

The Digitization Experience at Florida State University's Robert K. Godfrey Herbarium

Austin Mast

Director, Robert K. Godfrey Herbarium

Associate Professor, Department of Biological Science

Florida State University

Outline

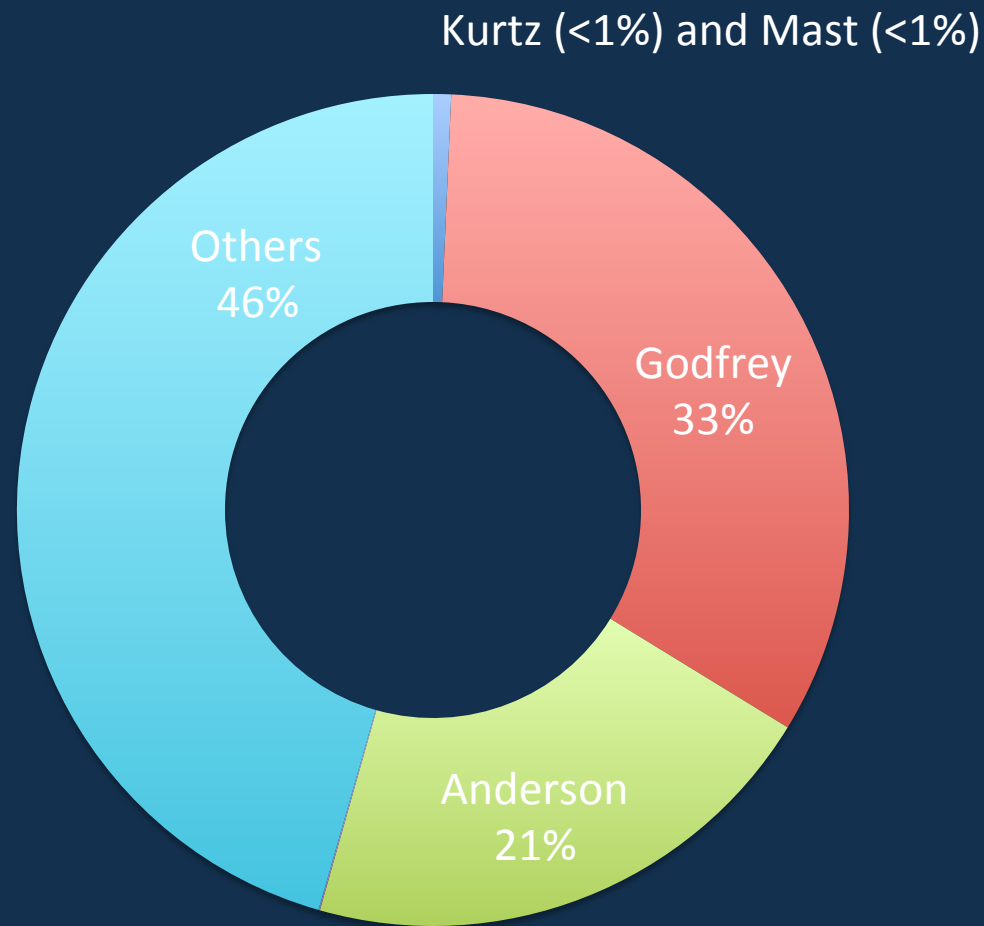
- Intro to the herbarium
- Our history of digitization
- The front-end
- Notes from Nature Project
- General observations
- General recommendations



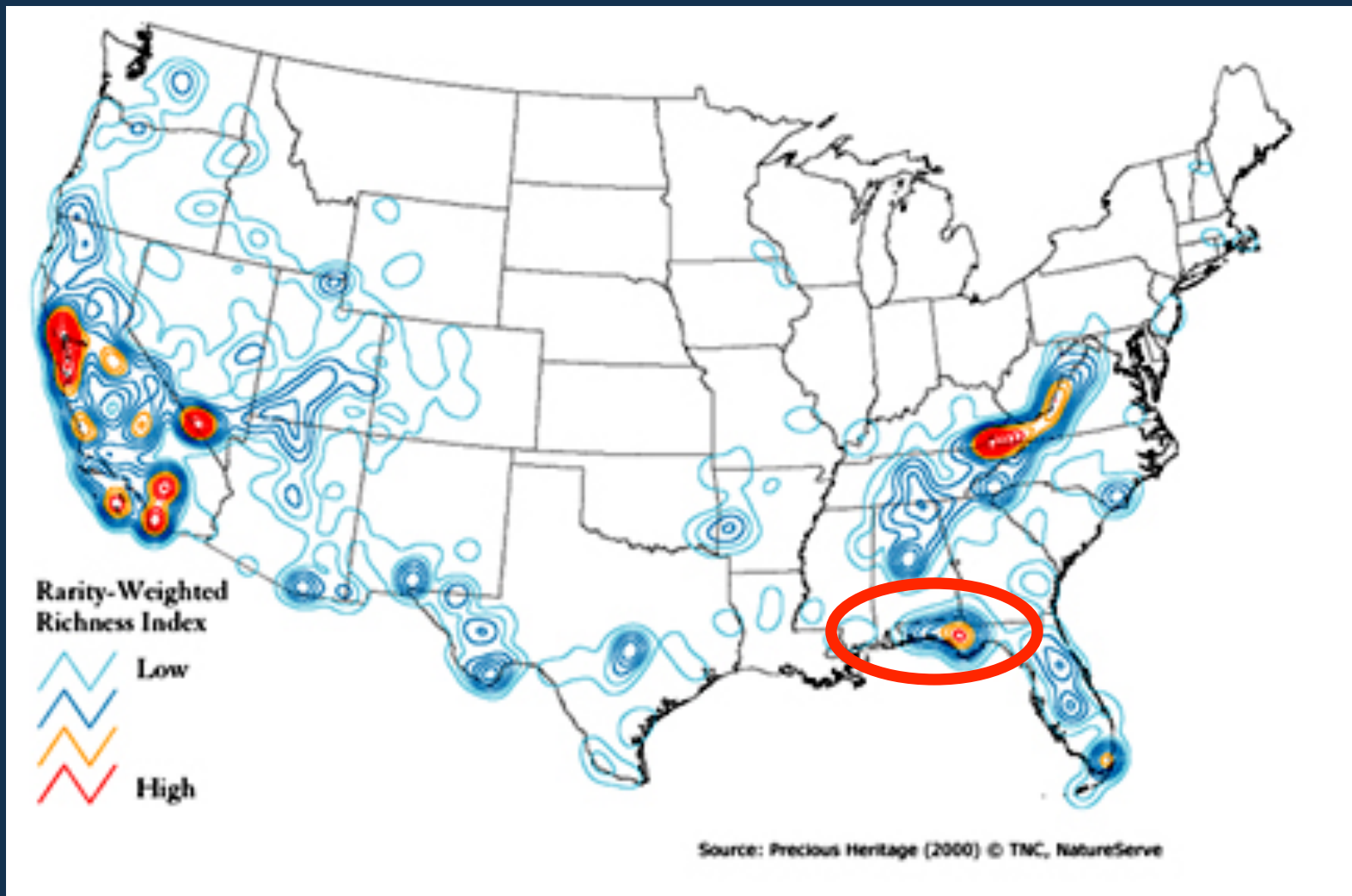
Robert K. Godfrey (1911–2000)



Godfrey was a prolific collector.



Portion of 76,577 digitized specimens (of ca. 210,00 total) collected by herbarium directors.



The herbarium is arguably the most extensive plant collection documenting this biotic hotspot: a region with ca. 2864 spp. of native vascular plants.
125 plant taxa are endemic to it.



Sarracenia leucophylla
Photo: Gil Nelson



Magnolia macrophylla var. *ashei*;
Photo: Gil Nelson

The herbarium is arguably the most extensive plant collection documenting this biotic hotspot: a region with ca. 2864 spp. of native vascular plants.
125 plant taxa are endemic to it.



Microalgae Collection

The bulk of the Microalgae Collection originates from samples of phytoplankton in Florida's coastal and inland waters. In addition to plankton samples, the collection also includes benthic diatoms that are associated with submersed aquatic plants (epiphytic), sediments (epipelagic), and artificial substrates, such as glass slides (periphytic). These samples were collected by Professor Robert J. Livingston and [Dr. A. K. S. K. Prasad](#) of FSU's Department of Biological Science over a period of 25 years. Florida collection localities include the drainage basins of the Perdido, Choctawhatchee, Chipola, and Suwannee Rivers, the Econfinia and Fenholloway estuaries, and Florida Bay, among others. The collection also includes specimens from elsewhere along the Gulf and Atlantic coasts of the southeastern US, the Caribbean Sea, the Indian Ocean, the Equatorial Pacific (including the Galápagos Islands), and the South China Sea. The collection includes over 8000 permanent diatom slide preparations mounted in Naphrax or Zrax, over 7000 scanning and transmission electron microscope images, and over 40,000 light microscopic images. Extensive

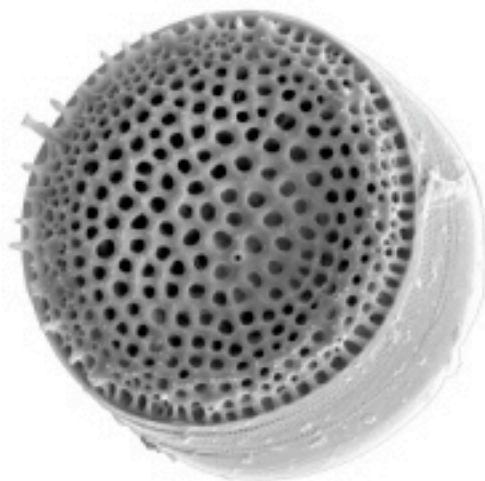


Photo: *Thalassiosira cedarkeyensis*
Photo Credit: Akshintal Prasad

research publications and manuals of diatoms (ca. 2000) from the personal libraries of Dr. Greta A. Fryxell (formerly of Texas A&M University), William Miller III (formerly of FSU EM lab), and [Dr. Prasad](#) provide added value to these important collections.

