

The background of the slide is a photograph of several white trays containing numerous small, dark insect specimens, likely beetles, arranged in rows. The trays are slightly out of focus, creating a sense of depth. A semi-transparent blue rectangle is overlaid on the lower half of the image, containing the title and speaker information.

# MUTUALLY BENEFICIAL SYMBIOSIS OF DATA

Jennifer C. Thomas, Assistant Collection Manager,  
KU Natural History Museum

Derek A. Woller, Ph.D. Candidate, Song Lab, UCF

Crystal A. Maier, Ph.D. Candidate, KU

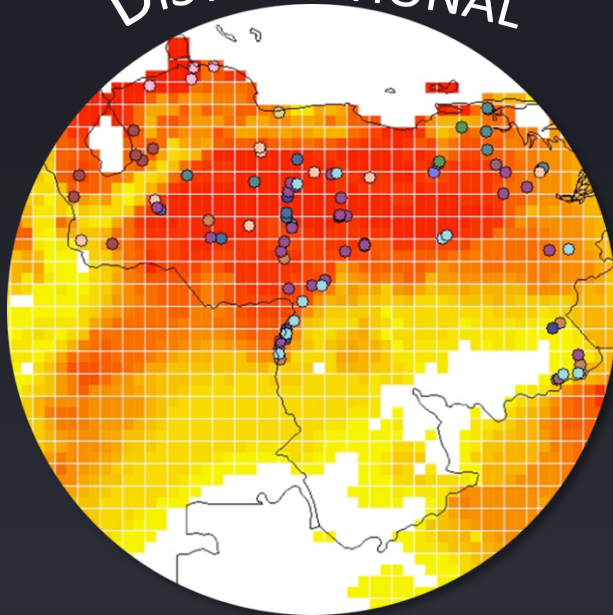
ARIZONA: Gila County  
East Verde R. at  
Hwy. 87 N of Payson  
29-VII-1983, C.B. Barr

