Borealis

the newsletter of the



February 1996

Anchorage Chapter ☆ February Meeting ☆

Monday, February 5th 7:30 p.m. First Congregational Church 2610 E. Northern Lights Blvd. (Please use back entrance)

Arctic Steppe on Eagle Bluff: Snapshot of the Past, Glimpse of the Future.

by Sara Wesser

Sara Wesser, a plant ecologist and GIS specialist working for the National Park Service, will give our main program this month. Sara has worked on arctic steppe on and off for the last ten years. A recent project involved researching the ecology of Eagle Bluff and developing a model for predicting where arctic steppe might occur.

Plant Family - Cathy Wright will discuss three more families of ferns: spleenworts, licorice ferns and bracken fern.

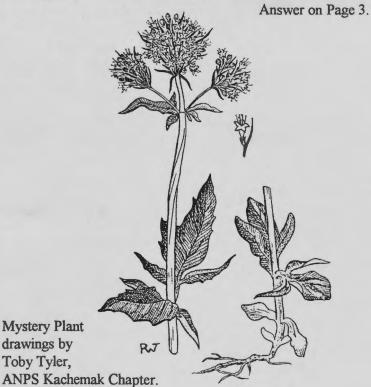
Mini-Botany - Expand your vocabulary with Larry Read, and discover some of the many botanical terms used for describing leaf margins.

A board meeting will be held at 7:00 p.m.

Mystery Plant

This common plant of boggy meadows and moist slopes occurs throughout most of Alaska, except southern Southeast. Its glossy, dark green leaves vary in shape according to their position on the stem; basal leaves are ovate, while lower stem leaves may have three leaflets and wavy margins, and upper stem leaves are usually linear and entire. Its fragrant flowers are borne in tight clusters and vary from lilac to white.

Plants in this genus contain an alkaloid that acts as a depressant of the central nervous system, and have been traditionally prescribed to quiet nerves and relieve insomnia. A well-known tranquilizer, bearing a similar name, contains the same alkaloids. In Europe, species of this genus are also used in aphrodisiacs. Cats and rats love this plant, and it has been suggested that the Pied Piper owed much of his charisma to filling his pockets with its roots.



Field Trip Chair:

Field trips provide many highlights in the ANPS year. Stories of exciting finds, incredible journeys, and moments of hilarity continue to circulate for years after the event, while camaraderie and shared experiences strengthen the bonds between club members. We're looking for a Field Trip Chair who can put together an exciting array of trips for spring and summer 1996. If you think you may be interested, call Julia Ricketts at

Field Trip Leaders:

Field Trip Chairs always need lots of help from members, in identifying new places to visit and recruiting volunteers to lead trips. If you know of an unusual or exciting place that would appeal to other native plant enthusiasts, please think about leading the trip or let the Field Trip Chair know of your suggestion. Trips involving extra time or expense require a great deal of planning and advance notice, so start compiling a list of places now. A field trip planning sheet is included at the end of this newsletter. Try to think of one trip you could lead this summer, fill out the form, and hand or mail it to the Field Trip Chair. Let's get some ideas rolling, and make this the best field season yet.

Newsletter Articles:

This month, we were thrilled to receive Phyllis



Kempton's article, written in response to a piece submitted by Rob Lipkin for the December issue. The newsletter is a great place to share ideas, pose questions, and generally communicate with other members. Guest writers and topic suggestions are always welcome. If you have something you would like to share, send it to the editors or mail to the ANPS P.O. Box address.

UAA Herbarium:

The Department of Biology at UAA hopes that its herbarium will soon be listed in the *Index Herbariorum* of the International Association of Plant Taxonomy. Listing will allow botanists from around the world to access the collection. Towards this end, Garry Davies is aiming to have the collection completely entered into a computer database by June 1996. Additional benefits of computerization include allowing users to quickly find out what is in the collection, and enabling collectors to target specimens which are not well represented.

Any volunteer help that ANPS members can give, even for just a few hours a week, would help in this endeavor. In addition to improving plant identification skills, volunteers could gain experience of working in a herbarium and using a computer database. Volunteer involvement is encouraged in the following areas: mounting unprocessed specimens, typing labels, computer database, and collecting (summer months). For more information, call Marilyn Barker (Home:

Work:) or Garry Davies (Home: Work:).

Refreshments:

Anchorage Chapter meetings are friendly, outgoing occasions. At several recent programs, cookies and other treats provided by our members have enhanced the social atmosphere. If you are a willing cook who would like to contribute refreshments for the March, April or May meetings, contact Andrea Woods at

The chapter will continue to supply juice, coffee, cups, etc.

