

A scenic view of a mountain valley. In the foreground, a rocky ridge slopes down from the left. A hiker with a backpack is visible on the ridge. The valley below is lush green, with a winding river and a small settlement. The background shows more mountains under a clear sky.

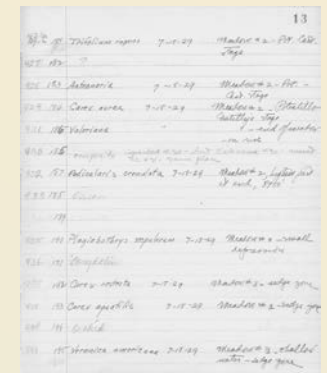
Using Field Station Natural History Collections for Research and Education

Rick Williams
Rocky Mountain Biological Laboratory,
and
Idaho Museum of Natural History

Collections at RMBL



- Plants – ca. 13000 Vascular Plants
 - 6000 at RMBL plus 7000 at WSCU
 - Few lichens and bryophytes
- Insects – ca. 5000
 - Including bees, leps, aquatics
- Mammals – ca. 500 skins and skulls
- Birds – ca. 50 skins
- Algae/Diatoms – slides, stream sampling
- Pollen – reference collection slides
- Field Notes, Catalogs, Data Archives, Photos



History of RMBL Collections

- Laboratory Founded in 1928
 - High altitude research and education mission
- Herbarium started 1929
 - Harriet and B.D. Barclay – University of Tulsa
- Mammal and Insect Collections from 1940s
- Physical collections used for teaching/reference
- Herbarium digitized 2005-2006
- Herbarium Database integrated with SEINet 2011
- Herbarium Imaged 2012 with annual updates
- RMBL bees/host plants digitized in ca. 2012
 - hosted by AMNH/Discover Life
- Added WSC (Gunnison) Herbarium data/images in 2015

How are RMBL Collections Used?

- Teaching and Reference – Physical and Digital
- Document Diversity and Distribution – Checklists
- Identify Potential Field Sites - Mapping
- Characterize Change over Time - Resurvey
 - Bee elevational distributions/community composition
 - Bees and host plants
 - Appearance of “invasive” species - *Didymosphenia geminata*
 - Isotopic analysis of fossil and extant mammal diets
 - Plant phenology and community changes



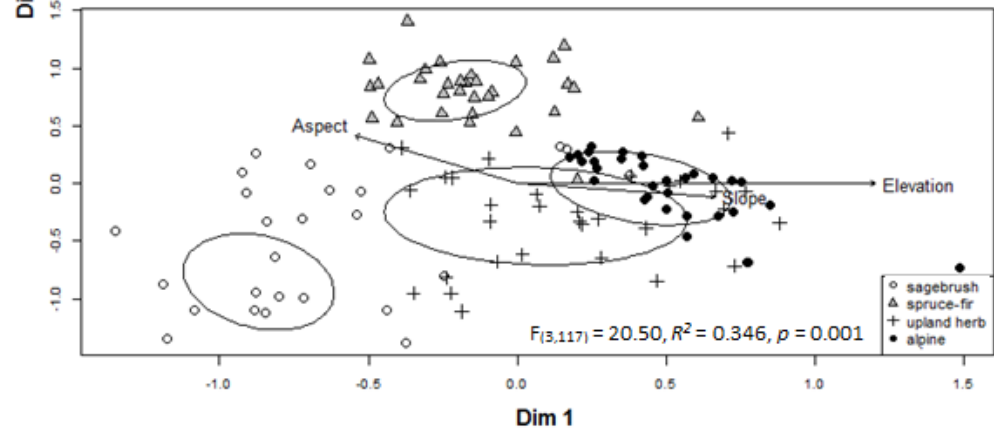
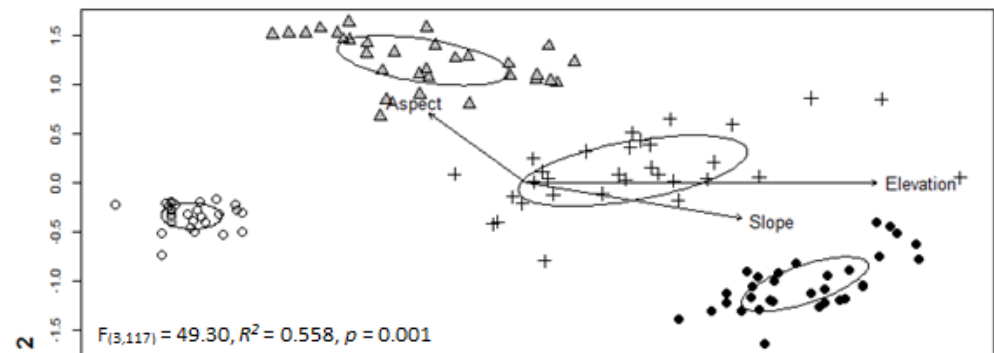
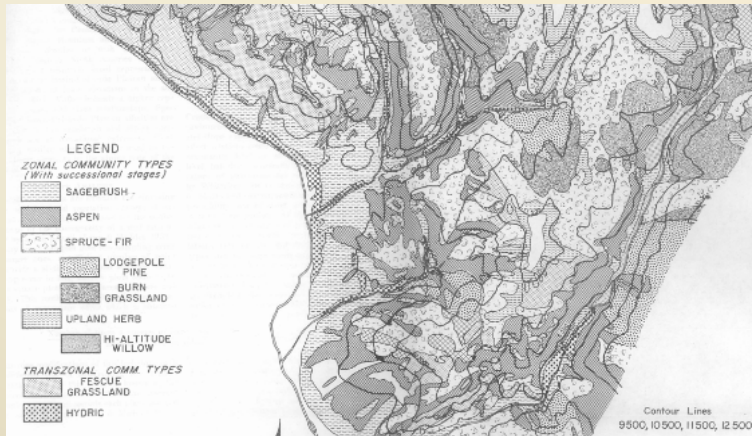
Jean Langenheim – Stephanie Zorio

