



Digitizing Specimens in a Small Herbarium:

A Template for Other Collections Working with Limited Resources

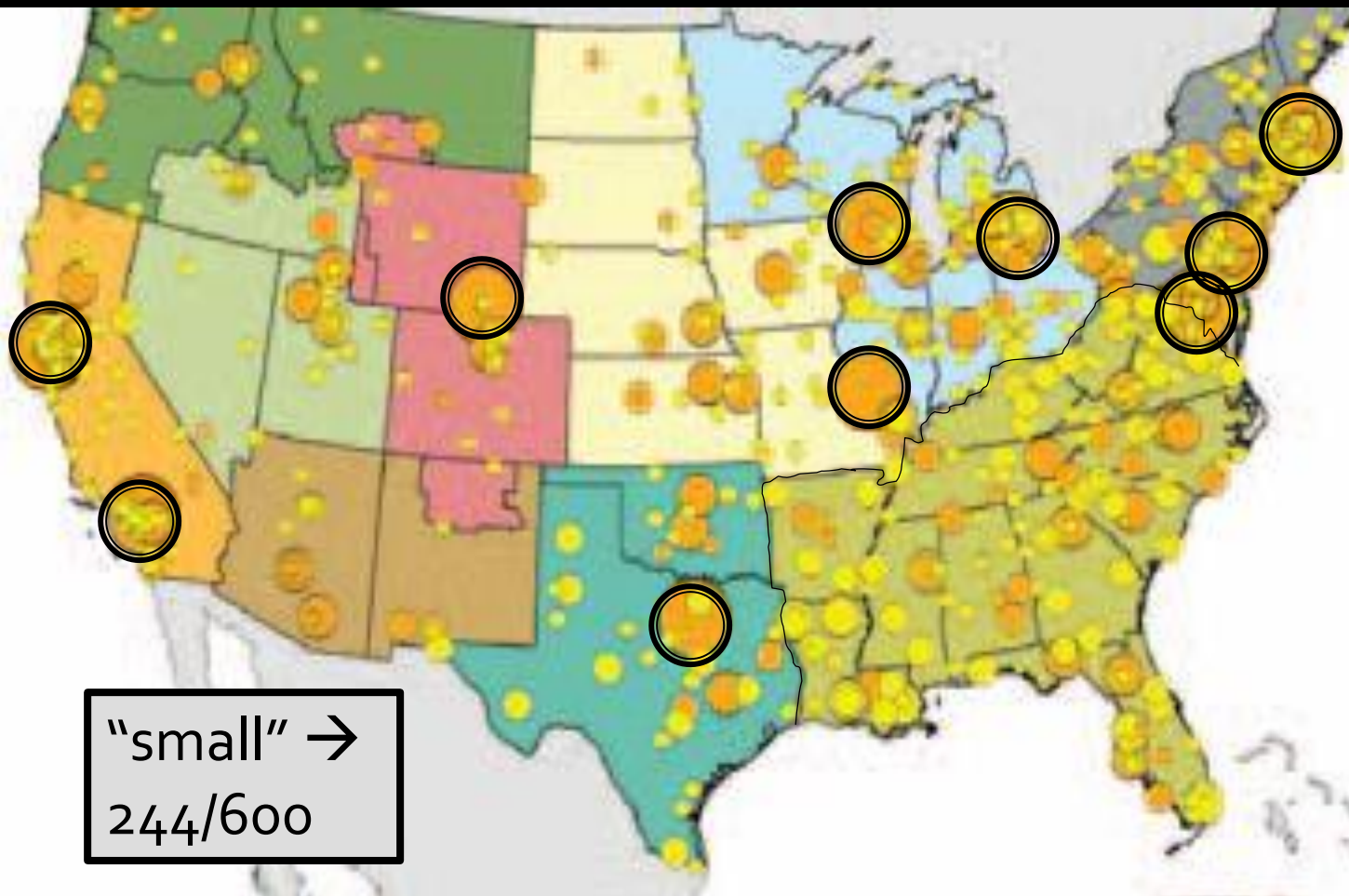
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Starlene M. Loerch, Alexander J. Worm, Travis D. Marsico

Presented at Association of Southeastern Biologists Meeting April 2013

Why Digitize?