Historian:

Over the years, ANPS members have undertaken numerous projects, traveled to many corners of the state, and been featured in magazine and newspaper articles. At the last chapter board meeting, we decided that it would be nice to start a scrap book that would remind us of field trips and events of the past. If you think you might be interested in the role of chapter historian, call Julia Ricketts at

Polypodiophyta: Polypodiaceae (Licorice Ferns), Aspleniaceae (Spleenworts) and Hypolepidaceae (Bracken Fern)

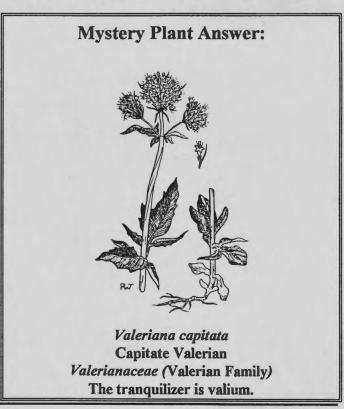
This month we'll continue our look at the Polypodiophyta by reviewing three new plant families: Licorice Ferns (Polypodiaceae), Spleenworts (Aspleniaceae), and Bracken Fern (Hypolepidaceae). Together they represent four species in Alaska. Like the rest of the ferns we'll be discussing in future parts of this series, their sporangia are borne on the underside of leaves and arranged in groups called sori. They differ from eusporangiate types, like the moonworts featured last month, in that their sporangia are smaller and thin walled, with a band of thick walled cells, called the annulus, on the surface. Thin-walled lip cells tear in response to drying of the annulus, thus releasing spores. Each sporangia usually produces only 64-128 spores. This characteristic is known as leptosporangiate, and is believed to be more advanced. In all three families the fertile and sterile leaves appear similar. All have pinnately divided leaves, but in the spleenworts and licorice ferns the leaves are only oncepinnate or pinnatifid (pinnately cleft or lobed part of the distance to the mid-rib, but not cleft all the way). Bracken fern has broadly triangular fronds, that are three-forked and 2-3 times pinnate.

Licorice Ferns have evergreen, relatively little-divided (for a fern) leaves. Two sub-species of *Polypodium vulgare* occur in Alaska: *columbianum*, a rare plant restricted to interior sections; and *occidentale* in southern coastal sections. They are small to medium-sized plants, often found on rocks or trunks of alder and other deciduous trees. Stems contain the same chemical that gives licorice candy its flavor, and can be picked and chewed by hikers, or used raw or roasted as a cough medicine. In this family the indusium is absent, and the oval or round sori are arranged in a single row on either side of the main vein on leaf segments.

Spleenworts are small ferns with once-pinnate fronds, usually found in moist, shaded crevices on rocky limestone (or other basic rock types) bluffs or talus slopes. Green spleenwort (*Asplenium viride*) is a small, densely tufted plant, growing to 14 cm from short, scaly rhizomes. The stipe is brown at the base, but changes to bright green on the rachis (the stem between the pinnae). Fronds are once-pinnate, long and narrow, and composed of small, oval pinnae with round teeth.

At the base of the stem, pinnae are opposite, but become alternate towards the top. Although fronds are herbaceous, old stipes and leaf axes may persist for years. Sausage-shaped sori are arranged along veins on the underside of pinnae, and are covered by a membranous indusium along one side. This delicate indusium tends to disappear as the sori ripen. Maidenhair Spleenwort (A. trichomanes) differs in having purplish, chestnut brown or black stipes and firm, evergreen, opposite leaflets. It is found in similar habitats, but usually at lower elevations, and its range in Alaska is restricted to a few places in Southeast.

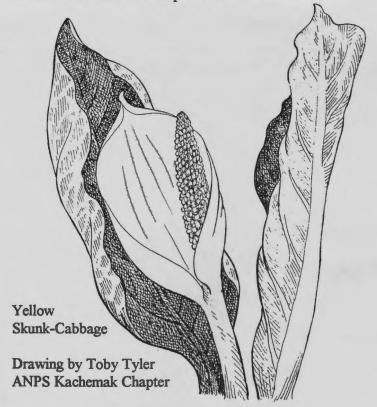
Bracken (Pteridium aquilinum) is the only fern considered dangerous to eat in Alaska. It has been implicated in cattle poisonings and stomach cancer. This cosmopolitan species is the world's most widespread fern, and in southeastern Alaska can be found in a variety of dry, open and disturbed sites at low to mid-elevations. Its stout, creeping and branched rhizomes send up solitary, stiff, erect stalks, reaching 6 inches to 31/2 feet high and terminating in a broadly triangular frond. Much of the plant is pubescent (covered with soft, short hairs). Sori are arranged around the edges of the pinnae, and partially covered by rolling in of the leaf margins. Indusia are inconspicuous. As the rhizomes are buried deeply, the plant can survive quite intense fires, and is common in many burned areas.



Lysichiton americanum (Yellow Skunk-cabbage)

During late February or March in some parts of Alaska, before all of winter's snows have melted, gleaming yellow spathes rise out of swampy soils like candles heralding the approaching spring. These spathes, typical of plants in the arum family, form a protective sheathing around the fleshy, floral spike within. The spathe acts as an insulating hood; through respiration it can significantly raise the temperature, allowing floral parts to rapidly develop and causing surrounding snow to melt. Many plants in this family go by the name "Hot-blooded plant," and this species is particularly deserving of the name.

