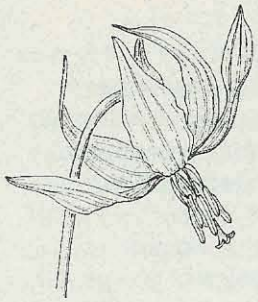

OREGON FLORA NEWSLETTER

Volume 5 Number 2 • Oregon State University • June 1999

Louis F. Henderson (1853-1942), early Northwest botanist, Part II

by Rhoda Love

[Part I of Henderson's life story can be found in the last issue, Vol. 5(1), February, 1999.]

Disheartened when his beloved herbarium was destroyed by fire at the University of Idaho in 1906, Louis F. Henderson retired from teaching in 1908. Three years later, when his daughters Margaret and Connie had finished college, he moved his family to the 80-acre family homestead in Hood River bequeathed to him by his mother. There he and his wife Kate planted a 40-acre apple orchard where he attempted to make a living as a commercial orchardist. Kate again joined in the social life of a new town and was instrumental in raising money for Hood River's first library.

Henderson remained on this ranch until he was 70 years old, however, letters make it clear that he missed the botanical

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Archival photo University of Oregon

Henderson, age 79, collecting near Fort Yukon, Alaska where he was "nearly devoured by mosquitoes, no-seeums, deer flies and horse flies."

Escaped ornamentals

by Scott Sundberg

On my way to and from work each day I pass three patches of cultivated plants that are growing in unexpected places. I see daffodil (*Narcissus pseudonarcissus*) in a horse pasture, greater periwinkle (*Vinca major*) along a roadside ditch, and St. John's wort (*Hypericum calycinum*) on a steep roadbank in a Douglas fir (*Pseudotsuga menziesii*) forest. Most people are familiar with plants such as these that have "escaped" cultivation and are growing either in wild settings or as weeds on cultivated land. A crop plant or garden ornamental has become "naturalized" when it grows and reproduces in areas that are not planted and/or maintained as cultivated ground. Some cultivated plant species thrive in native habitats. English ivy (*Hedera helix*) and holly (*Ilex aquifolium*) are familiar examples. These have become invasive species in forests in several parts of western Oregon. Purple loosestrife (*Lythrum salicaria*) and yellow iris (*Iris pseudacorus*) are attractive wetland weeds.

We are attempting to include in the *Oregon Vascular Plant Checklist* all cultivated plant taxa that have become naturalized in at least one place in Oregon. Plant species growing in unmanaged areas that have persisted at least three years *and* have spread beyond the place of introduction are included. Accounting for them now will help us plan and develop the *Flora of Oregon*. By tracking the "escapees" we may also be able to foresee problems with species that could become invasive.

A good example of an escaped cultivated plant is the periwinkle I see each day. It is spreading along a ditch, forming isolated clumps. And it turns out that it was collected along the same road 45 years ago! Daffodils grow in many parts of western Oregon, often in areas that are not irrigated or otherwise managed, and are included in the Checklist. On the other hand, there are numerous examples of plant occurrences that are more difficult to assess, including the St. John's wort. Sometimes all we know is that a plant is growing in an unusual place and is not spreading. In these cases the way the plant *arrived* at the site is important. Ornamental shrubs sometimes take root from piles of discarded yard waste, and these are considered to have been spread by people, not by natural means, and would thus not be listed. The St. John's wort I see each day could have grown from discarded yard

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Henderson, from front page

life. Despite his age, Henderson was far from a frail man. Just nine days before his birthday he swam across the then undammed Columbia River from Hood River to the Washington side. Fortunately, in 1924 he was lured out of retirement by Albert Sweetser, head of the Department of Botany at the University of Oregon, who offered him the Curatorship of the Herbarium in Eugene. Henderson was delighted to leave the orchard in Kate's hands and return to academia. He and Kate bought a small house in Eugene, however she preferred to spend much of her time in Hood River overseeing the orchard which she had won from her husband as the result of a political wager. Kate became an excellent business woman, profiting from the sale of fruit and later dabbling in real estate.

