



Welcome to ADBC!

The iDigBio Team
ADBC Summit 2019





A couple of reminders...

- Wi-Fi
 - **HiltonHonors**
 - "I have a promotional code" = **Hiltonmeetings**
 - **Eduroam**
 - <https://getonline.ufl.edu/>
- Please silence your mobile devices
- Please mute your computer speakers & microphone



Summit Information

- **Use the Wiki:**

- Wiki is continually updated with the latest info

- [https://www.idigbio.org/wiki/index.php/ADB
C Summit 2019](https://www.idigbio.org/wiki/index.php/ADB_C_Summit_2019)



iDigBio, Coordinating Center for NSF's Program to Improve Accessibility to Specimen-based Data in U.S. Biodiversity Collections

01 October 2019

Gil Nelson, Director of iDigBio
Florida Museum of Natural History
University of Florida, Gainesville



iDigBio is funded by grants from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program [DBI-1115210 (2011-2018) and DBI-1547229 (2016-2021)]. 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. © 2011-2019 iDigBio



iDigBio: 9th Year

Began summer 2011

Renewal summer 2016



Principal Investigators:

Greg Riccardi, Digitization & Training (FSU)

Jose Fortes, Cyberinfrastructure (UF/ACIS)

Pam Soltis, Research Collaborations (FLMNH)

Bruce MacFadden, EODI Collaborations (FLMNH)

Gil Nelson, Director (FLMNH)



Context: Biodiversity Collections

**Institutional collections in U.S. date back to 1812,
with some specimens collected 250 years ago**



1,591 collections in USA



**1 billion specimens
in USA**



**3 billion specimens
globally**



Context: Biodiversity Collections

**The largest source of information on
biological diversity (outside nature)**



1,591 collections in USA

**1 billion specimens
in USA**

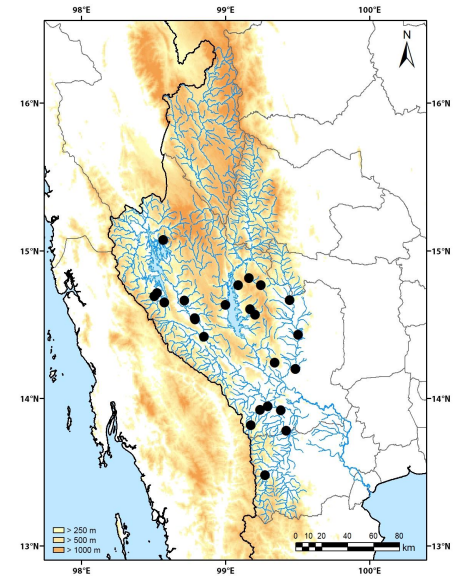


**3 billion specimens
globally**



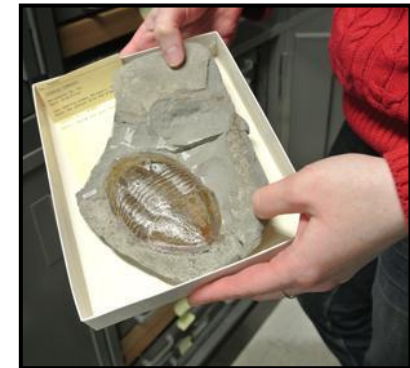
Natural History Collections are fundamental to understanding biodiversity and to address “Big Science” questions:

- **How many species are there?**
- **How are species distributed on the planet, and why?**
- **How do species vary, and what factors are responsible?**
- **Etc.**



Specimens of extinct species

- **only source of information on those species**
- **paleoenvironments**





Context: Biodiversity Collections



Problem: Data in collections have been inaccessible to most potential users

**1 billion specimens
in USA**



**3 billion specimens
globally**



NSF’s Advancing Digitization of Biodiversity Collections Program, based on the national digitization effort as outlined in NIBA Strategic Plan, was launched in 2010 with the goal:

To digitize and make available online data associated with all specimens in all non-federal natural history collections in the U.S.



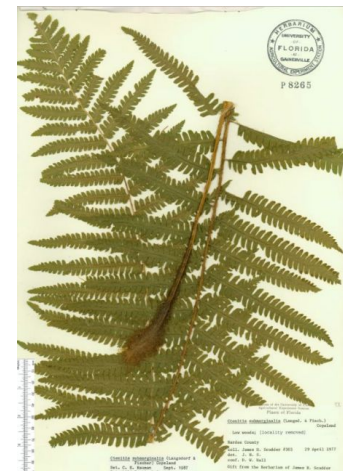
Funding:

- 1. Thematic Collections Networks (TCNs)**
- 2. Central coordinating unit (iDigBio)**



1. Thematic Collections Networks

- **Two-to-four year awards to collaborating institutions to digitize existing specimens based on a research theme**
- **Institutions digitize and mobilize the specimen-based data (but not necessarily pursue the research)**
- **Major emphasis has been on databasing, georeferencing, and imaging**





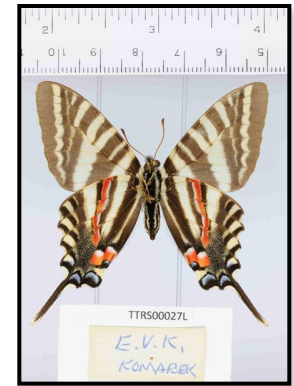
26 Thematic Collections Networks (TCNs)

- **InvertNet:** An Integrative Platform for Research on Environmental Change, Species Discovery and Identification (*Illinois Natural History Survey, University of Illinois*)
- **Plants, Herbivores, and Parasitoids:** A Model System for the Study of Tri-Trophic Associations (*American Museum of Natural History*)
- **North American Lichens and Bryophytes:** Sensitive Indicators of Environmental Quality and Change (*University of Wisconsin Madison*)
- **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 Arthropods Network (SCAN):** A Model for Collections Digitization to Promote Taxonomic and Ecological Research (*Northern Arizona University*)
- **The Macroalgal Herbarium Consortium:** Accessing 150 Years of Specimen Data to Understand Changes in the Marine/Aquatic Environment (*University of New Hampshire*)
- Developing a Centralized Digital Archive of **Vouchered Animal Communication Signals** (*Cornell University*)
- **Fossil Insect Collaborative:** A Deep-Time Approach to Studying Diversification and Response to Environmental Change (*University of Colorado at Boulder*)
- **Great Lakes Invasives:** Documenting the Occurrence through Space and Time of Aquatic Non-indigenous Fish, Mollusks, Algae, and Plants Threatening North America's Great Lakes (*University of Wisconsin Madison*)
- **InvertEBase:** Reaching Back to See the Future: Species-rich Invertebrate Faunas Document Causes and Consequences of Biodiversity Shifts (*Field Museum of Natural History*)
- **The Key to the Cabinets:** Building and Sustaining a Research Database for a Global Biodiversity Hotspot (*Appalachian State University*)
- **The Microfungi Collections Consortium:** A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems (*INHS, University of Illinois*)
- **Documenting Fossil Marine Invertebrate Communities of the Eastern Pacific:** Faunal Responses to Environmental Change over the last 66 million years (*University of California-Berkeley*)
- **Cretaceous World:** The Cretaceous World: Digitizing Fossils to Reconstruct Evolving Ecosystems in the Western Interior Seaway (*University of Kansas*)
- **LepNet:** Lepidoptera of North America Network: Documenting Diversity in the Largest Clade of Herbivores (*Northern Arizona University*)
- **MAM:** The Mid-Atlantic Megalopolis: Achieving a greater scientific understanding of our urban world (*University of Pennsylvania*)
- **SoRo:** Using Herbarium Data to Document Plant Niches in the High Peaks and High Plains of the Southern Rockies (*University of Colorado*)
- **oVert:** Open Exploration of Vertebrate Diversity in 3D (*University of Florida*)
- **Capturing California's Flowers:** Using Digital Images to Investigate Phenological Change in a Biodiversity Hotspot (*California Polytechnic State University San Luis Obispo*)
- **The Pteridological Collections Consortium:** An Integrative Approach to Pteridophyte Diversity Over the Last 420 Million Years (*University of California – Berkeley*)
- **Digitizing "Endless Forms":** Facilitating Research on Imperiled Plants with Extreme Morphologies (*New York Botanical Garden*)
- Digitizing Collections to **Trace Parasite-Host Associations** and Predict the Spread of Vector-Borne Disease (*Purdue University*)
- American Crossroads: **Digitizing the Vascular Flora of the South-Central United States** (*Botanical Research Institute of Texas*)
- **Enhancing Access to Taxonomic and Biogeographical Data** to Stem the Tide of Extinction of the Highly Imperiled Pacific Island Land Snails (*Bernice P. Bishop Museum*)



2. iDigBio

- **Engage the collections community** – find the specimens
- **Enable digitization of biodiversity collections data**
 - Develop efficient & effective standards & workflows
 - Workforce education & training via workshops/webinars
- **Provide portal access to biodiversity data**
 - Enable data access & discoverability
 - Respond to cyberinfrastructure needs
- **Promote use of data to address environmental and economic challenges**
 - Researchers, educators, general public, policy-makers, etc.
- **Assist in planning long-term sustainability of national digitization effort**



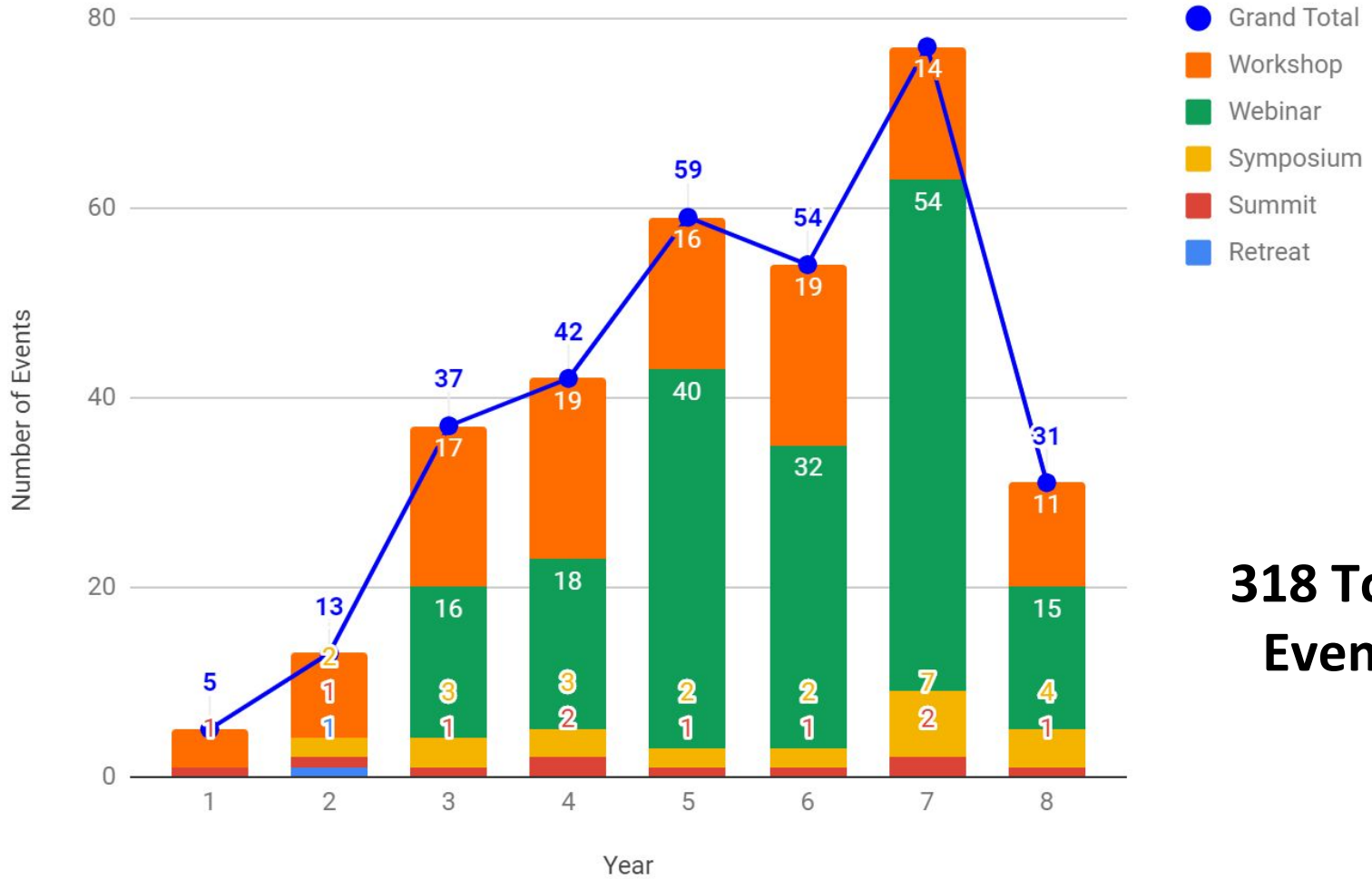


All of this has required iDigBio to engage the collections community through workshops, webinars, and other events to develop workflows, train IT and collections staff, mobilize data, etc.





