

RSA-POM Herbarium: Projects, Resources, and Student Participation



1 February 2016
Mare Nazaire
Rancho Santa Ana Botanic Garden

RSA-POM Herbarium

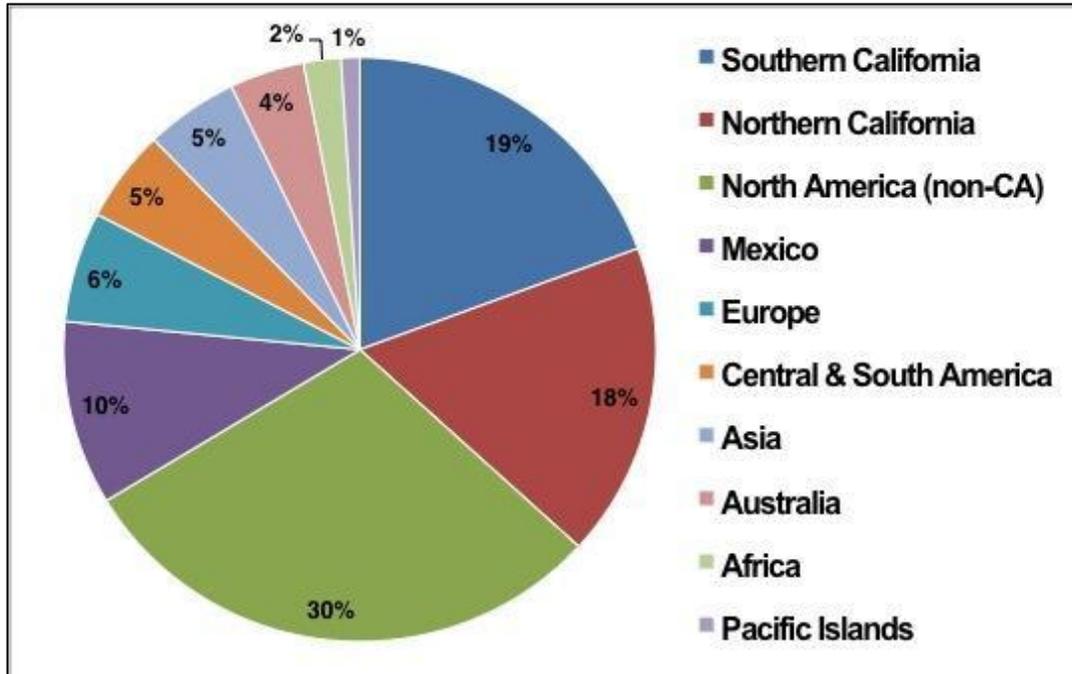
- Established 1927
- Combined holdings of RSABG Herbarium and Pomona College Herbarium
- >1.2 million specimens

	Vascular Plants (Traditional herbarium mounts)	Bryophytes	Wood specimens	Fluid Preserved Specimens	Cones & Fruits	Total
Total	1,195,312	1,430	7,828	3,750	2,793	1,211,113