At the University of Oregon, Henderson threw himself into vigorous botanical activity, collecting, mounting, labeling and building up the herbarium, a regimen that would have taxed a person half his age. Of this time he wrote, "These past years have been one of the pleasantest periods of my life. My work has been: take care of the herbarium, name and mount thousands of plants to increase it, which takes all of late fall, winter, and early spring. My summer duties are trips into every part of Oregon, collecting for the herbarium and exchanging."

During his 13 years at the University of Oregon, Henderson collected systematically throughout the state. In 1924 he collected near Burns; in 1925 he was in the John Day country. In 1926 he botanized in Curry and Josephine Counties; 1927, Malheur County; 1928, (despite a hospitalization) Lake and Klamath Counties. In 1929, he covered the Oregon Coast from Curry to Clatsop County; 1930, Douglas, Josephine and Jackson Counties; 1931, Lane and Deschutes Counties; 1932, Alaska and the Yukon. In 1933, the year of his 80th birthday, he botanized in eastern Oregon and northern California. That year a fellow botanist wrote of him," He seems to have found the fountain of eternal youth in his love for plants." In 1934 he surveyed the flora of Lane County and in 1935 and 1936 he collected mosses, liverworts and lichens.

Henderson retired from the University of Oregon in 1936 at the age of 83 and moved to Tacoma, Washington to live near his married daughter Margaret Strong. Kate had died in Eugene in 1934. Margaret reported that even in his mid-80s he was physically active, hiking in the foothills of the Cascades and swimming and diving with his grandchildren.

Louis F. Henderson died in Tacoma on June 14, 1942 at the age of 88 years. He is buried in that city's Oakwood Hill Cemetery. His daughter wrote that his last year was peaceful and he simply "went to sleep at last." From Louis and Kate's two daughters have descended eight grandchildren, eleven great-grandchildren and 20 great-great-grandchildren to date.

Henderson was an avid outdoorsman, explorer, mountain climber, fly fisherman, oarsman and swimmer. He was also said to have been a keen baseball player, a fascinating raconteur, an excellent singer and a fine bridge player. He named and described 64 species and varieties of Northwest plants, the most famous of which may be *Kalmiopsis leachiana*, the endemic shrub first collected in the Siskiyou Mountains by Henderson's friends Lilla and John Leach. (Henderson originally called the plant *Rhododendron leachianum.*)

Approximately 30 species of Northwest plants were named for Henderson and 15 species and one variety bear his name today. One of the loveliest of these is the shooting star, *Dodecatheon hendersonii*, which Louis and Kate found early in their married life in 1884 on an all-day spring walk from Portland to Forest Grove.

[Henderson left a wealth of fascinating written material in the Archives and Special Collections, University of Oregon Knight Library. I thank the helpful staff there for providing access to these documents. I also thank Henderson family members for their personal recollections. R.L.]

Illustrations of *Erythronium oregonum* on the front and back covers by Linda Ann Vorobik.

The Oregon Flora Newsletter is published three times a year by the Oregon State University Herbarium and the Oregon Flora Project. The Editor is Rhoda Love and the Production Assistants are Alisa Anderson and Aaron Hodges.

