NATIVE PLANT SOCIETY of OREGON

•OBJECTIVE•
To increase the knowledge of members and public in identification and conservation of the native plants of the Pacific Northwest.

Vol. XII No. 12 December 1979

EDITORS' COMMENT

Your editors would like to thank you for sending us your notices and articles by the 15th of the month. This helps to get the Bulletin out on time and adds greatly to its interest.

Over the last few months we have noticed that some chapters completely missed the deadline. Please sent us chapter news. We all enjoy learning about the activities of other chapters.

NEWS FROM THE NPSO PRESIDENT

I have appointed the following nominating committee for NPSO officers and Board of Directors for 1980-81.

Dave Wagner
Herbarium
University of Oregon
Eugene, OR 94703
686-3033

Clinton Urey
6945 Glendora Way S.E.
Turner, OR 97392
743-2802

Ruth Ronse
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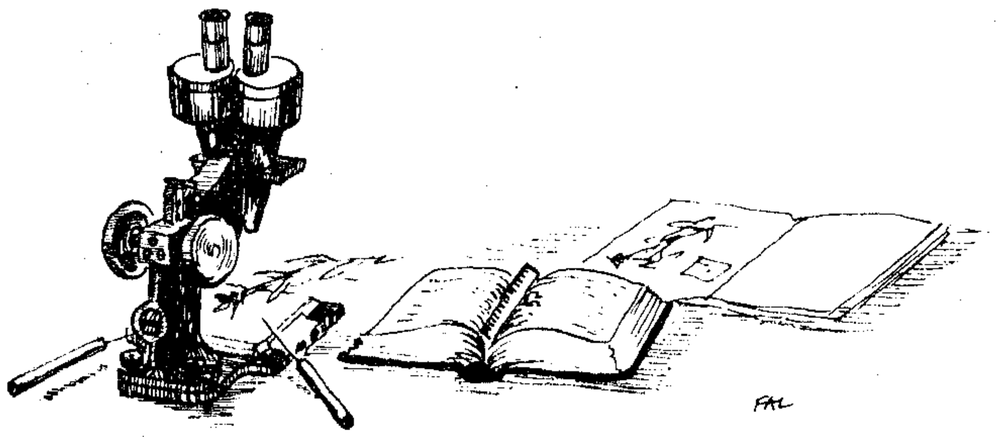
276-4791

Carl Oates
351 Granite Street
Ashland, OR 97520
482-9735

Keith Chamberlin
Box 217
Mosier, OR 97040
478-3314

Their slate of candidates, with brief resumes, will be published in the January Bulletin. Additional nominees can be submitted by any group of 5 or more paid members. Their nomination will be published in the February Bulletin. Mail ballots will be sent out with the March Bulletin.



LAST CHANCE: SEE NEPAL THIS SPRING!

Don't forget, the Folkways International Nepal Natural History Trek is a great way to see Nepal's floral beauty and at the same time help out NPSO. Naturalist will be Ruth Hansen, NPSO Past President. And $100 of the cost goes to NPSO.

DATES: April 5-26, 1980 - - 22 days total, 12 days trekking
Naturalist leader: Ruth Hansen
Trek leader: David Christopher
Land Cost: $1,150.00 ($100 goes to NPSO)
Airfare: $1,367.00 (from San Francisco and subject to change.)

Description - - Spring in Nepal: the forests of rhododendron cover the hillsides with hues of red, pink, and white blossoms. Our trekking route will abound in Primula, orchids, and Berberis as well as the cultivated terraced fields of the Nepalese. Our trail follows the Bhote Kose River which happens to be along the migration route for many species of birds. Our foreground will be fir, hemlock and bamboo as we move toward the 12,500 foot pass and the view of the Langtang, Gosainkund and Ganesh ranges. Our trek naturalist will be fielding questions and pointing out many of the natural wonders of the area.

