

Baja Flora – San Diego Natural History Museum

BajaFlora.org

January 2014

BajaFlora is a project of the Botany Department of the San Diego Natural History Museum with the goal of consolidating the available floristic data on the plants of the Baja peninsula, Mexico. The data is presented in narrative, photographic, and geographic (mapping) forms.

Dr. Jon Rebman, Curator of Botany, has undertaken work on major efforts to document the plants of the two states of Baja California. He has rewritten the 1989 book by Norman Roberts, *Baja California Plant Field Guide*, updating and greatly expanding its contents. In a parallel effort, he is preparing a new *Checklist of the Vascular Flora of Baja California*, which will include the literature, synonymy, endemism, and both English and Spanish common names of the Baja flora. Every included plant will be vouchered, and the voucher specimen sheet will be available on the web site.

The BajaFlora web site, which makes available the collection and voucher data from multiple herbaria, including the two major collections from Baja California, will serve as the central repository of the data collected as part of these efforts.

Currently the web site presents a publically available set of pages and an area available only by login. The login areas will be opened to the public upon publication of the documents noted above.

Plant Photos

The web site currently includes over 24,000 photographs of plants and habitats of Baja, and more are being added as the scanning and uploading project continues. Web site users can search the collection by plant name and get a number of pages of thumbnails and brief data for each photo.

Clicking any thumbnail brings up the full-size photo with complete data. Unlike many on-line plant photo sources, the plants in these photos have been correctly identified by a qualified botanist.

Moran Field Notes

In addition to the collection data, photographs and map, the web will bring together other information relative to the subject of Baja vegetation, wherever it is found. For example, here is presented a searchable version of the field notes of Dr. Reid Moran. Moran, a former curator at SDNHM, was a prolific collector of Baja plants. The SDNHM herbarium holds approximately 26,000 of his specimens.



Web site users can search his 17 field books, written from 1936 through 1993, for specimen numbers, dates, or names of persons and places.

Scanning and indexing these books is an ongoing volunteer effort.

Historic Place Names

Reading label information on old specimens can be difficult without a reference for the old place names. The web site provides some help for that problem with an interactive mapping application, using Google™ Maps. A user can enter a name or part of a name into the text box and the map will produce icons at each location that name appears in the historical record. Clicking an icon brings up the data for that location, and a table on the page lists all the names found.

Alternatively, a user can click anywhere on the map, and the map will zoom to that location and display icons at all locations within a few miles that are in the historical names list.



Database Search

Inst. Ref Num	Family	Species	Pres.	Collector	Coll. Num.	Date	Latitude	Longitude	Elevation	State	Locality
SD 00497	Acanthaceae	<i>Artemisia gemmarum</i>	H	Reid Moran	7181	Jan 26, 1959	24.18001	-110.3533	?	BCS	Cape Region, El Magister
SD 00502	Acanthaceae	<i>Carlavignia arizonae</i>	leg	Reid Moran	6883	Jan 24, 1959	24.18333	-110.2	?	BCS	Cape Region, Arroyo de Los Pinos
SD 00502	Acanthaceae	<i>Carlavignia arizonae</i>	H	Reid Moran	7414	May 12, 1958	23.328	-109.325	1000	BCS	Cape Region, south fork of Cañon San Pedro
SD 00460	Acanthaceae	<i>Carlavignia arizonae</i>	H	Reid Moran	7124	Jan 21, 1959	23.02222	-110.19333	200	BCS	Cape Region, 12 km SE of San Pedro
SD 00488	Acanthaceae	<i>Carlavignia arizonae</i>	H	Reid Moran	7087	Jan 19, 1959	23.38782	-108.83797	400	BCS	Cape Region, Arroyo San Genaro about 3 km above Boca de La Bieta, bottom of small side arroyo
SD 00494	Acanthaceae	<i>Carlavignia pedunculata</i>	H	Reid Moran	7074	Jan 18, 1959	23.01667	-109.75	200	BCS	Cape Region, Arroyo about 4.5 km by road westward from La Palmilla
SD 00503	Acanthaceae	<i>Glossiera resinata</i>	H	Reid Moran	7087	Jan 18, 1959	23.01667	-109.75	200	BCS	Cape Region, arroyo ca. 4.5 km by road westward from La Palmilla
SD 00492	Acanthaceae	<i>Syntherisma umbellata</i>	H	Reid Moran	7030	Jan 18, 1959	22.91667	-109.91667	?	BCS	Cape Region, flat area 2 km north of Cabo San Lucas