LSAM 0183816 LSAM

*Lutrochus arizonensis*  
det. C. A. Maier 2013



DISTRIBUTIONAL

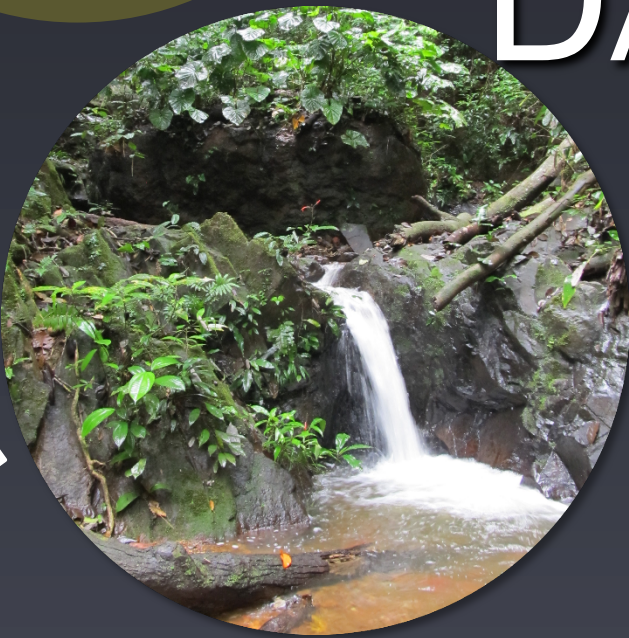


MORPHOLOGICAL

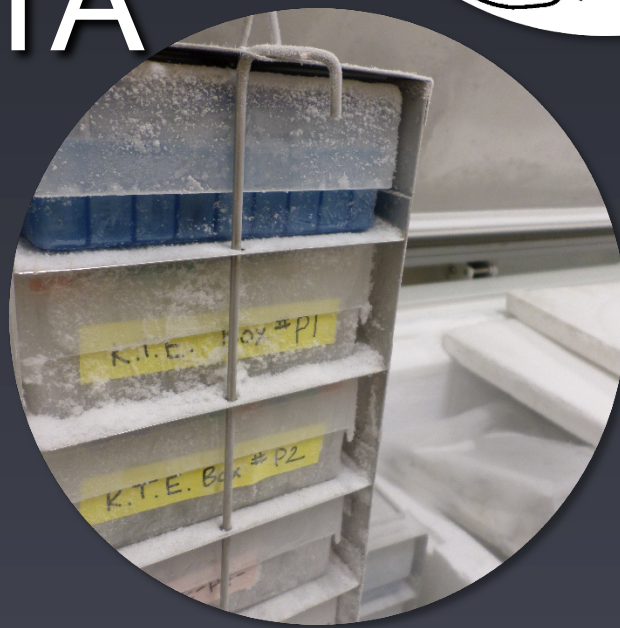


DATA

ECOLOGICAL



MOLECULAR

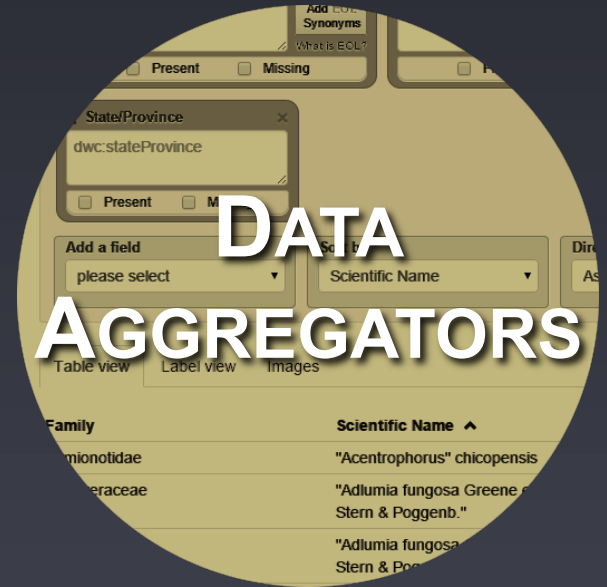




# COLLECTIONS



# SCIENTISTS



# DATA AGGREGATORS

# SYMBIOSIS



Photo: Ryan Somma  
Wikipedia



**COLLECTIONS**



**SCIENTISTS**

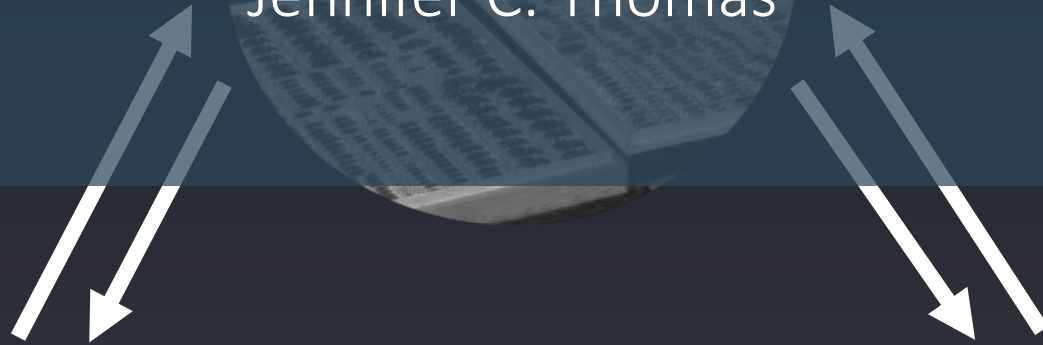


**DATA AGGREGATORS**

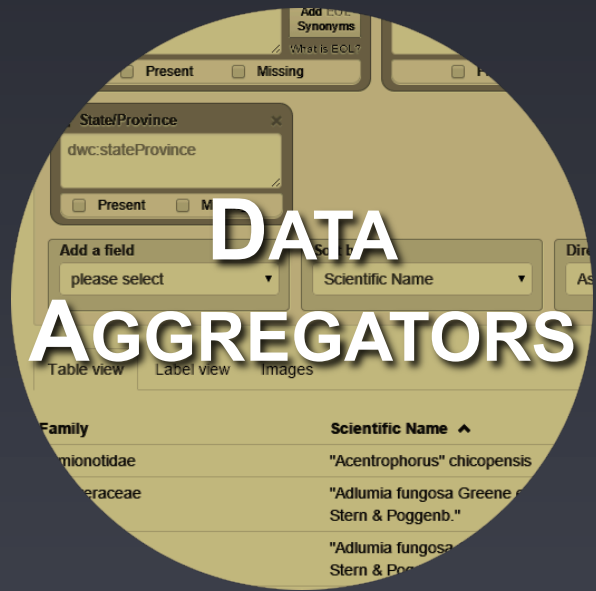
Family	Scientific Name
mionotidae	"Acentrophorus" chicopensis
eraceae	"Adlumia fungosa Greene Stern & Poggenb."
	"Adlumia fungosa Stern & Poggenb."

# Data Aggregators

Jennifer C. Thomas



SCIENTISTS



DATA AGGREGATORS

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# Data Aggregators



GLOBAL  
BIODIVERSITY  
INFORMATION  
FACILITY



ARCTOS



iDigBio  
Integrated Digitized Biocollections



*Plant Bug*  
*Planetary Biodiversity Inventory*



GBIF Portal Feedback

Login or Create a new account

Please provide your feedback below:

Summary\*

Description

Attach file  No files selected.

So Collection Managers are overwhelmed with feedback requests, right?

**NO. Actually not...**

**iDigBio**  
Integrated Digitized Biocollections

Google™ Custom Search Search Log In | Sign Up

About iDigBio Collaborators Upcoming Events News **Contact** Site Map

## Contact

**Your name \***

**Your e-mail address \***

**Subject \***

**Category \***  
Contact iDigBio

**Message \***

Taxonomy

Type Status  
Catalog Number  
Preparations  
Life Stage  
Sex  
Institution Code  
Collection Code  
Occurrence  
Dataset Name  
Basis of Record

FEEDBACK

iDigBio has feedback capability too.

# Snow Entomological Museum Collection

Occurrence dataset published by University of Kansas Biodiversity Institute

1,053,683

Occurrences

[View occurrences](#)

Information

Stats

Activity

## 3,037 download events

FILTER      COUNTRY [Tanzania, United Republic of](#)  
              TAXON    [Animalia](#)

STATUS      Ready for [download](#) (55.0 MB 271,817 records - 375 datasets)

CREATED     Nov 4, 2014

RECORDS    [685 records](#) from this dataset included at time of download

FILTER      TAXON [Bombus griseocollis \(DeGeer, 1773\)](#)

STATUS      Ready for [download](#) (760.2 kB 5,969 records - 14 datasets)

