iDigBio

Integrated Digitized Biocollections

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (Cooperative Agreement EF-1115210). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation. All images used with permission or are free from copyright.

Introduction to iDigBio

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EMu SIG Workshop
Philadelphia

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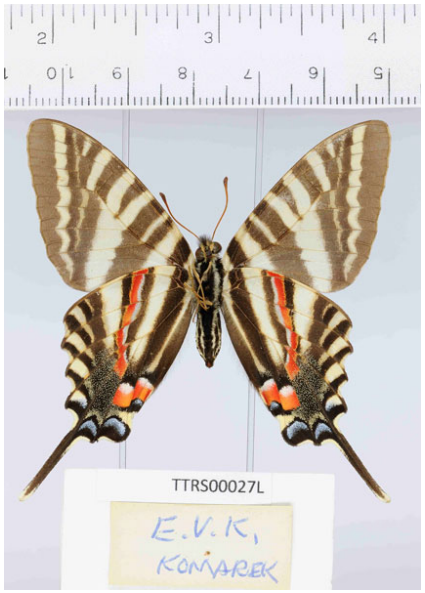
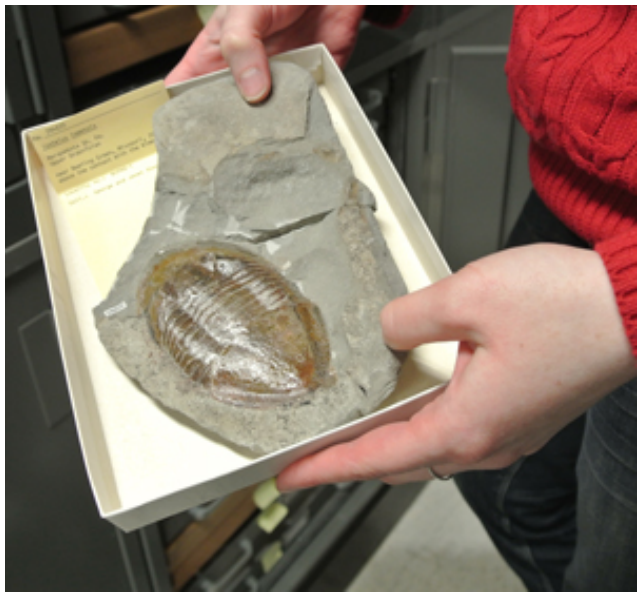
Estimates suggest that there are between 500 million and one billion biological and paleobiological specimens in the United States, perhaps 3+ billion worldwide. No one really knows for sure!





In an effort to make these collections universally accessible to taxonomists, ecologists, researchers, and the general public, in 2011 the U.S. National Science Foundation launched a $100 million, 10-year Advancing Digitization of Biodiversity Collections program and named the University of Florida and Florida State University jointly as the coordinating center and national resource for digitization.

The scope of our work is limited to public, non-federal, U.S. collections, though NSF has encouraged us to develop international collaborations.

The goal is to digitize and make available via the Web records for **all biological and paleontological collection objects in N. America** over the 10-year life of the project.

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Currently pursuing our 5th year of operation.

Recently renewed for a second 5 years.

The Alphabet – A Few Acronyms

ADBC (Advancing Digitization of Biodiversity Collections)
TCN (Thematic Collections Network)
PEN (Partner to Existing Network)
CSBR (Collections in Support of Biological Research)
NIBA (Network Integrated Biocollections Alliance)
BCoN (Biodiversity Collections Network)
RCN (Research Coordination Network)

Digitization

Converting analog specimen data to digital format, to include transcription of text data (labels, catalogs, field notes, etc.) and recording specimen images.

