

Growth and Evolution of the Symbiota Portal Network



Katie Pearson
Project & Data Manager

Edward Gilbert, Nico Franz,
Samanta Orellana, Greg Post,
Lindsay Walker, Jenn Yost



Biodiversity
Data
Aggregator



Collections
Management
System

Symbi

biota

Open Source Software

[github.com/BioKIC/
Symbiota](https://github.com/BioKIC/Symbiota)



Symbiota

Open source software for creating **themed data portals** that help collections communities **share** and **actively manage** biodiversity data.



<https://github.com/BioKIC/Symbiota>

Symbiota Public

forked from [egbot/Symbiota](#)

Edit Pins Watch 3 Fork 90 Star 29

master 64 branches 17 tags

Go to file Add file <> Code

This branch is 4 commits ahead, 10 commits behind egbot:master. Contribute Sync fork

Atticus29 Hotfix 2023 09 25 (#636) ...	0630493 2 days ago	7,365 commits
admin	Hotfix 2023 08 08 (#606)	last month
agentauth	Remove AgentAuth Symfony code for security reason	3 years ago
agents	Styling adjustments in prep for responsive rollout	9 months ago
api	API Documentation updates	5 months ago
checklists	Hotfix 2023 07 22 (#559)	2 months ago
classes	Hotfix 2023 09 07 (#624)	last week
collections	Hotfix 2023 09 07 (#624)	last week
config	Hotfix 2023 09 07 (#624)	last week

About

The Symbiota Virtual Flora/Fauna project develops on-line tools to aid the generation, exploration and management of biodiversity data (collection specimens, observations, images, checklists, keys, etc.). See also: <http://bdj.pensoft.net/articles.php?id=1114> and <https://symbiota.org/>. For documentation, please visit <https://symbiota.org/docs>

biodiversity content-management-system natural-history-collections

Readme GPL-2.0 license Activity 29 stars

Symbiota Documentation

Growing archive of help files for one of the most popular Natural History content management systems

Quick search for terms here. Press enter to go to results page.



Browse articles by subject



User Guide

Learn to access, view, and download data and checklists.



Editor Guide

Learn to edit, manage, import, and export data in Symbiota portals



Collection Manager Guide

Learn to clean data, edit permissions, upload data, and perform other administrator functions.

<https://symbiota.org/docs>



Sample Search

TAXONOMY ^

Taxon

Any name

Type at least 4 characters for quick suggestions. Separate multiple with commas. Taxon type.

Include Synonyms

COLLECTIONS ^

+ All NEON Biorepository Collections

+ All Additional NEON Collections

+ All Other Collections from NEON sites

Visit the [Collections Information Page](#) for a full list of collections hosted by this portal.

SEARCH

RESET

Criteria

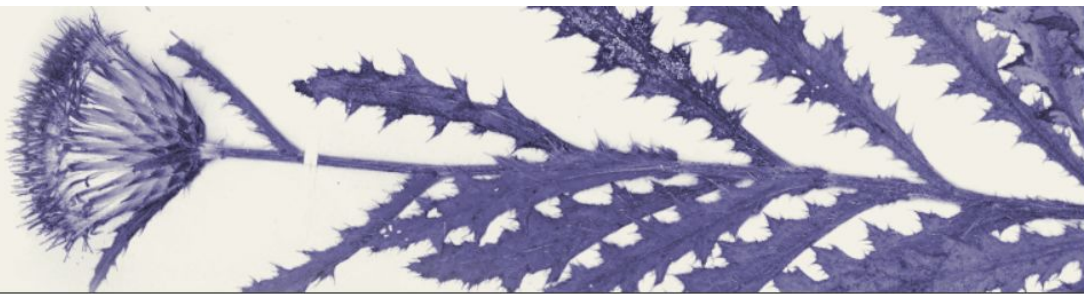
Include Synonyms X

All Biorepo Collections X

Include other IDs X

All Domains & Sites X

Consortium of Midwest Herbaria



[Home](#) [Specimen Search](#) [Images](#) [Flora Projects](#) [Interactive Tools](#) [Crowdsource](#)

Welcome Katelin! [My Profile](#) [Logout](#) [Sitemap](#)

[Home](#) >> [Collections](#)

Specimens & Observations

Specimens

Observations

Federal Units

[Select/Deselect all collections](#)

[Consortium of Midwest Herbaria](#)

Search >



[Albion College \(ALBC\)](#) [more info...](#)



[Amway Herbarium \(AMWH\)](#) [more info...](#)



[Augustana College \(AUGIE\)](#) [more info...](#)



[Butler University, Friesner Herbarium \(BUT\)](#) [more info...](#)



[Calvin College \(CALVIN\)](#) [more info...](#)



[Central Michigan University Herbarium \(CMC\)](#) [more info...](#)



[Chicago Academy of Sciences, Botany Collection \(CHAS-Herb\)](#) [more info...](#)



[Chicago Botanic Garden \(CHIC\)](#) [more info...](#)



[University of Illinois at Urbana-Champaign Herbarium \(UIUC\)](#) [more info...](#)

Occurrence Data Determination History Images Linked Resources Traits Admin

Collector Info

Catalog Number [?] Tag Name (optional) [?] Additional Identifier Value

Collector / Observer [?] Number [?] Date [?] Auto search

Associated Collectors [?] Verbatim Date [?]

