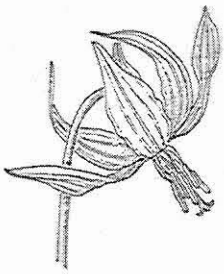

OREGON FLORA NEWSLETTER

Volume 2 Number 1 • Oregon State University • January 1996

How did non-native plants get to Oregon?

by Barb Wilson

Non-native plants have arrived in Oregon in a variety of ways. Written records concentrate on deliberate introductions, and many of our naturalized plants were brought here as crops, ornamentals, medicines, or for soil erosion control. Examples include food crops such as Himalayan blackberry (*Rubus discolor*); hay crops such as timothy (*Phleum pratense*) (a single bushel was brought overland in 1825); Fuller's teasel (*Dipsacus sativus*) cultivated in Clackamas County (the only center of cultivation west of the Mississippi) to raise the nap on wool cloth; medicinal herbs such as tansy, mint, and catnip; gorse for fencing sheep, clovers planted to fix nitrogen; and European beach grass (*Ammophila arenaria*) for controlling the movement of sand dunes.

Perhaps more intriguing are the species introduced unintentionally. An overlooked apple core initially brought in by mistake in the late 1820s became the progenitor of Oregon's first orchard.

An interesting variant on the theme of accidental introductions involves an extension agent who sent letters to ranchers in the intermountain west, asking whether or not certain serious weeds had become established in their areas. To insure correct identification, he included a sample of each weed. Seeds from those plants helped expand their range.

No doubt a variety of seeds were introduced as contaminants in crops, a process that continues today. Before 1880, cheat (*Bromus secalinus*) was introduced as a contaminant of rye but for a time cheat itself was cultivated as a forage crop. Just this year the first Oregon record of the sedge *Carex chordorrhiza* was reported, from a cranberry crop established from Wisconsin stock.

Livestock are effective plant transporters, carrying seeds entangled in wool or hair, stuck in hooves, or in the digestive system. Horses brought overland from the midwest probably brought some seeds, but probably more important were the drives that,

See Non-natives, page 2

Carex Working Group reviews genus

by Camille V. Tipton

A handful of researchers and graduate students at Oregon State University have been meeting regularly for the past two years to examine the genus *Carex*, (sedges) a part of one of the world's most confusing families, the Cyperaceae or sedge family.

The Carex Working Group began weekly meetings in Fall 1993 for the purpose of organizing the available data on the Oregon sedges, creating distribution maps, and eventually writing new keys to the genus.

They began sifting through the herbarium's 40 shelves of specimens and sorting through records. As a group, they discussed identification problems they, or other people, encountered.

"Pretty soon it became obvious that we needed to computerize our records so we could accurately map them," said Barb Wilson, an OSU graduate student instrumental in the group's formation.

To date, they have more than 4,500 records in the database and have almost completed reviewing the herbarium's specimens. Six exotic and 122 native species have been documented in Oregon.

See Carex, page 2

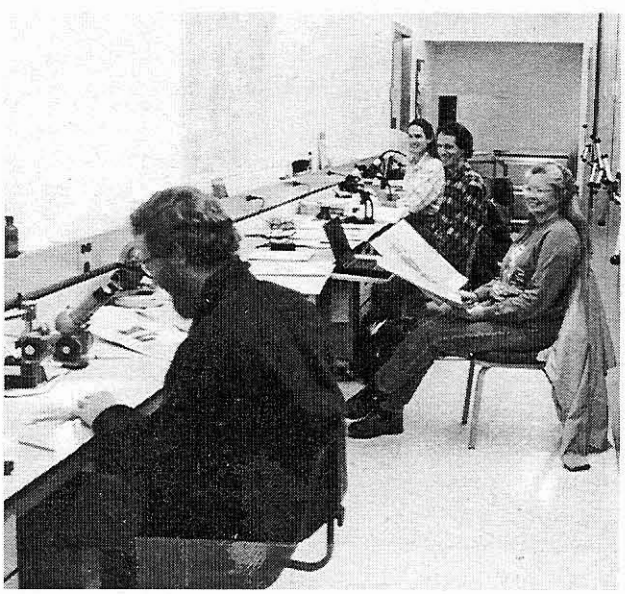

photo by Camille V. Tipton

Carex Working Group at the OSU herbarium

Carex, continued from front page

Last spring, member Peter Zika discovered an undescribed species of *Carex*. He is planning to submit an article describing the find for publication this winter.