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[Admin Home Page](#)[Add Specimen](#)[List Specimens](#)[Search Specimens](#)[Search People](#)[Specimen to Image Check](#)[Image to Specimen Check](#)[List Accessions](#)[List Additional Images](#)[Add Species](#)[List Species](#)[Add Common Name](#)[List Common Names](#)[Add Project](#)[List Projects](#)[Add Person](#)[List People](#)[Add County \(FIPS\)](#)[List Counties \(FIPS\)](#)[Add Country](#)[List Countries](#)[Add Quad](#)

Add a new Specimen

Main

Bar Code ID: Unique Species ID:

Collection Date (Complete): Collection Date (Partial):

Collector's Identifier: Collection Code ID: FSU

Country: State or Province:

County or Parish: Nearest Named Place: Special Geographical Unit:

Verbatim Directions to Locality: ☐ More ☒ Less

Location Details

Altitude (in meters): Altitude (in feet): Altitude Determination by:

	Degree	Minutes	Seconds	Degree (decimals)	Direction
Latitude:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Longitude:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Source of Latitude and Longitude Data: Township: Range: Section:

Habitat: Plant Morphology Observations:

Local Abundance Observations: Observations Regarding Future Persistence:

Plant Details

Plant Occurrence - Native:

Flower Buds Present?:	<input type="text"/>	Flowers Present?:	<input type="text"/>	Flow
Flowers Past Anthesis?:	<input type="text"/>	Fruit Present?:	<input type="text"/>	Fruit

Control Information and Noncom

Control Clerk: Control Date: Noncom:



We began work on the database and front-end in Fall 2003.

HISPID

Herbarium Information Standards and Protocols for Interchange of Data

HISPID is a standard format for the interchange of electronic herbarium specimen information. **HISPID** has been developed by a committee of representatives from all Australian Herbaria. This interchange standard was first published in 1989, with a revised version published in 1993.

HISPID3 (published 1996) is available here. For later versions, go to [new HISCOM Wiki pages](#)

See also document on [Reduction of Costs in Herbarium Data-entry in Australia Using HISPID3](#)

HISPID3

The **HISPID3** document is provided in two forms. **HISPID3** can be accessed as a complete document or by logical groups of field descriptors and related comments. Also a description is provided for the design of the transfer codes used in **HISPID3**.

HISPID3 is available as a printed document from [HISCOM](#)

 [HISPID3 The complete document](#) [267k]

 [HISPID3 In Bits](#)

 [HISPID3 & ITF2 Transfer Codes - Design Notes](#)

<http://plantnet.rbgsyd.nsw.gov.au/HISCOM/HISPID/HISPID3/hispidright.html>

An important resource for us at the time has HISPID 3 due to its fairly exhaustive representation of specimen qualities. Darwin Core (and DC Extensions) would be a good place to start today.



Digitization began on February 3, 2004.

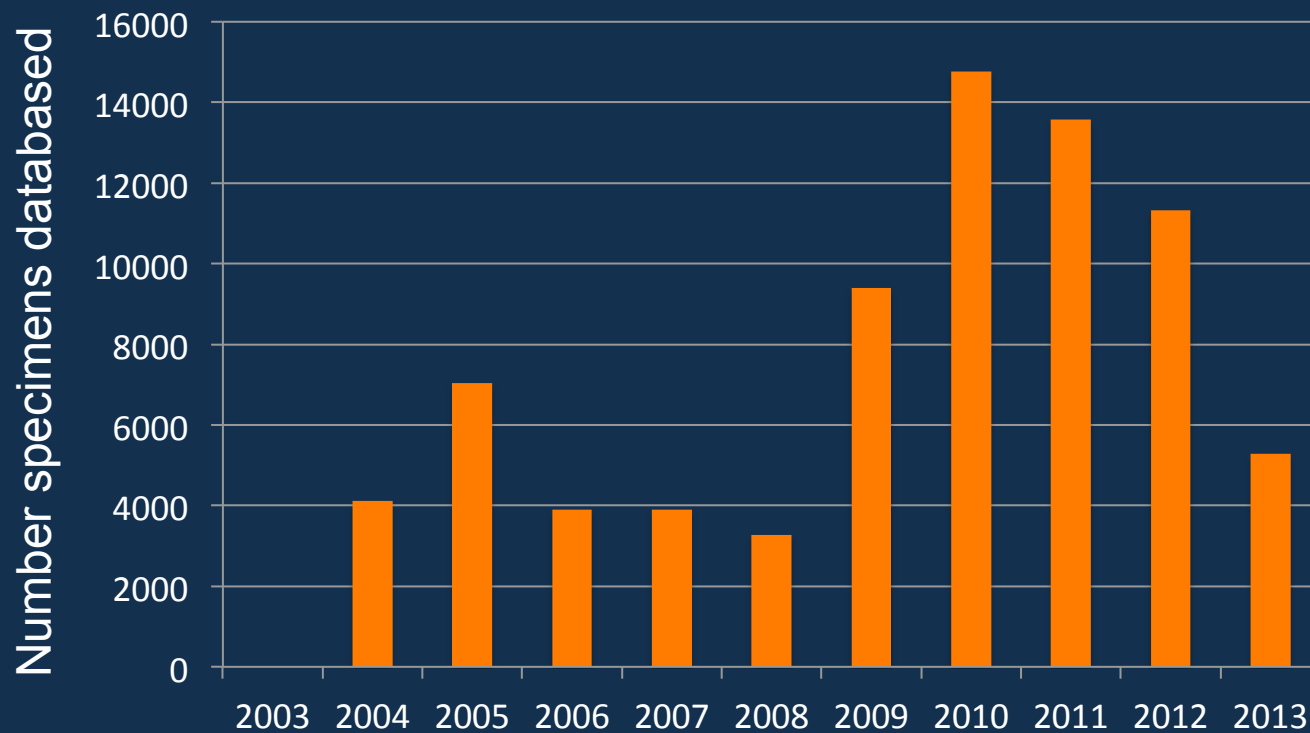


(Photo is from 2013)

Digitization began on February 3, 2004.



We are on our second digital camera, but we are still using the same lights, copy stand, and (in some cases) computers.



Number of specimens databased in each of 10 years.
Total = 76,577; Range = 3,279 – 14,767; Mean = 7,658.

Graduate Researchers - Past



Sarah Braun

Graduate Student, Department of Biological Sciences, Florida State University.

Research: Invasive plant management; Species distribution modeling of invasive plants of Florida; Preservation of natural history collections; Georeferencing primary species occurrence records.



Jessica Clopton

Graduate Student, Department of Biological Science, Florida State University.

Morphbank, Ontologies, Legumes of Florida.



Ryan Druyor

Graduate Student, Department of Geography, Florida State University

Research: Georeferencing primary species occurrence records from the FLEPPC database



Tania Kim

Graduate Student, Department of Biological Sciences, Florida State University



Amanda Kubes

Graduate Student, Department of Biological Science, Florida State University

Research: Effect of climate change on threatened species and their pollinators. As a past MorphBank RA, she focused on designing functionality in the system for biological research collections.

<http://herbarium.bio.fsu.edu/people.php>

Digitization has involved 12 graduate students, 59 undergraduate students, and others.

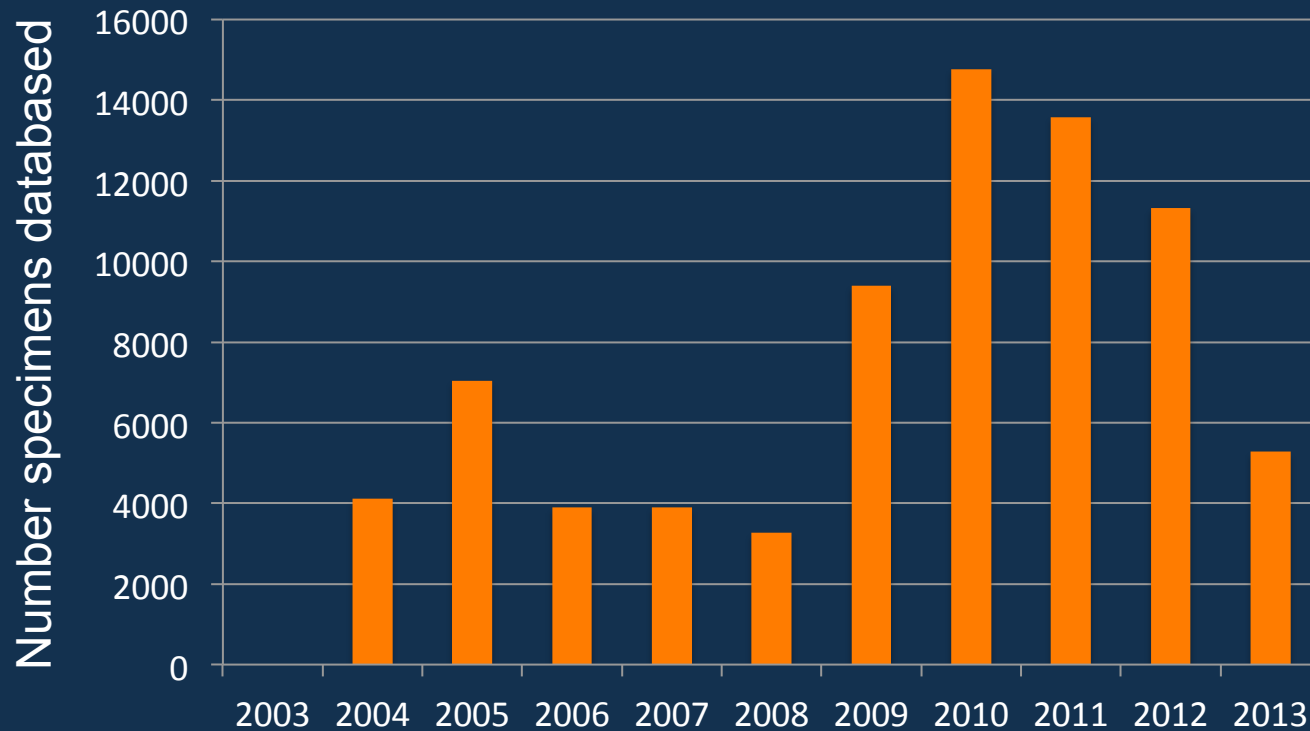
Types of Undergraduate Participation

- Volunteers (*sparingly*)
- Directed Independent Study
- Federal Work Study
- FSU's Women in Math, Science, and Engineering Program
- FSU-TEACH Program

