Consortium of Midwest Herbaria Portal Campaign

Office Hours - April 13, 2023

iDigBio
Integrated Digitized Biocollections

Symbiota

Introductions

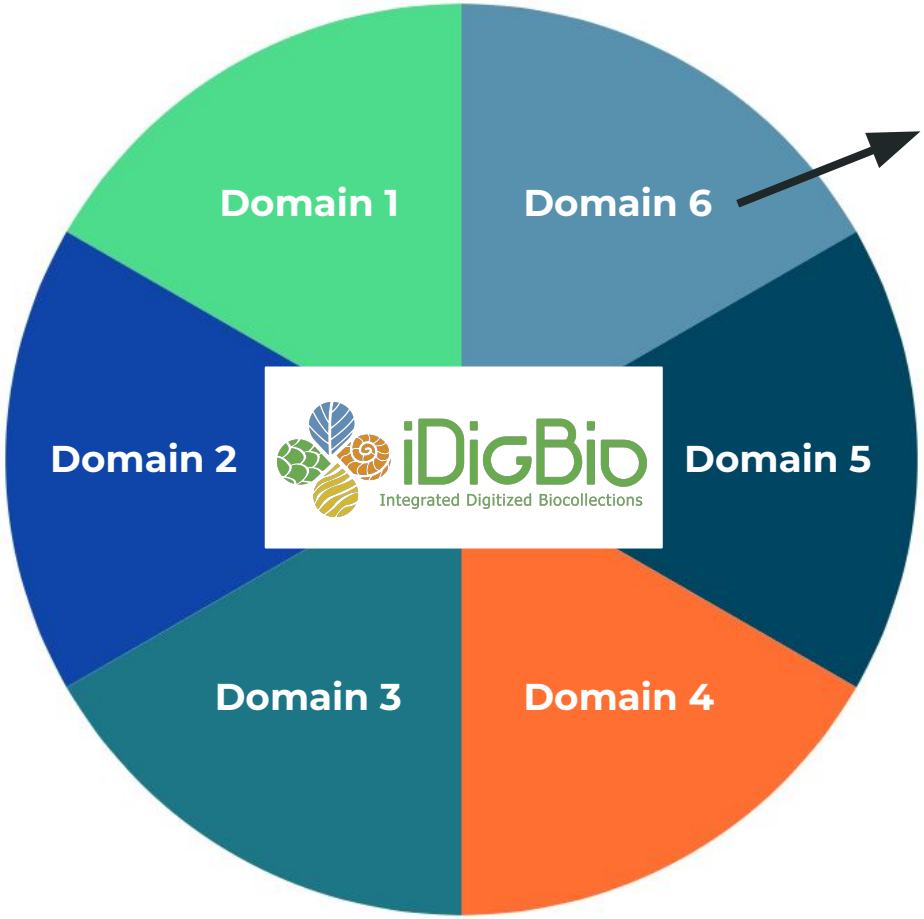
Agenda

1. Refresher: what/who are **iDigBio** and the **Symbiota Support Hub**?
2. Portal Advancement Campaign: goals and schedule
3. Portal history, stats, and activity
4. Resources and services available
5. Portal housekeeping
6. Your needs and wants
7. Next week prep

Questions and comments welcome!
(use chat and/or raise your Zoom hand)

Who are iDigBio & the Symbiota Support Hub?

- National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation
- 1st NSF grant 2011-2016, 2nd grant 2016-2022, **3rd grant 2022-2027 (sustaining)**



Symbiota
Support Hub

Symbiota Support Hub (SSH) Mission

- **Help Desk support** for portal data access, publication, sharing, and management.
- Scalable development, management, and dissemination of **documentation** for all categories of Symbiota users.
- Hosting **webinars, trainings, and workshops** to improve community capacity.
- Implementation of a **sustainable business plan** for Symbiota portal communities.

help@symbiota.org

Symbiota Support Hub Team

Jenn Yost
Community Lead

Katie Pearson
Project & Data Manager

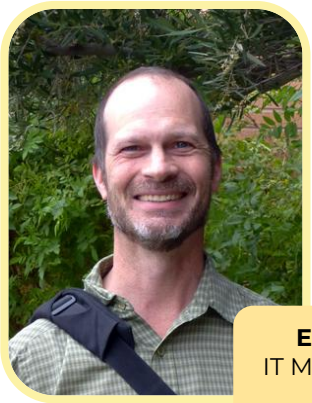
Greg Post
IT & System Administrator

Samanta Orellana
Community Coordinator for Latin America

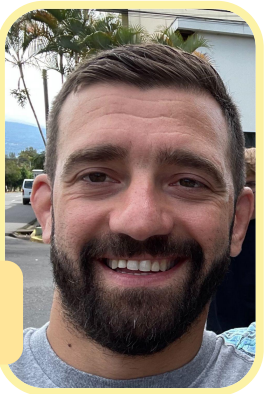
Laura Prado
Biodiversity Informatician

Lindsay Walker
Community Manager

Nico Franz
Management @ ASU



Ed Gilbert
IT Management Lead



Mark Fisher
Developer

SSH is here to **support** existing communities and managers, not replace them.

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Portal Advancement Campaign: Goals

- **Improve data quality, accessibility, and mobilization**
  - Ensure metadata is up to date
  - Provide data cleaning services
  - Discuss duplicate georeferencing harvesting protocols

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  - Troubleshooting to overcome current roadblocks
  - Incorporation of data from collections not currently in the portal

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  - Incorporation of data from collections not currently in the portal
- **Discuss next steps**
  - Identify and incorporate portal improvements or desired modules
  - Identify current needs and potential avenues for future support from iDigBio and/or SSH

Portal Advancement Campaign: Schedule

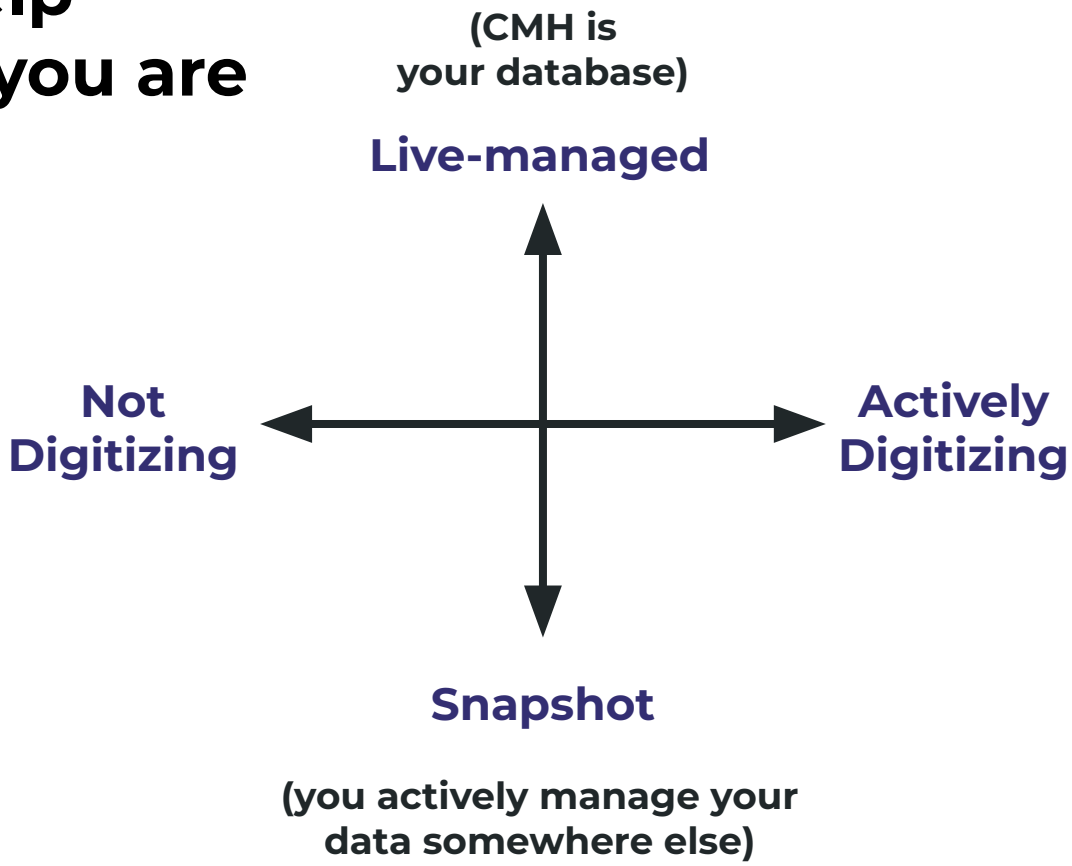
- **April 13:** CMH & SSH intros, existing needs and resources
  - Intro to the campaign
  - Your feedback and needs
  - General housekeeping
- **April 20:** Data quality issues and data cleaning
  - Demo data cleaning tools
  - Questions about batch cleaning options and Darwin Core alignment
- **April 27:** Data mobilization – from collectors to Symbiota to GBIF
  - Data entry in the portal for collectors
  - Why and how to publish to GBIF
- **May 4:** Campaign summary, new portal tools, and improvements
  - What tools exist in other portals that CMH would like in theirs?
  - Wish list: tally of tools that could be developed by future grants

All at 4:00 PM CT

What we need from you:

- Ideas
- Feedback
- Interact with us as much as possible
- Take a look at your collection and give it a little extra attention this month
- Let us know how we can help
- Respond to our emails with questions

We can help wherever you are



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- Part of the SEINet Network (data from 400+ herbaria)

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Ecoregion: NW Morainal

Paul E Rothrock
Species Count: 1882

Acoraceae

Acorus americanus
Acorus calamus

Alismataceae

Alisma subcordatum
Alisma triviale
Sagittaria brevirostra
Sagittaria cuneata
Sagittaria graminea
Sagittaria latifolia
Sagittaria rigida

Amaranthaceae

Amaranthus albus
Amaranthus blitoides

Filter/Display Options

Family/Genus Filter: Reset

All Species

Sort by: Family/Scientific Name

Display Common Names
Display images:

Plant
habit
trees
shrubs
vines / lianas
herbaceous
ferns & allies
grass-like
cactus-like / succulents
aquatic & OBL wetland species
special groups
arums
composites

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- Involved Indiana public in a “Photographic Scavenger Hunt” during COVID lockdowns

Liriodendron tulipifera L.

Go To Encyclopedia of Life...

Family: Magnoliaceae

Tuliptree, more...

plant names

Paul Rothrock

primary photo

diana Flora | Gleason & Cronquist | Web Links

From Flora of Indiana (1940) by Charles C. Deam

This is an infrequent to frequent or common tree throughout the state although it may be absent or very local in a few of the northwestern counties. It grows in almost all kinds of soil but prefers a dry, rather sandy one where it is often a common tree in some of the southern counties. In the hilly counties it is usually found toward the bases of slopes and is almost invariably associated with beech and sugar maple, although there are exceptions wh re it grows with white oak, black gum, and others.

.....

Indiana Coefficient of Conservatism: C = 4

Wetland Indicator Status: FACU

species info

link to map

Leslie Landrum

Paul Rothrock

Open Interactive Map

leaf ... bark ... fruit

Consortium of Midwest Herbaria

- 49 collections
  - 35 live-managed
  - 14 snapshots

- 2,979,135 occurrences
  - 2,129,318 (71%) total images
  - 957,743 (32%) georeferenced
  - 36,728 type specimens

(Stats as of April 2023)

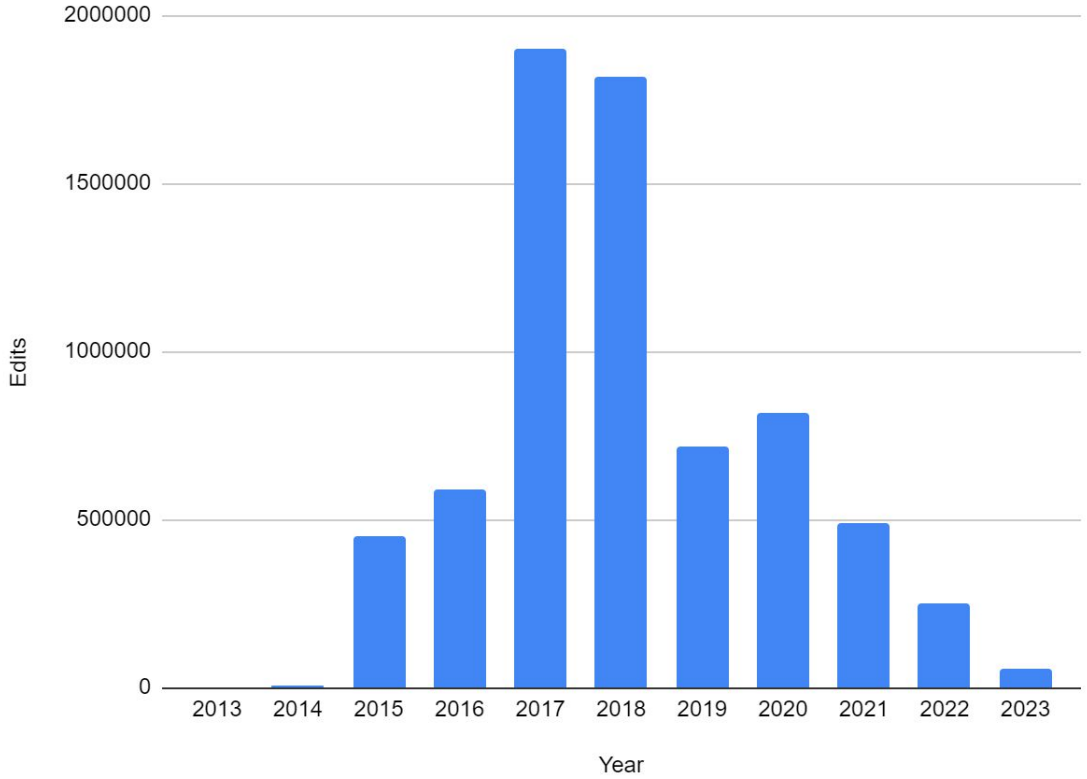
59% (29 coll.) **publishing to iDigBio**

22% (11 coll.) **publishing to GBIF**

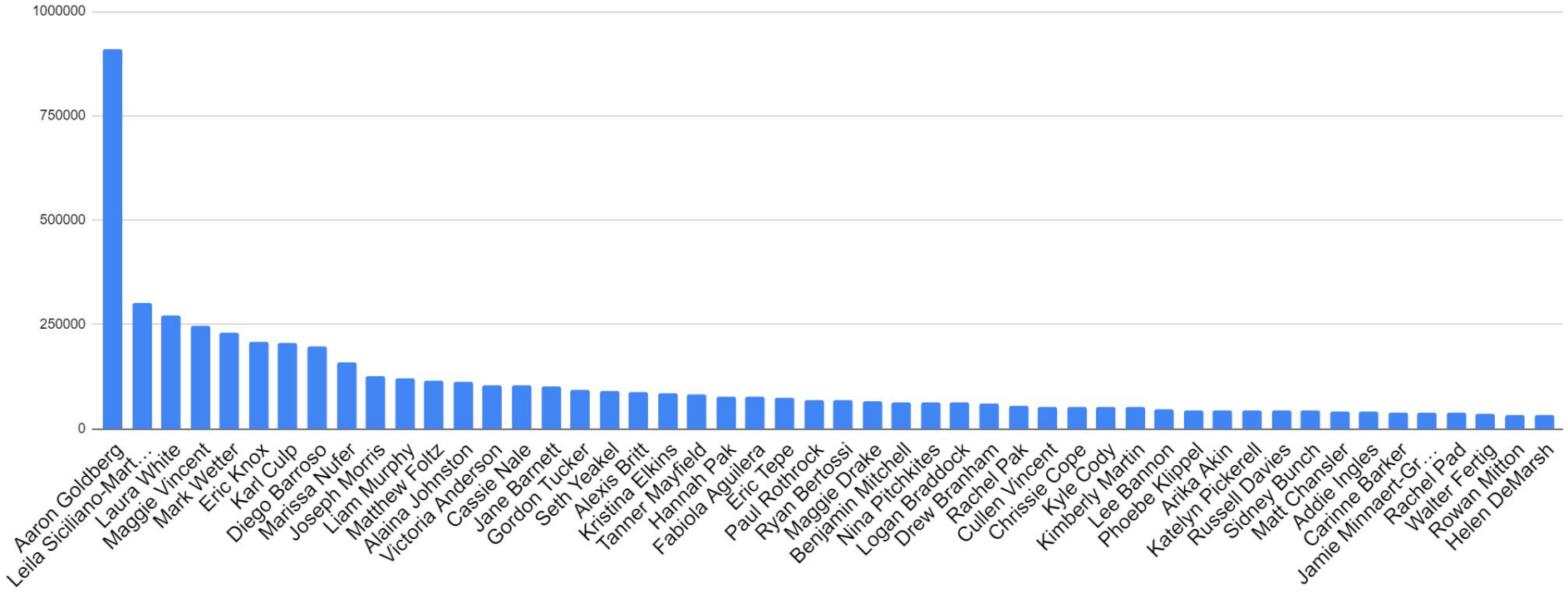
Current Contributors

- Western Illinois University, R. M. Myers Herbarium
- Eastern Illinois University, Stover-Ebinger Herbarium
- University of Minnesota Herbarium
- Butler University, Friesner Herbarium
- Northern Illinois University Herbarium
- Morton Arboretum
- Chicago Botanic Garden
- Field Museum of Natural History
- Central Michigan University Herbarium
- University of Wisconsin-Madison, Wisconsin State Herbarium
- Grand Valley State University
- Hope College
- Albion College
- Calvin College
- Seney National Wildlife Refuge
- University of Michigan Herbarium
- Hillsdale College Herbarium
- University of Wisconsin-Stevens Point, Robert W. Freckmann Herbarium
- University of Wisconsin-Milwaukee
- Illinois Natural History Survey
- University of Notre Dame, Greene/Nieuwland Herbarium
- Michigan State University
- Miami University, Willard Sherman Turrell Herbarium
- Ohio State University Herbarium
- Ohio University, Bartley Herbarium
- University of Wisconsin-LaCrosse
- Eastern Michigan University Herbarium
- University of Illinois Herbarium
- Western Michigan University
- Indiana University Herbarium, Deam Herbarium
- University of Cincinnati, Margaret H. Fulford Herbarium - Vascular Plants
- Huntington University Herbarium
- Kent State University Herbarium
- Indiana University Southeast Herbarium
- Augustana College
- University of Wisconsin - Green Bay
- Northland College
- Amway Herbarium
- University of Wisconsin Oshkosh
- Loyola University Chicago Herbarium
- University of Wisconsin - Eau Claire Herbarium
- Muskegon Community College Herbarium, Michigan
- Chicago Academy of Sciences, Botany Collection
- Cincinnati Museum Center, Cincinnati Museum of Natural History
- Valparaiso University Herbarium
- University of Wisconsin - Whitewater Herbarium

Edits Over Time



Top 50 Editors



Potential contributors?

