

# iDigBio - Integrated Digitized Biocollections

Mobilizing natural history collections for the understanding of island biodiversity

Shelley James, Deborah Paul, Matthew Collins  
& Gil Nelson

iDigBio

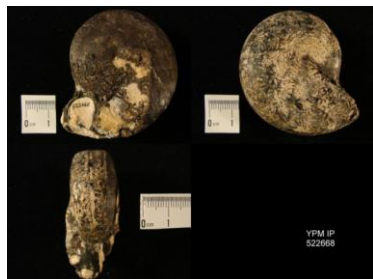
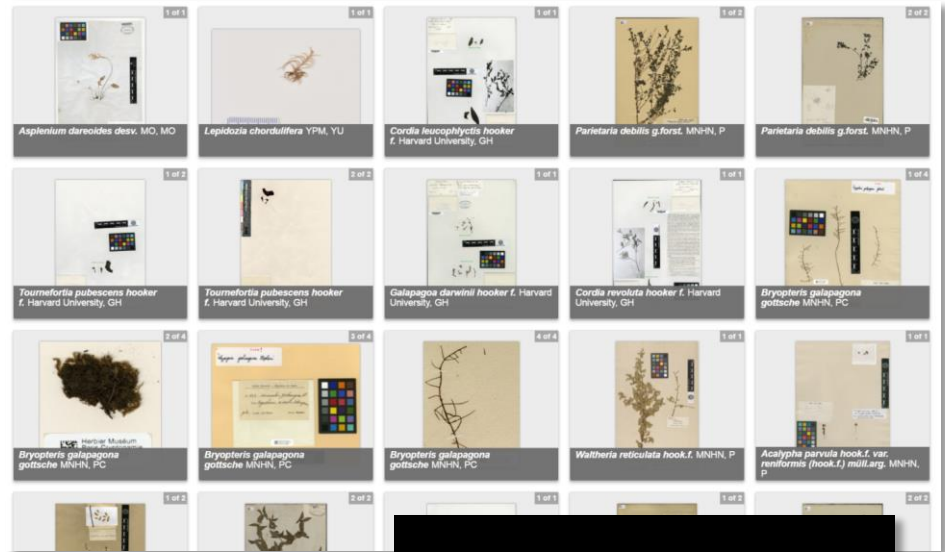
[sjames@flmnh.ufl.edu](mailto:sjames@flmnh.ufl.edu)



# Biological collections and Island Biology

## From before Darwin & Wallace to the present and into the future

- Historical baseline data
- Trait and habitat information
- Taxon distributions
- New species discovery
- ...



Estimates suggest that there are between:

**500 million and 1 billion**

biological and paleobiological specimens  
in the United States;

**3-4 billion worldwide?**

No one really knows for sure!  
A wealth of biodiversity information.



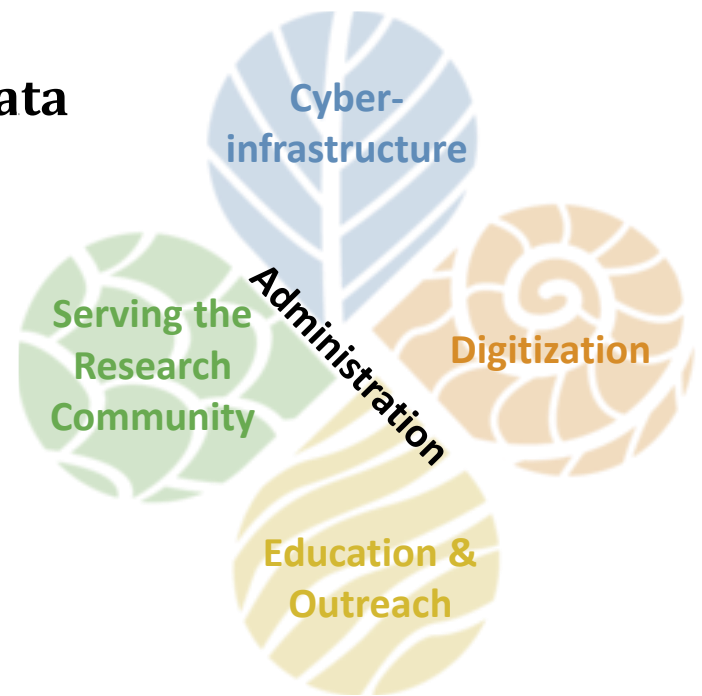
# Integrated Digitized Biocollections: who we are

- Central coordinating center for the U.S. national effort to digitize natural history collections
  - University of Florida & Florida State University
- Part of NSF's Advancing Digitization of Biodiversity Collections (ADBC) program
  - 10 year, \$100 million effort
- National network of over 250 institutions in 50 U.S. states and 1 territory
- Digitize biological and paleontological (non- federal) public collections in U.S. institutions



# What do we do?

- **Enable digitization of biodiversity collections data**
  - Develop efficient & effective standards & workflows
  - Workforce education & training
- **Provide portal access to biodiversity data in a cloud computing environment**
  - Respond to cyberinfrastructure needs
  - Enable access & discoverability
- **Facilitate use of biodiversity data to address key environmental and economic challenges**
  - Researchers, educators, general public, policy-makers, ...
- **Plan for long-term sustainability of the national digitization network & effort**
  - Expand participation: partners, data sources, public, ...
  - Proliferate and broaden uses of biodiversity data



## More about ADBC – the US funding mechanism

- Thematic Collections Networks (TCNs) have a research focus, driving digitization efforts
- Collaborative, community building
- Converting analog voucher specimen data to digital format, to include transcription of text data (labels, catalogs, field notes, etc.) and capturing specimen images, video, sounds.



# 15 Thematic Collections Networks (TCNs) 15 Partners to Existing Networks (PENs)

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

**Island Biology TCN?**

# iDigBio: HUB and data aggregator

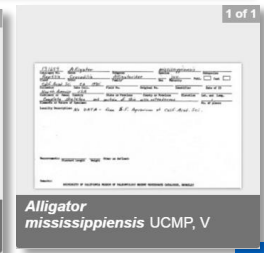
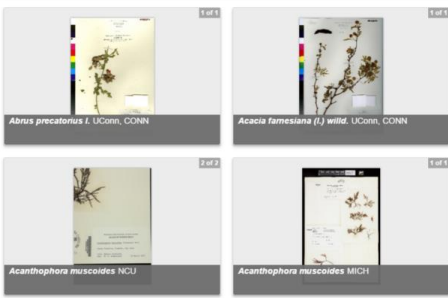
Our scope:

- Specimen data Darwin Core
- Media Audubon Core
- Global; all taxa

Biodiversity  
Information  
Standards  
TDWG



Sylviidae	Abrosopus albugular...	MVZ	Bird specimens	1959-05-12	Collector(s) Chester ...	Taiwan	Fenchihu, A-li Shan (...	<a href="http://arctos.database...">http://arctos.database...</a>
Sylviidae	Abrosopus albugular...	CM	Birds	1986-10-08	Collector Unknown	Taiwan	no data	<a href="um.catalog:CM.Birds...">um.catalog:CM.Birds...</a>
Sylviidae	Abrosopus albugular...	CM	Birds	1986-10-08	Collector Unknown	Taiwan	no data	<a href="um.catalog:CM.Birds...">um.catalog:CM.Birds...</a>
Nymphalidae	Abrota ganga	YPM	ENT	1955-06-03	Hwei Chin	Taiwan	Formosa, Pulli	<a href="um.uuid:7329fb64-1f11...">um.uuid:7329fb64-1f11...</a>
Pomacentridae	Abudedefduf bengalensis	CAS	ICH	2014-05-18	Iria Fernandez-Silva; ...	Taiwan	Tashi Fish Market, Yilan	<a href="um.catalog:CAS:ICH...">um.catalog:CAS:ICH...</a>
Pomacentridae	Abudedefduf septemfasc...	CAS	ICH	1973-07-08	L. Chen, K. Chang, F. ...	Taiwan	Hengchun, Maopitou.	<a href="um.catalog:CAS:ICH...">um.catalog:CAS:ICH...</a>
Pomacentridae	Abudedefduf sexfasciatus	ROM	Fishes	1978-03	no data	Taiwan	NE Taiwan, Pacific Oc...	<a href="URI:catalog:ROM:licht...">URI:catalog:ROM:licht...</a>
Pomacentridae	Abudedefduf vaiqiensis	CAS	ICH	2014-05-17	Iria Fernandez-Silva; ...	Taiwan	Tashi Fish Market, Yilan	<a href="um.catalog:CAS:ICH...">um.catalog:CAS:ICH...</a>
Pomacentridae	Abudedefduf vaiqiensis	LSUMZ	Fishes	2008-11-15	Chakrabarty, Prosanta...	Taiwan	Heng-Chen, Ding-tong...	<a href="03e3c8b6-2c79-11e4...">03e3c8b6-2c79-11e4...</a>
Pomacentridae	Abudedefduf vaiqiensis	FMNH	Fishes	2009-09-10	H. C. Ho, W. L. Smith...	Taiwan	Heng Chun, Heng Ch...	<a href="c63f19b8-4ea3-4742...">c63f19b8-4ea3-4742...</a>
Melithaeidae	acabaria	FLMNH	Invertebrate Zoology	2011-05-29	Mandy Bemis, Machel...	Taiwan	no data	<a href="FBF9489E-D0A6-4D8...">FBF9489E-D0A6-4D8...</a>
Fabaceae	Acacia confusa Merr.	MO	MO	1961-04-13	Y.R. Cheunjet et al.	Taiwan	Mimosaceae, Tsu San...	<a href="um.catalog:MO:Tropic...">um.catalog:MO:Tropic...</a>
Fabaceae	Acacia confusa Merr.	MO	MO	1961-04-16	L.L. Liujet et al.	Taiwan	Mimosaceae, Universl...	<a href="um.catalog:MO:Tropic...">um.catalog:MO:Tropic...</a>
Fabaceae	Acacia confusa Merr.	MO	MO	1989-07-29	Alwyn H. Gentryjet et al.	Taiwan	Pintung County, Nanje...	<a href="um.catalog:MO:Tropic...">um.catalog:MO:Tropic...</a>
Euphorbiaceae	Acalypha australis L.	MO	MO	1960-05-11	Lee, W. C.	Taiwan	Taiwan University Ca...	<a href="um.catalog:MO:Tropic...">um.catalog:MO:Tropic...</a>
Elapidae	Acalyptophis peronii	UCM	Amphibian and reptile...	1972-01-01/1972-12-31	Collector(s): A. Tu	Taiwan	Anping, Tainan City, S...	<a href="http://arctos.database...">http://arctos.database...</a>
Elapidae	Acalyptophis peronii	UCM	Amphibian and reptile...	1972-07-07	Collector(s): A. Tu	Taiwan	Anping, Tainan City, S...	<a href="http://arctos.database...">http://arctos.database...</a>
Elapidae	Acalyptophis peronii	UCM	Amphibian and reptile...	1972-01-01/1972-12-31	Collector(s): A. Tu	Taiwan	Anping, Tainan City, S...	<a href="http://arctos.database...">http://arctos.database...</a>
Elapidae	Acalyptophis peronii	UCM	Amphibian and reptile...	1972-01-01/1972-12-31	Collector(s): A. Tu	Taiwan	Anping, Tainan City, S...	<a href="http://arctos.database...">http://arctos.database...</a>
Undesignated	Acanthaceae Juss.	MO	MO	1996-04-24	James C. Solomon L...	Taiwan	Taipei Hsien, Ulai Hsia...	<a href="um.catalog:MO:Tropic...">um.catalog:MO:Tropic...</a>





# Why collections publish/share data with iDigBio

- Discovery and use
- Data quality, improvement

## Specimen Record

Data <u>Flags</u> Raw	
Type	Description
scientificname_added	
geopoint_low_precision	Geographic Coordinate has Low Precision.
dwc_phylum_added	Darwin Core Phylum Added.
dwc_country_replaced	Darwin Core Country Corrected.
idigbio_isocountrycode_added	iDigBio ISO 3166-1 alpha-3 Country Code Added.
dwc_kingdom_added	Darwin Core Kingdom Added.

- Attribution, credit, collection value metrics

## Recordset

Data Corrected <u>Data Use</u> Raw						
<p>The table below represents monthly iDigBio portal use statistics for this recordset. <b>Search</b> indicates in how many instances a record from this recordset matched a search query. <b>Download</b> indicates in how many instances a record from this recordset was downloaded. <b>Seen</b> indicates in how many instances a record from this recordset appeared (visually) in the search results in a browser window. <b>Records Viewed</b> and <b>Media Viewed</b> indicate how many specimen and media records were opened and viewed in full detail. Note: Monthly statistics aggregation began on Jan 15th 2015; therefore, the month of (01 / 2015) represents approximately half a month of statistics reporting.</p>						
Month of	Search	Download	Seen	Records Viewed	Media Viewed	
01 / 2015	4,644,439	39,693	249	185	36	
02 / 2015	14,478,408	18,174	872	93	6	
03 / 2015	11,134,952	92,788	604	136	8	

# What are the *minimum* data fields needed?

## Darwin Core

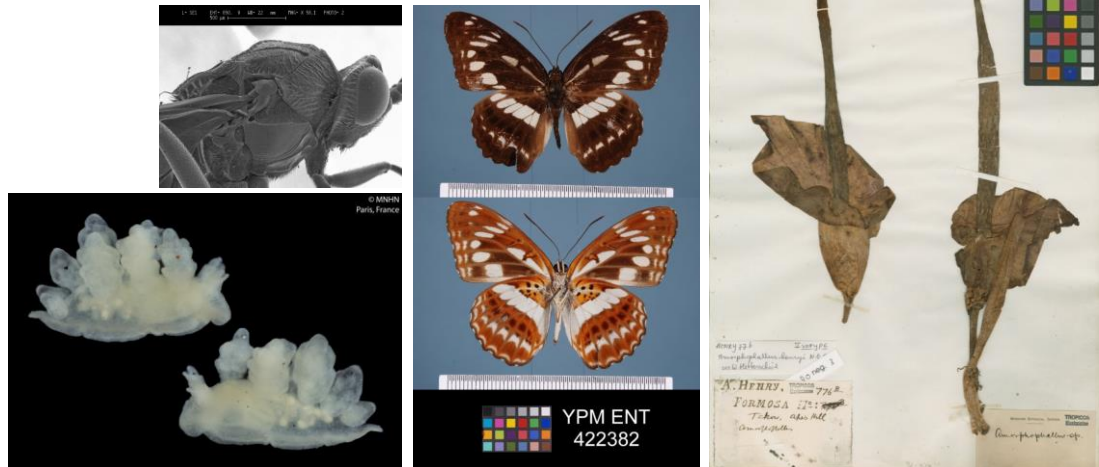
- recordID
- **occurrenceID** (unique!)
- scientificName
- eventDate
- recordedBy
- Locality information
- catalogNumber
- **institutionID**
- **collectionID**
- Geological Context
- (Other DwC data fields & extensions)