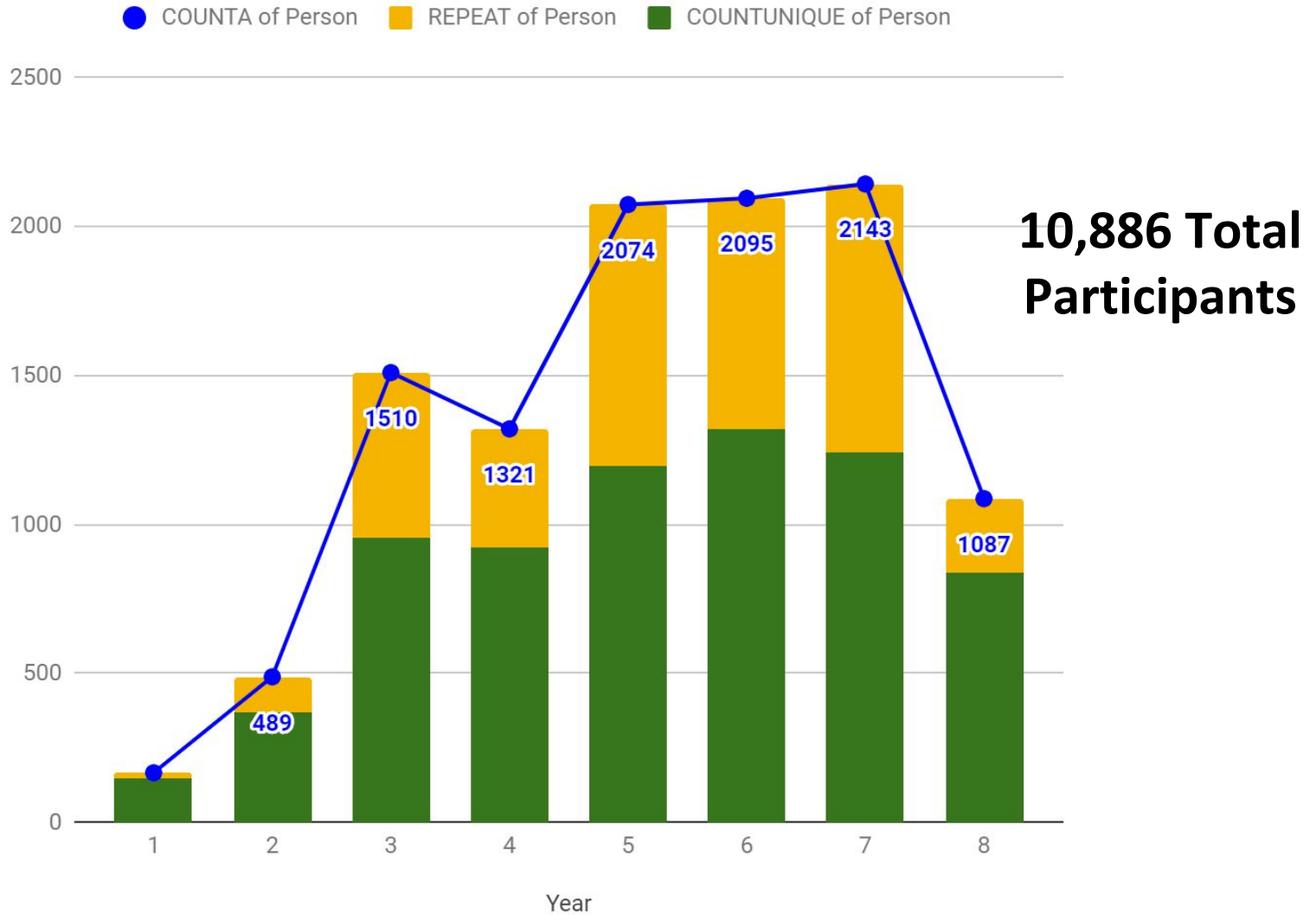
iDigBio Events by Type



**318 Total
Events**



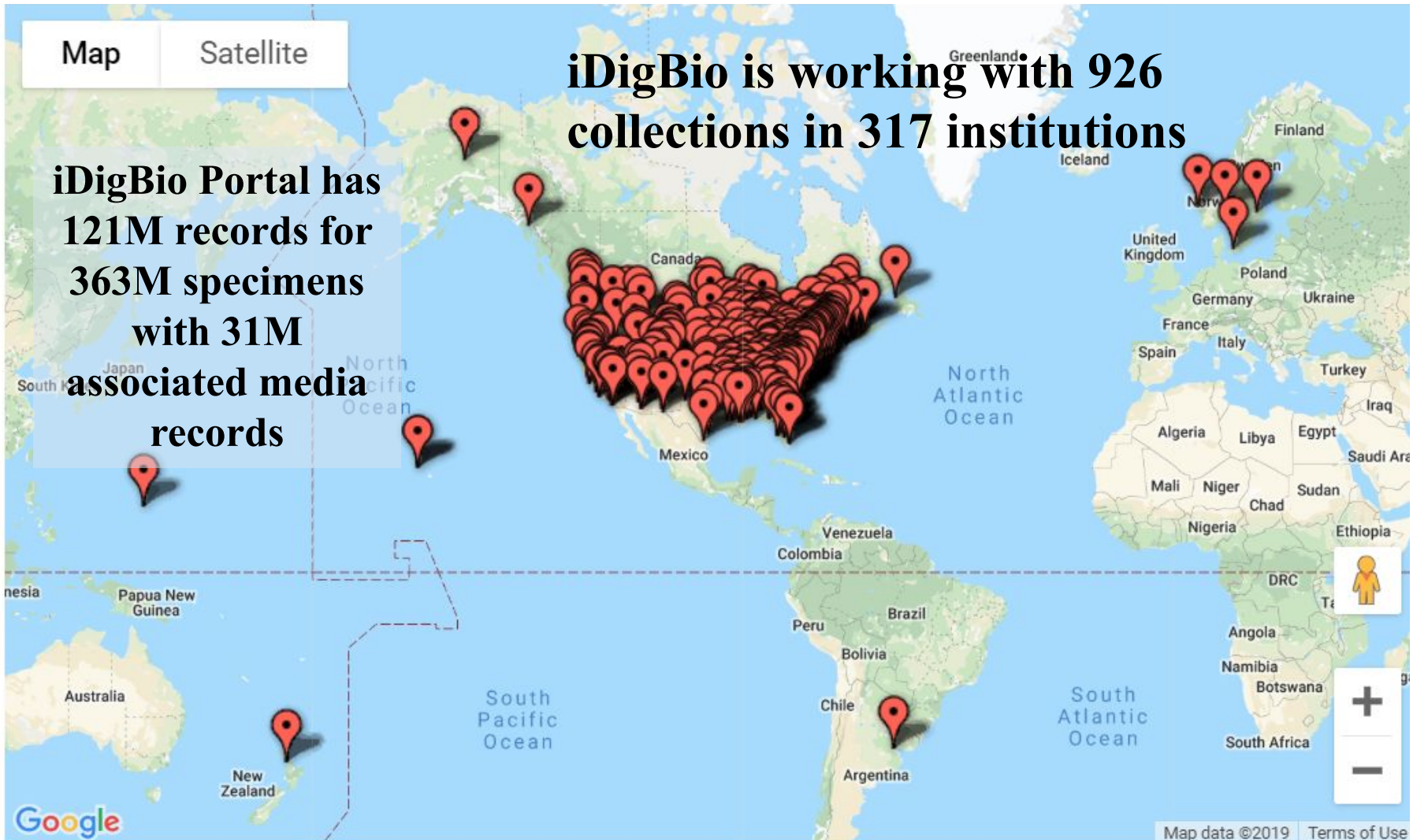
Participants in iDigBio Events





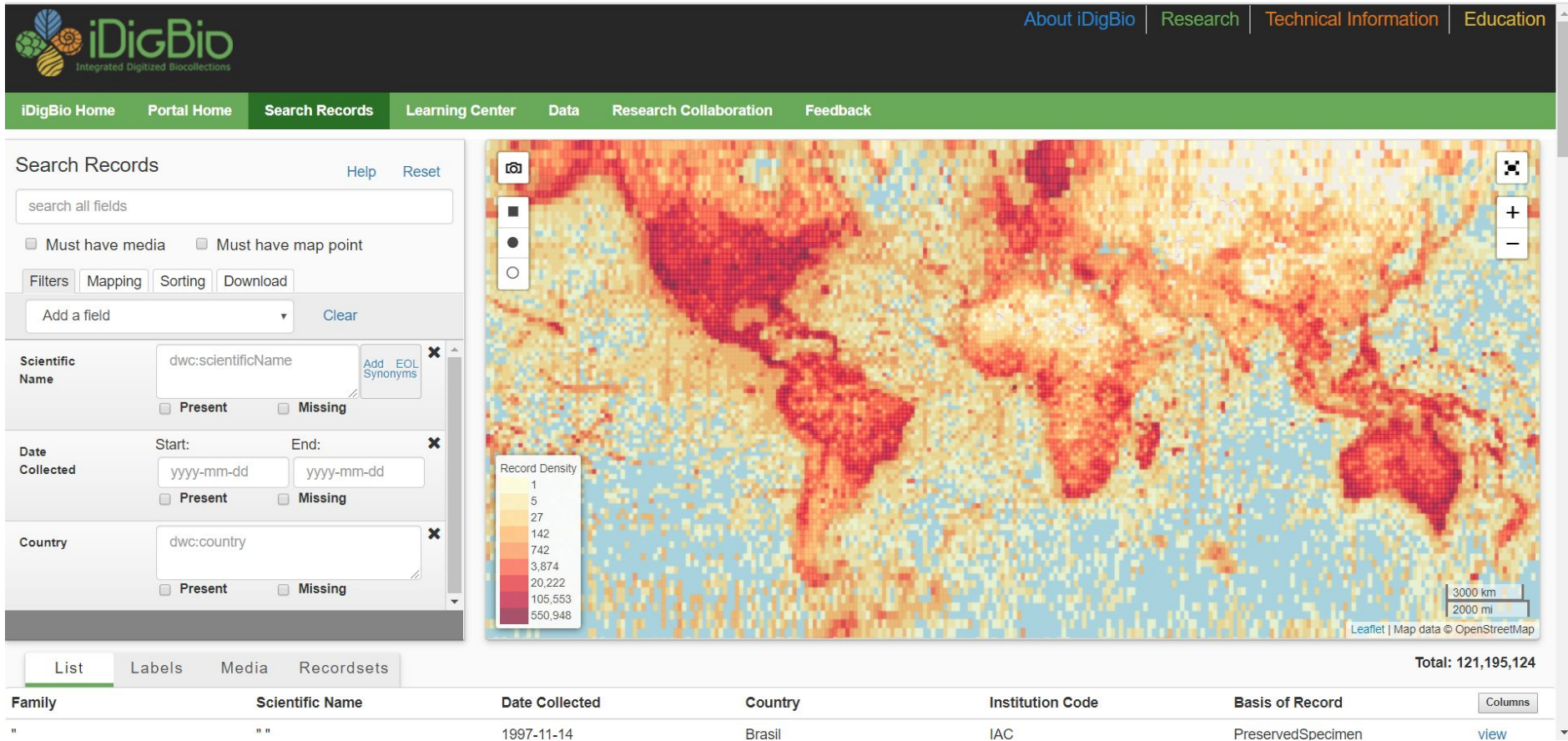
iDigBio is working with 926 collections in 317 institutions

iDigBio Portal has 121M records for 363M specimens with 31M associated media records





Flexible search across all data, indexed fields, media, geolocation, map boundary, auto-completion, synonyms, ...



The screenshot shows the iDigBio website interface. At the top, there is a navigation bar with links for "About iDigBio", "Research", "Technical Information", and "Education". Below this is a secondary navigation bar with "iDigBio Home", "Portal Home", "Search Records", "Learning Center", "Data", "Research Collaboration", and "Feedback".

The "Search Records" section is active, displaying a search form with the following fields and options:

- Search all fields (input field)
- Must have media (checkbox)
- Must have map point (checkbox)
- Filters, Mapping, Sorting, Download (tabs)
- Add a field (dropdown menu)
- Scientific Name: dwc:scientificName (input field), Add EOL Synonyms (button), Present (checkbox), Missing (checkbox)
- Date Collected: Start: yyyy-mm-dd (input field), End: yyyy-mm-dd (input field), Present (checkbox), Missing (checkbox)
- Country: dwc:country (input field), Present (checkbox), Missing (checkbox)

Below the search form, there are tabs for "List", "Labels", "Media", and "Recordsets". A world map heatmap is displayed, showing record density by color. A legend for "Record Density" is provided:

Record Density
1
5
27
142
742
3,874
20,222
105,553
550,948

The map includes a scale bar (3000 km, 2000 mi) and a "Total: 121,195,124" count. The bottom of the screenshot shows a table with the following columns: Family, Scientific Name, Date Collected, Country, Institution Code, Basis of Record, and Columns. The first row of data is:

Family	Scientific Name	Date Collected	Country	Institution Code	Basis of Record	Columns
"	"	1997-11-14	Brasil	IAC	PreservedSpecimen	view



View search results as list, labels, or media

List	Labels	Media	Recordsets								Total: 188,896
Family	Scientific Name	Date Collected	Country	Institution Code	Collected By	Locality	Occurrence ID	Catalog Number	Columns		
Suberitidae	Tuberella aaptos	1899-10-19	Puerto Rico	USNM	United States Fish Commis...	Mayaguez Harbor	http://n2t.net/ark:/65665/33f...	7662	view		
Pteridae	Abaeis nicippe	1981-10	Puerto Rico	UPRM	Emmer, J. C.	Guayanilla	23df77d9-ccb0-11e4-8f8b-0...	4626	view		
Pteridae	Abaeis nicippe	11/15/81	Puerto Rico	UPRM	De Jesé*, L.	Ponce	23df7219-ccb0-11e4-8f8b-0...	4624	view		
Pteridae	Abaeis nicippe	11/15/87	Puerto Rico	UPRM	De Jesé*, L.	Ponce	23df79b7-ccb0-11e4-8f8b-0...	4627	view		
Pteridae	Abaeis nicippe	9/4/89	Puerto Rico	UPRM	Blanco, J.	Aguadilla	23aa6184-ccb0-11e4-8f8b-0...	820	view		
Pteridae	Abaeis nicippe	11/14/48	Puerto Rico	UPRM	Torres, C.	Mayaguez	23df75f4-ccb0-11e4-8f8b-0...	4625	view		
Calligidae	Abasia sp.	1977-10-07	Puerto Rico	USNM	S. Alchuler	La Parguera	http://n2t.net/ark:/65665/3e...	266843	view		
Delphacidae	Abbosoga errata	1914-07-27	PUERTO RICO	AMNH	Unknown	Maricao	urn:uuid:886a07f8-d8e1-11...	UDCC_TCN 00016869	view		
Delphacidae	Abbosoga errata	1947-11-14	Puerto Rico	USNM	no data	Toro Negro Mt., P.R.	http://n2t.net/ark:/65665/3e...	no data	view		
Delphacidae	Abbosoga errata	1962-07-01	PUERTO RICO	USNM	J. Maldonado Capriles	Puntita	urn:uuid:28ab0c86-ca62-11...	UDCC_TCN 00042679	view		
Delphacidae	Abbosoga errata	1999-08-08	PUERTO RICO	UPRM	C. W. O'Brien & P. Kovarik	Hwy 120 km 14 Maricao St	urn:uuid:93af671e-ca62-11...	UDCC_TCN 00042678	view		

List Labels **Media** Recordsets

[Abbosoga errata Caldwell & Martorell, 1951](#)

PUERTO RICO, Maricao, none, Maricao
 Lat: 18°10' 58" Lon: -66°58' 49"
 AMNH, UDCC_TCN 00016869, Unknown

Animalia, Arthropoda, Insecta, Hemiptera

1914-07-27



Delphacidae

[Abelmoschus moschatus medik. Medik.](#)

Puerto Rico, Mayagüez (MITA).
 Lat: 18°12' 15" Lon: -67°6' 1"
 NY, 01007392, A. H. Liogier

Plantae, Tracheophyta, Magnoliopsida, Malvales

1981-03-



Malvaceae

[Pecten mayaguezensis Dall & Simpson](#)

Puerto Rico, Mayaguez Harbor
 Lat: 18°25' 30" Lon: -67°9' 11"
 USNM, Invertebrate Zoology, 160062, United States Fish Commission

Animalia, Cnidaria, Anthozoa, Scleractinia




Pectiniidae

List Labels **Media** Recordsets

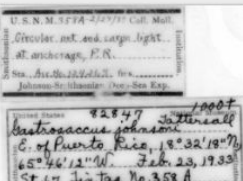
[Anolis cristatellus wileyae MCZ, Herp](#)

3 of 5




[Coifmanniella johnsoni USNM, Invertebrate Zoology](#)

1 of 1




[Adiantum obliquum US, Botany](#)

1 of 1




[Platycrepidius UPRM, INVCOL](#)

3 of 3



[Coereba flaveola TTRS, Ornithology](#)

