

The Key to the Cabinets: Building and Sustaining a Research Database for a Global Biodiversity Hotspot

Zack Murrell Appalachian State University
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NSF-Advancing Digitization in Biological Collections (ADBC) collaborative project in the southeast

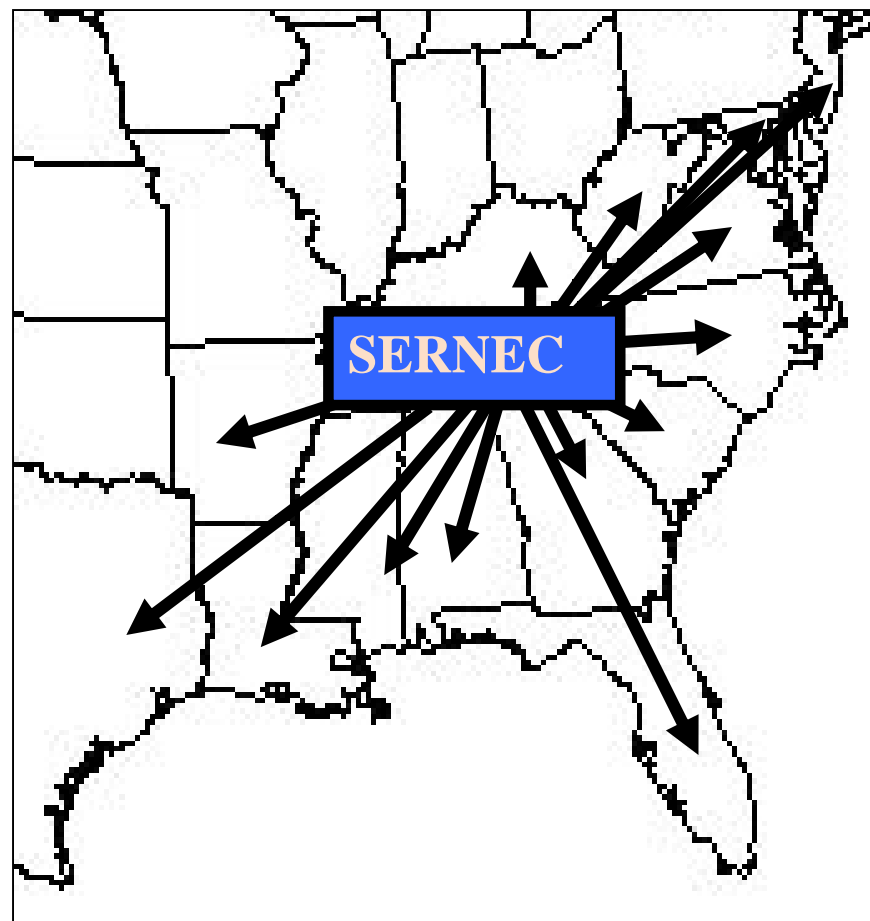
NSF ADBC #1410069 (plus collaborative awards (1410077
1410081 1410086 1410087 1410092 1410094 1410098
1410143 1410200 1410288 1410439 1410445))



SERNEC

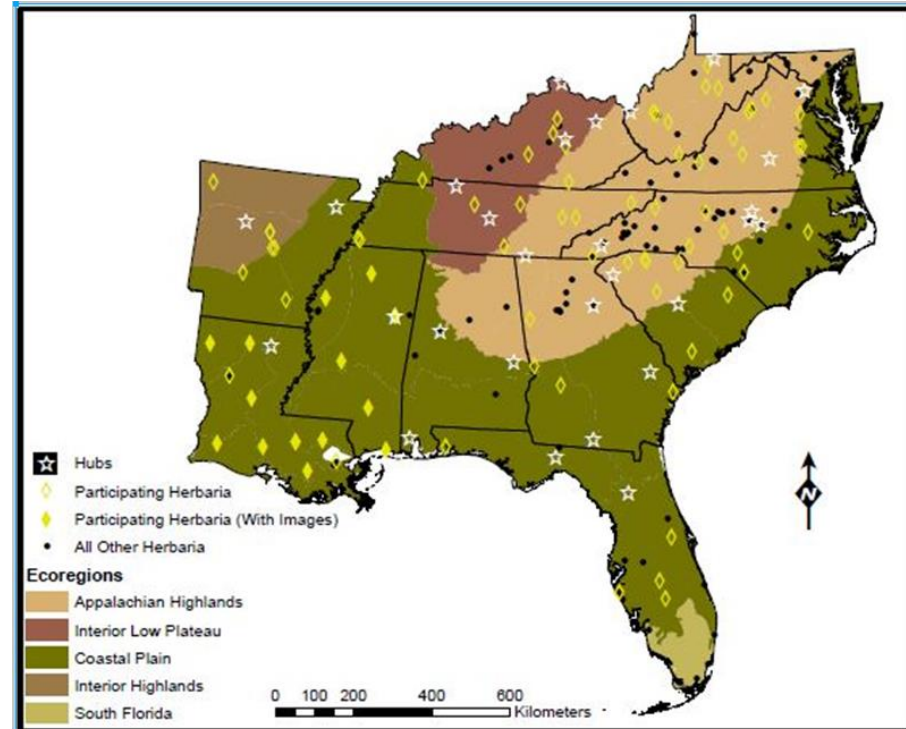
Southeast Regional Network of Expertise and Collections