## Audubon Core

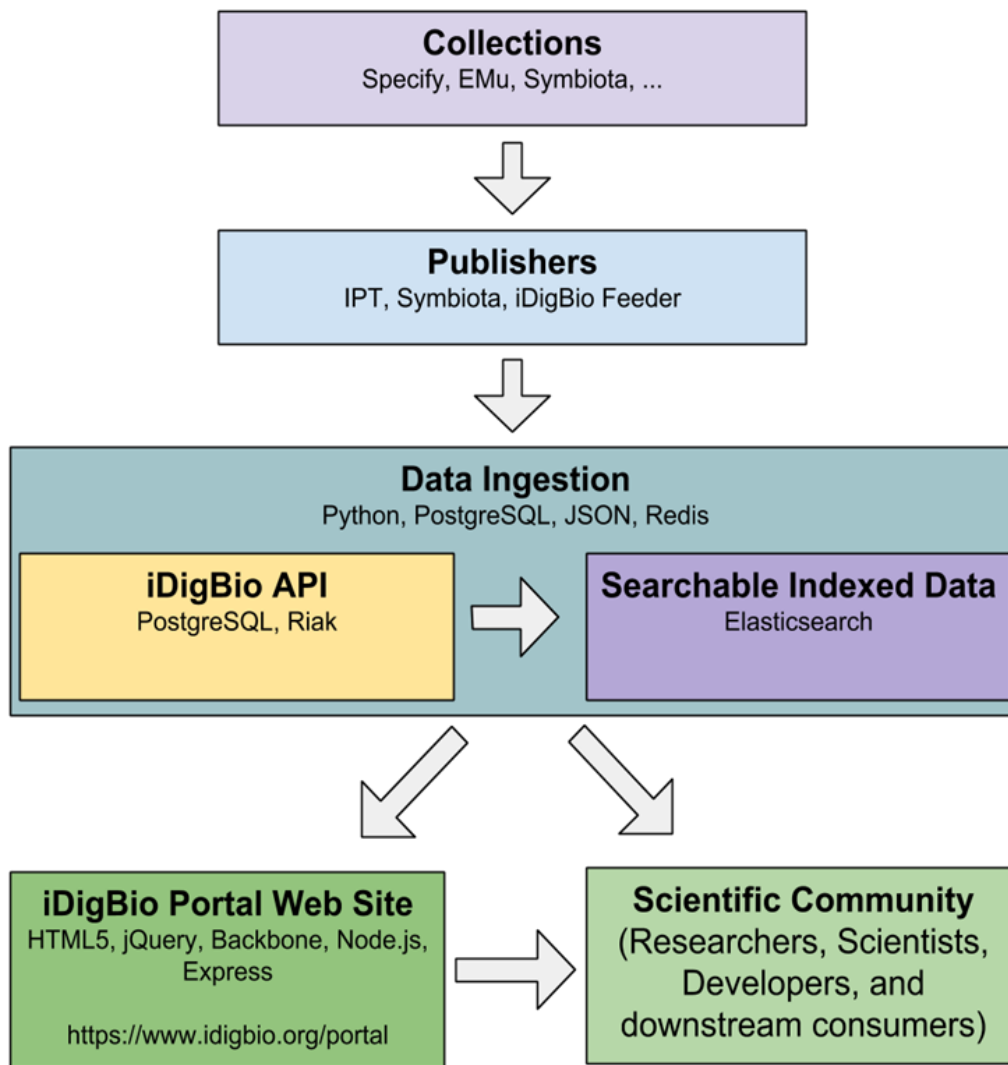
- recordId
- occurrenceID of specimen
- URL
- Camera EXIF
- photographer

## Metadata

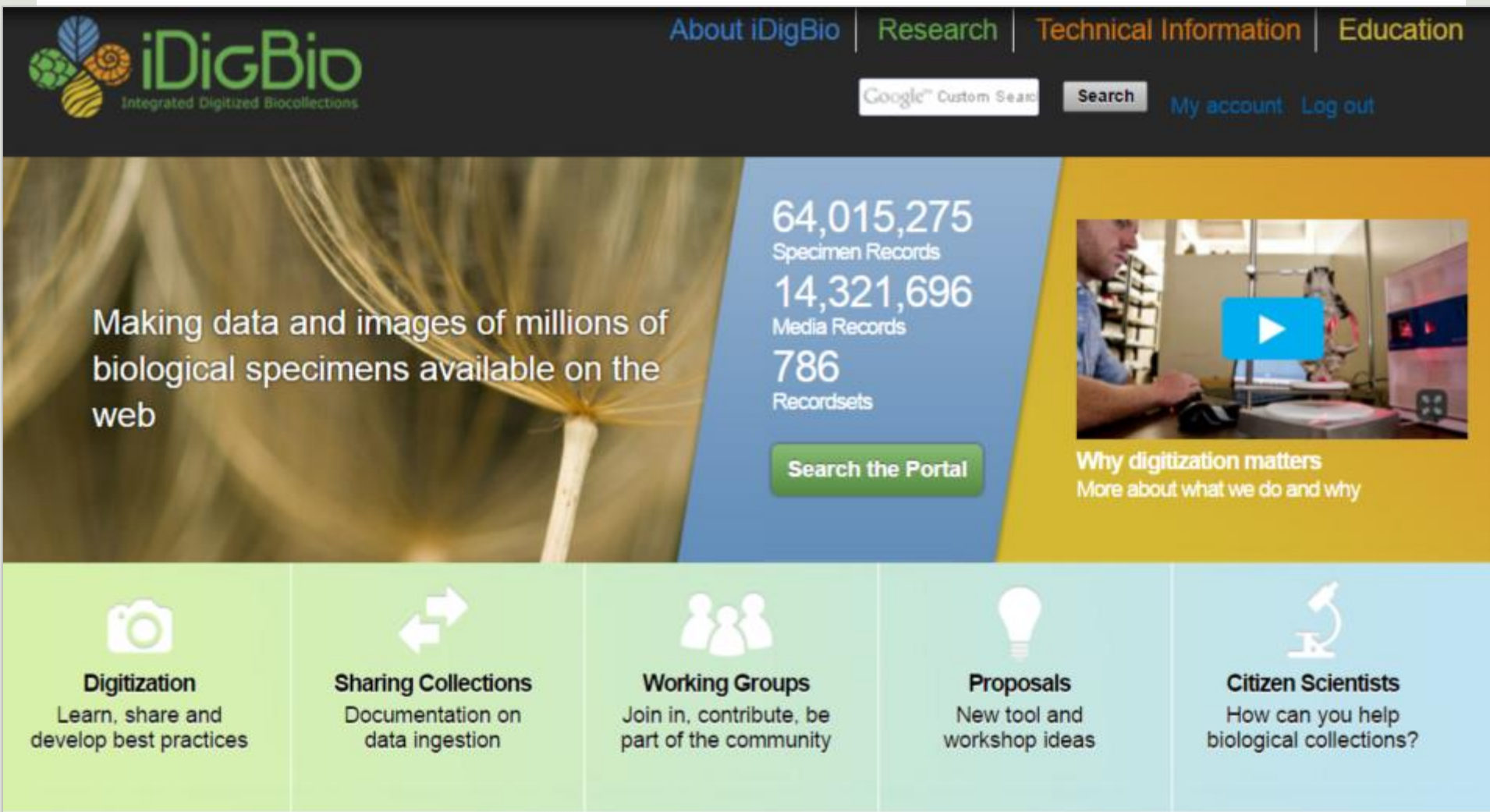
- Institution
- Collection
- Contact & info
- Description
- URL