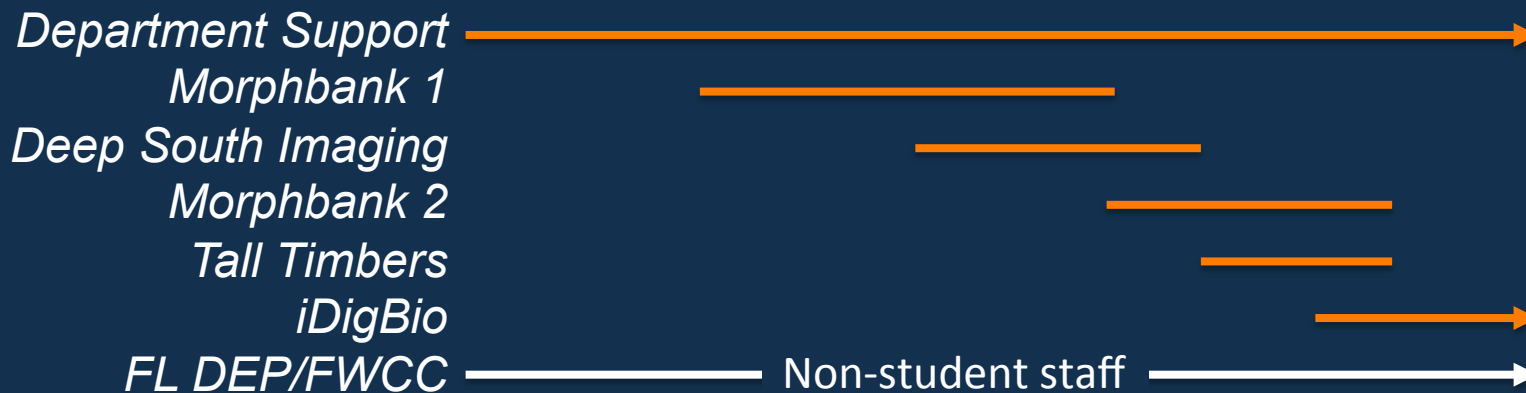
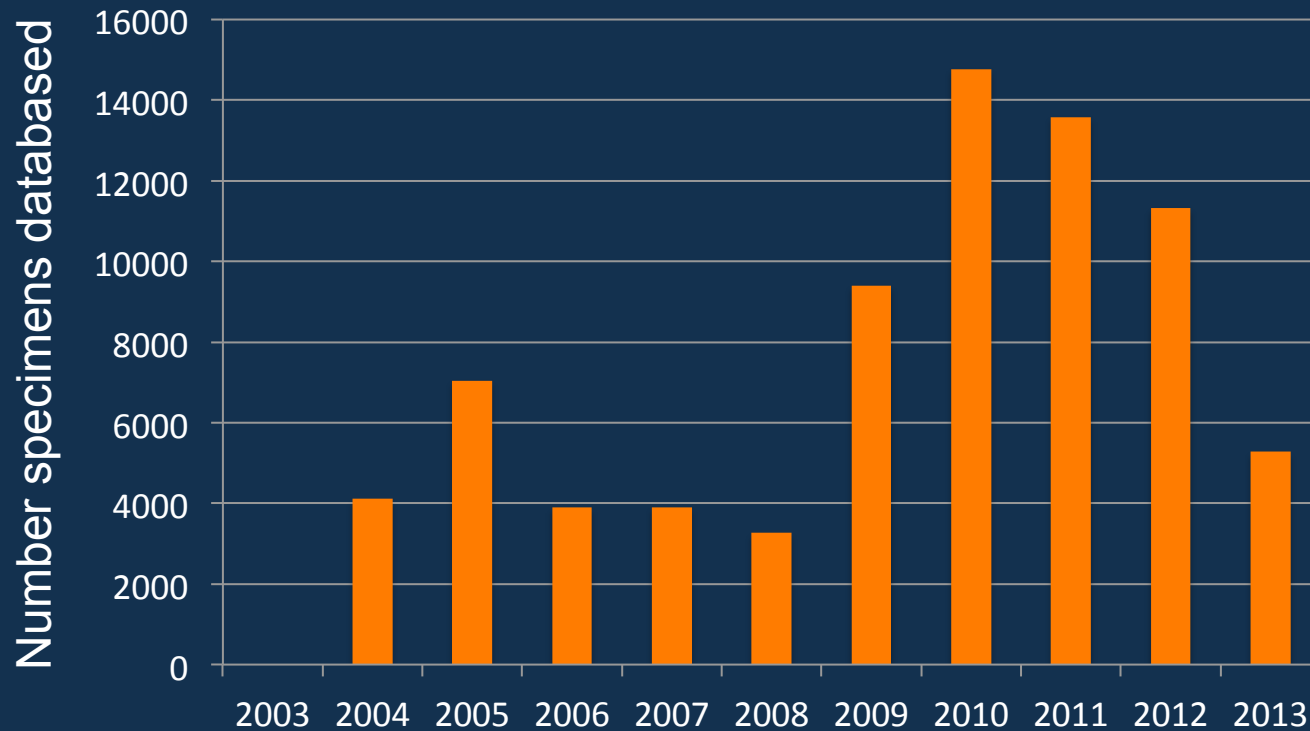
Types of Undergraduate Participation



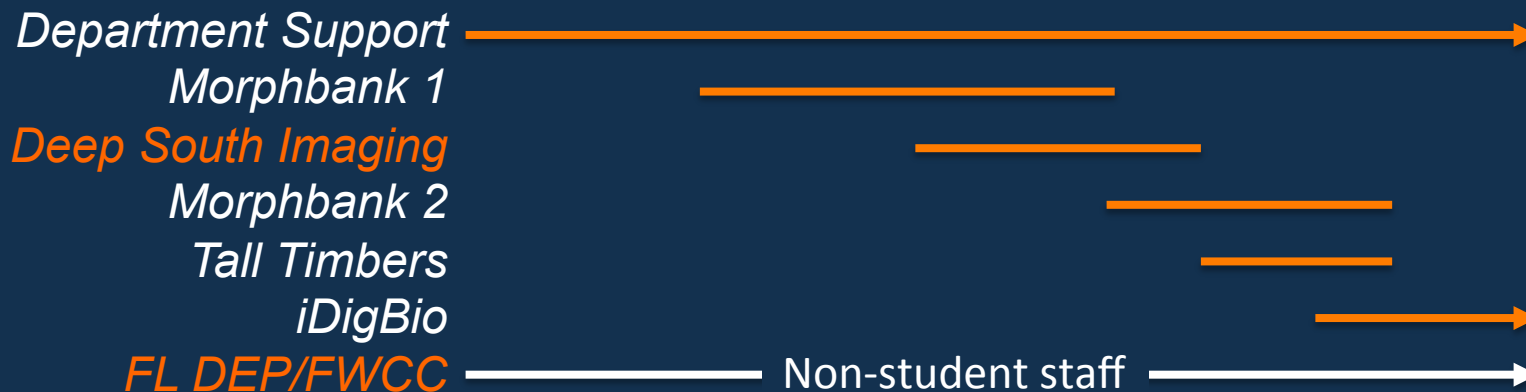
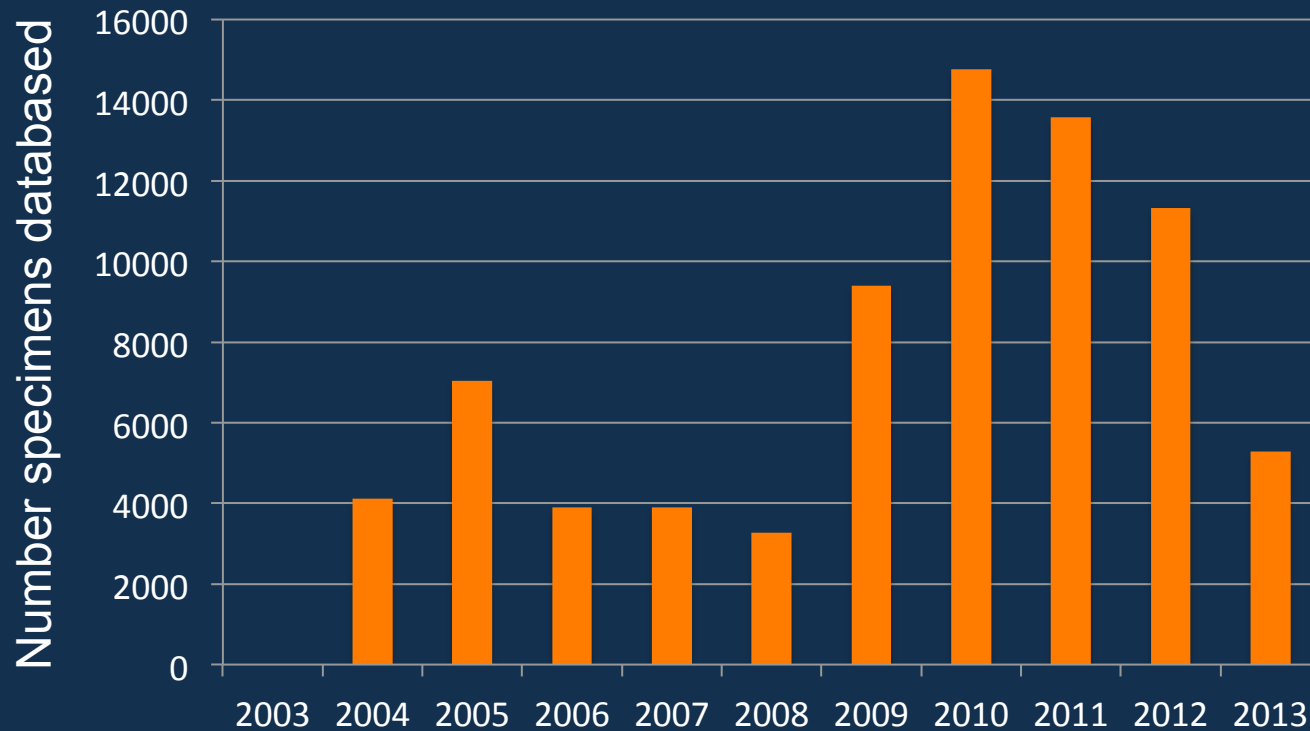
Volunteers are typically trained to mount new specimens.