Exsiccati Title Number

Latest Identification

Scientific Name [?] Author [?] Identification Qualifier [?] Family [?] Identified By [?] Date Identified [?]

Locality

Country [?] State/Province [?] County [?] Municipality [?] Location ID [?]

Locality [?] Deactivate Locality Lookup

Security: [?] Deactivate Locality Lookup

Latitude Longitude Uncertainty [?] Datum [?] Verbatim Coordinates [?]

Elevation in Meters [?] - Verbatim Elevation [?] Depth in Meters [?] - Verbatim Depth [?]

Misc

Label Processing

Zoom? Rotate: Med Res. High Res.

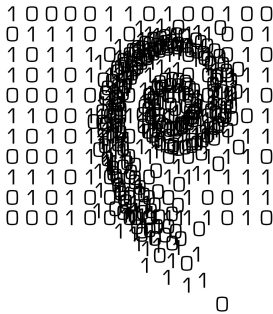
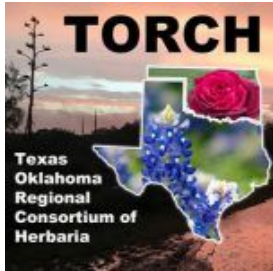


Tesseract OCR

- OCR whole image
- OCR w/ analysis
-

?Inches | , , ,1 ! I I I I I I2 I I I I I I
|3| I I I I I I I4 I I I I I I |*T. I > I I I
I6 I i 1 : I I I7 I 1 I i I i 8
1 U U U 5 ;6 |7 |8 U I10 11 112 113 114 115
16 117 118 119 I
T?FFEN Color Control Patches
Centimetres

55+ community portals



55+ community portals

91 million records shared via Symbiota portals



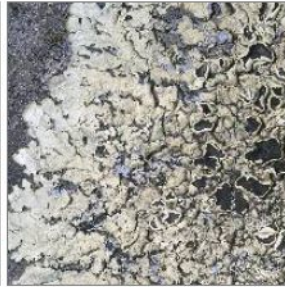
Xanthoparmelia ajoensis
Sharnoff, Stephen



Xanthoparmelia californica
Sharnoff, Stephen



Xanthoparmelia coloradoensis
Sharnoff, Stephen



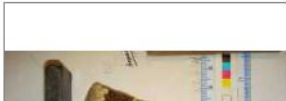
Xanthoparmelia cumberlandia
Bungartz, Frank