## iDigBio Data Flow Diagram



# The face of iDigBio: idigbio.org



The screenshot shows the iDigBio website homepage. At the top left is the iDigBio logo. To the right are navigation links: "About iDigBio", "Research", "Technical Information", and "Education". Below these is a search bar with "Google™ Custom Search" and a "Search" button, along with "My account" and "Log out" links. The main content area features a large image of a dandelion seed head on the left with the text "Making data and images of millions of biological specimens available on the web". On the right, a blue box displays statistics: "64,015,275 Specimen Records", "14,321,696 Media Records", and "786 Recordsets", with a "Search the Portal" button below. Further right is a video player with a play button and the text "Why digitization matters More about what we do and why". At the bottom, five light-colored boxes with icons describe key features: Digitization (camera icon), Sharing Collections (arrows icon), Working Groups (people icon), Proposals (lightbulb icon), and Citizen Scientists (microscope icon).

**iDigBio**  
Integrated Digitized Biocollections

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

Google™ Custom Search   [My account](#) [Log out](#)

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

64,015,275  
Specimen Records

14,321,696  
Media Records

786  
Recordsets

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?

# The data within iDigBio: idigbio.org/portal

## Welcome to the iDigBio Portal

If you are familiar with our portal's interface, you can start searching [Specimen Records](#). If this is your first time here, you might consider browsing our [tutorial](#). Our data are based on the [Darwin Core](#) and [Audubon Core](#) standards.

Search 786 Recordsets

Scientific Name

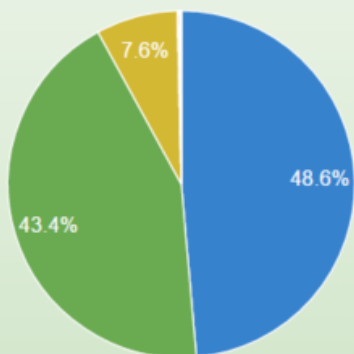
Jump To

[Advanced Search](#) [Publishers List](#) [Tutorial](#)

[iDigBio API](#)

### Specimen Records

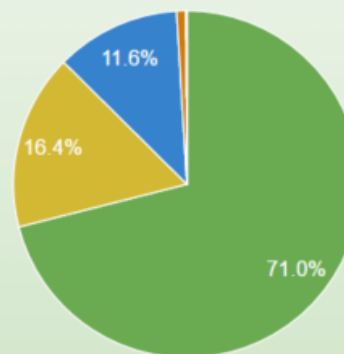
64,015,275



■ Animalia 
 ■ Plantae 
 ■ Fungi 
 ■ Chromista 
 ■ Protozoa 
 ■ other 
 ■ Bacteria 
 ■ Protista

### Media Records

14,321,696




■ Plantae 
 ■ Fungi 
 ■ Animalia 
 ■ Chromista 
 ■ other 
 ■ Protozoa 
 ■ Bacteria

Click a pie wedge to jump to an advanced search for records with the given kingdom. Click a legend name to remove/add a pie wedge.

# iDigBio portal interface

## <https://www.idigbio.org/portal/search>



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

[Log Out](#)

iDigBio Home | Portal Home | **Search Records** | Tutorial | Data | Research Tools | Feedback
▼ grungle

### Search Records

[Help](#) [Reset](#)

Must have media   
  Must have map point

[Filters](#) | [Mapping](#) | [Sorting](#) | [Download](#)

[Clear](#)

**Institution Code**

Present   
  Missing

**Scientific Name**

Present   
  Missing

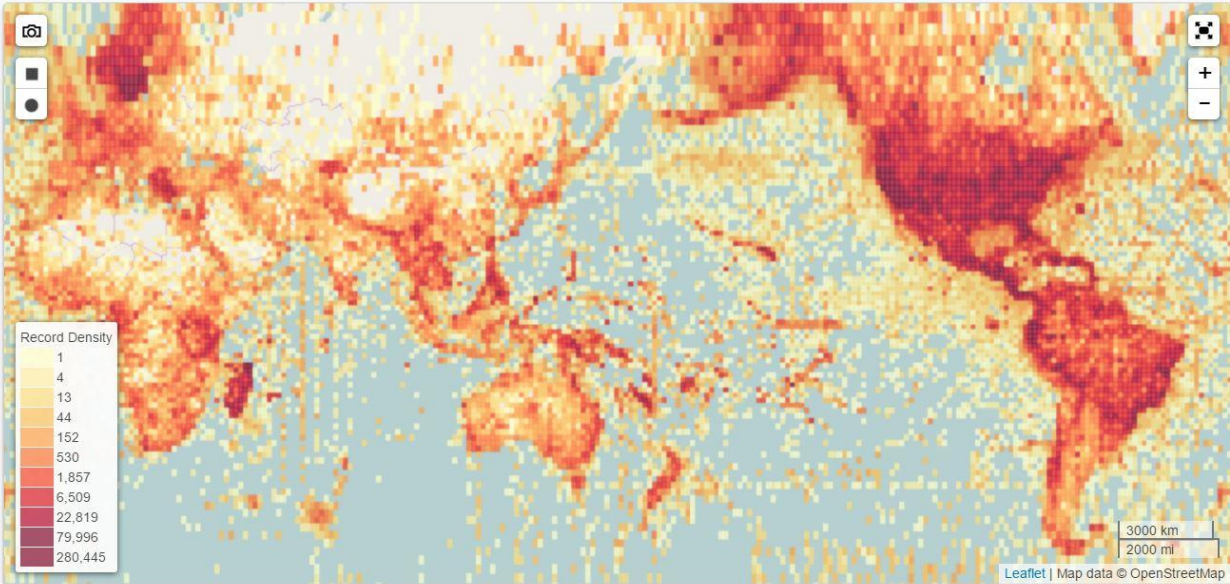
[Add EOL Synonyms](#)

**Date Collected**

Start:  End:

Present   
  Missing

↓ Scroll To Bottom ↓



Total: 56,411,551

[List](#)
[Labels](#)
[Media](#)
[Recordsets](#)

Family	Scientific Name	Date Collected	Country	Institution Code	Basis of Record	Locality	Collection Code	Columns
Hamamelidaceae	"Acer" (Liquidambar) les...	<i>no data</i>	United States	UCMP	FossilSpecimen	Little Mountain-Wilkins P...	P	<a href="#">view</a>
Hamamelidaceae	"Acer" (Liquidambar) les...	<i>no data</i>	United States	UCMP	FossilSpecimen	Little Mountain-Wilkins P...	P	<a href="#">view</a>
<i>no data</i>	"Ambocoelia" sp.	<i>no data</i>	United States	MCZ	FossilSpecimen	Old "tire vard" loc. Near ...	IP	<a href="#">view</a>