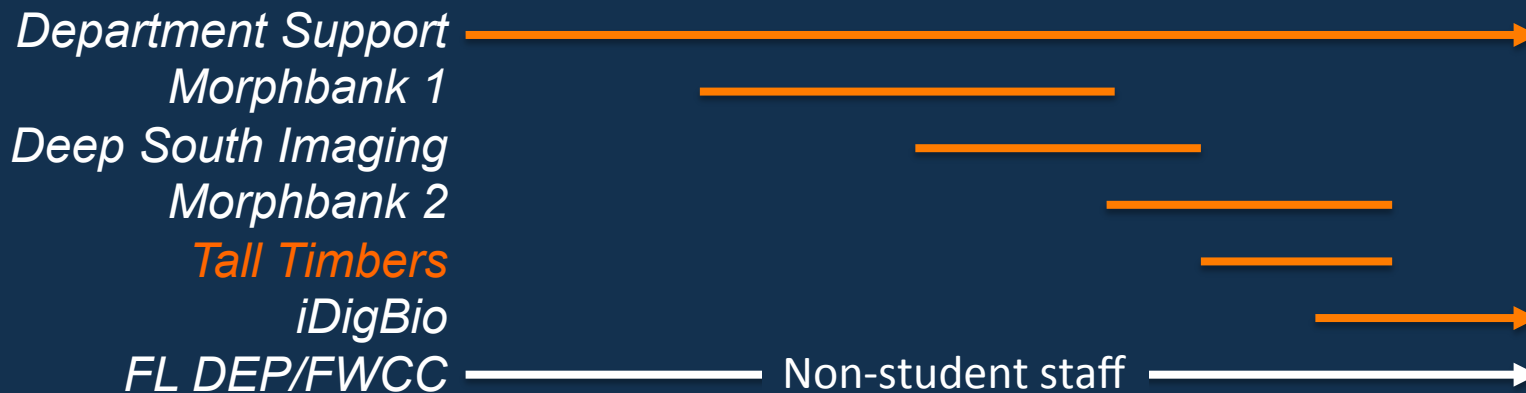
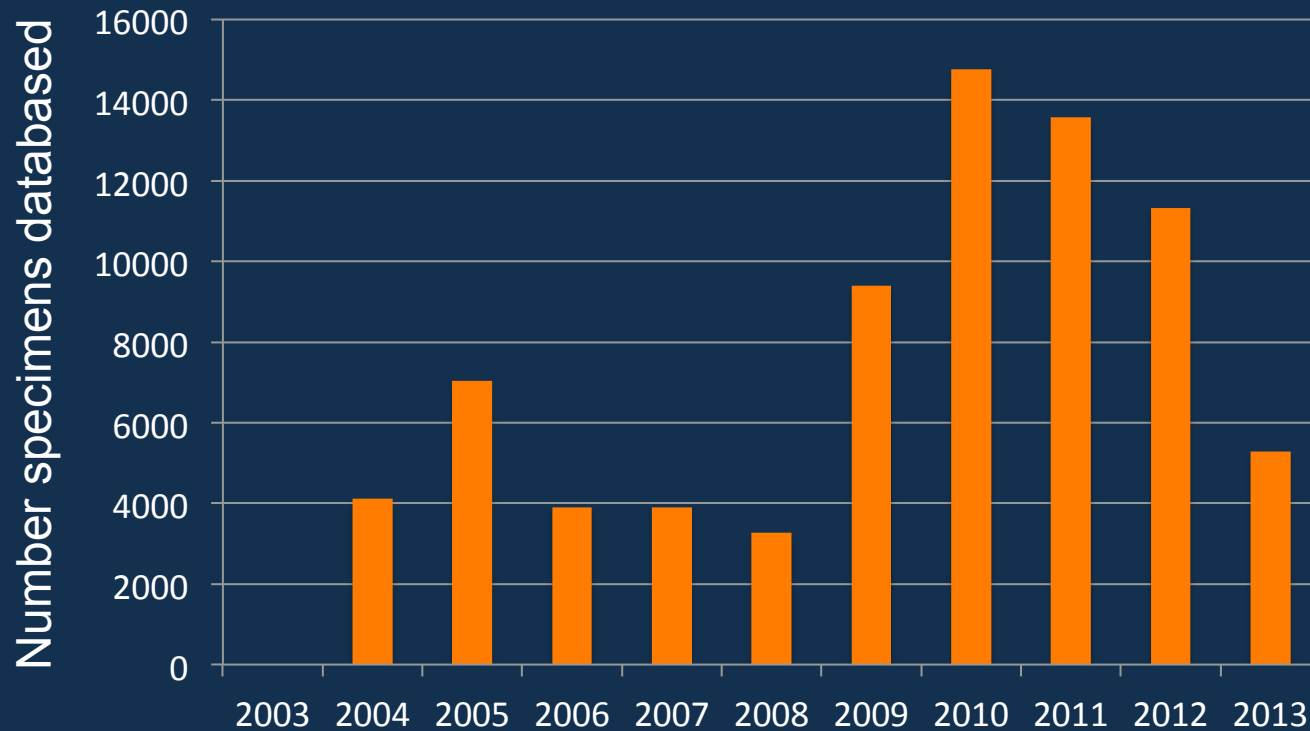
Graduate student participation is by means of a permanent half-time curator line and research assistantships. Funding for just some of the projects shown here included RA support (iDigBio does not).



Graduate student participation is by means of a permanent half-time curator line and research assistantships. Funding for just some of the projects shown here included RA support (iDigBio does not).



The greatest number of specimens digitized occurred with the Deep South Project, which involved imaging first then databasing (hence the lag), and the DEP/FWCC contract. The iDigBio grant does not pay for digitization.



The Tall Timbers grant resulted in a wave of new functionality for the front-end.

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The Robert K. Godfrey Herbarium at Florida State University

Florida State University's Robert K. Godfrey Herbarium is a museum-quality collection of over 200,000 plant and microalgae specimens. These document the distribution and natural variation of the 2,400 species of flowering plants, ferns, conifers, and cycads found in northern Florida—one of North America's biodiversity hotspots—and the microalgae of Florida's Gulf and Atlantic coasts. Each plant specimen is carefully identified, pressed, dried, and mounted to archival standards, with accompanying data on where and when it was collected. The specimens are a valued resource to local, state, national, and international biologists studying plant and microalgae systematics, ecology, evolution, biogeography, conservation biology, anatomy, and morphology. New specimens are added to the collection each week. In August 2003, Austin Mast became the new director of the herbarium. Though now retired, Loran Anderson remains active in the herbarium. The current curator is Chris Buddenhagen.



Photo: Hymenocallis henryae, Photo Credit: Gary Knight

In August of 2003 the Robert K. Godfrey Herbarium set up a digital imaging system and SQL database. Currently 71,998 of our 200,000+ specimens have been entered into the herbarium's database. In late 2010, Tall Timbers Research Station's Herbarium began serving specimen data and images on this site as well. Currently, data and images for 10,344 of Tall Timbers Research Station's 10,000+ herbarium specimens are being served.

In August of 2003 the Robert K. Godfrey Herbarium set up a digital imaging system and SQL database. Currently 76,228 of our 200,000+ specimens have been entered into the herbarium's database. In late 2010, Tall Timbers Research Station's Herbarium began serving specimen data and images on this site as well. Currently, data and images for 10,344 of Tall Timbers Research Station's 10,000+ herbarium specimens are being served.



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Specimen Database Search

Please cite!

Search Criteria

Show: ☒ Hide: ☐

Institution:

☒ Any Institution

☒ FSU's Robert K. Godfrey Herbarium

☐ Tall Timbers Research Station's Herbarium

Family:

Genus:

Species:

The scientific name (e.g., Pinus palustris).

Common Name:

Collection Date:

(YYYY-MM-DD or MM-DD)

Collection Date:

Collector Name:

Collector's Identifier:

Barcode:

Country:

State:

County:

Nearest Named Place:

Flowers present:

Fruit present:

Habitat:

More Options:

Show: ☐

Hide: ☒

Sort By:

Output Type:



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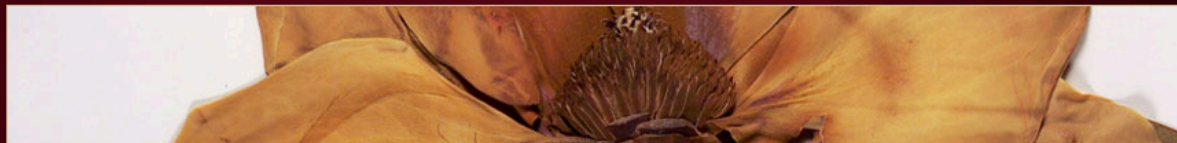
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Specimen Database Search

Please cite!

Search Criteria

Show: ☐ Hide: ☒

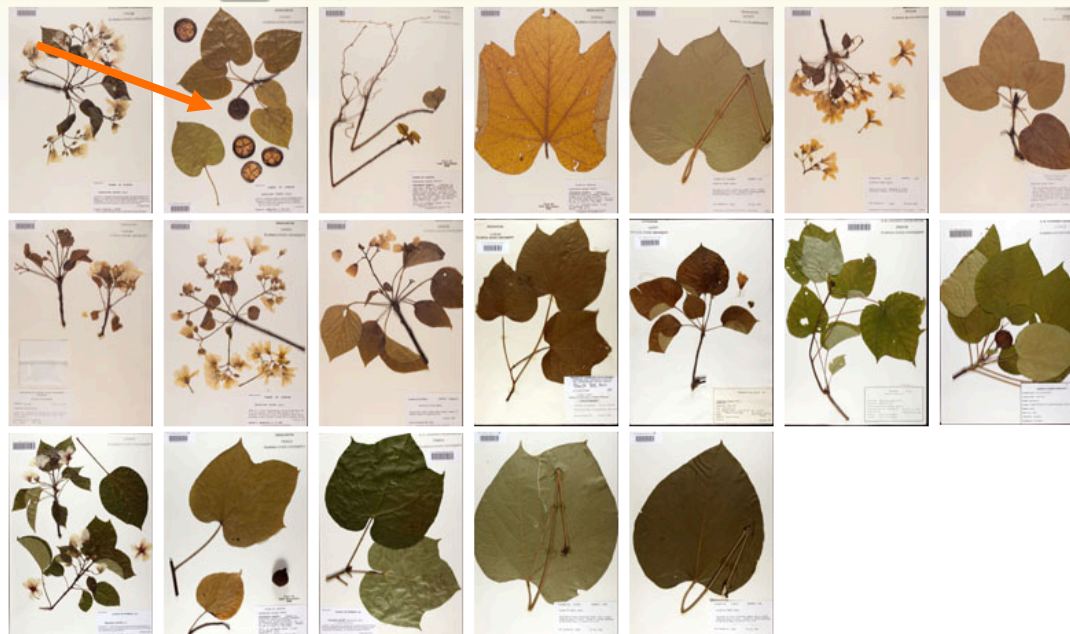
Sort By:

Species

To modify your search choose the "Show" radio button above. If you would like to sort your results differently, change the field in "Sort by" above.

Search Results

Results 1-19 of 19 [1] Page 1 of 1





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Specimen Database Search

Please cite!

Search Criteria

Show: ☐ Hide: ☒

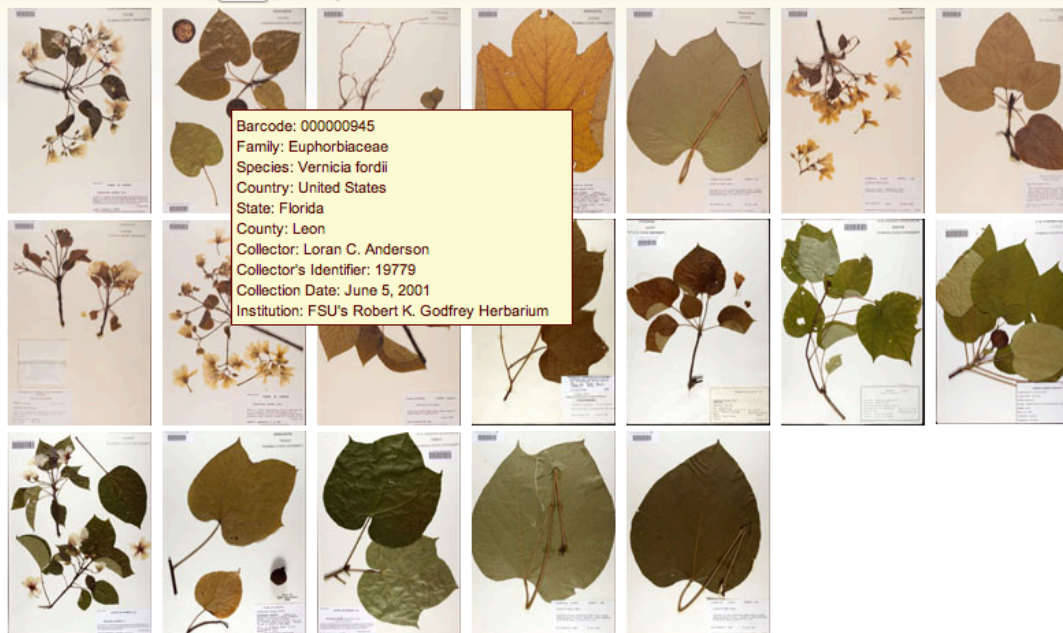
Sort By:

Species

To modify your search choose the "Show" radio button above. If you would like to sort your results differently, change the field in "Sort by" above.