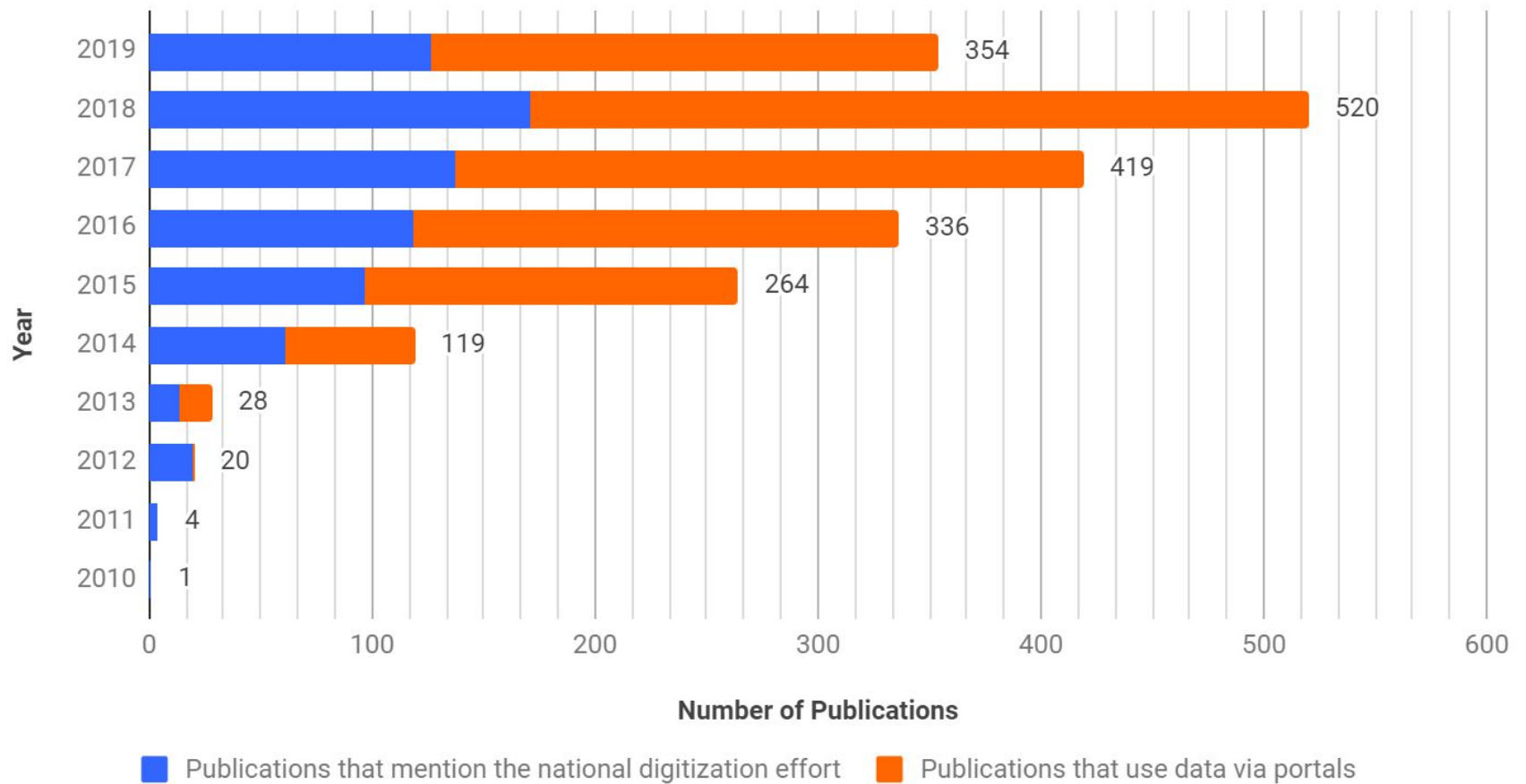
3 of 3





Publications Citing Portal Data Use

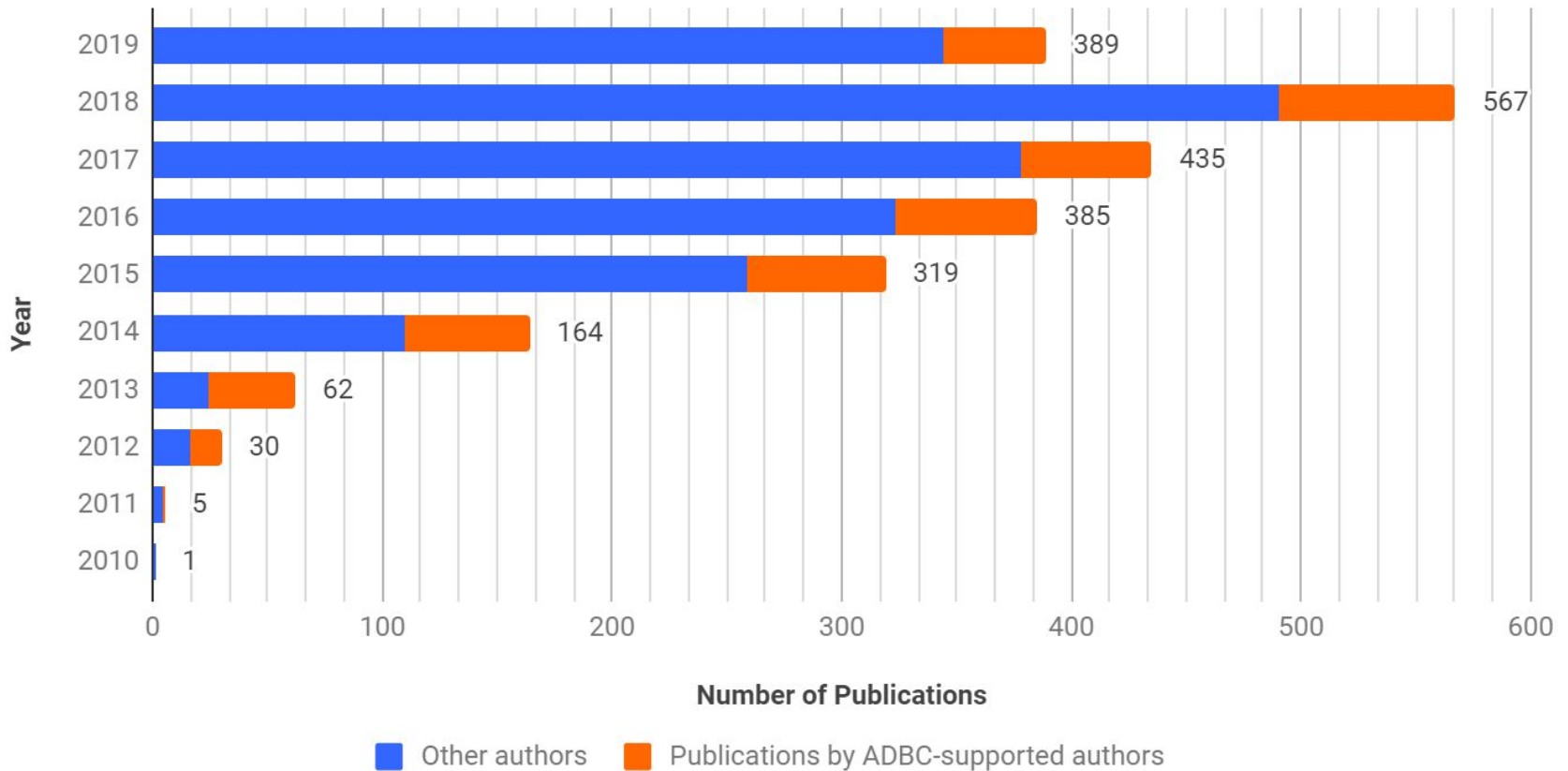
Status of the National Biodiversity Collections Digitization Effort 9/25/19





Publications by ADBC Authors

Publications Related to the National Digitization Effort as of 9/25/19 by Source





Collections Data in Action: beyond acronyms

A2iA
ABYY
AdonisArrobit
AmazonEB
AOL
AQS
ADBC
ADP
ALA
AmphibiaWeb
APC
API
APNI
Arbor
ArcGIS
Arctos
ARK
ARPHA
AudioNote
AudubonCore
AutoMontage
Axiell
bcvll
BCoN
BoL
BerkeleyMapper
BHL
BHL - China
BHL - Europe
Bio2RDF
BioCAsE
biocode
BioGeoMancer
BioGUID
BioNames
BioOffice
BioSharing
BIOTA
BioVeL
BISciCol
BISON
BITC
BOLDSystems
BONAP
BSA
BugGuide
CABIN
CalPhotos

COOL
CETAF
CONABIO
COS
CIPA
CRIA
CrossRef
CSIRO
CyVerse
DAMS
DataCarpentry
Software Carpentry
DataCite
DataONE
DataONE Dash
DataTurbine
DBTNT
DIGIR
Digital Florida
Digitarium
DINA
Discover Life
DIVA-GIS
djatoka
DOI
DroidDB
Drupal
Dryad
DSLRL
DwC
DwC Terms
EarthCube
eBiodiversity
eBird
EcolInforma
ECOS
Effechecka
EMu
KE EMu
EnviroAtlas
EOL
Eucoll

Exploring Genomics
Data
EX
FAL
Fauna Europaea
FIC
Fishbase
FishNet2
FLOW
FOSSIL
From the Page
Fuzzy Gazette er
GBIF
GC
Grey Card Index
GDAL
GenBank
geneious
Gene Ontology
Geopaparazzi
Geotag Photos Pro
Thesaurus of
Geographic Names
GitHub
GIMP
GLANSIS
GloBI
GLOBIS
GLOBIS-B
GNA
Google Analytics
Google Earth
Google Maps
Globe

herbaria@home
HERBIS
Herbarium
HOB
Hymenoptera Online
ICBN
ICR
ICZN
IdentificationKey web
service
iDigBio
IDQ
ISBER
IGSN
IH
IK
ILDIS
ImageMagick
iNaturalist
INBio
Index Fungorum
InverteBase
InvertNet
iPlant
IPNI
IPT
IPT 2
IrfanView
iSampleS
ITIS
IUCN
Red List
IWGSC
JAI
Jetstream
JPEG 2000
JSON
JSTOR
JSTOR Plant Science
JTS
KML
Kurator
LBCC
LepNet
LibXML
Libraries of Life
Life Desks
Life

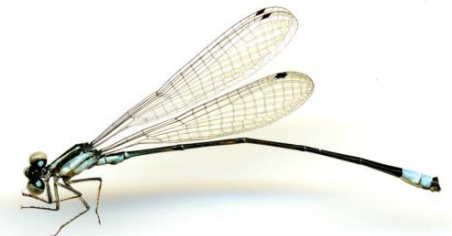
MaM
MaNIS
MANTIS
MapWindow
MapReduce
MapsData
MBB
Mendelej
MIBBI
MICC
MOBOT
ModestR
MOL
Morphbank
Morphobank
MorphoSource
Morphster
MHC
mx
MySQL
NameBank
ClassificationBank
National Biodiversity
Data Center
NatureServe
NCSA
NEOMAP
NEON
NeotomaDB
NESCent
NEVP
NIBA
NIMBUS
NLP
Notes from Nature
NSCA
NSF
NSII
OBIS
OBO Foundry
OCR
OCROPUS
ODBC
OA
Open Annotation
Open Atrium
Atrium
openModeller
OpenRefine

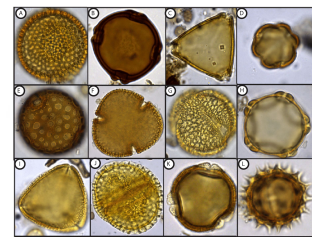
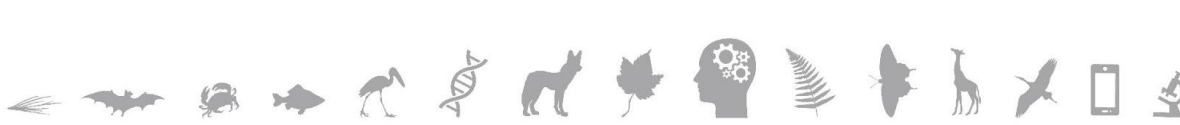
ORNIS
ORNI
Phylojive
PhyloLink
Picturae
Planting Science
PLANTS Database
Plazi
PlutoF
PNW Herbaria
PostGIS
PostgreSQL
prefixcommons
pro-iBiosphere
PROJ.4
PylIist
Python
QGIS
R
Raintree
RDA
RDF
Recorder 6
Re:discovery
Redmine
ReFindit
REST
ridigbio
RMCA
ROpenSci
RStudio

speciesLink
Tesseract
The Field Book Project
TNRS
Planting Science
TORCH
transScriptorium
Transkribus
TreeBASE
Trifacta
TROPICOS
TRY
TTD
Tri-Trophic TCN
TurboScan
uBio
UFBI
UNITE
Universal Chalcidoidea
Database
USVH
VACS
VASCAN
Vernon Systems
VertNet
VIBRANT
VIVO
VMWare
WCSP
Windows Azure



Got More? <http://bit.ly/adbcterms>





Digitization




Collection Management Software

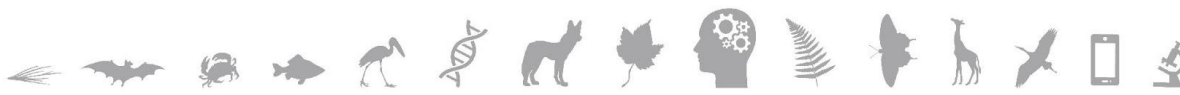
- Arctos 
- Symbiota 
- Specify 
- Axiell EMu 
- CollectionSpace 

Community Building

- SPNHC  
- GRBio to GBIF 
- Darwin Core Hour 
- Small Collections Network 
- Entomological Collections Network 
- Working Groups:
 - DROID, GWG, SWG, PaleoDigi, EOID, ...

Data Mobilization





-  Biodiversity Information Standards
- DwC - Darwin Core
-  **GBIF** INTEGRATED PUBLISHING TOOLKIT^(IPT)
free and open access to biodiversity data
- IPT - Integrated Publishing Toolkit
- OpenRefine
-  **GEOLocate**
- DAMS – Digital Asset Management
- ABBYY, Tesseract
- *Global unique identifiers*
 - GUID, UUID, ARK, IGSN



an alliance for
biodiversity
knowledge

Data Aggregation

Facilitating Research Access and Use



-  - Encyclopedia of Life
- BHL – Biodiversity Heritage Library 
-  – National Ecological Observatory Network
-  - facilitating scientific research in the cloud

Aggregating Specimen Data



- GBIF – Global Biodiversity Information Facility
- ALA, DigiVol – Atlas of Living Australia
- iDigBio
- DiSSCo - Distributed System of Scientific Collections
- BISON – Biodiversity Serving our Nation
– GBIF North American Node



- Canadensys 
- CONABIO (Mexico) 



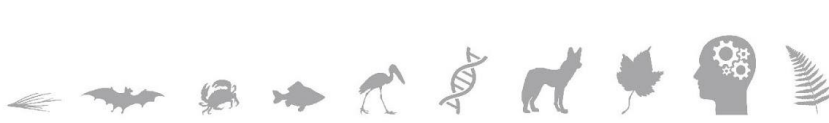
- CRIA (Brazil) and SpeciesLink
- USVH – United States Virtual Herbarium



- SiBBR – Brazilian Biodiversity Information System



- VertNet



Education, Outreach, Inreach



- AIM-UP!
 - Advancing Integration of Museums into Undergraduate Programs; using collections data in undergraduate education



- BLUE
 - Biodiversity Literacy in Undergraduate Education



- Notes from Nature
 - Crowdsourcing collections transcription, creating communities



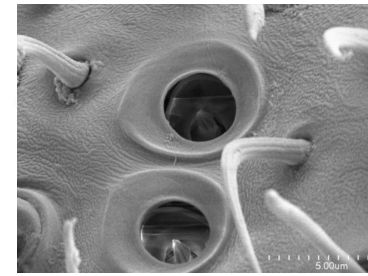
- iNaturalist
 - observation app, connecting scientists and the general public



- ePANDDA
 - Enhancing Paleontological and Neontological Data Discovery API, connecting scientific literature with specimens



- The Carpentries - Data Carpentry & Software Carpentry, Reproducible Science Curriculum,...
 - **Biodiversity informatics skills** for those in the biodiversity community. Focus on tidy data, fit for reproducible research.



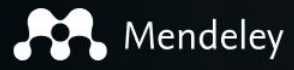
Publishing



- Pensoft
 - ARPHA Writing Tool (AWT), BISS



- DataCite, DOI (Digital Object Identifier)
 - Find, share and reuse, cite data, connect and get credit



- Mendeley
 - Free reference manager; organize papers, read & annotate your PDFs



- ORCID
 - Open Researcher and Contributor ID



- DataONE
 - Data Observation Network for Earth (DataONE) – data repository and data management best practices



- Data Dryad
 - Curated resource making the data underlying scientific publications discoverable, freely reusable, and citable general-purpose home for a wide diversity of data types



- Figshare
 - online repository where researchers can preserve and share their research outputs, including figures, datasets, images, and videos.
#openData



Collaboration!

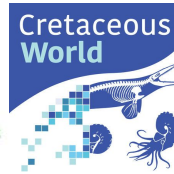
TORCH • PILSBRY • TPT



AXIELL



Small Collections Network



myFOSSIL



Distributed System of Scientific Collections



SYNTHESYS

Synthesis of systematic resources



Mobilizing Biodiversity Data



GBIF



BIODIVERSITY COLLECTIONS NETWORK



Integrated Digitized Biocollections



Duration: 00:01:33.910000



iDigFossils



Smithsonian Institution



Software Project



Encyclopedia of Life



NatureServe



revolutionary workflows



Biodiversity Information Standards

TOWS



NSF



Symbiota Collections of Arthropods Network



science for a changing world



Fossil Insect Collaborative



ECOLOGICAL SOCIETY OF AMERICA

esa



GEOlocate



Southeast Regional Network of Expertise and Collections



4B757261746F72



CALIFORNIA ACADEMY OF SCIENCES



Worldwide Engagement for Digitizing Biocollections



Mobilizing New England Vascular Plant Specimen Data

to Track Environmental Changes



MiCC

Microfungal Collections Center

MYCOLOGY COLLECTIONS PORTAL



SPNHC

ADVANCING COLLECTIONS CARE



OpenSci Lifemapper



American Institute of Biological Sciences



DISCOVER LIFE



Scratchpads

biodiversity online



BIOSPEX



BLUE

Biodiversity Literacy in Undergraduate Education



iDigBio Resources



iDigBio
Integrated Digitized Biocollections

[About iDigBio](#) | [Research](#) | [Technical Information](#) | [Education](#)

Google Cust [Search] My account Log out

Making data and images of millions of biological specimens available on the web

121,195,124 Specimen Records
31,809,373 Media Records
1,616 Recordsets

[Search the Portal](#)

WHY DIGITIZE?

Why digitization matters
More about what we do and why

 Digitization Learn, share and develop best practices	 Sharing Collections Documentation on data ingestion	 Working Groups Join in, contribute, be part of the community	 Proposals New tool and workshop ideas	 Citizen Scientists How can you help biological collections?
--	---	--	---	---

Researchers
Learn about research directions



Collections Staff
Learn how your collection can benefit from our work



Teachers & Students
Download lesson plans about using digitized specimens



iDigBio Planned Network Maintenance 09/25/2019 - 17:00 to 20:00

Upcoming Events

- GSA 2019**
09-22-2019 to 09-25-2019
Webinar: Energizing Classroom and WeDigBio Events with the BIOSPEX Scoreboard
09-27-2019
- ADBC Summit 2019**
10-01-2019 to 10-03-2019
Arctos Webinar: Advanced Collection Management Using Arctos: Publications and projects demonstrate a collection's impact
10-08-2019

[more events >>](#)

News

- iDigBio Conference Manager**
Post date: 08-23-2019
- Purdue leading effort to digitize North American parasite collections**
Post date: 08-15-2019

2019 TCN and PEN Awards

Welcome to the ADBC Community!