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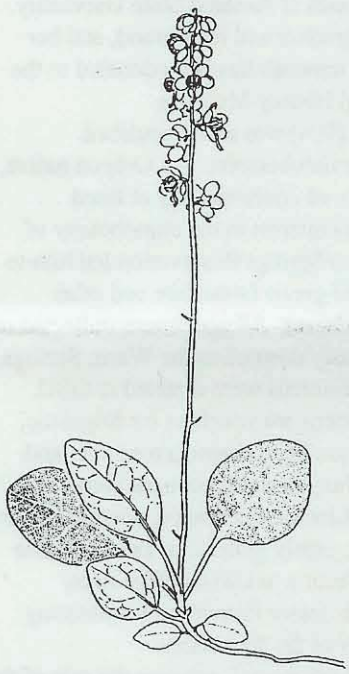
Oregon Pyrolas

by Henrietta Chambers

A review of the genus *Pyrola* for the *Oregon Vascular Plant Checklist* revealed changes in taxonomy and nomenclature resulting from detailed studies of the genus which were completed after the publication of the *Flora of the Pacific Northwest* in 1973. Haber and Cruise (1974) compared chromosome numbers as well as morphological and anatomical features of the species of *Pyrola* (wintergreen, shinleaf) as traditionally defined, and determined that *Pyrola secunda* (one-sided pyrola) and *Pyrola uniflora* (single delight) differ significantly from the rest of the pyrolas. Following the lead of earlier workers, they segregated *P. secunda* into the genus *Orthilia*, and *P. uniflora* into the genus *Moneses*. This is the treatment we will follow for the *Oregon Vascular Plant Checklist* and is also found in the *Jepson Manual: Higher Plants of California.*

After the transfer of these two species out of *Pyrola*, there remain five species in Oregon: *P. asarifolia*, *P. chlorantha*, *P. dentata*, *P. minor* and *P. picta.* These species can best be distinguished by their leaf-shape. *P. asarifolia* has the largest (up to 8 cm long) and the broadest leaves, ranging in shape from obovate to nearly round. *Pyrola dentata* has leaves that are oblanceolate to obovate, with more conspicuous marginal teeth than the other taxa. *Pyrola chlorantha* has ovate-elliptic to obovate leaves which are much smaller (rarely longer than 3.5 cm), and finer-textured. The leaves of *P. picta*, which are narrowly to broadly elliptic, are distinctive because they are whitened along the veins or mottled. They range in size from 2-7 cm long. *Pyrola minor* leaves are round, or ovate to oblong-ovate and generally less than 5 cm long.



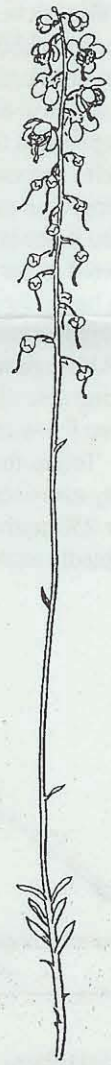
Pyrola picta *is distinctive due to white mottling on the leaves. Illustrations on pages 9 and 10 by Jeanne R. Janish from Hitchcock et al. 1969,* Vascular Plants of the Pacific Northwest, *courtesy of University of Washington Press.*

We have also chosen to follow the taxonomic recommendations of Erich Haber (1983) in his study of the morphological variability and flavonoid chemistry of the *Pyrola asarifolia* complex. He subdivided this species into two subspecies, *Pyrola asarifolia* ssp. *asarifolia* and *P. asarifolia* ssp. *bracteata*. Haber's distribution maps show that while the range of *P. asarifolia* ssp. *bracteata* is not as extensive as that of ssp. *asarifolia*, the geographic areas of the two subspecies overlap in Oregon. The presence of longer, more conspicuous floral bracts in ssp. *bracteata* is one of the major characteristics that separates it from the ssp. *asarifolia.*

Another challenge that was faced in the study of *Pyrola* was to sort out the specimens "lumped" under the name *P. aphylla*. W. H. Camp (1940) stated that the leafless pyrolas do not constitute a species, but instead "represent an assemblage of parasitic or saprophytic forms that could be any of the other species." Camp collected authentic *P. picta* and what appeared to be *P. aphylla* on two branches of the same rhizome (near Prospect, Jackson County). He also collected a series of specimens along Tehoma Creek, Mt. Rainier National Park, Washington, which showed a gradual reduction in the size of the basal leaves. We now recognize that the nutrition of the leafless "aphylla" forms is mycotrophic rather than saprophytic, because it is known that these non-green plants obtain their food through intermediate fungal connections to the roots of various photosynthetic host species.