Changes in Plant Communities 1949-2014

VEGETATION AND ENVIRONMENTAL PATTERNS IN THE CRESTED BUTTE AREA, GUNNISON COUNTY, COLORADO

JEAN H. LANGENHEIM

Department of Botany, University of Illinois, Urbana



Long-term shifts in the phenology of rare and endemic Rocky Mountain plants¹

Seth M. Munson² and Anna A. Sher^{3,4}

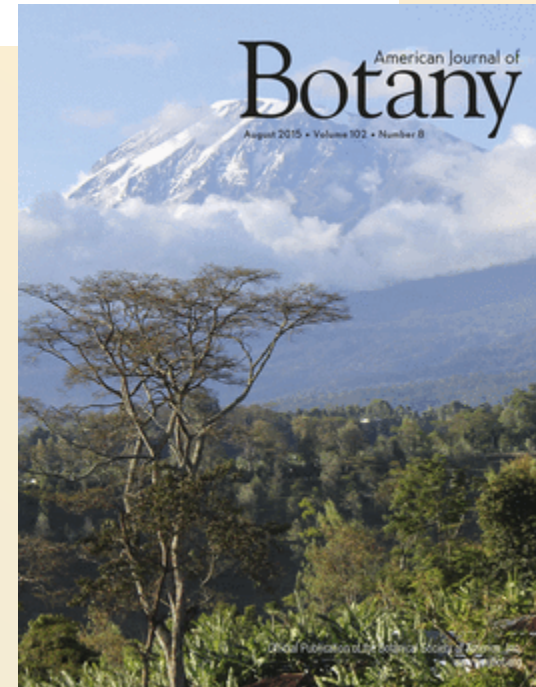
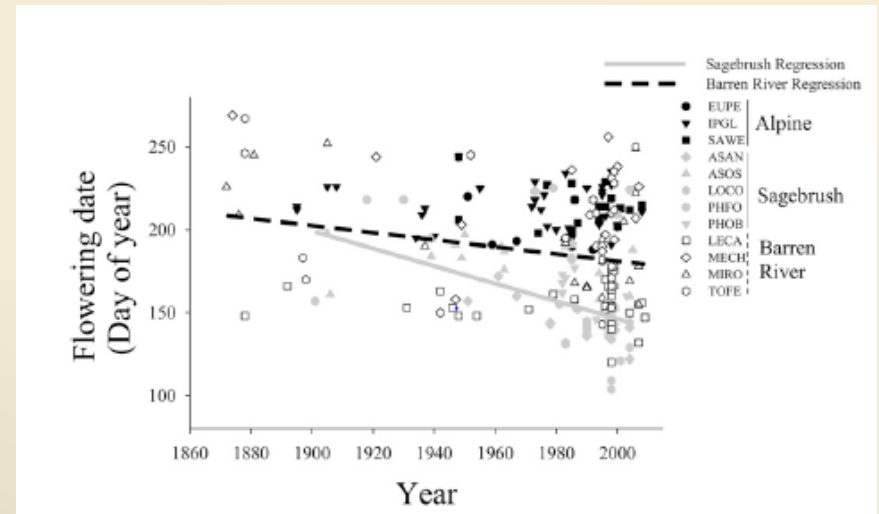


FIGURE 1 Herbarium specimens of Rocky Mountain flora showing that more recent flowering dates occur earlier in the year compared to historical flowering dates. Photo credit: Scott Dressel-Martin, Denver Botanic Gardens.



Advantages of Collection Digitization

1. Digital Curation



Specimen Imaging

Intermountain Region Herbarium Network

Home >> Collection Search Page >> Rocky Mountain Biological Laboratory Details

Rocky Mountain Biological Laboratory (RMBL)

Vascular Plants curated within the Rocky Mountain Biological Laboratory Herbarium. Specimens date to 1929 and are primarily from the East River and upper Gunnison basin.
Contact: C.F. Rick Williams, Curator (willch2@isu.edu)
Home Page: <http://rmbll.org>
Collection Type: Preserved Specimens
Management: Data snapshot of focal collection database
Last Update: 21 May 2012
Usage Rights: CC BY-NC (Attribution-Non-Commercial)

Collection Statistics:

- 5881 specimen records
- 2385 (41%) georeferenced
- 5417 (92%) with images
- 5668 (96%) identified to species
- 128 families
- 447 genera
- 1257 species
- 1485 total taxa (including subsp. and var.)

Extra Statistics

- Show Family Distribution
- Show Geographic Distribution

Rocky Mountain Biological Laboratory (RMBL)

Home >> Collection Management >> Public Display >> Editor

Occurrences Data | Determination History | Images | Linked Resources | Admin

Collector Info

Catalog Number: RMBL0009616 | Other Numbers: | Collector: Williams, Charles F. | Number: 2010-0197 | Date: 2010-07-16 | Dupes? | Auto search

Associated Collectors: | Verbatim Date: | Exsiccata Title: | Number: | Latest Identification: Scientific Name: *Chamaenerion angustifolium* | Author: (L.) Holub. | ID Qualifier: | Family: Onagraceae | Identified By: | Date Identified: | Locality: Country: USA | State/Province: Colorado | County: Gunnison | Municipality: | Locality: Gothic, Rocky Mountain Biological Laboratory, Junction of lower Judd Falls Road and shortcut trail through aspen grove into | Locality Security: | Latitude: 38.96009 | Longitude: -106.98326 | Uncertainty: | Datum: | Verbatim Coordinates: NW1/4 S2 T13S R86W; lat: 38.96009 N; lon: 2973 | Elevation in Meters: 9755ft. | Misc: Habitat: Dry rocky sites along roadside and under spruce. Mostly dry meadow community. | Substrate: | Associated Taxa: | Description: Just beginning to bloom. Few plants along road. | Notes: | Life Stage: | Sex: | Individual Count: | Sampling Protocol: | Preparations: | Phenology: | Establishment Means: |

Label Processing

Herbarium of the Rocky Mountain Biological Lab Gothic, Colorado (RMBL)

OCR Image | Options: OCR whole image | OCR w/ analysis | Image 1 of 1

- Online Data Transcription from image
- Online IDs and Annotation
- Links to images and other resources