CREATED     Nov 4, 2014

RECORDS    [343 records](#) from this dataset included at time of download

Feedback

**Georeferencing**

**Repair  
Errors**

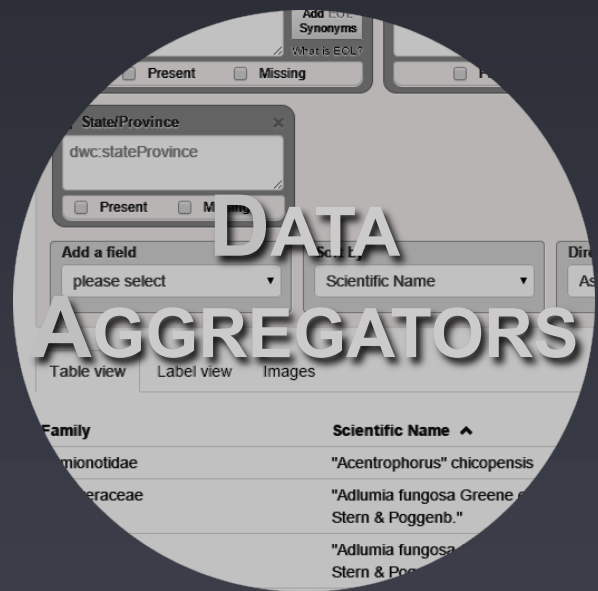
If you download and use specimen data, ***PLEASE*** send some feedback!

**Updated  
classification  
n**

**Updated  
Identifications**

# Scientists

Derek A. Woller



# Orthoptera: Acrididae: Melanoplinae

The Puer Group (sensu lato) (PG (s.l.): composed of 24 species (6 sensu stricto groups) of flightless *Melanoplus* spp. of the southeastern U.S.

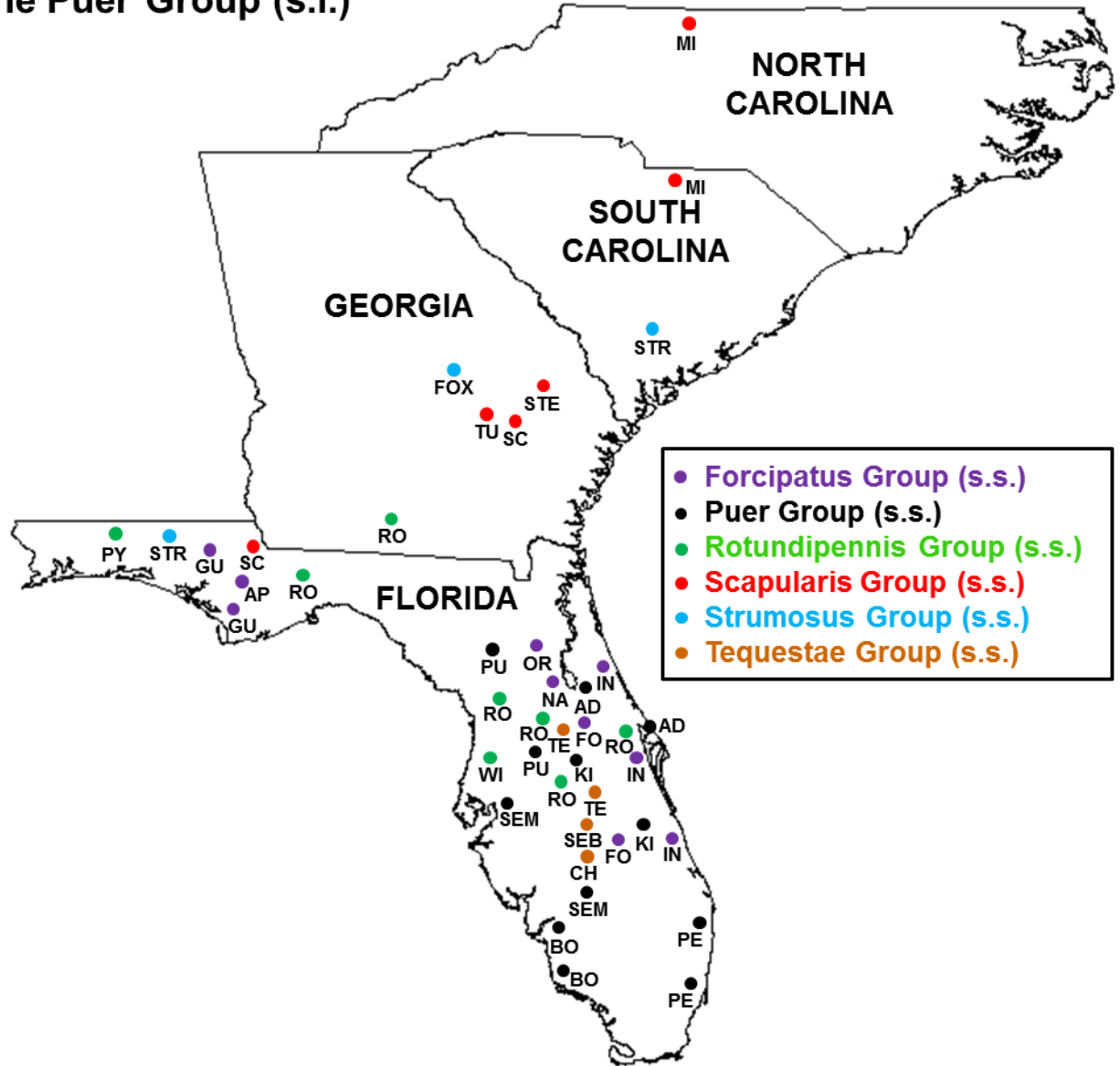
Overall	Within	Group	Species	Map Code	Distribution	Range
1	1	Forcipatus	apalachicola	AP	FL	narrow
2	2	Forcipatus	forcipatus	FO	FL	narrow
3	3	Forcipatus	gurneyi	GU	FL	narrow
4	4	Forcipatus	indicifer	IN	FL	narrow
5	5	Forcipatus	nanciae	NA	FL	narrow
6	6	Forcipatus	ordwayae	OR	FL	narrow
7	1	Puer	adelogyrus	AD	FL	narrow
8	2	Puer	bonita	BO	FL	narrow
9	3	Puer	kissimmee	KI	FL	narrow
10	4	Puer	peninsularis	PE	FL	narrow
11	5	Puer	puer	PU	FL	widespread
12	6	Puer	seminole	SE	FL	narrow
13	1	Rotundipennis	pygmaeus	PY	FL	narrow
14	2	Rotundipennis	rotundipennis	RO	FL, GA	widespread
15	3	Rotundipennis	withlacocheensis	WI	FL	narrow
16	1	Scapularis	mirus	MI	NC	narrow
17	2	Scapularis	scapularis	SC	FL, GA	widespread
18	3	Scapularis	stegocercus	ST	GA	narrow
19	4	Scapularis	tumidicercus	TU	GA	narrow
20	1	Strumosus	foxi	FOX	GA	narrow
21	2	Strumosus	strumosus	STR	FL, SC	widespread
22	1	Tequestae	childsi	CH	FL	narrow
23	2	Tequestae	sebringi	SEB	FL	narrow
24	3	Tequestae	tequestae	TE	FL	narrow