OSU Professor and Cartographer Jon Kimerling, a member of the Oregon Plant Atlas Project, used the gathered data to create the first *Carex* distribution map. It details vouchered and unvouchered collection sites (see related story, page 3 and related map on the back page).

In addition to the group's research efforts, Barb and Keli Kuykendall jointly taught a *Carex* identification class through the university in the fall of 1993 and 1994.

"I think it is wonderful that there are so many people excited about a group of plants that have been ignored for so long," said Peter, who is a research associate in the herbarium. "Together, they have really done an amazing amount of work."

Other members of the Carex Working Group include Richard Brainerd, Francisco Camacho, Manuela Huso, Danna Lytjen, Bruce Newhouse, Jim Oliphant, and Nick Otting.

Illustrations of *Erythronium oregonum* on cover and back page by Linda Ann Vorobik.

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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Non-natives, continued from front page

beginning in 1841, brought hundreds of cattle, sheep, and horses north from California. These animals must have brought seeds of the Mediterranean plants that were already transforming California's grasslands.

Farm equipment can carry plant propagules between farms and occasionally across long distances. About 1872, a thresher that was brought from the east introduced Canada thistle (*Cirsium arvense*) to Marion County.

Traveling long distances quickly, railroads have been important in the spread of major weeds like downy brome (*Bromus tectorum*) and minor curiosities like Oregon's only record of wild hair fescue (*Festuca filiformis*).

Ships are perhaps less important plant transporters of land plants now than they were when they took on soil or sand as ballast. In 1915, James D. Nelson reported 213 species on ballast at Linnton (now an industrial area of Portland). Over 60 of them, such as the iceplant (*Mesembryanthemum crystallinum)* and sand sedge *(Carex arenaria)* were new to Oregon.

As you can see, plant species can arrive in Oregon in a wide variety of ways, and they continue to arrive.

New logo premieres this issue

by Scott Sundberg

For the past year we have been using an illustration of *Erythronium oregonum* from *Vascular Plants of the Pacific Northwest* as an informal logo for the Flora project. It has graced the front page of the newsletter with a second illustration on the back page. A few months ago Paul Hammond, who with Ken Chambers described the rare *Erythronium elegans*, pointed out that the illustration showed the anthers appressed to the style. Unfortunately, *E. oregonum* has anthers that hang free of the style and so the illustration is incorrect! Paul surmised that it was based on a specimen of *E. revolutum*.

Recently we commissioned Dr. Linda Ann Vorobik to draw a new logo for the Oregon Flora Project. Linda is a professional scientific illustrator and was a Principal Illustrator for the *Jepson Manual*. She has a Ph.D. in Biology from the University of Oregon. Linda's two new illustrations of the flower of *Erythronium oregonum* make their debut in this issue of the newsletter. We hope you enjoy them as much as we do!

Cartographer is integral part of Atlas project

by Camille V. Tipton

Oregon State Professor Jon Kimerling is developing maps for the Oregon Plant Atlas Project.

Jon, a professor of geography and cartography at OSU since 1976, joined the Atlas project last spring. His area of expertise is a critical component of the effort, which will document all native and naturalized vascular plant occurrences in the state. The project's goal is to produce distribution maps and an electronically accessible database for all taxa.

Recently, Jon used database records of *Carex nudata* (torrent sedge) to produce a map that will be a model for distribution maps in the Oregon Plant Atlas.

"I have created a relief map of the state so you can see the mountains and rivers," said Jon, who writes his own *C* computer programs to analyze data and generate images. He also teaches courses in computer-assisted cartography, remote sensing, and geographic information systems (GIS) at OSU.