Search Results

Results 1-19 of 19 [1] Page 1 of 1



Barcode: 00000945
Family: Euphorbiaceae
Species: Vernicia fordii
Country: United States
State: Florida
County: Leon
Collector: Loran C. Anderson
Collector's Identifier: 19779
Collection Date: June 5, 2001
Institution: FSU's Robert K. Godfrey Herbarium



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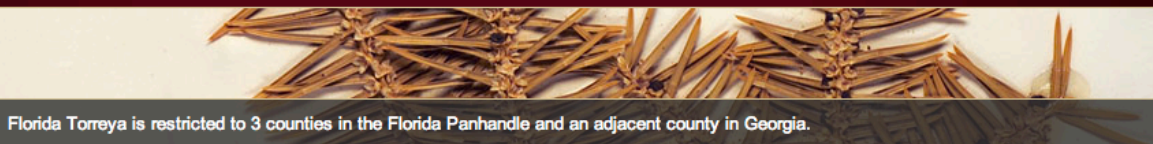
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Florida Torreyas is restricted to 3 counties in the Florida Panhandle and an adjacent county in Georgia.



Specimen Details

[Report a Problem](#)

Has been proofread: **No** Mark as proofread: [Edit](#) [View](#)

Species:	Vernicia fordii
Annotated Since Imaged?:	True
Collection Date:	June 5, 2001
Bar Code ID:	000000945
Collectors:	Loran C. Anderson
Collector's Identifier:	19779
Flower Buds Present?:	False
Flowers Present?:	False
Fruit Present?:	True
Country:	United States
State or Province:	Florida
County or Parish:	Leon
Fips Code:	12073
Nearest Named Place:	Tallahassee
Verbatim Directions to Locality:	bordering the railroad tracks just E of Capital Circle NW in NW sector of Tallahassee.
Latitude - degree:	0
Latitude - minutes:	0
Latitude - seconds:	0
Latitude - degree with decimals:	0
Longitude - degree:	0
Longitude - minutes:	0
Longitude - seconds:	0
Longitude - degree with decimals:	0
Habitat:	woody area bordering the railroad tracks.
Plant Morphology Observations:	small tree; all fruits on this tree are 5-carpellate, but a few of them have only 3 or 4 seeds by abortion.
Non digital information?:	N



[View Image](#) [View JPEG](#)
[Download JPEG \(1.27 MB\)](#)
[Download TIFF \(30.83 MB\)](#)

Identification Records

Identifier's Name:	Loran C. Anderson
Formal Identification Date:	2001-06-05



HERBARIUM

104402

FLORIDA STATE UNIVERSITY

PLANTS OF FLORIDA

Alnus incana (L.) Moench

"This is a small tree, 10-15 ft. high, with a trunk 1-2 in. in diameter. The leaves are ovate, 1-2 in. long, with serrated margins. The fruits are small, round, and dark brown." (from the original description)

Collected by G. Anderson, no. 15,779

Flora of Florida, 1910

Slack 1910





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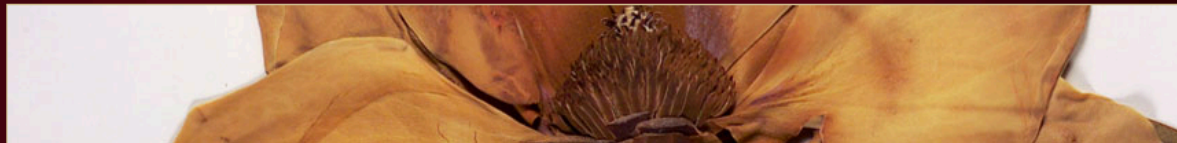
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Specimen Database Search

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Search Criteria

Show: ☐ Hide: ☒

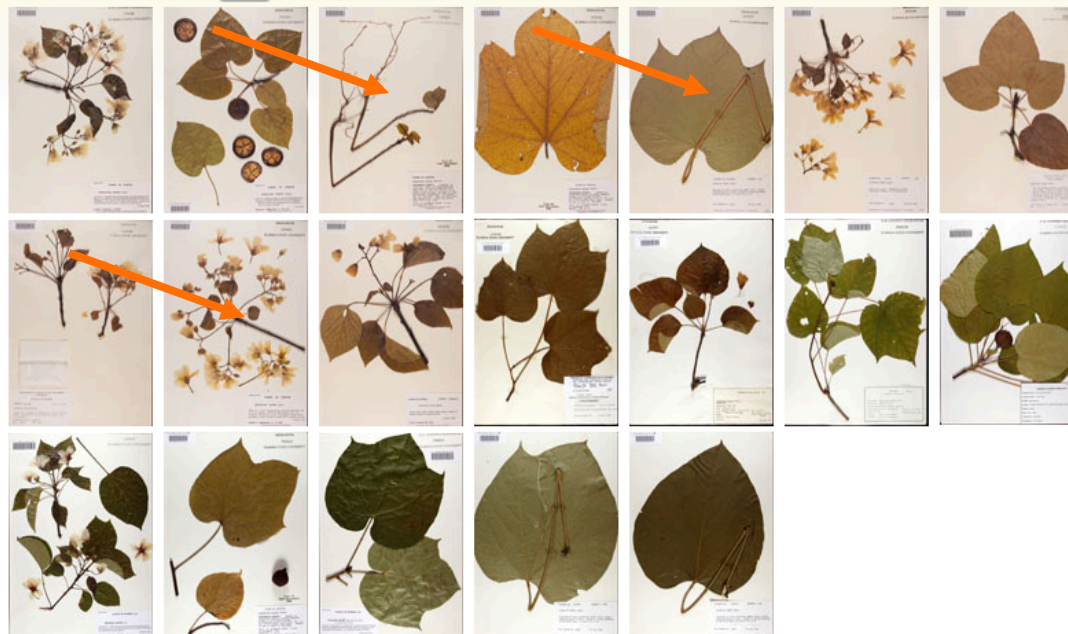
Sort By:

Species

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Search Results

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P. S. C. J. K. S. M. A. B. C. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.



0010130745

HERBARIUM

183427

FLORIDA STATE UNIVERSITY

Flora Of
Lake Miccosukee
1992

PLANTS OF FLORIDA

Alouatta palliata Hensel.

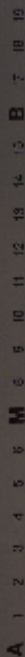
JEFFERSON COUNTY: 1000 ft. in
lower hill zone, on road 1000 and
road 1000. 1000 ft. on road 1000 off N
road at U.S. 90, ca. 0.5 mi. N of
Coney Creek bridge, grading to Lake
Miccosukee. 1000 ft. on road
Jan 21, 1992. Part of this site
was apparently a tung tree grove
over 100 yrs. ago.

Coll. R. Graddick Sarks # 414
11 February 1992

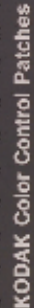
Herbar. P. S. C. J. K. S. M. A. B. C. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.



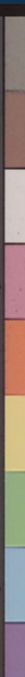
KODAK Gray Scale



Kodak



KODAK Color Control Patches



Kodak



HERBARIUM
159321
FLORIDA STATE UNIVERSITY

PLANTS OF FLORIDA COUNTY: LEON
ACQUITES FOR THE Herbar.

Specimens of this collection made from 9 May to
September 1971. Locality: 2 miles of upland woodland,
by Marston Road, 2.5 miles N of I-10.

H.K. Doolittle / *Journal of Macroeconomics* 26 (2004) 39–51
22 July 1981



HERBARIUM

180001

FLORIDA STATE UNIVERSITY



PLANT OF FLORIDA

Alexandria Fordii (Sw.)

1800 (1801) coll. by the author, mostly of Southern Md.,
S. of Washington D.C., Riv. of the Potomac, 100-150
feet above sea level, on the banks of the river, near
streamlet along a border of park or of playing fields.

1800 (1801)

LORON C. ANDERSON, JR. 17,365
Florida State University, 180001





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Specimen Database Search

Please cite!

[Submit](#)

[Undo Changes](#)

[Clear All](#)

Search Criteria

Show: ☒ Hide: ☐

Institution:

Any Institution

Family:

Spacebar yields full listing.



Genus:

Species:

Vernicia fordii The scientific name (e.g., Pinus palustris).

Common Name:

Collection Date:

YYYY-MM-DD or MM-DD

Collection Date:

Collector Name:

Collector's Identifier:

Barcode:

Country:

State:

County:

Nearest Named Place:

Flowers present:

Fruit present:

Habitat:

More Options: Show: ☐ Hide: ☒

Sort By:

Species

Output Type:

Map



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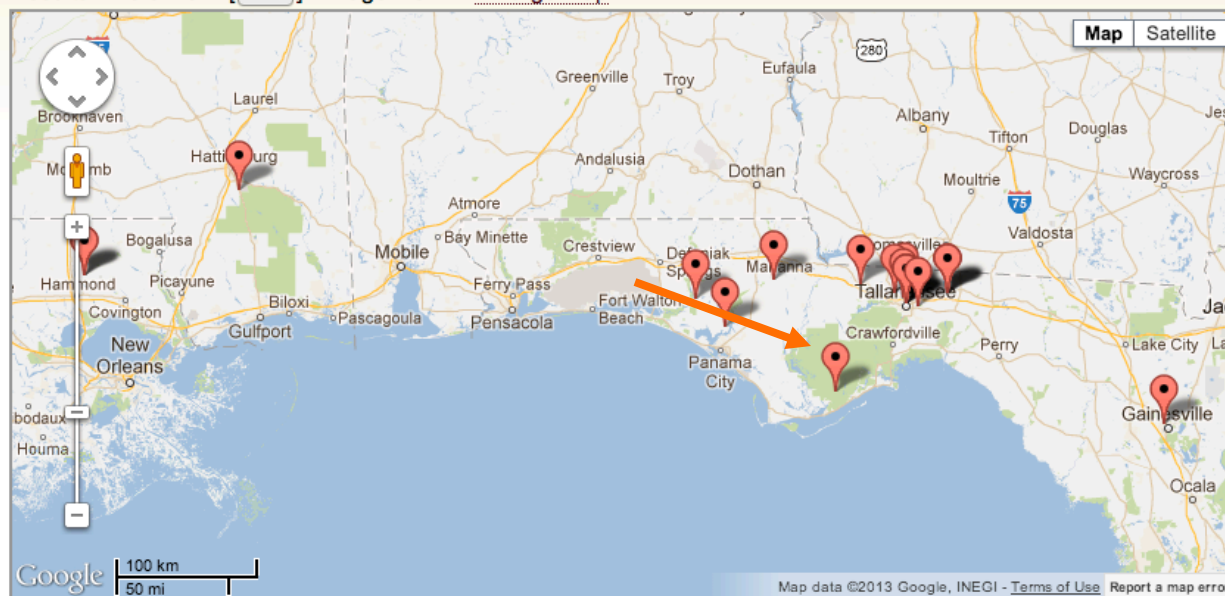
Sort By:

Species

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Search Results

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Longleaf Pine now occupies just 3% of its historic range of 38 million hectares.