Upload to Regional Database/Website – www.intermountainbiota.org

2. Searches, Dynamic Lists and Maps



Rocky Mountain Regional Consortium

CIRH Homepage

- Search Collections
- Image Library
- Plant Games
- Links

Flora Projects

- Regional Floras
- Colorado Floras
- Utah Floras
- Colorado Plateau
- Teaching Checklists

Dynamic Tools

- Dynamic Checklist
- Dynamic Key

Log In
New Account
Sitemap

- Bitterroot National Forest herbarium (BNF) more info
- Colorado Mesa University, Walter A. Kelly Herbarium (MESA) more info
- Colorado State University - Pueblo (PUSC) more info
- Colorado State University Herbarium (CS) more info
- Devils Tower National Monument (NPS-DETO) more info
- Florissant Fossil Beds National Monument (FLFO) more info
- Fort Laramie National Historic Site (NPS-FOLA) more info
- Fort Lewis College Herbarium (FLD) more info
- Kathryn Kalmbach Herbarium (DBG-KHD) more info
- Mesa Verde National Park (MEVE) more info
- Rocky Mountain Biological Laboratory (RMBL) more info
- Rocky Mountain Herbarium (RM) more info
- Trinidad State Junior College (TSJC) more info
- Western State Colorado University (WSCU) more info

Searches by taxon, locality, elevation, date, collector, etc.

Enter Search Parameters

Fill in one or more of the following query criteria and click "Search" to view your results.

Taxonomic Criteria:

Include Synonyms from Taxonomic Thesaurus

Family or Scientific Name:

Locality Criteria:

Country:

State/Province:

County:

Locality:

Elevation: to

Latitude and Longitude:

Bounding box coordinates in decimal degrees

Northern Latitude: N

Southern Latitude: N

Western Longitude: W

Eastern Longitude: W

Point-Radius Search

Latitude: N

Longitude: W

Radius: Kilometers

Collector Criteria:

Collector's Last Name:

Collector's Number:

Collection Date: -

Specimen Criteria:

Catalog Number:

Other Catalog Number:

Limit to Type Specimens Only

Limit to Specimens with Images Only

Search data from single collection, or aggregate data from many collections



Intermountain Region Herbarium Network

Home >> Collections >> Search Criteria

Enter Search Parameters

Fill in one or more of the following query criteria and click "Search" to view your results.

Taxonomic Criteria:

Include Synonyms from Taxonomic Thesaurus

Family or Scientific Name:

Search

Locality Criteria:

Separate multiple terms w/ commas

Country:

State/Province:

County:

Locality:

Elevation: to

Intermountain Region Herbarium Network

Home >> Collections >> Search Criteria >> Specimen Records

Species List Occurrence Records Maps

Dataset: All Collections
Taxa: Polemonium viscosum (Polemonium viscosum subsp. genuinum, Polemonium viscosum subsp. lemmonii, Polemonium viscosum subsp. viscosum)
Search Criteria: Colorado, Gunnison

1 Page 1, records 1-81 of 81

Arizona State University Vascular Plant Herbarium

Polemonium viscosum Nutt.
ASU0075738 Millicent Kalil s.n. 01 August 1960
USA, Colorado, Gunnison, Gothic area, 38.96041 -106.99539, 2926m
Full Record Details

Colorado State University Herbarium

Polemonium viscosum Nutt.
CS 48467 D Bathke 277 02 July 1967
USA, Colorado, Gunnison County, Robinson Basin, 30 mi N of Gunnison, 8 mi W of Crested Butte, 2 mi N of Kebler Pass, 38.86515 -107.13324, 3672m
Full Record Details

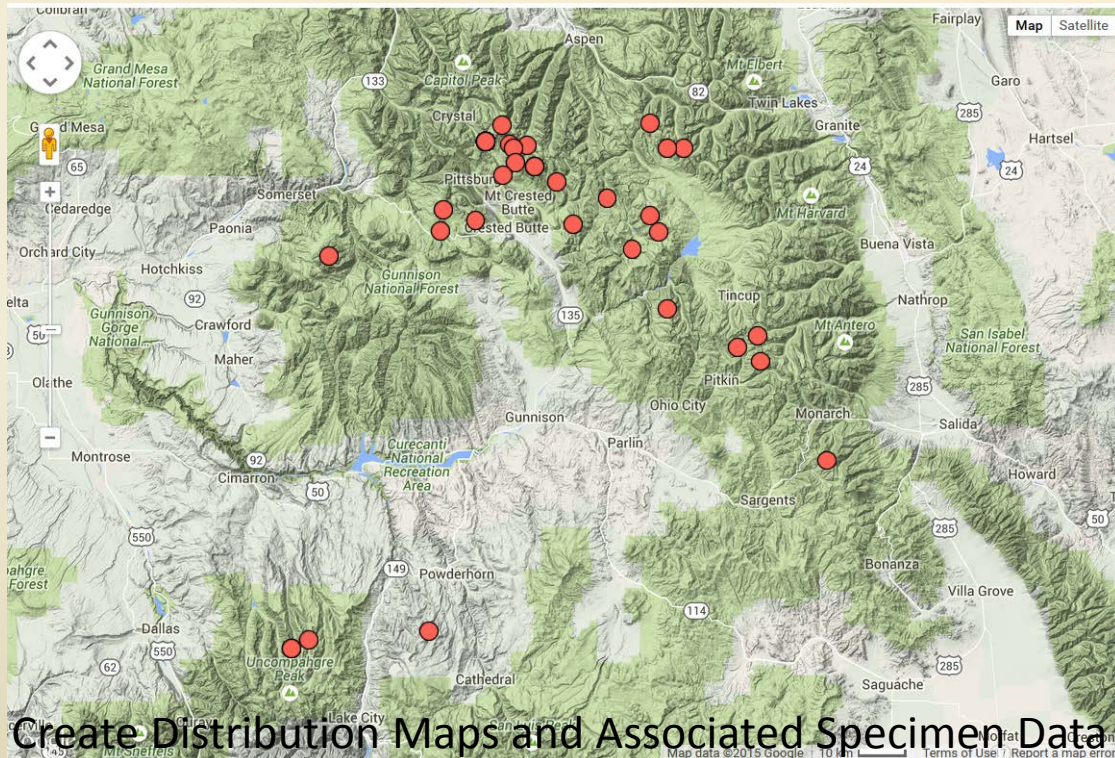
Polemonium viscosum Nutt.
CS 40739 F Rambolt 64 04 July 1961
USA, Colorado, Gunnison County, summit Cumberland Pass, 38.68590 -106.43829, 3657m
Full Record Details