Suggestions welcome:
bit.ly/new-portal-contributors

- Adrian College
- Alma College
- Aquinas College
- Cranbrook Institute of Science
- Ball State University
- Concordia College
- Cleveland Museum of Natural History
- Lake Forest College
- University of Wisconsin FDL
- Grinnell College
- Grand Rapids Junior College
- Houghton Lake Wildlife Research Station
- Kellogg Biological Station, Michigan State University
- Minnesota State University, Mankato
- Missouri Southern State College
- Division of State Parks, Missouri Department of Natural Resources
- Muskingum College
- Missouri Western State University
- Truman State University
- Northern Michigan University
- Northwest Missouri State University
- Olivet College
- University of Wisconsin, River Falls
- St. Cloud State University
- Southeast Missouri State University
- Simpson College
- Southern Illinois University
- Missouri State University
- Saint Norbert College
- College of the Ozarks
- University of Wisconsin-Superior
- Indiana State University
- University of Central Missouri
- Wayne State University

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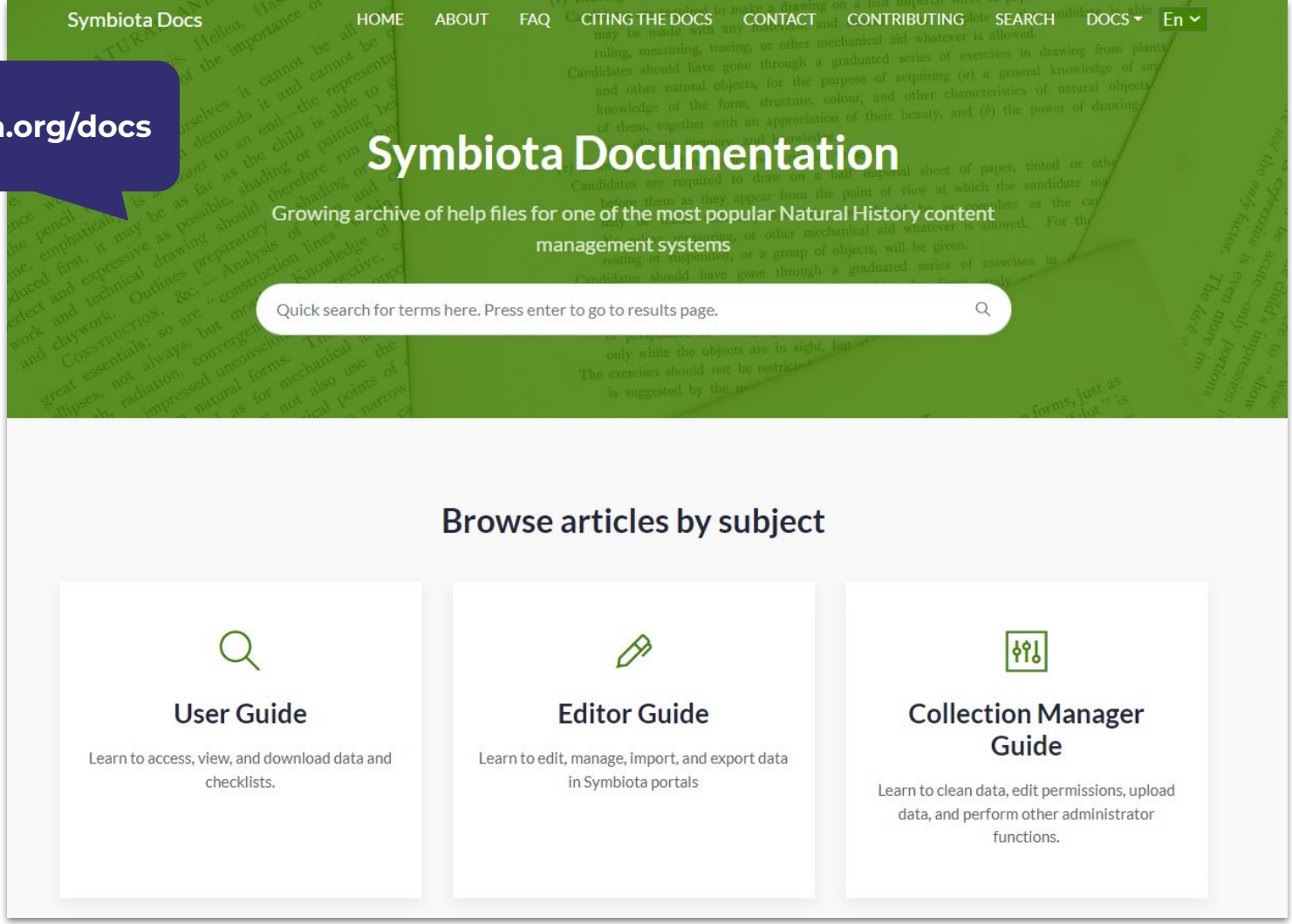
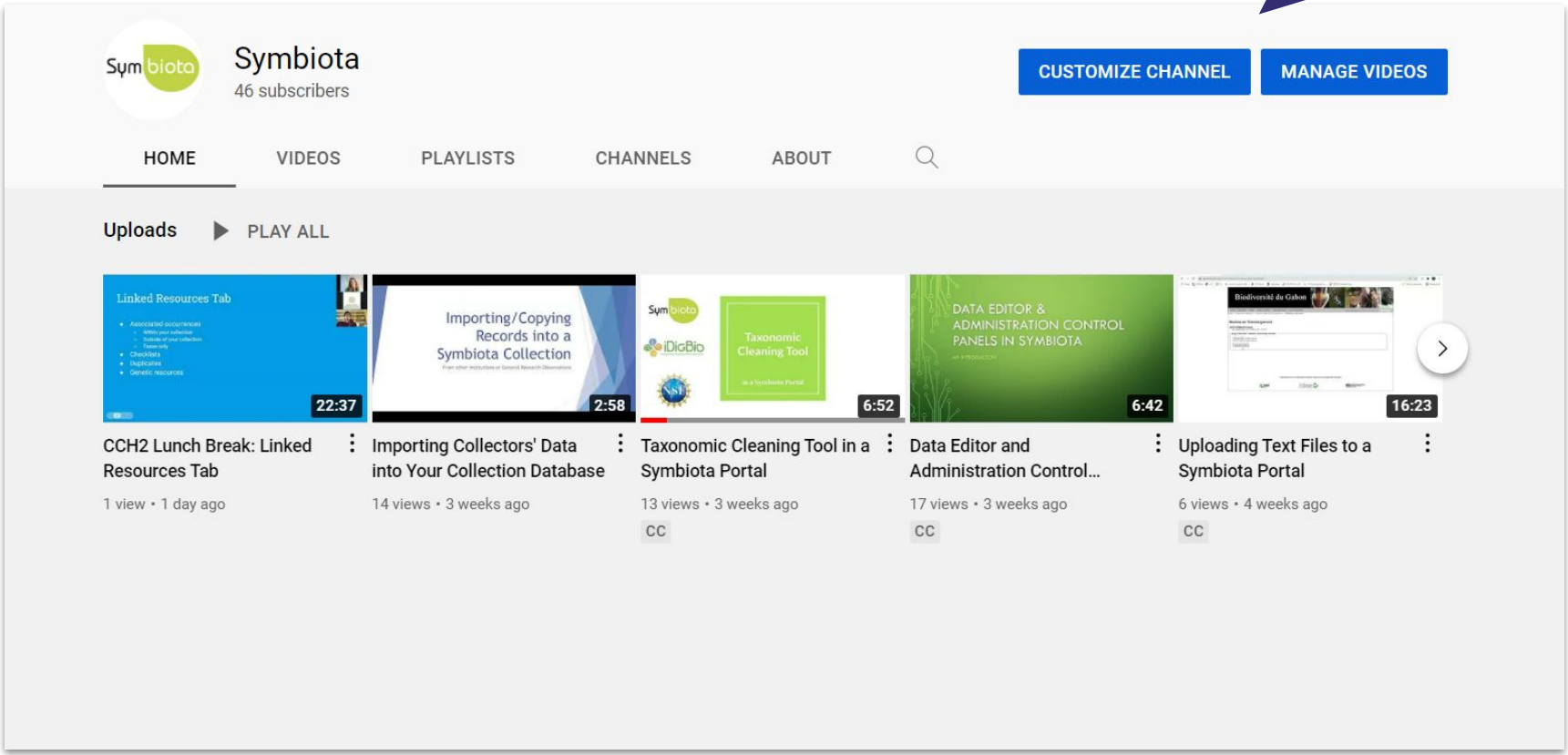
symbiota.org/docs



YouTube Channel

bit.ly/ symbiota-recordings



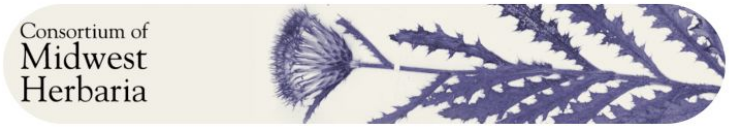
Any materials you'd like to add?

Let us know!

Campaign Docs

symbiota.org/
portal-advancement-campaigns/
midwest-portal-campaign

Midwest Herbaria Portal Campaign



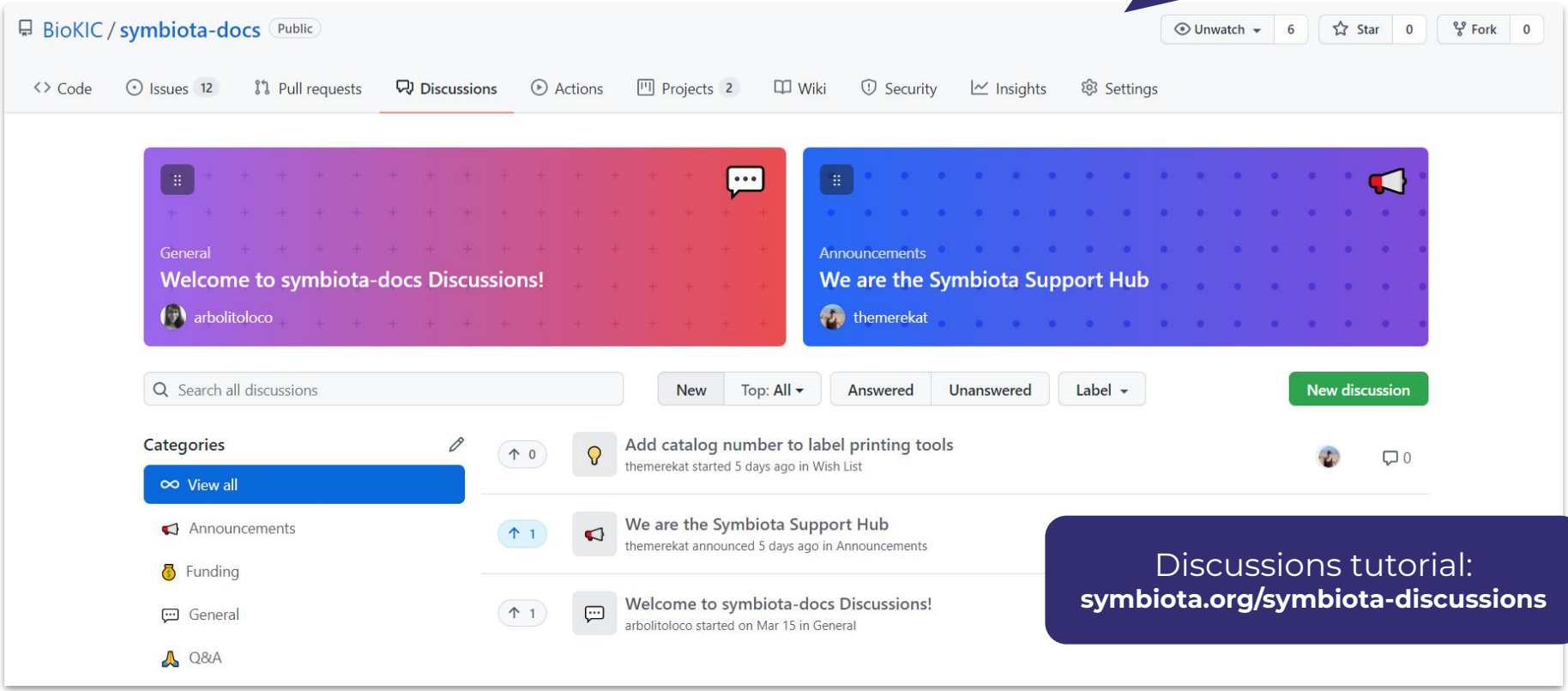
In April 2023, the **Consortium of Midwest Herbaria** will collaborate with the Symbiota Support Hub to grow and advance their portal community.

REGISTER HERE

Campaign Documents

Symbiota Discussions

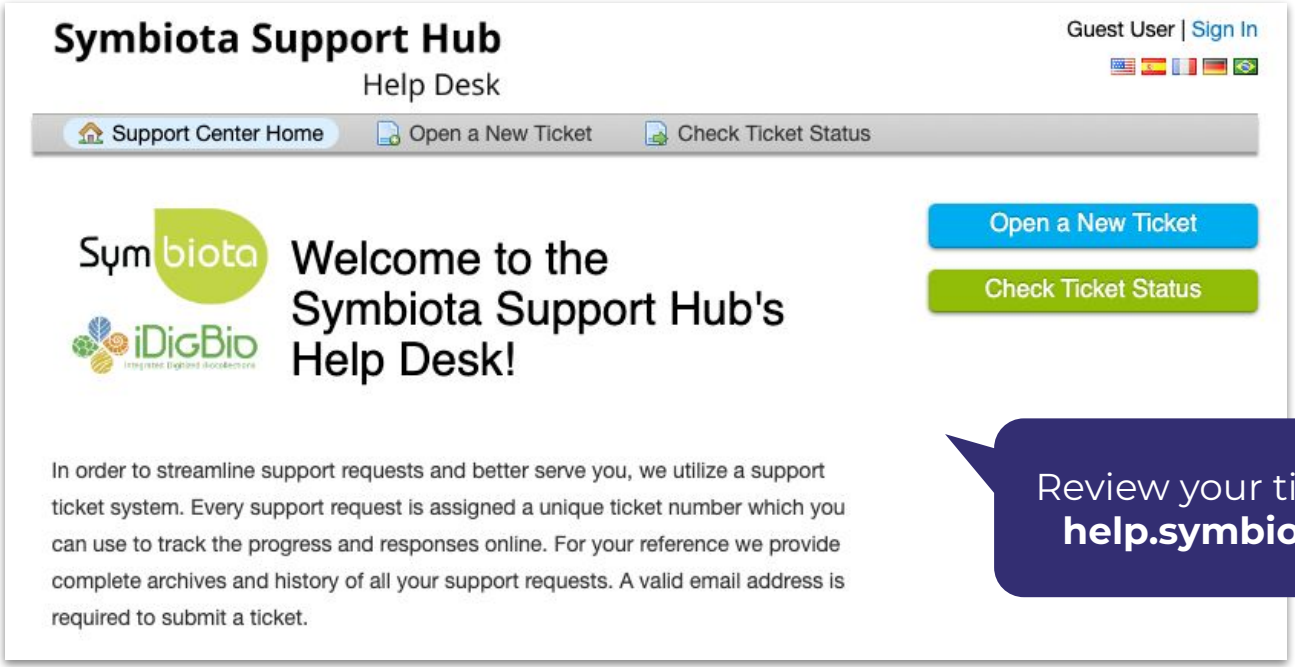
github.com/BioKIC/symbiota-docs/discussions



Discussions tutorial:
symbiota.org/symbiota-discussions

Help Desk Support

- Contact the Symbiota Support Hub at **help@symbiota.org**



Help Desk Support

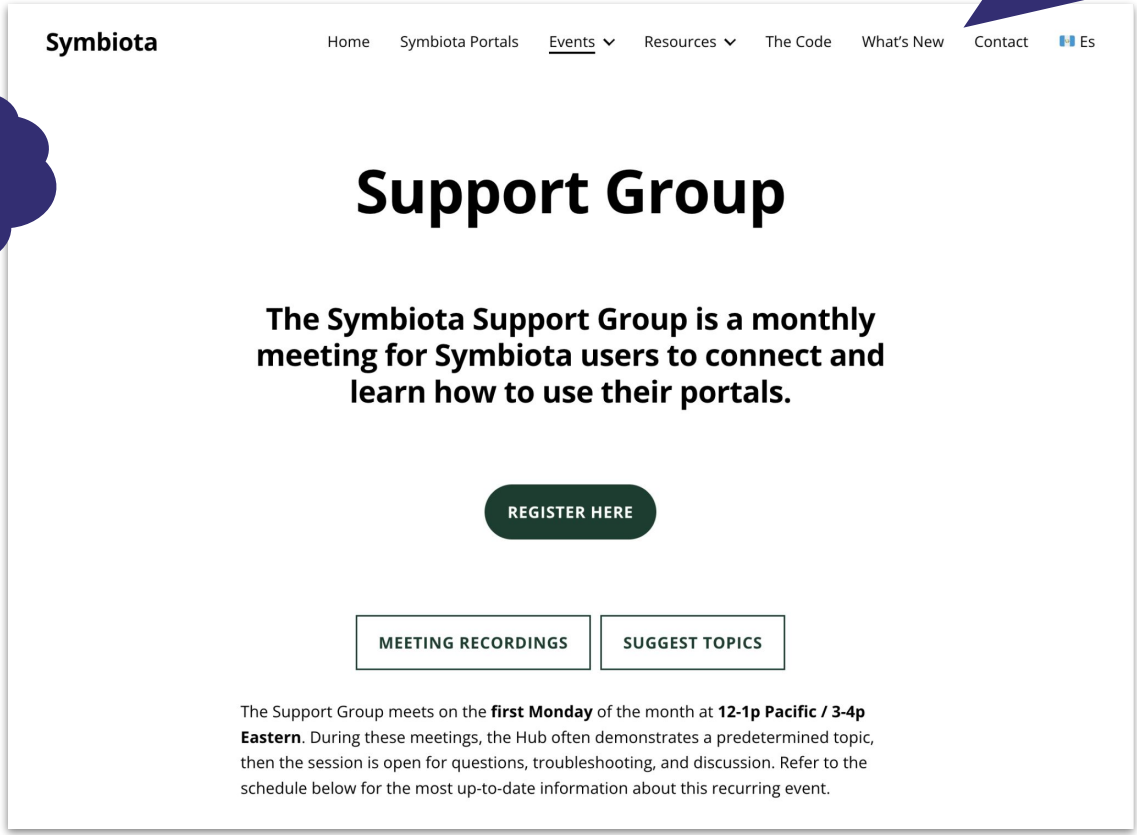
- Contact the Symbiota Support Hub at **help@symbiota.org**
- The Symbiota Support Hub can help with backend tasks.