- Used existing infrastructure of the Association of Southeastern Biologists
- 2005 NSF Research Coordination Network (RCN) awarded to build the 'human infrastructure' to begin the '2020 Vision effort'
- 5-year project
- 150 herbaria participated



Involvement/Management

- 93 herbaria (plus 12) – cascading network
- Data pipeline: Symbiota/SEINet
- Data storage: iPLANT-TACC)
- Citizen scientists
 - Notes From Nature
 - GEOLocate
 - Adler Museum-Zooniverse
- Education experts
- Herbarium Affiliates
- Natural Heritage Programs
- iDigBio and Specify
- Southeast Chapter of Society of Herbarium Curators



SERNEC data / accomplishments

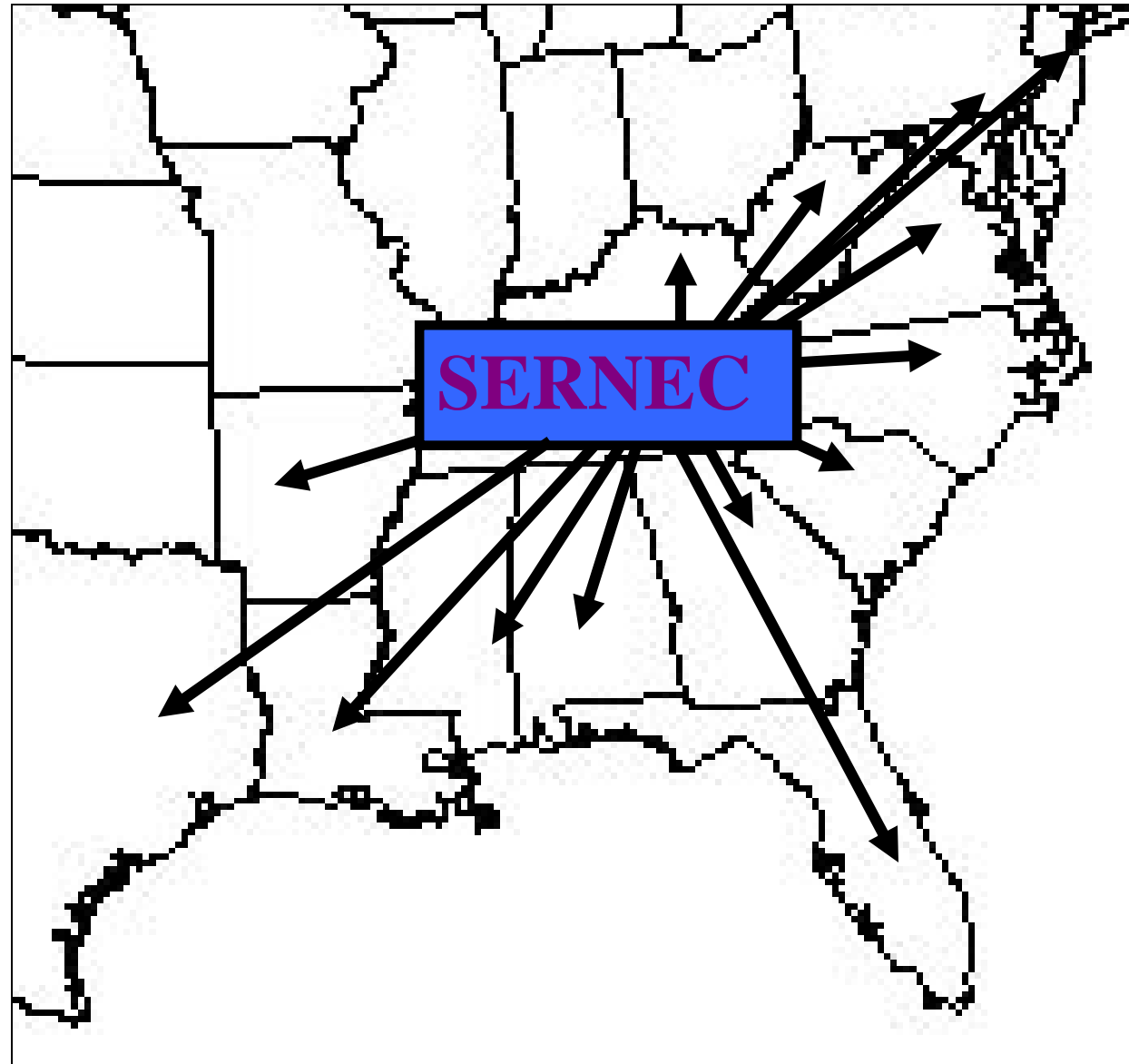
- ❖ 2,341,003 specimen records (goal: 4,565,213)
- ❖ 1,703,880 (73%) imaged
- ❖ 339,771 transcriptions (40K in new NfN framework)
- ❖ 128,205 (5%) georeferenced
- ❖ 26 collections are publishing to iDigBio as of today
- ❖ 1,443,029 (62%) identified to species; 593 families, 4,481 genera, 25,463 species
- ❖ 30,486 total taxa (including subsp. and var.)