- united by similar morphology
- 83.3% inhabit narrow ranges
- Speciated due to a combination of vicariance, sexual selection by cryptic female choice, & ecological preferences

# Maps

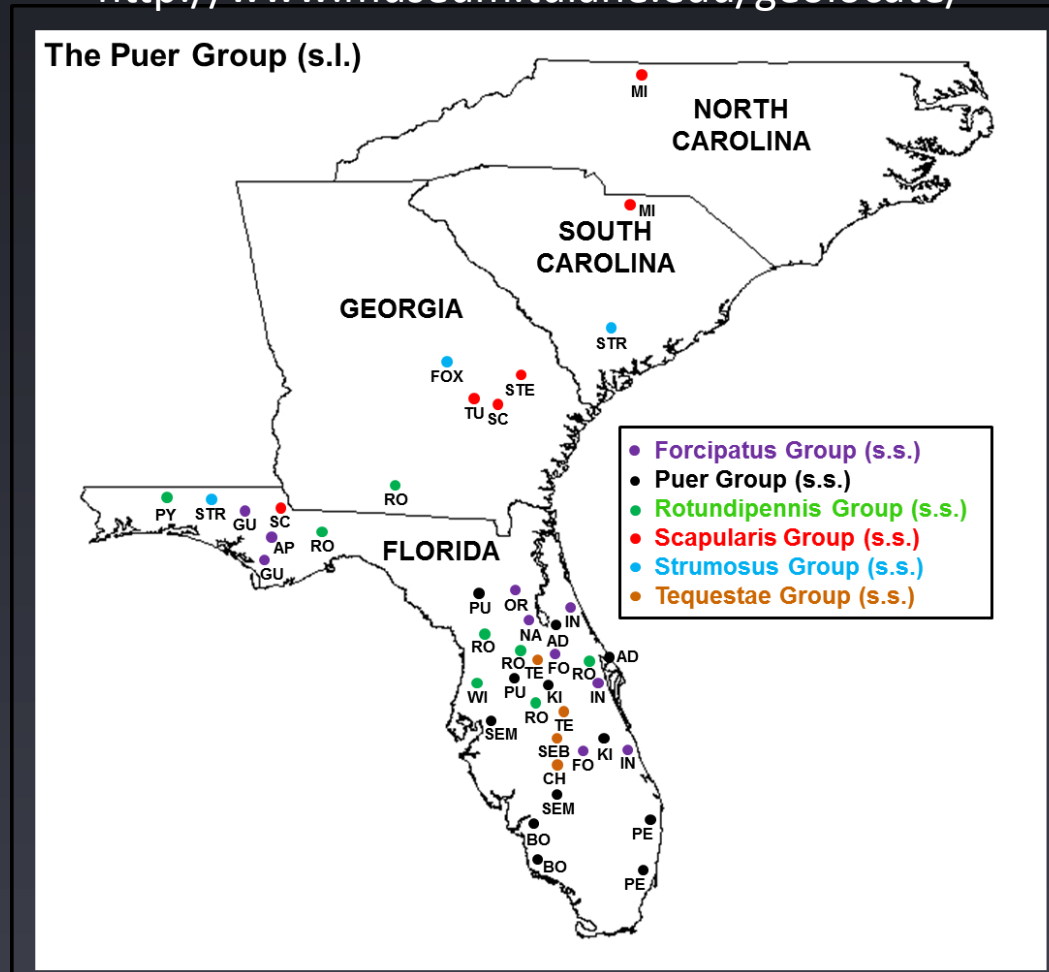
## The Puer Group (s.l.)



