

The past and future of digitization at the Santa Barbara Botanic Garden



Matt Guilliams
Ken and Shirley Tucker Plant Systematist
Santa Barbara Botanic Garden



1. Our different collections
2. Goals for digitization
3. Progress to date
4. Future plans

Outline



Herbarium specimens



Living collection



Slide collection



Original field notes

Our different collections



Herbarium specimens



Living collection



Slide collection



Original field notes

Our different collections

1. All herbarium specimen label data digitized, served through CCH/GBIF
2. All herbarium specimens imaged by 2019
3. All living collections inventoried and location in Garden recorded in GIS
4. All slides scanned to digital and served online
5. All field notes scanned and available online

Goals for digitization

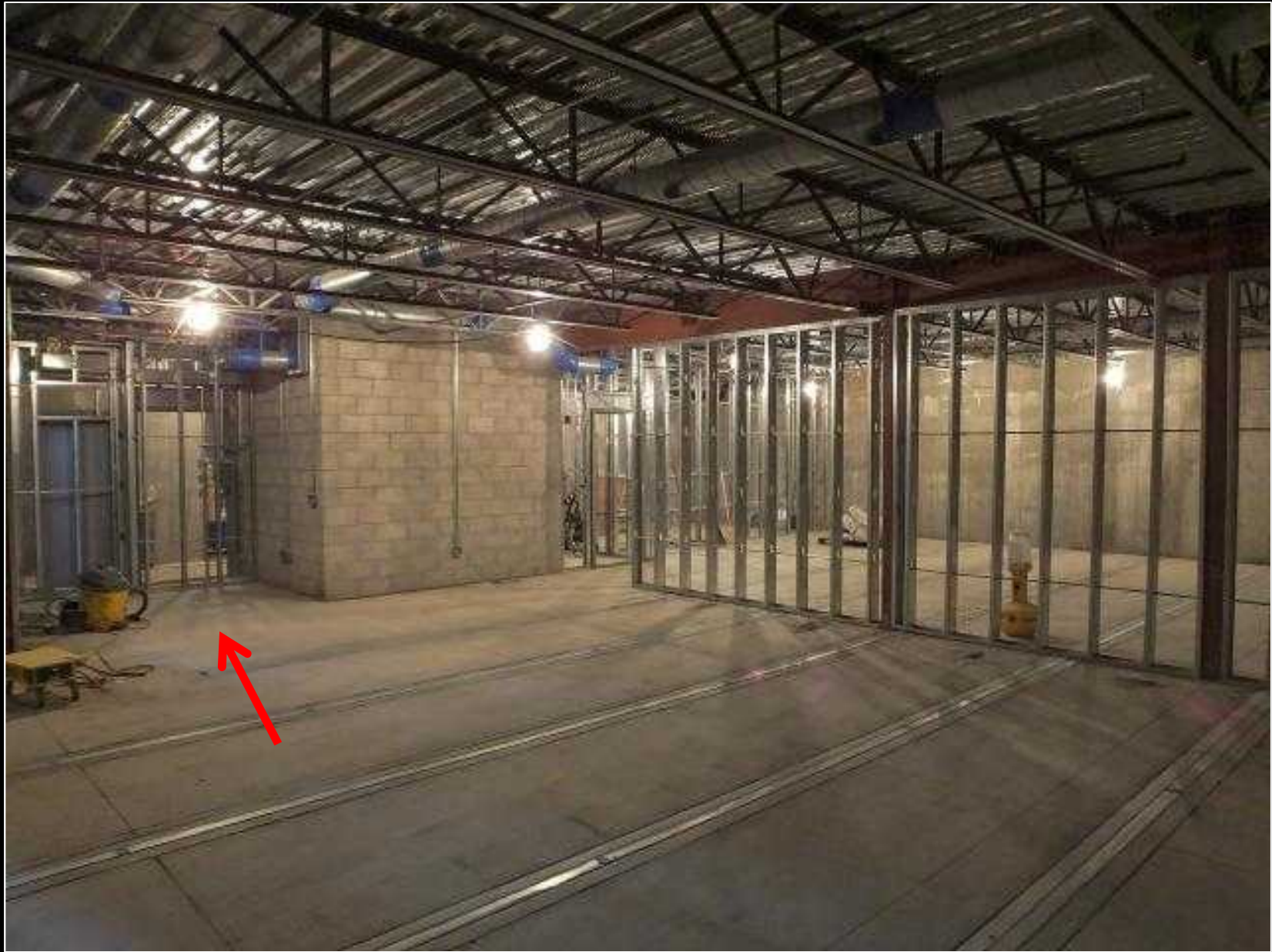
1. Herbarium label digitization

- Dieter Wilken began when he arrived in mid-1990s
- Currently 100% of CA, 100% of Mexico, 100% of lichens
- Working on non-CA North America

2. Herbarium specimen imaging

- Goal as of 2014
- Failed IMLS 2014, partner on CCH NSF 2015
- Designed new herbarium space with future imaging goals in mind

Progress to date – herbarium specimens



Progress to date – herbarium specimens

3. Living collections inventoried

- Successful IMLS supported fulltime staff to inventory and map all living collections with sub-meter GPS
- Records in Access, coordinates and metadata in ArcGIS

4. Slides are being scanned

- Ongoing project with heavy volunteer support
- Scan 1000s of slides, enter data in DB, serve online
- <http://www.sbbgphotos.org>

Progress to date – living collections and slides

Home

Welcome to the SBBGPhotos Image Gallery. From this page you can access more than 50,000 images from the SBBG Blaksley Library archive. In addition to SBBG historical, cultural and architectural images, this collection also features images of California native plants, planted and natural landscapes, and animals.