Howard Payne University Herbarium

Polemonium viscosum Nutt.
HPC00009027 Headlee, Grace 138 23 July 1970
United States, Colorado, Gunnison, Cumberland Pass
Full Record Details

Intermountain Herbarium (Utah State University)

Polemonium viscosum Nutt.
UTC00272173 Williams, Charles F. 969 13 July 2013
UNITED STATES, COLORADO, GUNNISON, Gothic, Rocky Mountain Biological Laboratory, White Mountain. From summit down rocky ridge to grassy saddle above false summit, 38.87340 -108.92750, 4023m
Full Record Details



Create Distribution Maps and Associated Specimen Data

Intermountain Region Herbarium Network

Home >> Collections >> Search Criteria

Enter Search Parameters

Fill in one or more of the following query criteria and click "Search" to view your results.

Taxonomic Criteria:

Include Synonyms from Taxonomic Thesaurus



Family or Scientific Name:

Locality Criteria:

Country:

State/Province:

County:

Locality:

Elevation: to

Latitude and Longitude:

Bounding box coordinates in decimal degrees

Northern Latitude: N

Southern Latitude: N

Western Longitude: W

Eastern Longitude: W

Point-Radius Search

Latitude: 38.95567 N

Longitude: -106.98967 W

Radius: 30 Kilometers

Consortium of Intermountain Herbaria - Coordinate Mapper - Mozilla Firefox

intermountainbiota.org/portal/collections/mappointradius.php

Click once to capture coordinates. Click on the Submit Coordinate button to transfer Coordinates.



Home >> Collections >> Search Criteria >> Specimen Records

Species List Occurrence Records Maps

Taxonomic Filter: Raw Data

Taxa Count: 1639

ADOXACEAE

- Adoxa moschatellina*
- Sambucus microbotrys*
- Sambucus pubens*
- Sambucus racemosa*
- Sambucus racemosa* var. *melanocarpa*
- Sambucus racemosa* var. *microbotrys*
- Sambucus racemosa* var. *pubens*
- Sambucus racemosa* var. *racemosa*

AMARANTHACEAE

- Amaranthus powellii*
- Chenopodium album*
- Chenopodium album* var. *album*
- Chenopodium atrovirens*
- Chenopodium berlandieri* var. *zschackii*
- Chenopodium capitatum*
- Chenopodium fremontii*
- Chenopodium glaucum* var. *glaucum*
- Chenopodium overi*
- Kochia scoparia*
- Krascheninnikovia lanata*
- Monolepis nuttalliana*

AMARYLLIDACEAE

- Allium acuminatum*
- Allium brandegeei*
- Allium brandegei*
- Allium cepum*
- Allium geyeri***
- Allium geyeri* var. *variegatum*
- Allium schoenoprasum*

ANACARDIACEAE

- Rhus trilobata* var. *trilobata*

APIACEAE

- Angelica ampla*
- Angelica grayi*
- Canum carvi*
- Cicuta maculata*
- Conioselinum scopulorum*
- Conium maculatum*
- Cymopterus alpinus*
- Cymopterus constancei*
- Cymopterus lemmonii*
- Cymopterus planosus*
- Heracleum maximum*
- Heracleum sphondylium*

Get species descriptions for any taxon on list

Intermountain Region Herbarium Network

Allium geyeri S. Wats.

Go to Encyclopedia of Life...

Family: Amaryllidaceae

Geyer's onion, more...



Max Licher



Max Licher



Max Licher



Liz Makings



Patrick Alexander



Open Interactive Map

Flora of North America

Dale W. McNeal Jr. & T. D. Jacobsen in Flora of North America (vol. 26)

Bulbs 2-10+, not rhizomatous, ovoid or more elongate, 1-2.5 x 0.8-2 cm; outer coats enclosing 1 or more bulbs, gray or brown, reticulate, cells rather coarse-meshed, open, fibrous; inner coats whitish, cells vertically elongate and regular or obscure. Leaves persistent, usually green at anthesis, usually 3-5, sheathing less than 1/4 scape; blade solid, ± straight, flat, channeled, (6-)12-30 cm x 1-3(-5) mm, margins entire or denticulate. Scape persistent, solitary, erect, terete or somewhat 2-angled, 10-50 cm x 1-3 mm. Umbel persistent, erect, compact, 10-25-flowered, hemispheric to globose, not producing bulbils, or 0-5-flowered, largely replaced by ovoid, acuminate bulbils; spathe bracts persistent, 2-3, mostly 1-veined, ovate to lanceolate, ± equal, apex acuminate, ...

More Images Web Links View Parent Taxon Close window

Create taxon lists for any geographic radius or polygon

3. Digital Field Guides and Keys



Intermountain Region Herbarium Network

CIRH Homepage

[Search Collections](#)

[Image Library](#)

[Plant Games](#)

[Links](#)

Flora Projects

[Regional Floras](#)

[Colorado Floras](#)

[Utah Floras](#)

[Colorado Plateau](#)

[Teaching Checklists](#)

Dynamic Tools

[Dynamic Checklist](#)

[Dynamic Key](#)

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Welcome to Intermountain Regional Herbarium Network

The Intermountain Region is basically the region between the Sierra Nevada and the Rocky Mountains but the precise interpretation of the phrase varies. Most agree that the hydrologic Great Basin, the area with no external drainage, dominates the region. This basin is divided by several north-south trending mountain ranges that are separated by wide valleys. The mountain ranges support woods and forests that are now essentially isolated from each other as well as from the Sierra Nevada and Rocky Mountains by the intervening valleys. The region's biota is determined in large part by its variable and scant precipitation, most of which falls in winter, and its large fluctuations in temperature, both daily and seasonal.

This site is brought to you by the Consortium of Intermountain Herbaria, in collaboration with the Southwestern Environmental Information Network (SEINet).