2014 Consensus distribution map based on >4,000 georeferenced museum/recently-collected specimens (from 9 U.S. collections)

# GEOLocate

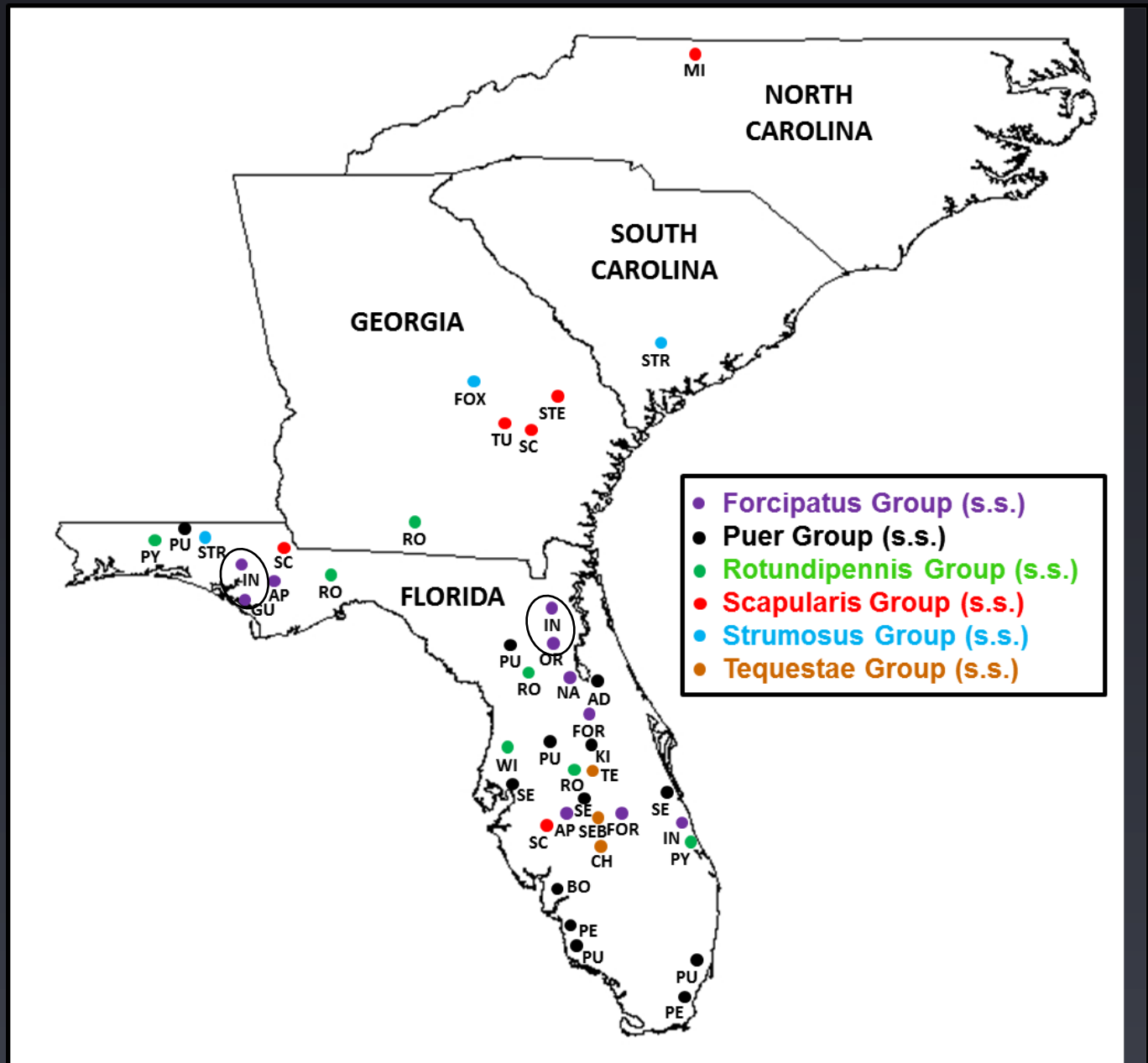
<http://www.museum.tulane.edu/geolocate/>



2014 Consensus distribution map based on >4,000 georeferenced museum/recently-collected specimens (from 9 U.S. collections – database composed of borrowed specimens and existing virtual records)

