Avocational paleontologists and volunteers: critical partners

Ann Molineux, Linda McCall, Faye Geigerman, Non-vertebrate Paleontology Laboratory, Jackson School of Geosciences, The University of Texas at Austin

JACKSON
SCHOOL OF GEOSCIENCES

Non-vertebrate
Paleontology Laboratory
TEXAS NATURAL SCIENCE CENTER
THE UNIVERSITY OF TEXAS AT AUSTIN

Dedication

- This presentation is dedicated to the late Bill Bergner.

- Full-time volunteer partner, and friend of the collections

THE UNIVERSITY OF TEXAS AT AUSTIN

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Non-vertebrate Paleontology Lab

Home | About | History | Collections | Databases | Research | Projects | Outreach | Opportunities

Founded in 1999, the Non-vertebrate Paleontology Lab (NPL) at the University of Texas at Austin houses approximately 4 million specimens, including fossil invertebrates and plants, microfossils, rocks, minerals, meteorites and tektites.

Contact Information

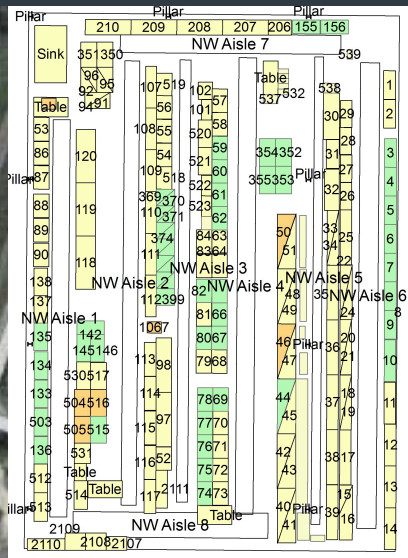
Ann Molineux
Curator/Collections Manager
512-232-5384
annm@austin.utexas.edu

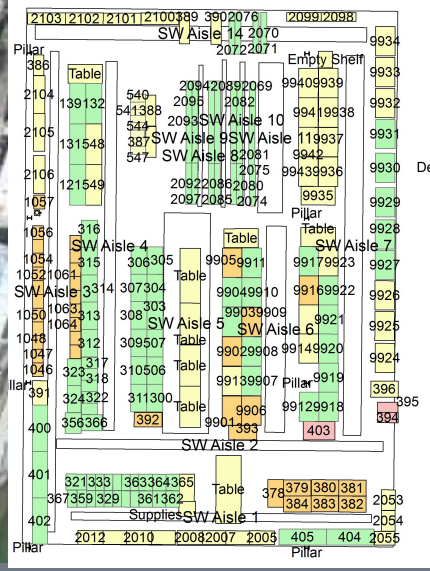
Why do we need volunteers?
How do we find useful volunteers?
How do we train volunteers?
What roles do volunteers play at NPL?
What benefits do we gain from a volunteer workforce and
Do our volunteers benefit from helping us?
Are there problems associated with volunteers?

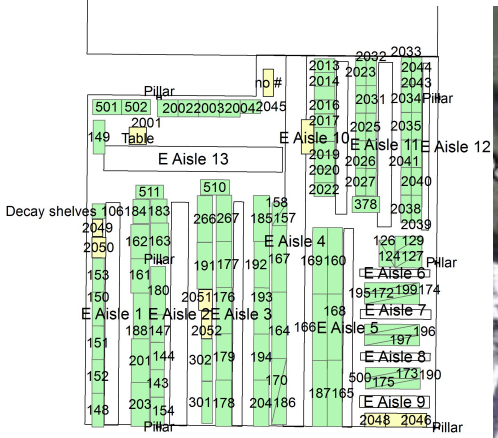
The need for volunteer partners

- Critical staff shortage for size of collection
- Constant specimen preparation, inventory and digitization
- Infusion of new ideas and technologies
- Maintains relevance of the collections to the public

Repository geography







The search for volunteers

- Targeted talks to student and interested groups
- Field trips outside and inside
- Connections to organizations
- Advertise at relevant events/meetings
- Post on volunteer sites at UT
- WORD OF MOUTH

Official flyer

MASS INVENTORY EVENT

VOLUNTEER OPPORTUNITIES

AT NPL [Non-vertebrate Paleontology Lab]
of the Jackson School Of Geosciences, PRC33 "THE WAREHOUSE"
J.J. Pickle Research Campus, 10100 Burnet Road
See MAP and link at foot of this flyer

SESSIONS FOR SPRING 2014
WEDNESDAYS- at 5PM-8PM

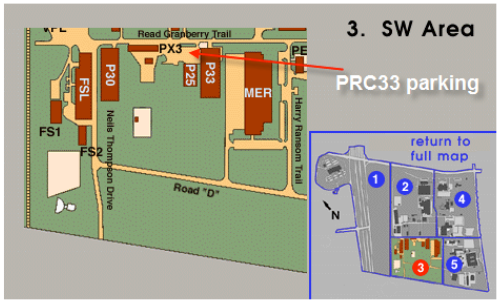
Dress to get dirty and keep WARM or COOL. Timing is not important.
Humor is essential. Bring your friends.
Bring a loupe if you have one, specimen numbers are often indistinct.
There are occasions when we may not meet if the
'Cages' get too hot in summer or too cold in winter so be alert for an email.

IMPORTANT: Please tell me if you think you'll be helping at any time during the semesters.
(This is a SECURITY requirement; our sessions take place "After hours")

THANK YOU FOR BEING PART OF THIS
GREAT NEW LEARNING EVENT
Feast your eyes on even more invertebrate fossils, rocks and minerals

Many thanks: Ann Molineux
annm@austin.utexas.edu
Lost? Call me @ 512-791-5521

DIRECTIONS: How to find us [PRC33]
http://www.utexas.edu/maps/prc/



Field trip: Non-vertebrate paleontology collections

Time Travel to the Cretaceous

The building, an old quonset hut from the W. W. II era (undoubtedly of the time when this complex had been home to a magnesium plant was illuminated by one lone light hung from the center rafter. No front door, just a large opening with a retractible garage door (opened). No people around. Very quiet.

With some trepidation, I entered. Inside was a long wide hall with wire cages on each side. Still no sounds, no people. Just smells. The sort of smell that reminds you of opening something that had been stored in a basement for a long time. Musty. Dirty. Dusty. Old.

Finally, a door on the right with a bit of light coming under the door. Unsure, but determined, I slowly pushed the door open. Inside, a bustle of people moving to and fro carrying . . . something. Boxes? Papers? Rocks? No one seemed to notice as I stood trying to take in the room. It was cavernous. The room itself was divided into aisles lined by cases and cases of old wooden drawers. Thousands of drawers. Each stained dark with tags and stickers and old writing and marks carved onto the front.

Suddenly, around the edge of a cabinet appeared a small woman. She glanced at me and I could sense her realization that I was new. Not someone she had seen before. Introducing herself as Ann Molineux, she thrust a clipboard into my hand and, speaking with a British accent (of course!), explained what I was to do. She then led me over to a huge stack of drawers and suggested I start there. I turned and she was gone.

I was assigned to inventory the contents of this stack of drawers. Nearby were two other people, both quietly cataloging their own drawers. I slowly tugged on the top drawer. No handle. By some skillful maneuvering and sliding, I managed to slide the drawer out. Inside, boxes, and jars, and vials, and bags filled with fossils.

As I reached for the first box, I could feel time winding backwards. Each fossil was labeled with a number, but more interestingly, many of the fossils included a handwritten label. Written in that old Spencerian penmanship, beautiful and elegant, "Found north on old Austin Road. 1892" 1892? In my hand I held a piece of paper written by a geologist over a hundred years ago. And he was describing where he found a fossil that was surely several million years old."