# iDigBio portal interface

<https://www.idigbio.org/portal/search>

## Search Records

[Help](#) [Reset](#)

 Must have media  Must have map point

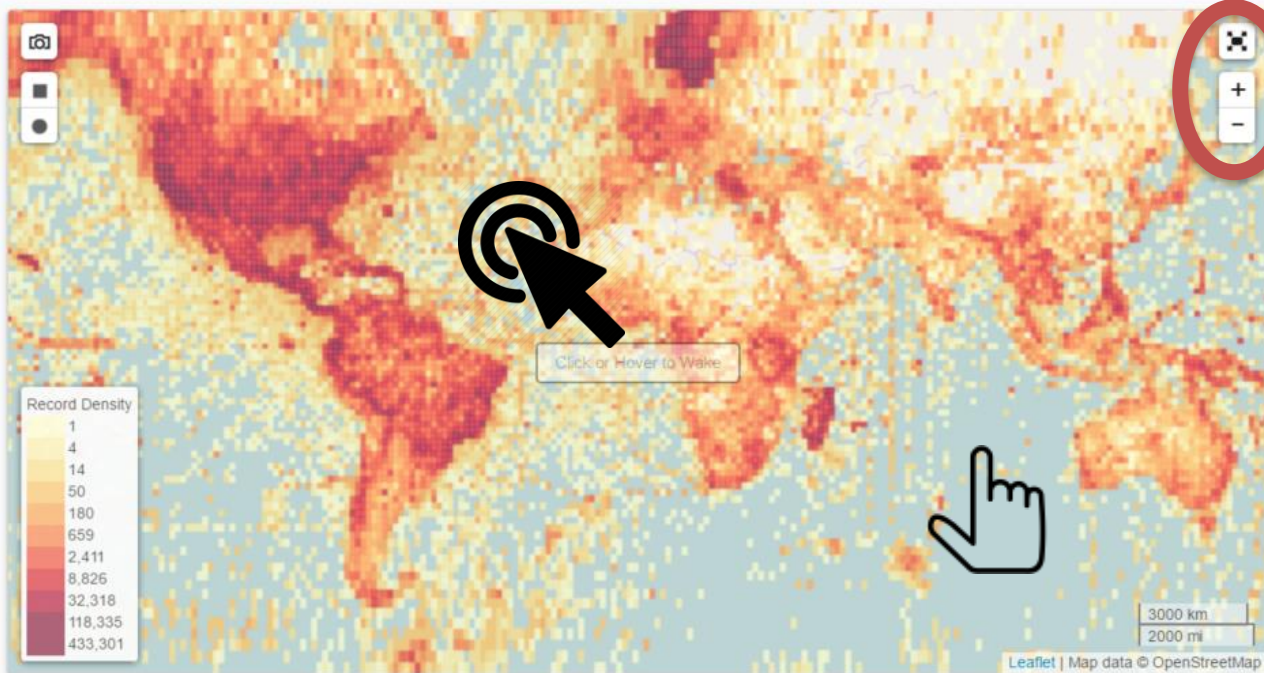
[Filters](#) [Mapping](#) [Sorting](#) [Download](#)

[Clear](#)
**Add a field**

- Taxonomy**
- Kingdom
- Phylum
- Class
- Order
- Family
- Scientific Name
- Genus
- Specific Epithet
- Infraspecific Epithet
- Higher Taxon
- Common Name
- Specimen**
- Institution Code
- Catalog Number
- Barcode Value
- Type Status
- Collection Code
- Occurrence ID





Total: 64,015,275

Family	Scientific name	Institution Code	Collection Code	Date Collected	Collected By	Country	Locality	Occurrence ID	Columns
Hamamelidaceae	"Acer" (Liquidambar...	UCMP	P	no data	MacGinitie, H.D.	United States	Little Mountain-Wilk...	urn:catalog:UCMP:P...	<a href="#">view</a>
Hamamelidaceae	"Acer" (Liquidambar...	UCMP	P	no data	MacGinitie, H.D.	United States	Little Mountain-Wilk...	urn:catalog:UCMP:P...	<a href="#">view</a>
Alveolitidae	"Alveolites" foughti (...)	NRM	PZ	no data	no data	Sweden	Gotland (Site 1)	NRM:PZ:356822	<a href="#">view</a>
Vitaceae	"Ampelopsis" acerifo...	YPM	PB	1988	Kirk R. Johnson	USA	450mS 1505mE NW...	urn:uuid:5afcf189-5...	<a href="#">view</a>

### 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](#)

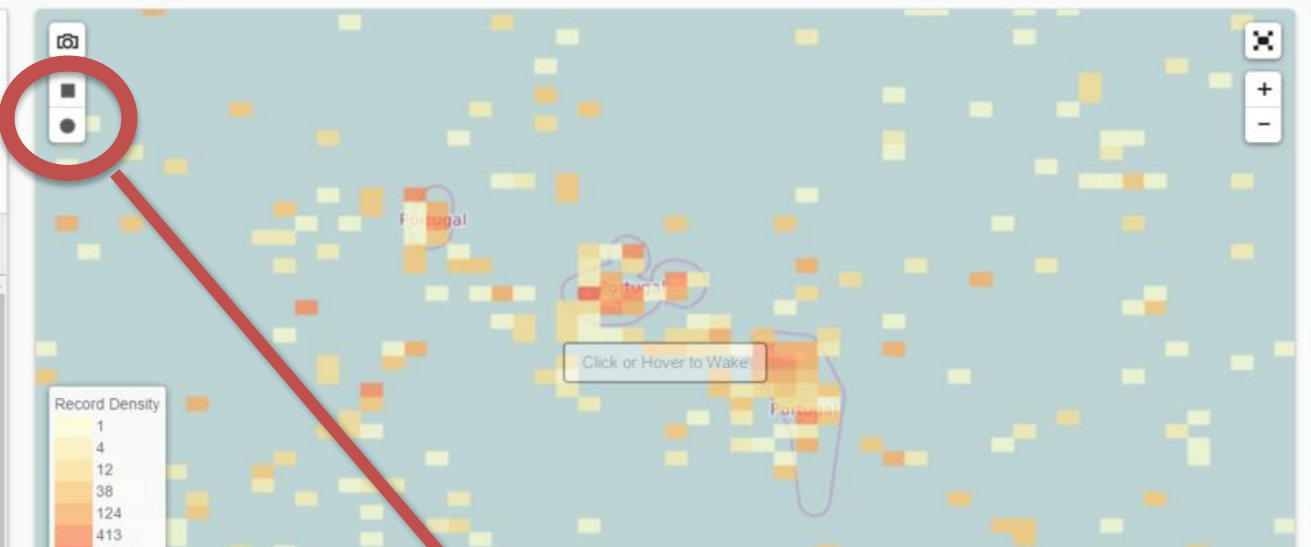
Present  Missing

Date Collected: Start:  End:

Present  Missing

Country:

Present  Missing



List Labels Media Recordsets

Family	Scientific Name	Institution Code
Hamamelidaceae	"Acer" (Liquidambar...	UCMP
Hamamelidaceae	"Acer" (Liquidambar...	UCMP
Alveolitidae	"Alveolites" foughti (...)	NRM
Vitaceae	"Ampelopsis" acerifo...	YPM