- ❖ 200+ students trained
- ❖ 50+ abstracts and publications
- ❖ Multiple symposia and workshops
- ❖ All workflows, documents, etc. at: <http://sernec.appstate.edu/>

Long term challenges (and what have we learned)

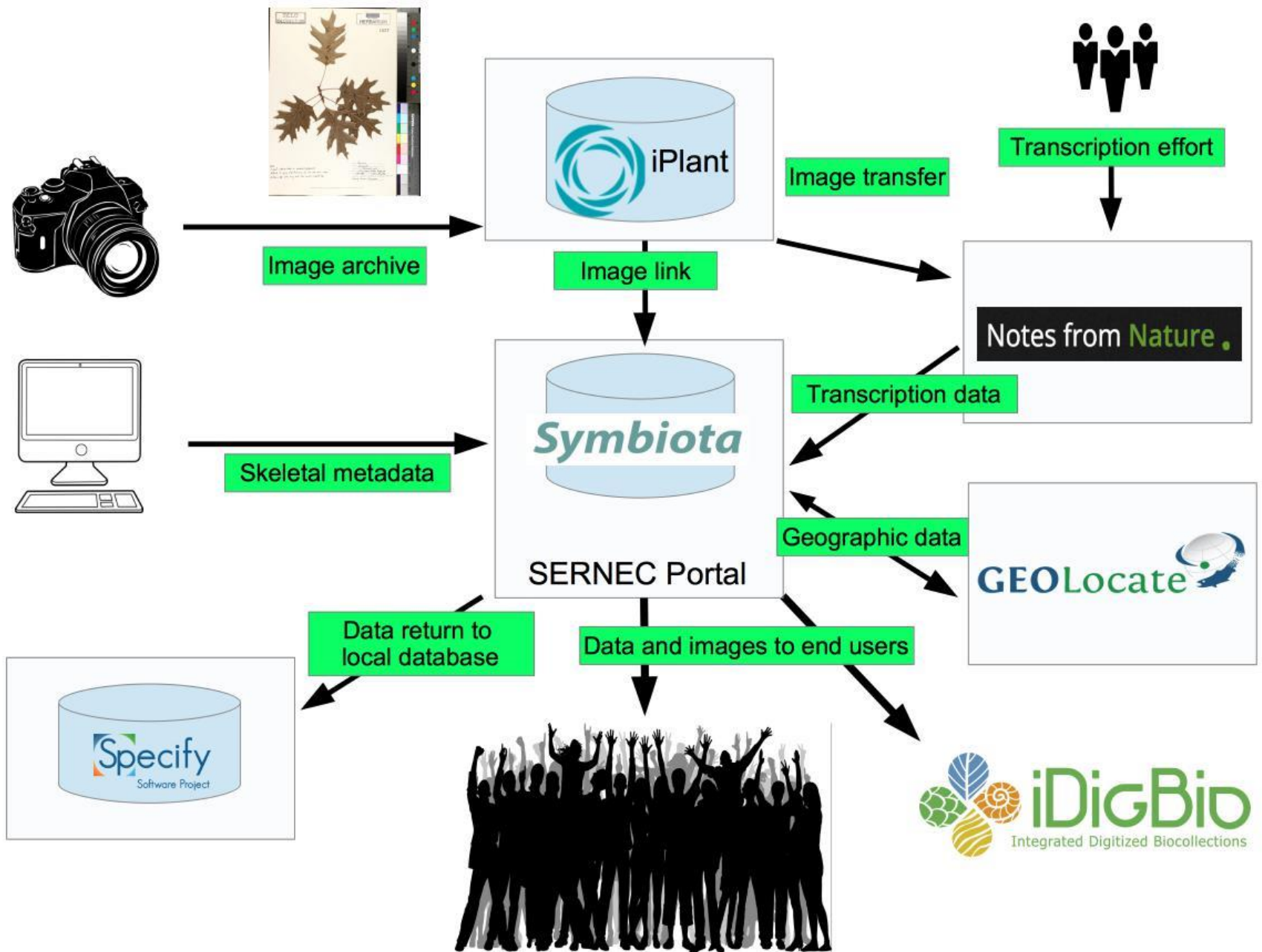
- 15M specimens available
- Long term data storage: local or regional
- Data attribution: credit for work
- Data protection: what to mask?
- Expansion into new research projects
(concept mapping, phylogeography)
- Maintain system as “best practice” for the community
- Governance: Society of Herbarium Curators
- Community = sustainability and resiliency