No wonder this place smelled musty. In this one building were "the sands of time." Well, maybe more accurately, "the rocks and fossils of time." A few hours later, I had traveled through three drawers of fossils found long ago in the area around Austin.

J. W. Beede, from a photograph in Ferguson, 1981, courtesy of Bureau of Economic Geology

John Smith, CAMN, catalogues and inventories some of the millions of fossils and rocks at the JJ Pickle Research

Most were probably found by geologists who wouldn't recognize Austin today. I had traveled even further back in time to handle fossils of animals that were here long before that geologist clamored over other rocks to find it.

As I turned to leave the building later that night, I stood under the light outside and closed my eyes and tried to imagine an Austin where I could have traveled north on the Old Austin Road in 1892. I wonder what I would have found?

Ann Molineux may still be cataloging fossils and rocks for another hundred years. If you'd like to help out now with this CAMN-approved volunteer activity, contact Ann at anmm@mail.utexas.edu.

Candid camera

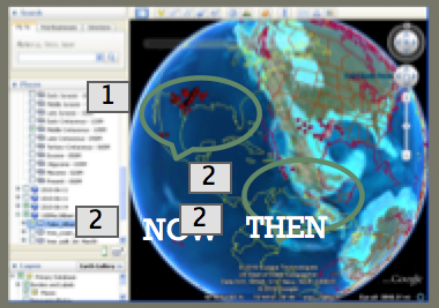
Project- outlines

Project 4

- Extract historic data from imaged labels ?
  - Work in the historic Dumble collection and use the labels as an additional source of data to add to the database.

Project 3

unty, or collector, and
calities using software



Selection process

- Try to accept all who apply and come for a visit
- High school students require a teacher endorsement
- Other students usually come with faculty endorsements or with a parent
- Try to steer new recruits to beginning of semesters

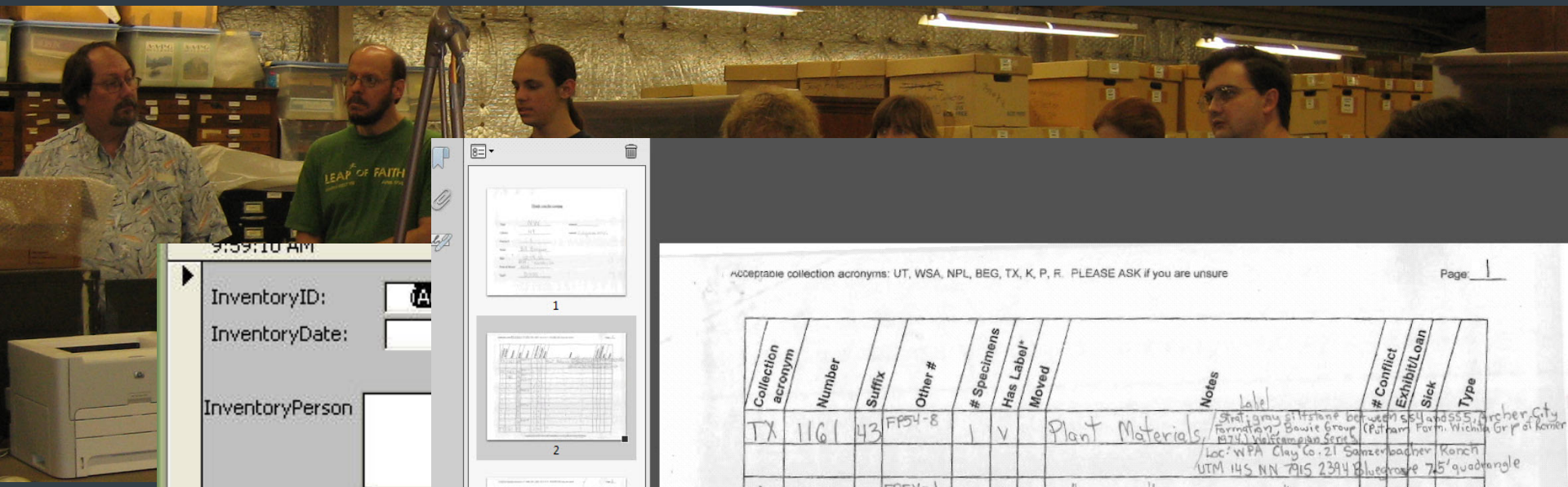
Training the crew

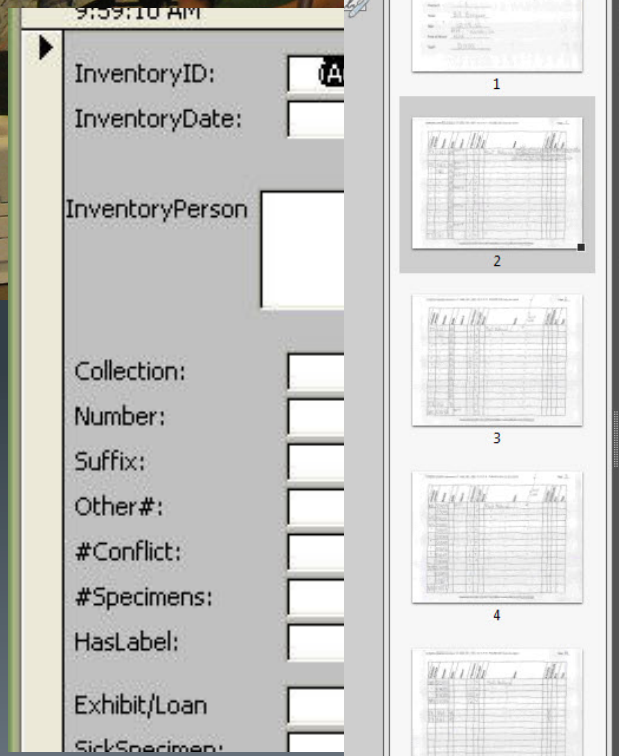
- Basic tour of repository
- Basic conservation
  - Location of supplies
  - Drawer and specimen handling
  - Tray preparation with Ethafoam liners
- Basic safety training
- Paper work
  - Level 1-Basic
  - Level 2-Basic + Network access
  - Level 3-Basic + Network + Background check + Key access
  - Level 4-Research access + Remote computer access

Mass Inventory

Non-vertebrate Paleontology and
Geological Collections at PRC33

Basic training





Acceptable collection acronyms: UT, WSA, NPL, BEG, TX, K, P, R. PLEASE ASK if you are unsure