For information and to reserve your place on the trek, contact: Folkways International Trekking, Inc., 14903 S.E. Linden Lane, Milwaukie, OR 97222. Phone: (503) 653-5882.

REMINDER -- DUES ARE DUE

Please keep your treasurer busy. Individual is now $7.50, sustaining $25.00, Patron $100, Life $500. Membership in NPSO makes a good Christmas gift.

For State-At-Large Members, your treasurer is

Charlene Holzwarth
2524 N.E. 34th
Portland, OR 97212

For Portland Chapter,

Joyce Beeman
11595 S.W. Greenburg Rd
Tigard, OR 97223

For Mid-Columbia Chapter,

Janet Leininger
Rt. 1, Box 39-B
Mosier, OR 97040

For Siskiyou Chapter,

Alice Valentine
2600 Stearns Way
Medford, OR 97501

For Willamette Chapter,

Pat Gahlsdorf
675 Winding Way, S.E.
Salem, OR 97302

For Blue Mountain Chapter,

Elaine Urban
P.O. Box 266
Pendleton, OR 97801

For Emerald Chapter,

John Christy
960 Adams St.
Eugene, OR 97403

BERRY GARDEN PLANS LILY SANCTUARY

[The following announcement appeared in the Fall newsletter of the Berry Botanic Garden, Portland. NPSO members may wish to contribute to, or make use of, this new and important sanctuary.]

LILY SANCTUARY. The recently accepted goal of establishing the Berry Botanic Garden as a sanctuary for the genus Lilium gives us the opportunity to create at the Garden something altogether new and sorely needed. Advantages of history, climate, and geography fit this garden to provide a uniquely valuable role in the botanical and scientific world community, through a program designed to assure the survival and increase of the many lily species whose numbers are rapidly decreasing. The effort, communication, and records involved in carrying out such a program should complement the plant material produced, resulting in a body of research material of unparalleled value and wide-ranging usefulness.

Our primary goal is to establish the Garden as a sanctuary for endangered lily species, particularly those endemic to the Pacific Rim, providing for their protection, increase, and spread. Toward this end we have already begun in the acquisition and planting of an extensive collection of lily species; we have available to the Garden seed (with a documentable history) of more than 60 species and forms of lilies, and these include many species on the brink of extinction or totally lost to cultivation.

We intend to establish the Garden as a world center of reliable information (particularly of primary source material) about lilies; we also hope to see the Garden become the exchange center for plant material and information needed by researchers throughout the world who are using the genus Lilium as a means of studying evolution, genetics, cytology, biochemistry, pathology, and ecological relationships. At present there is no central focus from which authoritative information or accurately identified and documentable plant material can be sought. By means of actively publicizing our commitment to lilies in horticultural journals, and by extensive personal correspondence, we are confident that we will acquire reference and research materials of a caliber to confer upon the Garden a position of unique botanical and horticultural importance.

Judith McRae, Project Director

ON "SEEING NATURE WHOLE"

John Fowles, an English author (The French Lieutenant's Woman; Daniel Martin), is attuned to nature, especially trees, especially leafy, green woods. In the November issue of Harper's magazine, he tells us about his attunement to woodlands and why he thinks so many in our civilization are not attuned to nature. "Seeing Nature Whole" will be published as part of his forthcoming book, The Tree.

I found Fowles' essay a bit stuffy to read, but that is really beside the point. The point is, he's right: for the last thousand years, we (humans) have been treating nature as something menacing, immoral, evil, suspicious. And not always because it harms us. Often we distrust it merely because it is there -- non-human, doing its own thing, indifferent to human beings. If it is not for us, our twisted reasoning goes, it must be against us. Fowles says we are still treating the woods as "essentially an immense green cloak for Satan."

Even while the environmental movement strives to save nature, and to make people aware of what we are losing day by day, more and more of us come to live in isolation from, and ignorance of, nature, so that we feel no loss. We imprison ourselves by the mental and physical shell we call culture, caged in our cities.