Specimen Database Search

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Sort By:

Species

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Search Results

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[View Specimen](#)

Bar Code:	000000956
Family:	Euphorbiaceae
Species:	Vernicia fordii
Country:	United States
State:	Florida
County:	Franklin
Collector:	Anderson, Loran C.
Collector's Identifier:	6944
Collection Date:	1984-04-06

Output Type: Report ▾

Display in report: Select All Clear All

<input type="checkbox"/> Barcode	<input type="checkbox"/> Family
<input type="checkbox"/> Species	<input type="checkbox"/> Collectors
<input type="checkbox"/> Collector's Identifier	<input type="checkbox"/> Institution
<input type="checkbox"/> Collection Date	<input type="checkbox"/> Country
<input type="checkbox"/> State or Province	<input type="checkbox"/> County
<input type="checkbox"/> Nearest Named Place	<input type="checkbox"/> Latitude
<input type="checkbox"/> Longitude	<input type="checkbox"/> Georeferencing Method
<input type="checkbox"/> Georeferencing Precision	<input type="checkbox"/> Verbatim Directions to Locality
<input type="checkbox"/> Datum	<input type="checkbox"/> Flowers Present
<input type="checkbox"/> Fruit Present	<input type="checkbox"/> Habitat
<input type="checkbox"/> FLEPPC Category	<input type="checkbox"/> Florida Threatened/Endangered
<input type="checkbox"/> Federally Threatened/Endangered	<input type="checkbox"/> National Wetlands Inventory Status
<input type="checkbox"/> Florida DEP Wetland Status	<input type="checkbox"/> Nativity to Florida
<input type="checkbox"/> Present in Florida	<input type="checkbox"/> Present in Florida Panhandle
<input type="checkbox"/> Tracked by Florida Natural Areas Inventory	<input type="checkbox"/> FNAI Ranking of Global Security
<input type="checkbox"/> FNAI Ranking of Security in Florida	

Submit Undo Changes Clear All

The user can also choose “Report” as output type and download a tab-delimited file to open in Excel.

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Transcribe museum records to

TAKE NOTES FROM NATURE

START TRANSCRIBING

4

Collections available

339,684

Total transcriptions

20.6%

Transcription progress

4,279

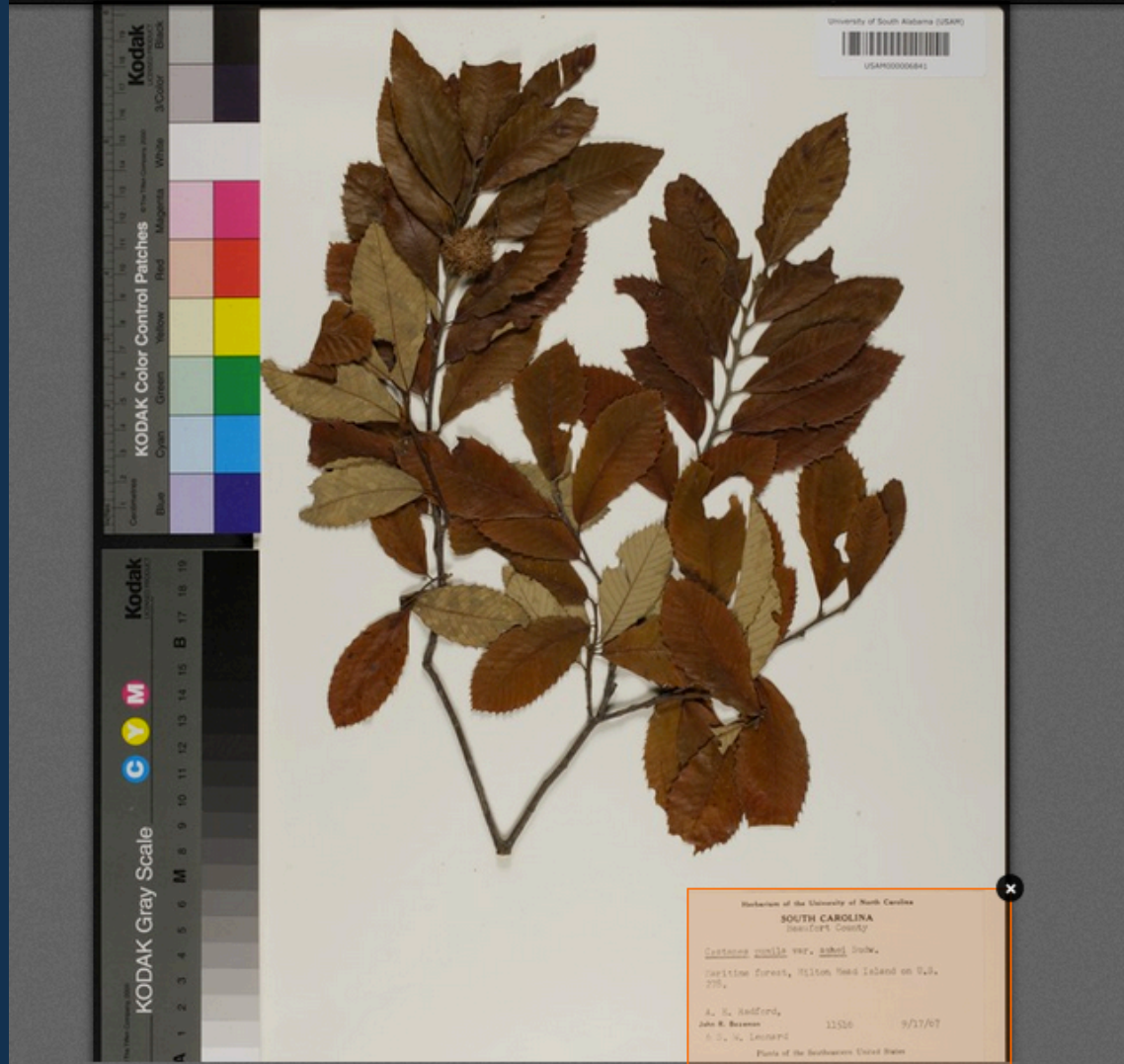
Users contributing

<http://www.notesfromnature.org/>

Public participants could help the community digitize its HUGE backlog of specimens.

Specimen label selected [See example](#)

START THIS RECORD



<http://www.notesfromnature.org/>

In this tool, the user first draws a box around the label.

COUNTRY

The country the specimen was collected in.

Herbarium of the University of North Carolina

SOUTH CAROLINA

Beaufort County

Castanea pumila var. ashei Sudw.

Maritime forest, Hilton Head Island on U.S.
278.

A. E. Radford,

John R. Bozeman

11516

9/17/67

& S. W. Leonard

Plants of the Southeastern United States

Discuss

-- Country --

OK

Skip this field

1/9

FINISH THIS RECORD

<http://www.notesfromnature.org/>

The label is then shown blown-up, and the user enters information into 9 fields from it.

Maritime forest, Hilton Head Island on U.S.
278.

A. E. Radford,
John R. Bozeman
& S. W. Leonard

115

Plants of the Southeast

Country
United States

State/Province

County

Scientific name

Location

Habitat and description

Collected by

Collector Number

Collection date

-- State --

OK

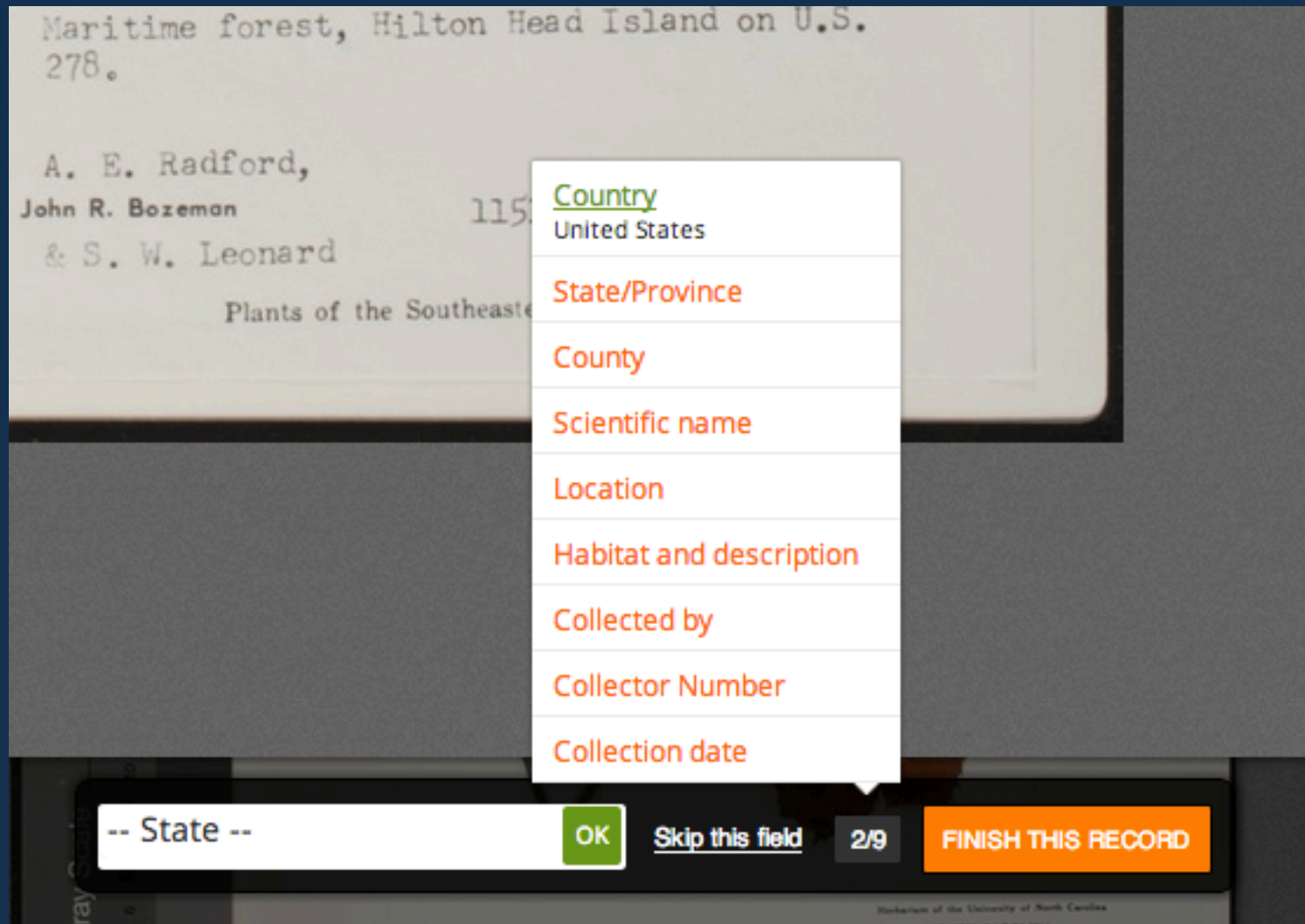
Skip this field

2/9

FINISH THIS RECORD

<http://www.notesfromnature.org/>

These 9 fields were chosen to maximize the specimen's discoverability and value for a large fraction of specimen-based research.