Title Search

Title Text:

[Search Images Now](#)

The Title Search searches the title field of all records for a match to the phrase entered. For instance, "mission dam" or "ssion da" will both return images of the Mission Dam, but "dam mission" will find nothing. To search other descriptive fields, try the **Advanced Search**.

Galleries

Browse these galleries to view special selections of images from the Image Library



Wishes in the Walls



Trails 'n' Tails 2015



Tequila Sunset 2015

<http://www.sbbgphotos.org>

Progress to date – living collections and slides

<http://www.sbbgphotos.org>

Advanced Search

Global Text:
Searches for any of the entered words in all fields. Will return multiple hits for the same image if a word appears in more than one field.

Title Text:
Searches only the title field for a match to the word or phrase entered.

Photographer:

Collection:

Format:

Orientation:

Image Date & Format Details ▼

Location Information ▼

General Subject ▼

Accession Record Details ▼

Plant Pictures ▼

Natural Landscapes ▼

Planted Landscapes (including SBBG) ▼

Cultural - People, Events, Buildings ▼

Animals ▼

Plant Pictures ▼

Latin Name	<input type="text"/>	type for
Primary Plant Part	suggestions	
	<input type="checkbox"/> Bark	
	<input type="checkbox"/> Bud (leaf or flower)	
	<input type="checkbox"/> Cone	
	<input type="checkbox"/> Flower close-up	
	<input type="checkbox"/> Fruit	
	<input type="checkbox"/> Inflorescence	
	<input type="checkbox"/> Leaves	
	<input type="checkbox"/> Other plant part	
	<input type="checkbox"/> Seed	
	<input type="checkbox"/> Seedlings	
	<input type="checkbox"/> Sprouts	
	<input type="checkbox"/> Stems/Branches/Trunk	
	<input type="checkbox"/> Whole Plant	

Progress to date – living collections and slides

5. Digitization of field notes

- Collectors
 - Henry Pollard
 - Clifton Smith
 - Ralph Philbrick
 - Steve Junak
- Purpose
 - Make herbarium labels/process specimens
 - Serve original notes online, e.g., Reid Moran (SD) or W.L. Jepson (UC/JEPS)
- Presently working on Ralph Philbrick and Steve Junak field notes

Progress to date – field notes

Border, 14 June 1969. — Off at 1140, much later than planned, I went to Otay Mesa, down La Media Road to the border road, east $2\frac{1}{2}$ miles, back past E-4 $\frac{1}{2}$ Pond, to come out after 0.9 miles at San Ysidro RR Station. I looked in several vernal pools on La Media Road, but no *Orcuttia*. The vernal pools south of the fence go only a little east of Harvest Road; on our side they are wiped out. East of Tijuana Airport, most small vernal pools had no *Orcuttia*; and in the one large pond it was in the shallow part, not the deep. — I had planned to go on and camp at the foot of Guadalupe Mtn.; but since it was now 1830, I went on back. R.t. 67 mi.

✓
16099 *Orcuttia californica* Vasey

SD

Seedlings common in drying mud, E-4 $\frac{1}{2}$ Pond, 1 mile east of San Ysidro, 100 m. 32°32', 117°0'

✓
16100 *Spergularia villosa* (Pers.) Camb.