"No revelation to us plant lovers", you may say. And I agree. But Fowles' essay comes as a needed reminder. Perhaps we lose sight of the profound threat our species has become to its own spiritual well-being. Our alienation from nature is not just the loss of Amazonian forest or decimation of whales or the extinction of endangered flora. Even more, our alienation is a loss of--or failure ever to find--a needed, ennobling, enriching part of our humanity.

To Fowles, our inability to see nature whole is part of a trend exemplified and abetted by nineteenth century science. We literally cannot see the forest for its individual trees. Furthermore, we do not even see the trees, except as ideas: labeled, quantified, cut and dried things that are not part of us. Thus, unable to see nature whole, we cannot see our own selves whole. To see nature whole is an art, Fowles says. But we are retreating from the exercise of our artistic faculties.

"To see woods and forests merely scientifically, economically, topographically, or aesthetically--not to understand that their greatest utility lies not in the facts derivable from them, or in their timber and fruit, or their landscape charm, or their utility as subject matter for the artist--proves the gathering speed with which we are retreating into outer space from all other life on this planet."

Fowles is pessimistic about our willingness, or even our ability, ever to see nature whole, perhaps as we once saw it with the child's eye. He sorrows at the way we are "deforesting and denaturing our planet. In the end what we must most defoliate and deprive is ourselves. We might as soon start collecting up the world's poetry, every line and every copy, to burn it in a final pyre--and think we should lead richer and happier lives therafter."

John Fowles may be an alarmist. But we ought to listen carefully to him, with heart and mind. After all, he is talking about our woods, our native, earthly flora... and ourselves.

Vern Crawford

WELCOME TO NEW MEMBERS

Portland Chapter

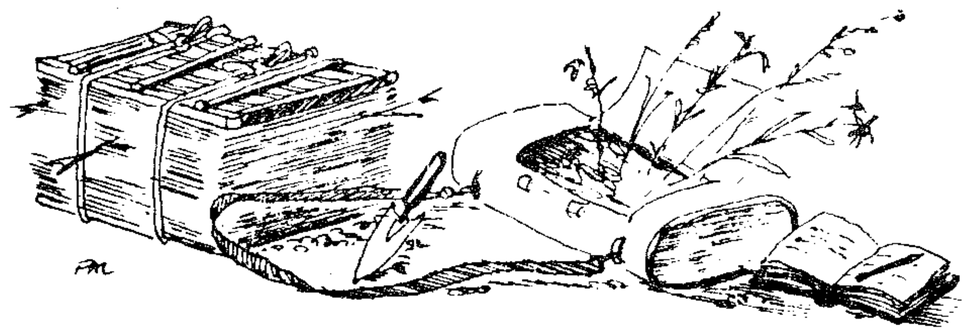
Bill Lazar, Portland

Mid-Columbia Chapter

Arlene Puddy, White Salmon, WA

Siskiyou Chapter

Judy Vaughan, Trail
Judith Adelman, Jacksonville
Wayne Rolle, Medford



BOTANICAL PIONEERS

(The following article was written by Dr. Kenton Chambers, curator of the Oregon State University Herbarium especially for the NPSO Bulletin.)

EDWARD LEE GREENE

Edward Lee Greene (1843-1914) is a fascinating figure in the botanical history of the West, because he was highly controversial even to his contemporaries, Greene was an eccentric genius, a naturalist outstanding in his ability to observe plants, eloquent in his writings, and supremely self-confident in his opinions. Botany, like all branches of human endeavor, has known many such brilliant individuals. Even those at odds with their colleagues during their lifetime are sometimes honored by their successors for having unusual foresight -- for being "right" while the others were "wrong." Greene was indeed a notable figure in the development of plant taxonomy in the western United States. His present fame is highly mixed, however, and as we shall see, when he was "right" it was more by accident than by design.