SDNHM, in a joint effort with other herbaria holding collections of Baja plants, has assumed the role of consolidating the collections data to form a consortium of Baja collections. Web site users are able to search the combined collections of SDNHM, San Diego State University, Rancho Santa Ana,

Pomona College, Centro del Investigaciones Biologicas del Noroeste, La Paz (HCIB), and Universidad Autonoma de Baja California, Ensenada (BCMEX).

Users can search all or any one of the collections by plant name, collector name, year or year span of collection, or locality.

Search by Map Polygon

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Click on map for Latitude: 24.13172° Longitude: -109.97864°

Find Collections in a Defined Area (Polygon)

Instructions: 1. Draw a polygon on the map (click the Start Drawing Polygon button, and click the mouse to draw a polygon in a Counter Clockwise (W.S.C.C.R.) direction). Do not close the polygon. 2. Press the Esc key to stop drawing. 3. Click the button: Find Collections in Box. 4. A list of specimens will appear below the map. Results will include all plants in the San Diego Natural History Museum herbarium collected from that area. Note: The data source for this page is updated periodically. For absolutely current data, use Search by Area.

Start drawing polygon Drawing mode disabled Find Collections in Box

Map showing Baja California with a polygon drawn around the area near La Paz.

***** 176 Records found in the selected area as follows:

Acanthaceae <i>Andrena germinans</i>	SD23887	Piza J. Mudge 299	Dec 01, 1972	ca. 3.0 miles west of Piontangu...	(24.2333, -110.3)
Acanthaceae <i>Catantabrica arizonae</i>	SD20502	Raid Moran 6553	Jan 04, 1999	Cape Region, Arroyo de Los Pozos	(24.1533, -110.2)
Acanthaceae <i>Jussiaea californica</i>	UCR153620	Jan P. Rasmann 7051	10/16/2000	Arroyo Santa Cruz	(24.1533, -110.109)
Acanthaceae <i>Jussiaea californica</i>	SD23476	Hank F. Gardner 9784	Nov 05, 1941	La Paz	(24.1399, -110.31)

An interactive map feature allows users to define an area, by drawing on the map using their mouse, and find a list of specimens collected within that area.

Mapping Species

Enter the scientific name of a plant to map. Use a binomial or trinomial name but do not include the year or 'sp.'. Click the Map the Plant button. You can map multiple plants in sequence.

Map Baja California Plant Species

Plant Name: Map the Plant

Click the map for Lat/Long

Map showing Baja California with several green markers indicating the locations of various plant species.

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The web site offers a number of mapping options. A Google™ Maps application maps any number of species with a table of specimen data, and provides all the functionality of the Google Maps.

Another mapping tool, a quick map, maps up to two plants on a fixed map. This option also allows the user to map using the Berkeley Mapper, a mapping application offered by UC Berkeley.

Vouchers

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Search the Baja Voucher Collection

** To search the database:*
 (1) Select one or more search criteria by entering a name or the first part of a name to search for. Do not use wildcards.
 (2) Check the **With Images** box to see specimen sheets.
 (3) Click the **List Specimens** button.

Family:

Genus:

Spec Ep:

With Images

List Specimens

Catalog Number: SD105978
Asteraceae *Acourtia microcephala*
Collector: Reid Moran
Number: 29085 **Date:** Aug 03, 1980
Phenology: Flower
Latitude: 31.8958° **Longitude:** -116.383°
Elevation (meters): 640
Location: Baja California, Arroyo Las Cruces, 20 km east of Ensenada
Habitat: Common on burned chaparral slope.

Catalog Number: SD115895
Asteraceae *Acourtia palmieri*
Collector: James Herrickson
Number: 8952 **Date:** Apr 11, 1973
Phenology: Flower
Latitude: 27.4833° **Longitude:** -112.567°
Elevation (meters): 1035

Web site users can search for views of the voucher specimens. Search results will display a set of thumbnails that match the search criteria; clicking a thumbnail brings up a full size display of the scanned image.