Quick links to all resources are on our website:
symbiota.org/help-resources

Monthly Support Meetings

symbiota.org/ symbiota-support-group

1st Mondays



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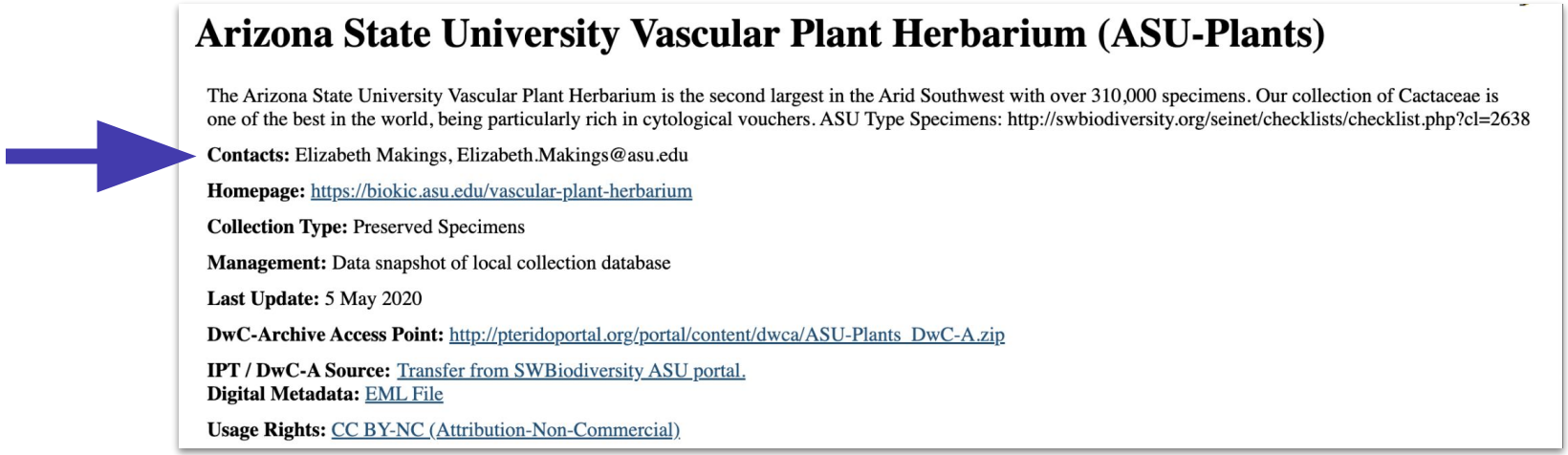

Arizona State University Vascular Plant Herbarium (ASU-Plants)

The Arizona State University Vascular Plant Herbarium is the second largest in the Arid Southwest with over 310,000 specimens. Our collection of Cactaceae is one of the best in the world, being particularly rich in cytological vouchers. ASU Type Specimens: http://swbiodiversity.org/seinet/checklists/checklist.php?cl=2638

Contacts: Elizabeth Makings, Elizabeth.Makings@asu.edu

Homepage: https://biokic.asu.edu/vascular-plant-herbarium

Collection Type: Preserved Specimens

Management: Data snapshot of local collection database

Last Update: 5 May 2020

DwC-Archive Access Point: http://pteridoportal.org/portal/content/dwca/ASU-Plants_DwC-A.zip

IPT / DwC-A Source: Transfer from SWBiodiversity ASU portal.
Digital Metadata: EML File

Usage Rights: CC BY-NC (Attribution-Non-Commercial)

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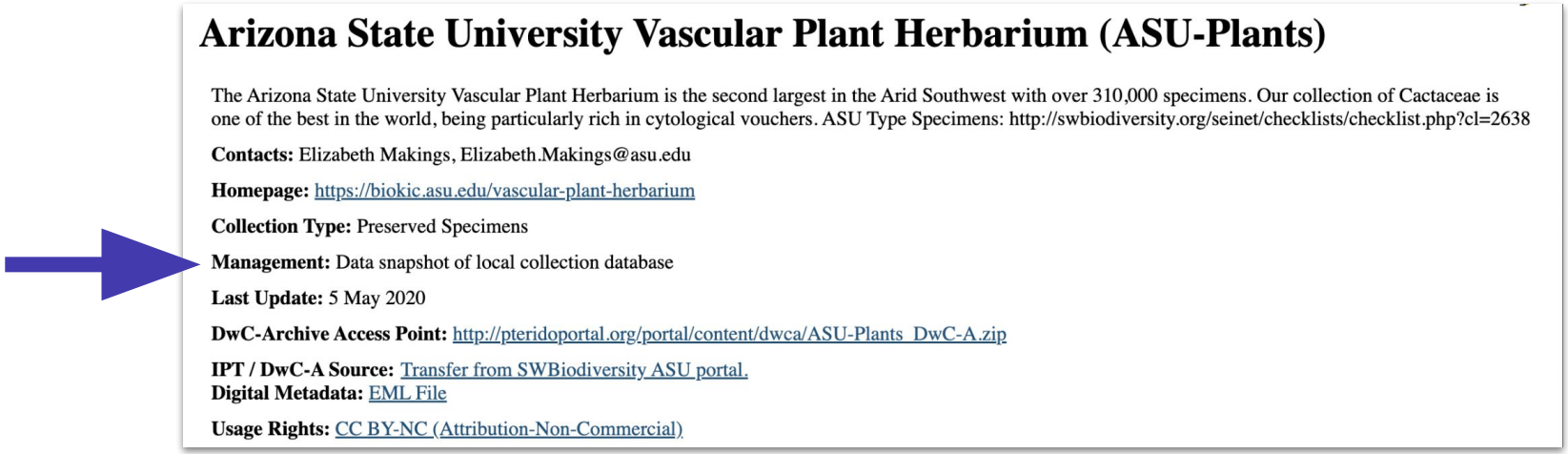

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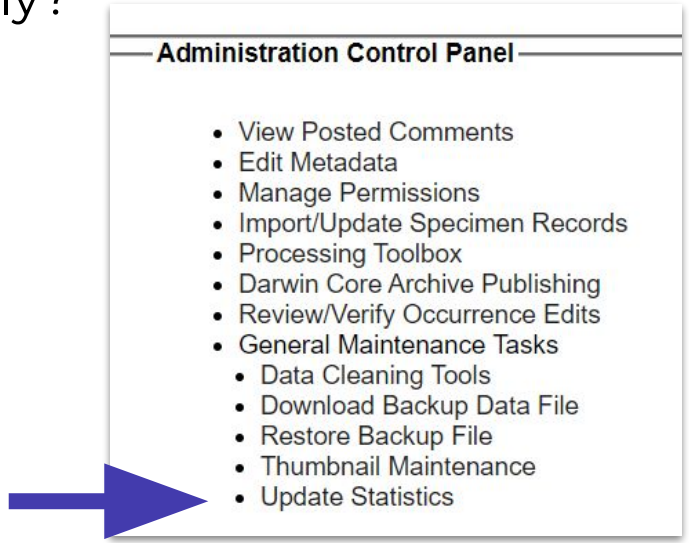
- Have you **updated your statistics** lately?

Collection Statistics

- 4,900 specimen records
- 4,710 (96%) georeferenced
- 4,342 (89%) with images (5,056 total images)
- 4,696 (96%) identified to species
- 36 families
- 115 genera
- 630 species
- 676 total taxa (including subsp. and var.)



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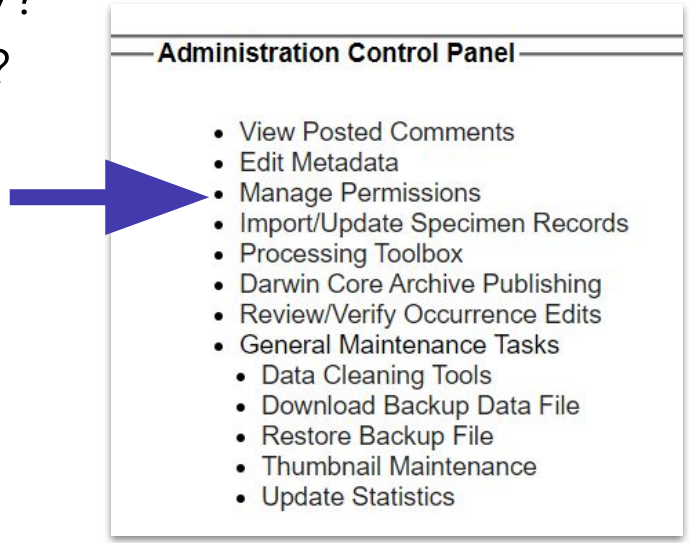
- Are your **user permissions** up to date?



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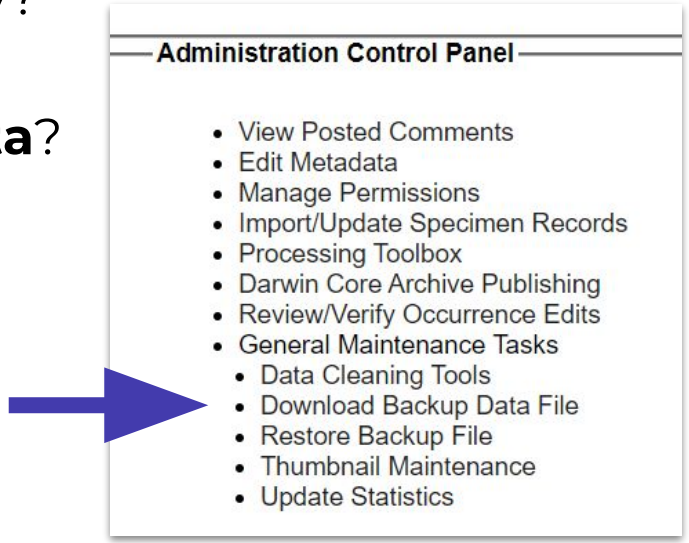
- Have you updated your statistics lately?
- Are your user permissions up to date?
- Do you know how to **backup your data**?
    - ***Set a calendar reminder!***



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- Are you managing your data “live” or as a “snapshot” in SoRo?
- Have you updated your statistics lately?
- Are your user permissions up to date?
- Do you know how to backup your data?
- Do you have any **unreviewed comments**?

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Your needs and wants

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- What materials or events would help promote and advance your portal?
- What documentation or tutorial needs do you have?
- What are your **current challenges and/or frustrations** with the portal and/or your data?
    - Georeferencing?
    - Publishing to GBIF?

Upcoming

Add hub@symbiota.org to your contacts

Dear Consortium of Midwest Herbaria,

As a reminder, the Midwest Herbaria Portal Campaign begins **this Thursday at 4 PM Central time**! We encourage you to join us to participate in important discussions about your data, your collection, and the portal. Please register to participate:

Office Hours: Register Here

At our first meeting, we will introduce the Symbiota Support Hub, show you new resources for making data management easier, discuss the current state of your portal from what we can see on the database's backend, and ask YOU about your needs and desires for the portal. We would also like to hear about what other relevant collections exist in your area, even if their collections are not fully digitized. Office Hours are also a great time to ask questions about any problems you might need help with. We invite your ideas and

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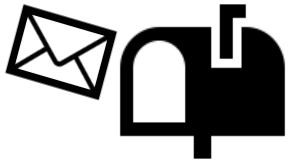
Next meeting: April 20, 4:00 PM CT

We have identified data quality issues in some collections, some of which ***we can help batch fix*!**

We will email you with data quality information about your collection, along with a **form that we ask you to fill out** to give us permission (or not) to conduct specific batch cleaning steps.

Next week we will provide more information about these data cleaning steps, if desired, and demo the data cleaning tools that you can use to fix other issues.



Consortium of Midwest Herbaria Portal Campaign

April 20, 2023

iDigBio
Integrated Digitized Biocollections

Symbiota

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1. Data cleaning email follow-up
2. Data cleaning tools
    a. Taxonomic Cleaning Tool
    b. Geography Cleaning Tool
    c. Batch editing
3. Open Q&A
4. Next week

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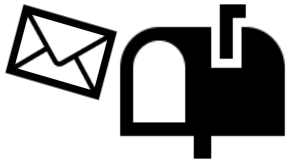
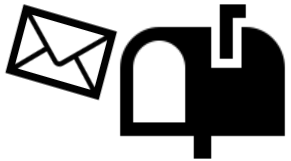


What we did

- Unmatched taxonomic names
- Unmatched geographic names
- Negated lat/longs / swapped lat/longs
- Inverted minimum and maximum elevation values
- Invalid Basis Of Record



What we did

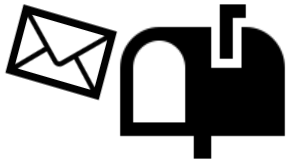
Taxonomic names:
- Used statistics from taxonomic name cleaner

Geographic names:
- Used statistics from the geography cleaner
- You can also determine whether there are states and counties with unmatched names!

Negated lat/longs:
- Looked for negative lat/long values in a list of countries that should only have positive lat/long values (and vice versa)
- Tested out what changing the sign of these coordinates would do (ran them through a GBIF tool that checked whether they landed in the correct country).

Inverted minimum and maximum elevation values:
- Flagged any occurrences where minimum elevation > maximum elevation

Invalid Basis Of Record:
- Looked for any non-standard values in the Basis of Record field
    - explained here: https://dwc.tdwg.org/terms/#dwc:basisOfRecord



Agenda

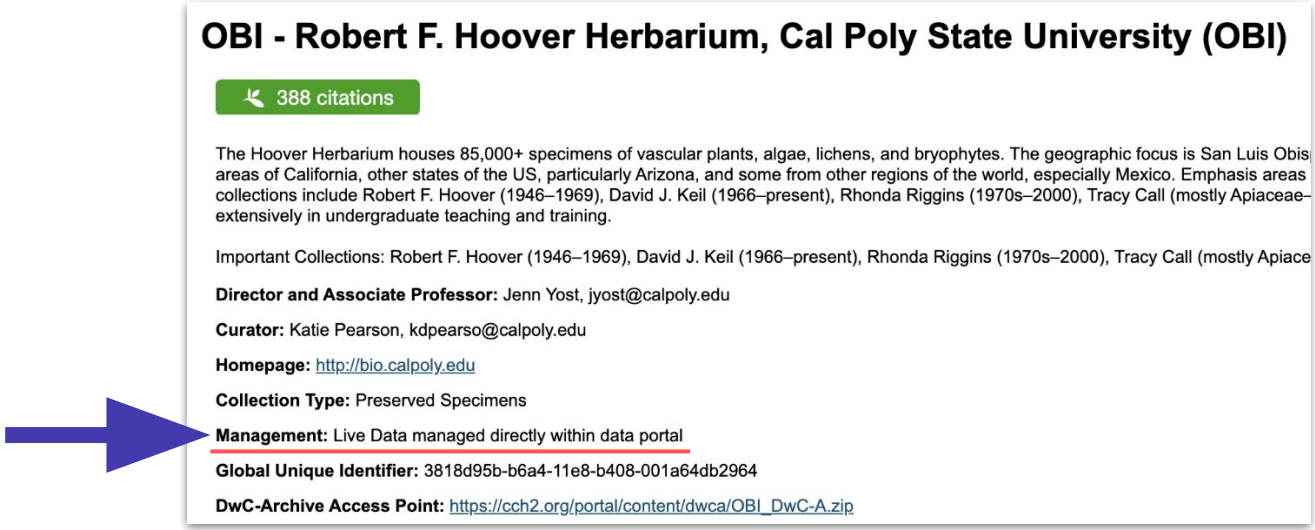
1. Data cleaning email follow-up
2. **Data cleaning tools**
    a. Taxonomic Cleaning Tool
    b. Geography Cleaning Tool
    c. Batch editing
3. Open Q&A
4. Next week

Data cleaning in a Symbiota portal

https://biokic.github.io/symbiota-docs/coll_manager/data_cleaning/

Data cleaning in a Symbiota portal

- Most useful for **live-managed** collections, but the tools can help any collection identify where there are misspellings or other systemic issues.