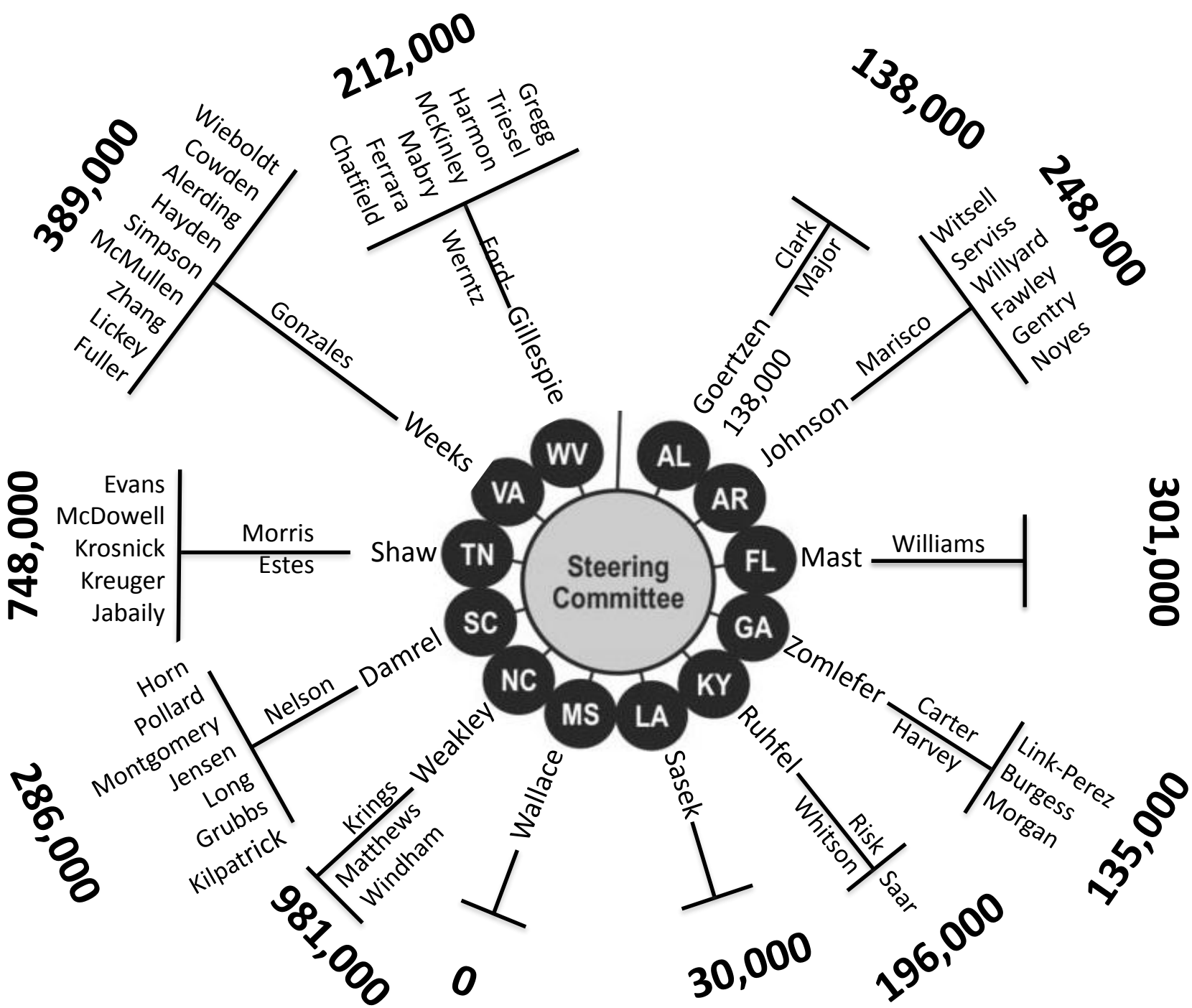
SERNEC: SouthEast Regional Network of Expertise and Collections



