OREGON FLORA NEWSLETTER

Volume 2 Number 4 • Oregon State University • October 1996

Ken Chambers
Professor Emeritus, OSU

Ken Chambers became interested in biology through his mother, who taught science at his high school in Paso Robles, California. He was attracted to plant taxonomy by a course he took when majoring in biology at Whittier College. After graduating in 1950, he was accepted at Stanford, where he completed his Ph.D. with a thesis on the biosystematics of the annual species of *Microseris* (Asteraceae). He then studied for one year at UCLA in Harlan Lewis' laboratory before accepting a position as Instructor in Botany at Yale University in 1956. Of his four years at Yale Ken says: "I had many rewarding experiences, the best of which was to meet and marry Henrietta ("Henny") Laing, who finished her Ph.D. in plant taxonomy there in 1960." That year Ken and Henny moved to Corvallis where he began his tenure at Oregon State University as Associate Professor of Botany and Plant Pathology, and Curator of the Herbarium.

Ken's activities at OSU over a 30-year time span centered on teaching and research in plant taxonomy plus curatorial and public service work in the herbarium. Of the latter he says: "I had the invaluable help of LaRea

See Chambers, page 16

Ken Chambers (left) and fellow Stanford biologist John Figg-Hoblyn in Baja California, 1955.

The OSU Herbarium: three herbaria in one!

by Aaron Liston and Scott Sundberg

Visitors to the Oregon State University Herbarium who haven't been here in the past two and a half years will find a modern facility in newly renovated quarters! Renovation was completed in January, 1994, and was partly funded by a grant from the National Science Foundation. Currently housed here are the three largest herbarium collections in Oregon: Oregon State University (OSC), University of Oregon (ORE), and Willamette University (WILLU). Although the collections are worldwide in scope, they focus on the state of Oregon and the Pacific Northwest. The herbarium now contains approximately 370,000 vascular plant, bryophyte, algal, and fungal specimens. The three collections bring complementary strengths to the newly consolidated herbarium:

OSC, founded in 1886 (160,000 vascular plant, 60,000 lichen and fungal, 6,200 bryophyte, and 3,000 algal specimens), is the oldest and largest of the three herbaria. In the early years the herbarium in Corvallis benefitted from the curatorships of Moses Craig, Howard S. Hammond, and Helen Gilkey. By the time Gilkey retired in 1951, the herbarium contained 75,000 vascular plant specimens. It has been located in Cordley Hall since 1957.

ORE, founded in 1903 (110,000 vascular plants, bryophytes, and lichens), contains the historically valuable collections of the region's first resident botanists from the late 19th and early part of the 20th century, including Thomas and Joseph Howell and William Cusick. It was moved to Corvallis in May, 1993 and the collections have been merged with those of the OSU herbarium. However, specimens from the UO herbarium will retain their original accession (catalog) numbers.

WILLU (32,000 vascular plants) consists of the personal collection of Morton E. Peck, Professor of Biology at Willamette University, Salem from 1908 until 1941. The collection was moved to Oregon State University on "indefinite loan" in 1976 and is maintained separately as specified in the transfer agreement.

See Herbarium, page 19

Volunteers needed for the Oregon Flora Project

Volunteers are critical participants in the Oregon Flora Project. Leaders of the Flora project, the Atlas project, the Checklist advisory board, Atlas regional coordinators, our newsletter editor, and many other people around the state are already volunteering their time. Currently, several part-time student workers are our only paid staff.

Volunteers are urgently needed for entering data into the Oregon Vascular Plant Atlas database. Much of this work can be done anywhere in Oregon, although volunteers would need to visit Corvallis one time for training. We also need help at the Herbarium with a number of tasks, such as mounting specimens, database management and fund-raising. We would love to hear from people who would like to help. If you are interested, please contact Scott Sundberg at the address or phone number below. Please join our team by becoming a volunteer for the Oregon Flora Project!

Illustrations of *Erythronium oregonum* on the front and back covers 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.