Search Records

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

List Labels Media Recordsets

Total: 64,015,275

Family	Scientific Name	Institution Code	Collection Code	Date Collected	Collected By	Country	Locality	Occurrence ID
Hamamelidaceae	"Acer" (Liquidambar...	UCMP	P	no data	MacGinitie, H.D.	United States	Little Mountain-Wilk...	um:catalog:UCMP:P...
Hamamelidaceae	"Acer" (Liquidambar...	UCMP	P	no data	MacGinitie, H.D.	United States	Little Mountain-Wilk...	um:catalog:UCMP:P...
Alveolitidae	"Alveolites" foughti (...)	NRM	PZ	no data	no data	Sweden	Gotland (Site 1)	NRM:PZ:356822
Vitaceae	"Ampelopsis" acerifo...	YPM	PR	1988	Kirk, R. Johnson	USA	450mS.1605mE NW	um:uid:5afc1f69-5



Search Records [Help](#) [Reset](#)

search all fields

Must have media  Must have map point

**Filters** | Mapping | Sorting | Download

Lat/Lon Bounds [Clear](#)

Rectangle  Circle

NorthWest Lat: 40.5305017757 Lon: -32.475585937!

SouthEast Lat: 35.3711350228 Lon: -23.334960937!

109 Records [Set Map Bounds](#)

1-100 [View Record](#)

1

Genus: Passer  
Specific Epithet: domesticus  
Scientific Name: Passer domesticus domesticus  
Country: Azores Archipelago, Portugal  
State/Province: Autonomous Region of the Azores  
Latitude: 37.8323614  
Longitude: -25.147705  
Institution Code: ROM  
Collection Code: Birds

Click or Hover to View

Top 10 Taxa

- Fringilla coelebs moreletti
- Passer domesticus domesticus
- Fringilla coelebs moreletti pucheran, 1859
- Regulus regulus inermis murphy & chapin, 1929
- Turdus merula azorensis hartert, 1905
- Sylvia atricapilla gularis alexander, 1898
- Erithacus rubecula rubecula (linnaeus, 1758)
- Protolira valvatooides
- Macroramphosus gracilis (lowe, 1839)
- Lasius grandis
- other

100 km  
100 mi

Leaflet | Map data © OpenStreetMap contributors

List | Labels | Media | Recordsets

Family	Scientific Name	Institution Code	Collection Code	Date Collected	Collected By	Country	Locality	Occurrence ID	Columns
Pomacentridae	Abudedefduf luridus	MCZ	Ich	1859-12-01/1859-12-...	Miss. Olivia Dabney	Azores	FAYAL [=Faial]. Rec...	MCZ:Ich:38668	<a href="#">view</a>
Pomacentridae	Abudedefduf luridus	MCZ	Ich	no data	T. W. Higginson, Mis...	Azores	Fayal = [Faial]. Rec...	MCZ:Ich:14702	<a href="#">view</a>
Oplophoridae	Acanthephyra purpur...	MCZ	IZ	1931-08-01/1931-08-...	F. Atlantis	no data	NW of the Azores	MCZ:IZ:CRU-10531	<a href="#">view</a>
Cardiidae	Acanthocardia abier...	NRM	EV/main	1869-08-02/1869-08-...	E. A. Spitt & Liugom	no data	Sound between Faial	NRM:EV/main:86367	<a href="#">view</a>

Total: 4,830

Top 10 taxa

Can view point information

Number records with geopoint  
(5,680 using filters)

### Search Records

search all fields

Must have media  Must have map point

**Filters** | Mapping | Sorting | Download

Lat/Lon Bounds

Rectangle  Circle

NorthWest Lat: 40.5305017757 Lon: -32.475585937

SouthEast Lat: 35.3711350228 Lon: -23.834960937

109 Records [Set Map Bounds](#)

1-100 [View Record](#)

1  
**Genus:** Passer  
**Specific Epithet:** domesticus  
**Scientific Name:** Passer domesticus domesticus  
**Country:** Azores Archipelago, Portugal  
**State/Province:** Autonomous Region of the Azores  
**Latitude:** 37.8323614  
**Longitude:** -25.147705  
**Institution Code:** ROM  
**Collection Code:** Birds

**Top 10 Taxa**

- Fringilla coelebs moreletti
- Passer domesticus domesticus
- Fringilla coelebs moreletti pucheran, 1859
- Regulus regulus inermis murphy & chapin, 1929
- Turdus merula azorensis hartert, 1905
- Sylvia atricapilla gularis alexander, 1898
- Erithacus rubecula rubecula (linnaeus, 1758)
- Protolira valvatoides
- Macroramphosus gracilis (lowe, 1839)
- Lasius grandis
- other

List | Labels | Media | Recordsets

Total: 4,830

Family	Scientific Name	Institution Code	Collection Code	Date Collected	Collected By	Country	Locality	Occurrence ID	Columns
Pomacentridae	Abudedefduf luridus	MCZ	Ich	1859-12-01/1859-12-...	Miss. Olivia Dabney	Azores	FAYAL [=Faial]. Rec...	MCZ:Ich:38668	<a href="#">view</a>
Pomacentridae	Abudedefduf luridus	MCZ	Ich	no data	T. W. Higginson, Mis...	Azores	Fayal = [Faial]. Rec...	MCZ:Ich:14702	<a href="#">view</a>
Oplophoridae	Acanthephyra purpu...	MCZ	IZ	1931-08-01/1931-08...	RV Atlantis	no data	NW of the Azores	MCZ:IZ:CRU-10531	<a href="#">view</a>
Cardiidae	Acanthocardia tuber...	NRM	EV/main	1869-08-02/1869-08...	E. A. Smith & Liugom	no data	Sound between Fai...	NRM:EV/main:86367	<a href="#">view</a>

Filters | Mapping | **Sorting** | Download

Add a sort +

Sort by Genus Ascendi -

Then by Specific Epithet Ascendi -

Then by Date Collected Ascendi -

### Search Records

[Help](#) [Reset](#)

✘ Must have media  Must have map point

**Scientific Name**

Present  Missing

**Date Collected** Start:  End:

Present  Missing

**Country**

Present  Missing



[List](#) | [Labels](#) | [Media](#) | [Recordsets](#)

Total: 101



[Volvarina oceanica gofas, 1989 Gofas, 1989](#)

ILES DES ACORES, Banc Joao do Castro  
 Lat: 38°13' 0" Lon: -26°36' 0"  
 MNHN, IM, 2000-608, Boury-Esnault

