Large and Small Collections:
Partners in a Time of Challenges and Opportunities

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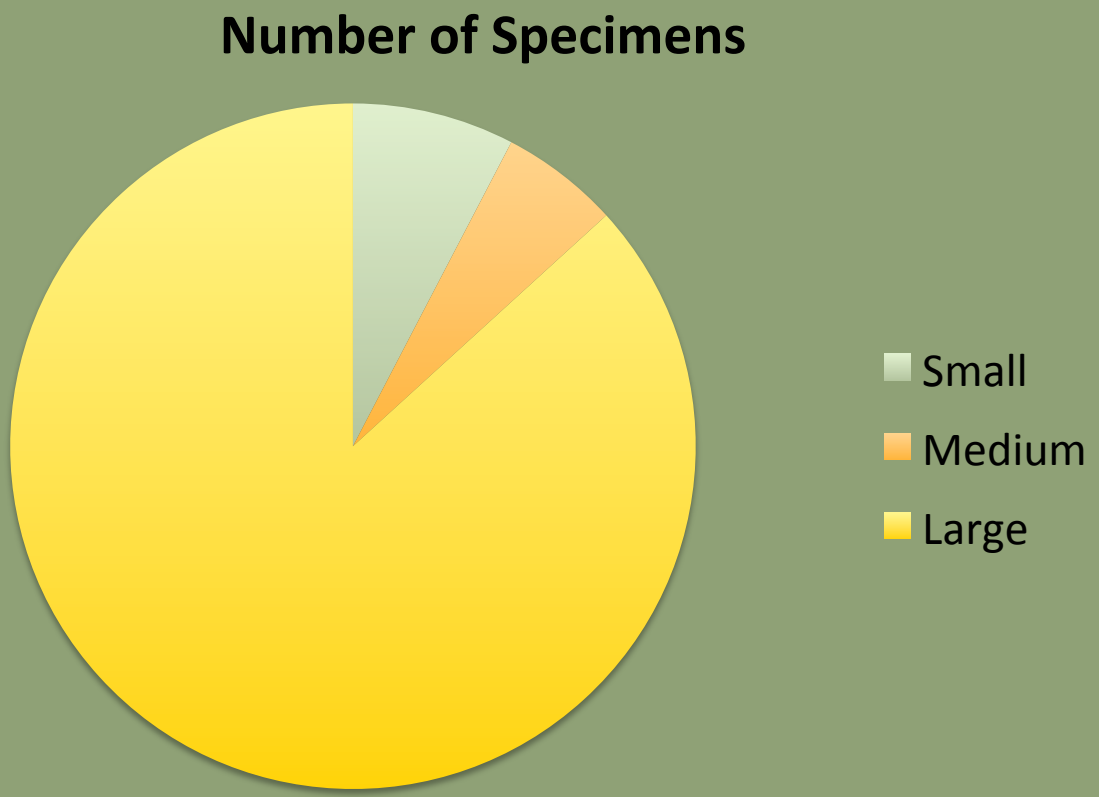
Definitions and Characterizations of U. S. Collections

Based on Data from Index Herbariorum, May 2014

Definitions and Characterizations:

Herbarium Specimens in US Collections



Herbarium Size Class	Number of Specimens	% of Total
Small	5573284	7.7
Medium	4077081	5.5
Large	63248221	86.8
	72898586	

