The Bulletin of the NATIVE PLANT SOCIETY OF OREGON

Vol. XIV No. 3 March 1981

ANNUAL MEETING PLANS STILL TENTATIVE

Reserve the weekend of May 2 or 9, 1981 as the possible date of the annual meeting at the local Grange Hall at Mosier, Oregon. Two field trips are planned; on Saturday before the meeting in the Mosier area and on Sunday across the River in Washington. A meeting of the new board will be held early Sunday at a resturant in Hood River FINAL DETAILS (COSTS, TIMES, HOUSING INFORMATION, SPEAKER, ETC.) WILL BE PUBLISHED IN APRIL BULLETIN.

CHAPTER CALENDARS

WILLAMETTE VALLEY

Meeting: Monday March 16, 7:30 p.m., Carrier Rm., of the First United Methodist Church, State and Church Streets, Salem. The program will be a showing of colored slides. Bring a few of your favorite pictures of native plants or even landscapes. Up to ten pictures is an acceptable number.

SISKIYOU

Meeting: Thurs. March 5, Rm. 171, Science, SOSC Ashland, Wildflowers: Your Favorite Fotos. Frank Lnag and Vern Crawford will complete last years' photo workshop by enjoying your photos. Bring a few of your favorites to share. This is also our annual business meeting: election of officers.

Thurs. April 2, Rm. 171, Science, SOSC, Ashland. Oregon Caves N.M. and Bigelow Lake, Vern Crawford, speaker, slides of scenery, plantlife, wildlife in this beasutiful area.

PORTLAND

Meeting: Mon. March 9, 7:00 p.m., Central Library 801 S.W. 10th, Portland, Rediscovering the Lewis and Clark Trail, Botany and History. The program deals with the natural history of the Lewis and Clark Expedition with an emphasis on the botanical aspects of the journey. The program is the result of an interdisiplinary program of history and natural history of the Lewis and Clark Expedition. It will be presented by Dr. Ed Florance, PhD in Botany and on the staff of Lewis and Clark College.

Field Trips: Sat. March 7 -- Forest Park. Leader undesignated. Meet 9:30 a.m., in Macleay Park, N.W. Cornel Road.

Sat. March 14 -- Horsethief Lake and Vicinity. Ruth Hansen, leader. Meet 8:30 a.m. at Lewis and Clark State Park.

Sat. March 21 -- Rock Island and Environs. Dr. John Hammond, leader. Meet 9:30 a.m., at Tri-Met's Handyman park and ride lot 15550 S.E. McLoughlin Blvd and Risley Ave. in Oak Grove.

Sat. March 28 -- Deschutes River Canyon. Keith Chamberlain, leader. Meet 10:00 a.m., near Tighe Valley at the intersection of highways 197 and 216.

Sat. April 4 -- No trip scheduled.

Sat. April 11 -- Three Lynx Area, Clackamas River. Dr. George Jeffcott, leader. Meet 9:00 a.m., Handyman park and ride lot, Oak Grove, as above.

TAKE ME TO YOUR (NEW) LEADERS

Your editors request each chapter to send in to the NPSO Bulletin the names, addresses, and phone numbers for each officer newly elected for 1981. We will want to reprot this information to all members and to update the list of presidents given monthly in the Bulletin. Please send this to us as soon as your election takes place, and in any event by our April 15 deadline. Thank you,

Frank Lang and Vern Crawford

PLANT IDENTIFICATION COURSE OFFERED

A non-credit course in Plant Identification will be offered spring quarter by Portland Community College at Rock Creek. Classes meet on Tuesday evenings 7-10 PM beginning March 31 and ending June 2. Hitchcock & Cronquist, 1973, Flora of the Pacific Northwest is the required text. If you have questions, contact Janet Hohn (503-231-6131) or Portland Community College, Rock Creek (503-645-4461).

T/E ALERT

Gratiola heterosepala Mason & Bacig. (Hedge-Hyssop) has been reported for the first time from Oregon. This annual member of the Scrophulariaceae was known only from central California where it occupies lake shores until the summer of 1980 when Dr. Noel Holmgren of the New York Botanical Garden collected it in Lake County, Oregon. This taxon is noted by the California Native Plant Society as "Rare and Endangered" (*Inventory of Rare and Endangered Plants of California*, April 1980) and is a candidate species for Threatened status as determined by the Fish & Wildlife Service (FR, Part IV, December 15, 1980).