1971-10-07

### Search Records

[Help](#) [Reset](#)

search all fields

Must have media   
  Must have map point

[Filters](#) | [Mapping](#) | [Sorting](#) | **[Download](#)**

**Current Search**

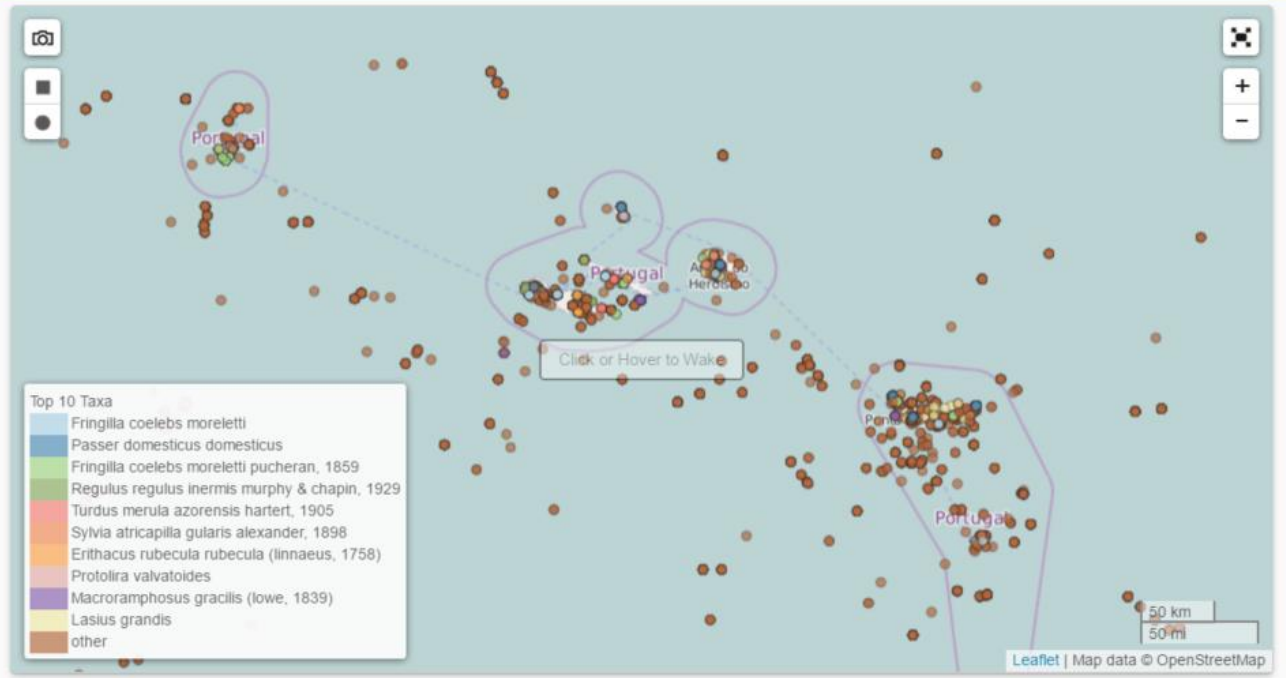
Bounds are NW lat = 40.49709237269567, lon = -32.5

Download CSV - Build time: 0 hrs 0 mins 10 secs

Email

**Downloads**

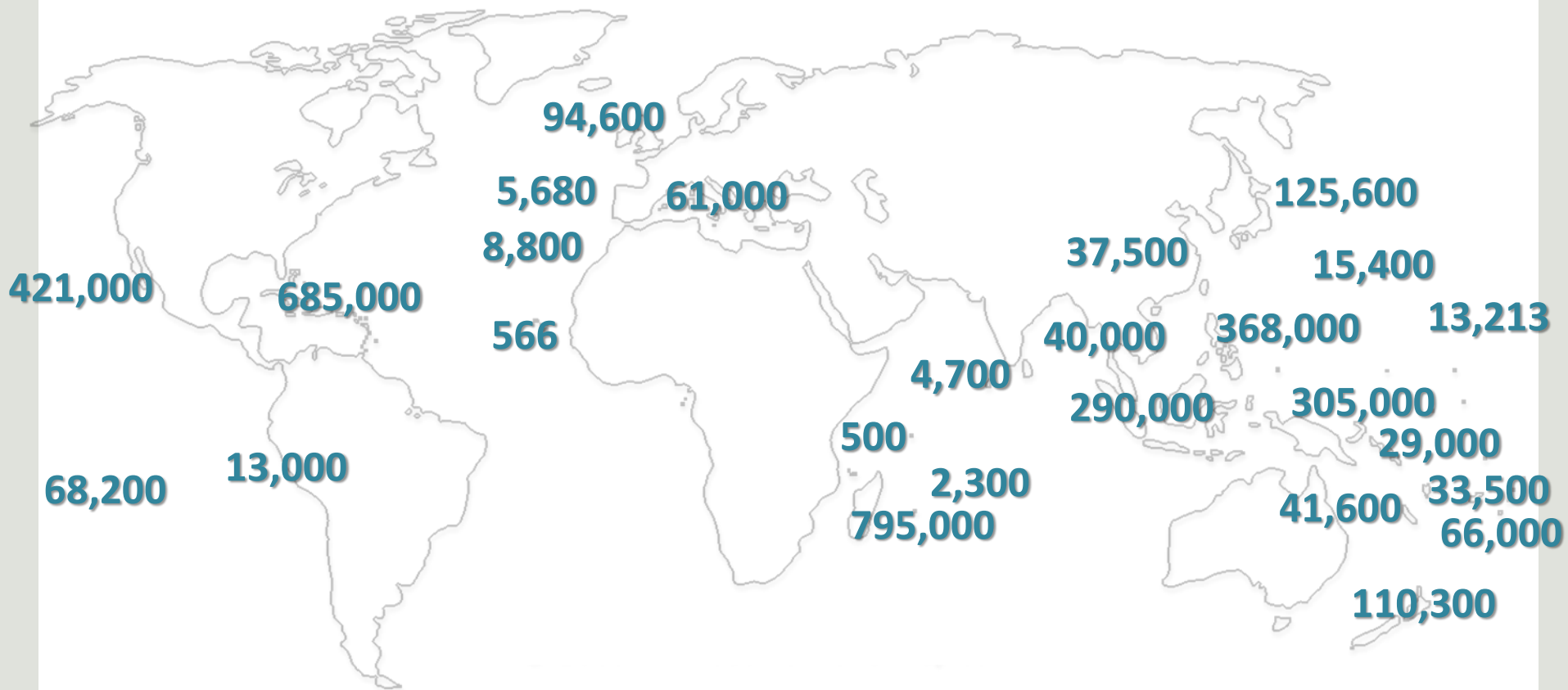
Search	Status



Family	Scientific Name	Institution Code	Collection Code	Date Collected	Collected By	Country	Locality	Occurrence ID	Columns
Pomacentridae	Abudefduf luridus	MCZ	Ich	1859-12-01/1859-12-...	Miss. Olivia Dabney	Azores	FAYAL [=Faial]. Rec...	MCZ:Ich:38668	<a href="#">view</a>
Pomacentridae	Abudefduf luridus	MCZ	Ich	no data	T. W. Higginson, Mis...	Azores	Fayal = [Faial]. Recl...	MCZ:Ich:14702	<a href="#">view</a>
Oplophoridae	Acanthephyra purpu...	MCZ	IZ		antis	no data	NW of the Azores	MCZ:IZ:CRU-10531	<a href="#">view</a>
Cardiidae	Acanthocardia tuber...	NRM	EV/main		sitt & Liungm	no data	Sound between Fai	NRM:EV/main:86267	<a href="#">view</a>