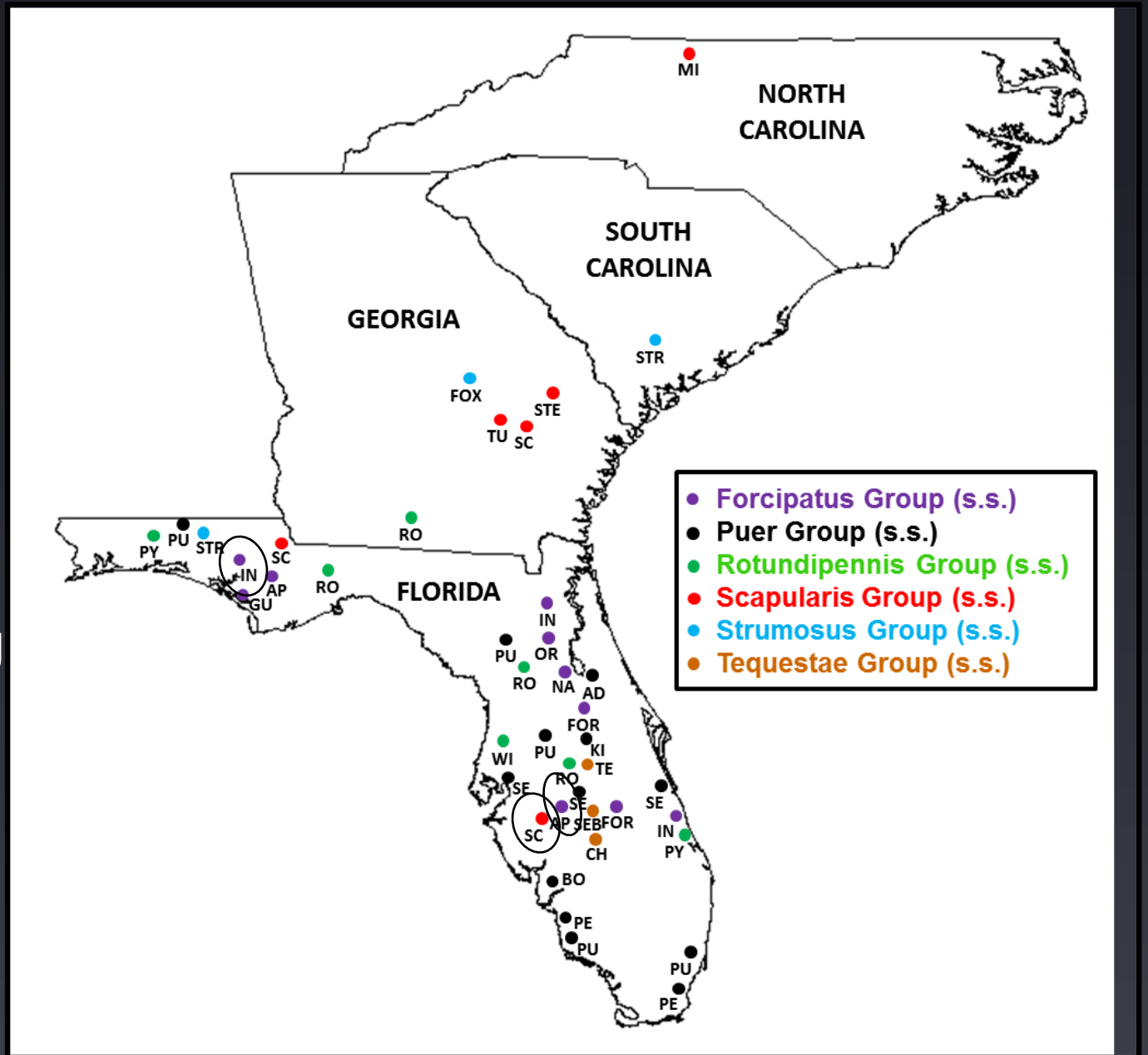


# Georeferencing can assist in species identifications



2014 Consensus distribution map based on >4,000 georeferenced museum/recently-collected specimens (from 9 U.S. collections – database composed of borrowed specimens and existing virtual records)

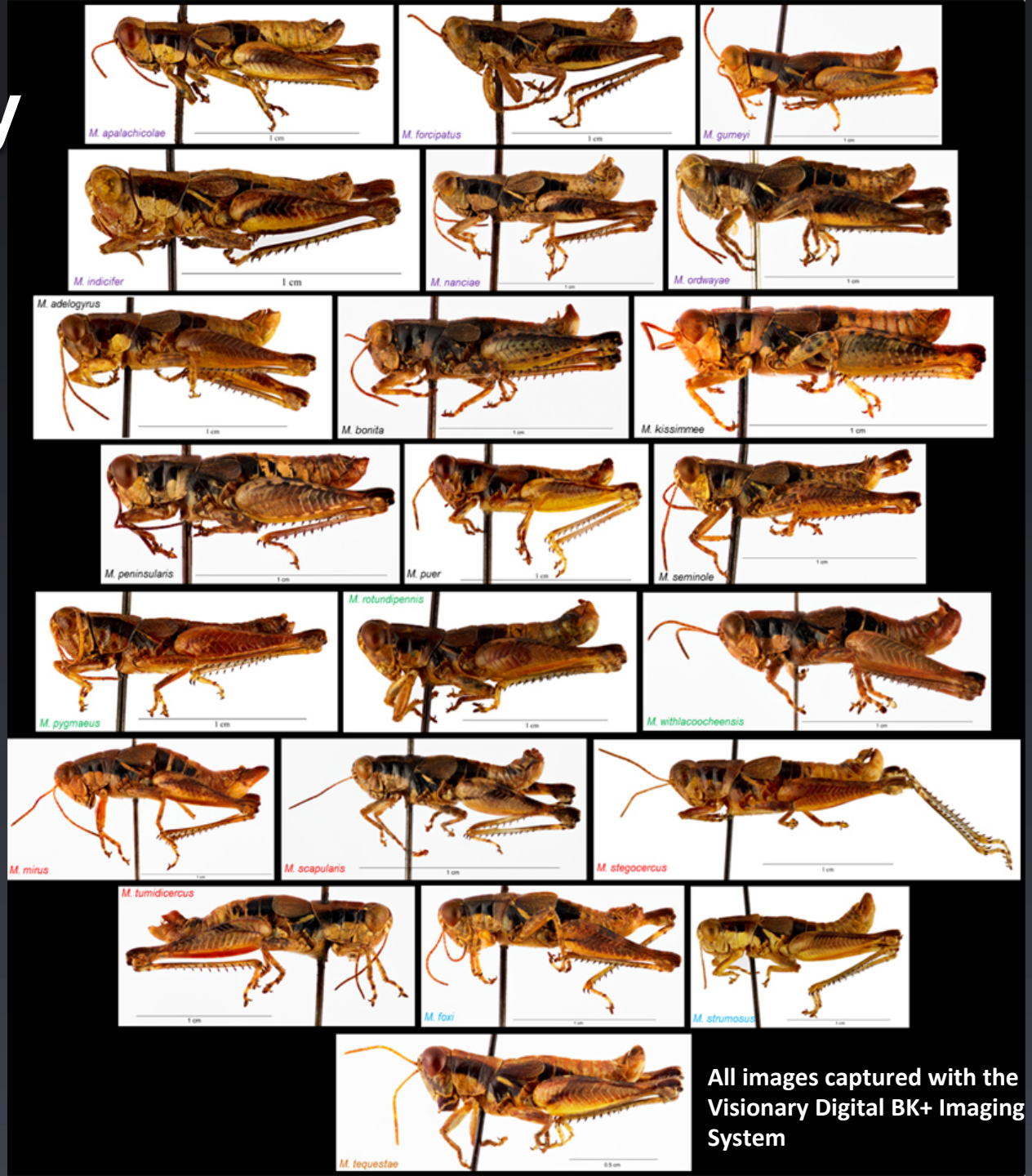
Georeferencing is not perfect and knowing your system is important!