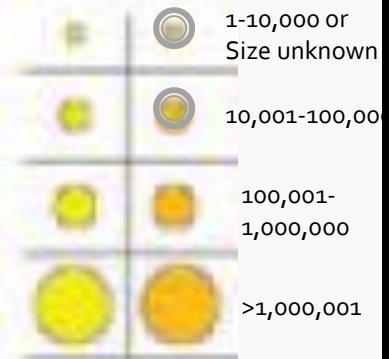
- Safeguard information against catastrophes
- Share biodiversity information worldwide
- Promote general interest in collections
- Ease of use for the particular institution
- Reducing risk to specimens themselves

United States Herbaria



"small" →
244/600

Herbaria:



Databasing

Not databasing

Regions:



Current Efforts

- 160/244 started databasing
- 58/244 imaging
- ~15% online access

Why?

- Funding
- Other responsibilities
- Time
- Where to begin?

Where to Begin

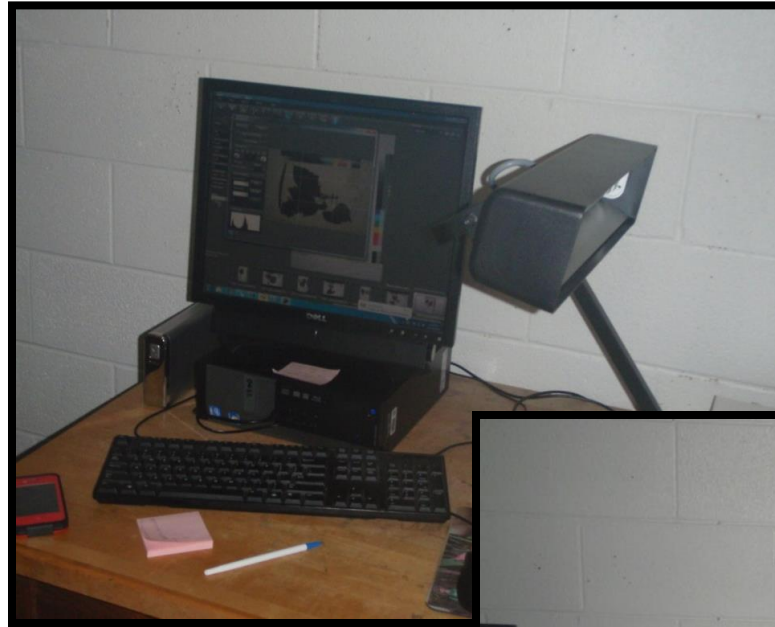
- Arkansas State University Herbarium (STAR)
 - 20,000 specimens
 - No funding
 - 2 year time scale
 - How can we do it?

How We Did It

- Many ways to get student workers
 - Experiential Learning Fellowship (ELF)
 - Scholarship programs, volunteer work, work study, etc.
- Collaborators
 - Drs. Marvin and Karen Fawley, UAM
 - Drew Prescott, UAM
 - Dr. Andrew Bentley, KU
 - Theresa Miller, KU
 - Dr. Mary Barkworth, USU
 - Joe Burleson and Dr. Su, ASU

Ask, Search, Create

- Camera
- Lights
- Computer
- Copy Stand
- Software
- Hard drive storage



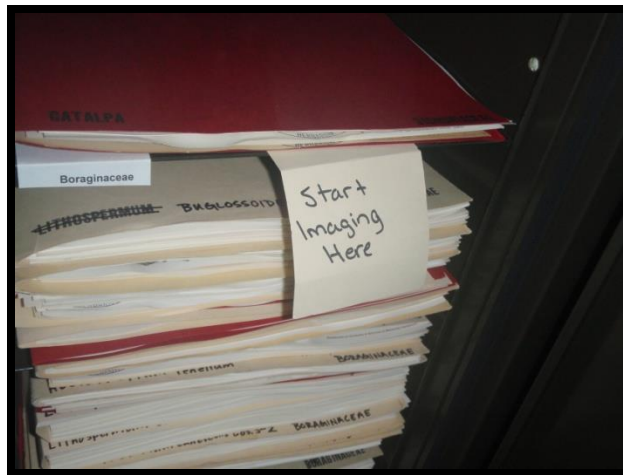
Commitment

- Annotating
 - Checking nomenclature only
 - 1 Person → Approx. 150 specimens per hour