Xanthoparmelia lavicola
Fenstermacher, Joselyn



Xanthoparmelia lineola
Fenstermacher, Joselyn



55+ community portals

91 million records shared via Symbiota portals

1,800 natural history collections



55+ community portals

91 million records shared via Symbiota portals

1,800 natural history collections

969 collections

using Symbiota as their primary
collection management system

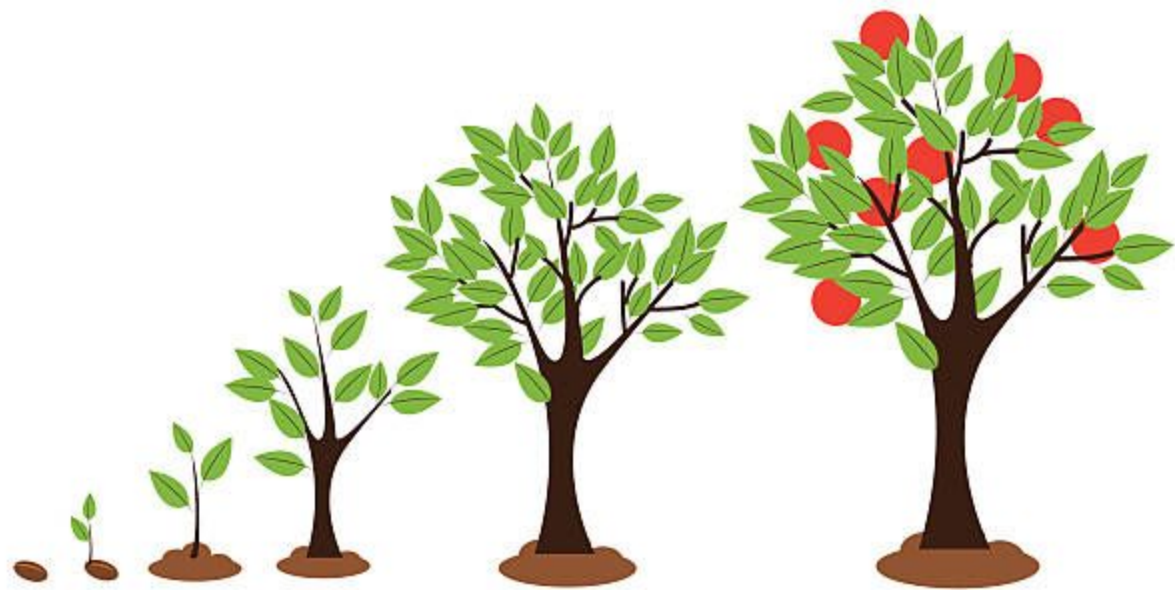
55+ community portals

91 million records shared via Symbiota portals

1,800 natural history collections

969 collections
using Symbiota as their primary
collection management system

850+ snapshot collections
using Symbiota for
community connection





Symbiota designed as a **checklist** and **identification key** management tool





Symbiota designed as a **checklist** and **identification key** management tool

2008

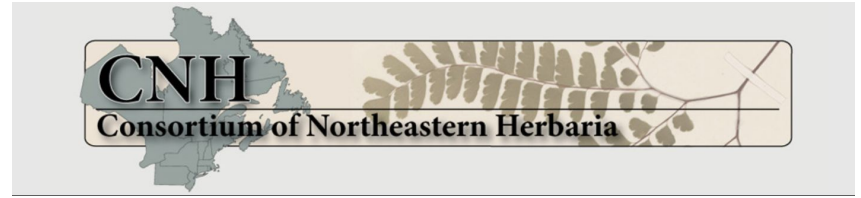
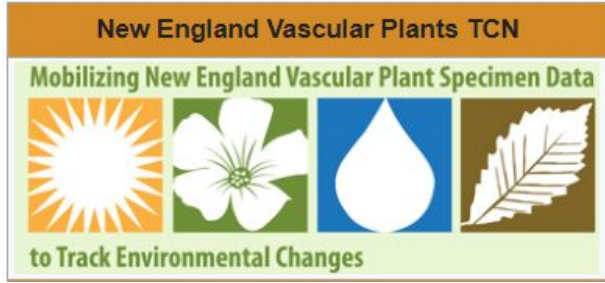


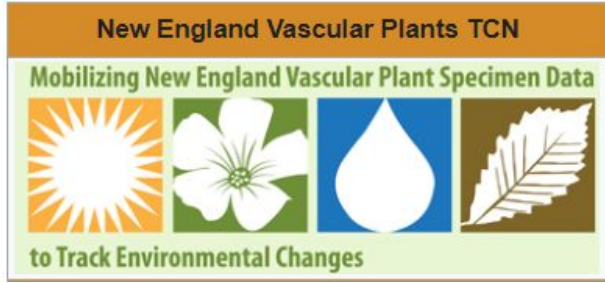


Symbiota designed as a **checklist** and **identification key** management tool



Constant, iterative development of Symbiota into a **collaborative collection management system** and biodiversity **data aggregator**





Portals + Communities

Themed portals with **user communities** coalesced around **common goals** (digitization/data mobilization)

- Taxonomic
- Geographic
- Institutional
- Project-based

Portal Directory:

symbiota.org/symbiota-portals

Symbiota



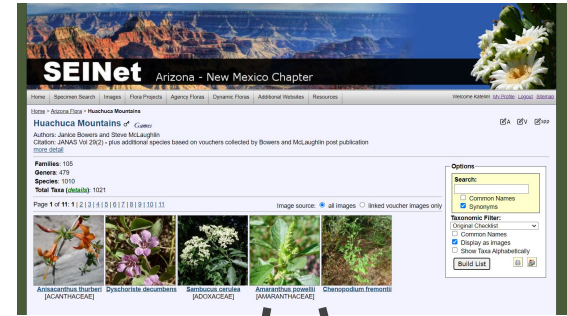
The Consortium of Small Vertebrate Collections is a growing network of research, academic, and museum institutions focused on the study of birds, mammals, fish, amphibians, and reptiles. It is a collaborative venture of iDigBio and Arizona State University and provides a mechanism for participating institutions.

Do you have specimen c
Please send questions, c



Benefits of a **Community Hub**

- Platform to accomplish the shared goals
- Meeting place for the passionate
- Group curation of taxonomy
- Leverages the work of others - Finding duplicates - transcriptions, annotations, georeferences
- Make data findable by those who want it
- Users can interact with the data and with you
- Produces data quality flags
- Easy pipeline to data aggregators like GBIF and iDigBio



**Darwin Core
Archive**

Aggregators



GBIF

Global Biodiversity
Information Facility

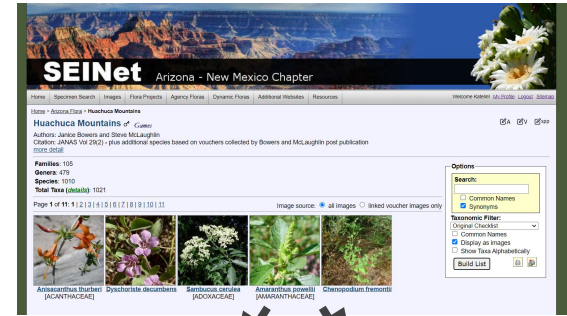


iDigBio

Integrated Digitized Biocollections

Benefits of a Community Hub

- Platform to accomplish the shared goals
- Meeting place for the passionate
- Group curation of taxonomy
- Leverages the work of others - Finding duplicates - transcriptions, annotations, georeferences
- Make data findable by those who want it
- Users can interact with the data and with you
- Produces data quality flags
- Easy pipeline to data aggregators like GBIF and iDigBio
- Connections to other systems



