OREGON FLORA *Newsletter*

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Project News

by Linda Hardison

What a year it has been for the Oregon Flora Project! This summer we reached a milestone with the launching of the Photo Gallery on our website, *http://oregonflora.org*. I suspect that this will be one of the most popular of our free offerings to the public. Our field photo contributors range from amateur plant enthusiasts to professional botanists, and all have a skill for photographing plants that conveys both the beauty and the scientific details of their subject. Also part of the Photo Gallery are photos of OSU Herbarium sheets; with this addition, information that was once restricted to herbarium visitors is now accessible to all users. This issue of the Newsletter features some of the individuals behind the cameras, as well as articles describing varied aspects of Photo Gallery preparation.

A second monumental project accomplished this year is a complete revision of the Oregon Plant Atlas.

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Photo by Melissa Carr

Gerald Carr has contributed thousands of digital images to the Photo Gallery, including many close-ups that help viewers identify a plant.

Developing the new Oregon Plant Atlas: volunteer Jeff Cook

by Rhoda Love

Background: From the moment in 1994 when the late Dr. Scott Sundberg founded the Oregon Flora Project he knew that an on-line atlas would be part of the project and he lost no time in appointing 12 Atlas Leaders to work in the field and the herbarium to gather data. Information gathering began at once with field exploration and the databasing of specimens; scores of students and volunteers have taken part in the project during the intervening 15 years. In early 1997, volunteer Clay Gautier of Eugene began to devise a computerized atlas, and by February 2002 the Oregon Vascular Plant Atlas was on-line and being heavily visited by the public. This very popular program has now been used and loved for over seven years, but recently the Flora Project was warned that its server host NACSE would no longer support the JAVA program on which the original Atlas was based. This announcement set off a search for individuals who could redesign a new Atlas program based on Google maps. That is how I happened recently to spend a pleasant evening at the home of Jeff and Thea Cook and their young son Henry, to talk about the development of the new Oregon Flora Project Atlas.

In recent months Jeff Cook, who has a full-time job with Lane Council of Governments, has volunteered over 200 evening and weekend hours to help develop the new mapping program based on Google. He, along with Kit Hoffman and Matt Ullmer realized that the revised Atlas needed to be completed relatively quickly. Fortunately the men were aided by the fact that the Rocky Mountain Herbarium had recently developed a new Google Maps-based Atlas, the RM Herbarium Specimen Database, and were willing to share their code. As they worked on the new program, communication between Jeff, Kit and Matt took place almost entirely via the Internet. Jeff told me that from the beginning their goal was to devise a new Oregon Flora Project map site that was as user-friendly as the one previously designed by Clay Gautier.

I asked Jeff what aspects of the new program may

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Please help us conserve resources!

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The *Oregon Flora Newsletter* is published three times a year by the Oregon Flora Project and the Oregon State University Herbarium. **Beginning in 2010, the *Oregon Flora Newsletter* is reducing its publication to two issues per volume.**

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seem different to users. He demonstrated some of these on his computer. For example, the Oregon maps created by Jon Kimerling are fresh and new and show much more detail. As with all Google maps, the user has the opportunity to zoom in and out -- from the immediate location of a specimen to a much wider area, or even the entire state of Oregon. I noticed that lakes, streams and other topographic features were much crisper and more distinctively colored on the new maps. I asked Jeff if the new mapping program worked with both PC computers and Macs and he assured me that it did.

As we wound up the interview Jeff had some final thoughts: "The greatest challenge was to make the program accessible and useful to everyone from botanists to students to any plant enthusiast who wants to learn where a taxon may be located. Part of meeting that challenge was ensuring that the underlying data were trustworthy as well, and for that, we relied on the hard work of Thea Cook, Katie Mitchell, Jennifer Sackinger and Linda Hardison who did quality control and loaded the data for the Atlas. The result, the new Atlas, was only possible with a lot of teamwork."

Photo courtesy of Kit Hoffman

Kit Hoffman (above), together with Jeff Cook, tackled the programming for the Atlas. Kit started working for the OFP in 2007 and brings his considerable web design and programming skills to our team.