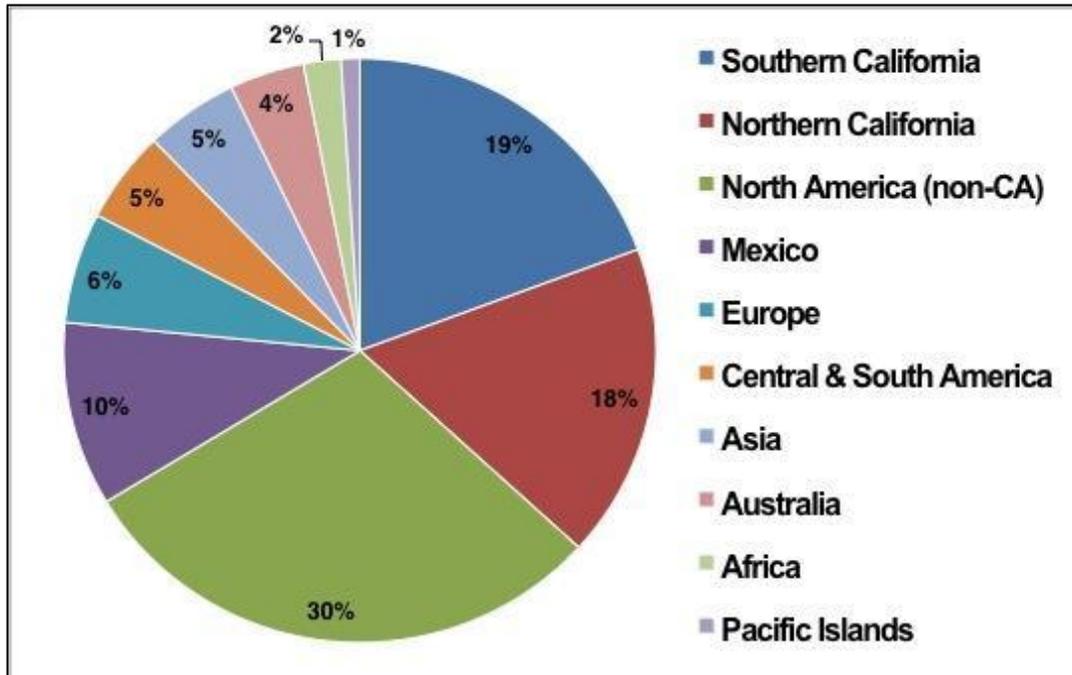
RSA-POM Herbarium

- Geographic representation



RSA-POM Herbarium

- Geographic representation



Digitization efforts

- 42% (nearly 500,000 specimens) databased
 - all CA holdings
 - small fraction of MX, North America, worldwide
- ~1.2% imaged

RSA-POM Staff

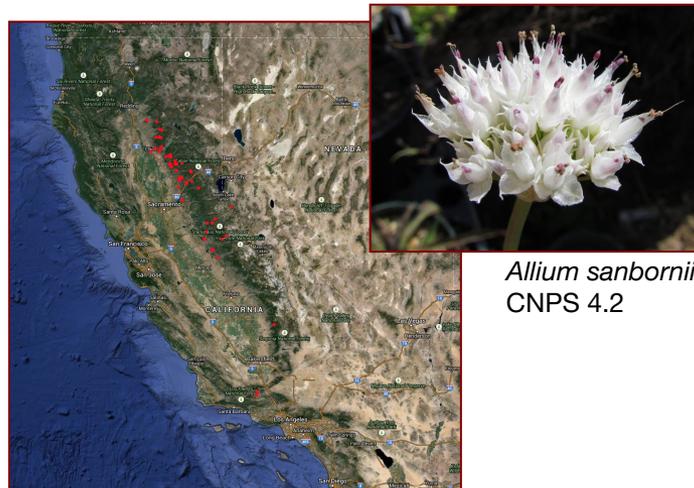
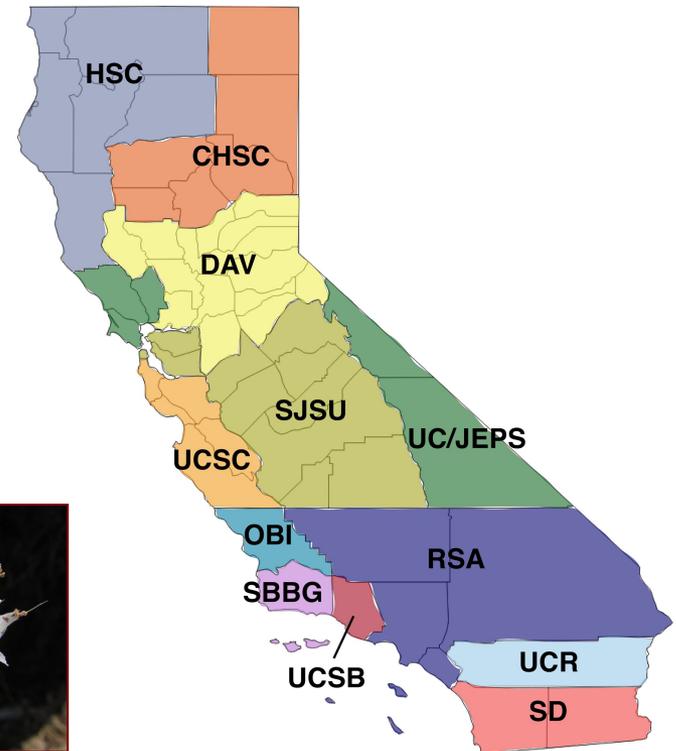
- 5 curatorial assistants
- 3 staff on projects
- 25 volunteers
- interns