Definitions and Characterizations

Size Classes and Age

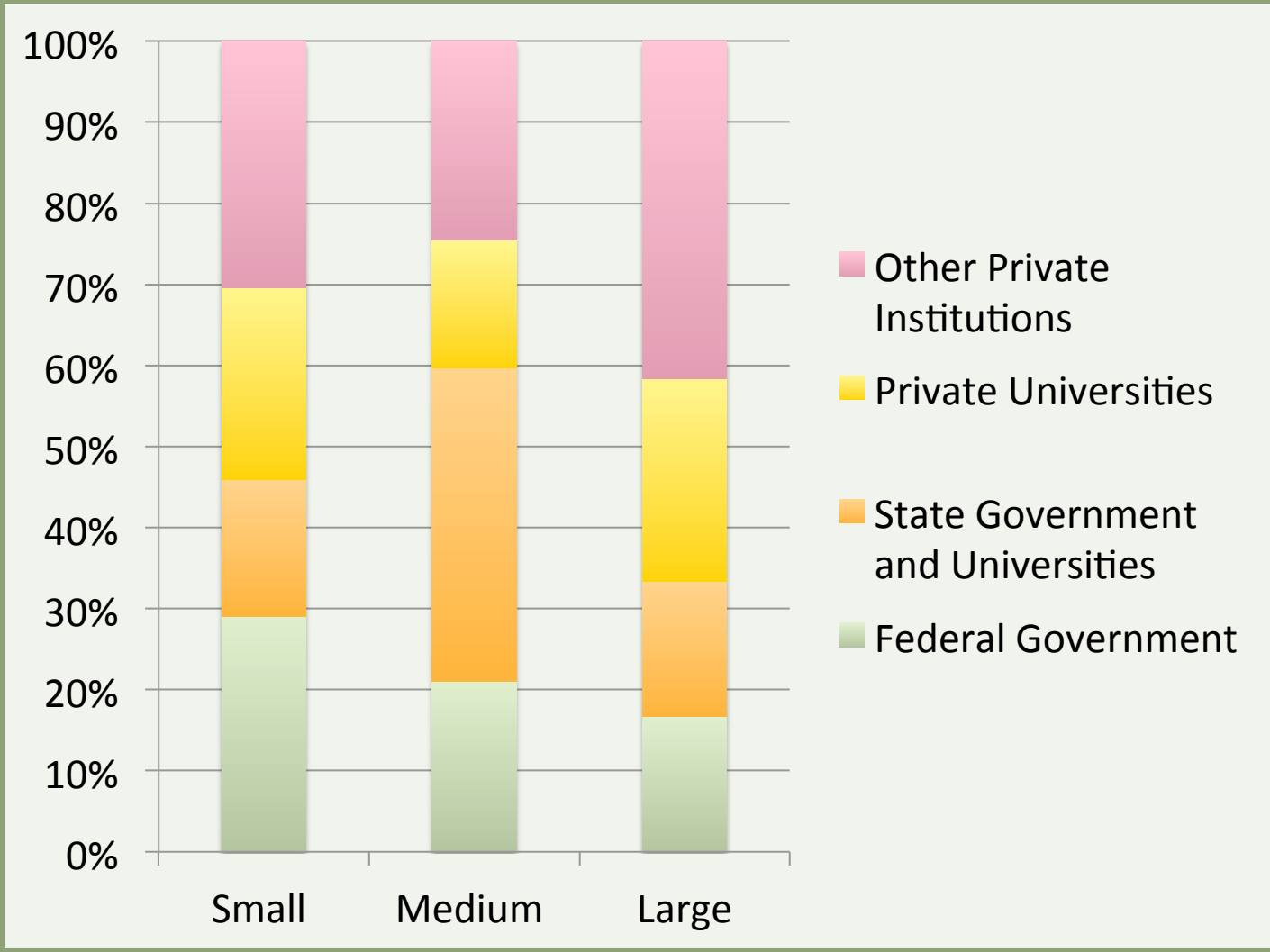
Type	Large	Medium	Small
Size Range	100,000 and larger	50,000-99,999	49,000 and smaller
# Herbaria	101[1]	58	429[2]
Average age	1897	1934	1946