Photographing Herbarium Specimens for the Photo Gallery

by Gene Newcomb

This project was started some years ago by Don Roberts, M.D. of Salem. It had been languishing quietly until about a year ago when I took up the challenge. Fortunately I was familiar with digital cameras and found it fairly easy to work out procedures for getting the project under way again. I was provided with a list of taxa needing herbarium specimens to be photographed from a database search run by the ever helpful Thea Cook.

There are three basic steps to making a new image: choosing a "typical" specimen, setting up the specimen sheet for the camera, and enhancing the image. Finally, the new image is recorded on a CD to be loaded onto the Oregon Flora Photo Gallery website.

The specimen is chosen as a record of the floral and general morphological characteristics of a given species. Where there is a major range in size I try to pick something in the middle of the range although in a few cases I have photographed two specimens that show the range of variation. I avoid sheets that show major age discoloration and those with unattractive mounting materials such as Scotch or cloth tape. The specimen is placed on a copy stand with a rigidly mounted digital camera and off-camera flash lighting and is held in place with magnetic strips. The camera is under the control of an attached computer so that I take the shot using a mouse click. The picture produced is the raw material that undergoes manipulation in Photoshop. This involves rotating the picture to vertical format, cropping to eliminate extraneous parts, adjusting the background color, sharpening the image and modifying the contrast. No attempt is made to make the specimen appear as it did before it was pressed.

As I work through my list I have been struck by a number of things, some of which make me mutter and others that bring a smile to my face. I mutter about the limited information on some of the labels such as flower color and other morphological aspects that may be lost in the process of specimen preparation. Smiles come from seeing the names of colleagues, students, and even former teachers as collectors of the specimens I photograph. Lincoln Constance, who grew up in Eugene, collected for the University of Oregon Herbarium in the 1920's. Other California-based botanists such as Rimo Bacigalupi and native-Oregonian Bob Ornduff also came to our state now and then.

The specimen itself sometimes has me brooding about the nature of collecting and the data available to us. *Myosurus sessilis* is represented by only a single sheet, and the Plant Atlas has only eight widely distributed localities shown. How much of the dearth of information about this plant is due to its restricted habitat of ephemeral vernal pools, and how much is due to the challenge it gives collectors to recognize the tiny plant with reduced structures?

The list of specimens to be photographed is long and, proceeding alphabetically, I have reached the Saxifragaceae with the remainder of the dicots and all of the monocots and gymnosperms before me. Additional features of interest will no doubt be there for me to enjoy.

Recent generic changes in Asteraceae: some corrections

by Kenton L. Chambers

Four corrections have come to my attention for the above article in the last issue of Oregon Flora Newsletter.

Tribe Astereae: Under ***Symphyotrichum***, the authors for *S. laeve* should be: (L.) A. Löve & D. Löve

Tribe Astereae: For *Pyrrocoma linearis* (D. D. Keck) Kartesz & Gandhi, substitute *Pyrrocoma howellii* (A. Gray) Greene

Tribe Astereae: Add: *Pyrrocoma liatriformis* Greene, in part, misapplied = ***Pyrrocoma scaberula*** Greene

Tribe Cichorieae: Add: *Crepis nana* Richardson ssp. *ramosa* Babc. = ***Askellia nana*** (Richardson) W. A. Weber **ssp. *ramosa*** (Babc.) W. A. Weber

Tribe Senecioneae: Add: *Senecio porteri* Greene = ***Packera porteri*** (Greene) C. Jeffrey

Photo Gallery Facts

- 61 individuals have contributed field photos to the gallery.
- There are field and/or specimen images for 3,876 taxa in the Photo Gallery -- 86% of the state's flora!
- There are herbarium specimen images of 3,116 different taxa (69% of Oregon's flora). 1,082 images are type specimens. There are field photos of 2,853 taxa (63% of the flora).
- The plant with the most field photos, at 72, is *Lupinus oreganus*. The OFP regards this name and its varieties as synonyms for 3 different taxa.
- The files for our digital images are stored on 1,516 compact discs, as well as on an external hard drive.

Preparing the Photo Gallery for the public

by Jennifer Sackinger, OFP staff

Preparing the Oregon Flora Project Photo Gallery for its recent debut was a multi-step process. First we edited all the digital photographs in our existing collection and digitized hundreds of slides recently donated by Richard Halse and other contributors. The details for all new acquisitions were entered in our Photo Gallery database, and the image files safely stored. We also dealt with numerous slides in our collection still needing to be scanned. Next, a list of plant species missing from the Photo Gallery was created, and we searched for any that might be represented in our collection of field photos. These slides and other existing images were located, digitized, and edited. Finally we took new photographs of any plant specimens not already represented in the collection. But we were not yet finished.