Address correspondence to:
Scott Sundberg, Coordinator, Oregon Flora Project
Department of Botany & Plant Pathology
Oregon State University • Cordley Hall 2082
Corvallis, OR 97331-2902
E-mail: sundbers@bcc.orst.edu
(541) 737-4338; FAX (541) 737-3573
http://www.orst.edu/dept/botany/herbarium

Chambers, continued from front page

Dennis Johnston, who had a genius for dealing with the problems of farmers and extension agents needing identifications of weeds and toxic plants." During his three decades of teaching, Ken also directed 16 Masters theses and 17 Ph.D.s. Examples of genera worked on by his students include: *Aster, Claytonia, Mimulus, Juncus, Calochortus, Trillium, Crepis, Hackelia, Arctostaphylos, Lathyrus, Achillea, Artemisia, Mentzelia, Astragalus, Phacelia, Sophora* and *Triticum*. He retired in 1990 and is now an Emeritus Professor, with an office on the first floor of Cordley Hall, across from the new herbarium.

Ken looks back with pride to his collaboration with Jean Siddall and David Wagner during the 1970s, when they prepared a preliminary catalog of the rare, threatened, and endangered plant species of Oregon. "For a decade or more, it was Jean and her corps of dedicated amateur botanists throughout the state, along with a few professional taxonomists, who promoted the conservation of endangered plants," he says.

Ken has been active in a number of professional societies, including the American Society of Plant Taxonomists (president, 1979), Botanical Society of America (chairperson, Systematics Section, 1965-67), and American Association for the Advancement of Science (executive committee, Pacific Division, 1984-90). His professional awards include a Career Merit Award from the Botanical Society of America, 1990; OSU Alumni Distinguished Professor Award, 1989; and appointment as Fellow of the AAAS, 1989. In 1967-68 he worked for the National Science Foundation in Washington, D.C., as director of their program in Systematic Biology.

Botanists Ken especially admires and who have most influenced him professionally include Ledyard Stebbins, Edgar Anderson, Harlan Lewis, William L. Stern, Ira Wiggins, David Keck, Oswald Tippo, and Peter Raven.

Ken remains every bit as active as he was before "retirement." His current research involves writing treatments of numerous genera for the Oregon Flora Checklist Project, preparing the Key to Genera for an upcoming new *Manual of the Grasses of the United States*, completing the descriptions of several new taxa, and finishing a monograph of *Claytonia* in conjunction with John M. Miller. He also enjoys traveling to interesting corners of Oregon to collect plant specimens for the herbarium and "to broaden my knowledge of the diverse flora of our state."

What about future careers for taxonomic botanists? "There are enough taxonomic questions remaining about our flora to keep at least another generation or two of systematists busy for life," Ken says.

Some observations on *Erigeron* in Oregon

by Kenton L. Chambers

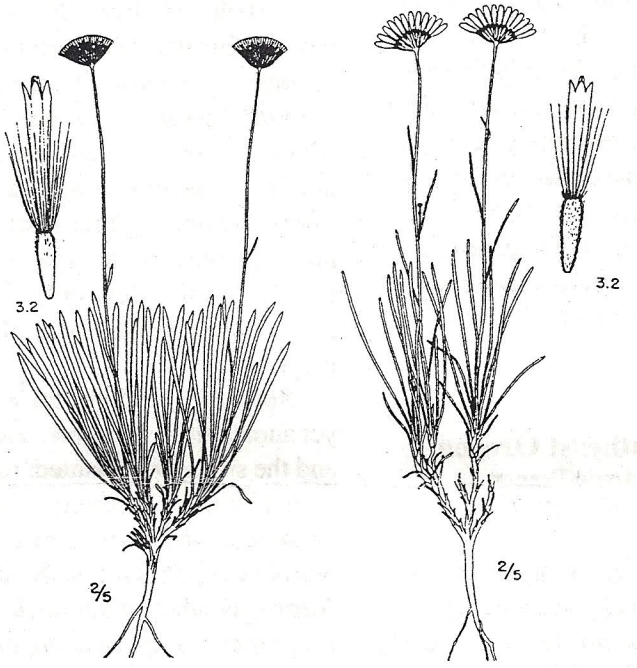
With 48 taxa—species and varieties—in Oregon, *Erigeron* is our largest genus of Asteraceae (Compositae). In reviewing this group of fleabanes and daisies for the Oregon Flora Checklist, I was struck by the fact that most species are easily recognizable (versus *Senecio*, for example, in which many species are confusingly intergradent). Yet at the same time, the morphological differences among *Erigeron* species are minor and repetitive—that is, similar traits are cited over and over again in any typical species key.