[1] Very large (more than 500,000 specimens): 32

[2] Very small (fewer than 20,000 specimens): 211

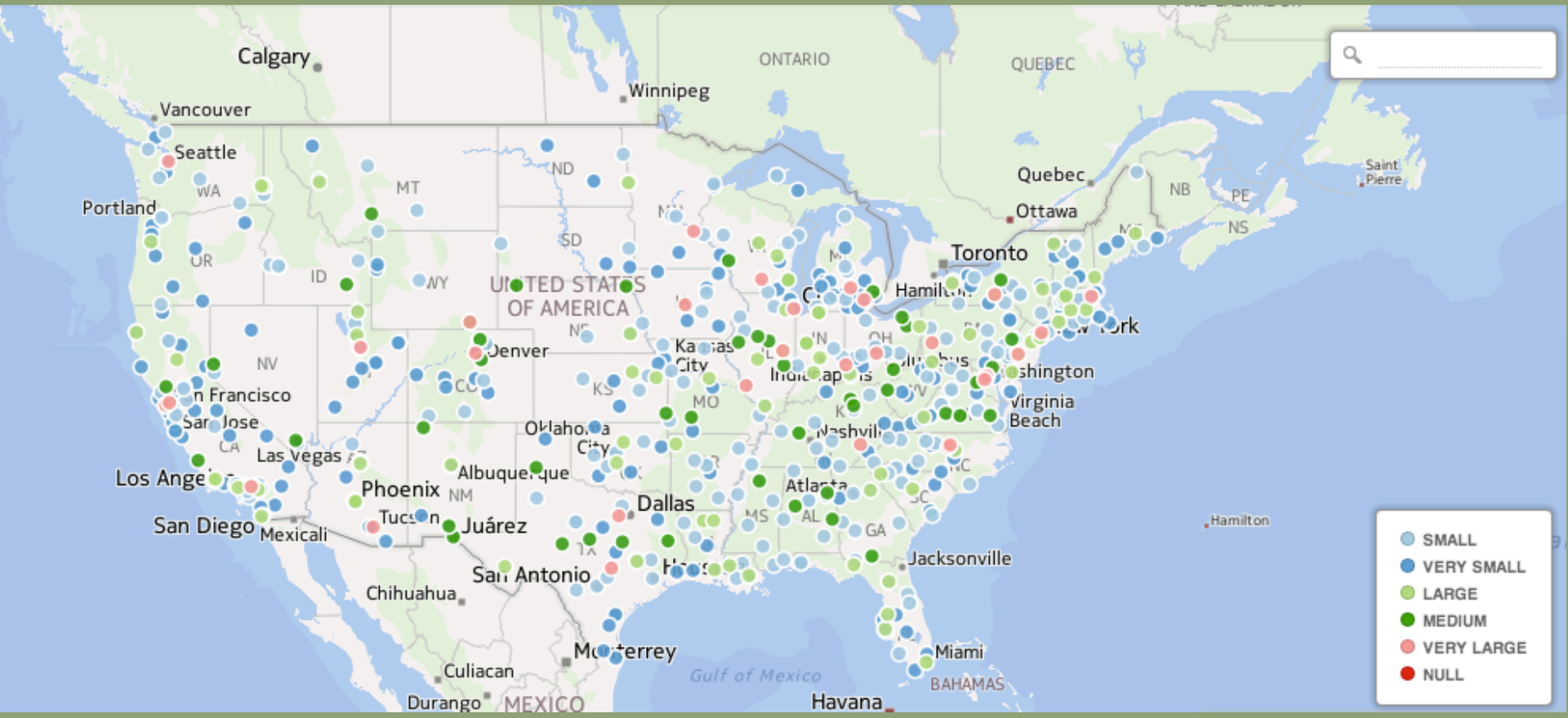
Definitions and Characterizations

Affiliations of Herbarium Size Classes



Definitions and Characterizations

Geographical Distribution



Characteristics of Small and Large Collections

Small Collections

- Regional, or taxon focused; often with one or two main collectors
- Contains many collectors, collections not duplicated elsewhere
- Proportion of collections made by non-professionals is higher
- Collections less studied by broad inventory, monographic studies
- Collections in need of physical support; collection space crowded, deficient in other respects
- No or very few dedicated staff
- Small or non-existent budget
- Little recognition or support from administration
- Joins collaborative projects

