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 2015

Index Herbariorum
Part I: The Herbaria of the World
Definitions and Characterizations: Herbarium Specimens in US Collections

Distribution of U.S. Specimens Across U.S. Institutions

<table>
<thead>
<tr>
<th>Herbarium Size Class</th>
<th>Number of Specimens</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>5573284</td>
<td>7.7</td>
</tr>
<tr>
<td>Medium</td>
<td>4077081</td>
<td>5.5</td>
</tr>
<tr>
<td>Large</td>
<td>63248221</td>
<td>86.8</td>
</tr>
</tbody>
</table>

| Total                | 72898586            |            |
## Definitions and Characterizations

### Size Classes and Age

<table>
<thead>
<tr>
<th>Type</th>
<th>Large</th>
<th>Medium</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Range</td>
<td>100,000 and larger</td>
<td>50,000-99,999</td>
<td>49,999 and smaller</td>
</tr>
<tr>
<td># Herbaria</td>
<td>101&lt;sup&gt;1&lt;/sup&gt;</td>
<td>58</td>
<td>429&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Average age</td>
<td>1897</td>
<td>1934</td>
<td>1946</td>
</tr>
</tbody>
</table>

<sup>1</sup> Very large (more than 500,000 specimens): 32

<sup>2</sup> Very small (fewer than 20,000 specimens): 211
Definitions and Characterizations

Affiliations of Herbarium Size Classes

- Other Private Institutions
- Private Universities
- State Government and Universities
- Federal Government

Affiliations for Small, Medium, and Large herbarium size classes are shown in the diagram.
Collection Focus

- Small Herbaria
- Medium Herbaria
- Large Herbaria

- Other (e.g., habit, habitat)
- Taxonomy
- Region within a state
- State
- Regional (multi-state, country)
- Worldwide
Definitions and Characterizations

Geographical Distribution
Problems Facing Small and Large U.S. Herbaria

Small Collections

• Collections in need of physical support; collection space crowded, deficient in other respects
• No or very few dedicated staff
• Insufficient budget
• Little recognition or support from administration

Large Collections

• Collections in need of physical support; collection space crowded, deficient in other respects
• Dedicated staff, but usually insufficient
• Insufficient budget
• Recognition, but likely an inadequate understanding of the collections needs.
Collaborations Among Collections: Organizations

North American Network of Small Herbaria

ASPT

SciColl Scientific Collections International

NSC Alliance

Biodiversity Collections Network

Natural History Museum Leaders Group

American Society of Mammalogists

Society of Herbarium Curators

Uniting Herbaria Across the Nation and Around the World
Collaborations Among Collections: Geographically-Based Networks
Advancing Digitization of Biodiversity Collections
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)
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 Collections
Specifics of a Collaboration: MaCC Project

What the small collections bring to the collaboration

- Enthusiasm and focus
- Little-known, unique collections
- Broader impacts, geographic diversity
- Capacity building for the nationwide collections community
Large and Small Collections
Thematic Collections Network
How to increase participation by small institutions in the next 6 years:

• Take the lead on a proposal or join as a PEN
• 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
  • “Match.com” – name and contact info, collection strengths, what they can offer with regard to broader impacts

Getting the Most from ADBC for Small Collections
Other Collaborations

Standard protocol for recording/modifications made to collections data for research projects

Collections Metadata – an inventory of the types of collections held in the U.S. based on taxonomy, geography, age/date, collector or expedition

Identify biodiversity knowledge gaps
Thanks