Page: 1

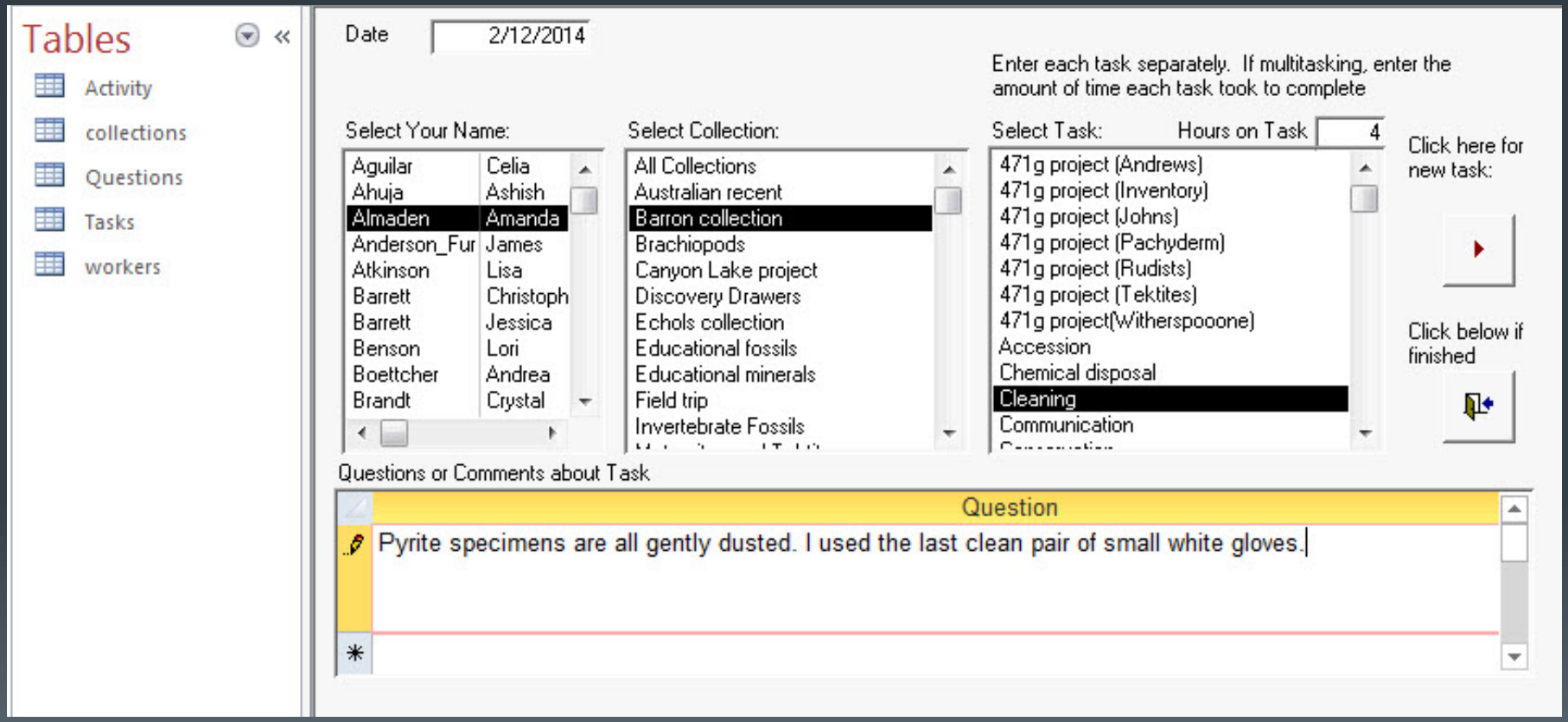
Collection acronym	Number	Suffix	Other #	# Specimens	Has Label*	Moved	Notes	# Conflict	Exhibit/Loan	Sick	Type
TX	1161	43	FP54-8	1	V		Plant Materials, label Stratigraphy siltstone between 554 and 555, Archer City Formation, Bowie Group (Putnam Form. Wichita Grp at Korner 1974) Wolfcampian Series Loc: WPA Clay Co. 21 Samzenbacher Ranch UTM 14S NN 715 2394 Bluegrove 7.5' quadrangle				
TX	1161	45	FP54-1	1	V		" " "				
"	1161	46	FP54-7	1	V		" " "				
"	"	48	FP54-5	1	V		" " "				
"	"	49		1	V		" " "				
"	"	50	FP54-10	1	V		" " "				
"	"	51		1	V		" " "				
"	"	52		1	V		" " "				
"	"	53	FP54-6	1	V		" " "				
"	"	54		1	V		" " "				
"	"	55		1	V		" " "				
"	"	56	FP54-9	1	V		" " "				
TX	1161	57		1	V		" " "				

\\austin\disk\tnsc\NPL\DocLib\Projects\Mass Inventory\MassInventoryWorksheet

Training the crew

- Tracking hours
- Access to server, file structure and folders
- Learning aides online
- Software
  - Initial training with Excel and Access
  - Further Specify training with online wiki training modules
- Access to main database
  - Requires additional security password and master key
- Imaging
  - Various levels of imaging

Level 2-the system



Tracking training

ID	Family name	First nam	Begin_da	Status	Work_zone	Ph	E		Reference
39	Shugart	Kelly	8/15/2004	Volunteer	discovery	0			UT

Catalog entr	Fossil invent	Pull specime	Bagging a lat	Cleaning spe	Running que	Foam cuttin	Scanning lab	Archiving lal	New Labels	Digital imag	Conservatio	Preservatior	Type Collect	Rec
No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	

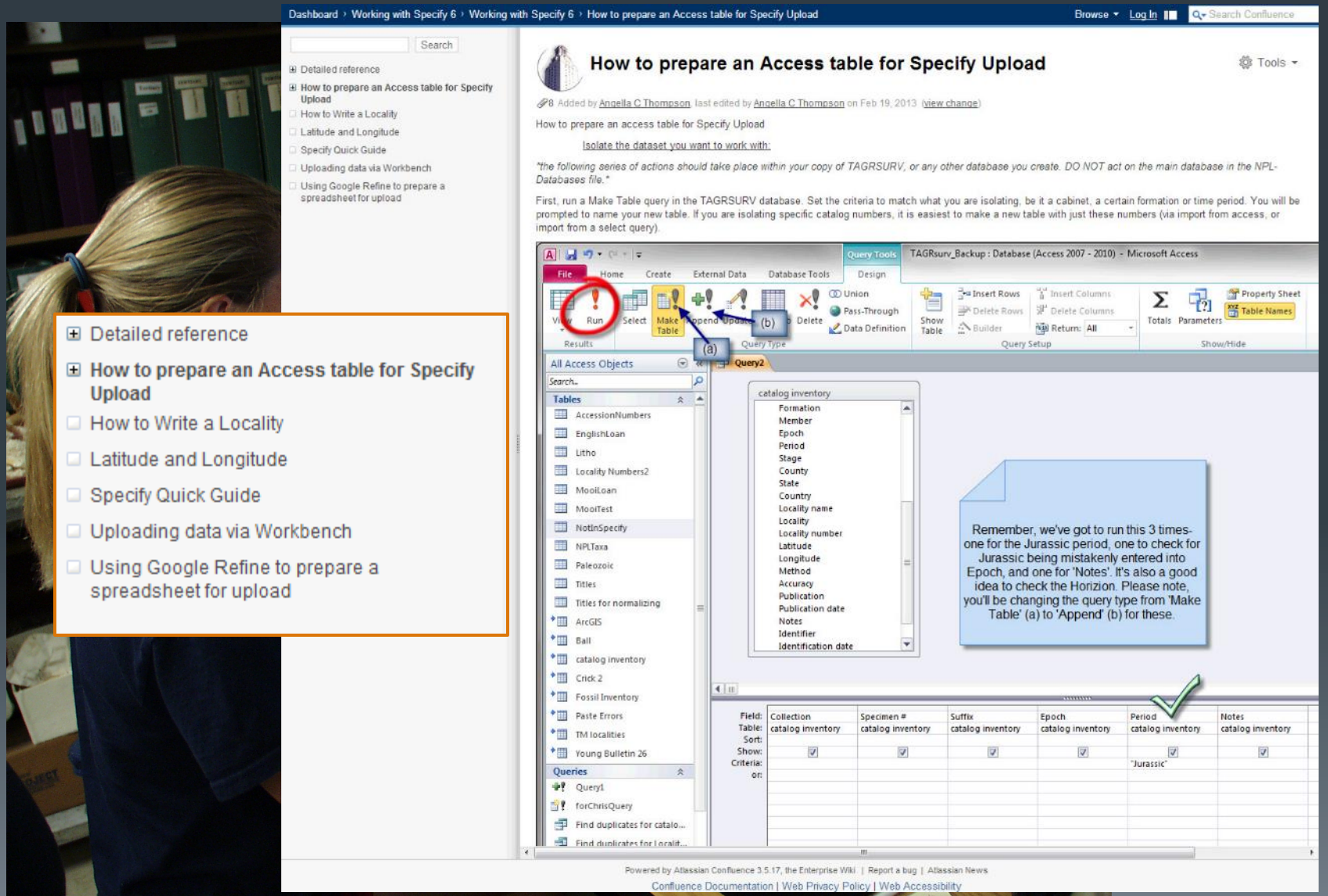
ID	Family name	First nam	Begin_da	Status	Work_zone	Ph	E		Reference
40	Fairchild	Hillary	9/1/2004	Volunteer	catalog, labels	0			Utbridging
37	Krupski	Jillian	9/1/2004	Paid intern	library,ICR	0			Enquiry
38	Atkinson	Lisa	9/1/2004	Volunteer	catalog normal	0			St EdwardsMar
52	Casillas	Cathy	9/22/2004	Workstudy	ArchiveLabels/	0			UT
51	Aguilar	Celia	9/23/2004	Workstudy	ArchiveLabels/	0			UT
66	Dunn	Liz	4/21/2005	Paid undergraduate	Type GIS	0			UTGEO
53	Humer	Judy	6/30/2005	Volunteer	IMLS, rudists	0			Enquiry