Vouchered and unvouchered observation sites are noted on the map and can be correlated with the contours of the land. Maps based on the *Carex nudata* prototype will eventually be generated for all Oregon vascular plant species.

"The base map of Oregon that Jon created is useful in many ways," said Scott Sundberg, coordinator of the Atlas project. "One use is as an editing tool for the database. A dot on the map that appears out in the ocean or a dot showing a low-elevation species high in the Cascade Mountains immediately draws our attention, allowing us to double-check our records."

A native of Northern California, Jon first became interested in map-making when he was 12 years old. A school project that required him to make a commodities map of France triggered his life-long fascination with cartography.

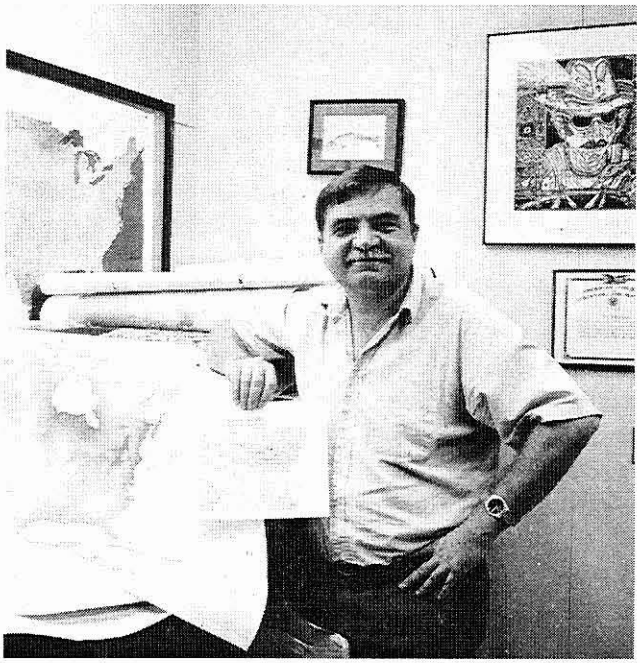


photo by Camille V. Tipton

Jon Kimerling, cartographer for the Oregon Plant Atlas Project

In college he studied geography and cartography at the University of Washington, then completed his dissertation on remote sensing and cartography at the University of Wisconsin.

He is currently working on a handful of other projects including an atlas of Oregon animals for the Oregon Department of Fish and Wildlife, three-dimensional mapping in the Los Angeles basin, and aerial videography which will be used in checking land cover maps in Oregon.

Jon has published articles in *Cartography* and *Geographic Information Systems* and is past president of the American Cartographic Association.

In his spare time he likes to travel, having spent time in Europe and Asia, and a year in Budapest, Hungary. He also likes fishing, hunting, and camping.

Offer to identify Oregon *Astragalus*

Aaron Liston is offering to identify any Oregon specimen of *Astragalus* sent to him. He is particularly interested in well-documented collections of variable species like *A. lentiginosus, A. purshii*, and *A. whitneyi*, but all species are welcome. Specimens should be pressed and dried; whenever possible include both flowers and fruit (this may require two visits). Flower color should be noted, as this often changes upon drying. Complete locality and habitat data should also be included. Specimens cannot be returned (many will be incorporated into the OSU herbarium), therefore please keep a duplicate for yourself, if desired. Determinations will be sent promptly. There are 74 *Astragalus* taxa (species and varieties) in the state, so this is your chance to learn more about this diverse genus!

Send specimens to:

Dr. Aaron Liston, Herbarium Director
Department of Botany and Plant Pathology
Oregon State University
2082 Cordley Hall
Corvallis, OR 97331-2902, USA