Camp stated that the most common *Pyrola* species to have a leafless form was *P. picta*, and using floral characters, that is what I determined after studying all the available herbarium specimens at OSU. According to Camp, leafless forms may also occur in *P. chlorantha* and *P. dentata*. Hitchcock's *Flora* includes these two species as well as *P. asarifolia* in the list of leafless forms.

What I have learned about the leafless form of *Pyrola* is that *P. asarifolia* separates from the other species because of its pink to rose-purple flowers. The other species have pale-yellow to greenish- white flowers. Among those plants with greenish-white flowers, *P. chlorantha* separates because its inflorescences are usually single and are generally less than 10-flowered. *Pyrola picta* and *P. dentata* have 10-30 flowers per inflorescence, and there may be more than one flowering stem per plant. Thus, it is the latter two species that are hard to separate. *Pyrola picta* has yellowish-white petals, calyx lobes that are ovate, acute, and a style 10 mm long. *Pyrola dentata* has cream-colored petals, calyx lobes that are triangular, acute, and a style that is 7 mm long. Apparently the only floral difference between these two leafless forms I have seen is the length of the style. In the field, people can also look for the leafy form for additional clues.



A leafless Pyrola, *formerly called* "Pyrola aphylla."

References: Haber, E., and J.E. Cruise. 1974. *Canad. J. Bot.* 52:977-883. Haber, E. 1983. *Syst. Bot.* 8:277-298. Camp, W.H. 1940. *Bull. Torrey Bot. Club* 67:453-456.

Ornamentals, from front page

waste or may have intentionally been planted, possibly for erosion control. It grows on the uphill side of the road and appears to be spreading slowly by runners. No separate patches are forming and it apparently is not reproducing by seed, even though it has obviously persisted for several years. In these "borderline" cases we consider other factors, such as the biology of the plant, the likelihood that yard waste would have been dumped where the plant was found, and the number of times it has been found in unexpected places. We will not put this St. John's wort in the checklist unless there is more clear evidence that it has become naturalized.

We don't list plant species that have survived at an old home site but have not spread further. Thus, a giant redwood (*Sequoiadendron giganteum*) that could live for hundreds of years, long after buildings on a homestead have disappeared, would not be listed because the species apparently does not reproduce and spread in our state. Species that reproduce outside of cultivation for only a year or two and then disappear would also not be listed. These may not be adapted to our climate, and although they survive a mild winter or a moist summer or two, do not last long.

We also will not list plants that have spread from one landscaped area to another nearby one. Rhoda Love provides an excellent example from her yard. A cultivated violet is spreading from a flowerbed into the adjacent lawn. It has persisted in the lawn for a number of years and is acting as a lawn weed in her yard, but hasn't spread beyond it. Wilber Bluhm has likewise reported a number of species that are spreading in a similar fashion into lawns in parks in the Salem area. Although we will not include these in the Checklist, we are taking note of them and may list them in an appendix.

If you know of plants that have escaped cultivation, let us know! Tell us the circumstances under which you found them. We may also need to see a specimen. So far we have learned of over 250 cultivated escapees in Oregon and there are undoubtedly more to be discovered.

Greater periwinkle (Vinca major) *has become naturalized at various sites in western Oregon.*

Baby announcement

Scott Sundberg and wife, Linda Hardison, were blessed on April 11th with a bouncing baby boy. Matthew William weighed eight pounds two ounces and measured 21 inches long. Baby and parents are doing well.

