

Abstract Detail



Biogeography

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The role of small herbaria in contributing to the understanding of biodiversity patterns.

How do small natural history collections contribute to our understanding of biodiversity patterns through space and time? To begin addressing this question, collaborators in eight states (AR, CA, CO, FL, GA, MI, TN, and WV) gathered vouchered vascular plant collection data from large and small institutions in their respective states. In each state, 40 species were randomly selected, 10 from each of four categories: rare S1, rare S2, common native, and invasive. Collection data were partitioned by size of herbarium into two classes, large (>100,000 specimens) and small (<100,000 specimens) collections. From these data sets, occurrence data were analyzed by collection size, county, specific locality, and date of collection. The four species categories were compared to determine the relative contribution of small collections to biodiversity patterns in each state surveyed. We found that small collections contribute to knowledge of county-level and site-level spatial distributions and add unique temporal elements to well-collected sites. The proportions of these contributions differ by state, species category, and geographic focus and research interests of herbarium personnel from the individual collections. Our study quantifies and summarizes these patterns, which are highly variable and show few consistencies other than small collections are important to filling spatial and temporal distribution gaps left by large collections. We conclude that any attempt to characterize biodiversity accurately must include small collections and that it is imperative, therefore, to involve small collections in national digitization and data sharing efforts.

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Related Links:

[North American Network of Small Herbaria](#)

1 - Arkansas State University, Department Of Biological Sciences, PO Box 599, State University, AR, 72467, USA

2 - Central Michigan University, Department of Biology, Mount Pleasant, MI, 48859

3 - Valdosta State University, Department of Biology, Valdosta, GA, 31698, USA

4 - Marshall University, Biological Sciences, 1700 3rd Avenue, Huntington, WV, 25755, USA

5 - 13165 Moraine Rd, Truckee, CA, 96161, USA

6 - Fort Lewis College, Department Of Biology, 1000 Rim Drive, Durango, CO, 81301, USA

7 - Middle Tennessee State University, Department Of Biology, 1500 Greenland Drive, Box 60, Murfreesboro, TN, 37132, USA

8 - Florida State University

9 - Florida State University, Department of Biological Sciences, Tallahassee, FL, 32306, USA

10 - Central Michigan University, 180 Brooks Hall, Mount Pleasant, MI, 48859, USA, 989-774-2492