Lane County checklist grows daily

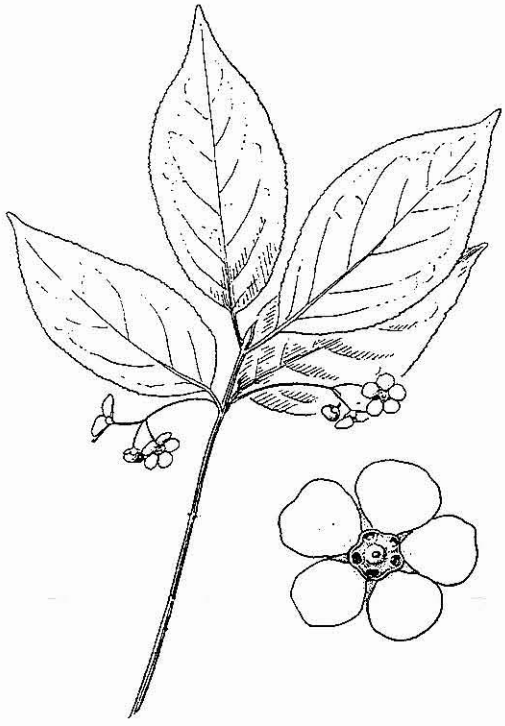
by Charlene Simpson

Late in 1992, Bruce Newhouse, then president of the Emerald Chapter of the Native Plant Society of Oregon, proposed the idea of a geographical inventory of the flora of Lane County. We had long admired the work of the Douglas County Flora group. We envisioned a vascular flora checklist specific to a number of geographic sub-areas which would be useful to professional botanists and other plant enthusiasts.

An organizational meeting was held in April 1993 and attended by Evelyn Everett, John Koenig, Bruce Newhouse, Rhoda Love, Ethen Perkins, and Charlene Simpson. Anna Mockler and David Wagner provided later input. We quickly recognized our need to draw upon the vast store of existing information in field trip lists, herbarium vouchers, and published literature to avoid reinventing the wheel. We knew of Karl Urban's Oregon flora data base but, alas, it could not be sorted by county.

Scott Sundberg, of the OSU Herbarium, met with our group in January 1995 to discuss the sharing of information between the Oregon Flora Group and the Lane County Checklist Group. We saw this as mutually beneficial in that we would provide site specific information for Lane County taxa to the Atlas project and receive in return authoritative nomenclature. Bruce and Charlene joined the Atlas project central planning committee, and NPSO appointed Bruce their state coordinator, while Charlene is presently coordinator of Lane County's efforts for the Atlas project.

A working draft of the Lane County Checklist is growing daily. At present it contains 1,550 entries, drawing from NPSO, agency, and published checklists with specific Lane County sites. Rhoda, Bruce, and Charlene have cross-referenced many taxa with OSU Herbarium vouchers. Because of ongoing additions and changes, the Lane Checklist is not available for circulation at this time. We are eager, however, for any new information about unusual plant sightings, or plant lists which will add to the quality of the Lane County list. Please call: Charlene Simpson, (541) 465-1059, if you have any information you believe will assist our effort.



Illustrations of *Euonymus occidentalis* by Jeanne Janish, taken from Hitchcock et al. 1969, *Vascular Plants of the Pacific Northwest*, courtesy of the University of Washington Press.

The Oregon Flora Newsletter editor has asked me what interesting plant species were found in Lane County this past summer. Dick Brainerd of the ecological consulting firm Salix Associates, found *Euonymus occidentalis*, western wahoo, on BLM land near Culp Creek. As far as we know, this is its first record for Lane County. Also, Dick receives credit for discovery, in the Coburg Hills, of *Agrostis howellii*, a grass species disjunct in Lane County from its normal range to the north. Charlene Simpson found *Lewisia columbiana* var. *columbiana* on Dome Rock. While not a first for Lane County, it is a first for the Willamette National Forest and was immediately added to the Forest's sensitive list.

Thanks!

Thanks to the following people who have recently helped the Oregon Flora Project:

Thanks to each of you who has sent a check to the Flora project since the last newsletter:

Special thanks to Environmental Systems Research Institute, Inc. of Redlands, California for donating ArcView 2.1 and other software to the Flora project.