Plant of the Day

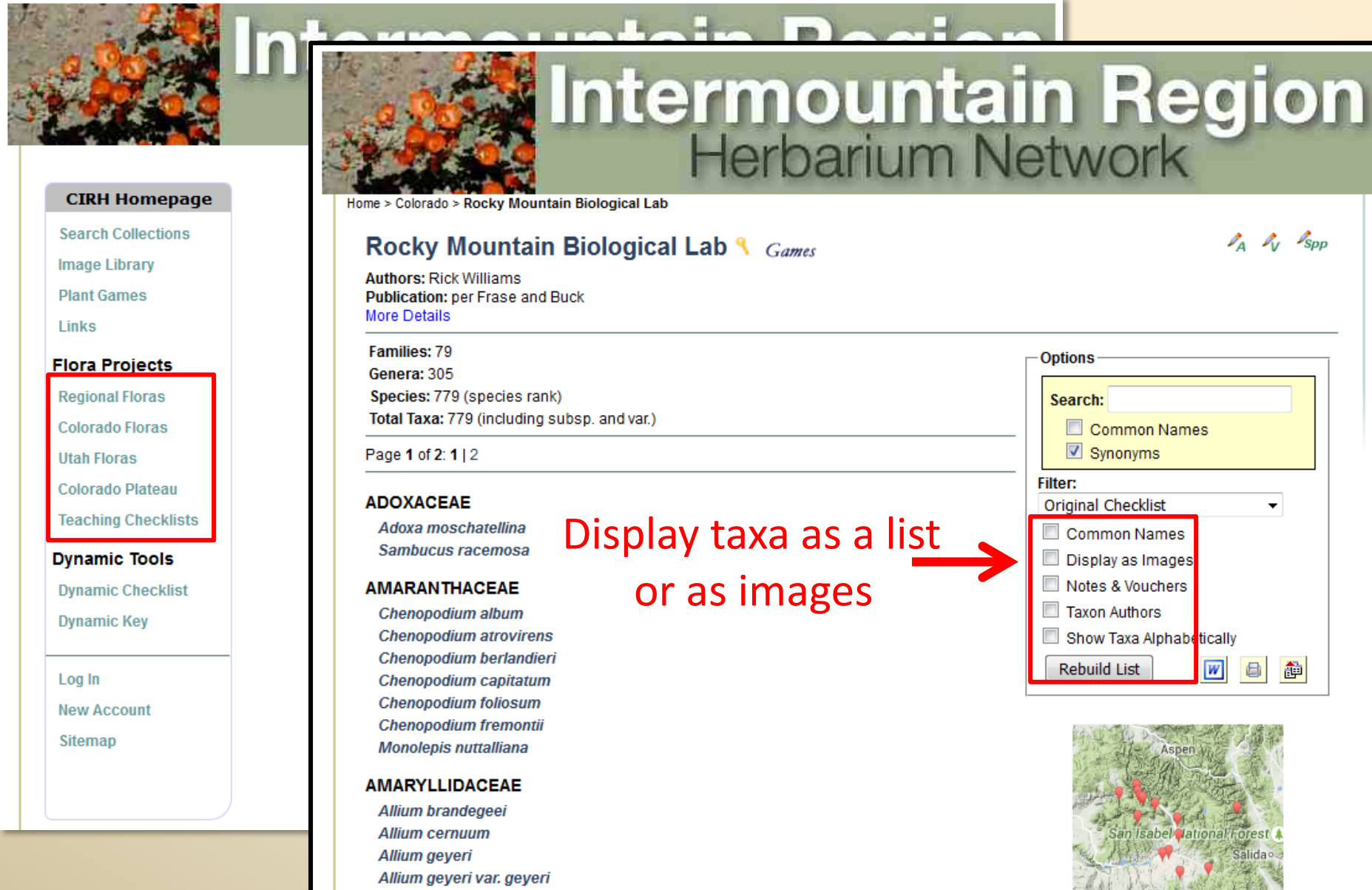


What is this plant?

[Click here to test your knowledge](#)

Create Static or Dynamic Checklists for a Region

3. Digital Field Guides and Keys



Intermountain Region Herbarium Network

Home > Colorado > Rocky Mountain Biological Lab

Rocky Mountain Biological Lab Games

Authors: Rick Williams
Publication: per Frase and Buck
[More Details](#)

Families: 79
Genera: 305
Species: 779 (species rank)
Total Taxa: 779 (including subsp. and var.)

Page 1 of 2: 1 | 2

ADOXACEAE

Adoxa moschatellina
Sambucus racemosa

AMARANTHACEAE

Chenopodium album
Chenopodium atrovirens
Chenopodium berlandieri
Chenopodium capitatum
Chenopodium foliosum
Chenopodium fremontii
Monolepis nuttalliana

AMARYLLIDACEAE

Allium brandegeei
Allium cernuum
Allium geyeri
Allium geyeri var. *geyeri*




Options

Search:

Common Names
 Synonyms

Filter:
Original Checklist

Common Names
 Display as Images
 Notes & Vouchers
 Taxon Authors
 Show Taxa Alphabetically

CIRH Homepage

- Search Collections
- Image Library
- Plant Games
- Links

Flora Projects

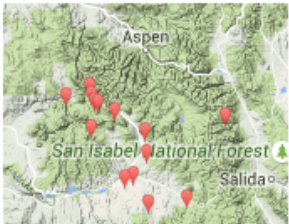
- Regional Floras
- Colorado Floras
- Utah Floras
- Colorado Plateau
- Teaching Checklists

Dynamic Tools

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- Dynamic Key

Log In
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Display taxa as a list or as images →



3. Digital Field Guides and Keys

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Home > Colorado > Rocky Mountain Biological Lab

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Page 1 of 8: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

ADOXACEAE
Adoxa moschatellina
Sambucus racemosa

AMARANTHACEAE
Chenopodium album
Chenopodium atrovirens
Chenopodium berlandieri
Chenopodium capitatum
Chenopodium foliosum
Chenopodium fremontii
Monolepis nuttalliana

AMARYLLIDACEAE
Allium brandegeei
Allium cernuum
Allium geyeri
Allium geyeri var. *geyeri*

Options

Search:

Common Names
 Synonyms

Filter:
Original Checklist

Common Names
 Display as Images
 Show Taxa Alphabetically

Click on Image for Species Page

Create Key for Listed Taxa

Adoxa moschatellina [ADOXACEAE]
Sambucus racemosa
Chenopodium album [AMARANTHACEAE]
Chenopodium atrovirens
Chenopodium berlandieri
Chenopodium capitatum
Chenopodium foliosum
Chenopodium fremontii

3. Digital Field Guides and Keys



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- Dynamic Checklist
- Dynamic Key

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Intermountain Region Herbarium Network

Home >> Checklist: Rocky Mountain Biological Lab >> Key: Rocky Mountain Biological Lab

Taxon:
All Species
Display/Reset Species List
Display as: Scientific Name

Rocky Mountain Biological Lab

Rick Williams
Species Count: 777

Adoxaceae

- Adoxa moschatellina*
- Sambucus racemosa*

Amaranthaceae

- Blitum virgatum*
- Chenopodium album*
- Chenopodium atrovirens*
- Chenopodium berlandieri*
- Chenopodium capitatum*
- Chenopodium fremontii*
- Monolepis nuttalliana*

Amaryllidaceae

- Allium brandegeei*
- Allium cernuum*
- Allium geyeri*

Apiaceae

- Angelica ampla*
- Angelica grayi*
- Carum carvi*
- Conioselinum scopulorum*
- Conium maculatum*
- Heracleum maximum*
- Heracleum sphondylium*
- Ligusticum porteri*
- Ligusticum tenuifolium*
- Lomatium bicolor*
- Lomatium dissectum*
- Lomatium simplex*
- Oreoxis alpina*

Plant habit

- herb
- shrub
- tree
- vine
- grass-like
- cactus-like / desert succulent
- fern & allies
- aquatic

longevity

- annual or biennial
- perennial

Leaves type

- simple
- pinnatifid-pinnatisect
- compound

arrangement

- alternate
- opposite
- whorled
- basal
- fascicled/clustered along stem

Filter List by Taxon

Intermountain Region Herbarium Network

Options

Search:

- Common Names
- Synonyms

Filter:

Original Checklist

- Common Names
- Display as Images
- Show Taxa Alphabetically

Rebuild List

Chenopodium atrovirens

Chenopodium fremontii

3. Digital Field Guides and Keys

Intermountain Region
Herbarium Network

Home >> Checklist: Rocky Mountain Biological Lab >> Key: Rocky Mountain Biological Lab

Taxon:
All Species
-- Select a Taxonomic Group --
All Species

Abies
Acer
Aceraceae
Achillea
Achnatherum
Aconitum
Acroptilon
Actaea
Adoxa
Adoxaceae
Agastache
Agavaceae
Agoseris
Agrostis
Allium
Alnus
Alopecurus
longevity
 annual or biennial
 perennial

Leaves
type ⓘ
 simple
 pinnatifid-pinnatisect
 compound
arrangement ⓘ
 alternate
 opposite
 whorled
 basal
 fascicled/clustered along stem

Rocky Mountain Biological Lab
Rick Williams
Species Count: 777

Adoxaceae
Adoxa moschatellina
Sambucus racemosa

Amaranthaceae
Blitum virgatum
Chenopodium album
Chenopodium atrovirens
Chenopodium berlandieri
Chenopodium capitatum
Chenopodium fremontii
Monolepis nuttalliana

Amaryllidaceae
Allium brandegeei
Allium cernuum
Allium geyeri

Apiaceae
Angelica ampla
Angelica grayi
Carum carvi
Conioselinum scopulorum
Conium maculatum
Heracleum maximum
Heracleum sphondylium
Ligusticum porteri
Ligusticum tenuifolium
Lomatium bicolor
Lomatium dissectum
Lomatium simplex
Oreoxis alpina

Region
work

Common Names
Synonyms

Checklist

Common Names
Play as Images
View Taxa Alphabetically
Field List

Chenopodium atrovirens

Chenopodium fremontii

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Idaho Wildflowers App

The Idaho Wildflowers, a plant identification app for smart phones and tablets, provides images, species descriptions, range maps, bloom period, and technical descriptions for more than 805 common wildflowers, shrubs, and vines that occur in Idaho and adjacent areas of Montana, Washington, Utah, and Oregon. Costs \$7.99

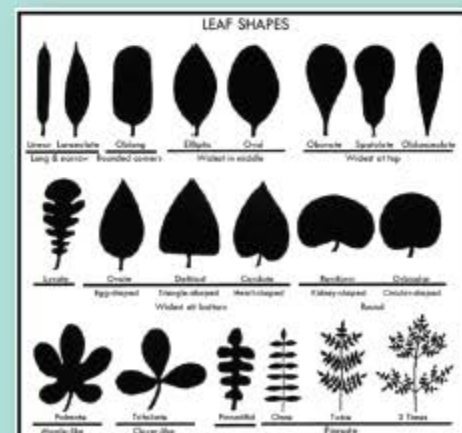
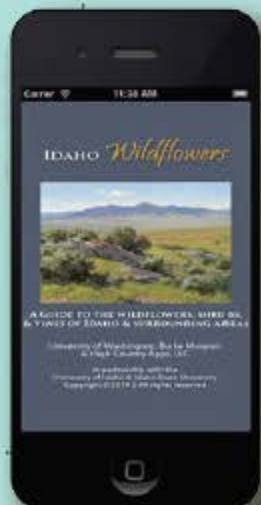


Designed for both budding wildflower enthusiasts and experienced experts, Idaho Wildflowers will appeal to individuals who travel to wildflower areas and are interested in knowing the names and natural history of the plants that they encounter. Idaho and its adjacent areas are home to diverse landscapes containing a wealth of wildflowers, shrubs, and vines. Idaho Wildflowers is also a great educational tool for learning more about plant communities, botanical terms, and how to identify plants in general.

Sample Images

	monkey-flower, sticky <i>Erythranthe moschata</i> Phrymaceae (Lopseed Family)
	monkey-flower, yellow <i>Erythranthe guttata</i> Phrymaceae (Lopseed Family)
	monkshood, Columbian <i>Aconitum columbianum</i> Ranunculaceae (Buttercup Family)

A collaboration of the University of Washington Herbarium at the Burke Museum has partnered with the University of Idaho's Stillinger Herbarium, Idaho Museum of Natural History's Ray J. Davis Herbarium at Idaho State University, Mark Turner, and High Country Apps.