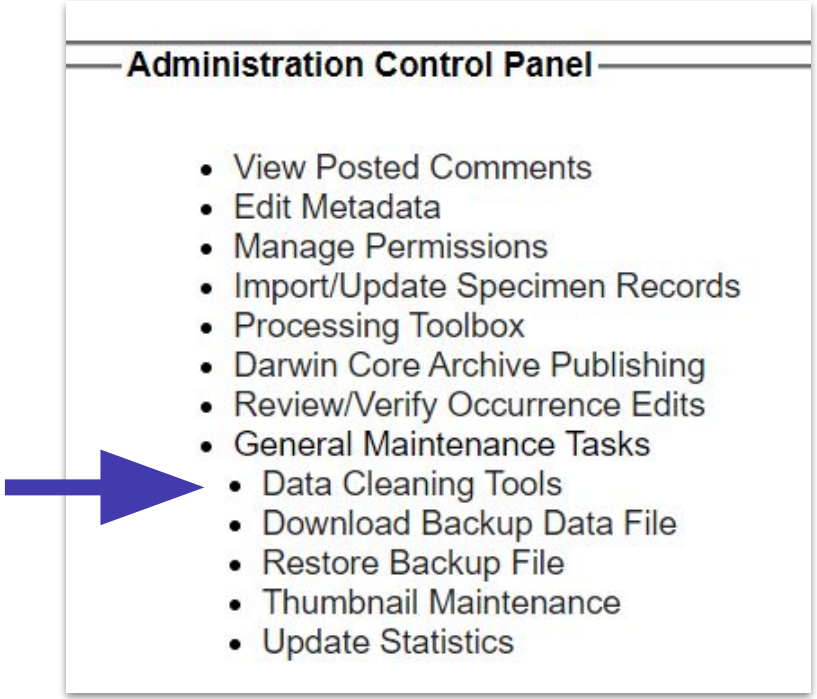
Data cleaning in a Symbiota portal

- Most useful for live-managed collections, but the tools can help any collection identify where there are misspellings or other systemic issues.
- Anything you can't batch fix using these tools, we may be able to help with on the back end. Just ask!

Help Desk
help@symbiota.org

Data cleaning in a Symbiota portal

- Taxonomic Cleaning Tool
- Geography Cleaning Tool
- Batch editing



Taxonomic Cleaning Tool

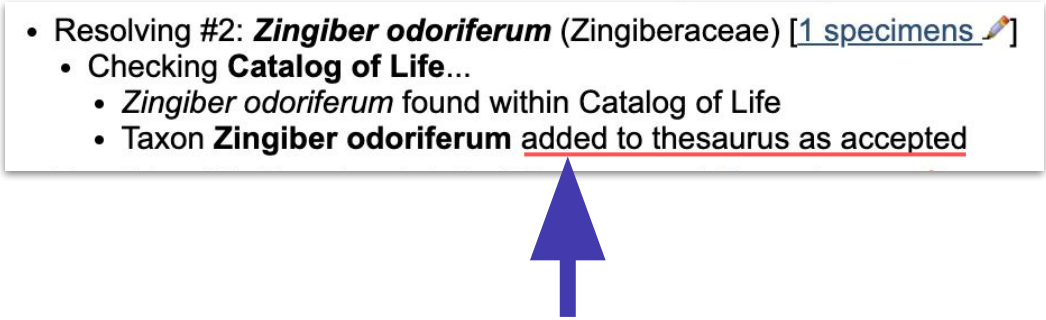
- Can be used to clean misspellings or orthographic variants and add taxa to the taxonomic thesaurus

The Taxonomic Thesaurus

- Not necessarily a taxonomic authority/resource
- Is not exhaustive
- Does not deal with hybrids or cultivars very well (yet!)
- Does not change the taxonomic names of your specimens

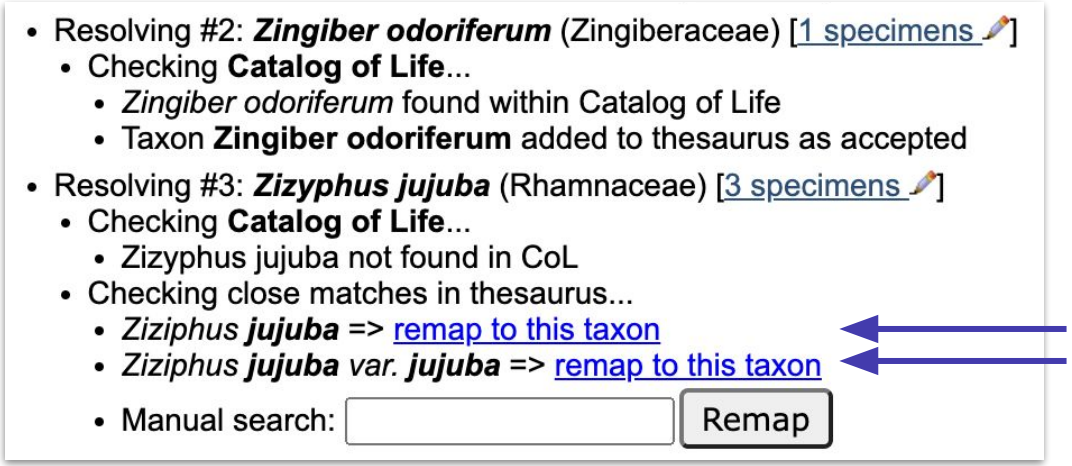
Taxonomic Cleaning Tool

- Can be used to **clean** misspellings or orthographic variants and **add taxa** to the taxonomic thesaurus



Taxonomic Cleaning Tool

- Can be used to clean misspellings or orthographic variants and add taxa to the taxonomic thesaurus
- Will **change** the taxonomic name of your specimen, if you click **“remap to this taxon”**

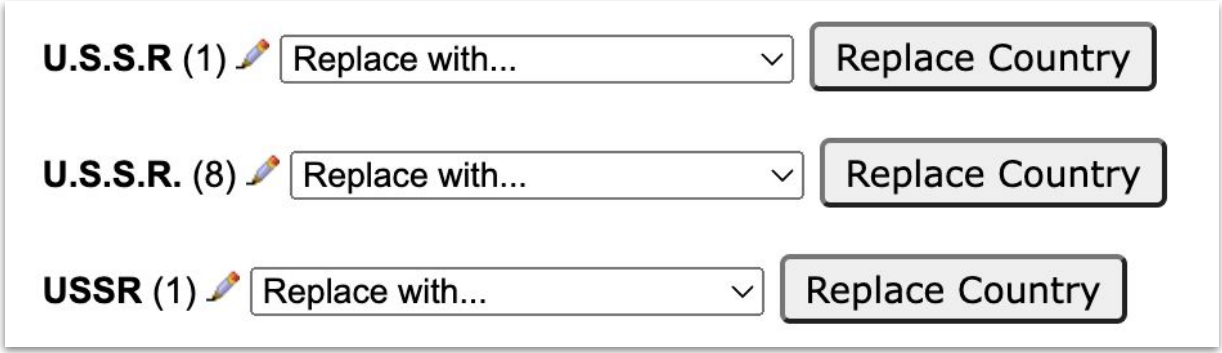


Taxonomic Cleaning Tool

- Can be used to clean misspellings or orthographic variants and add taxa to the taxonomic thesaurus
- Will change the taxonomic name of your specimen, if you click “Remap to taxon”
- **May not fix everything** since:
  - the taxonomic thesaurus doesn’t deal with hybrids or cultivars very well
  - some taxonomic names might not be in the thesaurus

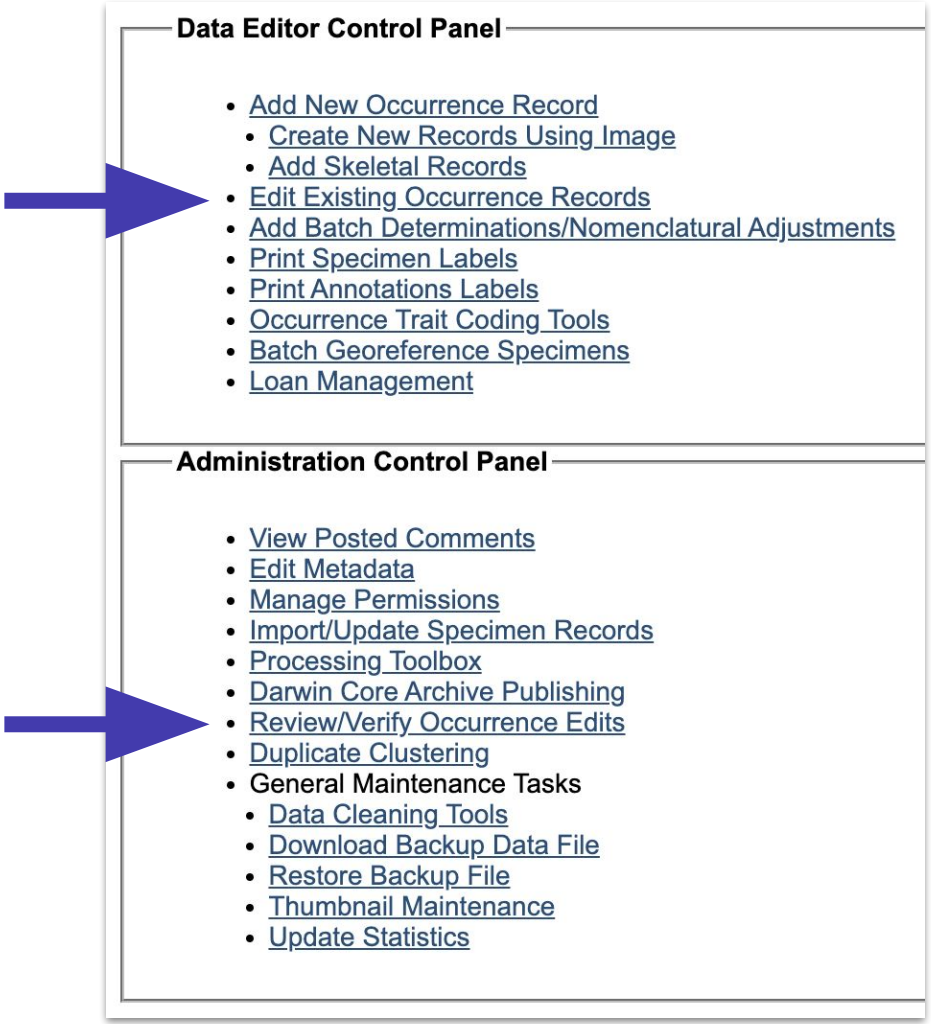
Geography Cleaning Tool

- Like the taxonomic thesaurus, it is intended to be a resource for data discoverability, not an authority



Batch Editing

- Use caution when using!
- Edits will be tracked in the Review/Verify Edits table



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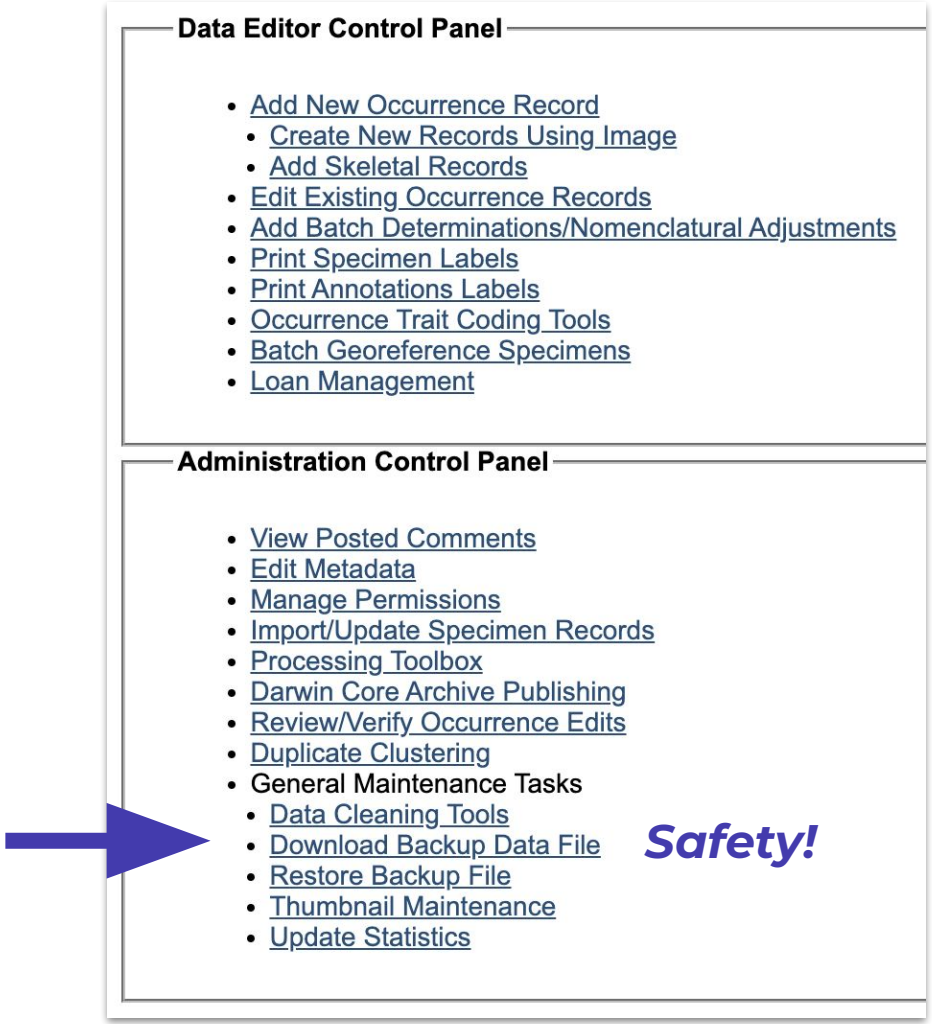
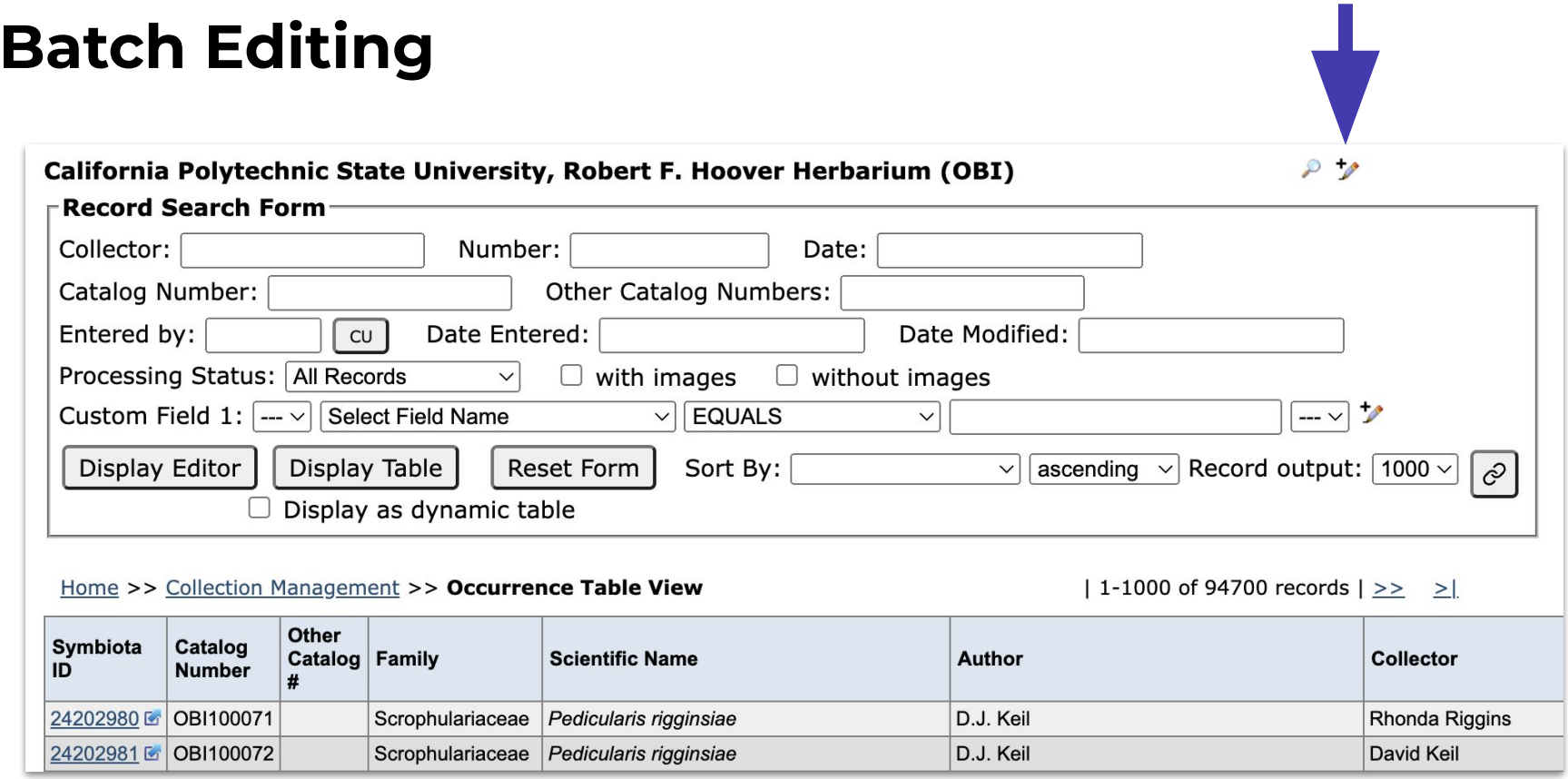
- Edits will be tracked in the Review/Verify Edits table



Batch Editing



California Polytechnic State University, Robert F. Hoover Herbarium (OBI)

Record Search Form

Collector: Number: Date:

Catalog Number: Other Catalog Numbers:

Entered by: CU Date Entered: Date Modified:

Processing Status: All Records with images without images

Custom Field 1: --- Select Field Name EQUALS ---

Display Editor Display Table Reset Form Sort By: ascending Record output: 1000

Display as dynamic table

Home >> Collection Management >> **Occurrence Table View** | 1-1000 of 94700 records | >> >|

Symbiota ID	Catalog Number	Other Catalog #	Family	Scientific Name	Author	Collector
24202980	OBI100071		Scrophulariaceae	*Pedicularis rigginsiae*	D.J. Keil	Rhonda Riggins
24202981	OBI100072		Scrophulariaceae	*Pedicularis rigginsiae*	D.J. Keil	David Keil

Agenda

1. Data cleaning email follow-up
2. Data cleaning tools
    a. Taxonomic Cleaning Tool
    b. Geography Cleaning Tool
    c. Batch editing
3. **Open Q&A**
4. Next week

Questions?