Regional Photographs

In conjunction with the plant photos described earlier, the photographic collection also includes

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Click on map for
 Latitude:
 Longitude:

Cape Region

Select a region from the drop-down list. Click the Mark the Selected Region button. Mouse over the icons to see regional photos.

This web page is under development, and presented for review. It will continue to grow. Cape Region, Sierra Juárez, and Cerros Toluá photo locations and captions are fictional. Sea-level photo locations are correct but the locations of the related on the Virtual Earth map to be given. Other selected regions will produce a primary icon that will link to the photo selection but will not place individual photo icons on the map. Some listed photos are not yet released.

SDNHM Baja Photo # 10202
 La Palmilla
 Probably a drug smuggler
 Jan 18, 1955
 Click the image

thousands of photos of regional areas of the Baja peninsula. Users can select a region on the map and find a set of photographs that depict that region. Each icon painted on the map, when clicked, will reveal a photo taken from that locality, along with the pertinent data related to the photo. clicking the thumbnail on the map will bring

up the full size photo. For each region, a number of selected photos will appear as icons on the map. the larger collection of photos from that region can be accessed by clicking the large icon placed on the location.



Clicking the large icon produces an array of multiple pages of photographs from the selected region. And like the images on the map, clicking these thumbnails will bring up the full size photo.

Geographic Spatial Searching The web site provides a tool for searching for specimens within a defined area, within a specified distance from an area, within a specified distance from a line or polyline, and within a specified distance from a latitude/longitude point. Some areas, such as the Ecological Regions of the Baja peninsula, are predefined. However, a tool is provided to allow users to draw and save their own polygons, lines, or routes.

Draw and save your own lines and polygons



The page shown here is used to review existing shapes (polygons, lines, routes) made available or drawn and saved by the user. User-generated shapes are available only to the user who created them. In the example to the left, the screen is showing the ecological region, Chaparral, and a route created by the user that follows the road from Rosarito to Santa Rosalia.

Spatial Search (searching relative to a shape)

Users can run searches for specimens located geographically relative to any of the preprogrammed shapes or the shapes they drew and saved themselves using the page shown above. These searches can be displayed on the page or downloaded to an Excel spreadsheet.

Spatial Search of the SDNHM Herbarium Collection

Find These Criteria: Enter a genus or a list of genera separated by commas

That is within: Miles Miles Feet Enter distance and units (enter 0 for 'within')

From shape: Latitude Longitude

Successful search returned 5 records in 2 pages.

ID	Name	Species	Locality	Date	Collector	No.	Coordinates	Notes
005898	Artemisia	Artemisia sp.	San Diego	1984	Paula & Paul	21-4001	-117.150	17.4000, 17.4000 (17.4000, -117.150)
005899	Artemisia	Artemisia sp.	San Diego	1984	Paula & Paul	21-4002	-117.150	17.4000, 17.4000 (17.4000, -117.150)
005900	Artemisia	Artemisia sp.	San Diego	1984	Paula & Paul	21-4003	-117.150	17.4000, 17.4000 (17.4000, -117.150)
005901	Artemisia	Artemisia sp.	San Diego	1984	Paula & Paul	21-4004	-117.150	17.4000, 17.4000 (17.4000, -117.150)
005902	Artemisia	Artemisia sp.	San Diego	1984	Paula & Paul	21-4005	-117.150	17.4000, 17.4000 (17.4000, -117.150)

Photograph Uploads

The website provides a tool for users to upload their own regional and plant photos with the relevant data.

Upload a Photograph to Baja Flora

File Numbers

Institution Code: Species Name: Photo Date (MM/DD/YYYY):

Date: Time: Location:

Photo Name: Photo Latitude: Photo Longitude:

Photo File: Check this box to label your photograph.

PLEASE NOTE: Your photos will only be uploaded if you check the box before clicking the 'Upload the Picture' button. If you do not check the box, your photo will not be uploaded. Please check the box before clicking the 'Upload the Picture' button.