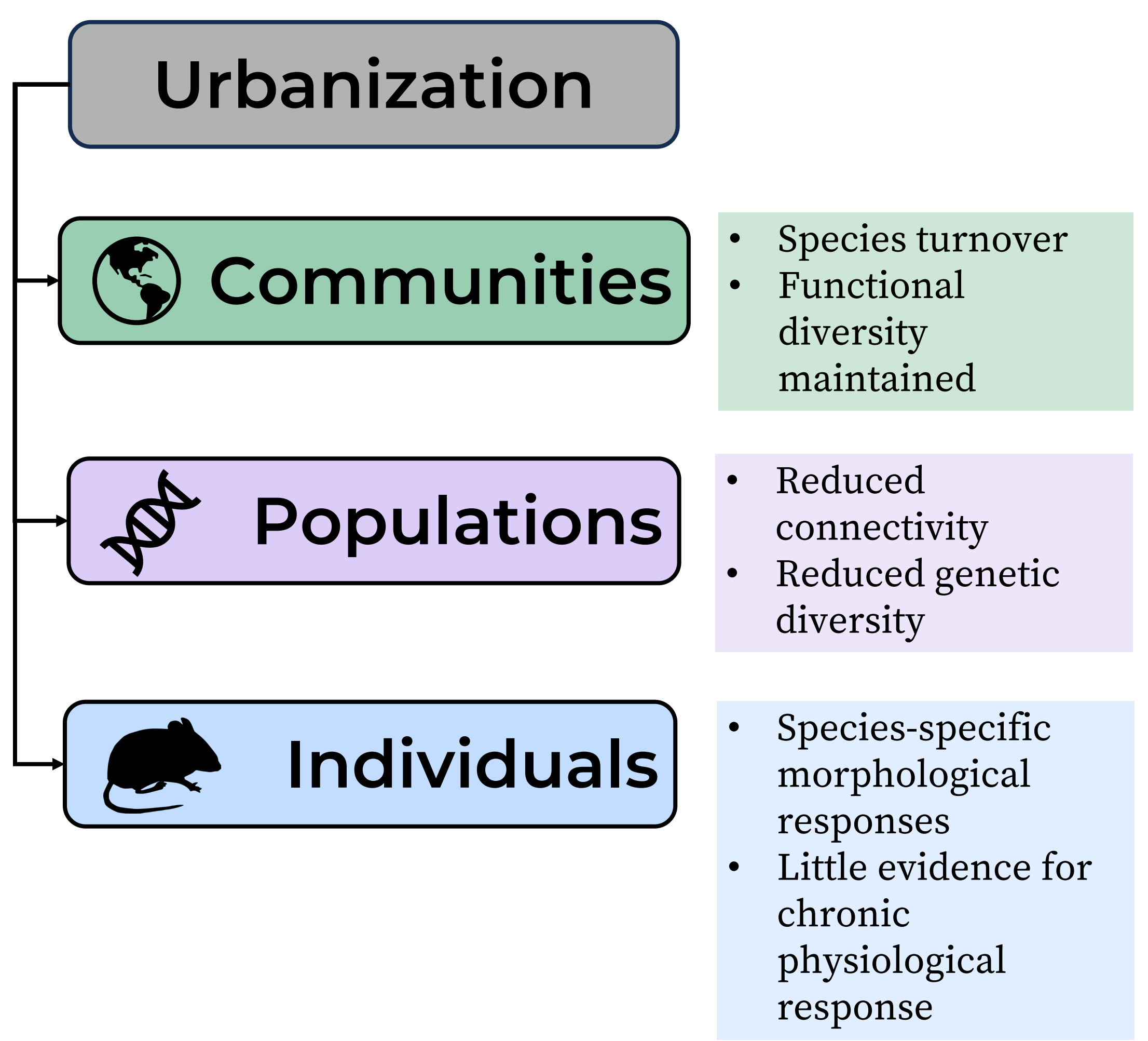
Small shift in white-footed mouse skull morphology



Isolated populations exhibit lower genetic diversity



## Conclusions



Portions of this work were funded by the National Science Foundation  
Silhouettes: *Peromyscus*: Edwin Price; *Glaucomys* and *Tamias*: Chloé Schmidt