Agenda

1. Data cleaning email follow-up
2. Data cleaning tools
    a. Taxonomic Cleaning Tool
    b. Geography Cleaning Tool
    c. Batch editing
3. Open Q&A
4. **Next week**

Next week

- Publishing data to GBIF: why and how?

Still have questions? Need individual help?

Ask or schedule a meeting! **help@symbiota.org**

Consortium of Midwest Herbaria Portal Campaign

Office Hours - April 27, 2023

iDigBio
Integrated Digitized Biocollections

Symbiota

Agenda

1. Publishing data to GBIF
    a. What is GBIF?
    b. Why publish to GBIF?
    c. How to publish to GBIF
    d. What about iDigBio?
2. Q&A

Agenda

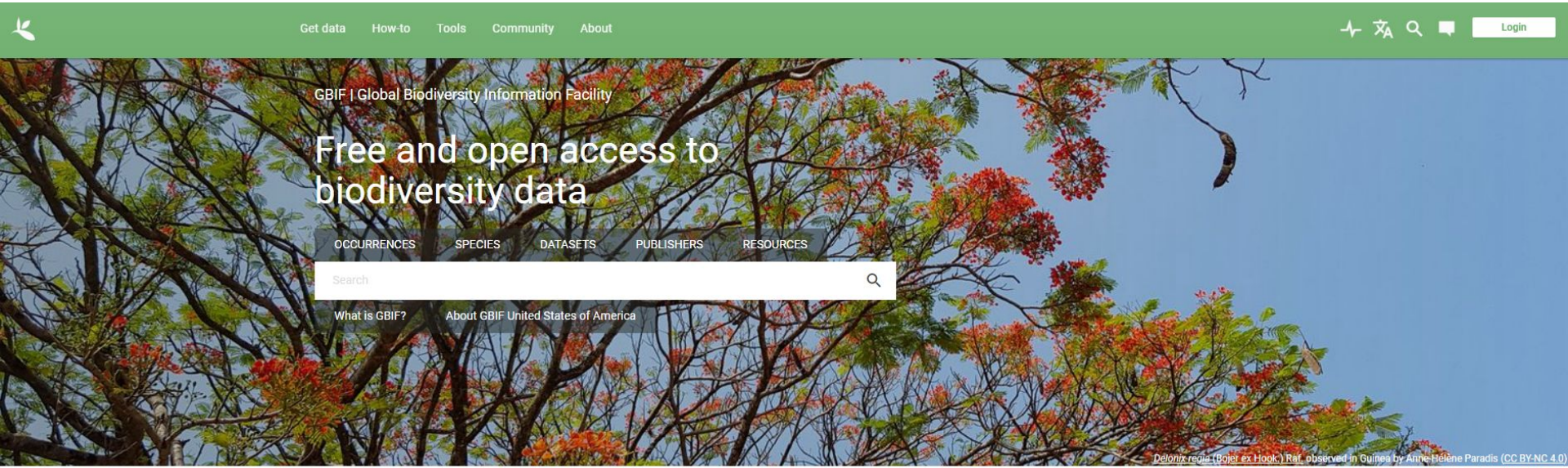
1. **Publishing data to GBIF**
    a. What is GBIF?
    b. Why publish to GBIF?
    c. How to publish to GBIF
    d. What about iDigBio?
2. Q&A

What is GBIF?

“an **international network** of country and organizational Participants that exists to enable **free and open access to biodiversity data** from all sources and to support biodiversity science, environmental research, and evidence based decision-making.”

GBIF Global Biodiversity Information Facility

GBIF data portal



1,927,619,110
Occurrence records

65,549
Datasets

1,789
Publishing institutions

6,806
Peer-reviewed papers using data

Why Publish to GBIF?

- **Greater access** to your data → **greater visibility** for your collection

Get data How-to Tools Community About Login

PUBLISHER | SINCE MAY 3, 2010

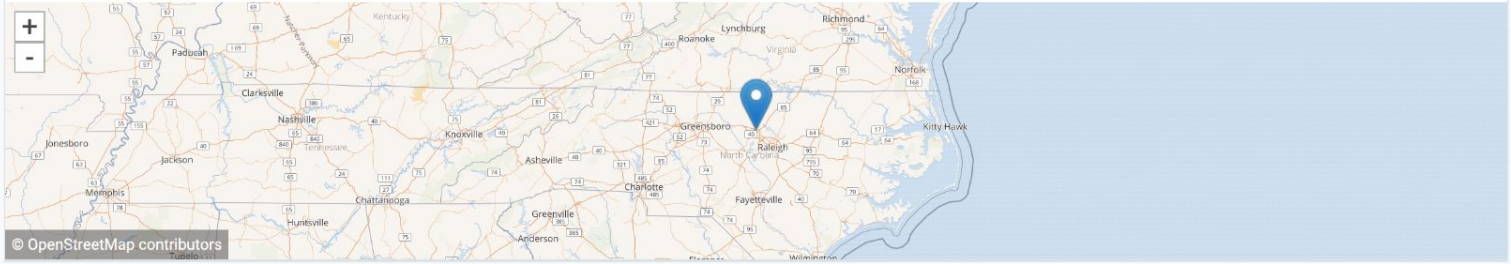
Duke University Herbarium

ABOUT METRICS HOME PAGE

313,960 OCCURRENCES 4 DATASETS 308 CITATIONS

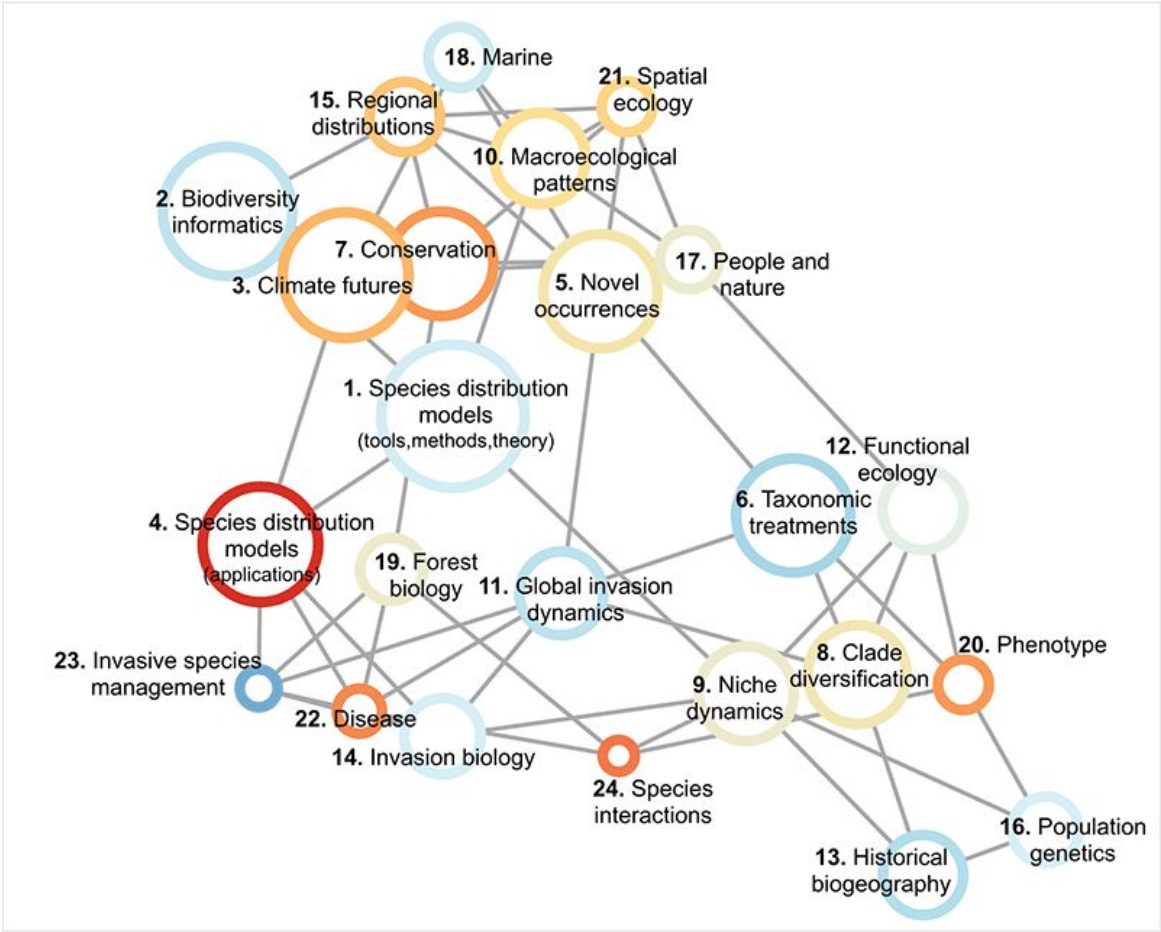
Description: http://www.biology.duke.edu/herbarium
Endorsed by: U.S. Geological Survey
Administrative contact: Blanka Aguero
Country or area: United States of America

Download activity report



Why Publish to GBIF?

- Greater access to your data → greater visibility for your collection
- Allows **researchers** from a broader **range of disciplines** to compile **more comprehensive datasets**



Structural topic model results from 4,035 studies that used GBIF-mediated data published between 2003 and 2019.

https://docs.gbif.org/course-introduction-to-gbif/en/how-is-gbif-mediated-data-used.html

Why Publish to GBIF?

- Greater access to your data → greater visibility for your collection
- Allows researchers from a broader range of disciplines to compile more comprehensive datasets
- **Citation tracking**

Get data How-to Tools Community About Login

PUBLISHER | SINCE MAY 3, 2010

Duke University Herbarium

ABOUT METRICS HOME PAGE

313,960 OCCURRENCES 4 DATASETS 308 CITATIONS

Description: http://www.biology.duke.edu/herbarium
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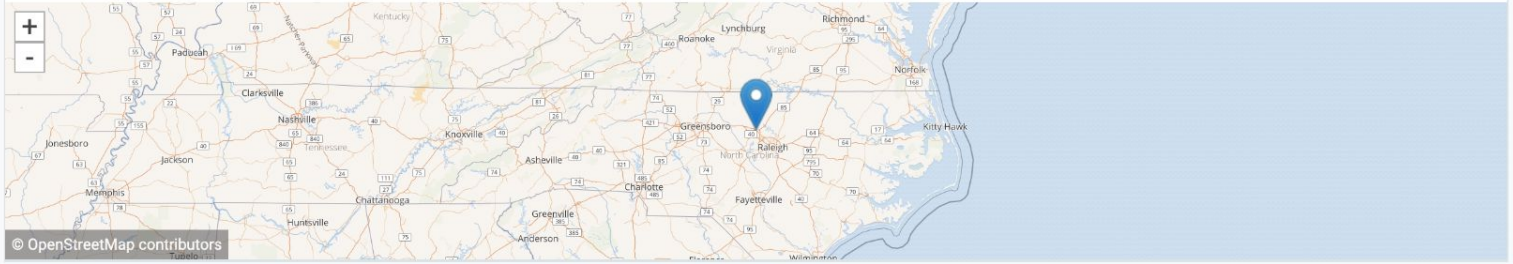
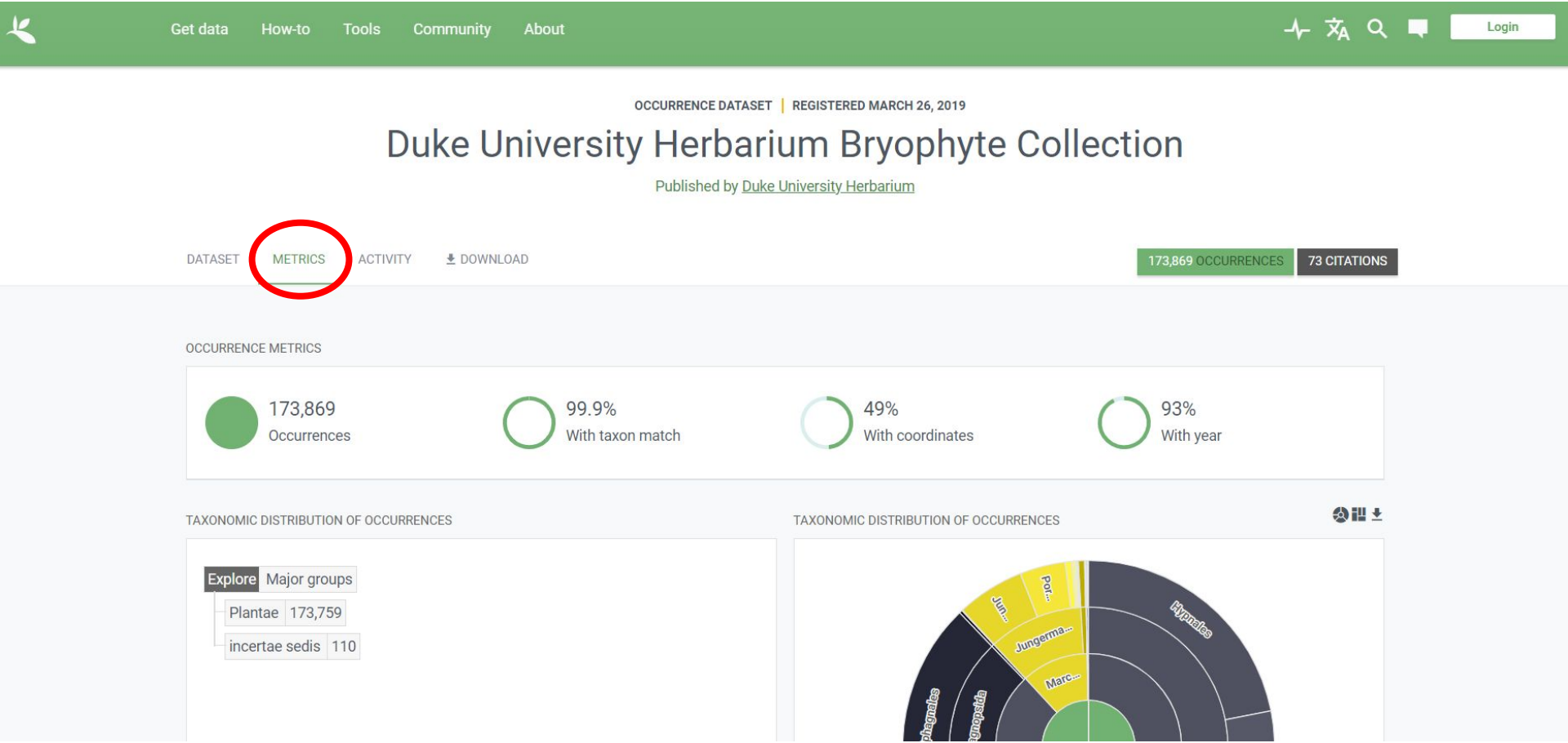
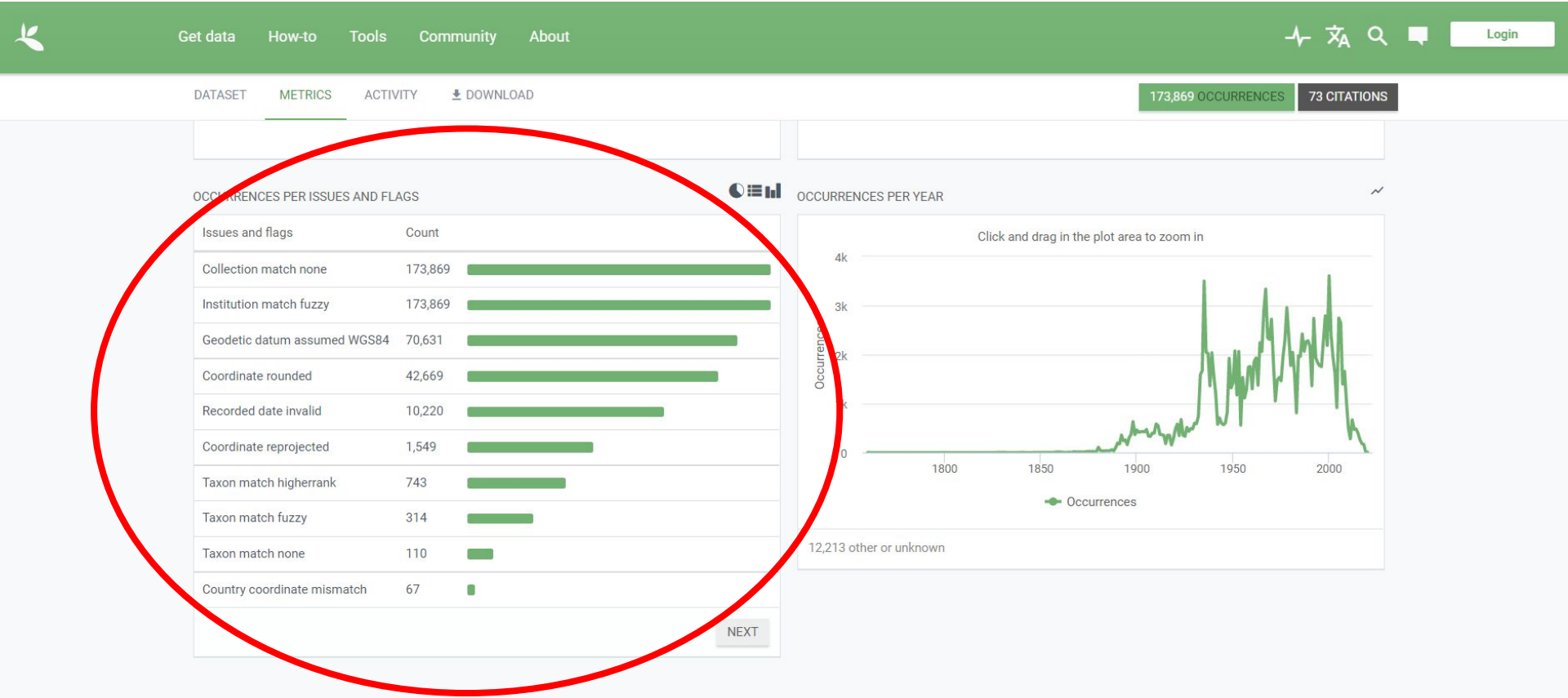


Why Publish to GBIF?