National Science Foundation
Research Coordination Network
RCN Award # 0542320

National Science Foundation
Advancing Digitization of
Biological Collections
Award # 1410069





Emily Gillespie - Marshall University – The Marshall University Herbarium: A Model for Engaging Student Curators in Small Herbarium Digitization Efforts

Carol Ann McCormick – UNC-Chapel Hill - DWG's, Poor Penmanship & Posthumous Slaps: Georeferencing Herbarium Specimens with Cryptic Labels"

Jason Best – Botanical Research Institute of Texas - Digitization Workflow Automation at BRIT

Brad Ruhfels – Eastern Kentucky University - The “Key to the Cabinets” Opens Many Doors

Andrea Weeks - George Mason University - Data Redaction for Virginian-collected Herbarium Specimens on Symbiota: Developing a Consensus Among Stakeholders

Alexander Krings – NC State University - Data redaction discussions in North Carolina

Nelson Rios - Tulane University – Engaging the Group in Georeferencing using GEOLocate

Michael Denslow - Appalachian State University - Notes From Nature and SERNEC: Leveraging a Citizen Science Tool for Large Scale Digitization of Herbarium Labels

Ashley Morris and James Beck– Middle Tennessee State University and Wichita State University- Expanding the Role of SERNEC: Opportunities to Address Old Taxonomic Problems With New Collaborative Approaches

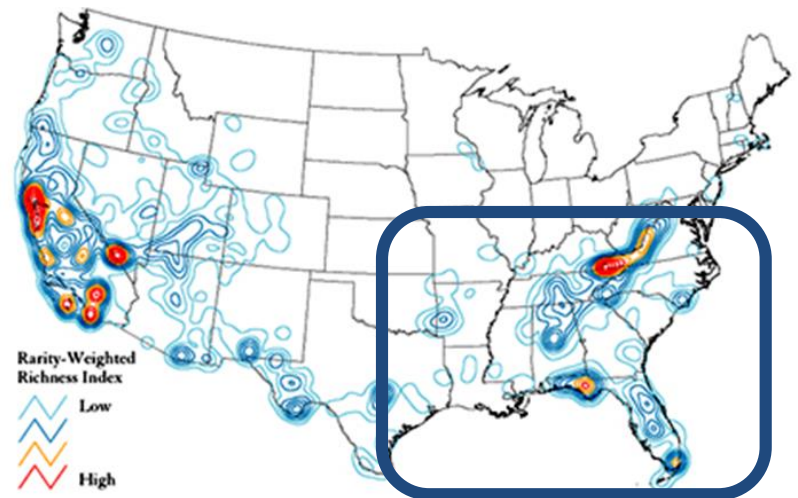
Austin Mast – Florida State University - Crowdsourcing 10 Million Transcriptions —Multiple Strategies for Success With Digitization While Increasing STEM Literacy

Roland Roberts – National Science Foundation – National Science Foundation Funding Opportunities for Improved Collections Security and Digitization

What are the ADBC project goals?

Use our robust human infrastructure

- 1) improve protocols at every stage of specimen digitization.
- 2) interface with citizen scientists to develop a strong collaborative community that will sustain high transcription and georeferencing rates through a multi-year effort.



Source: Precious Heritage (2000) © TNC, NatureServe