Visit www.highcountryapps.com or Scan the QR code

4. Citizen Science and Data Collection



Home >> Collections

Specimens & Observations Specimens Observations Federal Units

Select/Deselect All

Intermountain Regional Herbaria Network

Consortium of Midwest Herbaria

Herbaria del Noroeste de México

New Mexico Biodiversity Collections Consortium

North American Network of Small Herbaria

Northern Great Plains Herbaria

Other Networked Herbaria

Rocky Mountain Regional Consortium

SEINet Regional Herbaria Network

SERNEC



Photo-vouchered
General
Observations

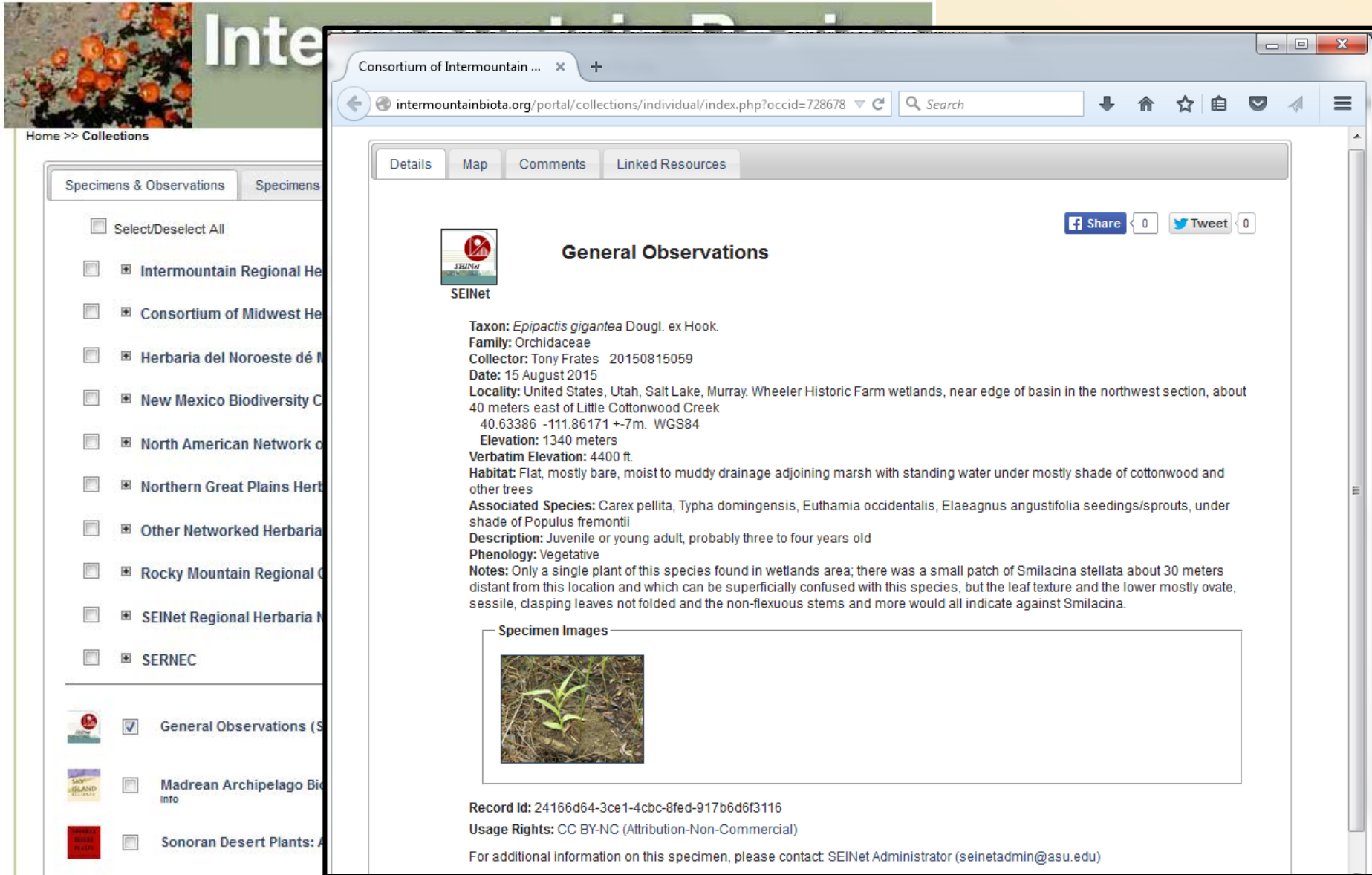
 General Observations (SEINet) [more info](#)

 Madrean Archipelago Biodiversity Assessment Observations (MABA-Plants) [more info](#)

 Sonoran Desert Plants: An Ecological Atlas (Sonoran Atlas) [more info](#)



4. Citizen Science and Data Collection

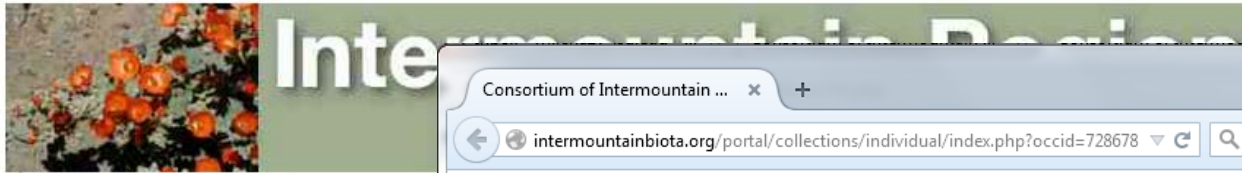


The image shows a web browser window displaying a specimen record page. The browser's address bar shows the URL: `intermountainbiota.org/portal/collections/individual/index.php?ocid=728678`. The page title is "Consortium of Intermountain ...". The browser's address bar also contains a search field and navigation icons.