- Greater access to your data → greater visibility for your collection
- Allows researchers from a broader range of disciplines to compile more comprehensive datasets
- Citation tracking
- **Data quality flags**


Get data
How-to
Tools
Community
About
Login
OCCURRENCE DATASET | REGISTERED MARCH 26, 2019
Duke University Herbarium Bryophyte Collection
Published by Duke University Herbarium
DATASET
METRICS
ACTIVITY
DOWNLOAD
173,869 OCCURRENCES
73 CITATIONS
OCCURRENCE METRICS
173,869
Occurrences
99.9%
With taxon match
49%
With coordinates
93%
With year
TAXONOMIC DISTRIBUTION OF OCCURRENCES
Explore
Major groups
Plantae 173,759
incertae sedis 110
TAXONOMIC DISTRIBUTION OF OCCURRENCES
Jun...
Por...
Jungerma...
Marc...
Hypnales

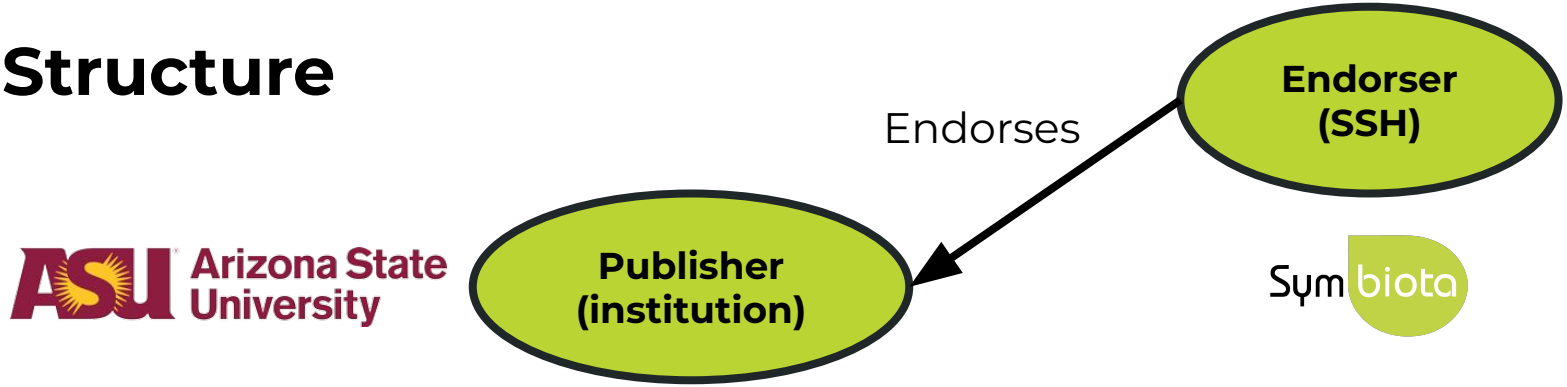

Get data
How-to
Tools
Community
About
Login
DATASET
METRICS
ACTIVITY
DOWNLOAD
173,869 OCCURRENCES
73 CITATIONS
OCCURRENCES PER ISSUES AND FLAGS
Issues and flags
Count
Collection match none 173,869
Institution match fuzzy 173,869
Geodetic datum assumed WGS84 70,631
Coordinate rounded 42,669
Recorded date invalid 10,220
Coordinate reprojected 1,549
Taxon match higherrank 743
Taxon match fuzzy 314
Taxon match none 110
Country coordinate mismatch 67
NEXT
OCCURRENCES PER YEAR
Click and drag in the plot area to zoom in
4k
3k
2k
0
1800
1850
1900
1950
2000
Occurrences
12,213 other or unknown

How do I publish to GBIF?

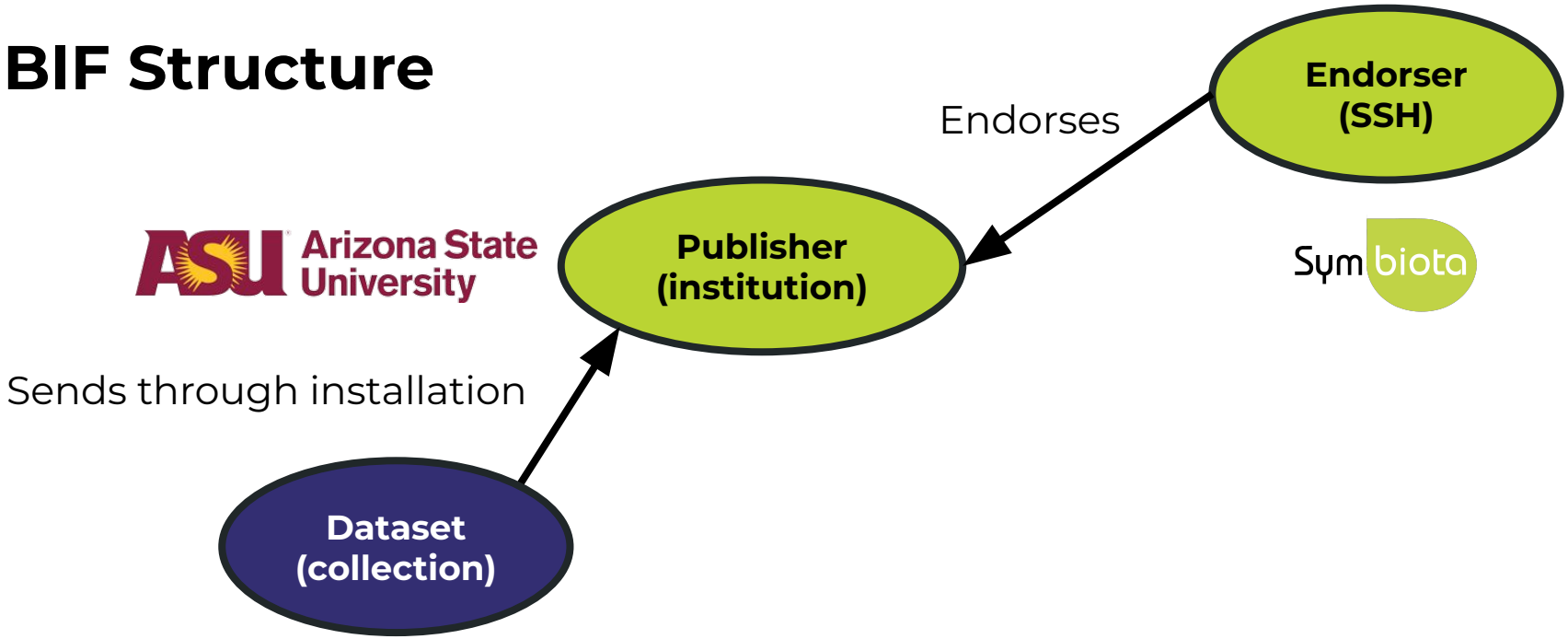
GBIF Structure

Publisher (institution)

GBIF Structure



GBIF Structure



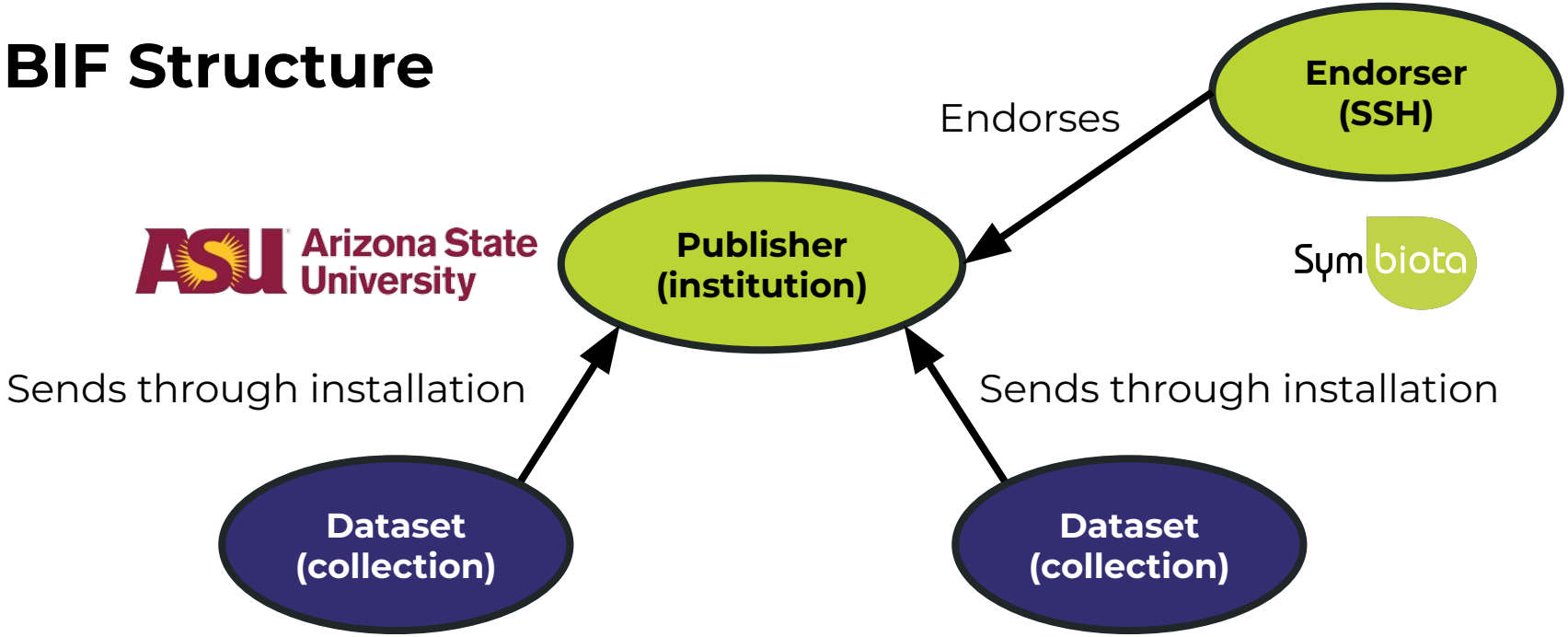
Arizona State University

Symbiota

Arizona State University Mammalogy Collection

Consortium of Small Vertebrate Collections

GBIF Structure



Arizona State University

Symbiota

Arizona State University Mammalogy Collection

Arizona State University Vascular Plant Herbarium

Consortium of Small Vertebrate Collections

SEINet Arizona - New Mexico Chapter

PUBLISHER | SINCE APRIL 4, 2017

Arizona State University Biocollections

ABOUT METRICS HOME PAGE

673,214 OCCURRENCES 18 DATASETS 691 CITATIONS

Description: The Arizona State University Biocollections comprise two sets of distinct collections: (1) the Arizona State University Natural History Collections - currently with nine collections focused on documenting Greater Sonoran and New World biodiversity; and (2) the NEON Biorepository at Arizona State University, with a unique constellation of organismal and environmental samples generated in the context of monitoring and forecasting long-term ecological change in the North American subcontinent, including Alaska, Hawaii, and Puerto Rico.

Endorsed by: Symbiota Support Hub

Administrative contact: Nico Franz

Technical contact: Laura Rocha Prado

Country or area: United States of America

CONTACTS

SEARCH DATASETS | 18 RESULTS

ALL | OCCURRENCE | CHECKLIST | SAMPLING EVENT | METADATA

DOWNLOAD AS TSV

Arizona State University Vascular Plant Herbarium

Occurrence dataset

The Arizona State University Vascular Plant Herbarium (ASU) is among the most important in the greater Sonoran Desert region with over 315,000 specimens. We are particularly proud of our holdings of C...

Published by Arizona State University Biocollections

283,279 occurrences | 407 citations

Arizona State University Hasbrouck Insect Collection

Occurrence dataset

The ASU Frank F. Hasbrouck Insect Collection contains approximately 1,000,000 insect specimens, representing at least 25 orders, 390 families, 4,000 genera, 12,000 species and 1,240 subspecies. Most s...

Published by Arizona State University Biocollections

167,107 occurrences | 155 citations

Arizona State University Lichen Herbarium

Occurrence dataset

No description available

Published by Arizona State University Biocollections

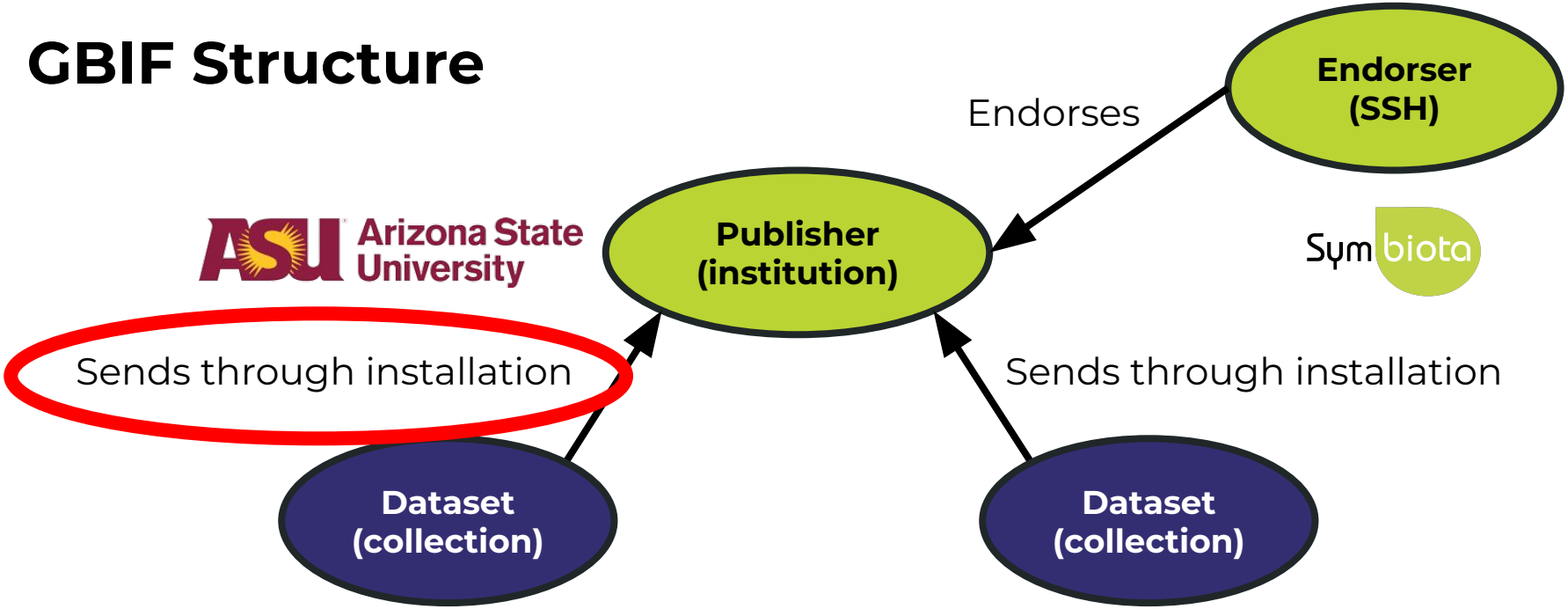
123,620 occurrences | 105 citations

Arizona State University Herpetology Collection

Occurrence dataset

The Herpetology Collection at the ASU Natural History Collections contains approximately 38,000 specimens representing more than 900 species, with a geographic concentration in the western United Stat...

GBIF Structure



Consortium of
Small
Vertebrate
Collections

How to publish to GBIF

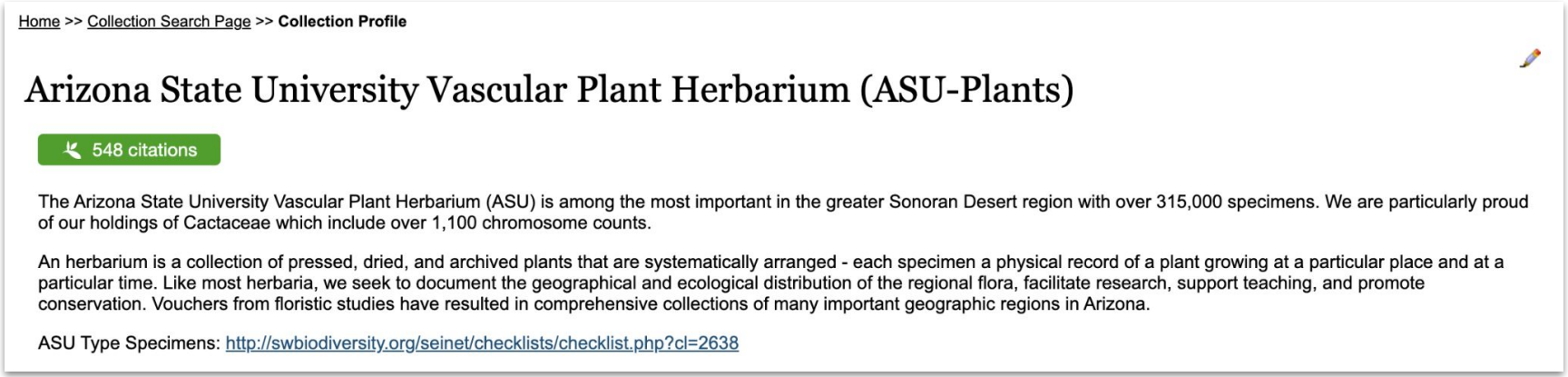
- You can send your data to GBIF using a Symbiota portal **OR** an Integrated Publishing Toolkit (IPT)
- You can use someone else's IPT (e.g., VertNet, iDigBio), or install and manage your own IPT

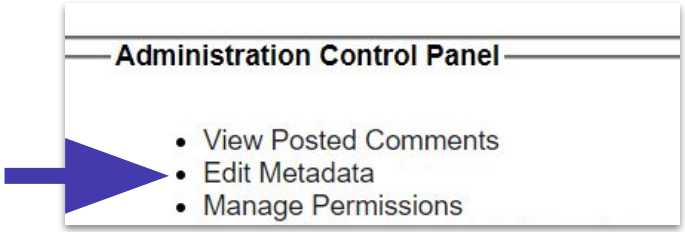
How to publish to GBIF

- Fortunately, **if your data are in a Symbiota portal, you don’t need an IPT.**
- Publishing is as easy as clicking a button, once you are registered with GBIF!