Features such as stem hairs appressed vs. spreading, heads radiate vs. rayless, ray-flowers yellow vs. purplish or white; stem-leaves well developed vs. narrow and bract-like; basal leaves 1-nerved vs. 3-nerved, etc.—frequently repeat themselves as species-defining choices. Putting it succinctly, the morphological differences between *Erigeron* species tend to be minor but consistent.

This note calls attention to some of the taxonomic choices made for the Oregon Vascular Plant Checklist. For one thing, I did *not* remove *Erigeron acris* L. (bitter fleabane) and *E. lonchophyllus* Hook. (short-rayed daisy) to the separate genus *Trimorpha*, as was done in *The Jepson Manual, Higher Plants of California*. The supposed generic differences are inconsistent, because *E. lonchophyllus* combines features of both "genera."

On the other hand, I agreed with *The Jepson Manual* in adding *E. breweri* A. Gray var. *klamathensis* G. L. Nesom to Oregon's flora. This plant of the Siskiyou Mountains had previously been included in *E. foliosus* Nutt. var. *confinis* (Howell) Jeps., but it differs in having long, stiffly spreading hairs on its stems and leaves rather than the short, upwardly pointing hairs of *E. foliosus*. Some plants in the Cascade Range blend the hair-types of these two species, however, thus providing an exception to my earlier statement that species of *Erigeron* rarely intergrade.

In eastern Oregon, the three taxa of *Erigeron* that lack ray-flowers look much alike but can be distinguished by pubescence and growth-habit. *Erigeron bloomeri* A. Gray var. *bloomeri* (scabland fleabane) has a covering of appressed hairs on its leaves and stems, whereas *E. chrysopsidis* A. Gray var. *austiniae* (Greene) G. L. Nesom (Austin's fleabane) and *E. aphanactis* (A. Gray) Greene (basin rayless daisy) have a pubescence of spreading hairs. In Austin's fleabane, the flowering stems are unbranched and leafless, each with a single head; in the basin rayless daisy, the stems are branched, leafy, and bear several heads.



Eastern Oregon species *Erigeron bloomeri* and *E. linearis* may produce hybrids of intermediate morphology. Illustrations by John H. Rumely from Hitchcock et al. 1969, *Vascular Plants of the Pacific Northwest*, courtesy of University of Washington Press.

Morphologically quite distinct from *Erigeron bloomeri* is *E. linearis* (Hook.) Piper (desert yellow daisy), an abundant eastern Oregon species whose heads have conspicuous yellow rays. In both taxa the pubescence consists of appressed hairs. Where these species grow together, intermediate plants of hybrid origin often are found. The hybrids resemble *E. bloomeri* at first sight but have short yellow ray-flowers and grow in mixed colonies with normal, rayless *E. bloomeri*.

The rare Willamette Valley species *Erigeron decumbens* Nutt. var. *decumbens* (Pacific fleabane), with violet ray-flowers, is closely related to the white-rayed *E. eatonii* A. Gray found east of the Cascade Mountains. We discovered that the range of *E. eatonii* var. *plantagineus* (Greene) Cronquist (plantain-leaved daisy) extends from central Oregon westward through the Siskiyou Mountains to the coastal region of Curry County.