Aster paludicola Piper (Western Bog Aster) was originally collected on Eight Dollar Mountain in Josephine County, Oregon, and the original description was published in *Contributions to the U.S. National Herbarium* 16:210. 1913. In his 1943 publication on the *Aster foliaceus* group (Cronquist, N. Am. Spp. of *Aster* centering about *Aster foliaceus* Lindl., *Am. Midl. Nat.* 29: 429-468), Cronquist had only the tupe specimen for reference and placed it in synonymy under the common and widespread species *Aster occidentalis* (cf. Munz, P.A. 1959. *A California Flora*, pp. 1198-1199). In recent correspondence to Dr. J.P. Smith, Dr. Cronquist says, "Since then I have seen a few (very few) more specimens at one place or another, and I am now convinced that it is distinct. It differs from *Aster occidentalis* in being glabrous throughout and in having relatively few (about 13 or less) ray flowers .... *Aster paludicola* also has an unusual habitat, it likes to grow in *Darlingtonia* bogs."

The Fish & Wildlife Service recognizes *A. paludicola* as a candidate for Federal listing (FR, December 15, 1980) and gives the historical distribution as California and Oregon.

Comments and information regarding these two Endangered plants are invited.

Janet E. Hohn, Ph.D.
Staff Botanist
Endangered Species Officer
Portland, Oregon

WELCOME NEW MEMBERS

PORTLAND

Billie Beach
Vicki Bryant
Pat Ediger
Louise Parker
Martha Dixon
Shelley Wickman
Barbara Ashmun
Linda Swisher
David Burnett
Donna Burnett

WILLAMETTE VALLEY

J. Morris Johnson
John Warner
Peter Paquet

MID-COLUMBIA

Julie M. Olsen

AT LARGE

Grace Thill

SISKIYOU

Barbara Cole-Mumblo
Larry D. McKnight
Bengt Hamner
Susan Neil

HIGH DESERT

Carolyn Wright
Louise Burgess
Wendell Thompson

All our native plant species are not terrestrial as the following article by Mariana Bornholdt indicates. Look for Part II next month.

BOUNTY FROM THE SEA Part I

Mariana D. Bornholdt ©1980

Our richly varied Pacific Northwest coastline nourishes an incredible abundance of marine life. Where sand, rocks, mud, and cliffs meet the restless surf, and fresh waters mingle with salty in estuaries and bays, a true biological "edge" results. Here, as with other "edges" in nature, speciation proliferates, and our marine plants, the Algae, encompass an enormous range of form, color, size, and life cycle unmatched by terrestial plants.

Algae are distinguished from other photosynthesizers principally by their lack of a true vascular system. That is, algae lack roots, stems, and leaves for the transport of nutrients; they live in and are supported by a fluid medium, the ocean. Algae are literally bathed in nutrients. In addition, algae do not flower or set seed, but reproduce by other means: by rhizome extension and by tiny motile gametes or spores. Though our coastal waters fo contain a few floweing plants known as seagrasses, the most common being *Phyllospadix* (surfgrass) found on rocks just below the surfline and *Zostera* (eelgrass) which grows in quiet muddy bottomed bays, the marine flora of the seashore, known as seaweed, are members of the Algae Kingdom.

Algae are classified and named according to color: blue-green, green, red, brown, and golden. Each color group or phylum is well-represented among the marine algae, although the majority of seaweeds (Macroalgae) belong to the brown, red, or green phyla.

Enucleate (lacking a true cell nucleus) single-celled individuals of various blue-green species (phylum *Cyanophyta*) are common in floating matlike or frothy aggregates in cliffside seepage areas just above the high tide line. The marine blue-green algae are believed by many biologists to be ancestral to all living forms on the earth; fossil species over two billion years old have been found. Their cloest relatives today are the bacteria. *Cyanophyta* are of little culinary interest.