Greene's contributions lay mainly in discovering, describing, and naming new species of plants. He lived during the era when taxonomy was the King of Botany; when the most honored botanists were those who knew all the plants of a region by their names and characteristics. In North American botany, the greatest names were Asa Gray of Harvard University, John Torrey of New York, William Hooker of England, and Thomas Nuttall of Philadelphia. Greene aspired to be the successor to that group; to be the leading botanist of the United States, especially its western regions. He wrote prolifically (his bibliography includes 565 separate articles) on any and all groups of plants. He authored and personally published two separate botanical journals -- "Pittonia," and "Leaflets of Botanical Observation and Criticism." He was for ten years a professor of botany at the University of California. His name is attached -- as the "publishing author" -- to hundreds of names for species of western plants, appearing on page after page of the standard manuals and floras for Oregon, Washington, and California. Nonetheless, he had little influence on the botanists of his day, and few persons would now rank him with Asa Gray and the other "greats" of American plant taxonomy. It is interesting to examine the reasons for E.L. Greene's failure to achieve botanical immortality.

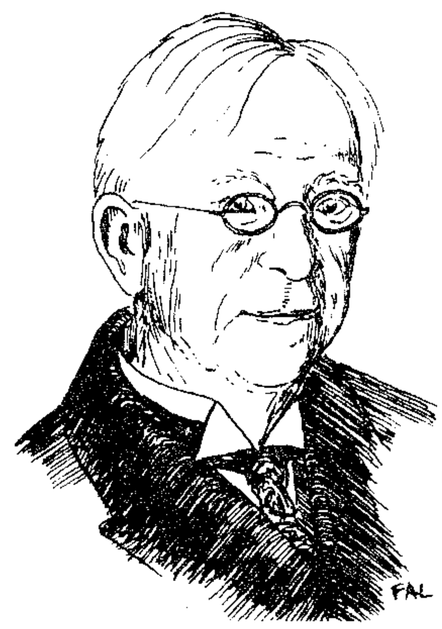
Greene was a graduate of Albion Academy, in Wisconsin, and became an ordained Baptist minister in 1871. He was an excellent linguist and ardent naturalist; even while he served in the Union Army in Tennessee during the Civil War, his letters home were filled with descriptions of the novel plants and animals he was seeing. While supporting himself as a church pastor, first in Colorado and then in California, he collected thousands of

plant specimens, and described many as "species new to science." His personal relationship with Asa Gray evolved in a peculiar way. Greene at first admired Gray, who was 33 years his senior and was the supreme authority on the flora of western North America. Greene sent his specimens and his judgments on "new species" to Gray for approval. Gray applauded Greene's energy as a collector and his keen powers of observation and analysis; however, he came to view Greene as a taxonomic "splitter" -- a botanist to whom even slight differences between plants merited describing "new" species. He would write to Greene, saying that one or another of his proposed new species was merely a form of a known species that had been previously named (usually by Gray himself!). It wasn't long before Greene stopped corresponding with Gray and began to publish his species without the benefit of anyone's opinion but his own.

Greene's problems with Gray, and vice versa, were predictable. Gray had devoted a lifetime to studying the plants of North America, but he knew the flora of the Far West almost solely as dried and pressed herbarium specimens, collected by botanical explorers and sent to him for naming. His views of species were conservative; he had been strongly influenced by correspondence with Charles Darwin, who insisted that plants and animals tended to vary under differing environments. For Gray to describe a new species, the differences between it and other known plants had to be striking and numerous. But his knowledge was limited by his reliance on dried collections, which as anyone knows lack many of the distinctive features they had when alive and fresh. In retrospect, we today feel Gray's judgment and feeling for species were good, but he often "lumped" two or more species under a single name by failing to appreciate their differences.