Harnessing the power of herbaria to understand the changing flora of California: a biodiversity hotspot in peril



- NSF CSBR, awarded 2010
- Initial participating institutions: 21
- Database ~400,000 specimens of target taxa
- Georeference >500,000 records
- RSA-POM's commitment:
 - database 72,384 specimens
 - all CA records, completed in 2014
 - georeference 107,189 records
 - 152,721 records (target taxa: 88,064)



Allium sanbornii
CNPS 4.2

Harnessing the power of herbaria to understand the changing flora of California: a biodiversity hotspot in peril



- Subaward to digitize Baja California: ~20,000 specimens
 - databasing: RSA-POM, SBBG, CAS, UC-JEPS
 - georeferencing: SD
- RSA-POM: databased >3,100 (out of 7,000)

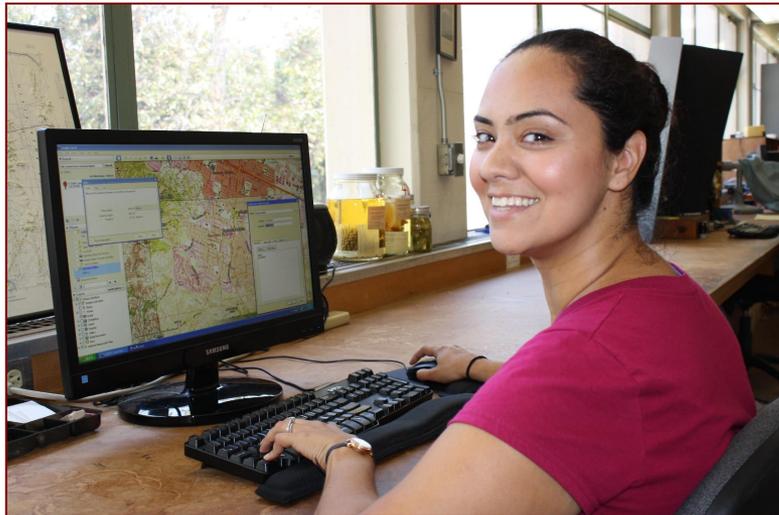


Image: Wikipedia



Georeferencing toolkit at RSABG

Search this site

- Resources for mapping herbarium specimens from CA
 - Aerial Photography
 - Conversion Tools
 - Geological
 - Highways & Roads
 - Historical
 - Land Ownership
 - Misc.
 - Place Names
- Cloning Tool (CCH)**
- File Cabinet**
- GIS Data**
- Online Mapping Apps**
- Sitemap**

Resources for mapping herbarium specimens from CA



Aerial Photography

Links to sources of aerial photography which can be useful for mapping habitats or finding physical features

Conversion tools

Resources for converting Latitude Longitude, Decimal Degrees, UTM, and Township Range Section units

Environmental

Links to sites that provide environmental data such as soil surveys, geological surveys, landcover maps, and other data to assist in narrowing down target species habitat

Highways and Byways

Links to descriptions of highway routes and roads to aid in determining specimen localities based on road characteristics

Historical

Links to sites that provide historical maps or other historical documentation of county boundaries, old roads, place names

Legal/Ownership

Links to property ownership resources

Misc.

