OREGON FLORA NEWSLETTER

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Helen Gilkey (1886-1972)

by La Rea Dennis Johnston and Rhoda Love

March 6 marked the 110th anniversary of the birth of a remarkable woman who was the first member of her sex to graduate with a degree in botany from the University of California at Berkeley. She named six genera and over forty species, was the author of many articles and books, and was curator of the OSU herbarium for 33 years.

Helen Margaret Gilkey was born in 1886 in Montesano, Washington, one of six children, five of whom survived. Her father, a horticulturist, moved the family to Corvallis in 1903 where Helen attended Oregon Agricultural College (now OSU), graduating at age 21 and receiving a Master's degree in 1911. The following year she entered the University of California at Berkeley where she became the first woman to receive a PhD in Botany. Her dissertation was entitled, "A Revision of the Tuberales (Truffle Fungi) of California." She then joined the Berkeley faculty as scientific illustrator, drawing many illustrations for the original *Jepson's Manual of the Flowering Plants of California.*

See Gilkey, page 8

Helen Gilkey

Field work for the Atlas project

by Bruce Newhouse

Newsletter readers are probably familiar with the Oregon Plant Atlas Project. It is being conducted over the next few years with the primary goal of producing an individual range map for every vascular plant species known to occur in Oregon. The completed maps will be available in both paper and electronic versions. Various sources of information are being used to prepare the maps including existing plant lists from the Forest Service, BLM, other agencies, the Native Plant Society of Oregon (NPSO) and individual list makers. New field data is also being collected for the project.

Beginning with a map of the state, we created a grid overlay following approximately every fourth township line. Each township is six miles on a side, resulting in grid squares, or blocks, that measure approximately 24 miles on a side, or 576 square miles. Locations of existing plant lists are plotted on this map. This will help determine which blocks have not been well inventoried.

I am acting as NPSO state coordinator for field work and Scott Sundberg is the coordinator for the entire Atlas project. Volunteer Regional Coordinators (see page 10) have stepped forward to coordinate field inventories of most areas of the state (with the exception of southeast Oregon). Regional Coordinators are assigning volunteers to under-inventoried areas, making sure that each ecoregion (see OFN, July 1995) in each block is represented with a plant list.

In addition to comprehensive site lists, individual plant sitings of importance will also be recorded. Many NPSO chapters are scheduling field trips during the upcoming field season to begin these inventories. We anticipate that the inventories will continue for at least three or four years.

If you are interested in adopting a block to inventory, or coordinating inventories for a set of blocks in southeast Oregon as a Regional Coordinator, please contact Bruce Newhouse at (541) 343-2364, newhouse@efn.org, or 2525 Potter, Eugene, OR 97405. We welcome your interest and involvement!

Gilkey, continued from front page

Gilkey returned to Corvallis in 1918 to join the OSU faculty as Assistant Professor and Curator of the Herbarium. During her 33 years as curator, she developed the herbarium into a center for the dissemination of information as well as the deposition of specimens. Her publications, *Weeds of the Pacific Northwest* and *Livestock-Poisoning Weeds of Oregon*, have been of great value to Northwest farmers. In 1929, she published the forerunner of her well-known *Handbook of Northwestern Plants*. Her work, *Tuberales of North America*, was the first in the Oregon State Monographs - Studies in Botany series. Other contributions to this series include *Aquatic Plants of the Pacific Northwest* and *Winter Twigs*. Gilkey drew the beautiful frontispiece illustration of *Viola hallii* for Peck's *Manual of the Higher Plants of Oregon*.

During Gilkey's tenure, the OSU herbarium grew from 25,000 to more than 75,000 vascular plant specimens. She retired in 1951 but remained active as Professor Emerita until her death at age 86 in 1972. Gilkey received the Oregon Academy of Sciences Citation for Outstanding Achievement and the OSU Distinguished Service Award. She belonged to Phi Beta Kappa and Sigma Xi. In private life, Gilkey was devoted to friends, family and church, and supported many liberal causes including the NAACP, the international peace movement and environmental protection. Last year, at the suggestion of Berkeley botanist Barbara Ertter, Helen Gilkey was inducted into the Berkeley Women's Hall of Fame.