The bright green algae (phylum *Chlorophya*) are believed to be the ancestral stock from which green land plants evolved. They are most closely related to the mosses and liverworts. Like the familiar terrestial plants, their dominant photosynthetic pigment is green, their food reserves are stored as starches and sugars, and their cell walls are cellulosic. Most *Chlorophytae* are found only in tropical seas, but a number are cosmopolitan. Ninety species occur here. Three are quite common:

Monostroma arcticum (awo-nori) ranges here from Alaska to Washington, occurring in green sheets or blades only one cell thick, attached to small stones or other plants in sheltered brackish bays. It is cultivated in the Orient, dired, and ground or flaked for use as a condiment. Fresh young fronds are tender; dried plants have a nut-like flavor.

Ulva lactuca (sea lettuce) grows in bright green, thin, crinkly sheets attached to rocks or other algae in the upper intertidal zones and in brackish water. It is also worldwide in distribution. Its fragile leaves are delicious raw when finely chopped in salads. Lightly steamed, it is an unusual green vegetable with a high ascorbic acid (Vitamin C) content. It is most tender when collected in early Spring. Dried, it is used throughout the world in various cuisines, as a condiment, garnish, brewed into tea, used in soups, stews, and in combination with other vegetables.

Enteromorpha intestinalis (green nori) is also found on rocks or in pools near the upper tide mark in coastal waters all over the world. Its contorted blades are a slippery yellow-green. Fresh or sundried, toasted, crumbled, or powdered, it is an important condiment or vegetable for all native Pacific peoples. The Kwakiutl Indians called it "ihixlhewis" and considered it a delicacy.

Golden algae (Chrysophyta) consist of several sub-groups, most marine forms being very small unicellular plants. A few form filamentous colonies, and there are many planktonic species. Generally seen as a thin scummy brown, olive, or yellow-brwon growth on the surfaces of rocks, shells, wood, mud, and other algae, Chrysophytae are of little culinary interest. However, one group, the diatoms (Bacillariophycea), have cell walls composed largely of silica, and the persistent skeletons of these microscopic plants form a significant component of beach sands all over the world.

(Continued)

MANAGEMENT ALTERNATIVES READY FOR REVIEW

After two years of study and data collection, we (Salem District, BLM) have developed proposed land use alternatives for 159,898 acres of BLM land in Linn, Marion, Clackamas and Multnomah Counties. The alternatives, which we are asking you to review, are five different combinations of land uses and management practices.

Following public review and comment, the District Manager will select either an existing alternative or develop a new alternative to serve as the proposed land use plan. Final acceptance of the plan for the Eastside Planning Area will come after environmental assessment. The new plant will determine how BLM lands will be managed, including the amount of timber to be cut, for the next 10 years.

Mettings will be held in Molalla and Lebanon to explain and discuss the alternatives. The more controversial and important concepts included in some of the alternatives will be presented in depth. These include "Recreation Lnads" designations for Table Rock and the penninsula of Green Peter Reservoir, intensive timber management practices, preservation of older forest wildlife habitat, designation of areas open and closed to off road vehicles and timber management on fragile, thin, or easily erodible soils. We invite you to come to one of these meetings and give us your ideas on the alternatives.
Identical sessions will be held from 2-5 pm and 7-9:30 pm at the following locations and dates:

Molalla
Monday, March 16
IOOF Hall (above Ernie's Home Furnishings)
108 S. Molalla

Lebanon
Tuesday, March 17
City Hall, 2nd floor Council Chambers
925 Main St., corner of Main and Maple

To encourage public comment on the alternatives, we have prepared a summary with maps explaining and showing how the land would be managed under each alternative. It includes a mail-back for your comments, choice of alternatives or suggestions for revisions. Your comments will be accepted at the meetings, or you may drop them off or mail them to our offices. All comments must be postmarked by April 3, 1981, so that we can begin work on a decision.

Copies of the summary can be obtained by calling or stopping by our office in Salem, 1717 Fabry Road S.E. (399-5634).

The alternatives ranges from an emphasis on protection of special values (watershed, fisheries, wildlife, recreation, visual, cultural and botanical) to an emphasis on timber production. Alternative A consolidates "optimum" recommendations for special values while Alternative E designates all land for intensive timber management except those acres protected by law or regulation. The other 3 alternatives fall somehwere in between. Key features are:

TIMBER MANAGEMENT: Alternative E designates 130,000 acres for intensive timber management. The only set asides are rare plant habitat, cultural sites and existing recreation sites. In contrast, Alternative A allocates 70,000 acres for intensive timber management with an additional 54,000 acres harvested every 200-350 years.