Other

Place Names

Resources to assist in the lookup and location of old or current place names (cities, physical features, structures, etc.)

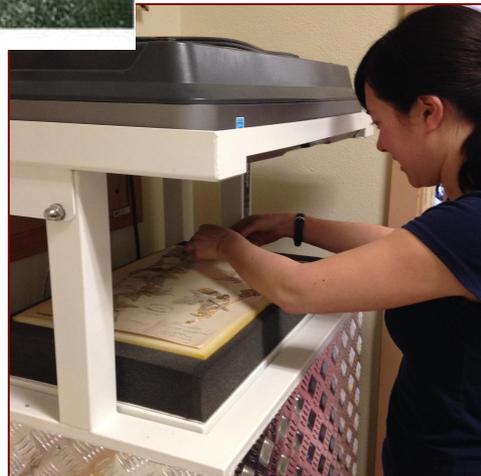


Digitizing the Collections and Archives of Marcus E. Jones

- Funded 2012, Mellon Foundation
- Digitize most botanically and historically significant components
- Trips to Mexico (1882, 1892, 1926-1930)
- >8000 specimens digitized



Jones botanizing in Montana, 1910

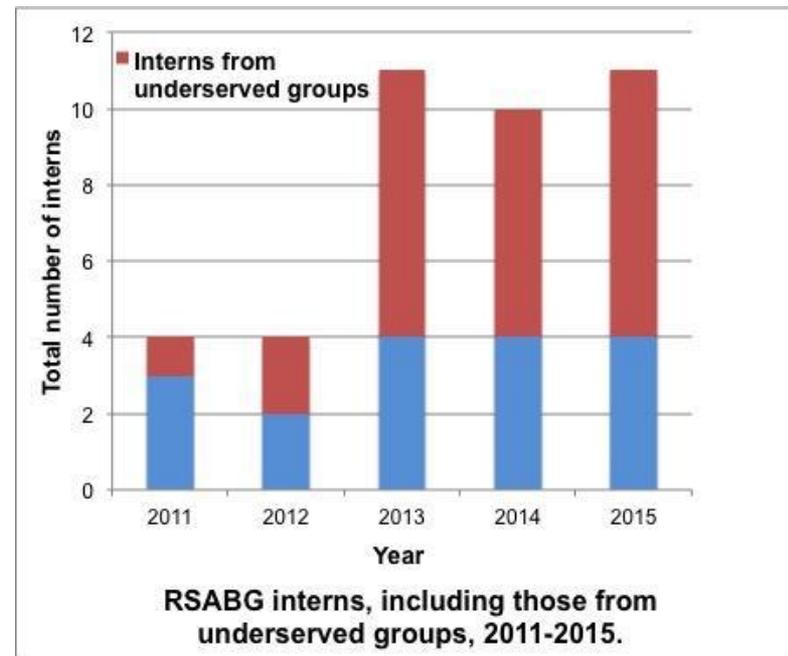


Student Participation



Class of 2014 summer interns

- Summer internship program
- Herbarium curation and applied plant conservation
- Training to >40 interns in past 5 years
- Participation in digitization / collections improvement projects



Student Participation

Training:

- Botany & conservation
- Herbarium curation techniques
- Participation in digitization / collection improvement projects

Workshop sessions:

- Plant diversity in California
- Plant identification, rare plant surveys
- Approaches to plant conservation
- Seed conservation
- Horticulture and restoration
- Round table discussion



Student Participation

Projects:

- Marcus E. Jones digitization
- Databasing CA specimens
- Curation of the cone and fruit collection
- Inventory of the fluid preserved collection
- Inventory and organization of the wood collection



Student Participation

Curation/digitization of historically significant collections:

- 30,000 specimens of historic, taxonomic, and geographic significance
- Collections made 40–115 yrs ago by ten noteworthy botanists
- 70% collected from 15 of 34 world biodiversity hotspots
- Initial stages: sorting, inventory of holdings, evaluation of collection