Publishing to GBIF from a Symbiota portal

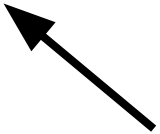
1. Make sure your **metadata are accurate**





Publishing to GBIF from a Symbiota portal

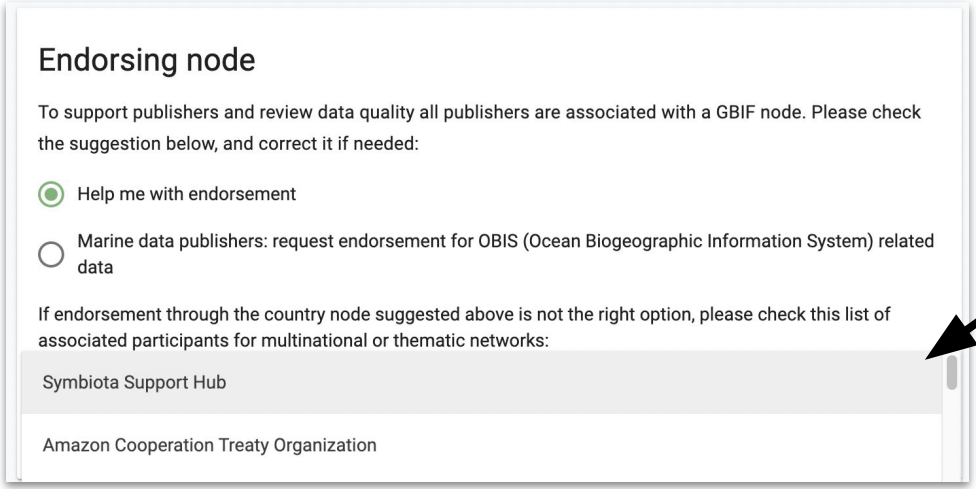
1. Make sure your metadata are accurate
2. *(If not already done)* **Request to become a publisher** in GBIF: https://www.gbif.org/become-a-publisher



This page allows you to search for your institution to see if it already exists.

Publishing to GBIF from a Symbiota portal

1. Make sure your metadata are accurate
2. *(If not already done)* **Request to become a publisher** in GBIF: https://www.gbif.org/become-a-publisher



SSH can (and wants to) endorse you!

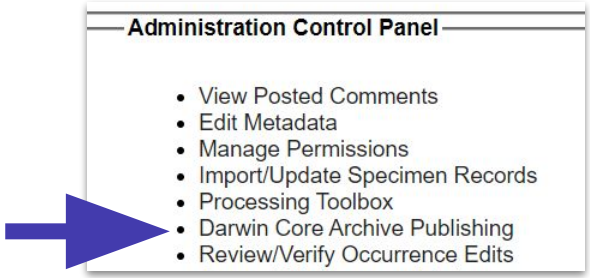
Publishing to GBIF from a Symbiota portal

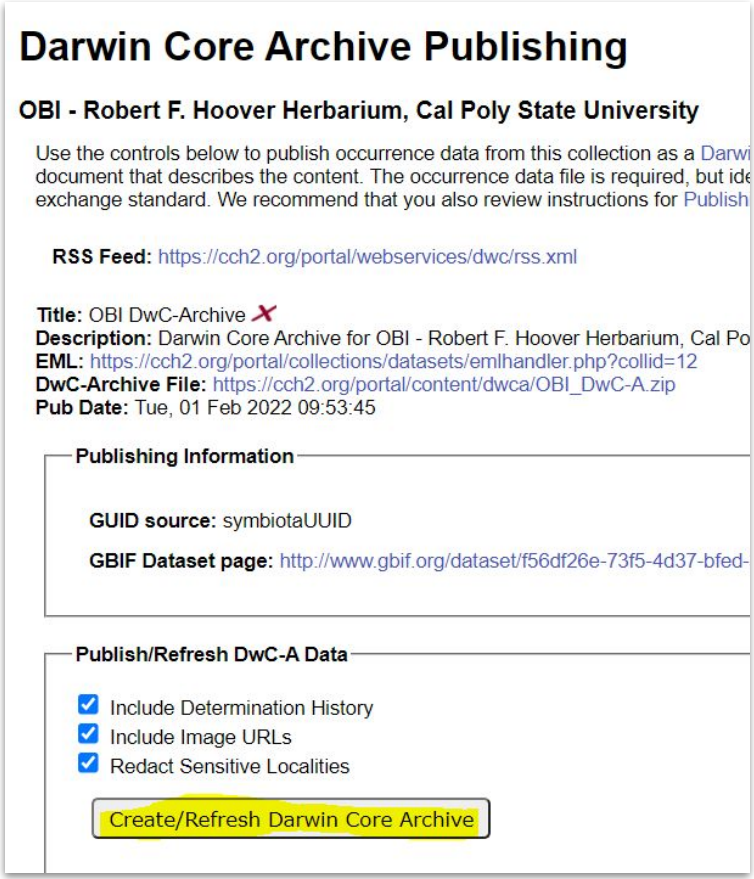
1. Make sure your metadata are accurate
2. *(If not already done)* Request to become a publisher in GBIF: https://www.gbif.org/become-a-publisher
3. Once approved, enter your **dataset key** in “Darwin Core Archive Publishing” in your portal
4. **Email GBIF** (helpdesk@gbif.org) to notify them that the portal has your permission to push your dataset to GBIF (an example email is provided!)
5. Once approved, **publish** the data!

We can help with Steps 3-5 (Email us after Step 2)

Important notes

- **GBIF doesn't automatically harvest your data**
- Push the button to refresh: "**Create/Refresh Darwin Core Archive**"
  - Portal managers will do this regularly
  - Data that are redacted in your Symbiota portal will also be redacted in GBIF





OBI - Robert F. Hoover Herbarium, Cal Poly State University (OBI)

393 citations

The Hoover Herbarium houses 85,000+ specimens of vascular plants, algae, lichens, and bryophytes. The geographic focus is San Luis Obispo areas of California, other states of the US, particularly Arizona, and some from other regions of the world, especially Mexico. Emphasis areas in collections include Robert F. Hoover (1946–1969), David J. Keil (1966–present), Rhonda Riggins (1970s–2000), Tracy Call (mostly Apiaceae—I extensively in undergraduate teaching and training.

Important Collections: Robert F. Hoover (1946–1969), David J. Keil (1966–present), Rhonda Riggins (1970s–2000), Tracy Call (mostly Apiaceae

Director and Associate Professor: Jenn Yost, jyost@calpoly.edu

Curator: Katie Pearson, kdpearso@calpoly.edu

Homepage: http://bio.calpoly.edu

Collection Type: Preserved Specimens

Management: Live Data managed directly within data portal

Global Unique Identifier: 3818d95b-b6a4-11e8-b408-001a64db2964

DwC-Archive Access Point: https://cch2.org/portal/content/dwca/OBI_DwC-A.zip

Live Data Download: DwC-Archive File

Digital Metadata: EML File

Usage Rights: CC BY-NC (Attribution-Non-Commercial)

GBIF Dataset page: http://www.gbif.org/dataset/f56df26e-73f5-4d37-bfed-3d46c0834e82

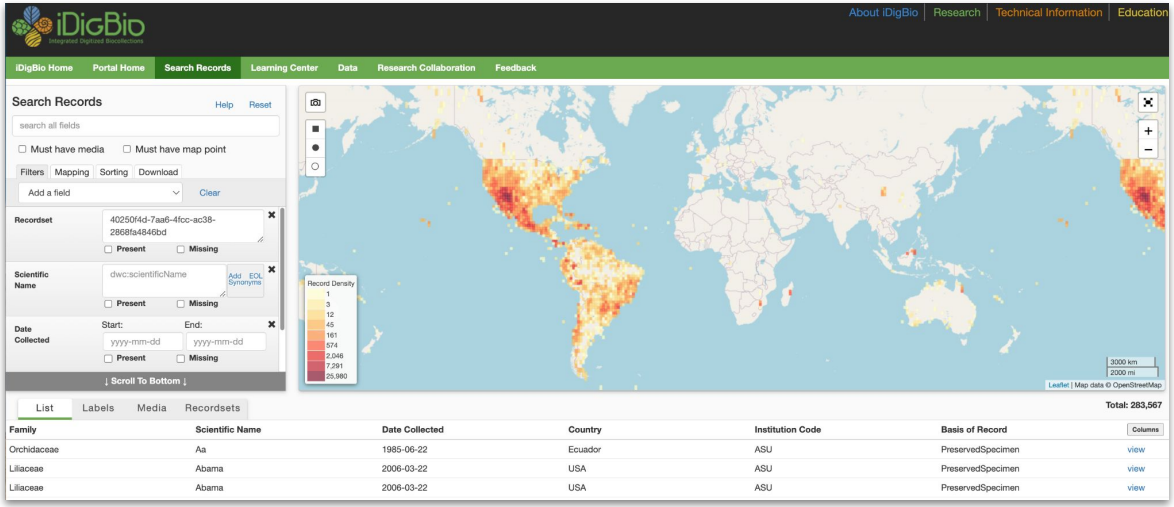
Address: Robert F. Hoover Herbarium
Biological Sciences Department, California Polytechnic State University
San Luis Obispo, CA 93407-0401
USA
(805) 756-5869

Collection Statistics

- 93,149 specimen records
- 64,830 (70%) georeferenced
- 81,168 (87%) with images (81,417 total images)
- 89,512 (96%) identified to species
- 400 families
- 2,673 genera
- 11,464 species
- 14,186 total taxa (including subsp. and var.)

What about iDigBio?

- Once you've published to GBIF, publishing to iDigBio is **very easy**
- The SSH can facilitate publishing to iDigBio for everyone who publishes to GBIF. **Please let us know if you would like to opt out of publishing to iDigBio.**



Questions?

Next meeting: Thursday, May 4, 2023

- Portal campaign recap
- Opportunities and future work

Agenda

1. Publishing data to GBIF
    a. What is GBIF?
    b. Why publish to GBIF?
    c. How to publish to GBIF
    d. What about iDigBio?
2. Q&A
3. **Georeferencing strategies & tools**

Georeferencing

1

Run scripts that find coordinates of exact duplicate specimens, select best coordinates, and import into CMH

Georeferencing

1. Run scripts that find coordinates of exact duplicate specimens, select best coordinates, and import into CMH

2. Run remaining coordinates through BELS, which matches on locality descriptions

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3. Export records to GEOLocate CoGe, which groups based on locality name.

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4. Individual georeferencing in CMH.

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2. Run remaining coordinates through BELS, which matches on locality descriptions
3. Export records to GEOLocate CoGe, which groups based on locality name.
4. Individual georeferencing in CMH.

Consortium of Midwest Herbaria Portal Campaign

Final Office Hours - May 4, 2023

iDigBio
Integrated Digitized Biocollections

Symbiota

Agenda

- Portal campaign accomplishments: a recap
- Standing issues/opportunities
- The CMH community: what’s next?

New Collections

29,241 new records!

252,363

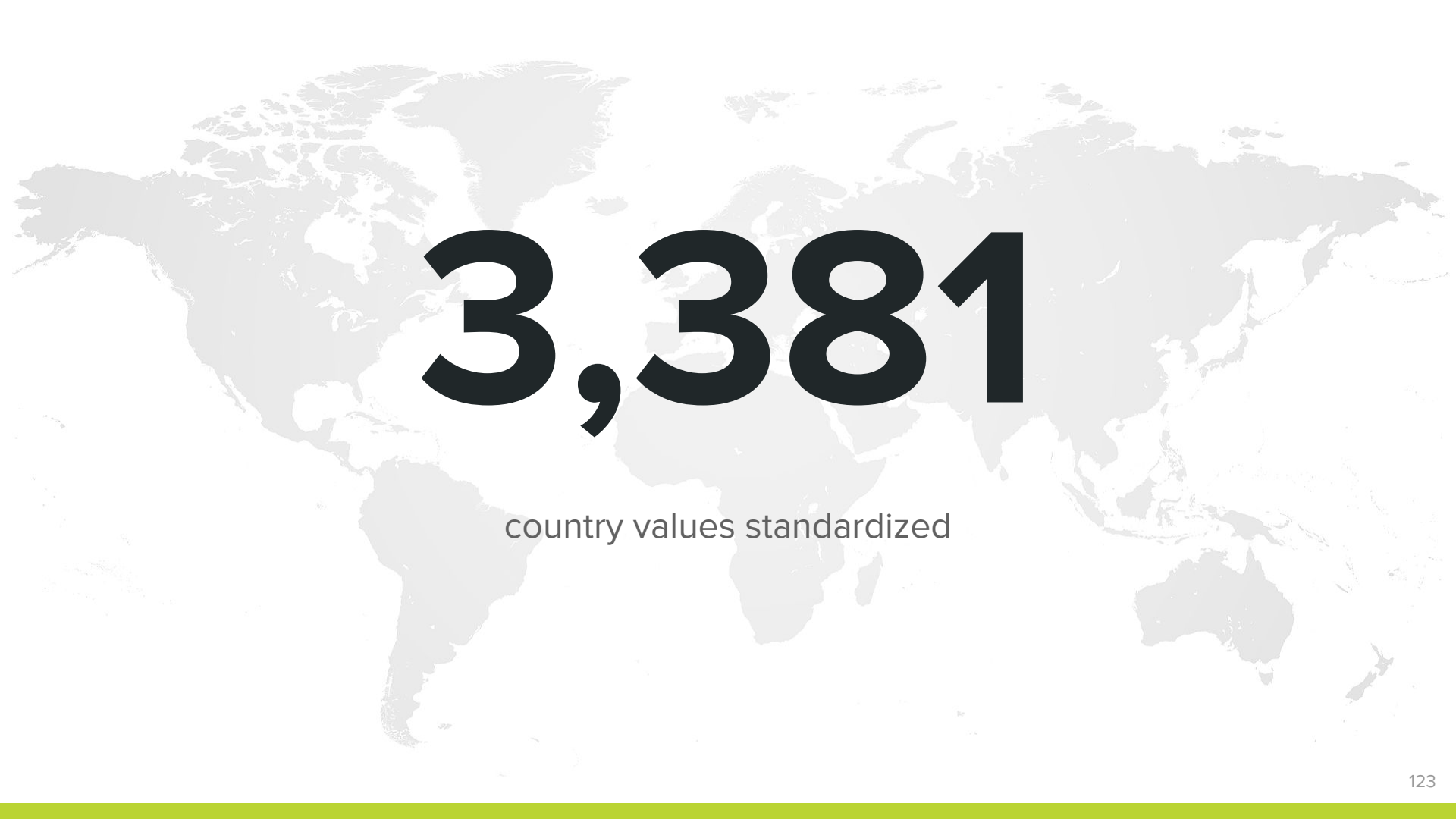
specimen records added over the course of the campaign

18,647

taxonomic names indexed to the central thesaurus

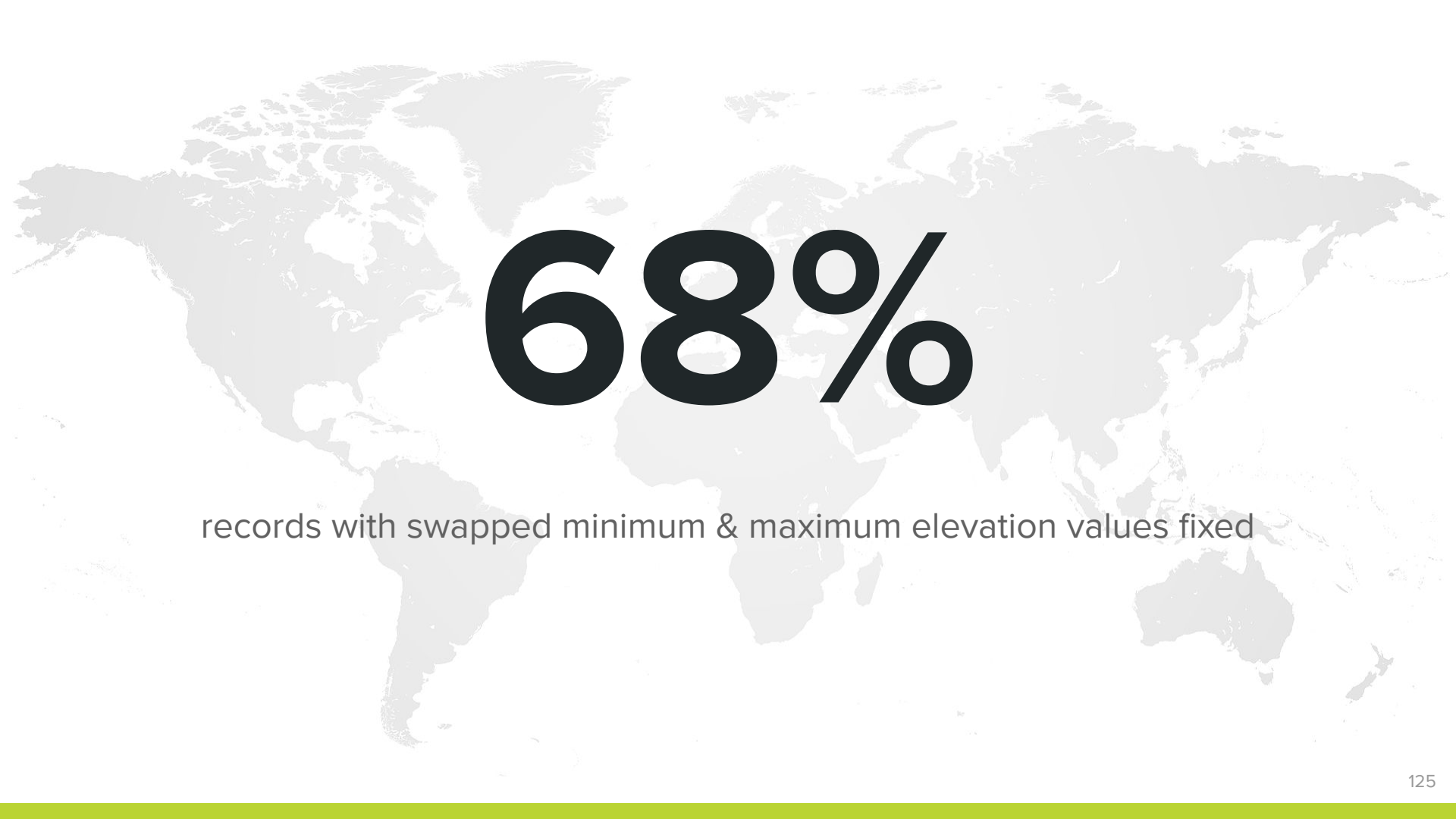
47,057

specimens made searchable


3,381
country values standardized

85,882

basisOfRecord values standardized


68%
records with swapped minimum & maximum elevation values fixed

Publishing to GBIF

174,999 specimens added!