RECREATION LANDS: Alternative A withdraws 12,000 acres from timber harvest at Table Rock and Green Peter peninsula for recreation. Under Alternative E, no land would be managed exclusively for recreation except for the 7 existing recreation sites.

OLDER FORESTS: Alternatives A and B retain older forest wildlife habitat by managing 45,000 and 16,000 acres respectively on 200-350 year harvest cycles. Alternatives C and D eliminate long harvest cycles but preserve 11,000 and 1,800 acres of older forest respectively. Alternative E does not set aside any old growth althoug some old trees would remain in recreation sites and watershed protection zones.

Congress instructed BLM to identify and manage Areas of Critical Environmental Concern (ACEC's). ACEC's are areas where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

ACEC's on the Eastside of the Salem Distric will be selected and designated as part of this planning process. If you know of an area on BLM land that you feel needs special designation and management, we invite you to nominate it for ACEC consideration.

Nominations should include a map or legal description of boundaries and a description of the relevance and importance of its cultural or natural features. Include as much documentation as possible and mail to our office at the address below by April 3. For more information call 399-5634.

United States Department of the Interior
Bureau of Land Management
Salem District
P.O.B. 3227
Salem, Oregon 97302

PLANT FAMILY PROFILES
By Herm Fitz

The Cruciferae - MUSTARD FAMILY

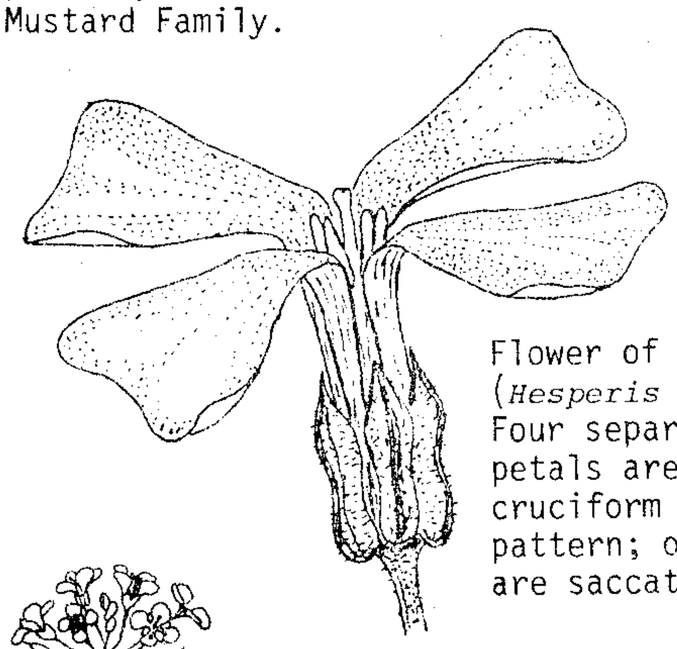
The Cruciferae is a large family of nearly 3000 species in 380 genera scattered throughout the world, mostly in cool north temperate regions. Representatives are especially abundant around the Mediterranean Basin and in southwestern and central Asia, and found only sparingly in the southern hemisphere, with few in the tropics. The family is economically noteworthy as it provides many table vegetables (cabbage, Brussels sprouts, broccoli, cauliflower, collards, kale, kohlrabi, rutabaga, pakchoi, turnips - almost all from the genus *Brassica*), salad greens and garnishes (radish, water cress), condiments (horseradish, mustard), fodder for livestock, oils, and garden ornamentals (wallflower, honesty, candytuft, sweet alyssum, stocks, rockets, and others). The Cruciferae, sometimes called Brassicaceae, is well represented in Oregon, with about 150 species in 45 genera occupying many types of habitat: sandy shores and rocky headlands, cultivated fields and gardens, shady woods, disturbed roadsides, volcanic peaks, mountain slopes and ridges, sagebrush steppe, juniper forest, or wherever you wander. Some of the most familiar are the Rock Cresses (*Arabis*), Winter Cress (*Barbarea*), Field Mustards (*Brassica*), Sea Rocket (*Cakile edentula*), Shepherd's Purse (*Capsella bursa-pastoris*), Bitter Cresses (*Cardamine*), Tansy Mustard (*Descurainia*), Whitlow Grass (*Draba*), Wall Flowers (*Erysimum*), Peppergrass (*Lepidium*), Bladder Pod (*Lesquerella*), Water Cress (*Rorippa*), Wild Radish (*Raphanus*) - to name only a few. Though the family is quite diverse, the characteristics are strikingly constant - it is easy to recognize a member on sight.