Other portals



Other specimen data providers & systems



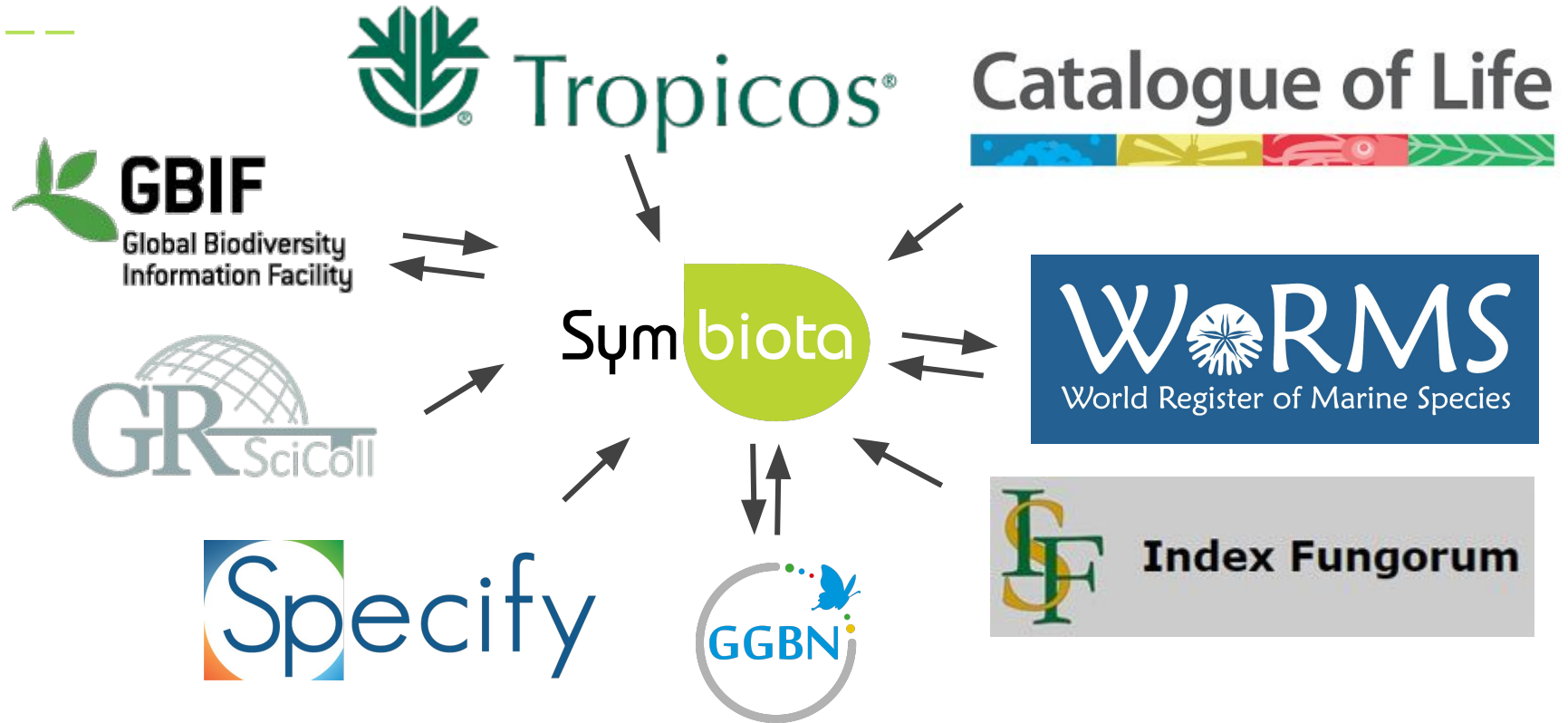
API-enabled data providers



AusTraits




Current integrations



Community Functions

Public Search & Mapping Pages

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



Home Search Images Species Checklists Crowdsourcing Associated Projects More Information Sitemap Help Welcome Katerlin [My Profile](#) [Logout](#)

Home >> Collections >> Search Criteria

Taxonomic Criteria

Include Synonyms

Scientific Name

List Display
Table Display
Reset Form

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



Home Search Images Species Checklists Crowdsourcing Associated Projects More Information Sitemap Help Welcome Katerlin [My Profile](#) [Logout](#)

Home >> Image Contributors >> Image Search

Locality Criteria

Country:

State/Province:

County:

Locality:

Elevation (in meters):

Latitude and Longitude

Bounding box

Northern Latitude:

Southern Latitude:

Western Longitude:

Eastern Longitude:











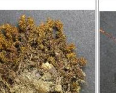
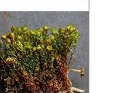
Collector Criteria

Collector's Name:


Collector's Number:

Search Criteria Images

Search criteria: HasOrganism
1 2 3 4 5 6 7 8 9 10 >> Last Page 4, records 601-800 of 9,512

 <i>Athalamia hyalina</i> Lampa, Wayne	 <i>Athalamia pinguis</i> Lorenz, Samantha	 <i>Atrichum altecristatum</i> Lampa, Wayne	 <i>Atrichum altecristatum</i> Lampa, Wayne	 <i>Atrichum altecristatum</i> Lampa, Wayne	 <i>Atrichum altecristatum</i> Lampa, Wayne
					

bryophyteportal.org/portal/collections/map/googlemap.php?taxa=Bryum+acuminatum&usethes=1&taxonomy=2




Legend
■ *Rosulabryum torquescens* (Bryum torquescens, Bryum capillare)

Add Point of Reference
Marker Name:

Keyboard shortcuts Map data ©2022 1000 km Terms of Use

Community Functions



SEINet Arizona - New Mexico Chapter

Home | Specimen Search | Images | Flora Projects | Agency Floras | Dynamic Floras | Additional Websites | Resources | Welcome Katelin! [My Profile](#) [Logout](#) [Sitemap](#)

Home > [Arizona Flora](#) > **Huachuca Mountains**






Huachuca Mountains ♂ *Games*

Authors: Janice Bowers and Steve McLaughlin
Citation: JANAS Vol 29(2) - plus additional species based on vouchers collected by Bowers and McLaughlin post publication
[more detail](#)

Families: 105
Genera: 479
Species: 1010
Total Taxa ([details](#)): 1021

Page 1 of 11: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [9](#) | [10](#) | [11](#)

Image source: all images linked voucher images only



[Anisacanthus thurberi](#)
[ACANTHACEAE]

[Dyschoriste decumbens](#)

[Sambucus cerulea](#)
[ADOXACEAE]

[Amaranthus powellii](#)
[AMARANTHACEAE]

[Chenopodium fremontii](#)

Checklist Creation Features

Search:

Common Names
 Synonyms

Taxonomic Filter:
Original Checklist

Common Names
 Display as images
 Show Taxa Alphabetically



Symbiota designed as a **checklist** and **identification key** management tool

Symbiota Support Hub
funded through National Science Foundation grant to Integrated Digitized Biocollections (iDigBio)



