

1. Student: Sara E. Campbell

Supervisor: Nicholas E. Mandrak

Year of Study: 4

Campbell, S.E., Mandrak, N.E. Dissecting spatiotemporal patterns of functional diversity through the lens of Darwin's naturalization conundrum. *Ecology and Evolution*. 7(11), 3862

3869. 21 April 2017. 8 °open the manuscript. A

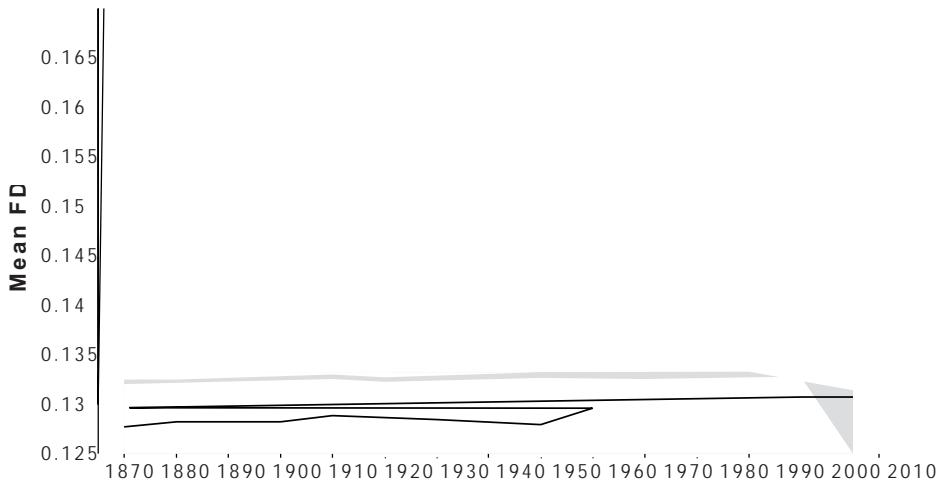
A A

A

Identifying patterns of biodiversity have historically been at the core of many and continue to remain one of the central goals in community ecology and mechanisms that regulate biodiversity, particularly species coexistence, are at spatial and temporal scale at which they are quantified. Studies typically examine functional diversity, measured as species richness but, more recently, other measures of diversity (i.e. functional, morphological, phylogenetic) have become important. They may reflect a different response to stimuli of change. The most common approach in examining temporal trends of biodiversity has been identified as the use of time series analysis at the small, large scale, and high resolution data. As such, there is a fundamental need for studies that incorporate multiple spatial scales and temporal replicates to disentangle the contributions of biodiversity to better elucidate the process responsible for assembly and the distinctiveness of species to be important for establishment.

*

We examined patterns of species richness and functional diversity over 150 years to assess the role of environmental filtering and competitive interactions in regulating community assembly processes at multiple spatial scales at higher temporal resolution (e.g. 10-year periods) than has been previously published in the invasion literature. We found that species richness does not match levels of functional diversity and that the processes regulating community assembly are highly context dependent, it highlights the need for studies to examine patterns continuously through time, choosing the appropriate spatial and temporal scales for the question of interest, and to move beyond the use of species richness.







- | -



- | -