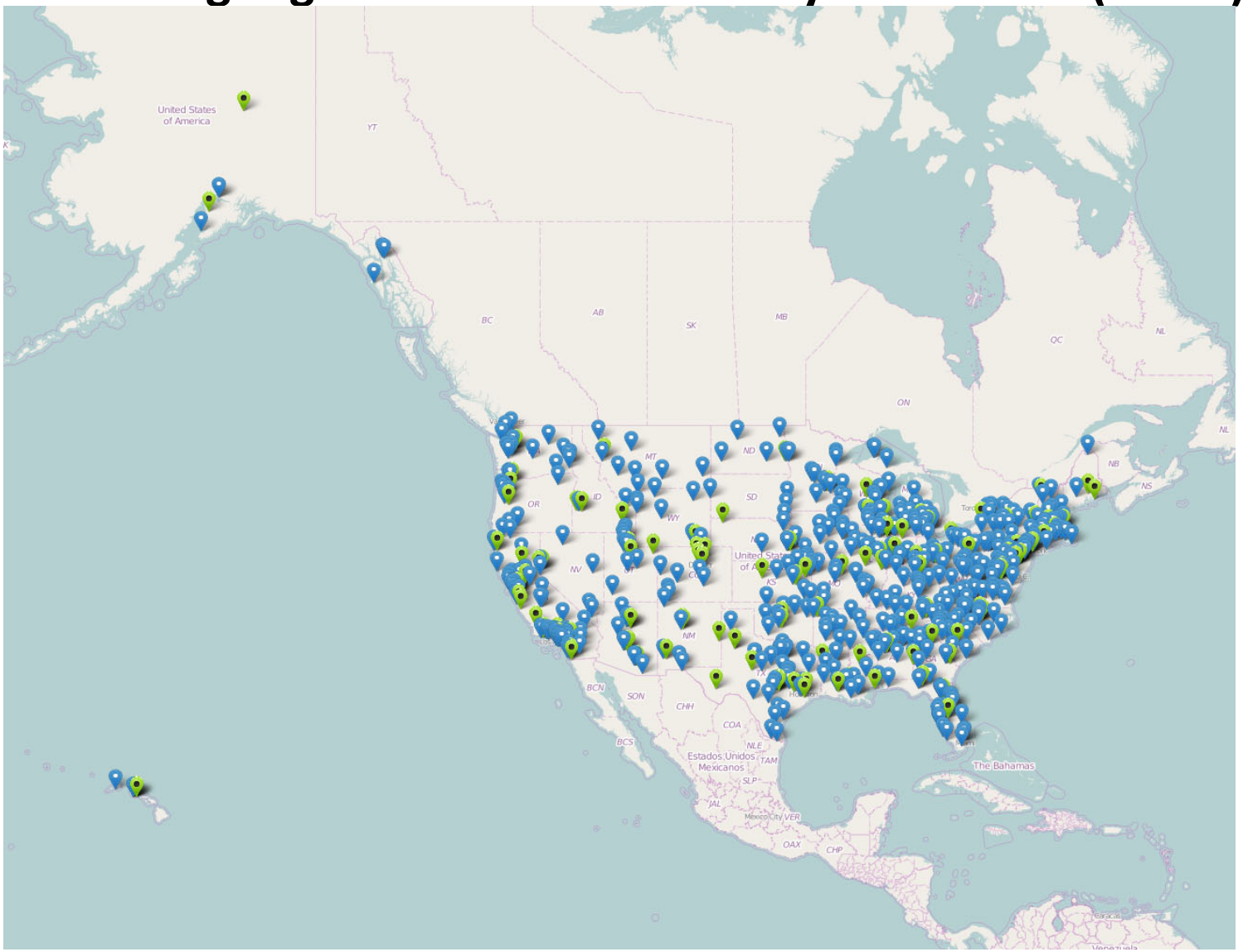
Mandate and Responsibility

- Provide/facilitate portal access to collections data
  - Make information available and discoverable
  - Label Data and images
- Enable digitization and research
  - Facilitate digitization workflows
  - Oversee implementation of standards and best practices for digitization
  - Allow for data discovery across organismal groups
- Be a client of digitization projects/networks
  - Actively seek partners and data sources
  - Respond to cyberinfrastructure needs
- Engage communities
  - Collections
  - Research
  - Citizen science and education
- Support ADBC goals
  - Access to information
  - Support for collections
  - Sustainability

Fifteen Thematic Collections Networks (TCNs), 15 PENs

- InvertNet: An Integrative Platform for Research on Environmental Change, Species Discovery and Identification (*Illinois Natural History Survey, University of Illinois*) http://invertnet.org
- Plants, Herbivores, and Parasitoids: A Model System for the Study of Tri-Trophic Associations (*American Museum of Natural History*) http://tcn.amnh.org
- North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change (*University of Wisconsin – Madison*) http://symbiota.org/nalichens/index.php http://symbiota.org/bryophytes/index.php (plus 2 PENs)
- Digitizing Fossils to Enable New Syntheses in Biogeography - Creating a PALEONICHES-TCN (*University of Kansas*)
- The Macrofungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs (*New York Botanical Garden*)
- Mobilizing New England Vascular Plant Specimen Data to Track Environmental Change (*Yale University*)
- Southwest Collections of Anthropods Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research (*Northern Arizona University*) http://hasbrouck.asu.edu/symbiota/portal/index.php
- iDigPaleo: Fossil Insect Collaborative: A Deep-Time Approach to Studying Diversification and Response to Environmental Change
- Developing a Centralized Digital Archive of Vouchered Animal Communication Signals (*Cornell University, Laboratory of Orthithology)*
- The Macroalgal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the Marine/Aquatic Environment
- Collaborative: Documenting the Occurrence through Space & Time of Aquatic Non-indigenous Fish, Mollusks, Algae, & Plants Threatening North America's Great Lakes
- Collaborative Research: The Key to the Cabinets: Building and Sustaining a Research Database for a Global Biodiversity Hotspot
- InvertEBase: reaching back to see the future: species-rich invertebrate faunas document causes and consequences of biodiversity shifts
- The Microfungi Collections Consortium: A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems (MiCC)
- Documenting Fossil Marine Invertebrate Communities of the Eastern Pacific - Faunal Responses to Environmental Change over the last 66 million years (PCMIF)

Advancing Digitization of Biodiversity Collections (ADBC)



To date: 15 TCNs, ~300 unique institutions, 50 states

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Insects and other arthropods (4)

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Vascular plants, algae, fungi (8)

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Fossils (3)