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



Lindsay Walker
Community
Manager



Nico Franz
Management @ ASU



Logan Wilt
Developer



Ed Gilbert
IT Management
Lead

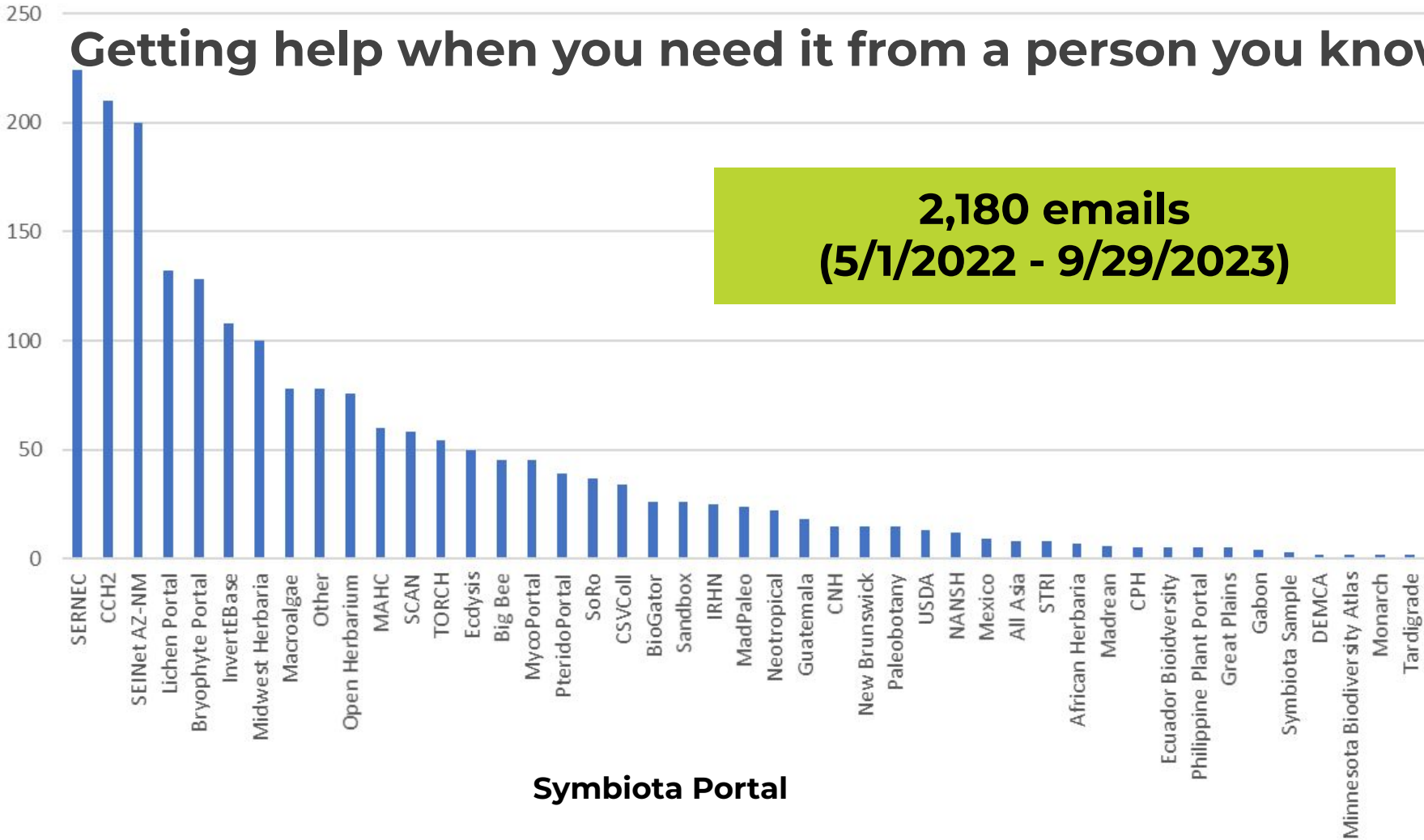


Mark Fisher
Developer

Getting help when you need it from a person you know

2,180 emails
(5/1/2022 - 9/29/2023)

Number of Tickets (Emails)