Catalog entr	Fossil invent	Pull specime	Bagging a lat	Cleaning spe	Running que	Foam cuttin	Scanning lab	Archiving lal	New Labels	Digital imag	Conservatio	Preservatior	Type Collect	Rec
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	

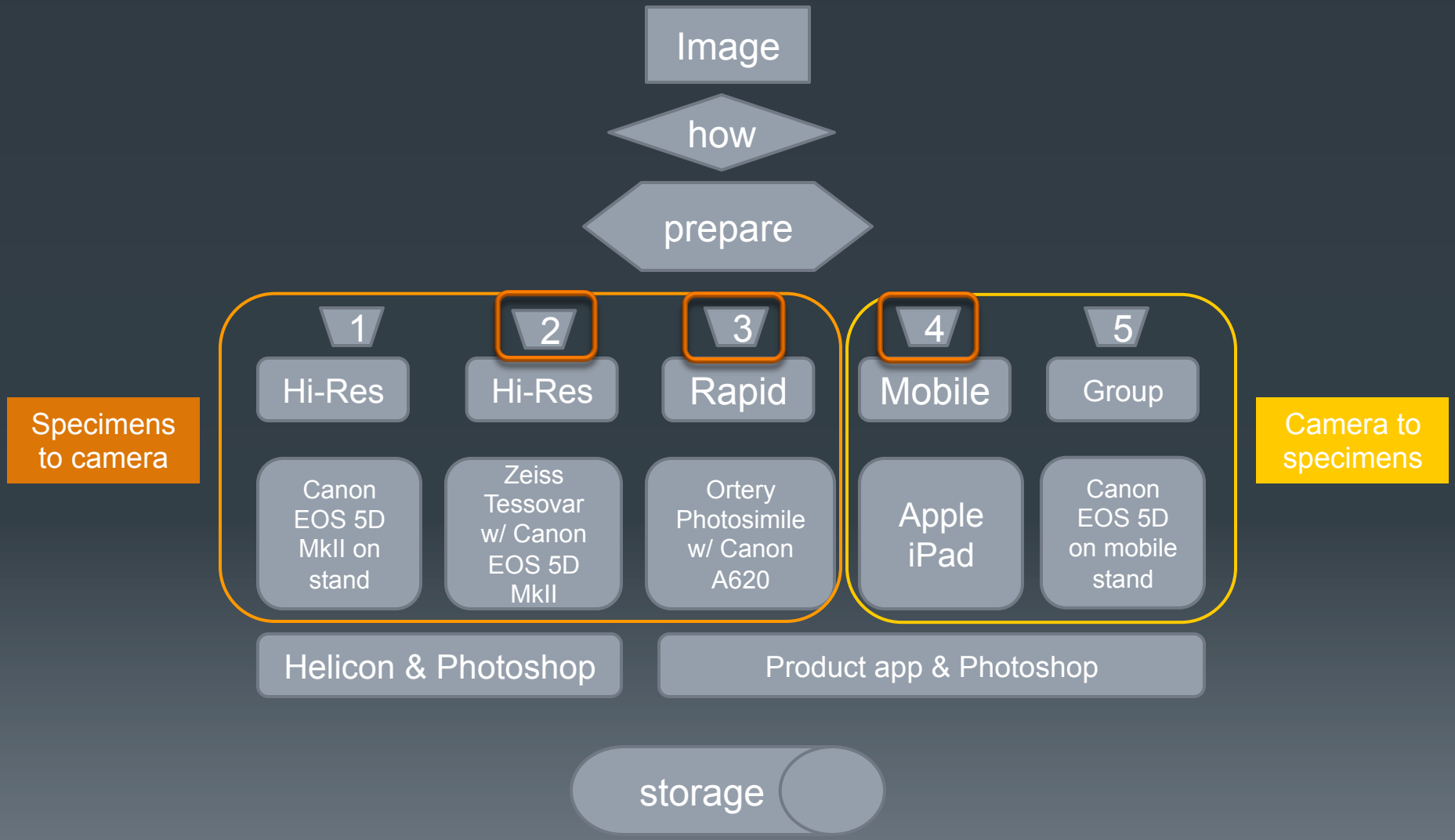
ID	Family name	First nam	Begin_da	Status	Work_zone	Ph	E		Reference
63	Briseno	Victoria	8/16/2005	Volunteer	Inventory	0			TMM applicatic
54	Myers	Roger	9/30/2005	Volunteer	FossilPrepImag	0			Enquiry
70	Guest	Margaret	10/25/2005	Volunteer	PRC33:SW/Fos	0	Mar		TMM applicatic
55	McCulloch	Christine	10/30/2005	Volunteer	Conservation	0			Enquiry

Field Name	Data Type	Description (Optional)
ID_number	Number	This is the same number as the Personnel Table "autonumber"
Tour facility	Yes/No	Show the person around the entire facility explaining the layout and collections
Computer profile	Yes/No	Co-ordinate with Melissa Winans to get access to computer and personal profiles
Keys	Yes/No	Assign keys via Margaret Fischer at TMMSH, only if necessary
After hours access	Yes/No	After hours access from Margaret Fischer only if needed
Activity log	Yes/No	Use of the database form for recording activities
Time sheet	Yes/No	Procedures for filling out time sheets and transferring to TMMSH or UTDGS
General procedures	Yes/No	Read " Practices and protocols"
Handwriting sample	Yes/No	Provide a handwriting sample
Catalog entry	Yes/No	Basic use of MSAccess to enter information from the catalogues into the database "Catalogue Table", at least three sessions (2hrs each)
Fossil inventory	Yes/No	How to inventory specimens in the collection and procedures for computer entry, at least three sessions (2hrs each)
Pull specimens	Yes/No	How to select and move specimens to the holding area in the SW cage, at least three sessions (2hrs each)
Bagging a label/vial	Yes/No	How to fill out a conservator label correctly and insert all relevant labels into the baggie without damage and in an orderly manner
Cleaning specimens	Short Text	How to clean each specimen and its labels while causing the least amount of damage
Running queries	Yes/No	How to run and use queries on the database for selecting specimens for loans, pulling and conservation, at least three queries
Foam cutting	Yes/No	Basic use of templates, scoring and method for tray and drawer insertion, at least
Scanning labels	Yes/No	Techniques of scanning, requires basic familiarity with Photoshop at this point, need one session (2hrs)
Archiving labels	Yes/No	Procedures to archive labels to include database record and fosssil inventory update, scan, checks and filing in correct cabinet, at least three sessions(2hrs each)
New Labels	Yes/No	procedures for running the new primary labels
Digital images	Yes/No	Use of digital camera, on and off stand, change settings, change smart media card, charge battery, download data to computer (6hrs)
Conservation	Yes/No	General procedures for cleaning specimens,retraying with foam liners, bagging labels
Preservation techniques	Yes/No	Use of silica gel to stabilize humidity, procedures and recording on database