Large Collections

- Collections span a large geographic, temporal and taxonomic range
- Up to 40% of collection may be duplicated elsewhere
- Collection contains specimens by well-known collectors
- Collections frequently studied by broad inventory, monographic studies
- Collections in need of physical support; collection space crowded, deficient in other respects
- Dedicated staff, but usually insufficient
- Insufficient budget
- Recognition from administration, but likely an inadequate understanding of the collections needs.
- Initiate collaborative projects

Collaborations Among Collections

Interest Groups for Small and Large Collections

SPNHC
ADVANCING COLLECTIONS CARE

SciColl
Scientific Collections International

ASPT

NSC
ALLIANCE

US Virtual Herbarium

Society of Herbarium Curators
Uniting Herbaria Across the Nation and Around the World

Geographically-Based Herbarium Networks

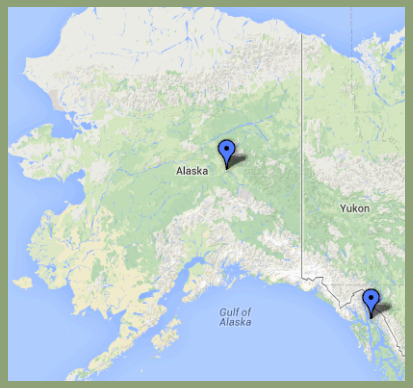
Advancing Digitization of Biological Collections

iDigBio
Integrated Digitized Biocollections

NSF

Large and Small Collections

Thematic Collections Network



The Macrofungi Collections Consortium

- Consists of 35 institutions in 24 states:
  - Thirty one large and small universities (20 large, 10 small and medium; smallest has about 1000 specimens)
  - Two botanical gardens
  - Two natural history museums
  - One federal collection (Beltsville)

Project Goal

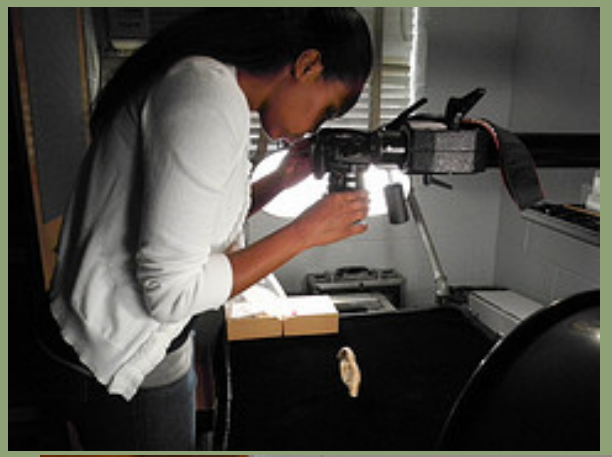
To build an enduring alliance of the U.S. herbaria whose collections document the past 150 years of research on macrofungi that will digitize and share specimen data in support of a wide range of scientific and educational objectives

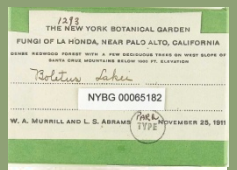


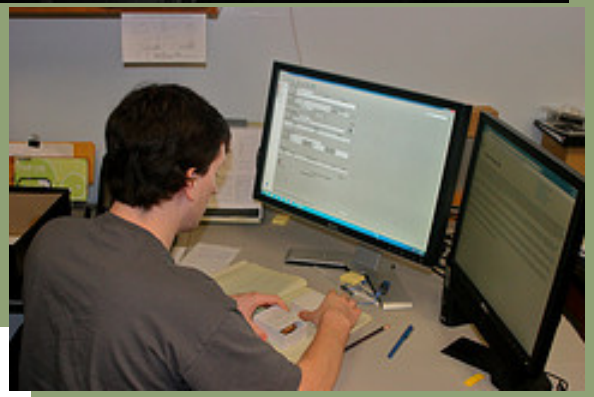

Digitize Specimen Data, Fieldnotes, Photographs

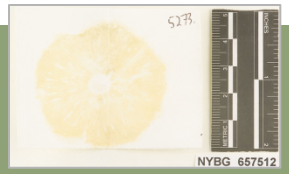
Data to be digitized:

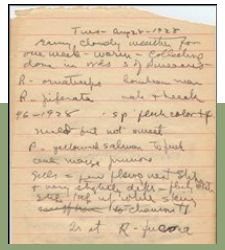
- 700,000 specimen records (combined with 600,000 previously digitized specimens for a total of 1.3 million)
- 70,000 specimen images
- 144,260 photographs of living fungi (represented in specimen collections)
- 26,092 fieldbook pages
- 355,220 field notes, spore prints

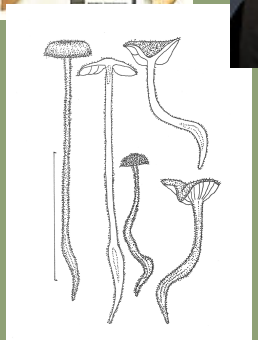












Large and Small Collections
Specifics of a Collaboration: MaCC Project

- Three day training course, either at NYBG or home institution
- Imaging equipment for all institutions
- Opportunities for students, labor and training
- Funds for travel to a scientific meeting every year
- Helpdesk function
- Comprehensive user manual

Large and Small Herbaria
Specifics of a Collaboration: MaCC Project

Benefits of participation:

- Digitized collections; ability to do additional digitization projects
- Employment for students
- Increased visibility for herbarium, internally and externally
- Increased exposure and potential use of collections

Large and Small Collections
Specifics of a Collaboration: MaCC Project

What the small collections bring to the collaboration

- Enthusiasm
- Little-known collections
- Broader impacts, geographic diversity
- Capacity building for the nationwide collections community

Large and Small Collections
Specifics of a Collaboration: MaCC Project

Liabilities of Collaborating with Smaller Institutions

- Hard to get in touch with them!
- May not be registered with NSF as an approved grant recipient
- May require more training assistance
- May have gaps in labor that make it difficult for the project to be completed on time.

Getting the Most from ADBC for Small Collections

How to increase participation by small institutions in the next 6 years:

- Take the lead on a proposal!
- Make your interest in participating in a project known – reach out to the large institutions with similar content
- Make sure people know how to reach you
  - Update registry information
  - Appeal to iDigBio to help set up a register or Craig's List –name and contact info, collection strengths, what they can offer with regard to broader impacts –

Getting the Maximum from ADBC

What a Small Collection Should Ask For

- Your own imaging equipment.
- Salary support for a supervisor for the project, as well as for hourly student labor.
- Support for sufficient digital storage to keep a copy of your own data (collaborate with your library to maintain this archive; and have a plan for updates).
- Funds for an outreach activity that raises the visibility of your collection with your institution and the general public

Beyond ADBC

- Directorate for Biological Sciences
  - Division of Biological Infrastructure (DBI)
    - Research Experience for Undergraduates (REU), Collections in Support of Biological Research (CSBR)
  - Division of Environmental Biology (DEB)
    - Systematics and Biodiversity Science Cluster
    - Geneology of Life
- Emerging Frontiers
  - Geneology of Life
  - Dimensions of Biodiversity

Other ideas for Collaboration

Joint internships

- Intern from a small school does an internship at a large collection; obtains data important to small collection, or research program of curator of small collection