Symbiota Portal

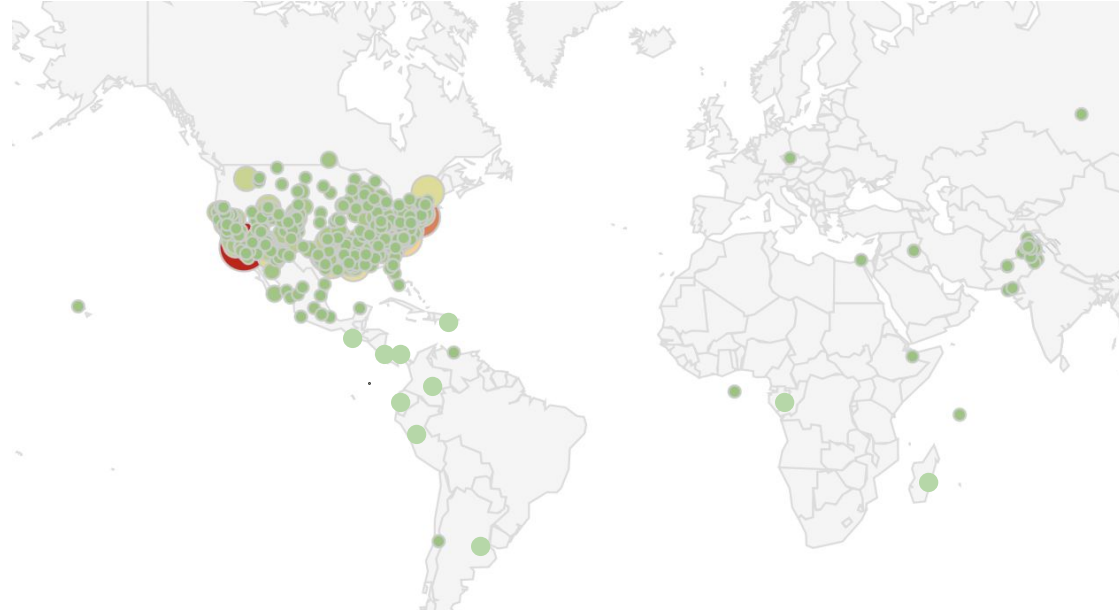


Symbiota designed as a **checklist** and **identification key** management tool



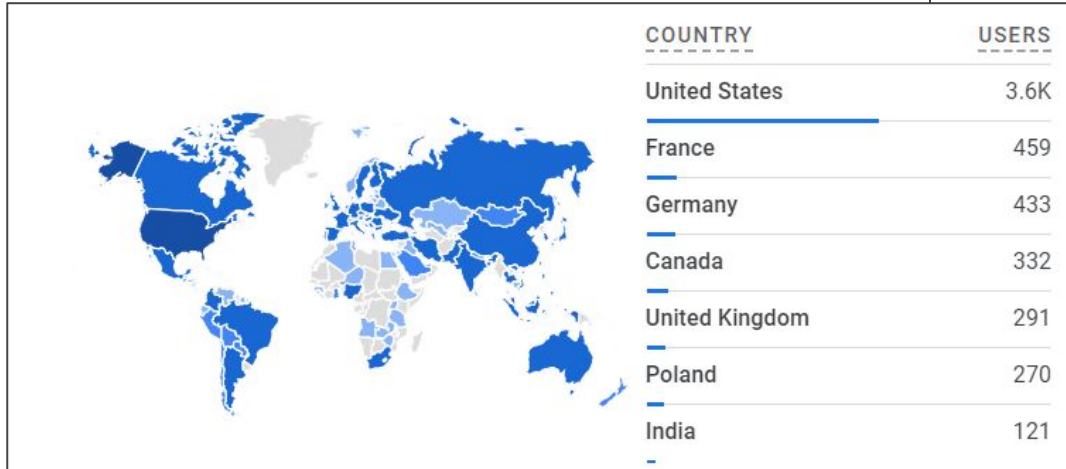
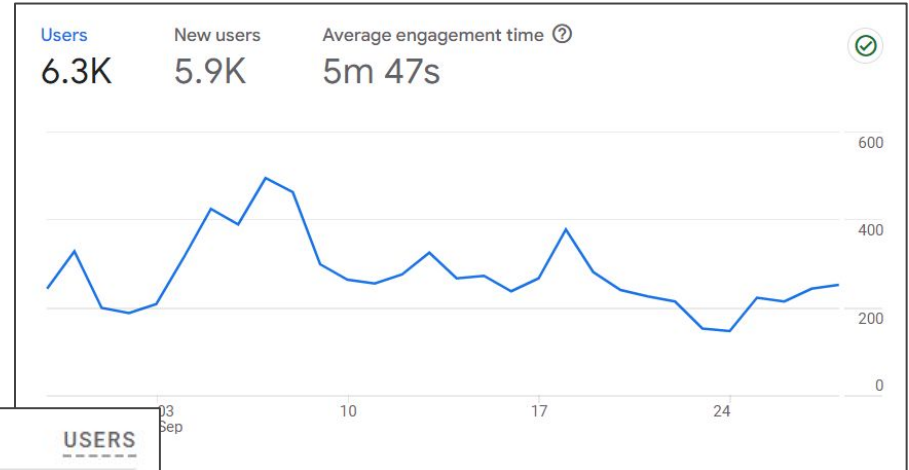
Collections Communities Supported

- **55+** community portals
- 969 use a portal as their **primary content management system** to curate 23 million records
- 850 **snapshot collections** use the portal for community connection
- **18 million edits** last year by 1000+ people
- 351 collections **publish 20 million records to GBIF**



Research Communities Supported

- Over **1,800 citations** of Symbiota-mediated data (from GBIF citation metrics)
- Symbiota portals see consistent, diverse **website traffic**