Software training

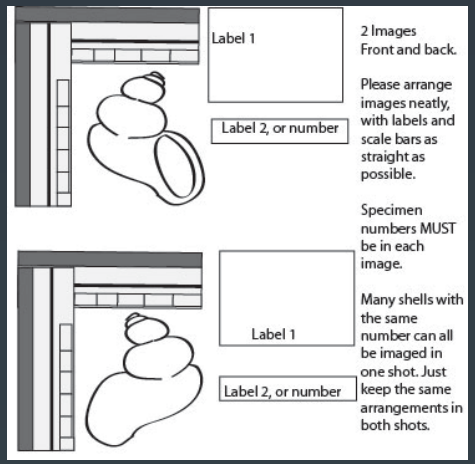


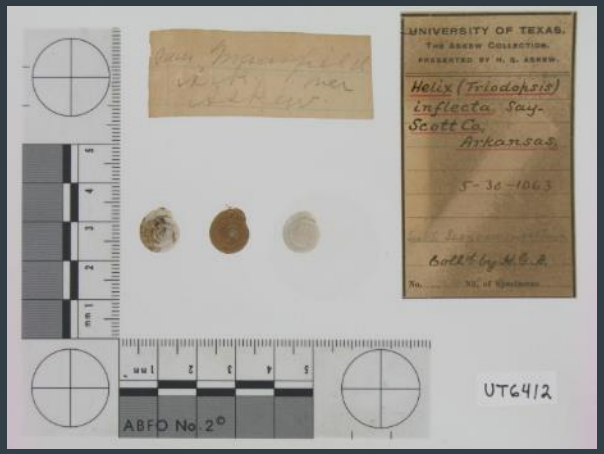
Slotting into imaging

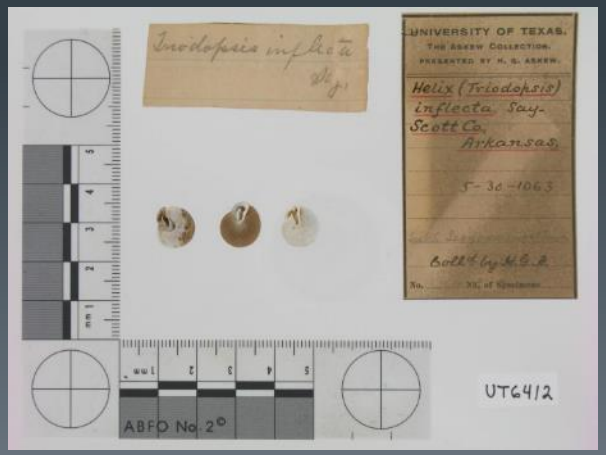


Project-Imaging 3

Basic reference image + label Requires minimal processing



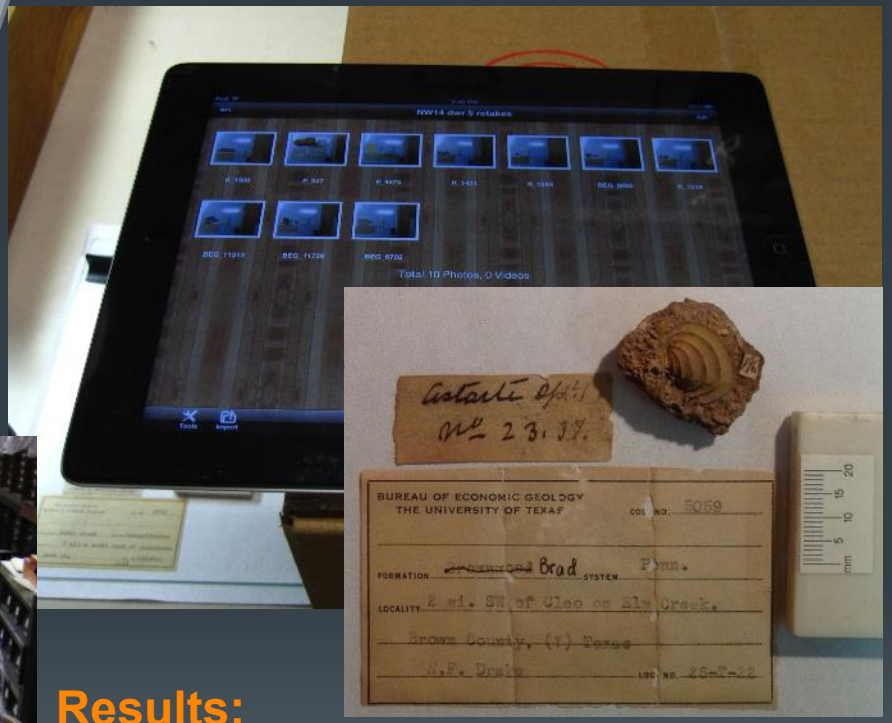




Specimen detail adequate: Label text is legible: Data extracted to Specify

Projects-Inventory

Inventory-conserve-image 4



Results:

- Specimen located & conserved
- Record image of specimen & label & whole drawer view
- Data added to Specify
- Available to view online

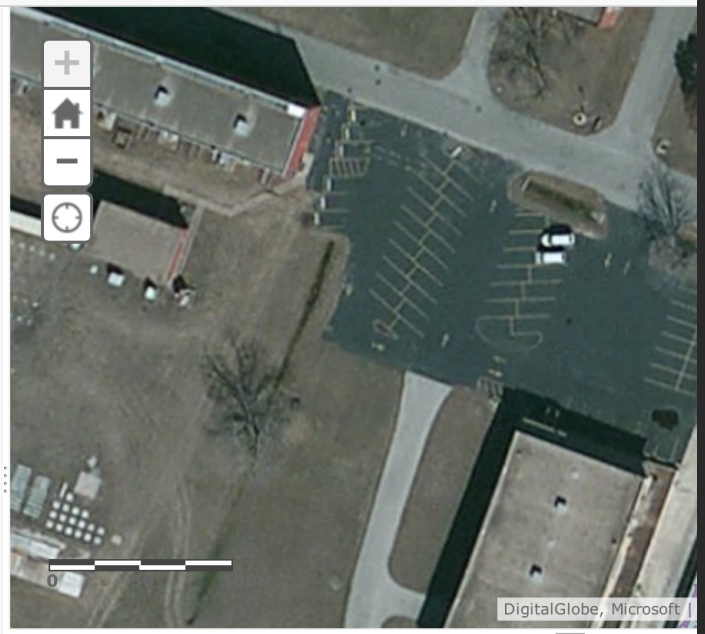
Projects-Inventory

HOME Non-Vertebrate Paleontology Laboratory NEW MAP Ann

Details Add Basemap Share Directions

Contents

- Cabinet 312 1
- TAGSurv
- PRC122
- fossbarn 1
- Imagery with Labels



TAGSurv (373 features, 0 selected)

en #	Cabinet #	Drawer #	Taxon	Locality			
				old Manor Rd			
	312	21	Exogyra ponderosa erraticosta, Stephenson	Little Walnut Ck., just below Bluestein Blvd., Austin	Travis	Texas	Young, K.
	312	19		Walnut Hill, , on old Manor Rd	Travis	Texas	Young, K.