Interestingly, in the Wallowa Mountains there exists a recently described violet-rayed variety of *E. eatonii* named

See Erigeron, page 18

Erigeron, continued from page 17

var. *lavandulus* Strother and Ferlatte. This variety has a disjunct occurrence in the western Cascade Range in Clackamas and Marion Counties (see map, back page), where it had been discovered over a century ago and described as *E. pacificus* Howell, a name that has long been out of use.

Several taxa of *Erigeron* occur in Oregon only in subalpine regions. The woolly-headed species *E. simplex* Greene (alpine daisy) is found high in the Wallowa Mountains, along with the rhizomatous, talus-inhabiting *E. vagus* Payson (rambling fleabane). Both are widespread in the Rocky Mountains. The only Oregon occurrence of *E. tener* (A. Gray) A. Gray (slender daisy) is on Steens Mountain. Finally, the extremely common species *E. peregrinus* (Pursh) Greene occurs in the high mountains as a dwarfed form named *E. peregrinus* var. *scaposus* (Torr. & A. Gray) Cronquist (subalpine fleabane). Complete intergradation exists between this variety and var. *callianthemus* (Greene) Cronquist (peregrine fleabane).

A botanical foray to southeast Oregon

By Sanyaalak Burkhart, Annie Turner, Kelly Amsberry and Sarah Brown

Four plant enthusiasts spent several glorious sunny days in June 1996 climbing rocky canyons, meandering along cool rivers, and exploring hot cliff faces in a quest for botanical knowledge. Native Plant Society of Oregon/ Oregon Department of Agriculture (ODA) volunteers Annie Turner, Sarah Brown and Sanyaalak Burkhart and Oregon State University graduate student Kelly Amsberry joined ODA botanists Tom Kaye, Bob Meinke, Steve Gisler, and Matt Carlson on a trip to Malheur County, in southeastern Oregon. Our goal was to provide information regarding the flora of this region for inclusion in the Oregon Vascular Plant Atlas. During the trip we made species lists and collected specimens to be added to the OSU herbarium.

At first glance, Southeastern Oregon in mid-summer appeared to consist mainly of dry, rolling hills. However, we quickly learned that this landscape was interspersed with isolated river canyons, ash outcrops, serpentine rock deposits, talus slopes and alkali flats all creating opportunities for species richness.

Early one morning we awoke to go botanizing in the cool dawn. The temperature increased noticeably as we walked up the road from our riverside camp at Anderson Crossing on the West Little Owyhee River to the desert plateau. As we climbed, the vegetation reflected this temperature gradient. Streamside willows such as *Salix exigua* (narrowleaf willow) and riparian annuals of the river channel were replaced by dryland plants, such as *Penstemon deustus* (hot-rock beardtongue) and *Allium anceps* (twinleaf onion). Turning off the road and into a slight depression where the soil was still moist, we encountered *Scutellaria antirrhinoides* (snapdragon scutellaria), *Plectritis macrocera* (white plectritis), *Mimulus nanus* (dwarf purple mimulus), and summer-shriveled desert mosses.

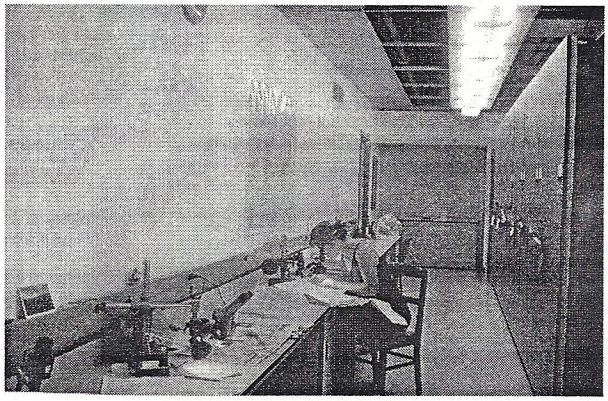
In sheltered places, the lack of wind allowed us to hear the buzzing of desert insects. Plant species including *Astragalus obscurus* (arcane milk-vetch), *Castelleja angustifolia* var. *dubia* (desert paintbrush), and *Layia glandulosa* (white layia) were able to grow successfully in this hot and dry terrain. It was interesting to note that *Phacelia linearis* (threadleaf phacelia), which also grew here, exhibited phenotypic plasticity in this environment. It ranged in size from only a few centimeters tall with a single flower, to a two decimeter tall multi-flowered plant.