1 month
1 portal
6,300 users
103,000 pageviews

New Portals



New Portals



NEW BRUNSWICK
MUSEUM



MUSÉE DU
NOUVEAU-BRUNSWICK

New Portals



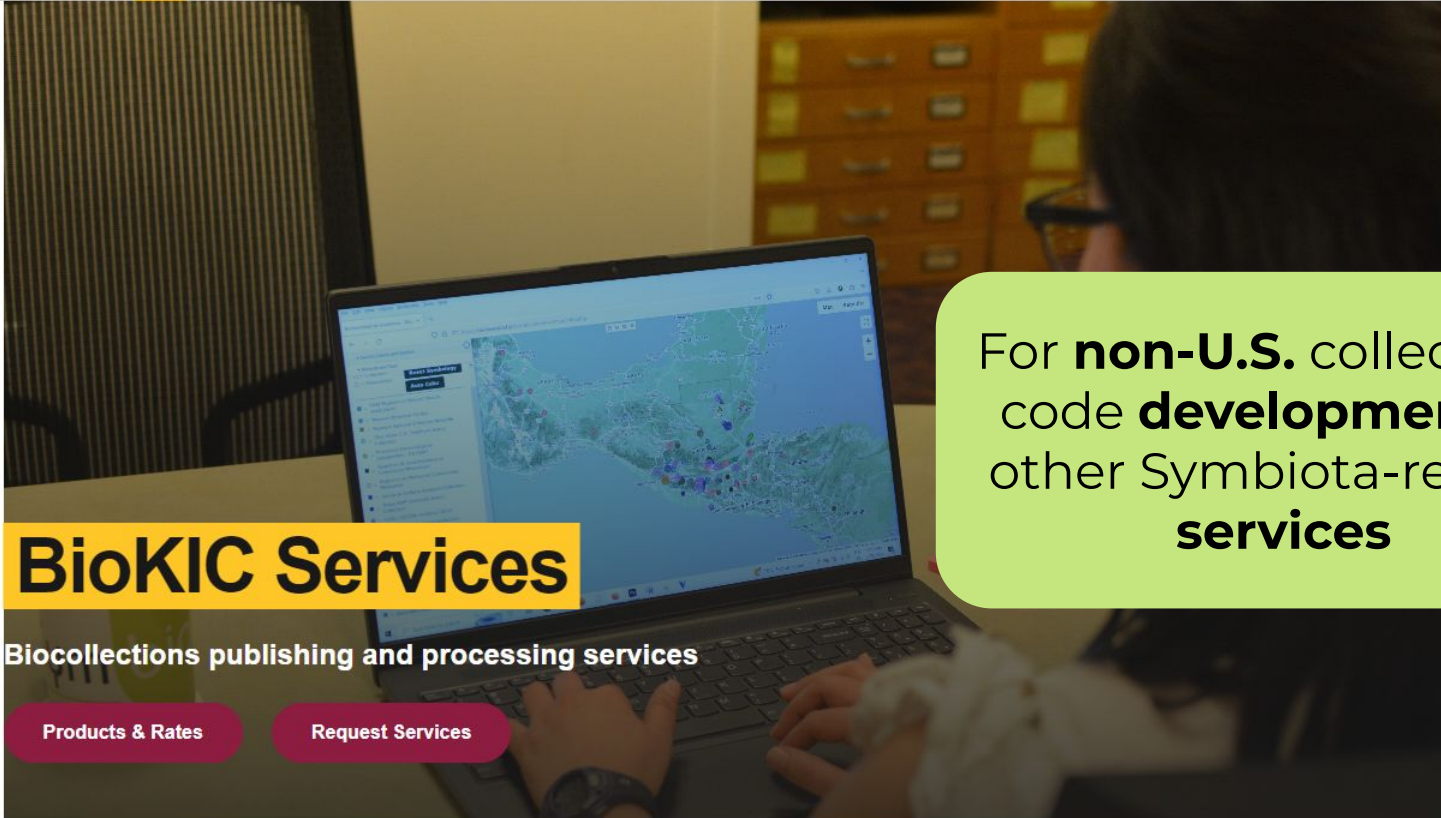
NEW BRUNSWICK
MUSEUM



MUSÉE DU
NOUVEAU-BRUNSWICK



Sustainability



BioKIC Services

Biocollections publishing and processing services

Products & Rates

Request Services

For **non-U.S.** collections, code **development**, or other Symbiota-related **services**

About

BioKIC Services provides products and services related to the digitization, management, and


Collaborations

<https://github.com/BioKIC/Symbiota>

BioKIC / Symbiota

Search: Type to search

Code Issues 72 Pull requests 13 Discussions Actions Projects 2 Wiki Security 4 Insights Settings

 **Symbiota** Public


forked from [egbot/Symbiota](#)

Edit Pins Watch 3 Fork 90 Star 29

master 64 branches 17 tags

Go to file Add file <> Code

This branch is 4 commits ahead, 10 commits behind egbot:master. Contribute Sync fork

 Atticus29 Hotfix 2023 09 25 (#636) ... 0630493 2 days ago 7,365 commits		
admin	Hotfix 2023 08 08 (#606)	last month
agentauth	Remove AgentAuth Symfony code for security reason	3 years ago
agents	Styling adjustments in prep for responsive rollout	9 months ago
api	API Documentation updates	5 months ago
checklists	Hotfix 2023 07 22 (#559)	2 months ago
classes	Hotfix 2023 09 07 (#624)	last week
collections	Hotfix 2023 09 07 (#624)	last week
config	Hotfix 2023 09 07 (#624)	last week

About

The Symbiota Virtual Flora/Fauna project develops on-line tools to aid the generation, exploration and management of biodiversity data (collection specimens, observations, images, checklists, keys, etc.). See also:

<http://bdj.pensoft.net/articles.php?id=1114> and <https://symbiota.org/>. For documentation, please visit <https://symbiota.org/docs>

biodiversity content-management-system natural-history-collections

- Readme
- GPL-2.0 license
- Activity
- 29 stars


Collaborations

<https://github.com/BioKIC/Symbiota>

BioKIC / Symbiota

Type to search

<> Code Issues 72 Pull requests 13 Discussions Actions Projects 2 Wiki Security 4 Insights Settings

 **Symbiota** Public

forked from [egbot/Symbiota](#)










Edit Pins Watch 3 Fork 90 Star 29

master 64 branches 17 tags

Go to file Add file <> Code About

This branch is 4 commits ahead, 10 commits behind egbot:master.

The Symbiota Virtual Flora/Fauna project

 Atticus29 Hotfix 2023 09 25 (#636) ...	2 days ago	🕒 7,365 commits
 admin	Hotfix 2023 08 08 (#606)	
 agentauth	Remove AgentAuth Symfony code for security reason	3 years ago
 agents	Styling adjustments in prep for responsive rollout	9 months ago
 api	API Documentation updates	5 months ago
 checklists	Hotfix 2023 07 22 (#559)	2 months ago
 classes	Hotfix 2023 09 07 (#624)	last week
 collections	Hotfix 2023 09 07 (#624)	last week
 config	Hotfix 2023 09 07 (#624)	last week

management specimens, ts, keys, php?

id=1114 and <https://symbiota.org/>. For documentation, please visit <https://symbiota.org/docs>

[biodiversity](#) [content-management-system](#) [natural-history-collections](#)

Readme GPL-2.0 license Activity 29 stars

Collaborations

- Always welcoming new collections to our existing portals
 - <https://symbiota.org/symbiota-portals/>

Collaborations

- Always welcoming new collections to our existing portals
 - <https://symbiota.org/symbiota-portals/>
- New portals, proposals, integrations, tools, or development ideas
 - help@symbiota.org

Learn more at
symbiota.org

help@symbiota.org