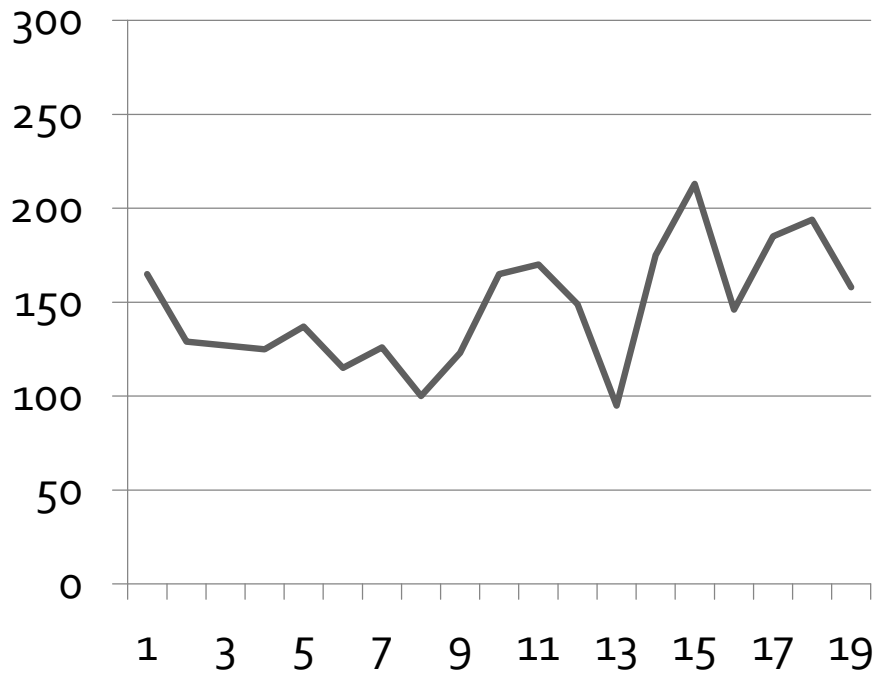
Commitment

- Imaging:
 - 1 person → 143 images/hour
 - 2 people → 160 images/hour

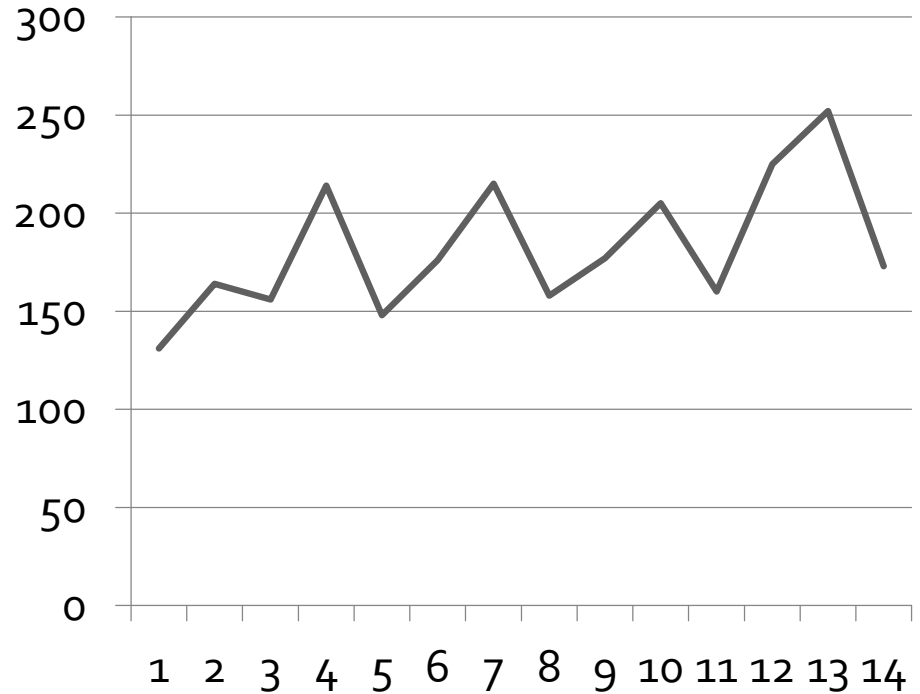


Commitment

Specimens per Hour - Kari

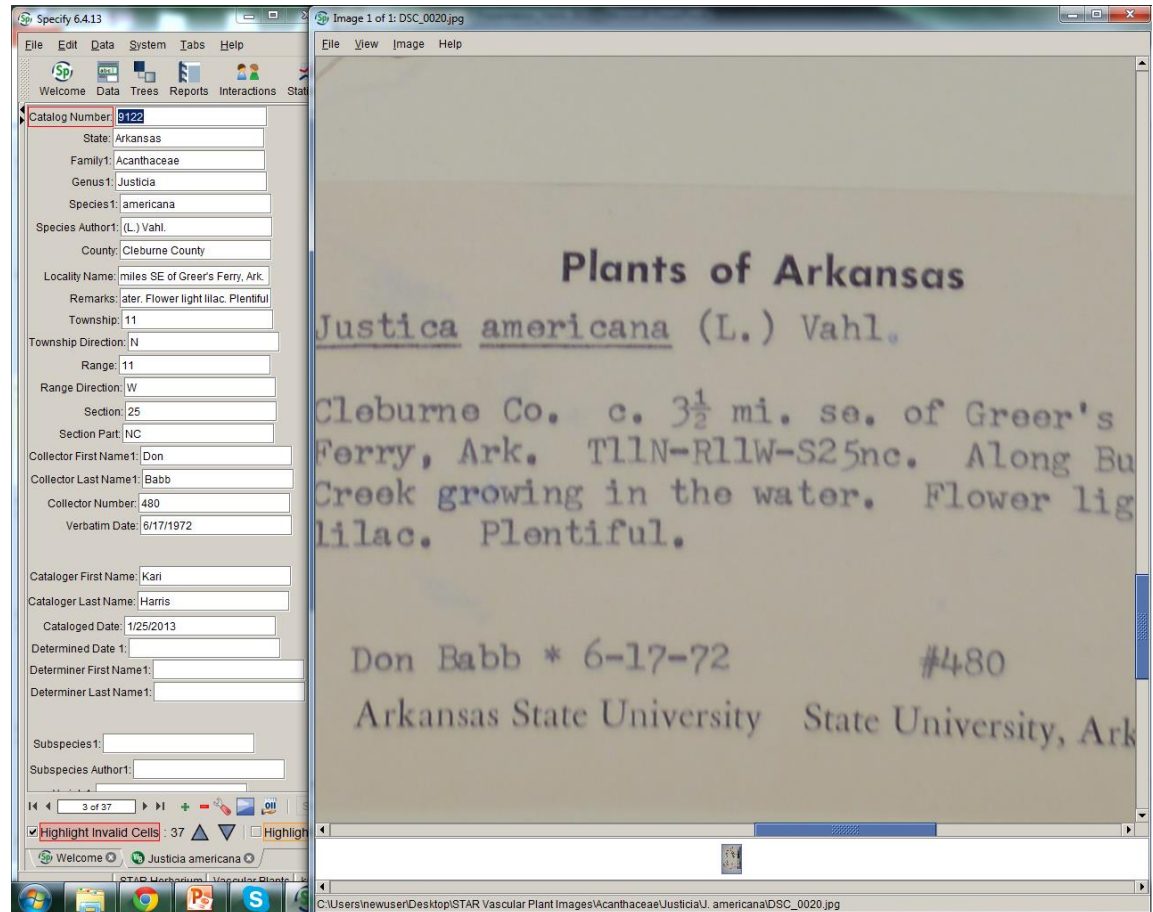


Specimens per Hour - Alex



Commitment

- Databasing:
 - 1 Person →
30 specimens/hour



Commitment

- 1 person; 10 hours/week; 20,000 specimens:
 - 13 weeks to annotate
 - 13 weeks to image
 - 67 weeks to database
- Total: 93 weeks or ~ 2 years

Student Involvement

- Students want to be involved!
- 1 semester:
 - 9 in Curation of Collections Class
 - Natural History Collections Curation Club (NHC₃)
 - 15 dedicated graduate and undergraduate students!
 - \$920 raised for curation supplies

Acknowledgements

- Drs. Marvin and Karen Fawley, UAM
- Drew Prescott, UAM
- Theresa Miller, KU
- Dr. Andrew Bentley, KU
- Dr. Mary Barkworth, USU
- Joe Burleson and Dr. Su, ASU
- EPA Grant
- College of Math and Science
- Marsico Lab
- SERNEC

Questions?



ARKANSAS TECH UNIVERSITY-APCR
Cypripedium acaule SPRENGER
VAR. *parviflorum*
Det. George P. Johnson 2001

Plants of Arkansas

Cypripedium Calceolus L. var. *parviflorum*
(Salisb.) Fern.
Sharp Co., 2 miles NW of Wirth, AR. Found
on north slope in deciduous woods, on
limestone outcropping. Associated with
Iris cristata, *Geranium maculatum*, and
Cornus florida.
FZIN, J.M., '88 #60 29 April 1979
Starr, Scott Arkansas State University State University, Ark.



As determined: Steve Ogell 10/85



Caprifoliaceae

Name	<i>Sambucus canadensis</i> (L.) Canadian ELDER BERRY No.
Locality	Region 6th. Co. E. JAMESGROVE CRAIGHEAD CO. ARK. (Habitat LOW PLACE ALONG ROAD SW)
Date	6-12-55
Collector	Jerry Witham

Kodak Gray Scale
A 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 B 17 18 19

C Y M

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Kodak Color Control Patches
Blue Cyan Green Yellow Red Magenta White 3/Color Black

White

3/Color

Black