All crucifers in Oregon are herbaceous annuals, biennials or perennials and typically contain easily tasted, spicy oils reminiscent of the cultivated vegetables. The leaves may vary from simple to compound, then pinnate, and are often in a basal rosette. Stem (cauline) leaves are alternate, without stipules, and sometimes tend to be clasping. The inflorescence is most often a simple bractless raceme, that is, pedicelled flowers from a common stalk, the peduncle. Individual flowers, often tiny, are consistently 4-parted. The sepals are in two alternating pairs, the outer pair occasionally convexly swollen (saccate) at the base and containing nectar. The free, usually clawed, petals (rarely lacking) are arranged in a regular way to form a cross (termed "cruciform") - hence the family name. Six stamens, in one outer pair with short filaments (missing in some *Cardamine*) and two inner pair with long filaments, make the "tetradynamous" arrangement unique to the family. Outer filaments are sometimes winged or have tooth-like appendages. The pistil consists of a superior ovary of 2 united carpels, with 2 locules separated by a false septum (the "replum"), and ovules are attached by parietal placentae. The stigma may be capitate or bilobed.

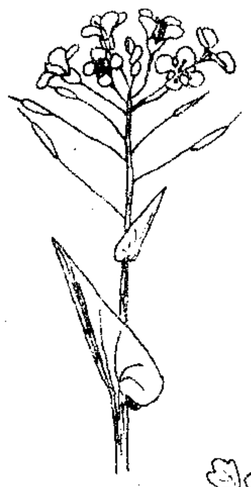
The resulting fruit is also 2-chambered and usually splits from below, each valve lifting from the septum releasing seeds from one or two rows in each locule. There is considerable variation in fruit size, shape, proportion, cross-section, direction of flattening, curvature, or beak-like style - which becomes important in distinguishing genera. You should be forewarned that in order to key successfully many members of this family, you will need fruits developed sufficiently to judge these characters. An elongate fruit, 3 times or more longer than broad, is called a silique (siliqua); a shortened fruit, less than 3 times longer than broad, a silicle (silicula). Most fruits are one of these two types. Sometimes the fruit becomes transversely constricted and jointed and is called a loment. All three types are unique to the family. The floral formula for Cruciferae (ignoring the very few exceptions) is universally:

$$Ca^4 \quad Co^4 \quad S^{4+2} \quad P(2)$$

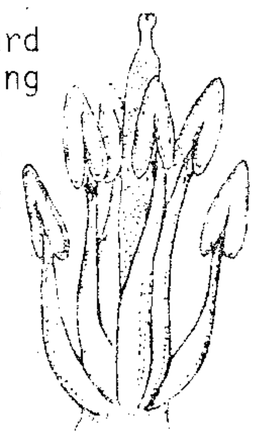
So when you find an herbaceous plant, perhaps tending to have basal leaves in addition to the alternate cauline leaves, with a raceme of cruciform flowers having tetradynamous stamens, each flower maturing to a 2-chambered silique or silicle - and if the chewed leaf reminds you a bit of cabbage - you probably have a member of the Cruciferae - the Mustard Family.