Greene was right in believing he was superior to Gray in knowing the western plants as living entities in the field. He thought that Gray drastically underestimated the diversity of species and ignored the clear distinction that could be made among them by an observant field naturalist. But Greene had his failings, too, which were recognized even by his peers among the resident botanists of the West. He adhered strictly to a philosophy that allowed no significant variation within natural species of plants, and that considered any definable difference between plants to be worthy of species recognition. A quotation from one of his critics will indicate the kind of disapproval this brought him:

> *"All of Mr. Greene's work tends to the inordinate multiplication of species, and his species are, as a rule, so imperfectly described that no one without a close acquaintance with the flora or access to the types is able to make out his meaning. .... The reasons for Mr. Greene's devotion to "new species" are found in his attitude towards their origin. He condemns the theory of evolution, as inconsistent with the Mosaic record. He proclaims belief in special creation and the fixity of species. Nothing is left to him but to make a new species of every variation, however trivial. ....This kind of botany was taught, probably in the Middle Ages, to which Mr. Greene properly belongs."*
> (K. Brandegee, 1983).



Edward L. Greene
(after a Hunt Botanical Library Photograph)

Greene did indeed name far more species than any present-day taxonomist would agree with. Many are no more than subspecies or varieties of earlier-named species, while still others are ecological variations that fall within the normal genetic adaptability of known species. One of the most bizarre examples of Greene's inability to distinguish between biologically significant and insignificant variation is his (in)famous study of the California poppy, Eschscholzia californica, in which he named and described nearly 120 "species" based on nothing more than the color forms and habitat variants of that single polymorphic species. These and other misjudgments bedeviled Greene's contemporaries and led some to consign all his work to the trash-can. In an obituary, one fellow taxonomist wrote of him:

> *"Greene, the pest of systematic botany, has gone and relieved us from his botanical drivel. They say that the good that men do lives after them, but the evil is interred with their bones. I suspect that his grave must have been a big one to hold it all."*
> (M.E. Jones, 1929).

In Science, as in other affairs of men, Time has a way of working its justice. Many of E.L. Greene's species, which were scorned at first, are now accepted as "good" by taxonomists. Modern research depends much on genetic and cytological evidence, which often discloses "biological species" that differ by minor but consistent morphological traits. Greene's sharp eyes caught these differences -- along with many insignificant ones -- and he named these species long before the sophisticated biological studies that validated them. Greene's views on genera, which were scorned by his contemporaries, also seem more in tune with current concepts. So the eccentric odd-ball, whom some considered a "pest," today stands vindicated in many of his judgments. He got ahead of his critics by being "behind the times."

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Jones, M.E. 1929. Greene. Contrib. West. Bot. 15:15-18.

Kistler, E.D. 1936. Bibliography of the Botanical Writings of Edward Lee Greene. Madrono 3:328-348.

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PLANT FAMILY PROFILES
by Herm Fitz

The Ranunculaceae - BUTTERCUP or CROWFOOT FAMILY

The Buttercup Family is somewhat variable and significantly large, with members spread throughout the cooler temperate regions of the earth, often in moist or shady spots, mostly in the northern hemisphere. Of the thirty or more genera in this family, we have 14 native in our area. Many of these are familiar. There are the widespread and varied species of Larkspur (*Delphinium*) with the upper sepals spurred and four petals in two unequal pairs, the species of Columbine (*Aquilegia*) with all five sepals spurred and five equal petals, and in wet places and vernal pools, the small species of Mousetail (*Myosurus*), each with a single flower also bearing five shortly-spurred sepals. The Monkshood (*Aconitum columbianum*), of moist woods and meadows, bears five showy sepals, the uppermost being shaped exactly like a miniature monk's hood. Four genera are often without petals; the tiny flowers are in clusters that are collectively quite showy: the Baneberry (*Actaea rubra*) in moist woods and along streambanks, with shiny red berries in late summer; Meadow Rue (*Thalictrum*), a dioecious plant with much divided leaves; the Bugbane (*Cimicifuga*) and False Bugbane (*Trautvetteria caroliniensis*) also in moist woods and shady seeps. The remaining genera all bear a regular perianth, sometimes with only sepals which may then be petaloid. Perhaps the most familiar is the Buttercup (*Ranunculus*), a large and varied genus. The delicate Wind Flowers and Pasque Flowers (*Anemone*) of varied habitats, the early-blooming Gold Thread (*Coptis*), often with extremely narrow sepals and petals, and two species of Isopyrum (*Isopyrum*) in the valleys, are also radially symmetrical. Showy Marsh Marigold (*Caltha*), mostly of boggy sites and wet mountain meadows, and the Virgin's Bower or Vase Flower (*Clematis*), a vine with flowers bearing four (usually) showy, elongated sepals and akenes with long plumose persistent styles, complete the family in our area.