The screenshot shows the iDigBio website homepage. At the top is the iDigBio logo and navigation links: About iDigBio, Research, Technical Information, and Education. Below this is a search bar with 'Google Cust' and 'My account Log out' options. A yellow banner announces 'iDigBio Planned Network Maintenance 09/25/2019 - 17:00 to 20:00'. A blue navigation bar contains links for About iDigBio, Collaborators, Upcoming Events, News, Contact, and Site Map. The main content area features a video player titled 'WHY DIGITIZE?' with a red play button. Below the video is a welcome message: 'Welcome to Integrated Digitized Biocollections (iDigBio), the National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation. Through ADBC, data and images for millions of biological specimens are being made available in electronic format for the research community, government agencies, students, educators, and the general public.' Three circular icons with arrows point to 'Project Scope', 'TCN Resources', and 'Project News'. Below this is a 'From the News Desk' section with a link to '2019 TCN and PEN Awards' and a 'Read more >>' link. At the bottom is a large graphic with the text 'Welcome to the ADBC Community!' surrounded by various biological icons.

General

- iDigBio and TCN info
- Code of Conduct
- TCN Resources page
- Collaborators map
- ADBC proposal tips
- Staff Directory
- Calendar of upcoming events (workshops, webinars...)
- News
- Event recaps
- Press releases
- Community announcements

Thematic Collections Networks

Tue, 2011-10-04 14:31 -- acisadmin

Each Thematic Collections Network (TCN) is a network of institutions with a strategy for digitizing information that addresses a particular research theme, such as impacts of climate change or biota of a region. Once digitized, data are easily accessed and available for other research and educational use. Other institutions and collections may join an existing TCN as a Partner to Existing Network (PEN). The following are the TCNs, and any associated PENs, currently funded by the [Advancing Digitization of Biodiversity Collections \(ADBC\)](#) project:

Award Year 2019

- (TCN) [Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease: \(TPT\)](#)
- (TCN) [American Crossroads: Digitizing the Vascular Flora of the South-Central United States: \(TORCH\)](#)
- (TCN) [Enhancing Access to Taxonomic and Biogeographical Data to Stem the Tide of Extinction of the Highly Imperiled Pacific Island Land Snails: \(PILSBRY\)](#)

Award Year 2018

- (TCN) [Capturing California's Flowers: Using Digital Images to Investigate Phenological Change in a Biodiversity Hotspot \(CAP\)](#)
- (TCN) [The Pteridological Collections Consortium: An Integrative Approach to Pteridophyte Diversity Over the Last 420 Million Years \(PCC\)](#)
- (TCN) [Digitizing "Endless Forms": Facilitating Research on Imperiled Plants with Extreme Morphologies \(Endless Forms\)](#)

Researchers

[Browse our specimen portal](#)



Collections Staff

[Learn how your collection can benefit from our work](#)



Teachers & Students

[Learning resources & opportunities to engage](#)





- Wiki Home
- Workshop Summaries
- Working Group List
- Specimen Portal
- iDigBio Data Ingestion**
- Ingestion Queue
- Dashboard
- Published data
- Ingestion Guidance
- Data API
- Digitization Resources
- iDigBio Working Groups**
- iDigBio Research**
- Navigation Tools
- Tools

Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease

Contents [hide]

- 1 Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease
 - 1.1 Project Summary
 - 1.2 Current Research
 - 1.3 Project Websites & Social Media
 - 1.4 Citizen Science & Outreach Projects
 - 1.5 Project Leadership
 - 1.6 Project Collaborators
 - 1.7 Protocols & Workflows
 - 1.8 Publications
 - 1.9 Professional Presentations
 - 1.10 Other project documentation

Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease[edit]

Project Summary[edit]

Arthropod parasites (specifically, insects and their relatives) are responsible for economically critical issues in human health, wildlife conservation, and livestock productivity. Because natural history collections are permanent repositories for past and present parasite specimens, these collections and their data can help address these significant societal challenges in human and animal health and safety. Natural history collections often contain specimens and ancillary materials that are completely unknown to the broader community, yet represent irreplaceable knowledge about organismal habitats, distributions, and parasite-host associations. Further, these collections yield information that can be used to model ecological processes and changes in species distributions, predict the future spread of human and animal disease, update taxonomy, and help identify under-represented parasite groups in urgent need of sampling and threatened parasite diversity in need of conservation. This project will provide digital records (i.e., specimen label data and images) of invaluable arthropod parasite collections to make research-ready baseline data accessible online, catalyzing new research and education initiatives. These newly digitized data will have immediate and long-lasting benefits for our understanding of organismal associations, biodiversity, and beyond.

The Terrestrial Parasite Tracker Thematic Collection Network (TPT-TCN) will digitize over one million arthropod specimens representing species that are significant parasites and disease vectors of vertebrates in the United States. This digitization effort will integrate millions of vertebrate host records with vector and disease monitoring data shared by state and federal agency collaborators, creating a novel foundation for integrative, long-term research. This project is a collaboration of taxonomists and curators from vertebrate and invertebrate collections, as well as epidemiologists, ecologists, data-scientists, and biodiversity informatics specialists. This reach is further extended by the 26 collaborating research collections and other initiatives. This project will empower ongoing citizen science and public awareness campaigns with the tools to understand distribution changes of arthropod vectors and associated diseases due to environmental change and global movement. Public education initiatives include partnering with natural history museums to educate the public about parasites via science-focused lectures, exhibits, summer youth programs, informal presentations, and developing new online educational resources for teachers in underserved communities. All specimen images generated by this project will be used for the development of a rapid identification tool for parasites which will be made accessible through the internet and smartphone apps and shared with iDigBio (digbio.org). The TPT-TCN will also develop and implement undergraduate teaching modules focused on data held in natural history collections. These modules will be disseminated to academic institutions across the United States and made available online.

Current Research[edit]

Project Websites & Social Media[edit]

Citizen Science & Outreach Projects[edit]

Project Leadership[edit]

Project Sponsor: Purdue University (NSF Award 1901932) 

Principal Investigators (PIs): Stephen Cameron  (PI), Jennifer Zaspel (co-PI)

Project Collaborators[edit]

Protocols & Workflows[edit]

Publications[edit]

Professional Presentations[edit]

Other project documentation[edit]

TPT-TCN

Quick Links
Project Summary
Current Research
Project Websites
Publications



iDigBio Planned Network Maintenance 09/25/2019 - 17:00 to 20:00

Upcoming Events

Want to learn more about adding this calendar to your device? [Click here](#)

Filter by Event Type

Event	Location	Event Date	Event Type
GSA 2019		09-22-2019 to 09-25-2019	
Webinar: Energizing Classroom and WeDigBio Events with the BIOSPEX Scoreboard	https://idigbio.adobeconnect.com/wedigbio	09-27-2019	iDigBio Webinar
ADBC Summit 2019	Hilton University of Florida Conference Center (Gainesville, FL)	10-01-2019 to 10-03-2019	iDigBio Workshop
Artcos Webinar: Advanced Collection Management Using Artcos: Publications and projects demonstrate a collection's impact	https://idigbio.adobeconnect.com/room	10-08-2019	iDigBio Webinar
iDigBio at Biodiversity Next Conference: better data - better science - better policies	Naturalis, Leiden, Netherlands	10-22-2019 to 10-25-2019	
Biodiversity Next - Building a global infrastructure for biodiversity data. Together.	Naturalis, Leiden, Netherlands	10-22-2019 to 10-25-2019	
SACNAS 2019		10-31-2019 to 11-02-2019	
Broadening Participation in the Biological Sciences: New Mexico	The New Mexico Museum of Natural History and Science (Albuquerque, NM)	11-08-2019 to 11-09-2019	
iDigTRIO Biological Sciences Conference and Fair	University of Florida (Gainesville, FL)	02-21-2020 to 02-22-2020	iDigBio Workshop
Biodiversity Summit 2020		09-21-2020 to 09-25-2020	

Past Events

Event	Location	Event Date
2019 iDigBio Core Team Meetings	UF Building 105 Room 310 and https://ufl.zoom.us/my/djennings	09-25-2019

iDigBio Code of Conduct

Tue, 2019-09-17 11:33 -- javarkas

Researchers

[Browse our specimen portal](#)



Collections Staff

[Learn how your collection can benefit from our work](#)



Teachers & Students

[Learning resources & opportunities to engage](#)



This Code of Conduct is a living document. We value your insights, feedback and comments. Please send comments and suggested edits to Molly Phillips mphillips@flmnh.ufl.edu

iDigBio has been providing professional development, resources, and community for biodiversity digitization since 2011. Each year, iDigBio hosts the ADBC Summit and organizes dozens of in-person and virtual events. The iDigBio website hosts a variety of community and internally generated content such as workflows, reports, and blog posts. iDigBio also facilitates several active email listservs and social media accounts.

iDigBio values the diversity of views, expertise, opinions, backgrounds, and experiences reflected among our ADBC partners and the broader biodiversity sciences community and is committed to providing a safe, productive, and welcoming environment for all participants of iDigBio-facilitated meetings, events, and virtual spaces. iDigBio-facilitated meetings and events can serve as an effective forum to consider and debate science-relevant viewpoints in an orderly, respectful, and fair manner. This Code of Conduct is important for promoting




About iDigBio | **Research** | Technical Information | Education

Google Cust My account Log out

Research | Portal Home | Research Collaboration | Learning Center | Genetic Resources



Looking for research ideas?


Read the monthly [Research Spotlight](#), and if you have a contribution, [contact us!](#)


Watch the presentations and read discussions from the iDigBio workshop [Using Biodiversity Specimen-Based Data to Study Global Change](#).

Be enlightened by speakers at the Ecological Society of America 2016 session [Leveraging the Power of Biodiversity Specimen Data for Ecological Research](#).

Learn about Biodiversity Information Standards by [watching the talks](#) from the 2016 annual TDWG meeting.

Discuss [open research project ideas on GitHub](#) with iDigBio and collaborators.

Researchers 
Looking for biological collections data? Browse the iDigBio specimen portal.

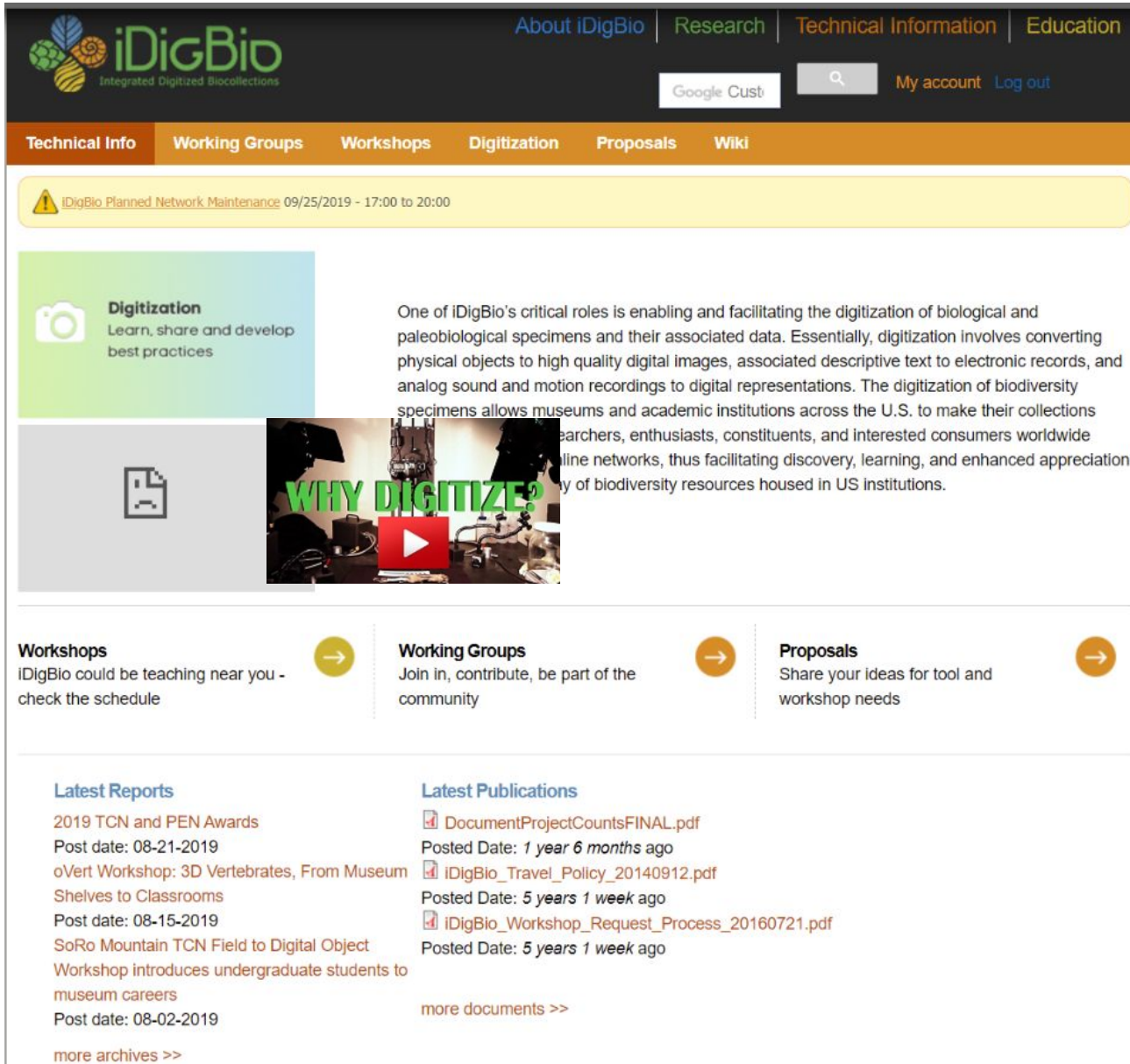
Collections Staff 
Learn how your biological collections might benefit from iDigBio

Teachers & Students 
Learning resources & opportunities to engage and excite!



Research

- Monthly Research Spotlights
- List of genetic repositories
- Links to ADBC research
- Tutorials
- API information
- iDigBio R package
- Research tools
- Collaborators
- Links to GitHub



The screenshot shows the iDigBio website's 'Technical Information' page. At the top, there is a navigation bar with links for 'About iDigBio', 'Research', 'Technical Information', and 'Education'. Below this is a search bar and links for 'My account' and 'Log out'. A secondary navigation bar highlights 'Technical Info' and includes links for 'Working Groups', 'Workshops', 'Digitization', 'Proposals', and 'Wiki'. A yellow banner at the top of the main content area contains a warning icon and the text 'iDigBio Planned Network Maintenance 09/25/2019 - 17:00 to 20:00'. The main content area features a 'Digitization' section with a camera icon and the text 'Learn, share and develop best practices'. Below this is a video player with a red play button and the text 'WHY DIGITIZE?'. The page also includes three columns of links: 'Workshops' (with a right arrow), 'Working Groups' (with a right arrow), and 'Proposals' (with a right arrow). At the bottom, there are sections for 'Latest Reports' and 'Latest Publications', each with a list of recent items and a 'more archives >>' link.

Technical Information

- Working group information
- Digitization workflows
- Equipment recommendations
- Workshop summaries
- Workshop and webinar recordings
- Data ingestion guidance

Digitization Resources

This page provides resources and information for the series of digitization training workshops being conducted by iDigBio as well as a plethora of digitization information and resources. Included is a growing list of links to documents, websites, videos, presentations, and other important information related to biological collection digitization.

Contents [\[hide\]](#)

- 1 [iDigBio Introduction](#)
- 2 [Recommendations for the Acquisition, Processing, and Archiving of Digital Media](#)
- 3 [Interest/Working Groups](#)
- 4 [Digitization Avenue](#)
- 5 [iDigBio Workshops, Reports, and Wikis](#)
- 6 [Videos- Digitization Resources and Workflows](#)

[iDigBio Introduction](#)[\[edit\]](#)



More than 1,600 natural history collections across the United States house over 1 billion biological specimens ranging from fungi to fish to fossils. This video describes the iDigBio project. It explains why digitized information and ready access to it are important, provides an overview of the digitization process and highlights some of the challenges faced when working with different types of natural history collections.

[Recommendations for the Acquisition, Processing, and Archiving of Digital Media](#)[\[edit\]](#)

iDigBio has created recommendations for capturing, processing, and storing digital media.