Next came the important task of organizing our database. First, duplicate image files and erroneous file names were deleted, and file names were standardized. We also searched Oregon Flora Project computers and disks to locate missing image files and saved these images to CDs. Our final task was sleuthing out information for images that were missing location, photographer, or other important data. Finally we had a complete, clean, standardized dataset in addition to scanned and edited images for as many Oregon taxa as possible. Now we are ready for the public to view our new Oregon Flora Project Photo Gallery. Enjoy!

Editor's Note: To read more about Jennifer Sackinger, see OFN *Volume 13(3), October 2007.*

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Our mapping program has been rewritten by two valuable web developers, Kit Hoffman and volunteer Jeff Cook. Techniques developed by Jeff and Kit that are used in the Atlas also appear in the Photo Gallery and Rare Plant Guide giving our website a common, easy-to-comprehend method of searching for information. New base maps created by Jon Kimerling, zoom capability, downloadable results, and over 540,000 total records are some of our exciting new Atlas features.

Hand in hand with the visible elements described above has been an internal change to our supporting information. Thea Cook is masterfully restructuring our multiple datasets into a single comprehensive database that will increase the efficiency of our online tools, and help the Flora Project accomplish our objective of completely interconnected components.

For all of you who are eagerly awaiting a printed *Flora of Oregon*, preparations for that important step are gaining momentum. Barbara Wilson and the Carex Working Group are preparing a new treatment of the grasses, and Aaron Liston's student, Stephen Meyers, has completed the gymnosperms. Our concurrent work on a morphology database will be used in a multiple entry key, which is an online plant identification tool now being developed.

There is also good news on the financial front. In June, the Oregon Flora Project received renewed support from the John & Betty Soreng Environmental Fund of the Oregon Community Foundation (OCF). Sustained support of this nature is a vote of confidence for our mission. We are working hard to warrant such confidence and hope that those who enjoy the resources we are developing will add their financial support to that of the OCF. Your contributions can be made payable to the Agricultural Research Foundation (include "Oregon Flora Project 4482" on the memo line), and mailed to the OFP contact address found on page 11. We send our thanks and Holiday Greetings to all our loyal supporters!

Photo by Ingrid Ford

As a notable member of the NPSO Emerald Chapter, Tanya Harvey has shared many beautiful photos grounded in her intimate knowledge of the western Cascades.

Thanks

To protect the privacy of our donors, we do not display the names in the online version of the newsletter.

Gifts were given in honor of Lucile Housley's retirement from the BLM, and in memory of Jim Weber.

Glenn and Barbara Halliday (left), Bruce Newhouse (above right), and Wilbur Bluhm (bottom right) helped build our photo collections through early contributions of thousands of images, and assistance in incorporating them in our database. Photos courtesy of individual pictured.

Jon Kimerling (left) has enthusiastically applied his cartographic skills by creating two of the highly detailed base maps for this version of the Atlas. Photo courtesy of Jon Kimerling.

How can I contribute?

Donations to the Oregon Flora Project are a critical part of our operating budget. Funds are routed to the OFP through the Agricultural Research Foundation (ARF). The ARF is a non-profit organization that raises funds to support scientific research and programs at OSU. All contributions are tax-deductible.

Your checks to the Oregon Flora Project can be made payable to the Agricultural Research Foundation. Please include "Oregon Flora Project—4482" on the memo line.

Mail your check to:
Oregon Flora Project
c/o Agricultural Research Foundation
Oregon State University
100 Strand Ag Hall
Corvallis, OR 97331-2219

With your contribution, please let us know if you do not wish your name listed in our newsletter "Thanks" column.