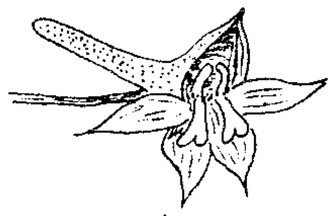
What unites these highly variable plants as members of the same family? What characters do they share in common?

All are herbaceous in habit, except for a single vine (*Clematis*). The leaves, without stipules, although highly variable (simple to compound), tend to be ternately divided, often appearing like a crow-footprint in soft mud. The flowers, though either regular or irregular, are perfect, except for Meadow Rue (*Thalictrum*) and one species of *Clematis*. Flowers have indefinite (∞) numbers of flower parts, making the floral formula also rather indefinite:

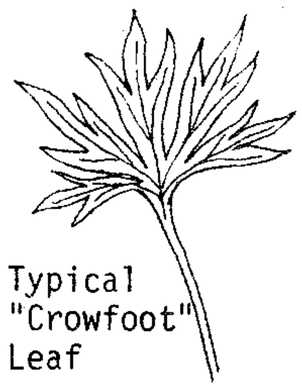
$$Ca^{3-\infty}Co^{0-\infty}S^{\infty}p(1)3-\infty$$

Interpretation: There are 3-to-many sepals, 0-to-many petals, an indefinite number of stamens, usually many, and spirally arranged, and pistils usually 3-to-many (1 in Baneberry), each of a single superior ovary.

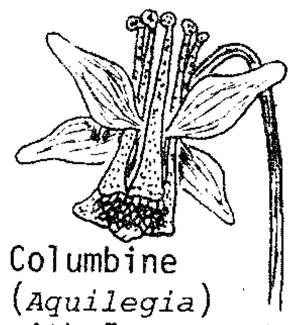
The fruits of members of this family are clusters of akenes, groups of follicles, or rarely a berry (again Baneberry).



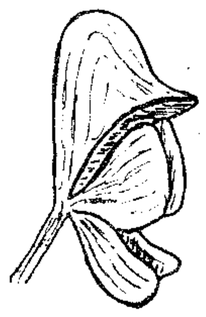
Larkspur (*Delphinium*) with upper sepal spurred



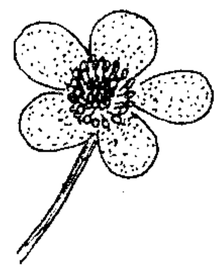
Typical "Crowfoot" Leaf



Columbine (*Aquilegia*) with 5 spurred sepals



Monkshood (*Aconitum*)



Windflower (*Anemone*) with petaloid sepals

Virgin's Bower (*Clematis*)

Akene with plumose style (*Clematis* and some *Anemone*)

Cluster of 3 follicles

Akene

To reduce this information to an essence: If you come across an herbaceous plant with leaves tending to be ternately divided (like crow's feet) and flowers with numerous, spirally arranged and individual stamens, also with three to many single pistils that develop into akenes or follicles - think first of the Ranunculaceae - the BUTTERCUP FAMILY.

An Undescribed Species of Romanzoffia (Waterleaf Family - HYDROPHYLLACEAE)

[The following article by Herm Fitz is reprinted, by permission, from the November issue of the Newsletter of the Eugene Natural History Society.]