Flower of Dame's Rocket (*Hesperis matronalis*). Four separate clawed petals are arranged in cruciform (crosslike) pattern; outer sepals are saccate at base. 3x

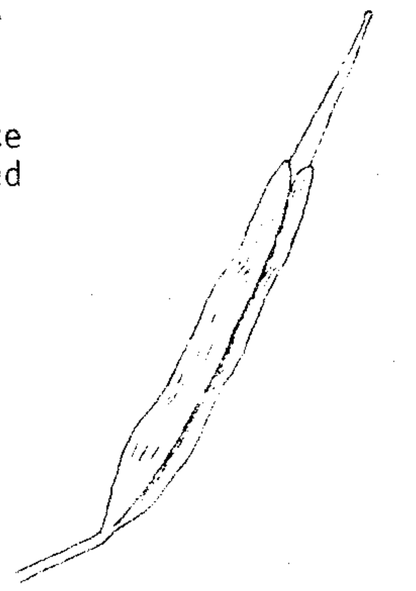


Sprig of Common Field Mustard (*Brassica campestris*) showing siliques, larger flowers, auriculate-clasping cauline leaves and typical racemose inflorescence. 1/3x

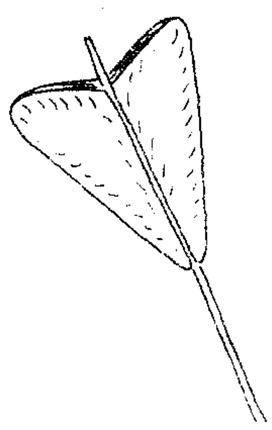


Stamens and pistil of Dame's Violet or Dame's Rocket (*Hesperis matronalis*) showing the tetradynamous stamen arrangement. 5x

Sprig of Little Western Bitter Cress (*Cardamine oligosperma*). Note the tiny flowers (each with only 4 stamens!), elongate siliques and pinnately compound leaves. ½x



Silique of Common Field Mustard (*Brassica campestris*). Fruit is elongate. 2x



Silicle of Shepherd's Purse (*Capsella bursa-pastoris*). Fruit is shortened. 3x

Native Plant Society of Oregon

BALLOT

Please mail this ballot to:

NPSO ELECTION COMMITTEE
Department of Biology
Southern Oregon State College
Ashland, OR 97520

by April 15, 1981

No new nominations have been received.

Vote for one

☐ President: David Wagner -- Curator of the University of Oregon Herbarium, President of the Emerald Chapter NPSO, very active Professional Botanist, co author of Rare, Threatened, and Endangered Vascular Plants of Oregon, Member of the Natural Heritage Advisory Council.

☐ Vice President: Annie Kowalishen -- Member of the Portland Chapter, Chair person of the NPSO Endangered Plant Committee, Chairperson of Western Native Plant Society.

☐ Secretary: Paula Vincent -- Part-time Botany student and previous professional secretary, conducted a rare plant survey for the Fremont National Forest, Member of the Siskiyou Chapter.

☐ Treasurer: John Christy -- Former chapter treasurer, a B.S. in gneeral Science, worked as a Botanist for BLM and Nature Conservancy, very interested in mosses, a member of the Emerald Chapter.

Vote for three (Board of Directors)

☐ Veva Stansell -- Former Board Member, did a study on Darlingtonia for the U.S. Fish and Wildlife SErvice, a very knowledgeable botanist of the Oregon Coast, a member of the Siskiyou Chapter.

☐ Cynthia Roberts -- Forestry technician with BLM and Forest Service, a very active member for over 4 1/2 years in the Siskiyou Chapter.

☐ Stuart Garrett -- Former Portland member and botany major in college, now practicing physician, working on a plant list for the Metolius River Preserve, founding member of the the High Desert Chapter.

☐ Mary Falconer -- Current NPSO membership chairman, former President of the Mid-Willamette Chapter. Active in the Orchid Society, self taught botanist interested in the locating and photographing of native orchids, Charter member of the Mid-Willamette Chapter

REMOVE MAILING LABEL FROM OPPOSITE SIDE IF YOU WANT YOUR VOTE TO BE ANONYMOUS.

The editors
Native Plant Society of Oregon
Department of Biology
Southern Oregon State College
Ashland, Oregon 97520

NATIVE PLANT SOCIETY OF OREGON

CHAPTER PRESIDENTS

For change of address or information on membership, contact your nearest chapter or Mary Falconer, 1920 Engle Ave., NW, Salem 97304
Contributions to the NPSO Bulletin or non-delivery notice should be sent to: The Editors, Native Plant Society of Oregon, Department of Biology, Southern Oregon State College, Ashland, Or 97520

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