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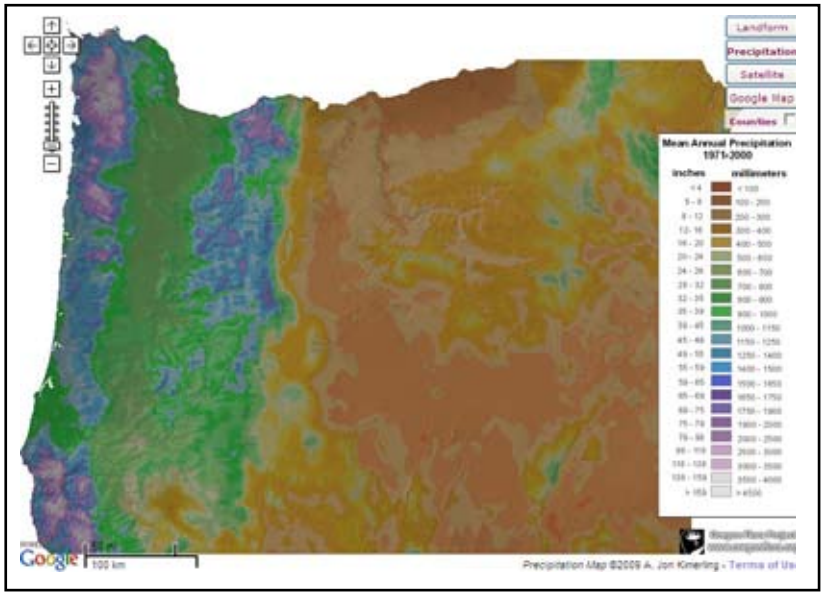
Did you know?

- The OFP recognizes 4,493 species, subspecies, and varieties of Oregon Vascular plants. Of these, 1,003 are exotic; 3,487 are native; and 3 are "native and exotic"
- There are 540,668 records in the Oregon Flora Project Atlas; 181,157 are vouchered specimens from 51 herbaria, and 359,511 are observations.
- Up to 15,000 records can be displayed on a map at one time.
- The landform map designed by Jon Kimerling is at a 1:250,000 scale in the unexpanded view.
- The largest table in the database supporting the Atlas (the Specimen Label Data table) has 229,605 records and 37 fields.



The new Oregon Plant Atlas offers four base maps: precipitation (shown here), landforms with water features, satellite images and road maps (the last two from Google Maps).

Users' Guide to the Photo Gallery

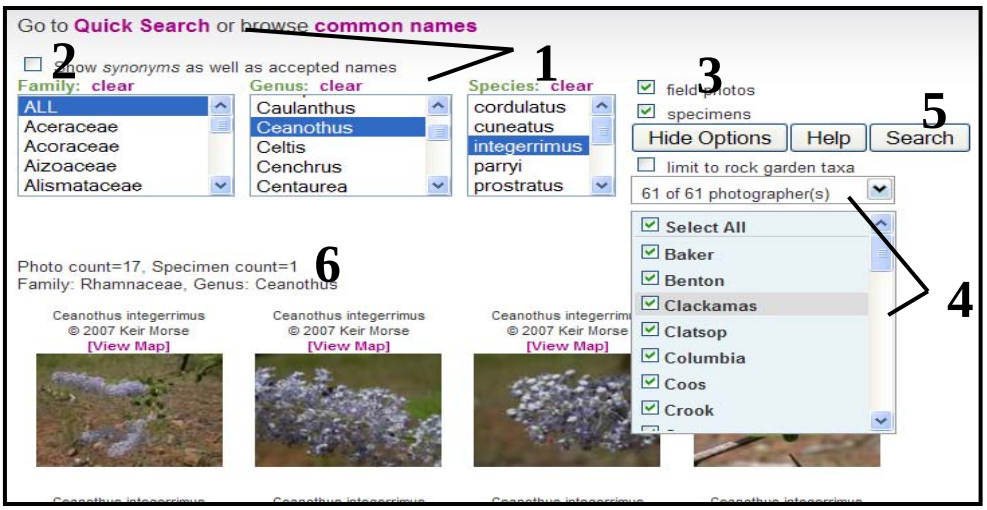
http://www.oregonflora.org/gallery.php

Selecting plant images to view

Type a character string into the Quick Search box, or select from drop-down lists of common names or scientific names **(1).** The adjacent list will automatically fill with possible options. For any drop-down, click to position the cursor in a list and begin typing to have the cursor 'jump' to that place in the alphabet. *Hint:* the "Quick Search" is looking for matching text in *all* lists. If the genus is known, begin typing it in the "scientific" names genus drop-down for faster results.