The Oregon Flora Newsletter is published quarterly by the Oregon State University Herbarium and the Oregon Flora Project. The Editor is Rhoda Love and the Production Assistant is Camille V. Tipton.

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Project News

by Scott Sundberg

The Flora project continues to build momentum. There has been a great deal of activity on the Atlas project, in both data gathering and development of data presentation methods. We now have a prototype computerized map with dots showing where *Carex nudata* has been reported in the state. By positioning a cursor over a dot and clicking, the viewer can call up the data associated with the dot. We have recently received dozens of species lists. A revised *Handbook for field participants* will be distributed soon.

The Checklist currently has 4,358 accepted names and 1,426 synonyms. Draft treatments of numerous groups have been received. To provide links to the plant Atlas database we have created six- or nine-letter codes (acronyms) for all taxa in the database.

If you haven't yet seen it, check out the OSU herbarium World Wide Web home page (see address below). So far, it has been accessed by over 1,600 people from 69 countries! It now provides access to the OSU vascular plant type and mycological type specimen databases and features taxonomic treatments of North American *Ceanothus* and West Coast species of Lemnaceae.

Thanks!

Thanks to the statewide and Umpqua Valley Chapter membership of the Native Plant Society of Oregon for grants awarded in January! Contributions, including repeat donations, are also a vital part of our funding. We thank the following people for recently donating to the Flora project:

Thanks to the following people who helped the project by volunteering (*), sending species lists or specimens, or providing information on Oregon plants:

Illustrations of *Erythronium oregonum* by Linda Ann Vorobik.

Alien Plant Invaders

by Dennis Isaacson

Oregonians may not realize how many alien plant species have naturalized in Oregon or what impacts they have on ecosystems. The effects of these invaders on native plant communities are extensive. Most obvious are situations where alien species directly compete with native species for space, light, moisture, or nutrients.

Less obvious, and more important, are cases where invaders physically alter habitat for natives, or where changes are induced in ecosystem function. Shrubby leguminous invaders like gorse and Scots broom (*Cytisus scoparius*) can establish upon and stabilize zones of natural disturbance. In river systems, this stabilizes gravel bars which can cause changes in channels and subsequent streambank erosion. These and other introduced species such as European beachgrass (*Ammophila arenaria*), may stabilize dunes, drastically altering physical conditions to which native communities are adapted.

In some ecosystems, invaders can alter availability and cycling of nutrients. Dr. Peter Vitousek of Stanford University has documented the disruptive effect of the invading nitrogen-fixer, *Myrica faya* (candleberry myrtle), on natural communities adapted to young lava deposits in Hawaii. In pine communities in eastern Oregon, invasion by a tap-rooted herbaceous perennial, spotted knapweed (*Centaurea maculata*), is likely to cause conversion to a treeless desert-type community because this invader uses water from different zones in the soil profile and in different seasons than do native herbaceous plants. In such areas, only a little less moisture may have a marked effect on forest succession.

How can we limit the impacts of invading alien species? In the past, weed control efforts were primarily "see weed, kill weed" operations. Control attempts were not organized until weeds had become a problem. Today many weed management efforts target the prevention of infestations or the detection and treatment of infestations while they are still small. Species targeted for intensive control are those most likely to present serious future impacts rather than those which are already widespread.

Purple starthistle and squarrose knapweed are two species now targeted for control before they become widespread in Oregon. Both are well-established in California, and squarrose knapweed is a serious problem in Utah, where it has spread rapidly. In Oregon there have so far been only two detections of purple starthistle, and three of squarrose knapweed. All these infestations are under intensive control with the goal of stopping all seeding and of reducing plant populations to zero if practical.

Detection efforts are focused on these weeds, and a few others that represent potential threats (see table below), and anyone interested in protecting and conserving Oregon's native plants can help by reporting locations of any of these weeds to the Oregon Department of Agriculture at (503) 986-4621.

Look out for these invaders!