Other Success Stories

- Identified indexing issue with undetermined records from MICH → upgraded import profile
- Fixed 30,185 erroneous elevation values (-9999) for OS
- Added Indian states & territories to the lookup list (thanks EIU!)

Anything else to share?

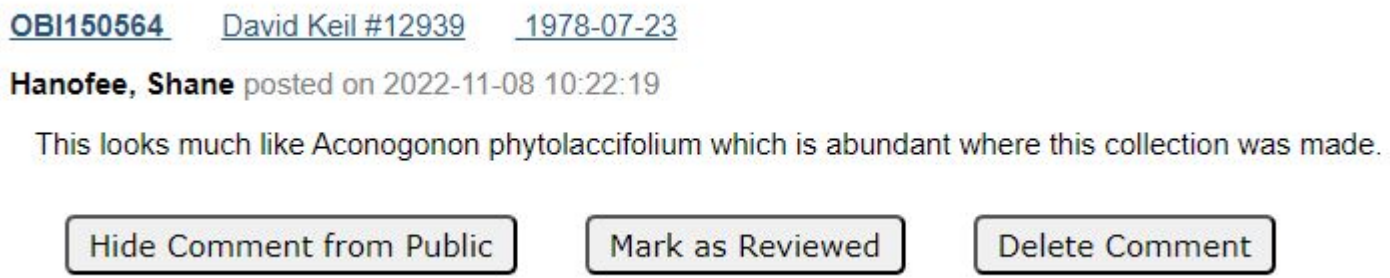
Agenda

- Portal campaign accomplishments: a recap
- **Standing issues/opportunities**
- The CMH community: what’s next?

Curating Comments

The comment function is a way that the public can interact with your specimens. It is often used to:

- Flag dubious identifications
- Point out problematic georeferences



Curating Comments

- Accessed through Administration Control Panel
- Can **delete** (goes away forever) or **mark as reviewed** (still visible on your record but no longer a notification)

Harvesting georeferences from duplicates

- SEINet contains over 22 million herbarium specimens
- Some of them might be duplicates of your specimens
- Some of those duplicates might have georeferences!

Harvesting georeferences from duplicates

https://zenodo.org/record/4637000#.Yjo82ufMJPY

1. Link your specimens to duplicates
2. Check whether any un-georeferenced specimens have georeferenced duplicates in the SEINet Network
3. Create a list of potential duplicates to import
4. Decide which duplicates to keep
5. Import!

Harvesting georeferences from duplicates

https://zenodo.org/record/4637000#.Yjo82ufMJPY

1. Link your specimens to duplicates
2. Check whether any un-georeferenced specimens have georeferenced duplicates in the SEINet Network
3. Create a list of potential duplicates to import
4. **Decide which duplicates to keep**
5. Import!

The only step you need to do, if live.

Harvesting georeferences from duplicates

Interested? Fill out this form:

https://forms.gle/9Cg6jrUmxucST5po6

48,616 specimens without coordinates

3,318 potential duplicate coordinates

2,342 specimens that could be georeferenced using the duplicate coordinates

Baylor University

48,616 specimens without coordinates

3,318 potential duplicate coordinates

2,342 specimens that could be georeferenced using the duplicate coordinates

At 5 minutes per specimen, that saves **195 hours** of georeferencing!

occid	catalogNu	otherCatal	recordedB	recordNun	decimalLa	decimalLo	geodeticD	coordinate	footprintW	coordinate	georeferer	georeferer	georeferenceRemarks
25178965	BAYLU002859		R. Kral	58074	34.07571	-78.2994	World Geo	NA		NA	Uriel Minjares		copied from duplicate CLEMS CLEMS0002222; copie
25178967	BAYLU002	18856	S. McDanie	25504	30.7911	-89.5346	WGS84	100		NA	heathers (2	georef bat	copied from duplicate MMNS MMNS005570;
25179117	BAYLU003021		W. D. Stev	1281	16.79306	-93.0911		NA		NA			copied from duplicate TEX TEX00145641;
25179389	BAYLU035917		L.L. Hanse	6296	31.82097	-100.595		NA		NA			copied from duplicate TEX TEX00453126;
25179391	BAYLU035919		L.L. Sanche	4607	30.09657	-98.8205		NA		NA			copied from duplicate TEX TEX00433244;
25179392	BAYLU035920		L.L. Hanse	5214	30.4308	-99.8081		NA		NA			copied from duplicate TEX TEX00448015;
25179433	BAYLU035961		L.L. Hanse	6241	31.0308	-97.8328		NA		NA			copied from duplicate TEX TEX00453418;
25179435	BAYLU035963		L.L. Hanse	6289	31.82929	-100.579		NA		NA			copied from duplicate TEX TEX00453130;
25179486	BAYLU043702		I.W. Cloke	7822	36.28722	-115.672		1807		NA			copied from duplicate Utah State University UTC00
25179486	BAYLU043702		I.W. Cloke	7822	36.27219	-115.695		4600		NA	cdnale (20	georef bat	copied from duplicate IND IND-0006286;
25179580	BAYLU043818		Butterwick	4169	34.6677	-113.101		NA		NA		+-0.5 miles	copied from duplicate ASU ;
25179581	BAYLU043819		Butterwick	6022	34.209	-112.814		NA		NA		+-0.5 miles	copied from duplicate ASU ;
25179581	BAYLU043819		Butterwick	6022	34.2092	-112.916		1000		NA			copied from duplicate ARIZ 228627;
25179641	BAYLU043883		T. Zanoni	2761	23.8856	-105.087		5000		NA	cjsdavis	georef bat	copied from duplicate ASU ASU0007081;
25179656	BAYLU043898		T. Zanoni	2738	23.64649	-103.643		25000		NA	Velia	georef bat	copied from duplicate ASU ASU0007026;
25179656	BAYLU043898		T. Zanoni	2738	22.5	-102.69		NA		NA			copied from duplicate TEX TEX00145385;
25179663	BAYLU043905		T. Zanoni	2726	23.64649	-103.643		25000		NA	Velia	georef bat	copied from duplicate ASU ASU0007130;
25179663	BAYLU043905		T. Zanoni	2726	22.5	-102.69		NA		NA			copied from duplicate LL LL00145384;
25179718	BAYLU048412		A. Leidolf	2046	41.77016	-111.077	WGS84	100		NA			copied from duplicate SWSL SWSL000257;
25179719	BAYLU048413		A. Leidolf	1953	40.45	-112.014	WGS84	3762		NA		GeoLocate	copied from duplicate SWSL SWSL000256;

Standing issues and opportunities

- Adding or transferring bryophyte, lichen, and fungi specimens to their respective portals

CONSORTIUM OF BRYOPHYTE HERBARIA

- building a Consortium of Bryophytes and Lichens as keystones of cryptobiotic communities -

CONSORTIUM OF LICHEN HERBARIA

- building a Global Consortium of Bryophytes and Lichens as keystones of cryptobiotic communities -

Adding data to other taxonomic-focused portals

Interested? Fill out this form:

https://forms.gle/9Cg6jrUmxucST5po6

Citizen Science for Digitization: WeDigBio

- April and October every year
- https://wedigbio.org/

Standing Opportunities (summary)

To consider:

- Curate comments & engage with the community
- Use label and barcode printing tools in the portal
- Harvest georeferences from duplicates
- Host data in other taxonomically-focused portals
- Participate in WeDigBio events

Agenda

- Portal campaign accomplishments: a recap
- Standing issues/opportunities
- **The CMH community: what's next?**

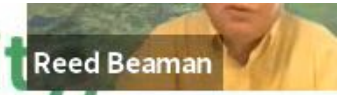
What needs does your community still have?

Ideas for further digitization funding

- NSF grants
- IMLS grants
- Institutional grants

symbiota.org/funding-ideas

Infrastructure Capacity for Biology (Capacity)



- **Synopsis**:

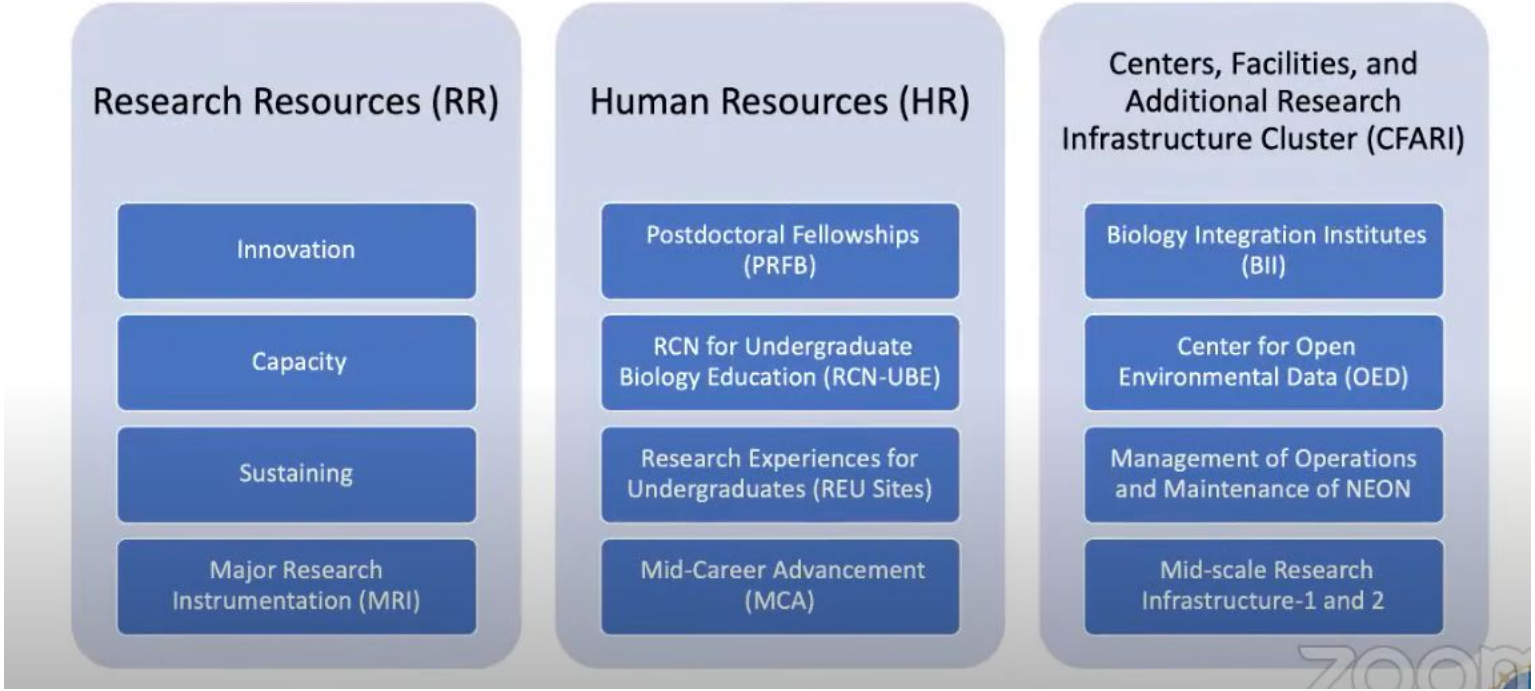
  Support the implementation of, scaling of, or major improvements to research tools, products, and services that advance contemporary biological research.

- **Programmatic Areas:**
  - **Capacity: Cyberinfrastructure**
  - **Capacity: Biological Collections**
  - **Capacity: Field Stations & Marine Labs (FSML)**

- Proposals accepted anytime
- NSF 21-501
  https://www.nsf.gov/pubs/2021/nsf21501/nsf21501.htm

Ideas for further digitization funding

Funding opportunities for scientific collections:
https://www.youtube.com/watch?v=3PvsZI8spJ0



Portal Development

The Symbiota Support Hub was funded to support existing digitization and mobilization activities, not to develop new tools...

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…however, new tool development can be initiated with outside support.

So, **if you want a specific tool, include funds for its development in your next digitization grant!**

Including Symbiota development into your grant

1. Determine need(s)/want(s)
2. Meet with Symbiota Support Hub team to discuss possibilities and necessary funding.
3. With SSH help, include development in budget

Including Symbiota development into your grant

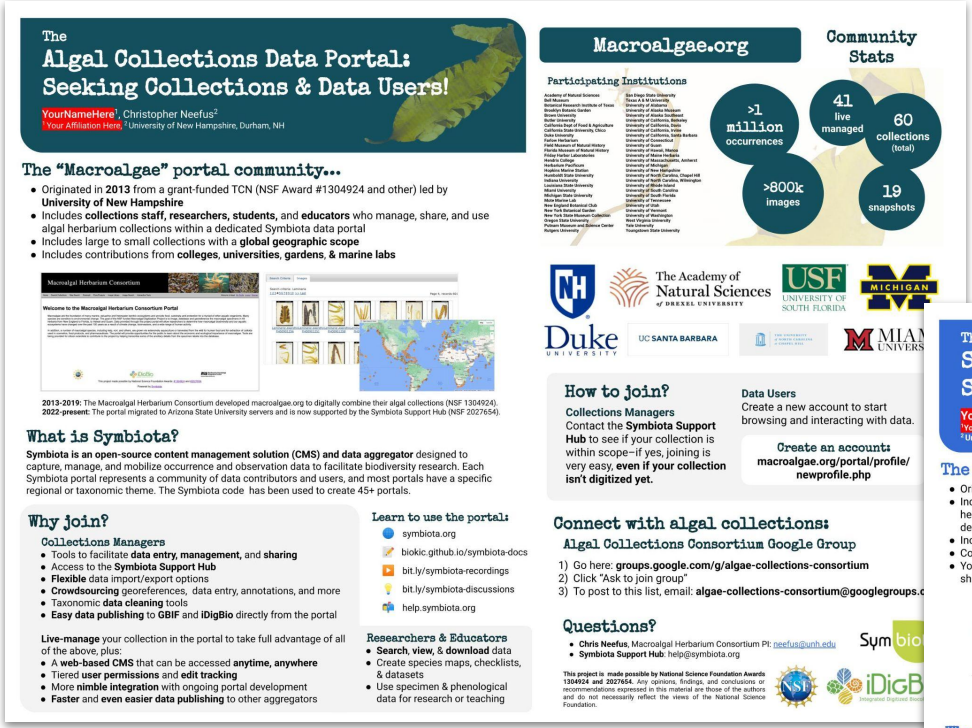
1. Determine need(s)/want(s)
2. Meet with Symbiota Support Hub team to discuss possibilities and necessary funding.
3. With SSH help, include development in budget. Three options:
    a. Collaborating institution
    b. Subaward
    c. Contract with BioKIC Services

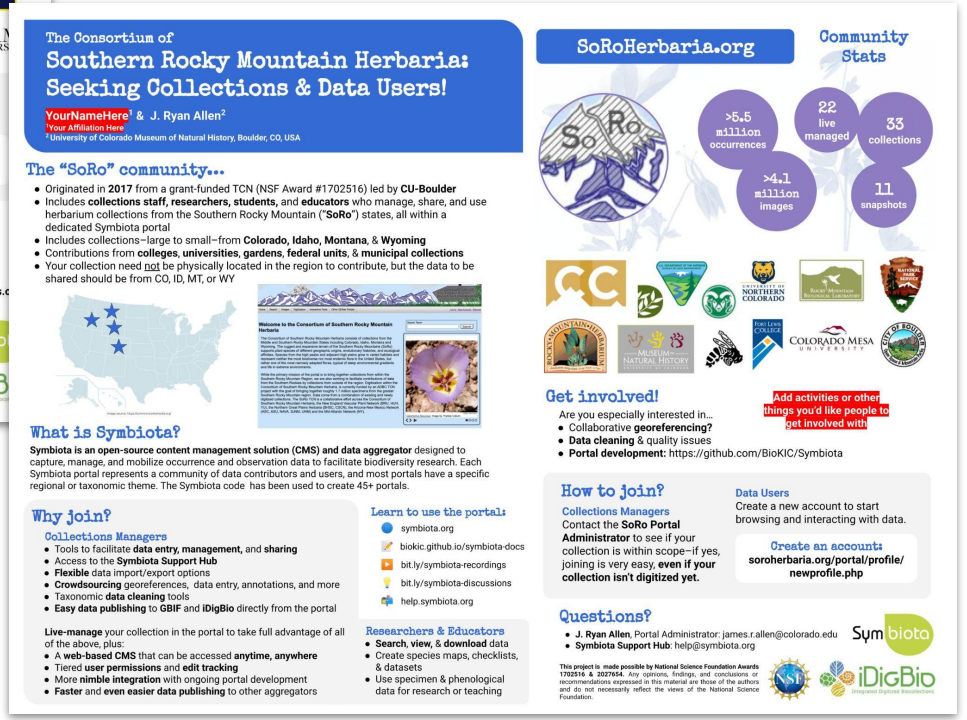
No grant?

- Contract with BioKIC Services

services.biokic.asu.edu

Promotional Poster





What about the Symbiota Support Hub?

We’re still here to help!

help@symbiota.org

Feedback survey

https://bit.ly/post-campaign-survey