Options for refining searches

Check boxes are used to add synonyms **(2)** to the drop-down lists, or to limit results to field photos and/or specimens **(3).** Clicking the "Other Options" button reveals lists of photographers and counties **(4).** Any combination can be selected by unchecking the "Select All" entry, then checking desired items.



Viewing results

Press the "Search" button **(5)** to display thumbnail-sized images. The number of each image type is given **(6).** Hovering the cursor over the scientific name shows the common name. *Note: the link to the Atlas is currently unavailable.* Clicking on any thumbnail will enlarge the image, and details about the photo will appear.

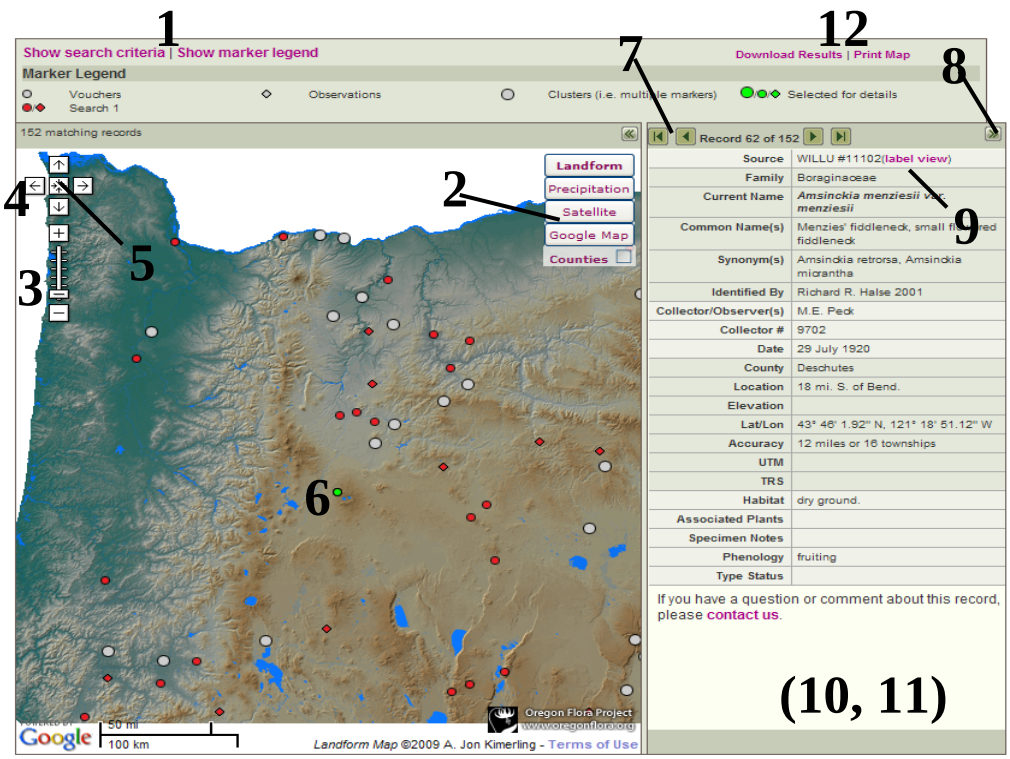
Using the new Oregon Plant Atlas

http://www.oregonflora.org/atlas.php

Development of the new Atlas will continue into the near future. A complete Users' Guide will appear in the next issue of the Newsletter. Use this page as a supplement to the instructions available online.

Selecting taxa to map

The Quick Search box and the drop-down lists of scientific and common names are identical to those in the Photo Gallery. Options available to refine an Atlas search include the mapping of vouchered collections and/or observations, as well as collector/observer, county, and date filters found under "Other Options." Multiple entries can be selected by holding the <CTRL> key while clicking. Press the "Create Map" button to generate a distribution map.



1. Toggle to view details
2. Select base map, county lines
3. Zoom bar
4. Move map
5. Center map within view
6. Click on any dot to center the locality and display search details
7. Scroll through all records being mapped
8. Hide/show details
9. Display as a herbarium label
10. Link available to other taxa for species lists
11. Thumbnail available for photo records and some herbarium specimens
12. Download data, map