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Vertebrates (2)

Key Features of iDigBio

- Ingest **all contributed data** with emphasis on use of **GUIDs**, no restrictions
- Maintain **persistent datasets** and **versioning**, allowing new and edited records to be uploaded as needed while preserving existing records
- Ingest **textual** specimen records, plus associated still **images, video, audio, and other media** (or links to these resources as determined by the provider)
- Ingest linked documents and **associated literature**, including field notes, ledgers, monographs, related specimen collections, etc.
- Provide **virtual annotation** capabilities and track annotations back to the originating collection (collaborating with FilteredPush)
- Facilitate sharing and integration of data relevant to biodiversity research
- Provide computational services for biodiversity research

Advancing Digitization of Biodiversity Collections (ADBC)

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Information Dissemination

In March 2012, the iDigBio Steering Committee established a series of preparation-specific digitization training workshops focused on helping collections managers get started with and/or enhance local digitization programs, all to be held at host institutions.

- DROID (Developing Robust Object->Image->Data, May 2012)
- Herbarium digitization (Valdosta State, September 2012)
- Fluid-preserved collections digitization (U. Kansas, March 2013)
- Dried insect collections digitization (Field Museum, April 2013)
- Collections Digitization (West Virginia, ASB, April 2013)
- Imaging fluid-preserved invertebrates (U. Michigan, September 2013)
- Georeferencing Train-the-Trainers (iDigBio, Gainesville, August 2103)
- Paleontology digitization (Yale Peabody Museum, September 2013)
- Small Herbarium Digitization (Florida State University, December 2013)
- Digitization in the South Pacific (Honolulu, March 2014)
- Paleoimaging (Austin, TX, April 2014)
- Small Herbarium Digitization (Boise, Botany 2014, July 2014)
- Leveraging Digitization Knowledge Across Multiple Domains (Santa Barbara, October 2014)
- CT Scanning and Visualization Short Course (University of Texas, February 2015)
- Vertebrate Digitization (Cornell, May 2015)
- The Contribution of Small Natural History Collections in the 21st Century (SPNHC, May 2015)
- Managing Natural History Collections Data for Global Discoverability (Arizona State, September 2015)
- Digitizing Biological Field Stations (Rocky Mountain Biological Laboratory, September 2015)

Product-oriented Workshops

- Augmenting OCR Hackathon (Ft. Worth, February 2103)
- Original Source Materials Digitization (Yale Peabody Museum, March 2014)
- Recruiting and Retaining Small Collections in Digitization (Mt. Pleasant, MI, April 2014)
- CitScribe Hackathon (iDigBio, Gainesville, December 2013)
- Education and Outreach (iDigBio, Gainesville, January 2014)
- Workflows for Herbarium Digitization (Valdosta State, January 2015)

Mobilizing Dark Data

In an early press release announcing the first round of Advancing the Digitization of Biodiversity Collections (ADBC) awards (July 8, 2011), the National Science Foundation (NSF) several times referenced the importance of what it called "**dark data**"—data that are essentially inaccessible to most biologists, ecologists, policy-makers, the general public, and other scientists.

The longest tail of these "dark data" may well be locked up in small collections that lack sufficient resources to mobilize them for broad use.

Tall Timbers Research Station
Lucien Harris
Butterflies of Georgia
Lepidoptera Collection


iDigBio
Integrated Digitized Biocollections
Home
About SCNet
Webinar Series
Workshops and Symposia
Site map
Small Collections Network
Serving, Supporting, Connecting Small Natural History Collections
Quick Links
Blogs and News
Listserv
Webinar Series
NANSH Webinars and Meetings
Webinar Recordings
Workshops and Symposia
Working Groups
Related Wikis and Links
Relevant Papers & Publications
Introduction to SCNet's Webinar Series
SCNet and iDigBIo are pleased to announce a series of webinars centered on supporting small collections and establishing SCNet as a collaborative resource for small collections and the professionals who manage them. Each webinar in this series will be held 3:00-4:00 p.m. EST on the dates shown below. Meetings are virtual and accessible online at https://idigbio.adobeconnect.com/scnet. No special software outside of an internet browser is required to access the virtual meeting room.
Read more
Webinar Recording - Transcribing Specimens into Symbiota: a practical approach
You can access the webinar recording here:
http://idigbio.adobeconnect.com/p5kbxeuc9k5/
Acces the chatbox entries here.
Read more
Webinar Recording - Achieving the Maximum Potential of Small University Collections: a Model in Digitization, Education, & Outreach
You can access the webinar recording here: http://idigbio.adobeconnect.com/p7xejclok57/
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Sagehen Creek @SagehenCreekFS 19 Sep
Meeting season! #GNOMO, #iDigBio, and #OBFS at Rocky Mountain Biological Laboratory in Gothic, CO. Erica Krimmel... fb.me/1P7d6rekG
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Bringing dark data into the light: Best practices for herbarium digitization. eurekalert.org/pub_releases/2... @iDigBio
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Rebecca Baldwin @rebbaldwin 27 Aug


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site of
The Rocky Mountain
Biological Laboratory
founded 1928

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Webinars
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