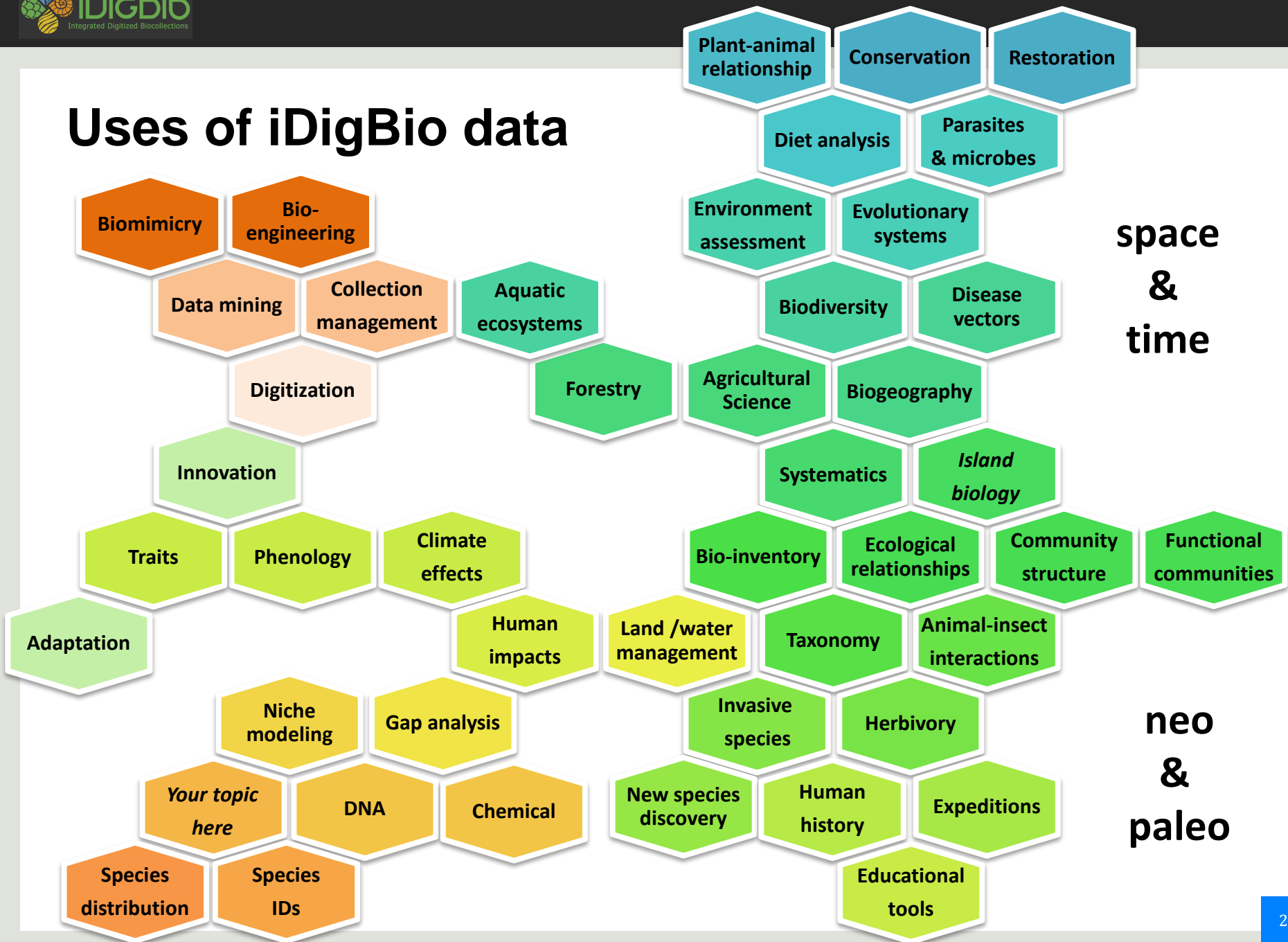
- mediarecords.citation
- meta
- multimedia
- multimedia\_raw
- occurrence
- occurrence\_raw
- records.citation

## >3.6 million voucher specimen records for islands and archipelagos

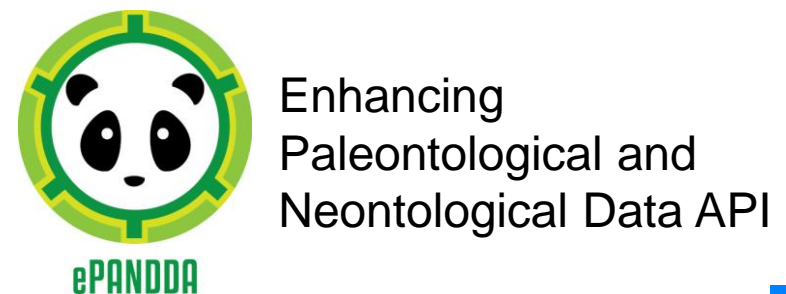
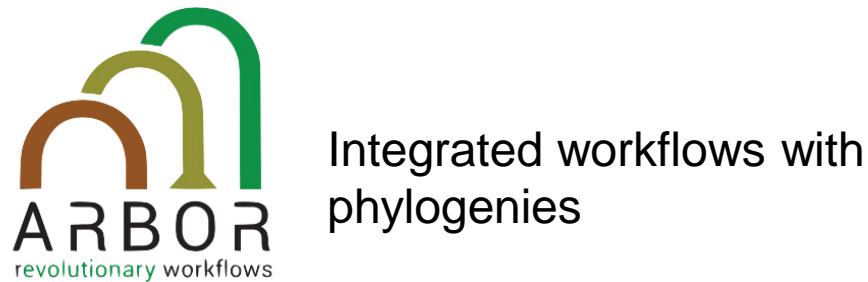
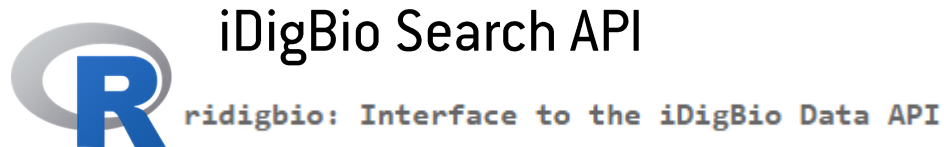


Imagine if more regional collection recordsets were included!

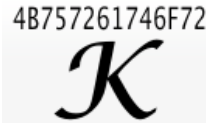
# Uses of iDigBio data



# Enabling research using specimen data



# iDigBio Collaborates!

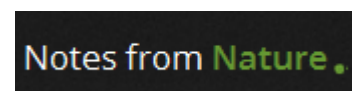


Smithsonian Institution



**BIODIVERSITY COLLECTIONS NETWORK**

**DISCOVER LIFE**





# Data services – what do you need?

- Tools for using data for research
- Linking to genetic resources or isotopic data
- Base maps – climate layers etc.
- Trait data as a surrogate for functionality
- Mining for habitat data
- Biological community structure
- Enhancing & enriching data (e.g. literature, field notes)
- Tools for measuring characteristics from images

**Let's collaborate!**



# Training & Outreach!

## Promoting research use, data improvement, future scientists, and humanity

- iDigBio has accommodated >2,600 participants from 500 unique institutions in >75 workshops, about 20 a year
- Island community needs?
  - Overcoming georeferencing challenges
  - Field to aggregator workshops
  - Digitization workflow

### Curriculum development, training

[www.idigbio.org](http://www.idigbio.org)



### Citizen Science

Research Spotlight  
Biodiversity Spotlight

Webinar [vimeo.com/idigbio](https://vimeo.com/idigbio)

Contribute to the community via  
[www.idigbio.org/Wiki](http://www.idigbio.org/Wiki)

[www.iDigBio.org](http://www.iDigBio.org)

**I Dig Bio**  
**do you?**



Advancing Digitization of Biological Collections

Shelley James, [sjames@flmnh.ufl.edu](mailto:sjames@flmnh.ufl.edu)