The page content is organized into several sections:

- Navigation:** "Home >> Collections" and "Specimens & Observations" tabs.
- Left Sidebar:** A list of collections with checkboxes, including "Intermountain Regional Herbaria", "Consortium of Midwest Herbaria", "Herbaria del Noroeste de México", "New Mexico Biodiversity Collections", "North American Network of Herbaria", "Northern Great Plains Herbaria", "Other Networked Herbaria", "Rocky Mountain Regional Herbaria", "SEINet Regional Herbaria Network", and "SERNEC".
- Main Content Area:**
 - SEINet Logo:** A small logo for the Southeastern Intermountain Network (SEINet).
 - General Observations:** A section with a "Share" button (0) and a "Tweet" button (0).
 - Taxon:** *Epipactis gigantea* Dougl. ex Hook.
 - Family:** Orchidaceae
 - Collector:** Tony Frates 20150815059
 - Date:** 15 August 2015
 - Locality:** United States, Utah, Salt Lake, Murray. Wheeler Historic Farm wetlands, near edge of basin in the northwest section, about 40 meters east of Little Cottonwood Creek. 40.63386 -111.86171 +-7m. WGS84
 - Elevation:** 1340 meters
 - Verbatim Elevation:** 4400 ft.
 - Habitat:** Flat, mostly bare, moist to muddy drainage adjoining marsh with standing water under mostly shade of cottonwood and other trees
 - Associated Species:** *Carex pellita*, *Typha domingensis*, *Euthamia occidentalis*, *Elaeagnus angustifolia* seedlings/sprouts, under shade of *Populus fremontii*
 - Description:** Juvenile or young adult, probably three to four years old
 - Phenology:** Vegetative
 - Notes:** Only a single plant of this species found in wetlands area; there was a small patch of *Smilacina stellata* about 30 meters distant from this location and which can be superficially confused with this species, but the leaf texture and the lower mostly ovate, sessile, clasping leaves not folded and the non-flexuous stems and more would all indicate against *Smilacina*.
- Specimen Images:** A section with a single image showing a young plant of *Epipactis gigantea* growing in a wetland area.
- Record Information:**
 - Record Id:** 24166d64-3ce1-4cbc-8fed-917b6d6f3116
 - Usage Rights:** CC BY-NC (Attribution-Non-Commercial)
 - Contact:** For additional information on this specimen, please contact: SEINet Administrator (seinetadmin@asu.edu)

4. Citizen Science and Data Collection



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General Observations

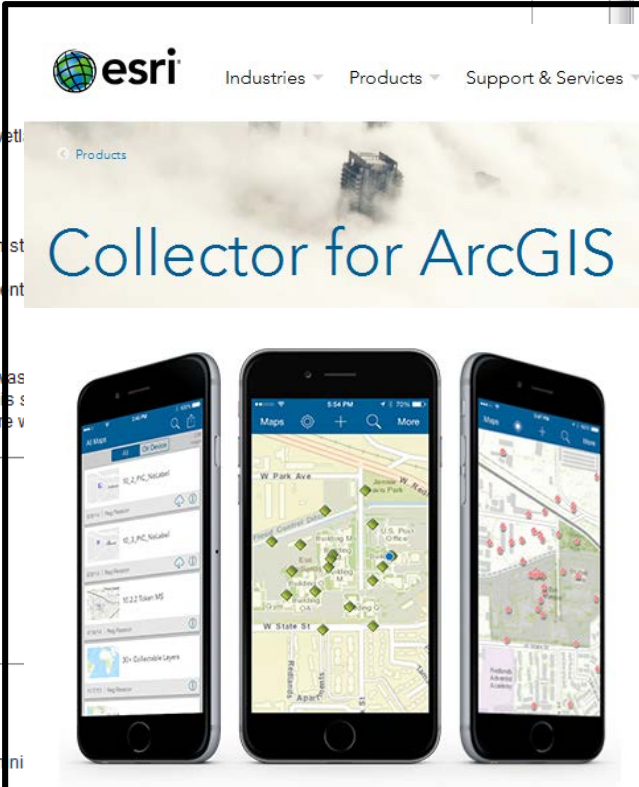

SEINet

Taxon: *Epipactis gigantea* Dougl. ex Hook.
Family: Orchidaceae
Collector: Tony Frates 20150815059
Date: 15 August 2015
Locality: United States, Utah, Salt Lake, Murray, Wheeler Historic Farm wetland, 40 meters east of Little Cottonwood Creek
40.63386 -111.86171 +-7m. WGS84
Elevation: 1340 meters
Verbatim Elevation: 4400 ft.
Habitat: Flat, mostly bare, moist to muddy drainage adjoining marsh with scattered other trees
Associated Species: *Carex pellita*, *Typha domingensis*, *Euthamia occidentalis*, shade of *Populus fremontii*
Description: Juvenile or young adult, probably three to four years old
Phenology: Vegetative
Notes: Only a single plant of this species found in wetlands area; there was a second plant found nearby, but it was distant from this location and which can be superficially confused with this species. The plant has sessile, clasping leaves not folded and the non-flexuous stems and more v...

Specimen Images



Record Id: 24166d64-3ce1-4cbc-8fed-917b6d6f3116
Usage Rights: CC BY-NC (Attribution-Non-Commercial)
For additional information on this specimen, please contact: SEINet Administrator



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Consortium of Pacific Northwest Herbaria

Providing access to specimen data and digital resources from herbaria throughout Pacific Northwest North America



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About Us

The Consortium of Pacific Northwest Herbaria was created in 2007 to bring together regional herbaria and provide an online portal to the wealth of existing and emerging information about the flora of Pacific Northwest North America. Over 3.6 million specimen records and numerous online electronic resources are managed by the region's 57 herbaria, representing an irreplaceable storehouse of information for research and public education. [More](#)



Erigeron aureus

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Observations of plant and animal phenology are useful for tracking the biological (or ecological) response to climate change.

Image credit: California Phenology Project, Brian Haggerty

PHENOLOGY DATA OVERVIEW

Phenology data are already supporting science and helping natural resource managers and public officials make decisions about how to prepare for and cope with the rapid changes occurring across the nation.

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The brown belted bumble bee (*Bombus griseocollis*) on beebeam. Photo by Chris Koester.



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