This summer I came across a small plant growing in dense clumps in a moist seep mixed with Monkeyflower (Mimulus guttatus) and mosses, all just below a thicket of Devil's Club (Oplopanax horridum) and Red Elderberry (Sambucus racemosa) on a southeast facing Middle Cascade slope at about 5550 feet elevation.

I photographed and collected a bit of the plant, taking it back for an herbarium specimen. I spent considerable time attempting to key this minute plant - totally without success.

Later Ken Chambers told me that it was no wonder I had trouble keying it out - the plant has never been described and appears nowhere in the literature.

Now this is very peculiar, since the plant has actually been known since 1899, when Leiberg found it on Abbott Butte. The plant has been found again several times in later years: Iron Mountain in 1928 by an unnamed collector, Lost Creek Ranch vicinity in 1934 by H.J. Andrews, again on Abbott Butte in 1936 by J.W. Thompson, along the North Umpqua Highway by Williams in 1976, a third time on Abbott Butte in 1971 by Vernon Martalla, on Irwin Rocks by Joan Fosback in 1977 and 1978, and finally by myself and Sue McAlister on Echo Mountain in the summer of 1979.

You, too, may encounter this plant sometime, somewhere, and may possibly be baffled as to its identity since none of these botanists has published a formal description. Vernon Martalla began working on a description to be published which has never come to fruition. He was intending to propose that the plant be named Romanzoffia thompsonii.

Undescribed *Romanzoffia* x 2.25

I would like to give an informal description for you so that if you do find it you'll know what you've found and may perhaps report another site for this plant that is known from only six locations.

DESCRIPTION

The plants are annual (other local species of Romanzoffia are perennial), about 3 to 4 cm tall, finely glandular pubescent throughout, and occurring in dense clusters in moist, mossy sites.

Stems are delicately slender, unbranched, with 2 or 3 pairs of opposite leaves below, and a single leaf or 2 apparently alternate leaves above.

Each leaf is simple, 3 to 4 mm long, with a flattened petiole longer than the ovate blade. Petioles are expanded below, becoming nearly connate, and with long silky hairs (pilose) in the axils.

The flowers are terminal and solitary, regular, 5-parted except for the pistil.

The calyx is greenish, 1 1/2 - 2 mm long, divided 2/3 to 3/4 of its length into five lanceolate segments.

The corolla is sympetalous (petals are united), 5 - 6 mm long, divided about 2/5 of the way into five rounded lobes, the lobes white (sometimes partly clear translucent). Inside the corolla tube are five yellowish patches, each at the base of a lobe, giving the effect of a yellow eye. Outside the tube is a tinge of brownish around the base.

Five stamens are inserted equally in the corolla tube, attached near the base; each is about 1 1/2 mm long, with filaments flattened and slightly broadened at the base. The anthers are whitish, basifixed, about 1/4 mm long, dehiscing by longitudinal slits.

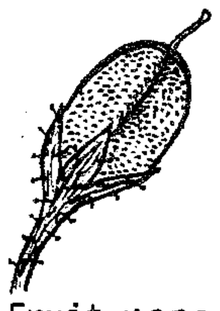
Stamen x15

The pistil is single, of two carpels, but of a single locule. Placentation is parietal, though somewhat intruded, thus causing the ovary to appear two-celled. Style is single, about 1 mm long; stigma one, unlobed.

The ovary is superior, greenish and shiny, 2/3 of a mm long at anthesis, with a few long scattered hairs. Ovules usually six.

Pistil x15

The fruit is a flattened, brownish, finely rugose loculicidal capsule, about 4 mm long and 2 mm wide. Seeds are usually 1 to 6, depending on fertilization and abortion, brownish, flattened, about 1 1/2 mm long, each with a conspicuous ridged reticulation, often lighter colored in the recesses.



Fruit x 3.75

The plants were found blooming in late June. I assume that the period of anthesis is June and early July, with seed maturation in July and August. Capsules dehisce and scatter seeds beneath the parent plants to renew the population the following year.