Reaching the top of the rock formation, we entered yet another microclimate. Here the wind blew strongly and the sparsely vegetated, rocky landscape supported a varied lichen community. Small orange, yellow, white, chartreuse, and black lichens displayed oddly shaped reproductive structures. Nestled among the lichens, in seemingly inhospitable rock crevices grew *Penstemon deustus* and *Erigeron compositus* var. *glabratus* (dwarf mountain fleabane).

Scrambling among the canyon's south-facing cliffs and rock outcrops we found pockets of soil caught in crevices in the rock faces. Growing on the soil were beautiful specimens of *Sphaeralcea grossulariifolia* (desert mallow) with corollas the color of a desert sunset. On the hot, more exposed rock faces we discovered composites such as *Erigeron compositus* var. *glabratus* and *Eriophyllum lanatum* (woolly sunflower). Small annuals such as *Plagiobothrys scouleri* var. *penicillatus* (Scouler's plagiobothrys) inhabited the moist and shaded cracks.

Climbing further up into the canyon, amid the loose talus, we found *Leptodactylon pungens* (prickly phlox) growing on a rock outcrop. To us novice botanists, this phlox initially looked like a heath because of its needle-like leaves. However, after noticing that the leaves were palmately lobed and clustered in groups, we quickly realized otherwise. Finally, we returned to camp to identify the plants we had collected. Our trip had revealed the incredible floristic diversity of the arid sagebrush regions of Malheur County.

Herbarium, continued from front page



OSU herbarium

Specimens are stored in a new "compactor system" of 296 herbarium cases mounted on 15 carriages. The total weight supported on each carriage is approximately 9,000 pounds, but they can be easily moved by hand. The compactor system allows us to fit the specimens into a smaller room than previously. The weight of the system required that the herbarium be moved to the ground floor of Cordley Hall, where it is on the cool north side of the building. Students, and visitors have said, "We miss the nice view from the fourth floor, but not the summer heat."

At the time of the integration of the OSC and ORE herbaria, the specimens were rearranged. They are still divided among dicots, monocots, gymnosperms, ferns, and fern allies, but within these major groups they are now arranged alphabetically by family and genus. Cultivated, New World, Old World, and Oregon specimens are filed in folders with different colors, and Oregon taxa (species, subspecies, and varieties) are filed in separate folders. The oldest specimen we have found in the collection is a specimen of *Androsace* collected in the Pyrenees of Spain or France, in 1836. It was received through exchange of specimens between OSC and the Conservatoire et Jardin Botanique de la Ville de Genève (Switzerland). Specimens in the herbarium are well protected, and this particular specimen looks as though it could have been collected just last year.

Aaron Liston is the director of the herbarium and Richard Halse is its curator. Joseph Spatafora curates the mycological collection. The herbarium is located in Cordley 1045, in the northwestern part of the OSU campus, and is open to the public. Inquiries concerning the herbarium can be addressed to Richard Halse at (541)737-5297 (email halser@bcc.orst.edu), or Aaron Liston at (541)737-5103 (email listona@bcc.orst.edu) or Joseph Spatafora (541)737-5304 (email spatafoj@bcc.orst.edu).

Looking for white alder

Have you seen white alder in the Intermountain Region? Arnold Tiehm would like to know where *Alnus rhombifolia* grows in this area. If you know of any localities, please send them to Scott Sundberg at the address on page 16.

Thanks!

Thanks to the following who have donated to the Oregon Flora Project over the past four months:

Thanks to the Willamette Chapter of the Native Plant Society of Oregon and the following people who have volunteered (*), assisted with soft ware development, and sent in species lists, specimens, and information on new plant records for Oregon. Bruce Barnes, Rudolf Becking, Frank Callahan II, Jean Findley, Clay Gautier*, Linda Hardison*, Claire Hibler, Vernon Marttala, Cathy Maxwell, Sherry Pittam*, Don Roberts, Hawkeye Rondeau, Kimberly St. Hilaire, George Ward, John Wheeler.