What we have learned from your responses

by Scott Sundberg

In 1995 we appealed to you for specimens of duckweeds, new Oregon plant records, information on Columbia hawthorn distribution, information on Oregon herbaria, and species lists. We have received numerous responses, which have helped the project enormously. Thanks! Here are some of the things we now know:

Duckweeds: We know of 11 species of duckweeds (family Lemnaceae) in Oregon. One additional species (*Lemna aequinoctialis*) might also be here, but it is difficult to identify with certainty the one specimen in the herbarium with this label. (Does any reader wish to look for this between Medford and Crater Lake?) Specimens sent in represent new records for Clatsop, Harney, Jackson, Klamath and Lane counties.

New Oregon plant records: Nine new Oregon species records are now known to us because six readers sent in specimens, photographs, or photocopies to document occurrences in Oregon. In addition, there is an intriguing report by a backcountry wilderness guard of a population of an unknown tree species growing deep within the Three Sisters Wilderness Area. The specimen we saw (a single leaf) looks like it may be red maple (*Acer rubrum* L.), a native of the eastern US and Canada, which was probably planted by someone several decades ago and has since spread. We hope to have a better specimen next year.

Columbia hawthorn: In July we asked how far south field botanists have found *Crataegus columbiana* and were pleased to hear from four readers. Specific sites mentioned were in Union, Wallowa, and Baker counties. We would still like to hear from anyone who has seen this taxon further south in Oregon or in northeastern California.

Oregon herbaria: We know of 32 herbaria in Oregon. In addition to the three herbaria housed at OSU we know of collections at six universities and colleges, eight Forest Service offices, nine Bureau of Land Management offices, one Indian reservation, one county museum, one national park, a national monument, and in four private herbaria.

Species lists: We have received nearly 700 species lists from many areas of Oregon. These will form the nucleus of the Atlas database (see October 1995 issue of the *Oregon Flora Newsletter*).

We continue to collect information on all of the above and would be very interested in any additional contributions from readers.

Oregon Flora Project news

by Scott Sundberg

The Atlas project has gotten a large boost during the past three months. On November 17th we held an Atlas project workshop at OSU, with about fifty people attending. At the workshop the *Draft Handbook for Participants, Oregon Plant Atlas Project* was presented and plant collecting techniques and ethics were discussed. At the end of the workshop the regional coordinators gathered around a wall map of Oregon and used tape to divide the state into regions. As Bruce Newhouse and I shook hands after the meeting, we had a feeling that this exciting project had truly been launched!

We are now actively preparing for the 1996 field season. We need volunteers to help with field work, and coordinators are being sought for southeastern Oregon. We are also trying to acquire more species lists, especially for sites in eastern Oregon.

The Checklist project has gone through an expected slow period because many contributors were involved in the *Conservation and Management of Oregon's Native Flora* symposium. Currently the database has 4,374 accepted names and 1,280 synonyms. In about a month, the integration of the OSU and UO herbaria will be complete, and work on the Checklist will pick up.

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

Name _____

Address _____

_____

_____

Phone _____

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 2. Please note on the check that it is for the Oregon Flora Project. At present most contributions are dedicated to newsletter expenses and student wages.

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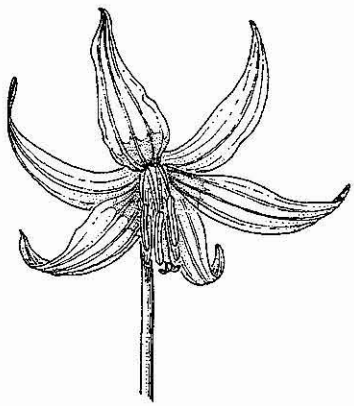

Did you know?

• *Arenaria* is a genus name for sandworts (plants) and turnstones (birds); *Aster* for asters and starfish; *Oenanthe* for water parsley and a wheatear (bird); and *Prunella* for self-heal and accentors (birds).

• Ironically, *Astragalus oreganus* does not occur in Oregon. According to Barneby (1964) it was named by Thomas Nuttall in 1838 after the source of the "Oregon River," probably in Wyoming. We now think he was referring to a tributary of the Snake River.

• Hotrock beardtongue, Jack-go-to-bed-at-noon, scurvy grass, bastard toadflax, dyers' woad, morning brides, and coastal mugwort are common names of Oregon plants.

Carex nudata (torrent sedge)