Seed x 7.5

But I guess in a way its nice to know there are still plants out there that have never been described; some have never been found. It reminds me of something Aldo Leopold said about "the wild places, the uncharted spots on the map."

CHAPTER CALENDARS

PORTLAND CHAPTER

Meetings -- Mon., Dec. 10. Glenn Walthall, speaker. Glenn is a biology teacher at Sunset High School, a frequent speaker on natural history subjects, and a competent authority on local fungi and bryophytes. Subject of his presentation will be "Fungi and Friends of Tryon Creek."

-- Mon., Jan. 14. Flowers and Their Pollinators -- There is no Free Lunch., Dr. Bert G. Brehm, speaker. Dr. Brehm, a botany professor in the Biology Department of Reed College, long a member and supporter of NPSO, is an outstanding speaker and will undoubtedly tell us many fascinating things about plant pollinators that we didn't know previously.

Workshop

Sat. Jan. 5., Plant Photography. Slides and commentary by Joe Bargar. Meet 10 a.m., Room E, Central Library, same as before. We'll see pictures of great interest in themselves and have a chance to learn the secrets of what goes on behind the camera, revealed by a master of the art. Joe's informal session will be the first of our customary winter workshops each Sat. during Jan. and Feb.

SISKIYOU CHAPTER

Meetings -- Rm. 171, Science Building, SOSC. 7:30 p.m. Thurs. Dec. 6. How Plants Work Inside, Dr. Ron Nitsos, speaker. This interesting talk will help bring us up to date on the physiology and anatomy of plants.

Thurs. Jan. 3. Geologic History of Southwestern Oregon. Prof. Monty Elliott, speaker. Returning by popular request, Dr. Elliott's talk will give us insights into why plants grow where they do.

FIELD TRIP REPORTS

PORTLAND CHAPTER

Nov. 8 -- Portland Audubon and NPSO Naturalist, Glenn Walthall, gave a program to 8 enthusiastic botanists on Slime Molds (The Myxomycetes) and other fungi. We started off the morning with a 45 minute slide presentation on the nutrition, growth conditions, and reproduction of fungi; and then enjoyed some of the amenities of fall hiking in Oregon by taking an hour walk in fall colors and fallen leaves on the Audubon Trails. We also toured a portion of the Audubon Rehabilitation Center for injured wildlife to see the facilities.

Basically, the Myxomycetes are considered primitive organisms (though I prefer the word specialized) that have both fungus and protozoan-like properties. In their feeding stage which is described as holozoic (they consume bacteria, spores, fungal sporophores, mycelia, and non-living organic matter), they are multinucleate, and the nuclei are not separated into cellular units. They are capable of movement and can absorb organic food as they move across moist soil, logs, twigs, and leaves of the forest floor.

As a result of the rains that finally came this fall, conditions have been excellent for species like Fuligo septica (yellow), Lygogala epidendron, (knobs the color of rusting iron), Arcyra stipitata (bright red knobs on a 3 mm stalk), Badhamia affinis (gelatinous white mass), and Dactylis subsessilis (little yellowish spheres on grass blades).

We also saw other fungi: 5 Mycena species, including the lilac-colored M. pura and the bright colored (violet cap, blace stem) Marasmius siccus; plus several clusters of Boletus zelleri and the poisonous Pleurotis dryinus.

One of the best references for the Slime Molds is The Myxomycetes, by G.W. Martin, 1969. (also, the new editions of How to Know the Mosses and Liverworts and How to Know the Lichens are now available.)

Glenn E. Walthall
Portland Audubon/
NPSO Naturalist

What would the world be, once bereft
Of wet and of wildness? Let them be left,
O let them be left, wildness and wet;
Long live the weeds and the wilderness yet.

Gerard Manley Hopkins

A New Years wish: May all who have an interest in the health and welfare of our native flora find a way to work together in peace and harmony toward our common goals.

FAL

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