[Recommendations for the Acquisition, Processing, and Archiving of Digital Media](#)

[Interest/Working Groups](#)[\[edit\]](#)

The following links take you to Interest/Working Groups focused on Digitization. For other working groups please use the following link [iDigBio Working Groups](#)

- [International Whole-Drawer Digitization Interest Group](#)
- [NANSH Working Group \(North American Network of Small Herbaria\)](#)
- [Fluid-preserved Arthropod and Microscopic Slide Imaging Interest Group](#)
- [Paleontology Digitization Working Group](#)
- [Small Collections Network Working Group](#)
- [Vertebrate Digitization Interest Group](#)
- [Field Station Interest Group](#)

Digitizing the Past and Present for the Future




iDigBio
Integrated Digitized Biocollections

Digitization


How to digitize? (Five clusters)	Workshops and Symposia
Digitization Videos	Biblio entries

Connect with iDigBio

Specimen Portal	Upcoming Events
iDigBio on facebook	Follow iDigBio on twitter



FEEDBACK




FEEDBACK




[About iDigBio](#) | [Research](#) | [Technical Information](#) | [Education](#)

[Overview](#) | [Outreach](#) | [Diversity](#) | [Resources](#) | [Workshops](#) | [Citizen Scientist](#) | [Collaborations](#)

⚠ iDigBio Planned Network Maintenance: 09/25/2019 - 17:00 to 20:00



Education and Outreach efforts include highlighting the importance of biodiversity and the public through information. In addition, iDigBio is working to provide resources for K-12, for undergraduate students, and to educational resources.



Overall mission to highlight the importance of biodiversity and the public through information. In addition, iDigBio is working to provide resources for K-12, for undergraduate students, and to educational resources.

- iDigBio in the classroom**
K-12 Lesson plans and more
- Undergraduate Resources**
Online biodiversity resources for students and educators
- Citizen Scientist**
How can you get involved with digitization?

Learn more and get involved through the iDigBio Education and Outreach Working Group.



July 2019 Biodiversity Spotlight

Sat, 2013-12-28 09:59 -- kevinlove

ADBC Educational Resources

- **The Portal:** Search through millions of records from natural history collections from around the world. New to the iDigBio Portal?
 - Watch a video tutorial created by Teresa Mayfield
 - Download a written tutorial on how to search for a species
 - Visit the Portal's [Learning Center](#) to find more resources
- Find **modules and lesson plans** related to natural history collections for:
 - K-12
 - Undergraduates





Resources Across ADBC

PaleoNICHES & Cretaceous World TCNs: Digital Atlas of Ancient Life: Get digital atlases for fossils from the Ordovician, Pennsylvanian, Cretaceous, and Neogene, find fossil guides, access a Digital Encyclopedia of Ancient Life

Education

- Links to ADBC educational products
- Diversity and Inclusion
- Monthly Biodiversity Spotlights
- Portal Curiosities
- Coding Corner
- K-12 lesson plans
- Undergraduate modules
- Information about Citizen Science
- Educational collaborators

- Researchers**
 Browse our specimen portal 
- Collections Staff**
 Learn how your collection can benefit from our work 
- Teachers & Students**
 Learning resources & opportunities to engage 

K-12 Resources

Fri, 2013-12-27 14:11 -- kevinlove

Online Resources for K-12 Students and Educators

Welcome to our page for aggregating educational resources for K-12 students and educators from the Advancing Digitization of Biodiversity project.

If you use any of these resources please consider filling out our [questionnaire](#).

What are you looking for?

- [Lesson Plans](#)
- [Tutorials](#)
- [Videos](#)
- [Apps and Websites](#)

Lesson Plans

Project	Grade /Standards	Keywords
Middle School		
iDigPaleo	MS-LS4-1,2 (NGSS)	fossils, paleo, insects
iDigPaleo	MS-LS4-1 (NGSS)	fossils, paleo, ecosystem insects
iDigBio	MS-LS2-1,2,4,5 (NGSS)	ecosystems, co-occurrence, conservation, plants, birds
WeDigFLPlants	SC.912.CS-PC.3.4 SC.912.N.1.4	citizen science, biodiversity, museum, herbarium, plants

Undergraduate Resources

Wed, 2015-10-21 11:42 -- maphillips

Collections-Based Online Resources for Undergraduate Students and Educators

Tutorials

- [iDigBio Basic Search Tutorial](#) (Video) Created by Teresa Mayfield
- [Searching for Species with Latitude and Longitude Data on iDigBio](#) (PDF) Created by iDigBio
- [GBIF Search Tutorial](#) (Video) Created by Teresa Mayfield
- [Create an Arctos User Account](#) (Video) Created by Teresa Mayfield
- [Arctos Introduction for Non-managers](#) (Video) Created by Teresa Mayfield
- [Uploading an Observation to iNaturalist via the Website](#) (Video) Created by Erica Krimm
- [iNaturalist Search Tutorial](#) (Video) Created by Teresa Mayfield

Modules and Online Resources

Using Digitized Collections-Based Data in Research: A Free hands-on crash course in ecological niche modeling

Provides step-by-step, hands-on instruction on ways to access and download these specimen data, how to process climate layer data, and how to apply Maxent software to construct ecological niche models. The webinar is designed to introduce the concepts and practice of ecological niche modeling, so little experience is *needed*.

Created by Blaine Marchant from the Soltis Lab, Florida Museum of Natural History, University of Florida.

Find the course materials and recordings [here](#).

Biodiversity Literacy in Undergraduate Education

BLUE is a collaboration among individuals from the biodiversity, data, and educational communities that are working together to identify core




 [iDigBio Planned Network Maintenance](#) 09/25/2019 - 17:00 to 20:00

Citizen Scientist


Researchers

Browse our specimen portal 

Collections Staff

Learn how your collection can benefit from our work 

Teachers & Students

Learning resources & opportunities to engage 

Fri, 2013-12-27 14:11 -- [kevinlove](#)

Public engagement in scientific research (sometimes referred to as citizen science) is not new, but new web resources (e.g., from the [Zooniverse](#), [Cornell Lab of Ornithology](#), and [USA National Phenology Network](#) suites of projects) provide scientists with opportunities to engage the public in ways and at scales not previously possible. At the same time, the public is increasingly provided with opportunities to learn how to do science and, in some cases, co-design and implement the experiments with scientist partners (e.g., with functionality at [CitSci.org](#)). This is leading to a democratization of science, in which the public has a more direct role in doing research meaningful to them (e.g., determining floristic changes in a local natural area).

Many of the current ecological/environmental citizen science projects focus on generating present-day occurrence data on populations, species, and communities. Biodiversity research collections (biocollections) represent an opportunity to produce complementary historical baseline data on distributions using the roughly 1 billion specimens in U.S. institutions collected over the past 250 years. However, information about a majority of those specimens has yet to be digitized and made available to the world online. iDigBio is working to enable the creation of this digital historical baseline in many ways, including ways that engage the public in the digitization of specimens that are most relevant to the contributor's interests. Engaging the public in digitization intersects in powerful ways with iDigBio's Education and Outreach goals, as well its Digitization, Cyberinfrastructure, and Research goals.



This year, iDigBio is excited to partner with other projects to produce the inaugural [Worldwide Engagement for Digitizing Biocollections \(WeDigBio\) Event](#)—a potentially huge boost for engaging the public in digitization and increasing science literacy in this domain. The event's core leadership team includes researchers from Florida State University, Smithsonian Institution, University of Florida's Florida Museum of Natural History, Australian Museum, and the major online transcription platforms,

including the U.S.-based [Smithsonian Transcription Center](#), [Zooniverse Notes from Nature](#), and [Symbiota](#), the Australia-based [DigiVol](#), the UK-based [Herbaria@Home](#), and the France-based

Broadening Participation in Biology

Tue, 2018-02-20 10:14 -- maphillips

Researchers

Browse our specimen portal



Collections Staff

Learn how your collection can benefit from our work



Teachers & Students

Learning resources & opportunities to engage



Just like in all other STEM disciplines, the biodiversity sciences has a human diversity problem. iDigBio is committed to broadening participation for all underrepresented groups and is working to do so through multiple initiatives:

NSF-Funded Workshop Series



Broadening Diversity in the Biological Sciences: A Series of Workshops for Undergraduate and Graduate Students included three workshops for undergraduate students and recent graduates that focused on opportunities for careers and graduate study in field and environmental biology, biodiversity, ecology, and evolution.

- Florida Museum Shadowing Day
- Orlando Workshop



benefit from our work

Teachers & Students
Learning resources &
opportunities to engage



Outreach Materials created through ADBC

Are you looking for outreach materials to help engage with people about biodiversity, digitization, or iDigBio?



Libraries of Life Collection Cards were created by the iDigBio Augmented Reality Public Education/Outreach Working Group. The fifteen cards each feature a different project funded by NSF's Advancing Digitization of Biodiversity Collections program, and each card launches a 3D model in the mobile device's viewer that brings specimens to life for the public. The cards are available

to download and print **through the app**, and further resources are available at www.libraries-of-life.org, including educational materials.

The [MicroFungi Portal](#) also has an [outreach page](#) that has educational videos and articles about early mycologists.

Citizen/Community Science

The SoRo TCN has created an [iNaturalist project](#) for citizen scientists to help document the biodiversity at the Rocky Mountain Biological Laboratory.

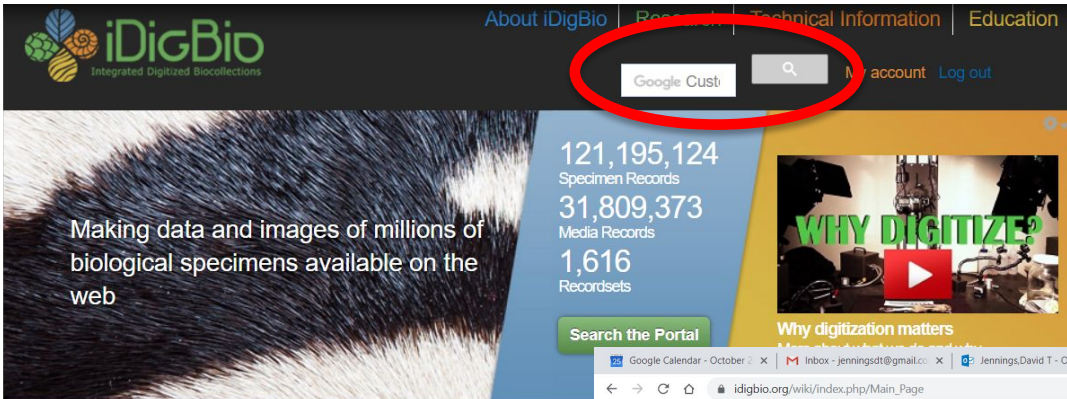
Notes from Nature Outreach Activity: [Notes from Nature](#) is an excellent outreach tool because people can directly participate in the digitization of museum collections. The website hosts multiple collections at all times and is fun and easy to use. iDigBio has created [an activity](#) intended for a tabling event --- for a general, or younger audience. We used this activity with Girl Scouts, but it could be easily adapted for other groups. Visit the [K-12 page](#) to find Notes from Nature activities meant for formal education.

Outreach Videos

One of the members of the [Mid-Atlantic Megalopolis TCN](#) has created a [3-video series](#) on the importance of digitization and collections.

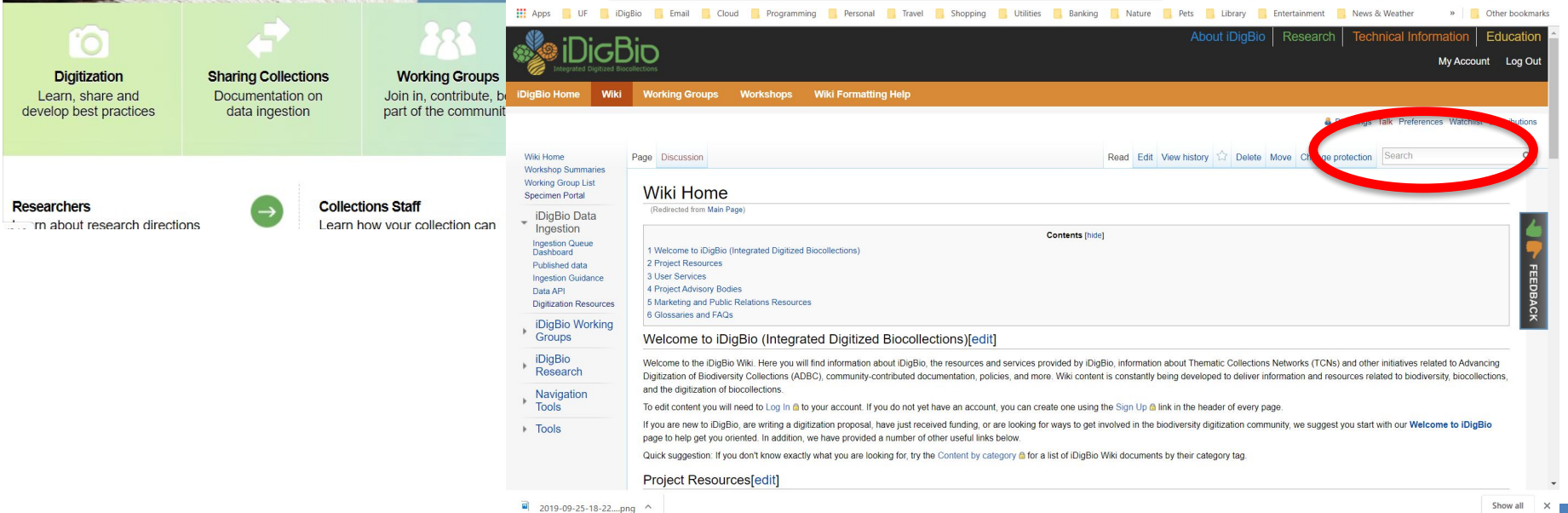


I can't find X, or I want to know about Y



The image shows the top navigation bar of the iDigBio website. The search bar contains the text "Google Cust" and is circled in red. To its right are links for "My account" and "Log out".

Use the search boxes!



This screenshot shows the iDigBio Wiki page. The search bar at the top right of the page is circled in red. The page content includes a "Wiki Home" section with a table of contents and a "Project Resources" section. The search bar contains the text "Search".



About 2,110 results (0.27 seconds)

[Webinar: Towards user-definable, semi-automated workflows for ...](https://www.idigbio.org/.../webinar-towards-user-definable-semi-automated-workflows-curating-biodiversity-data)
<https://www.idigbio.org/.../webinar-towards-user-definable-semi-automated-workflows-curating-biodiversity-data>

In the FilteredPush project, we have developed automated **workflows** for quality control of biodiversity data, first as proof-of-concept desktop software in the ...

[Digitization Workflows | iDigBio](https://www.idigbio.org/content/digitization-workflows)
<https://www.idigbio.org/content/digitization-workflows>
 Jun 10, 2012 ... Efficient and effective **workflows** are at the heart of successful biological and paleontological collections digitization. Much work has been done ...

[Workflow Modules and Task Lists | iDigBio](https://www.idigbio.org/content/workflow-modules-and-task-lists)
<https://www.idigbio.org/content/workflow-modules-and-task-lists>
 Aug 24, 2012 ... One outgrowth of the DROID (Developing Robust Object-to-Image-to-Data) **workflow** workshop held in May 2012 was the establishment of a ...

[Workflow | iDigBio](https://www.idigbio.org/tags/workflow)
<https://www.idigbio.org/tags/workflow>
 Mass Digitizing a Working Herbarium using a conveyor belt: **Workflows**, Strategies, ...
 Webinar: Towards user-definable, semi-automated **workflows** for curating ...

[Workflows | iDigBio](https://www.idigbio.org/tags/workflows)
<https://www.idigbio.org/tags/workflows>
 This session at GSA 2016 will focus on paleontology/geo databases, data standards related to paleontology, and mobilization of research-quality paleontology ...

[Developing Robust Object to Image to Data Workflows Workshop...](https://www.idigbio.org/.../developing-robust-object-image-data-workflows-workshop)
<https://www.idigbio.org/.../developing-robust-object-image-data-workflows-workshop>
 Developing Robust Object to Image to Data (DROID) **Workflows** Workshop. Building 105,

- [Wiki Home](#)
- [Workshop Summaries](#)
- [Working Group List](#)
- [Specimen Portal](#)

- ▼ [iDigBio Data Ingestion](#)
- [Ingestion Queue Dashboard](#)
- [Published data](#)
- [Ingestion Guidance](#)
- [Data API](#)
- [Digitization Resources](#)

- ▶ [iDigBio Working Groups](#)

- ▶ [iDigBio Research](#)

- ▶ [Navigation Tools](#)

- ▶ [Tools](#)

Special page

Search results

[Content pages](#) [Multimedia](#) [Help and Project pages](#) [Everything](#) [Advanced](#)

Create the page "[Workflows](#)" on this wiki!