Common name	Scientific name	Report if found in these areas:
Tansy ragwort	*Senecio jacobaea*	Anywhere in eastern OR
Gorse	*Ulex europaeus*	Lincoln Co. & north on coast, any inland site
Purple starthistle	*Centaurea calcitrapa*	Anywhere in OR
Iberian starthistle	*Centaurea iberica*	Anywhere in OR
Squarrose knapweed	*Centaurea virgata*	Anywhere in OR
Distaff thistle	*Carthamus spp.*	Anywhere in OR
Hydrilla	*Hydrilla verticillata*	Any OR lake or stream

To be added to our mailing list (if not already on it):

Name _____

Address _____

_____

_____

Phone and/or e-mail _____

Would you like to make a donation?

Tax-deductable donations can be made to the Oregon Flora Project by sending a check made out to the Oregon State University Foundation to Scott Sundberg at the address on page 8. Please note on the check that it is for the Oregon Flora Project. Your donations mostly go toward newsletter expenses and student wages.

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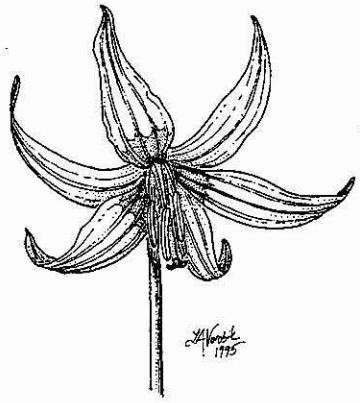


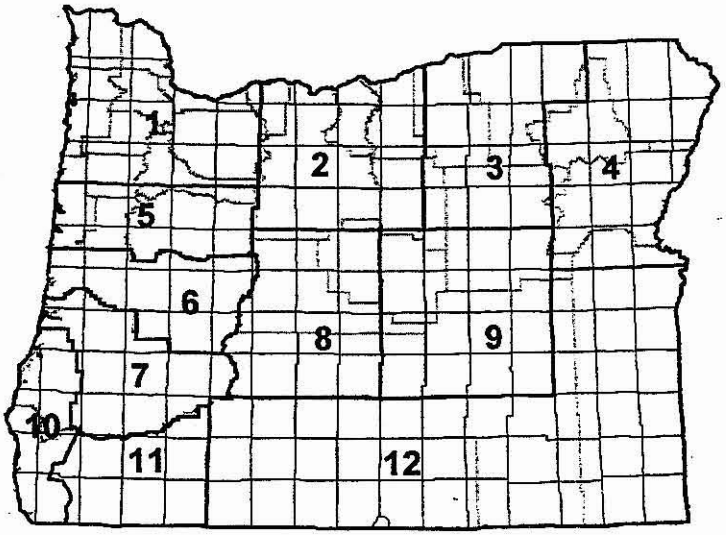
Did you know?

• Our early-blooming Northwest coast endemic shrub, osoberry (*Oemleria cerasiformis*) is the only member of the Prunoid subfamily of the Rosaceae in the world which is dioecious and the only one which produces more than one drupe per female flower.

• *A Flora of Northwest America* was published from 1897 to 1903 and is our earliest regional flora. The author, Thomas Jefferson Howell, a pioneer on Sauvie's Island near Portland, set the type himself. Early printings have a typographical error on the title page, misspelling "Northwest" as "Northwhst."

• The stamens of Oregon grape (*Berberis* spp.) move inward when touched; the stigma lobes of monkeyflowers (*Mimulus* spp.) close when touched and when a pollinator lands on the keel petal of Scots broom (*Cytisus scoparius*), the stamens flip up and dust the insect's underside.

Plant Atlas Regions and Blocks



Regional Coordinators

1. Andy Robinson
2. Jerry Igo
3. Bruce Barnes
4. Paula Brooks
5. Dick Brainerd
6. Charlene Simpson
7. Lisa Wolf
8. Katie Grenier
9. Veva Stansell
10. Dick Straw
11. Faye Steier
12. Bruce Newhouse

Plant Regions
Oregon Blocks
Counties