<http://www.notesfromnature.org/>

FSU contributed the first 3531 specimen images for the Notes from Nature herbarium interface. The average number of transcriptions for those specimens was 6.3.

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Plants of the Southeast

Country *

United States

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Scientific name

Location

Habitat and description

Collected by

Collector Number *

Collection date *

-- State --

OK

Skip this field

2/9

FINISH THIS RECORD

<http://www.notesfromnature.org/>

Inter-replicate agreement was highest in those starred (*) fields.

Hackathon to Enable Public Participation in Online Transcription of Biodiversity Specimen Labels

Fri, 2013-10-25 14:14 -- djennings

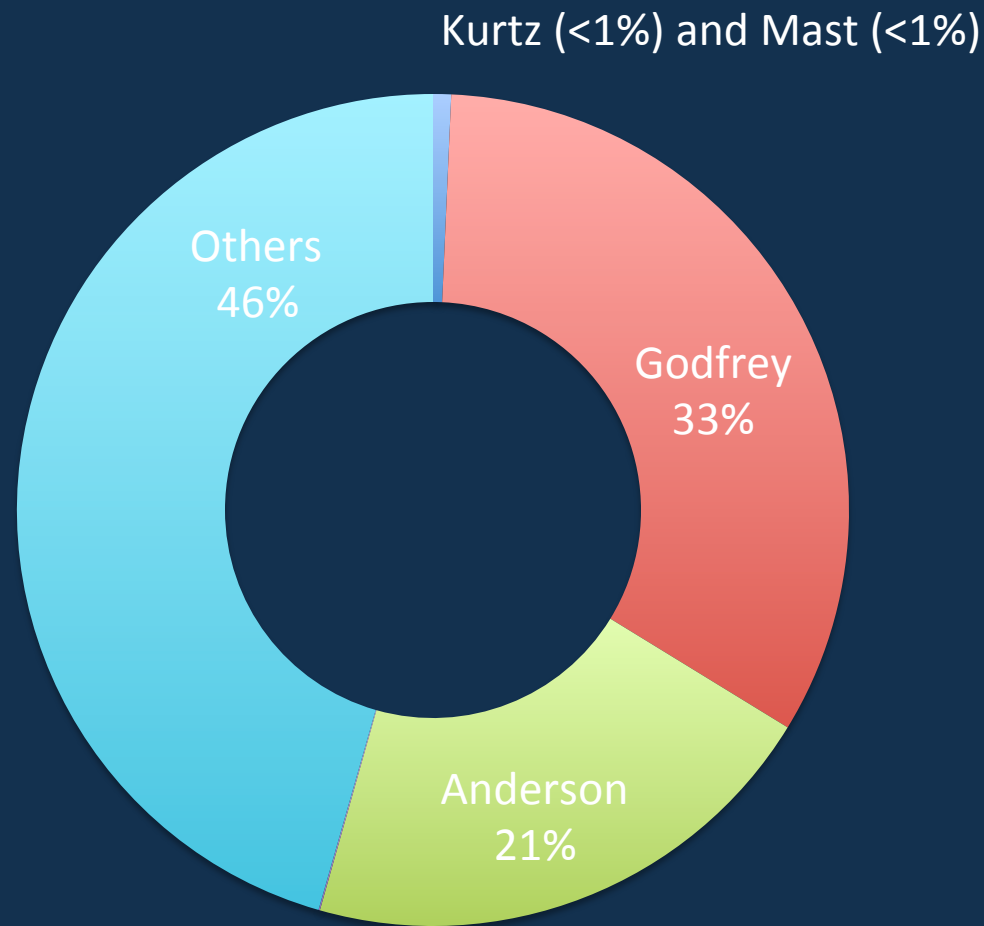
iDigBio (www.idigbio.org) and Zooniverse's Notes from Nature Project (www.notesfromnature.org) are pleased to announce a hackathon to further enable public participation in online transcription of biodiversity specimen labels. There are approximately 1 billion specimens of this type in US collections alone, but it is estimated that information from just 10% of them is currently digitized and online. Digitization of natural history collections grants researchers access to vast quantities of information in their investigations of timely subjects such as climate change, invasive species, and the extinction crisis. The magnitude of the task of bringing those collections into digital format exceeds that of any single organization and will require new, Internet-scale approaches to engage the public. This is an exciting opportunity to work on a ground-breaking citizen-science endeavor with immediate and strong impacts in the areas of biodiversity and applied conservation.

<https://www.idigbio.org/content/hackathon-enable-public-participation-online-transcription-biodiversity-specimen-labels>

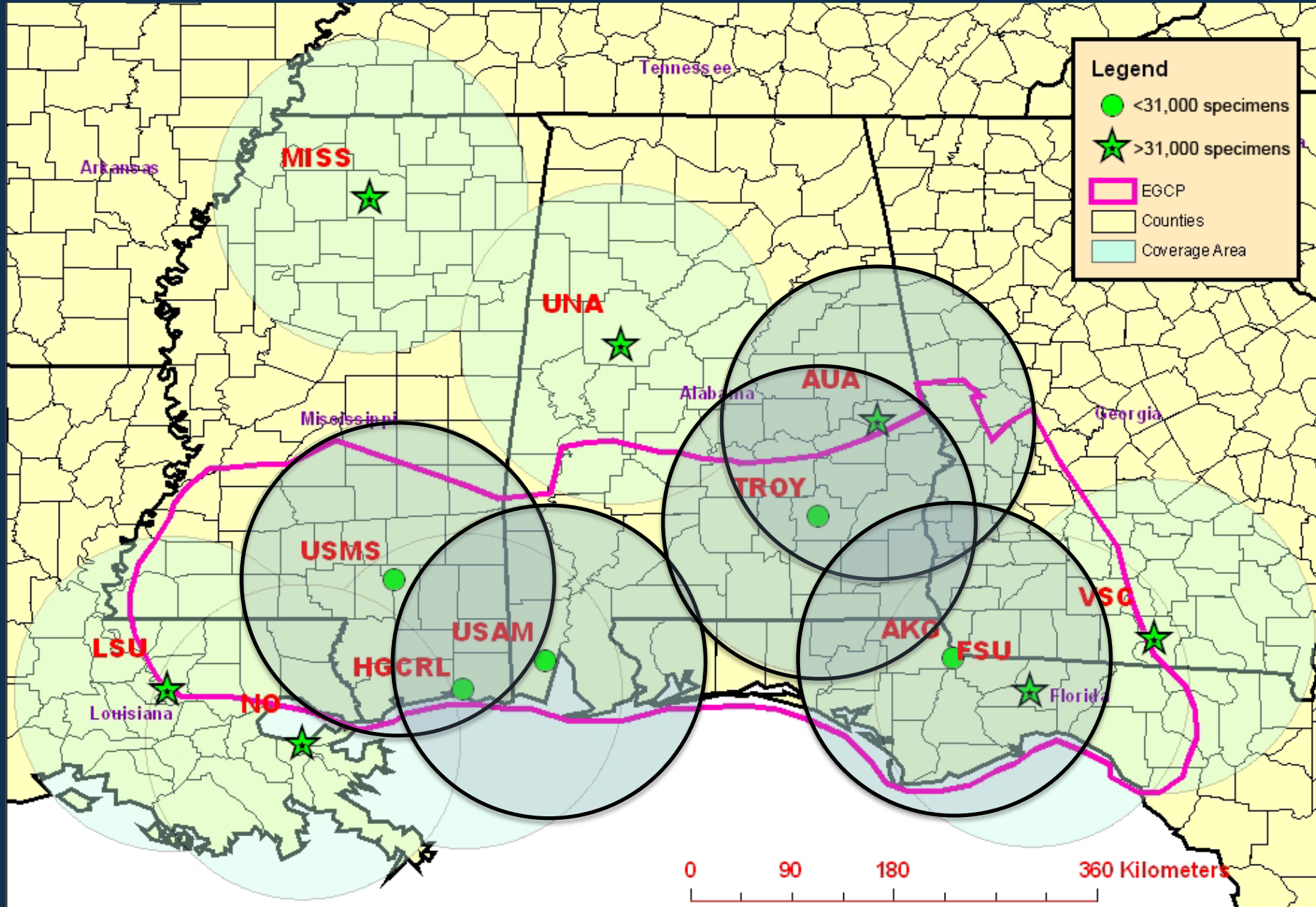
Notes from Nature and iDigBio's *CITSCribe Hackathon* next week will develop new functionality to enable public participation in the transcription of specimen labels. Remote participants are welcome.