Joint short courses

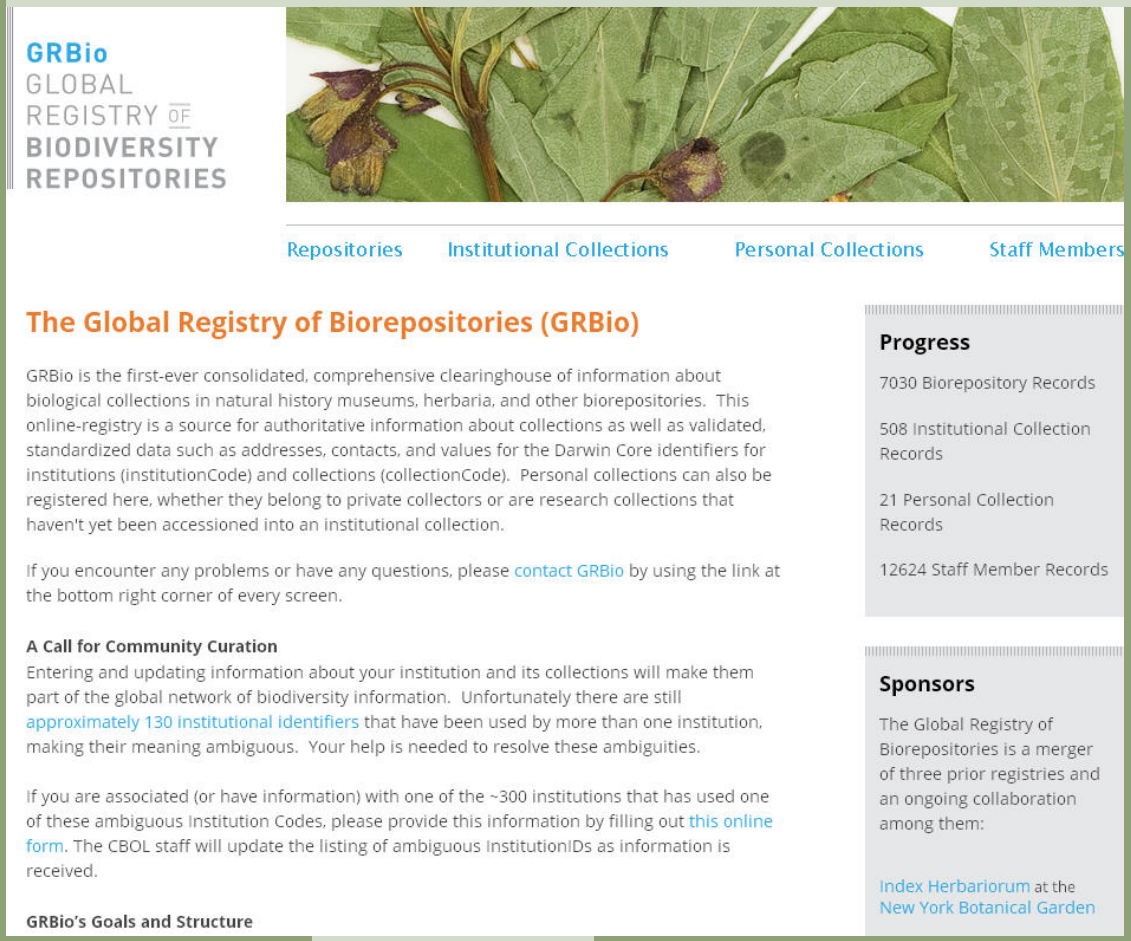
- Tri-trophic TCN may provide a model; also UF online courses

Visits, study tours, work parties – in both directions!

Recommendations

- Update your data in the registry
  - GRBIO , IH (for herbaria)
- Join an organization
  - SPNHC, NANSH, etc. SHC, etc
- Network
  - Find a large collection in your region or collection type and start a conversation
  - Look for a TCN to join
  - Attend an iDigBio Workshop

A Plea for Better Collection/Repository Documentation



grbio.org

Current contents:

US repositories: 1053 (620 are herbaria)

Number of specimens: 73,281,161 (72898586 are plants!)

NEED BETTER DATA FOR NON-HERBARIUM COLLECTIONS!

Contacts

Registries:
GRBio (grbiolorg)
Index Herbariorum (http://sweetgum.nybg.org/ih/)

URLS:
Spnhc.org
NANSH.org
iDigBio.org

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