2013 Consensus distribution map based on >4,000 georeferenced museum/recently-collected specimens (from 9 U.S. collections – database composed of borrowed specimens and existing virtual records)

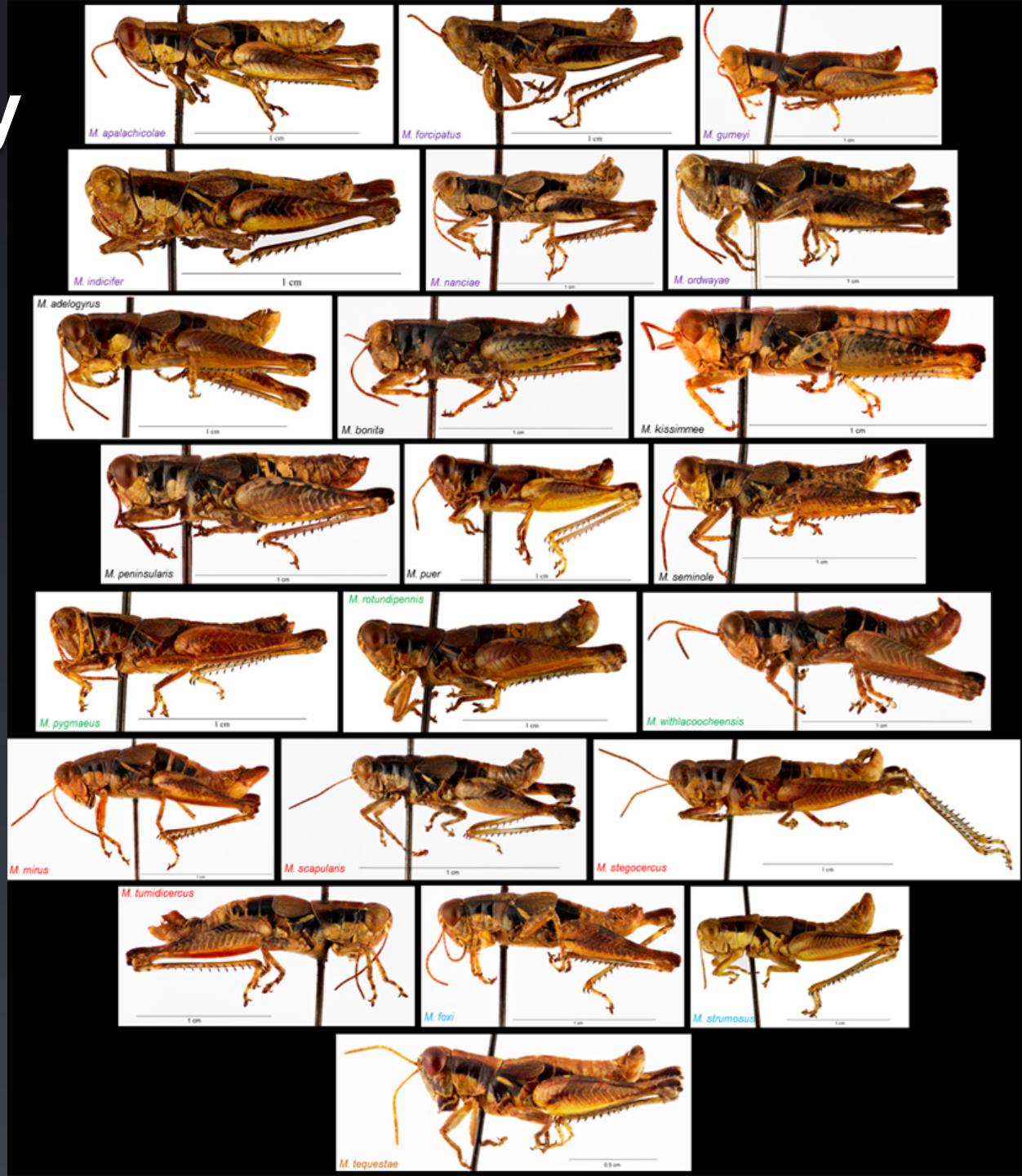
# Photography

Virtual specimen  
representatives  
for museum and  
on-line databases  
(eg. Orthoptera  
Species File)



All images captured with the  
Visionary Digital BK+ Imaging  
System

# Photography



Also useful for continued research once specimens are returned

# Acknowledgements

Obviously, if data from a collection is used, virtual or gathered by the researcher, then the source(s) should be acknowledged within a publication

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Not as obvious? Utilized data, but unpublished projects.