SD

<http://bajaflora.org/morannotessearch.aspx>

Progress to date — field notes

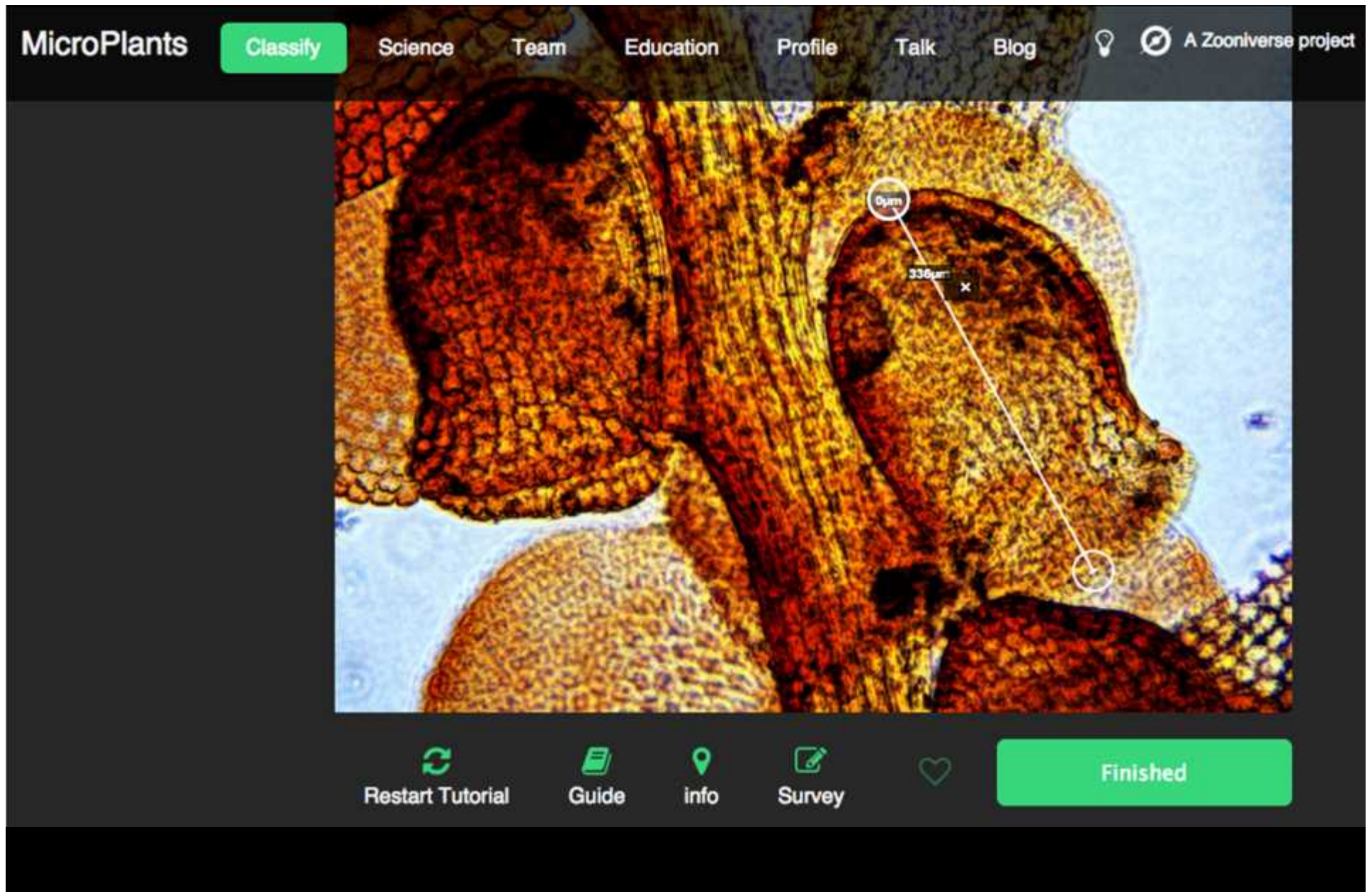
1. Transition to system that includes and connects SBBG collections data

- Some collections data inherently linked
 - Junak's collections, slides, field notes
 - Objects collected by a team in same locality, e.g., vernal pools; plants, crustacea (fairy shrimp), photos, field notes
- Some collections data related but not linked

2. Develop web portal to serve images for citizen science initiatives

- Crowd source data collection
- Public outreach

Future goals

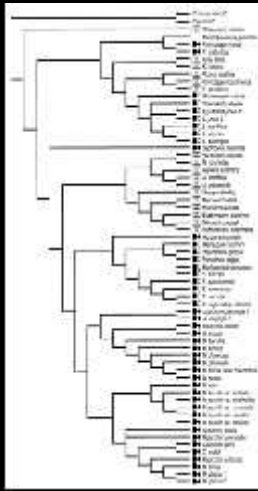


Future goals

<http://microplants.fieldmuseum.org/>

CA Island biodiversity studies

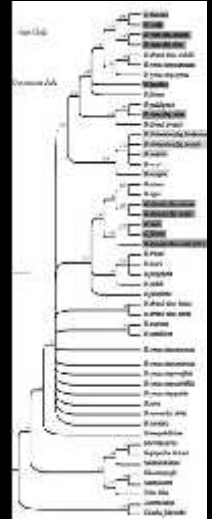
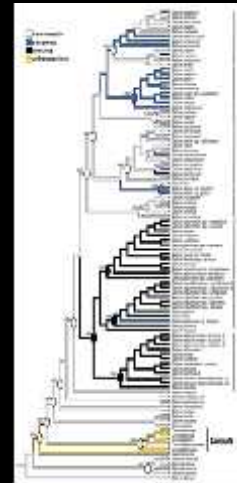
Comparative phylogenetics of the Channel Islands flora



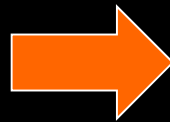
Cliff-Aster - *Malacothrix*



Bedstraw - *Galium*



Liveforever - *Dudleya*



Sea-dahlia

Are there consistent changes to plant form, e.g. gigantism or loss of other defensive traits?

Thanks!



mguilliams@sbbg.org