#### Pre-Digitization Curation Mobilizing Small Herbaria for Digitization Workshop sponsored by iDigBio, Florida State University, Tallahassee, Florida December 9-11, 2013

Richard Carter Professor & Herbarium Curator Biology Department Valdosta State University Valdosta, GA 31698



The original idea

- Prior to digitization
  - First, the curator would check determinations and annotate specimens, family-by-family.
  - Names would be updated on old folders as needed.
  - New folders with geographically color-coded labels would be prepared, and specimens shifted to the new folders.
- Digitization would follow.





10 VSU undergraduate students properly trained in digitization techniques – *a very capable and eager bunch!*  Between the idea and the reality...falls the Shadow T.S. Elliott 'The Hollow Men'

- Adhering to our original plan was simply not feasible. I couldn't stay ahead of the student assistants!
- Adjustments were made.

## The reality

- We decided to push ahead with both imaging and data entry, regardless of names on folders and specimens.
- Rationale
  - In our Specify database, all specimen annotations are tracked, including the name of the annotator and the date of each annotation.
  - As nomenclature is updated, new annotations will be added to the database and designated as current names.

#### Some considerations

- Protocol development
- What is realistic?
- Flexibility
- Communication

#### Protocols

- Help to insure everyone is on the same page
- Help to maintain consistent standards
- Allow greater peace-of-mind for all concerned

# Consider developing protocols for

- Proper handling of herbarium specimens
   Including use of fragment packets
- Housekeeping in the herbarium
- Attachment of bar-code labels
- Imaging
- Data entry

#### What is realistic?

# Varies from collection to collection Varies over time

# Flexibility

- Be prepared to make adjustments to get the most out of the student assistants within the times they are available.
- When possible, accommodate student schedules. I frequently remind them that health and course-work come first!
- When possible, work with the strengths of each student and shift them toward tasks they do best.



Data entry





Imaging

#### General curating

#### Effective communication is essential.

- e-mail
- Posted notices
- Place-markers
- Designated computer folders
- Meetings

#### e-mail

- Initial coordination of work schedules
- Misc. problems that need immediate attention

#### Posted notices

- We magnetically post laminated sheets for standard protocols, e.g., housekeeping.
- We use plastic sleeves with magnetic backs to post temporary notices, e.g., work schedules, names of families that are ready for imaging and data entry.

#### Posted notices



Contraction of the local division of the loc	-		100000000
Presser inch. p	and restants bottom in th	any process of Personal	
/ Contaction /	1 iterest	1 Manuary	1 Antonio I
1.comment	1 inners	1 mart	
100001	1 month	1 interesting of	1 montana V
1 and	1 hours of	J / Managementers	
1 conners i	I through I	1 manual	1 and
1	- manual	1. Advenue	
2 tomar	1 concept 1	1 tons 1	Traductores
1 tons	I come I	1 Automation	1 marine
Strates V	1 mand	1 Appennia /	
1 amount	I amount	1 and 1	
1 anna 1	V manufact	1 minus 1	
1 barrenser	1 mont	1. mound	1 man 1
- remained	1 common of	V low	1 mans
1 married	of Innered	1 commont	1 mm
1 manual	1 Harrison	1 manual	1 mart
1 marine	1 comet	1 aquerantes	1 and
1 months of	1 room	" Incompany	1 ml
1 determined	Francis	1 mil	1 mint
-Thursday	J' canada	1 manual	1 - Demogra V .
1 monto V	1 month	1 manufa 1	inglation !
	1 man	- months I	angle .
	1 ann	1 dansard	year geding
1 i Kamatan V	' anna' j	Constant /	
I download	1 Anton	~ manual d	

#### GENERAL INSTRUCTIONS FOR PROPER HANDLING OF RESEARCHAS SPECIALIZED

suble: It is a permanent voucher record and should be handled accordingly

Specimen sheets and folders should be handled carefully, i.e., when carried always held parallel to the ground.

Nover turn specimen shoets or folders upside down. Avoid holding specimen sheets and folders at an angle more than 30°.

Avoid leafing through folders like pages of a book.

When working through a folder of spectrum sheets, place the folder on a fact surface, open the folder, and go through the interest one as a time; more the top place to an open rule to the right or left of the original stack, they place each subsequent whether is top of the performance of them for the acts the right or left of spectrum sheets, simply reverse them one by one to retem to the other in the original stack.

ecimens or folders out of order, you should carefully place them in proper order. If you are not sure, then out the

Specimen sheets are normally expanded in folders alphabetically by state, then alphabetically by course with pate.

A=2 finites are used for species for which there are fewer than three sheets: The specimen sheets are regarized from alphabetically by species, then alphabetically by state and county within each species.

In many cases, the faiden labeled by species or A-2 are numbered sequentially, with the full range for that set being distributed in order within the numbered series of faiders.

cimen sheets should be carefully placed in folders, squarely aligned with one another and with the folder. Gerus folders should be placed on the cabinet shelf, squarely aligned with one another and with the shelf.

When loose fregments are discovered, and they can definitely be associated with an individual spacimen sheet, carefully use foreget or a small brush to retrieve them and place them in a fragment pocket.

If the spectrasm does not already have a fragment packet and it needs one, select a packet of an appropriate siz It to the harbankers sheet.

coso Regressits that accumulate in the construct fold of the genus folder and cannext definitely be associated with an individual partners thest should be discarded. If you are net sure, then sait the curstant

When you remease a failer from the harbarium cabinet, mark the location with a plece of somp paper in order to insure the failter is returned to its proper paction in the cabinet.

Keep doors of herbarium cabinets closed, except when removing specimens and returning them to the cabinet.

If you notice insects or evidence of insect damage on herbarium sheets, inform the curator immediately.

Wey rendy you will encounter spectroars marined "poissened." These were acquired through exchange, and they should be handled carefully, and each placed in a separate species fulder within the appropriate genus folder.

Always with your hands with warm seagy water before and ofter handling specimen sheets.

Never consume food or chinks - including water - while working with specimen sheets.

#### Place-markers

- Color-coded drop-tags are useful to mark shelves inside cabinets so students know where to start (and stop) imaging and databasing.
  - Start imaging here
  - Start data entry here
- We also use corresponding laminated, magnetic tags on cabinet doors, in combination with the drop tags inside the cabinets.

#### Place-markers.



# Designated computer folders

- Commonly used documents and spreadsheets are kept in designated folders on the desktop of the computer.
- Spreadsheets
  - To track output rates: Start and stop times and number of specimens databased or imaged
  - To track data-entry progress by family: Running list of families with completion dates for data-entry



- Designate one hour each week when it is convenient for all to meet.
- Have at least one group meeting per semester.

# Acknowledgments

- VSU Student Assistants
  - Jessica Bartek
  - Amber Blocker
  - Zach Buning
  - Kyle Conger
  - Terrance Jenkins
  - Jordan Jones
  - Christopher Louis
  - Phillip Lowe
  - Dennis May
  - Amy Vardeman
- Gil Nelson for invaluable technical advice and assistance throughout

- National Science
   Foundation (DBI 1054366, J.R. Carter, PI)
- Valdosta State University