Recent herbarium additions

by Aaron Liston

The Oregon State University Herbarium has recently received two significant private herbarium collections, each consisting of approximately 1000 plant specimens. Dr. Ruth Hopson Keen (1906-1998) collected plants in support of her Ph.D. thesis (Cornell, 1946) entitled *"The study of a valley; the McKenzie River region of Oregon, with special reference to the educational significance of its natural history."* Ruth Hopson Keen was an Oregon resident from age 4, and received her B.A. and M.A. degrees at the University of Oregon. Her M.A. thesis was entitled *"A climate map of Oregon, a partial analysis of climatological data to 1933."* Dr. Keen had a long career as an Oregon naturalist. She was reportedly the first female park ranger at Crater Lake National Park. After receiving her Ph.D., she taught classes throughout Oregon in Geology, Natural History and Conservation of Natural Resources for the State System of Higher Education Division of Continuing Education. After 15 years, Dr. Keen moved to Portland and taught night classes at Portland State University. Dr. Keen was an avid photographer and rockhound, and her large collection of gems and minerals has been donated to the University of Oregon Natural History Museum.

Dr. David French (1918-1994) was a distinguished anthropologist, linguist, and ethnobotanist. An Oregon native, David French was a Professor of Anthropology at Reed College from 1947-1988. His interest in the ethnobotany of the native people of the Warm Springs Reservation led him to amass a large collection of the genus *Lomatium* and other genera of Apiaceae (Umbelliferae). All specimens collected on the Reservation were previously donated to the Warm Springs Museum. The remaining specimens were donated to OSU. Some of the Apiaceae specimens are vouchers for linguistic, ethnobotanic, chromosome numbers, chemotaxonomic, and other systematics studies. Many of the specimens were identified or verified by Dr. Lincoln Constance, a world expert on the Apiaceae. We are extremely grateful to Dr. Katherine French for donating this collection to OSU, and to Reed College's Dr. Bert Brehm (Professor Emeritus), for assisting with the curation and transfer of the specimens.

These two important collections will enhance the role of the OSU Herbarium as the primary research resource for the study of the Oregon flora.

Key to the Oregon *Rhododendron* species

by Henrietta Chambers

1. Stamens 5
   .....*R. occidentale,* Western azalea
1. Stamens 10
   2. Leaves evergreen, leathery; generally > 7 cm; flowers purple to rose to light pink or rarely, white
      .....*R. macrophyllum,* Pacific rhododendron
   2. Leaves deciduous, not leathery, generally < 7 cm; flowers white
      .....*R. albiflorum,* Cascade azalea

Karl Urban (1943-1999)

(This remembrance by Jerry Baker is a shortened version of one which appeared in the March, 1999, NPSO Bulletin.)

"A flower is an exquisite thing, beautiful and delicate, a harbinger of hope for the green world that lets us all survive." So wrote the late Karl Urban in 1983.

Karl was born June 6, 1943 in Kimberly, Idaho. He majored in botany at the University of Idaho, receiving his Masters Degree in 1968. That same year he moved to Pendleton to become an instructor of botany at Blue Mountain Community College where he taught for 23 years. Karl's spring wildflower classes became famous there. In addition, each summer for many years, Karl taught intensive plant identification courses at Steens Mountain. He once wrote, "Both by profession and by nature I am a teacher. I enjoy sharing my knowledge with others and am delighted when others sieze the torch and want to learn more." Karl was one of the founding members of the Blue Mountain Chapter of the Native Plant Society of Oregon.

One of the highlights of Karl's life was the year he spent on sabbatical at OSU. Although taking a full load of classes he announced to Dr. Chambers that he wished to compile a database of the flora of Oregon using the new computer technology. Working day and night for three terms, Karl built the foundation for our current Oregon Flora database, and planted the seeds for the Oregon Flora Project. Karl later wrote, "My efforts, imperfect as they may have been, were to serve as one of several catalysts that would help the Flora Project get under way. My work is in good hands now, as Oregon's professional botanical community revises and builds upon a foundation I helped initiate. I am ecstatic that my work was not in vain!"

Nor was your life, Karl. Thank you for carrying the torch so long and so well. We shall do our best to see that your green world continues to bloom.