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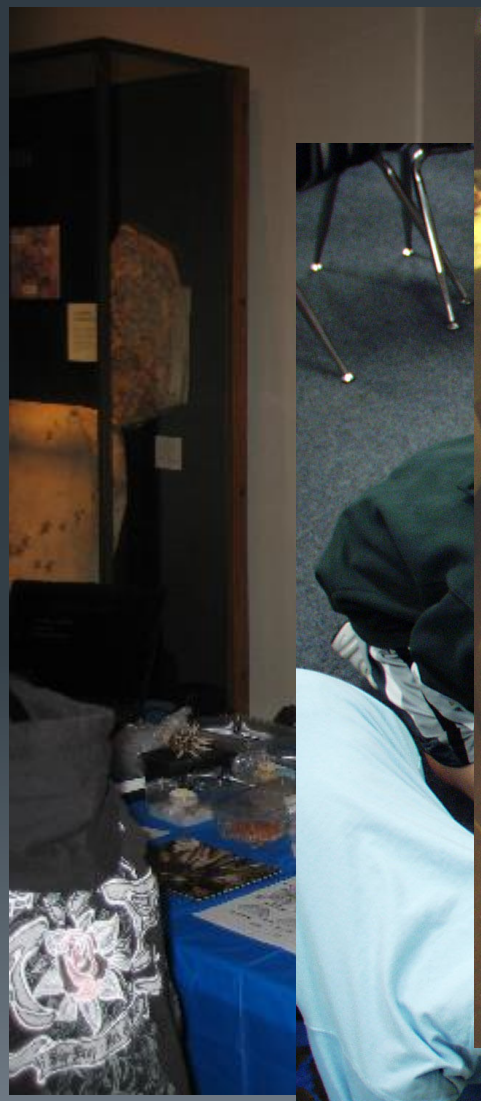
Projects- outreach



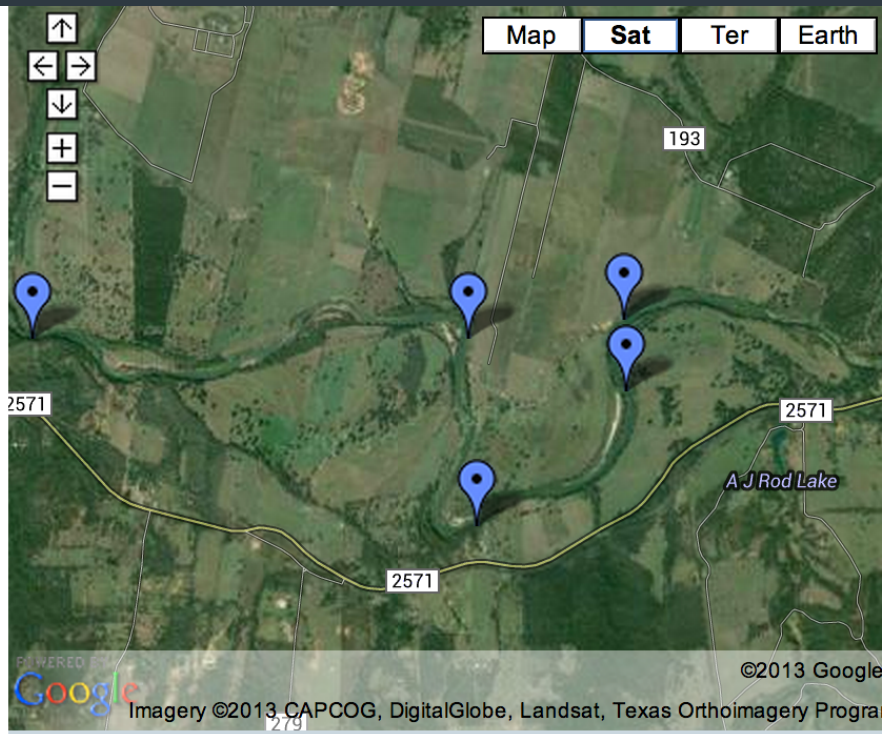
Projects

Outreach

The Search for Devil's Eye

"The Search for Devil's Eye" would open in the midst of the late nineteenth-century mapping frenzy, in an era of internal exploration that led to a massive expansion in our knowledge of the internal regions and resources of the United States. In 1888, with approval from the State of Texas, E.T. Dumble (the State Geologist), R.T. Hill (a professor in the Geology Dept of UT), and R.A.F. Penrose (former employee of the Anglo-Canadian Phosphate Company) embarked on the third geological survey of the State. In 1889 some of their efforts to unravel the geology of the Gulf region of Texas led them from Austin to La Grange via the Colorado River, and provided Texans with a wealth of vital information about potential resources. During their explorations, they sampled rock beds, interacted with settlers, argued with each other, and generally produced a delightful record of the daily experience of exploration and mapping of one of Texas's most important rivers. Many of the geological and historical treasures detailed and collected by these early explorers are available to visitors to the Texas Natural Science Center.

The web module provides a glimpse of the historic survey trip and a you can follow part of that trip on the map.



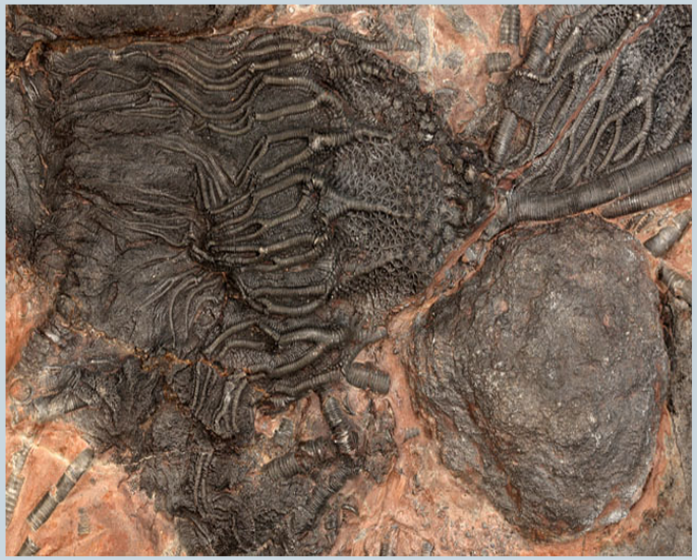
View Search for Devil's Eye in a larger map

Fossil Roulette

A project to bring fossil samples from the collections into the mobile electronic world. Each image is served with explanatory text.

Download the app to your Android smartphone:

Download the app to your iPhone:



Fossil Roulette

Projects-outreach

WHAT STARTS HERE CHANGES THE WORLD
THE UNIVERSITY OF TEXAS AT AUSTIN

The Search for Devil's Eye

Home | The Devil's Eye | Explore the Path | Read the Journals | Then and Now | Contact

The Search for the Devil's Eye content is generated and maintained by The Non-Vertebrate Paleontology Laboratory at the Unviersity of Texas at Austin. Ple
isit their website to find out more about the geology and fossils of Texas in general, or the Search for Devil's Eye in particular.