Page title matches

[Collections Digitization Workflows](#)
 ...ributions of existing **workflows** and protocols are encouraged, whether such **workflows** were developed by the contributor or discovered while searching the internet ...: <https://www.idigbio.org/content/digitization-workflows> iDigBio's Collaborative **Workflows** Page] ==
 3 KB (387 words) - 07:47, 7 May 2015

[OCR / NLP Workflows](#)
 4 KB (581 words) - 10:15, 25 August 2014

[Digitization Workflows and Protocols](#)
 ...utions we visited. The following links provide information on Digitization **Workflows** and Protocols. * [<http://tcn.amnh.org/documents> **Workflows**, protocols, etc. from Tri-



Flexible search across all data, indexed fields, media, geolocation, map boundary, auto-completion, synonyms, ...

Take our 30-second survey
The U.S. National Science Foundation and iDigBio are required to collect information on use of digitized collections-based specimen data. Please help us meet this requirement every time you use this search portal. Sustainability of the national digitization effort depends on evidence of data use! **Maybe later.**

iDigBio Home | Portal Home | **Search Records** | Learning Center | Data | Research Collaboration | Feedback

Search Records Help Reset

search all fields

Must have media Must have map point

Filters | Mapping | Sorting | Download

Add a field Clear

Scientific Name Add EOL Synonyms

Present Missing

Date Collected Start: End:

Present Missing

Country

Present Missing

Record Density

- 1
- 5
- 27
- 142
- 742
- 3,874
- 20,222
- 405,550

3000 km



Get Involved!



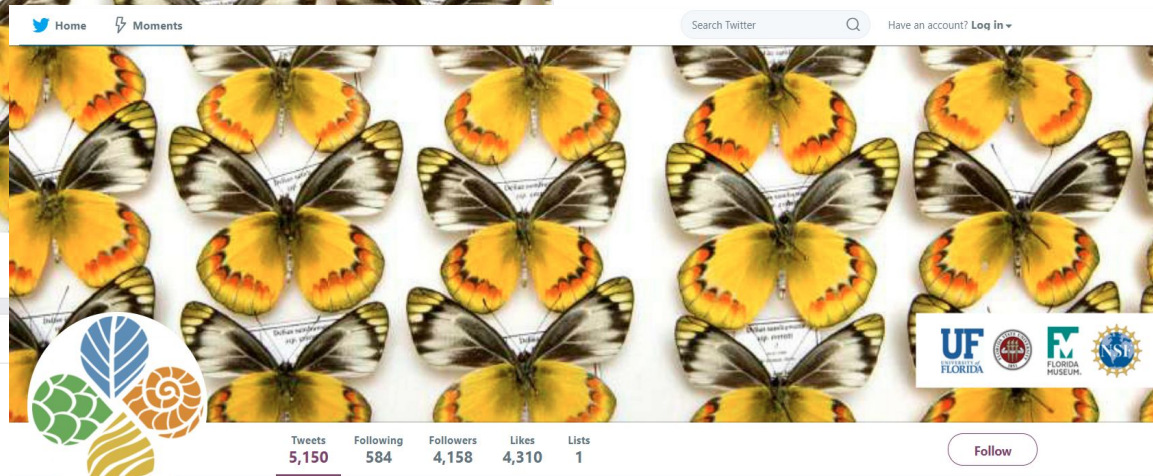
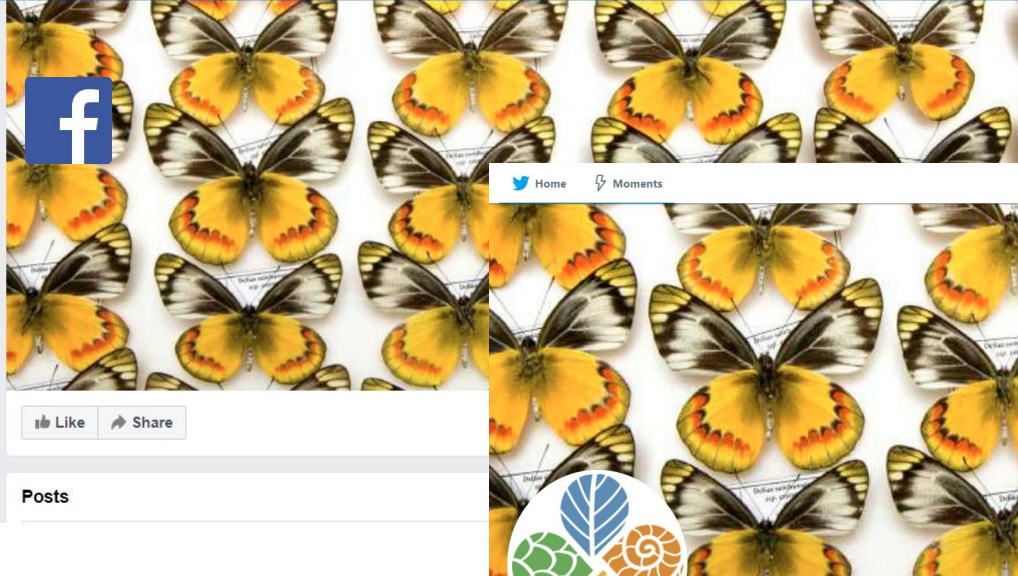
Step 1: Sign up for the iDigBio Newsletter

- TCN and digitization news
- Upcoming workshops and webinars
- Event recaps
- Articles featuring innovative collections-based research
Biodiversity Spotlights



<https://www.idigbio.org/newsletter-subscribe>

Step 2: Social media



 vimeo.com/idigbio

 idigbio.org/rss-feed.xml

 idigbio.org/events-calendar/export.ics

 www.idigbio.org/wiki



Step 3: Get involved with a Community Working Group

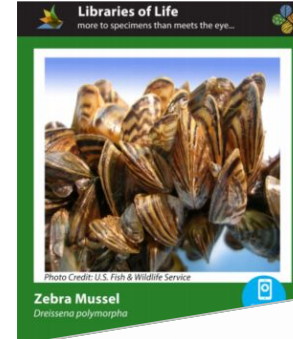
iDigBio Home | Wiki | Working Groups | Workshops | Wiki Formatting Help

Wiki Home | Discussion

Workshop Support | Working Groups | Specimens

iDigBio Working Groups

- 1 Overview
- 2 Forming or Dissolving a Working/Interest Group
- 3 Active Working Groups
 - 3.1 Arctos Working Group
 - 3.2 Augmented Reality Public Education/Outreach Working Group (ARPEO)
 - 3.3 Augmenting OCR (aOCR)
 - 3.4 Biodiversity Collection Management Solutions Working Group
 - 3.5 Biodiversity Informatics Management (BIM) Working Group
 - 3.6 Data Management Interest Group (DMI)
 - 3.7 Developing Robust Object to Image to Data (DROID)
 - 3.7.1 DROID1: Flat Sheets and Packets
 - 3.7.2 DROID2: Pinned Specimens in Trays and Drawers
 - 3.7.3 DROID3: Things in Spirits
 - 3.7.4 DROID4: 3D objects in Trays
 - 3.8 Education & Outreach (E&O)
 - 3.9 Fluid-preserved Arthropod and Microscopic Slide Imaging Interest Group
 - 3.10 Georeferencing Working Group (GWG)
 - 3.11 Integrating Collections and Ecological Research (ICER)
 - 3.12 International Whole-Drawer Digitization Interest Group (WDD)
 - 3.13 Interoperability for Public Participation in Digitization (CitSciInterop)
 - 3.14 North American Network of Small Herbaria Working Group (NANSH)



- Documentation
- API development
- Workflows
- Standards
- Best practices
- Hackathons
- Workshops, Webinars

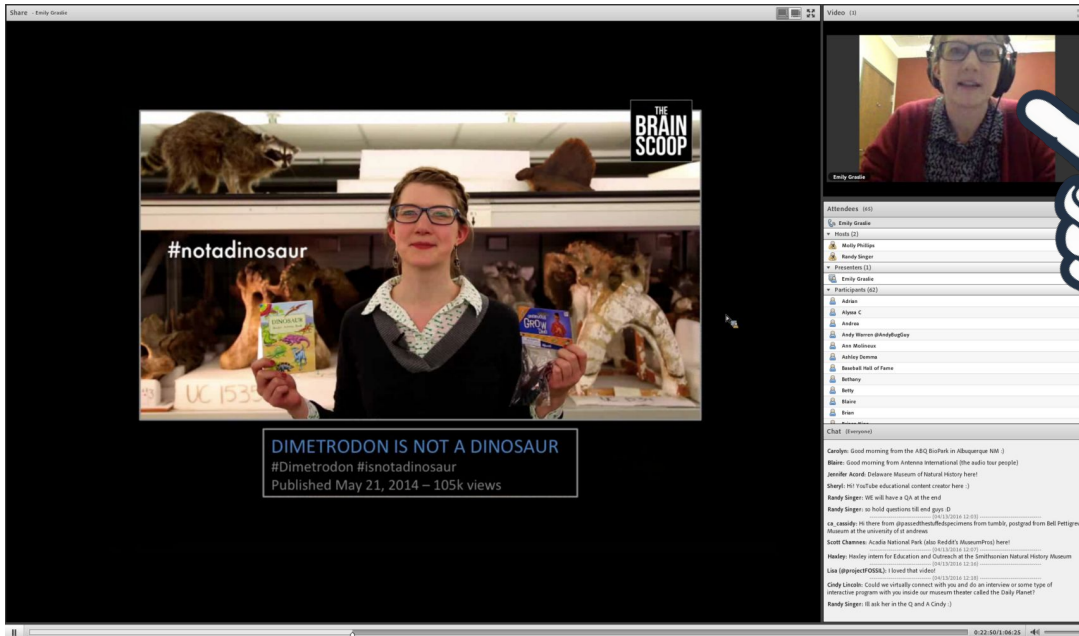




Step 4: Watch a webinar...or star in one!

<https://www.idigbio.org/tags/webinar>

https://www.idigbio.org/wiki/index.php/Web_Conferencing



#notadinosaur

THE BRAIN SCOOP

DIMETRODON IS NOT A DINOSAUR
#Dimetrodon #isnotadinosaur
Published May 21, 2014 – 105k views

Attendees (65)

- Emily Graska
- Heidi (2)
- Misty Phillips
- Randy Singer
- Participants (1)
- Participants (92)
- Alexa
- Alexis C
- Andrea
- Andy Brown @bushyloggy
- Aria Wallace
- Ashley Dennis
- Beckel Hat of Fame
- Bethany
- Betsy
- Wesley
- Wesley

Chat (5 messages)

Camille: Good morning from the ASQ BarPark in Albuquerque NM

Brian: Good morning from Arizona International (the radio host people)

Jennifer Azeal: Delaware Museum of Natural History here!

Sheryl: HI YouTube educational content creator here :)

Randy Singer: We will have a Q&A at the end!

Randy Singer: in kind question 18 and page 10

La_Sally: Hi there from @passethrough42 13/2014 12:07

Scott Channan: SoCal National Park Like Addict Museum here!

Heidi: Hello! I am for Education and Outreach of the Smithsonian Natural History Museum

Like (@pmp4FOSSILS): I loved that video!

Cindy Linebush: Could we virtually connect with you and do an interview or some type of interactive program with you made our museum theater called the Daily Planet!

Randy Singer: It will be in the Q and A Cindy :)

Workshops
Symposia
Webinars



Be like Emily: get a headset preferably with a microphone!



Step 5: Contribute to the iDigBio website

- Submit an article for the **Research Spotlight**
- Write an article about **your project**
- Contribute your **workflows**
- **Update** your individual TCN wiki pages
- Write about your **iDigBio experience**
- Post an **event**
- Share education/outreach **resources**

Bering Land Bridge and the MyCoPortal

Contributed by: Teresa Iturriaga, Rhianna Baldree, Alex Kuhn, Andrew Miller



Mycologists long to collect
areas remote to most men
where fungi today may thrive
keeping plants, trees, and cycles alive.

Bridges are to their liking
since one can go underneath
connecting with what lies beneath.
About fungi this is most striking.

In summer some may float
if the bridge is over a moat.
Fungi are versatile and persistent
to new niches they aren't resistant.



Step 6: Use the portal for research and data cleaning – feedback!

Family	Scientific Name	Date Collected	Country	Institution Code
"	"	1997-11-14	Brasil	IAC
Unplaced	"Acer" knowltoni	no data	United States	UF
Hamamelidaceae	"Acer" (Liquidambar) lesquereuxi	no data	United States	UCMP
Hamamelidaceae	"Acer" (Liquidambar) lesquereuxi	no data	United States	UCMP
Achatinellidae	"achatinea" sp.	no data	no data	NHMK
Achatinellidae	"achatinea" sp.	no data	no data	NHMK
Achatinellidae	"achatinea" sp.	no data	no data	NHMK
Unplaced	"Almont samara"	no data	United States	UF
Unplaced	"Almont samara"	no data	United States	UF

Recordset

Data Corrected | Data Use | Raw

This table shows any data corrections that were performed on this recordset to improve the capabilities of iDigBio Search. The first column represents the correction performed. The last two columns represent the number and percentage of records that were corrected. A complete list of the data quality flags and their descriptions can be found here. Clicking on a data flag name will take you to a search for all records with this flag in this recordset.

Flag	Records With This Flag	(%) Percent With This Flag
idigbio_isocountrycode_added	67961	98.832
dwc_continent_added	67932	98.79
geopoint_datum_missing	60241	87.605
dwc_datasetid_added	15170	22.061
dwc_kingdom_added	15170	22.061
dwc_parentnameusageid_added	15170	22.061
dwc_taxonid_added	15170	22.061
dwc_taxonomicstatus_added	15170	22.061
dwc_taxonrank_added	15170	22.061
gbif_canonicalname_added	15170	22.061
gbif_genericname_added	15170	22.061
gbif_taxon_corrected	15170	22.061
dwc_phylum_added	14947	21.737
dwc_scientificnameauthorship_added	14714	21.398
dwc_class_added	14460	21.028
dwc_multimedia_added	8706	12.661
taxon_match_failed	8593	12.496
dwc_order_replaced	8162	11.87
gbif_vernacularname_added	7878	11.457



Step 7: Collaborate!



BIODIVERSITY COLLECTIONS NETWORK

! iDigBio Planned Network Maintenance 09/25/2019 - 17:00 to 20:00

Research | Portal Home | **Research Collaboration** | Learning Center | Genetic Resources



- Researchers**
Browse our specimen portal →
- Collections Staff**
Learn how your collection can benefit from our work →
- Teachers & Students**
Learning resources & opportunities to engage →

iDigBio Collaborations Enabling Research

Thu, 2014-07-24 16:15 -- ammatsun
 To facilitate the study of biodiversity, a number of software products are being collaboratively developed with researchers and projects. These websites, tools, and workflows take advantage of the data being digitized at US and global institutions and made available by iDigBio through our data services. Many other tools and services can be found through the Biodiversity Catalogue. If you have a great idea, contact us or submit a proposal!



WordPress Leaflet Map Plugin Using iDigBio Data

iDigBio has collaborated with the Atlas of Ordovician Life project, part of the PALEONICHES-TCN to create a mapping plugin for WordPress that can generate maps of iDigBio specimen data on the fly. Leaflet Map enables map generation within WordPress webpages, and Leaflet iDigBio geojson data plugin developed by iDigBio enables an API query to iDigBio specimen occurrence coordinates. An example of the information about the plugin is available at <https://github.com/iDigBio/geojson>.