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

Name _____

Address _____

_____

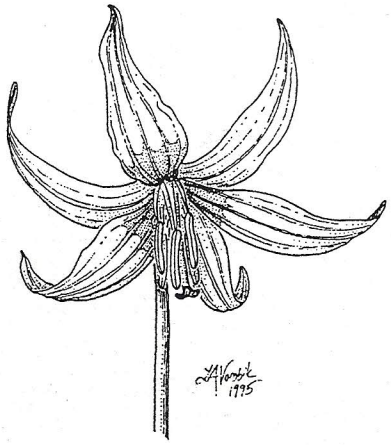
_____

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 16. Please note on the check that it is for the Oregon Flora Project. Your donations go primarily toward newsletter expenses and student wages.

Oregon Flora Project
Dept. of Botany & Plant Pathology
Oregon State University
2082 Cordley Hall
Corvallis, OR 97331-2902

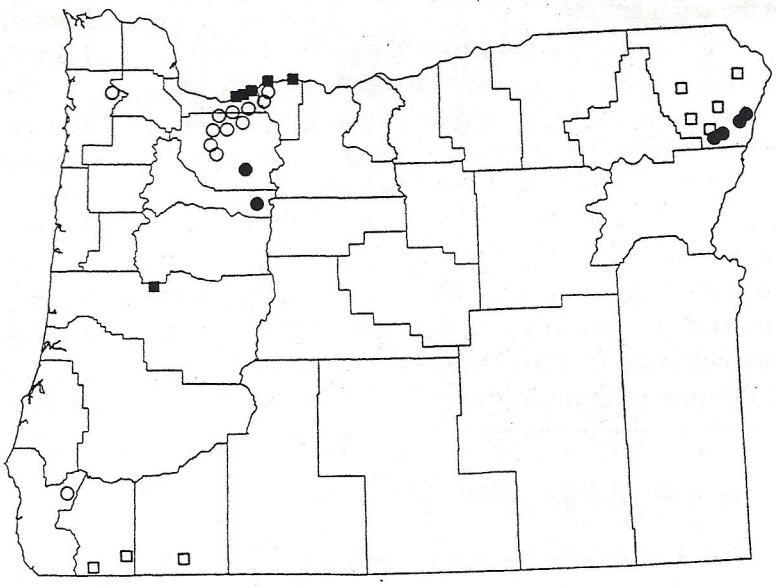


Did you know?

• The pretty, scarlet-flowered lily family member *Dichelostema ida-maia* (formerly *Brodiaea ida-maia*) of the Siskiyous was named in 1867 by Alphonso Wood, who reported that a stage driver named Burke had given the plant the name Ida May in affection for his little daughter. Wood, however, gave the name a double meaning, pointing out that the plant begins to flower on the 15th (the Ides) of May!

• Apparently there has existed some confusion about the meaning of the name *Vaccinium*. Virgil used it in several Latin poems and translators have suggested he was referring to hyacinths. Harvard's M.L. Fernald, in the 8th edition of Gray's Manual, stated the word came from *vaccinus*, meaning cows. Our own C. L. Hitchcock knew better. In Volume 4 of *Vascular Plants of the Pacific Northwest,* he wrote: "Latin name for blueberry."

• Fiber flax was first planted in Oregon in 1844, but wild flax grew here before the first Europeans arrived.



Strange Oregon plant distributions

Are these apparent disjunctions real? Please let us know if any of these species occur in intermediate areas.

- ■ *Agrostis howellii* (Howell's bentgrass)
- □ *Chaenactis douglasii* var. *glandulosa* (sticky-headed chaenactis)
- ● *Erigeron eatonii* var. *lavandulus* (Eaton's lavander daisy)
- ○ *Isopyrum hallii* (Hall's isopyrum)