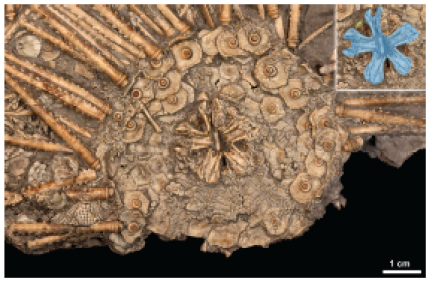
he Search for the Devil's Eye webpage was created by Bretagne Abirached, Ashley Carter, and Sara Hawkins as part of their coursework in the University of
exas School of Information under the guidance of Dr. Ann Molineux (NPL) and Dr. Unmil Karadkar (UT iSchool). It is being modified and further develope
s a mobile application supported by The National Science Foundation under Grant No. 1057396.

Projects-outreach

Bringing museum collections to the public through a smartphone application

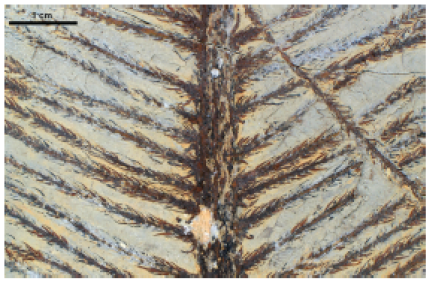
Zixiao Wang[1] Natasha S. Vitek[2,3] Unmil P. Karadkar[1] and Ann M. Molineux[2,4]

[1]The University of Texas at Austin, Austin, TX
[2]Jackson School of Geosciences, The University of Texas at Austin, Austin, TX.
[3]Current Affiliation: Florida Museum of Natural History & Department of Biology, University of Florida, Gainesville, FL.
[4]Non-vertebrate Paleontology Laboratory, The University of Texas at Austin, Austin, TX
*Contributed equally to the project



Introduction

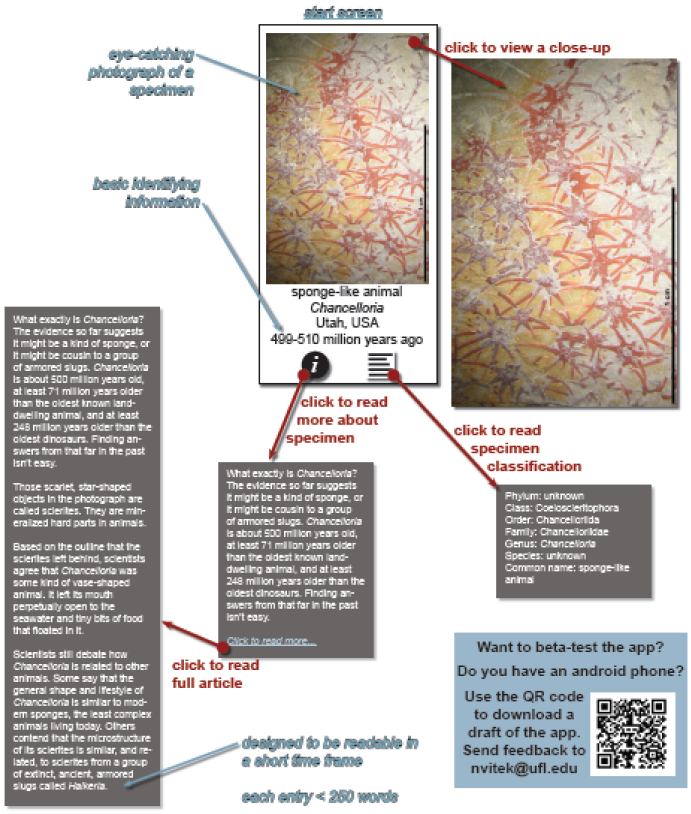
- Specimens are an irreplaceable outreach resource, but one often restricted to museum displays or small programs
- Outreach workers often lack the technical expertise necessary to bring specimens to a wider audience
- The University of Texas Non-vertebrate Paleontology Laboratory (NPL) and School of Information collaborated to build a smartphone application (app)
- The app takes advantage of the 4 million specimens in existing NPL museum collections



Goals

- Target non-scientists at high-school level and above
- Excite public interest in fossils
- Provide accurate, engaging, and concise commentary on each fossil specimen
- Increase the utility of specimens in research collections by making images and information available to anyone with a smart phone inside or outside of museums

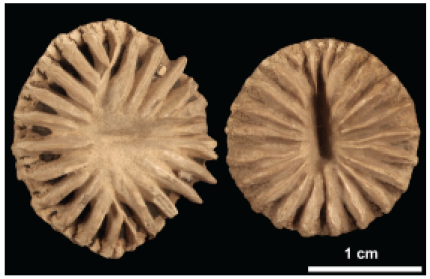
Anatomy of a Fossil Roulette Entry



Want to beta-test the app?
Do you have an android phone?
Use the QR code to download a draft of the app. Send feedback to nvitek@ufl.edu

Challenges

- Building an intuitively useable interface
- Selecting appropriate specimens in terms of both their aesthetic interest and general interest to non-technical audiences
- Reliance on volunteer effort for content generation, including creation of specimen images, scientific classification, and development of brief, non-technical articles

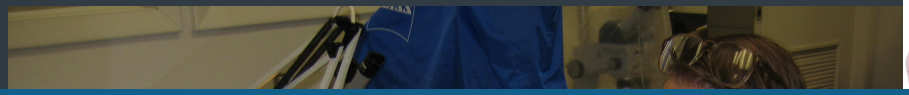


Future Directions

- Build a simple, manageable database in which all app content can be stored and edited by content creators
- Develop more interactivity between the app and users
- Develop iPhone-compatible version of the app
- Develop and implement assessment metrics to judge the app's success, discover what other improvements are necessary

Acknowledgements
Thanks to C.J. Bell and P.D. Walker for feedback that improved app content. Financial support was provided by the NSF under Grant No. DBI 1057396: Open Access: Conservation, Digitization and Interoperability of the Historic Non-vertebrate Collections of the Texas Natural Science Center. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Research associates



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GCAGS Transactions

Abstract

Gulf Coast Association of Geological Societies Transactions Vol. 58 (2008), Pages 683-694

Spectacularly Preserved, Mollusc-Dominated Fauna from a Cavity Layer in the Lower Cretaceous Edwards Formation, Central Texas

Linda McCall[1], James Sprinkle[2], and Ann Molineux[3]

[1]Paleontological Society of Austin, P.O. Box 90791, Austin, Texas 78749

[2]Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, 1 University Station C1100, Austin, Texas 78712

[3]Non-vertebrate Paleontology Laboratory, Texas Natural Science Center, University of Texas at Austin, 10100 Burnet Rd., Austin, Texas 78758