Outline

- Intro to the herbarium
- Our history of digitization
- The front-end
- Notes from Nature Project
- General observations
- General recommendations

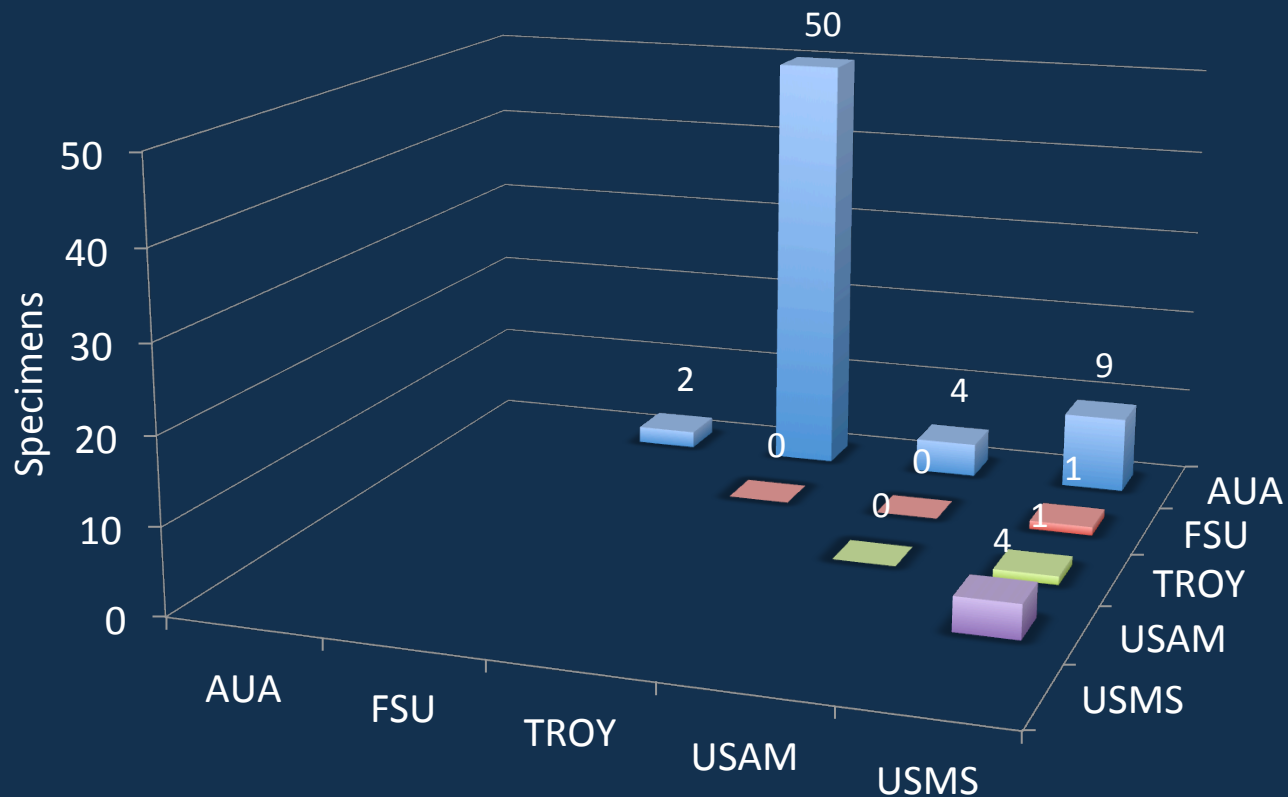


Many of FSU's specimens were collected by FSU researchers and don't appear to be widely duplicated in collections with aggressive digitization programs.



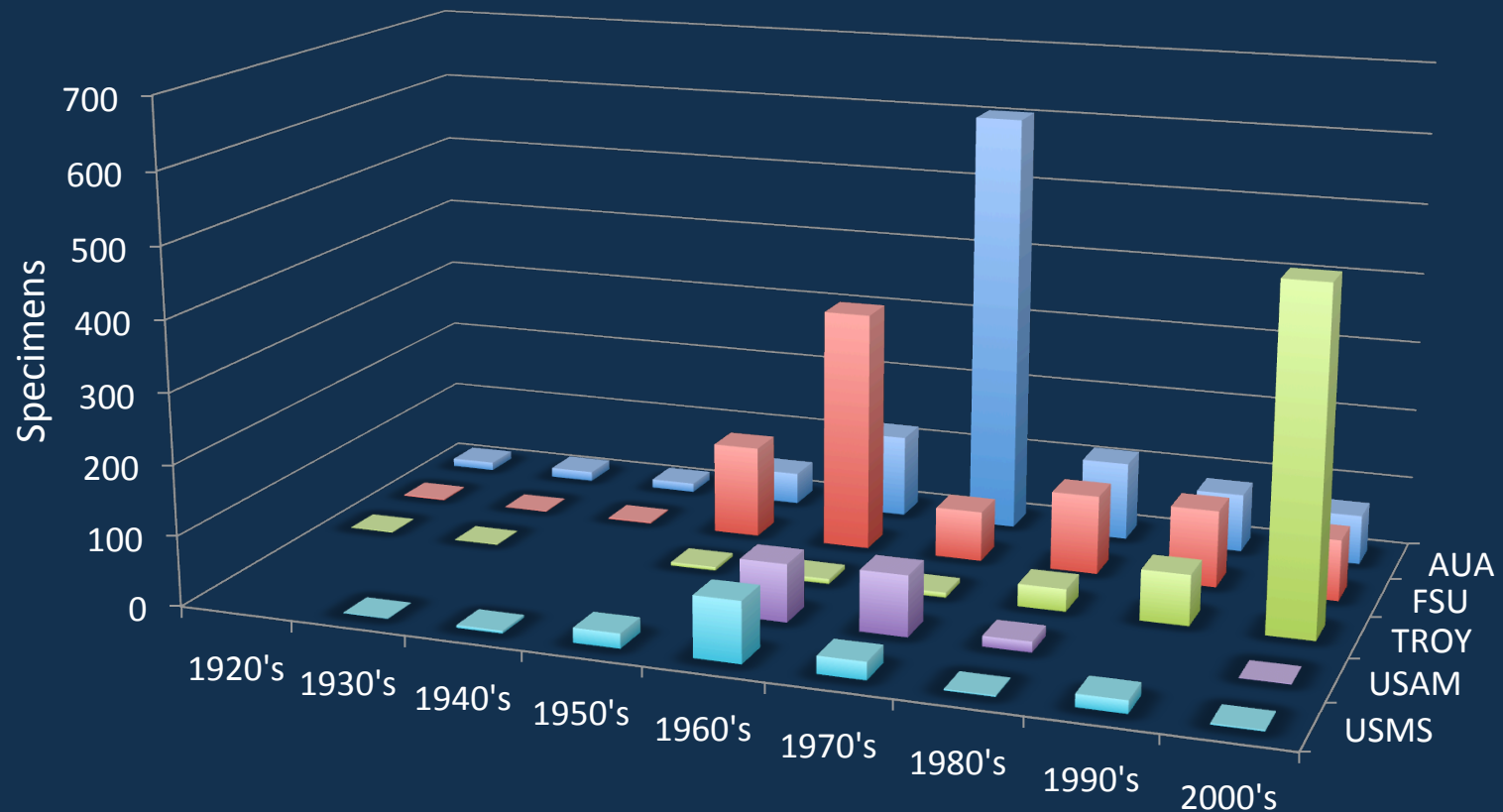
Small herbaria, such as those involved in the Deep South Imaging Project, do not appear to share a lot of duplicated specimens.

Specimens of 3 Focal Legume Genera Duplicated Between Herbaria



Small herbaria, such as those involved in the Deep South Imaging Project, do not appear to share a lot of duplicated specimens.

Collection Activity for 3 Focal Legume Genera over Time



And those small herbaria can provide complementary information to build a more complete picture of diversity through time.

Project: Citrus of Florida

Project Leader: Danny F. LaBarbera

Project Description:

Florida specimens of the family Rutaceae.

Project Species (Family, Genus, Species):

Family	Species	Common Name
Rutaceae	<i>Amyris balsamifera</i>	BALSAM TORCHWOOD
Rutaceae	<i>Amyris elemifera</i>	SEA TORCHWOOD
Rutaceae	<i>Amyris madrensis</i>	
Rutaceae	<i>Amyris texana</i>	
Rutaceae	<i>Choisya dumosa</i>	
Rutaceae	<i>Citrus aurantium</i>	GRAPEFRUIT, SOUR ORANGE, SWEET ORANGE
Rutaceae	<i>Citrus depressa</i>	
Rutaceae	<i>Citrus limon</i>	LEMON
Rutaceae	<i>Evodia nishimurae</i>	
Rutaceae	<i>Geijera lineariloba</i>	
Rutaceae	<i>Orixa japonica</i>	
Rutaceae	<i>Phellodendron amurense</i>	
Rutaceae	<i>Poncirus trifoliata</i>	HARDY ORANGE
Rutaceae	<i>Ptelea augustifolia</i>	
Rutaceae	<i>Ptelea crenulata</i>	
Rutaceae	<i>Ptelea trifoliata</i>	COMMON HOPTREE, WAFER ASH
Rutaceae	<i>Severinia monophylla</i>	
Rutaceae	<i>Zanthoxylum americanum</i>	COMMON PRICKLYASH
Rutaceae	<i>Zanthoxylum clava-herculis</i>	HERCULES'-CLUB
Rutaceae	<i>Zanthoxylum fagara</i>	LIME PRICKLYASH, WILD LIME
Rutaceae	<i>Zanthoxylum flavum</i>	WEST INDIAN SATINWOOD, YELLOWHEART, YELLOWWOOD

Our ability to tackle taxonomically defined priorities began to diminish as the need to digitize new accessions of taxa in folders already stamped “databased” increased. Here is an example of an early undergraduate digitization project.



Another competing digitization priority are the specimens in loan requests. We image and database all specimens that are requested for loan then ask the requestor to further focus the request.

Florida Exotic Pest Plant Council Status:

Federal Wetland Status:

State Wetland Status:

Federal Protected Status Code:

State Protected Status Code:

Nativity to Florida (Origin):

Global Conservation Rank (G1, G2, etc):

State Conservation Rank (S1, S2, etc):

Tracked by FNAI?:

In Florida?:

In Panhandle?:

USDA Plants Database Acronym:

Unique Heritage Program ID:

Atlas ID:

Development and enhancements of the database and front-end and curation of taxon-specific information (e.g., invasiveness) meant less time for digitization of the specimens (but also a product that we find particularly useful).

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General Recommendations

- Document the workflows and keep the documents up-to-date.
- Look over shoulders a lot at the beginning and provide feedback.
- Ask the digitizers how to streamline the process.
- Focus on making the specimens discoverable and useful for most research applications; it is not necessary to capture every specimen quality in the database initially.
- Consider adding “filed as” annotations to the specimens before photographing, if the name on the folder is not on the specimen label(s).
- Don’t worry if your names are not bleeding-edge current; synonymy relationships in databases can make them discoverable.
- Databasing from images makes remote work possible (e.g., from computer labs or Notes from Nature); this can be important when space is limited in the collection.

Acknowledgements

FSU's Robert K. Godfrey Herbarium thanks the FL Fish and Wildlife Conservation Commission for their funding of a Task Assignment in the herbarium as well as NSF for the MorphBank grants (DBI 0446224 and 0851313), the Deep South Imaging grant (DBI 0646222), the Tall Timbers Digitization grant (DBI 0956343), and the iDigBio grant (EF 1115210). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

To see the many people who have contributed to the productivity of the herbarium, visit <http://herbarium.bio.fsu.edu/people.php>.