Biodiversity Information Standards TDWG

Symbiota



TCN Responsibilities



TCN Responsibilities (1 of 2)

- **Maintain a TCN wiki page**
 - <https://www.idigbio.org/wiki/index.php/TCNs>
- Submit requested info for Summit resources
- Provide feedback via annual community survey and other solicitations
- **Prepare annual report for NSF**
 - https://www.idigbio.org/wiki/images/3/34/ADBC_AnnualReportInfoSheet.pdf



TCN Responsibilities (2 of 2)

- Participate in quarterly TCN meetings
 - Feb, May, Aug, and Nov on first Wed @ 2:00 PM Eastern; minutes published on wiki
 - <https://www.idigbio.org/content/2019-internal-advisory-committee-meetings>
- **Submit quarterly reports to iDigBio**
 - Due by the quarterly meeting; published on wiki
 - <https://www.idigbio.org/content/tcn-quarterly-progress-report-idigbio>



https://www.idigbio.org/wiki/index.php/Digitizing_collections_to_trace_parasite-host_associations_and_predict_the_spread_of_vector-borne_disease

 [Djennings](#) | [Talk](#) | [Preferences](#) | [Watchlist](#) | [Contributions](#)

Page Discussion

[Read](#) | [Edit](#) | [View history](#) | [Delete](#) | [Move](#) | [Protect](#)

Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease

Contents [\[hide\]](#)

- 1 Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease
 - 1.1 Project Summary
 - 1.2 Current Research
 - 1.3 Project Websites & Social Media
 - 1.4 Citizen Science & Outreach Projects
 - 1.5 Project Leadership
 - 1.6 Project Collaborators
 - 1.7 Protocols & Workflows
 - 1.8 Publications
 - 1.9 Professional Presentations
 - 1.10 Other project documentation

Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease[\[edit\]](#)

Project Summary[\[edit\]](#)

Arthropod parasites (specifically, insects and their relatives) are responsible for economically critical issues in human health, wildlife conservation, and livestock productivity. Because natural history collections are permanent repositories for past and present parasite specimens, these collections and their data can help address these significant societal challenges in human and animal health and safety. Natural history collections often contain specimens and ancillary materials that are completely unknown to the broader community, yet represent irreplaceable knowledge about organismal habitats, distributions, and parasite-host associations. Further, these collections yield information that can be used to model ecological processes and changes in species distributions, predict the future spread of human and animal disease, update taxonomy, and help identify under-represented parasite groups in urgent need of sampling and threatened parasite diversity in need of conservation. This project will provide digital records (i.e., specimen label data and images) of invaluable arthropod parasite collections to make research-ready baseline data accessible online, catalyzing new research and education initiatives. These newly digitized data will

TPT-TCN
☰
Quick Links
Project Summary
Current Research
Project Websites

- [Wiki Home](#)
- [Workshop Summaries](#)
- [Working Group List](#)
- [Specimen Portal](#)

- ▼ [iDigBio Data Ingestion](#)
 - [Ingestion Queue](#)
 - [Dashboard](#)
 - [Published data](#)
 - [Ingestion Guidance](#)
 - [Data API](#)
 - [Digitization Resources](#)

- ▼ [iDigBio Working Groups](#)
 - [aOCR](#)
 - [BIM](#)
 - [CitSciInterop](#)
 - [CitSciEngage](#)
 - [CYWG](#)
 - [DMI](#)
 - [E&O](#)
 - [GWG](#)
 - [MISC](#)
 - [NANSH](#)
 - [WDD](#)

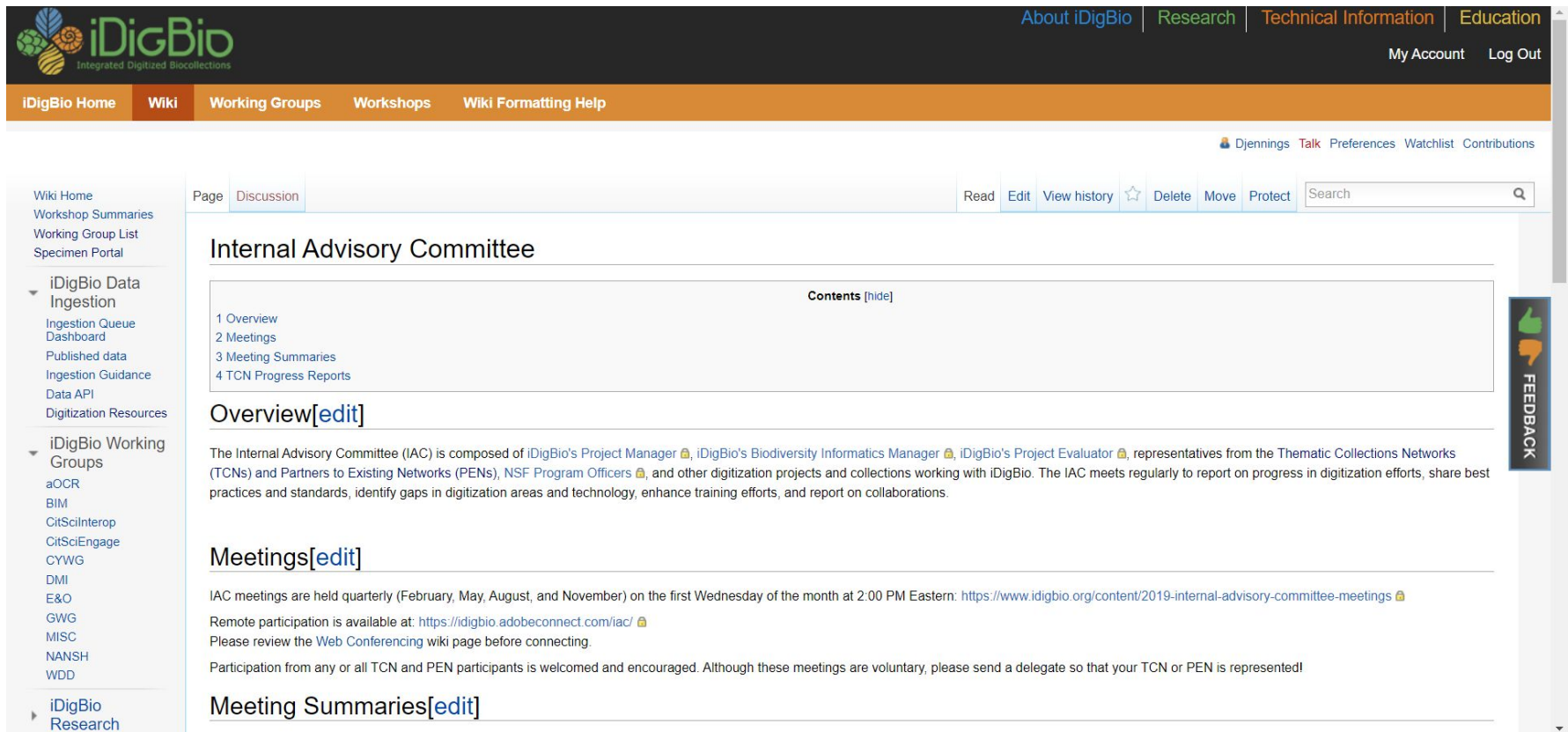
- ▶ [iDigBio Research](#)





Quarterly Meeting Minutes & Reports

- https://www.idigbio.org/wiki/index.php/Internal_Advisory_Committee



iDigBio Integrated Digitized Biocollections

About iDigBio | Research | Technical Information | Education

My Account | Log Out

iDigBio Home | Wiki | Working Groups | Workshops | Wiki Formatting Help

Djennings | Talk | Preferences | Watchlist | Contributions

Page | Discussion

Read | Edit | View history | Delete | Move | Protect | Search

Internal Advisory Committee

Contents [hide]

- 1 Overview
- 2 Meetings
- 3 Meeting Summaries
- 4 TCN Progress Reports

Overview[edit]

The Internal Advisory Committee (IAC) is composed of iDigBio's Project Manager, iDigBio's Biodiversity Informatics Manager, iDigBio's Project Evaluator, representatives from the Thematic Collections Networks (TCNs) and Partners to Existing Networks (PENs), NSF Program Officers, and other digitization projects and collections working with iDigBio. The IAC meets regularly to report on progress in digitization efforts, share best practices and standards, identify gaps in digitization areas and technology, enhance training efforts, and report on collaborations.

Meetings[edit]

IAC meetings are held quarterly (February, May, August, and November) on the first Wednesday of the month at 2:00 PM Eastern: <https://www.idigbio.org/content/2019-internal-advisory-committee-meetings>

Remote participation is available at: <https://digbio.adobeconnect.com/iac/>

Please review the [Web Conferencing](#) wiki page before connecting.

Participation from any or all TCN and PEN participants is welcomed and encouraged. Although these meetings are voluntary, please send a delegate so that your TCN or PEN is represented!

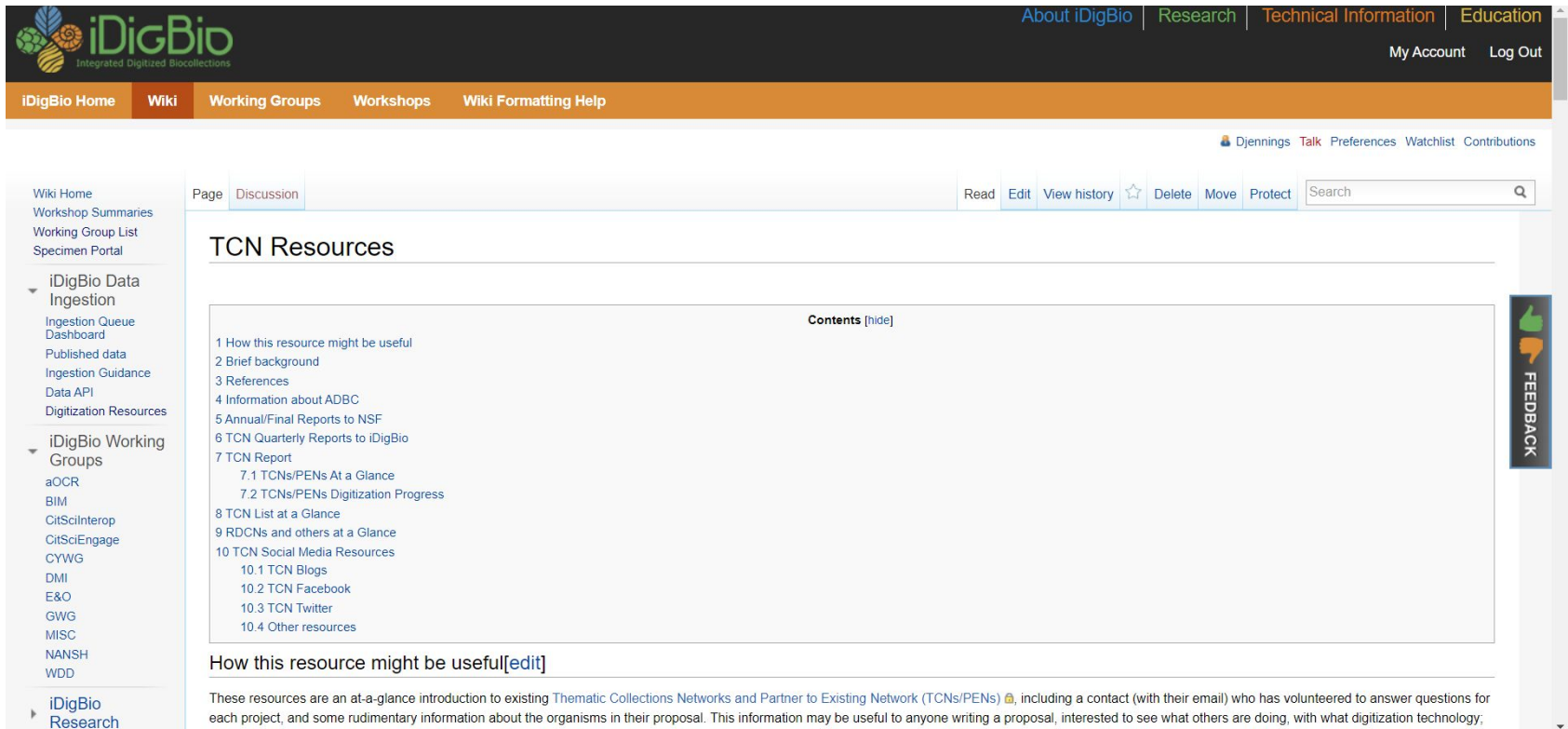
Meeting Summaries[edit]

FEEDBACK



TCN Resources

- https://www.idigbio.org/wiki/index.php/TCN_Resources



The screenshot shows the iDigBio Wiki interface. At the top, there is a navigation bar with links for 'About iDigBio', 'Research', 'Technical Information', and 'Education'. Below this is a secondary navigation bar with 'iDigBio Home', 'Wiki', 'Working Groups', 'Workshops', and 'Wiki Formatting Help'. The main content area is titled 'TCN Resources' and includes a 'Contents' table of contents with 10 numbered items. A 'Feedback' button is visible on the right side of the page.

TCN Resources


Page Discussion

Read Edit View history Delete Move Protect Search

Contents [hide]

- 1 How this resource might be useful
- 2 Brief background
- 3 References
- 4 Information about ADBC
- 5 Annual/Final Reports to NSF
- 6 TCN Quarterly Reports to iDigBio
- 7 TCN Report
 - 7.1 TCNs/PENs At a Glance
 - 7.2 TCNs/PENs Digitization Progress
- 8 TCN List at a Glance
- 9 RDCNs and others at a Glance
- 10 TCN Social Media Resources
 - 10.1 TCN Blogs
 - 10.2 TCN Facebook
 - 10.3 TCN Twitter
 - 10.4 Other resources

[How this resource might be useful](#)[edit]

These resources are an at-a-glance introduction to existing Thematic Collections Networks and Partner to Existing Network (TCNs/PENs) , including a contact (with their email) who has volunteered to answer questions for each project, and some rudimentary information about the organisms in their proposal. This information may be useful to anyone writing a proposal, interested to see what others are doing, with what digitization technology,



Other Helpful Resources

- Welcome to iDigBio:
https://www.idigbio.org/wiki/index.php/Welcome_to_iDigBio
- MediaWiki Reference Card:
<https://meta.wikimedia.org/wiki/File:MediaWikiReferenceCard.pdf>
- Workshop Planning and Deliverables:
https://www.idigbio.org/wiki/index.php/Workshop_Planning_and_Deliverables
- Content Style Guide and Workflow:
https://www.idigbio.org/wiki/index.php/Content_Style_Guide_and_Workflow



How To Get Your Data To iDigBio



What's In This For You?

Meet the iDigBio Staff

Overview of the ingestion process

Learn how to get your data *published*



iDigBio Data Mobilization Staff

Caitlin “Cat” Chapman

cchapman@floridamuseum.ufl.edu



Biodiversity Informatics
Coordinator

Dan Stoner

dstoner@acis.ufl.edu



Data Integration Expert



data@idigbio.org



The go-to guide for data ingestion

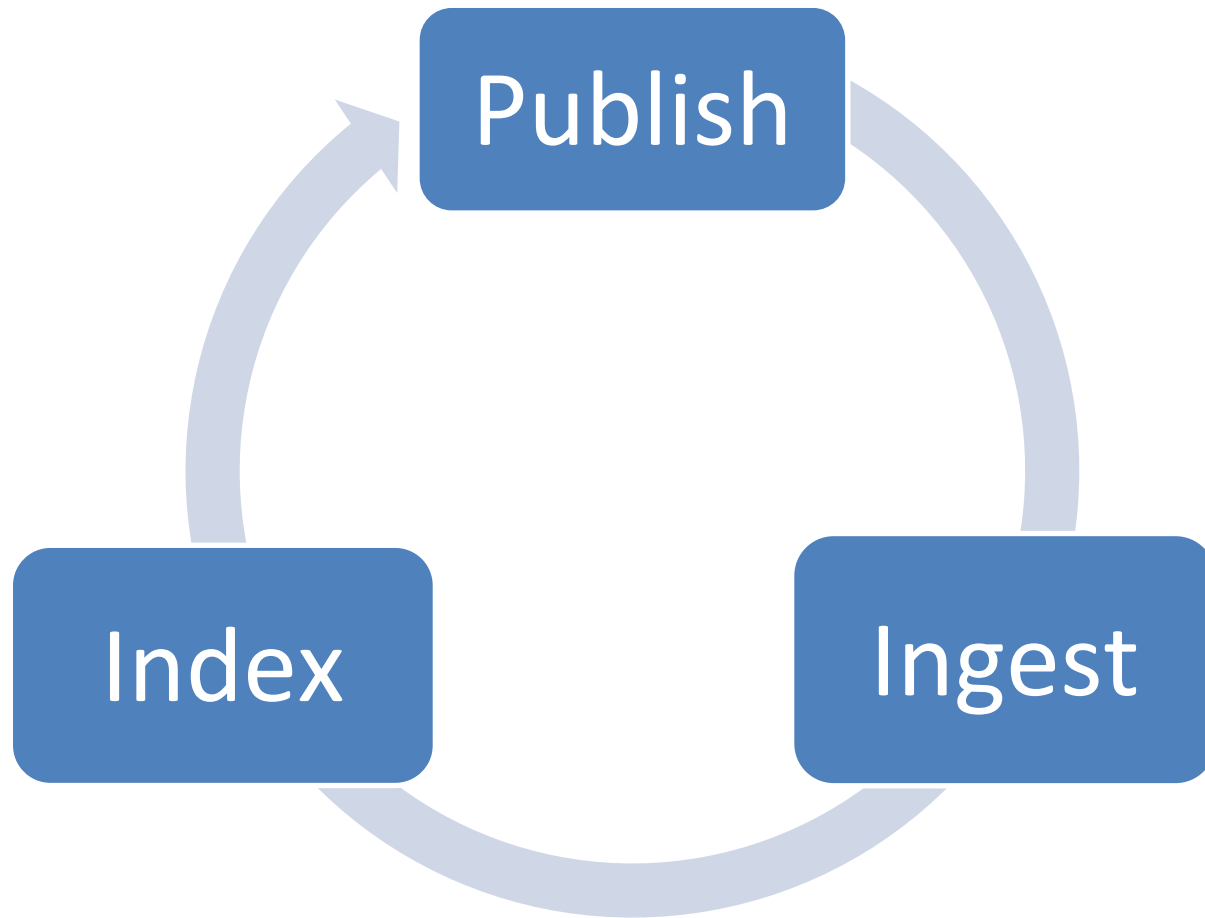
Everything you wanted to know about preparing data for ingestion:

https://www.idigbio.org/wiki/index.php/Data_Ingestion_Guidance

- Identifiers
- **Darwin Core** – occurrence data (specimen records)
- **Audubon Core** - media