Note: Memorial contibutions may be made to the Karl Urban Scholarship Fund at Blue Mountain Community College, Pendleton, OR 97801.

Thanks

Friends News

A table-top Oregon Flora Project display, designed and built by Esther McEvoy, appeared at flower shows in Eugene and Portland in May. Any group wishing to borrow the display may contact the Friends Group care of the OSU Herbarium. Wish List: the Oregon Flora Project is in great need of a scanner and color printer. Donations towards these items would be gratefully accepted.

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

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

☐ Please check here if you do not wish to have your name listed in our "Thanks" column or on our Internet web site.

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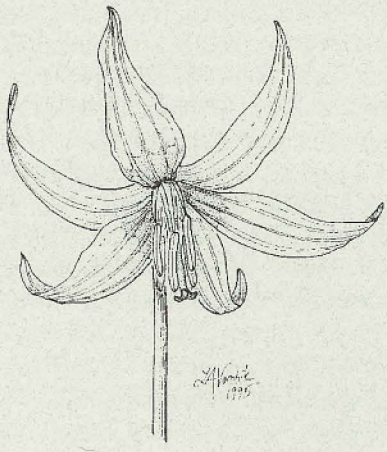
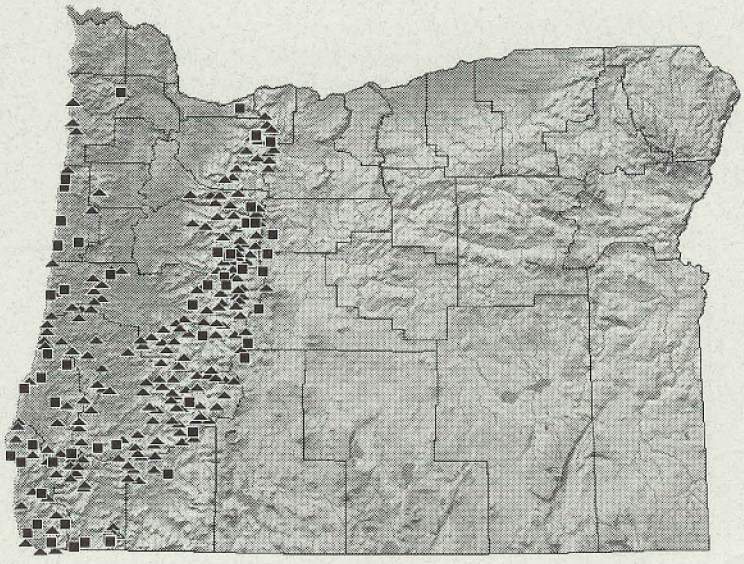


Did you know?
Ericaceae Tidbits

• *Chimaphila umbellata*, prince's pine or pipsissewa, was originally called *Pyrola umbellata* by Linnaeus. Frederick Pursh, the German botanist who is well known for naming the plants of the Lewis and Clark Expedition, coined the genus name *Chimaphila*, a word which means "winter-loving" in Greek.

• The genus name *Pyrola* was used by Linnaeus and is said to mean "little pear" because some species have pear-shaped leaves. C. L. Hitchcock, in *Vascular Plants of the Pacific Northwest*, says of the pyrolas, "Attractive in the wild where they should be left since they cannot be cultivated successfully."

• Hitchcock reports that on May 3, 1930 J. E. Barto collected an albino form of *Rhododendron macrophyllum* in Junction City, Lane County, Oregon. The OSU Herbarium has a white-flowered form collected by Frisbie & Breakey near Sixes in Curry County in 1954.



Pacific rhododendron in Oregon

Distribution of *Rhododendron macrophyllum* in Oregon, based on records in the OSU Herbarium database and the Oregon Plant Atlas database. Squares represent specimen vouchers and triangles show observations. Please let us know if you have seen it elsewhere.