ABSTRACT

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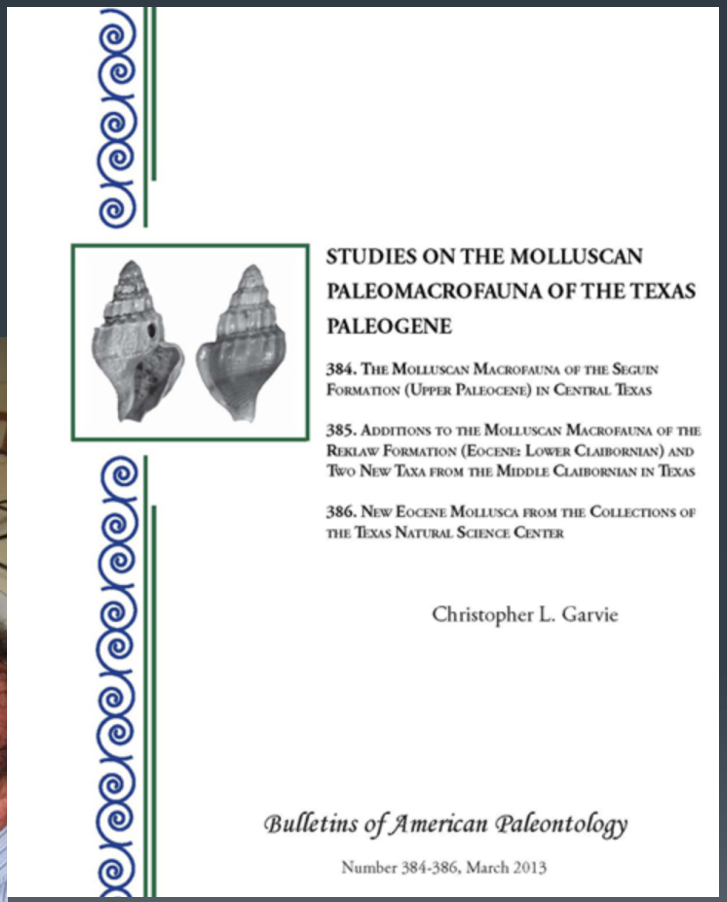
Research associates



Retention and long term commitment

- Worthwhile projects
- Defined goals
- Visible progress
- Learning opportunities
- Appreciation
  - Lunches, snacks, parties
  - Web appreciation
  - Inclusion in events and papers
  - Field and other collections experiences
  - Recognition
- Possible track to paid position

The end product

Exciting endproduct

PaleoCentral

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Types Collection

Records » TX 1397.58

Scientific Name
Acolocrinus arbucklensis Sprinkle, n.sp.

Common Name
crinoid

Taxonomic Hierarchy
Phylum: Echinodermata
Class: Crinoidea
Order: Disparida
Family: Acolocrinidae

Collector
Collector: Sprinkle, J.T.
Collection Date: 5/14/1979

Specimens » TX.1397.58

Scientific Name
Acolocrinus arbucklensis Sprinkle

Common Name
Sea lily

Taxonomic Hierarchy
Phylum Echinodermata
Class Crinoidea
Order Disparida
Family Acolocrinidae
Genus Acolocrinus
Species arbucklensis

Collector
Collector: Sprinkle, J.T.
Collection Date:5/14/1979

Publication

Locality Description
Daube Ranch, West Branch Sycamore Creek bottom, shale below massive ledge ~200 feet east of Lower Echinoderm Zone dig, SW1/4 SE1/4 NW1/4 sect. 27, T. 3 S., R. 4 E., S. Arbuckle Mtns.

Geographic Location
USA, Oklahoma, Johnston

Geologic Age
Era Paleozoic
Period Ordrovician
Epoch Upper Ordovician
Age Katian

Stratigraphic Position
Group Simpson
Formation Bromide
Member Mountain Lake

Storage Location
Building PRC122
Cage Types
Cabinet 19
Drawer 314

Find Location

Paleo Location

Member: Mountain Lake

Storage Location

Worthwhile projects

Welcome to the Stenzel Letters Project

Sponsored by the Nonvertebrate Paleontologic Laboratory at the University of Texas, Austin

In this guide:

Introduction and background

Keywording the letters

Uploading single files

Preparing files for batch upload

University of Texas Libraries

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Texas Natural Science Center

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Copyright Stuff

Contents of this community

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Recent Submissions

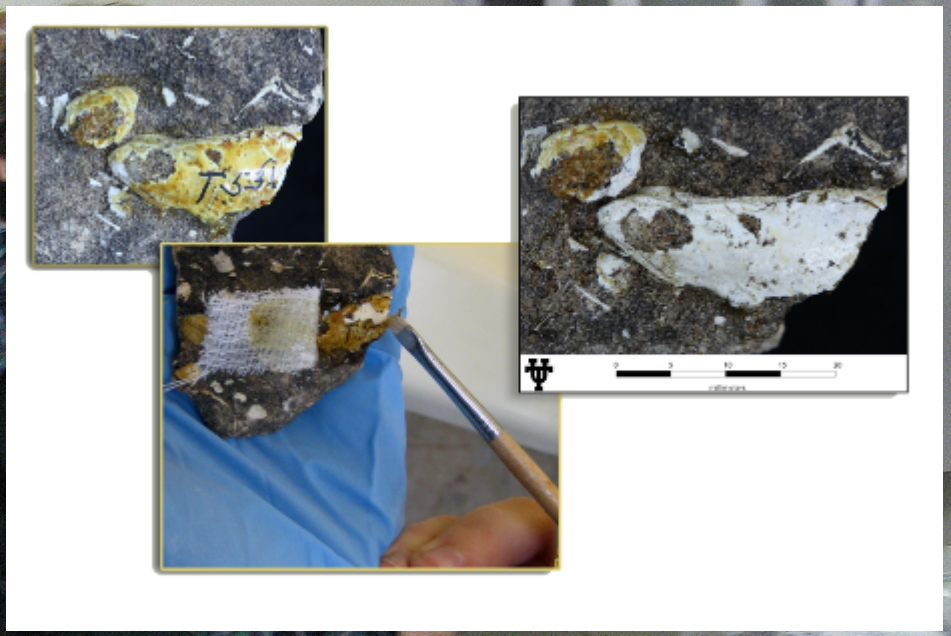
RAF Penrose Journals
Penrose, Richard Alexander Fullerton Jr. (1889-01-19)

Stenzel Letter TEST
Allen, Joyce; Stenzel, H. B. (1948-11-26)

Stenzel Letter TEST
Allen, Joyce; Stenzel, H. B. (1949-03-28)

Stenzel Letter TEST
Joyce, Allan; Stenzel, H. B. (1948-03-05)

Joining in research projects



Testing a New Procedure for Removing Aged Consolidants From Historic Collections

Angella Thompson and Chase Shelburne

Value of volunteer partners

- Vital educational opportunity for students and the public
- Great input from pool of varied talents
- Links to the community
- Expand collection activity
- Connections to other disciplines on campus
- Promote research
- Expose the collections
- Broaden specimen acquisition

- 16000 FTE hours in last 5 years [does not include RF hoirs]

Problematic aspects

- Training time
  - Need a volunteer coordinator
- Digital reticence
  - Need to have flexible projects
- Turnover
  - Students especially mobile
  - Some tasks tedious
  - Environment is not superb!
- Security restrictions
  - Can restrict roles

The final assessment

Results

- Expanded productivity
- Broadened impact
- Added new skill sets
- Enlivened the collections
- Increased new collections

Future

- Feedback from partners
  - Survey monkey
- Assess and evaluate
  - Improve training methods
  - Increase satisfaction
  - Increase productivity
  - Improve quality control

Acknowledgements

- The avocational paleontologists of the Paleontological Society of Austin
- Geologists from the Austin Geological Society
- Master Naturalists and other conservation groups
- Research fellows who help put the collections on the map
- Student volunteers whose enthusiasm and reliability push us forward
- Students who have completed capstone and class projects
- Summer interns, high school and college always adding new perspectives
- Long-term volunteers the backbone of continued progress
- All those colleagues who steer their student/members towards these collections
- Those companies who encourage their workers to volunteer in the community
- To the National Science Foundation whose funding enables the pairing of supported students and volunteers under grants:
  - DBI-1057396: *Open Access: Conservation, Digitization and interoperability of the Historic Non-vertebrate Collections of the Texas Natural Science Center.*
  - EF-1305070: *Digitization PEN: Targeted digitization to expand and enhance the Paleoniches TCN.*
  - Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

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