Ingestion Process

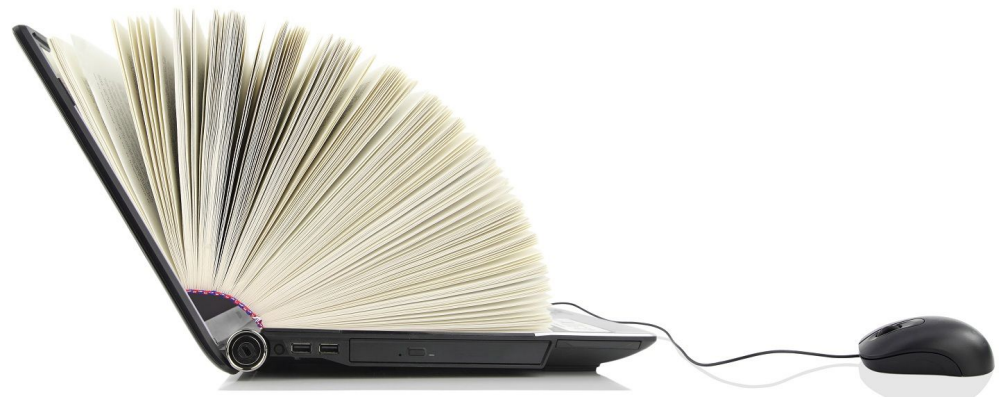




What do we mean by **publishing** data?

making biodiversity data publicly accessible & discoverable, in a standardized form, via a URL.

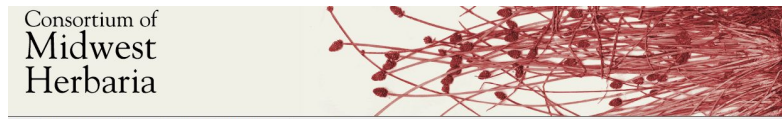
** that is reproducible and automated*





Data publishing – where to begin

- Email data@idigbio.org
“I’m ready”
- Review your data and publishing options together



Consortium of Midwest Herbaria

Home | Specimen Search | Images | Inventories | Interactive Tools | Crowdsourcing | Log In | New Account | Sitemap

Home >> Sitemap >> Darwin Core Archive Publisher

Darwin Core Archive Publishing

The following downloads are occurrence data packages from collections that have chosen to publish their complete dataset as a Darwin Core Archive (DwC-A) file. A DwC-A file is a single compressed ZIP file that contains one to several data files along with a meta.xml document that describes the content. The archives below contain three comma separated (CSV) files containing occurrences, identifications (determinations), and image metadata. Fields within the occurrences.csv file are defined by the Darwin Core exchange standard. The identification and image files follow the DwC extensions for those data types.

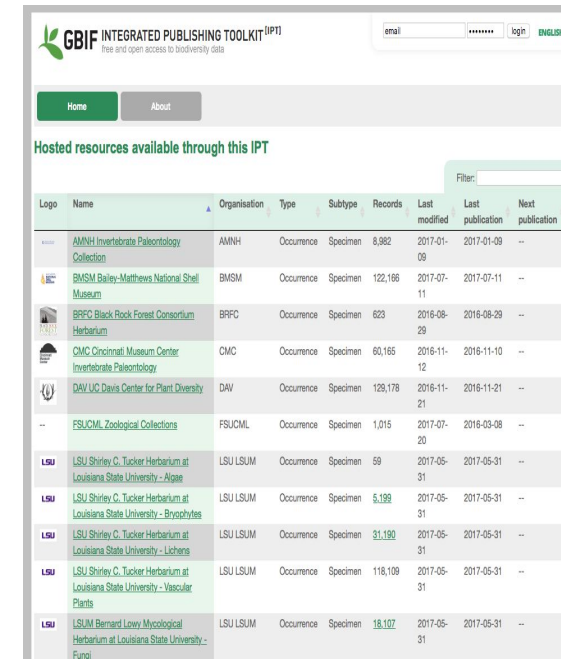
Data Usage Policy:

Use of these datasets requires agreement with the terms and conditions in our Data Usage Policy. Locality details for rare, threatened, or sensitive records have been redacted from these data files. One must contact the collections directly to obtain access to sensitive locality data.

RSS Feed: <http://midwestherbaria.org/portal/webservices/dwc/rss.xml>

Consortium of Midwest Herbaria DwC-Archive Files

Code	Collection Name	DwC-Archive	Metadata	Pub Date
ALBC	Ashlon College	DwC-A (1.3M)	EML	2017-06-05
CALVIN	Calvin College	DwC-A (0.5M)	EML	2017-06-05
CMC	Central Michigan University	DwC-A (3M)	EML	2017-09-31
EMC	Eastern Michigan University Herbarium	DwC-A (2.6M)	EML	2017-06-05
GVSC	Grand Valley State University	DwC-A (0.6M)	EML	2017-06-05
HLSD	Hillsdale College Herbarium	DwC-A (0.5M)	EML	2017-06-05
HOPE	Hope College	DwC-A (0.9M)	EML	2017-06-05
HUNT	Huntington University Herbarium	DwC-A (0.4M)	EML	2017-06-06
ILLS	Illinois Natural History Survey	DwC-A (30.1M)	EML	2017-09-31
IND	Indiana University Herbarium (Deam Herbarium)	DwC-A (11M)	EML	2017-06-06
MIN	J. F. Bell Museum of Natural History Herbarium	DwC-A (14.1M)	EML	2017-09-31
MIU	Miami University Willard Sherman Turrell Herbarium	DwC-A (3.3M)	EML	2017-06-05
MOR	Morton Arboretum	DwC-A (14.4M)	EML	2017-06-06



GBIF INTEGRATED PUBLISHING TOOLKIT (IPT)
Free and open access to biodiversity data

Home About

Hosted resources available through this IPT

Logo	Name	Organisation	Type	Subtype	Records	Last modified	Last publication	Next publication
	AMNH Invertebrate Paleontology Collection	AMNH	Occurrence	Specimen	8,982	2017-01-09	2017-01-09	--
	BMSM Bailey-Mathews National Shell Museum	BMSM	Occurrence	Specimen	122,166	2017-07-11	2017-07-11	--
	BRPC Black Brook Forest Consortium Herbarium	BRPC	Occurrence	Specimen	623	2016-08-29	2016-08-29	--
	CMC Cincinnati Museum Center Invertebrate Paleontology	CMC	Occurrence	Specimen	60,165	2016-11-12	2016-11-10	--
	DAV UC Davis Center for Plant Diversity	DAV	Occurrence	Specimen	129,178	2016-11-21	2016-11-21	--
	FSUCM Zoological Collections	FSUCM	Occurrence	Specimen	1,015	2017-07-20	2016-03-08	--
LSU	LSU Shirley C. Tucker Herbarium at Louisiana State University - Algae	LSU LSUM	Occurrence	Specimen	59	2017-05-31	2017-05-31	--
LSU	LSU Shirley C. Tucker Herbarium at Louisiana State University - Bryophytes	LSU LSUM	Occurrence	Specimen	5,199	2017-05-31	2017-05-31	--
LSU	LSU Shirley C. Tucker Herbarium at Louisiana State University - Lichens	LSU LSUM	Occurrence	Specimen	31,190	2017-05-31	2017-05-31	--
LSU	LSU Shirley C. Tucker Herbarium at Louisiana State University - Vascular Plants	LSU LSUM	Occurrence	Specimen	118,109	2017-05-31	2017-05-31	--
LSU	LSU Bernard Lowy Mycological Herbarium at Louisiana State University - Fungi	LSU LSUM	Occurrence	Specimen	18,107	2017-05-31	2017-05-31	--

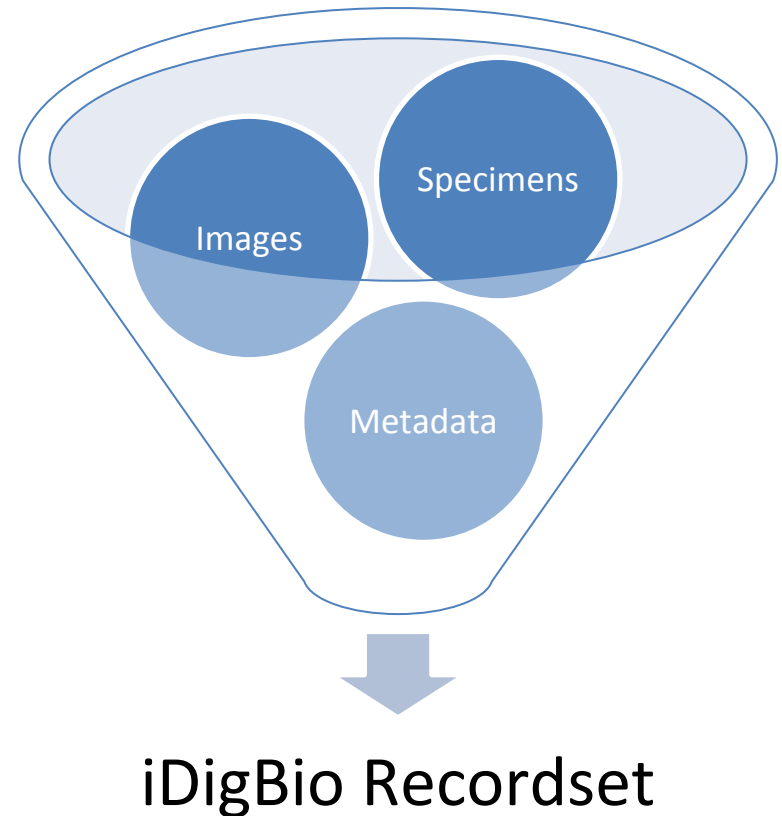


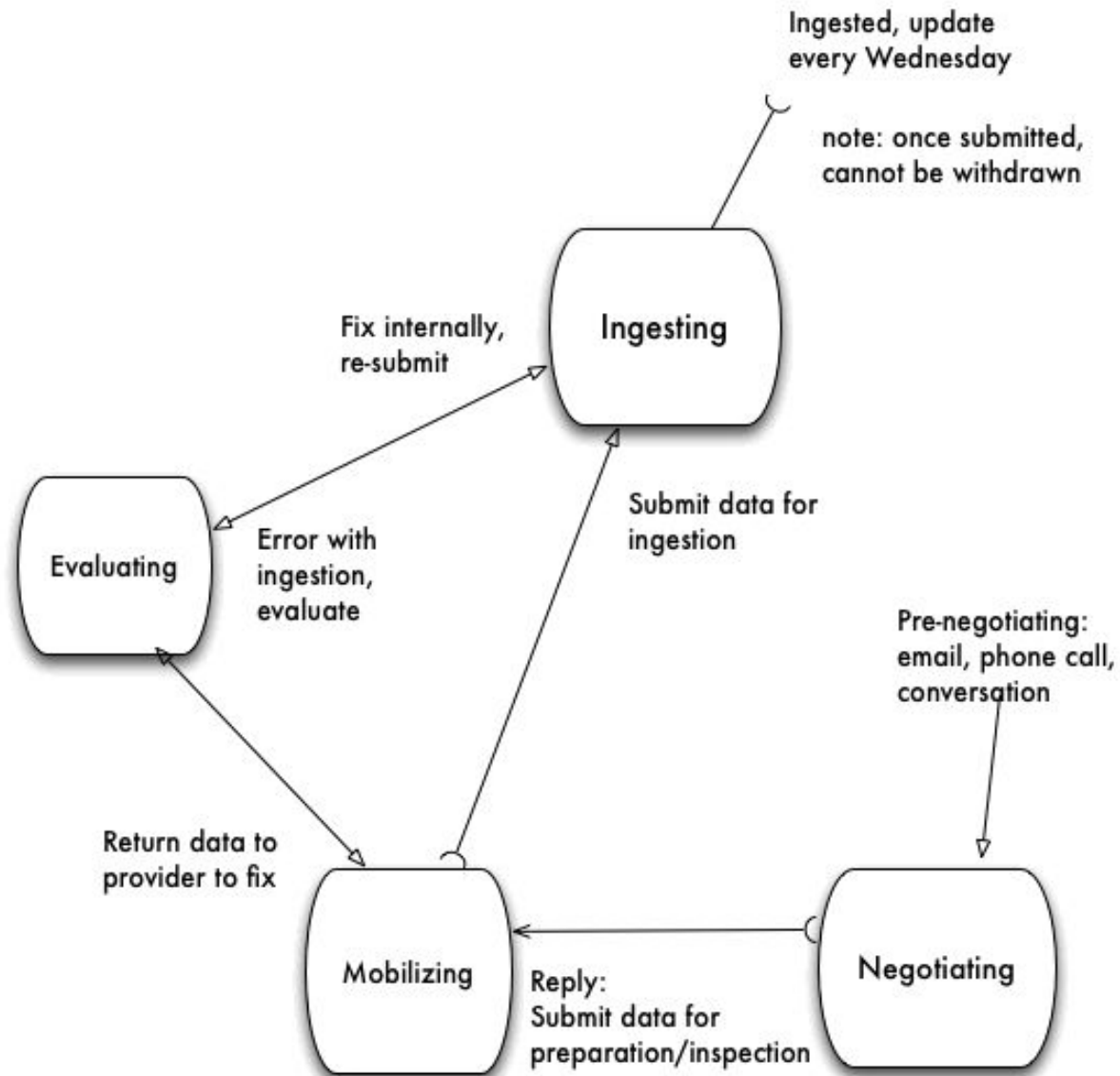
Ingestion Queue

- https://www.idigbio.org/wiki/index.php/Data_Ingestion_Report

Milestones:

- Negotiating
- Mobilizing
- Ingesting
- Evaluating







DATASET INFO: info about the provider (metadata)

Document your dataset **metadata** with your provider information:

- responsible parties (name, address, email, role)
- institution name, institution code, collection code, logo
- URL to the collection at your institution
- descriptive paragraph about the institution, collection, and the dataset



DATASET INFO: rights

- Use Creative Commons standards:

- CC0 for data (not copyrightable)



- CC BY for media (at least)





IDENTIFIERS

Every specimen and media record needs an identifier. [Robust and persistent]

We like UUIDs with a prefix:

urn:uuid:2d5d3a8f-7a18-4825-a129-4a32b4ae58b8



Contact us!



Alnycea Blackwell "Allie"
Project Assistant
ablackwell@floridamuseum.ufl.edu



Cat Chapman
Biodiversity Informatics Coordinator
cchapman@floridamuseum.ufl.edu



David Jennings
Project Manager
djennings@flmnh.ufl.edu



Deborah Paul "Debbie"
Digitization/Training Manager
dpaul@fsu.edu



Erica Krimmel
Digitization Resources Coordinator
ekrimmel@fsu.edu



Gil Nelson
Project Director
gnelson@floridamuseum.ufl.edu



Jillian Goodwin
Conference Manager
jgoodwin@floridamuseum.ufl.edu



Molly Phillips
Education, Outreach, Diversity, & Inclusion
Coordinator
mphillips@flmnh.ufl.edu



Ronald Canepa
System Administrator and
Programmer
rcanepa@acis.ufl.edu



Nicholas Rejack
System Administrator /
Programmer III
nrejack@acis.ufl.edu



Chris Wilson
System Administrator /
Programmer III
wilsotc@acis.ufl.edu



Libby Ellwood
Global Communications Manager
ellwoodlibby@gmail.com



Thank you!



www.idigbio.org



facebook.com/iDigBio



twitter.com/iDigBio



vimeo.com/idigbio



idigbio.org/rss-feed.xml



<webcal://www.idigbio.org/events-calendar/export.ics>