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Let the data-gatherers know somehow that their data is being used and for what.

Data collection appears to be on every collection's collective mind, but demonstrating their use and justifying continued financial support requires further data collection.



**COLLECTIONS**



**SCIENTISTS**

**Collections**

Crystal A. Maier



**DATA**

**AGGREGATORS**

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**Site 8 : TX13-0812-CM1**

Collecting Event Code: TX13-0812 - CM1 Date: 12 August 2013 Time: 12:00PM

State: Texas County: Brewster

Locality: Marathon / Post Park; ~ 5mi S. Marathon

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Elevation: \_\_\_\_\_

Site Description: Dammed wetland, with cattails; water flowing down dam from top swimming pool fed by same stream to the left. Quiet shaded park with widely spaced trees

Geology: Limestone Water body name: \_\_\_\_\_

Collectors: Crystal Maier

Habitat: under banks and in cattails

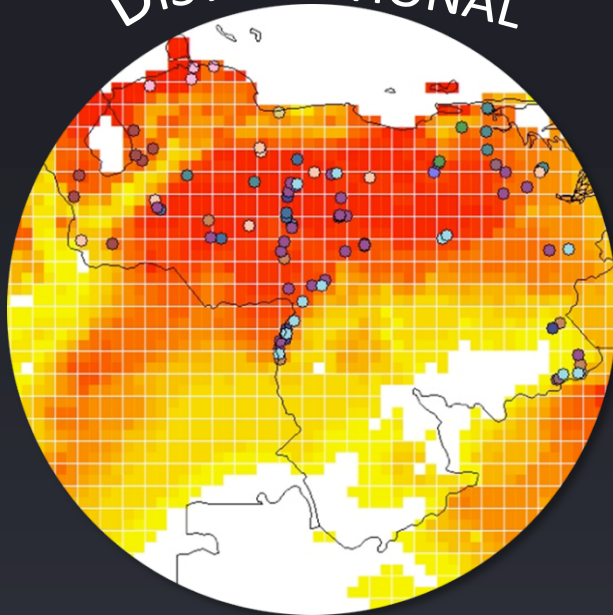
Water Temp: ~80°F Air Temp: ~80°F

Taxa Collected: Limnichoderus + Heterocer





DISTRIBUTIONAL

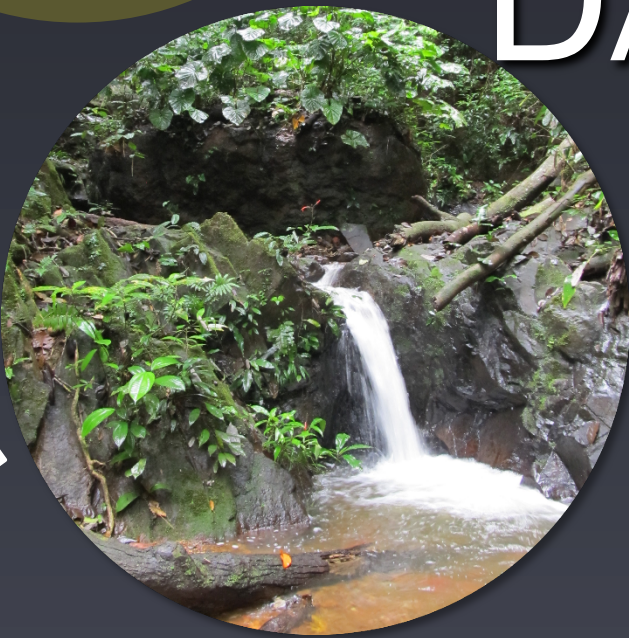


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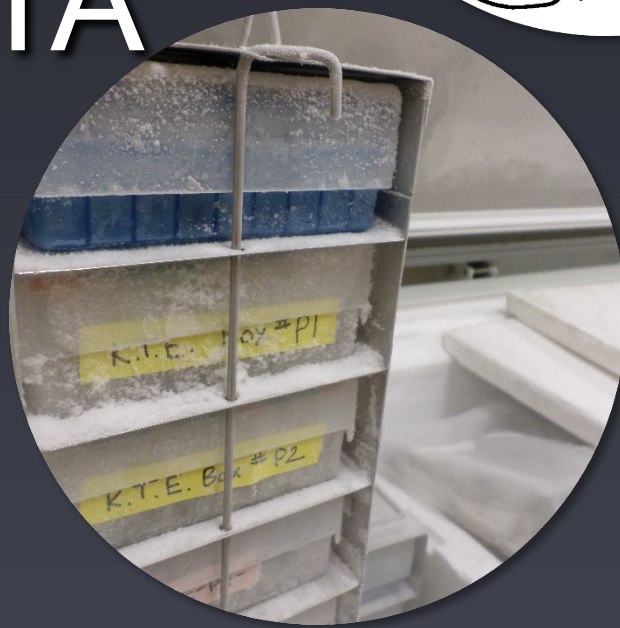


DATA

ECOLOGICAL



MOLECULAR



A wooden cabinet with multiple white drawers is shown, each containing numerous small, pinned research notes and labels. The notes are organized in a grid-like fashion, with some drawers having blue labels. The cabinet is open, revealing the contents of several drawers. In the background, a poster is visible with text including "Archean Eon", "300", and "Archaea".

Feedback from researchers