Lysichiton is derived from the Greek words lusi and khiton, and can be translated as "unfasten frock." It describes the way the spathe opens to reveal the spadix, a dense, cylindrical spike bearing many tiny flowers. Another translation is "loose tunic," referring to the shape of the spathe. Americanum obviously refers to the continent on which the plant occurs.



The skunky odor of the plant, especially during flowering, earned it the common name of skunk-cabbage. Beetles are attracted by the odor and probably play a major role in pollination. In all fairness to the plant, many people find the odor neither skunky nor objectionable. Janice Schofield, in her book Discovering Wild Plants, describes the odor as reminiscent of spring and swamps, and prefers the name swamp cabbage.

The leaves provide important browse for bears, deer, and geese, particularly in early spring when other forage is scarce. However, despite the leaves' cabbage-like texture, their human value is limited by high concentrations of calcium oxalate crystals that may cause intense burning of the mouth and tongue if plants aren't thoroughly dried before use. Northwest coastal peoples used skunk cabbage as a famine food in early spring, but only after steaming or roasting. A flour was sometimes prepared from roasted roots. Leaves are also used as "Indian wax paper," for lining berry baskets, berry-drying racks and steaming pits, and for wrapping salmon before baking.

The Kathlamet Indians of western Washington tell a story about Yellow Skunk-cabbage:

'In the ancient days, they say, there were no salmon. The Indians had nothing to eat save roots and leaves. Principal among these was the skunk cabbage. Finally the spring salmon came for the first time. As they passed up the river, a person stood upon the shore and shouted: "Here come our relatives whose bodies are full of eggs! If it had not been for me all the people would have starved." "Who speaks to us?" asked the salmon. "Your uncle, skunk cabbage," was the reply. Then the salmon went ashore to see him, and as a reward for having fed the people, skunkcabbage was given an elk-skin blanket and a war club, and was set in the rich, soft soil near the river. There he stands to this day wrapped in his elk-skin blanket and holding aloft his war club.'

Ghost's Ears -- No! Dog Ears -- Yes! submitted by Phyliis E. Kempton

Editor's Note: In the December newsletter, Rob Lipkin submitted a summary of a report on fungal galls on Menziesia ferruginea by Brian D. Compton. It described the gall-like growths of Exobasidium sp. affin. vaccinii, known as Ghost's Ears, and their use by various coastal groups in British Colombia. At the end, Rob asked it anyone knew of the existence of such galls on Rusty Menziesia in Alaska. Well, here's the answer!

When Alex Wennekens was doing a report on the ethnobotany of the Chugach Native Region of Alaska, she learned the Native people of Cordova seek out and eat a gall-like growth which appears on the shrub *Menziesia ferruginea* during June and July of each year. The related Chugach Aleuts, who live in Port Graham and Nanwalek (formerly English Bay) also eat this growth which they call something like "Juda-Wha" in their native dialect. Both groups refer to them as "Dog Ears," and they are picked off the bush and eaten as a sweetmeat, rather than a dietary staple. In fresh condition they are said to have a very sweet taste and a crisp texture, but the dried material, even when revived, is unusually tough.

The gall-like fungus belongs to what is presently called Exobasidium vaccinii (Fuckel) Woronin. A large number of imperfectly known, diverse fungi, occurring on a great variety of hosts, are included in this species. Some specialists believe each host should have its own newly named species. Although Exobasidium has been reported from Alaska on various plants, its occurrence on Menziesia has not been verified until now. Its actual range is also unknown. It has been looked for in the Anchorage and Whittier areas, but so far without success.

As it occurs in Alaska, the fungus can be either an obvious enlargement of leaf or flower, or a well-defined, cup-shaped growth somewhat resembling an insect gall. The growths are normally pale tan and translucent, but they often take on a green or pink tint from the leaf or flower which is enlarged. They soon become externally covered with a whitish bloom, but quickly turn brown, shrivel,

and either drop off or remain on the host from one year to the next. Dr. Savile, a Canadian expert on this genus, believes it is necessary to culture this fungus on the same day it is collected before it becomes over-run by a parasitic mold.

This would be a great project for someone to take on; you might even get a chance to name a new species. Unfortunately, fresh material is needed for microscopic work, and this is hard to come by as the Alaskan areas where it is known to grow are mostly accessible by expensive air travel.



Menziesia ferruginea Rusty Menziesia

Arbor Day Grants from Alaska Department of Natural Resources

Arbor Day is a special day set aside for planting trees and celebrating their beauty. More importantly, it is an opportunity to remind people of the ecological, social and economic benefits that trees provide. The Urban & Community Forestry Program is offering grants to communities to encourage participation in Arbor Day activities this year, and also has trees to give away for planting on, or near, Arbor Day.

Any non-profit organization or local government may apply for a grant to plant trees or to sponsor other educational or informational activities related to Arbor Day and urban and community forestry. Other volunteer groups may apply through a non-profit or agency, such as a school or parks department. Communities are asked to hold a ceremony or special community event in conjunction with the tree planting, and to use recommended techniques that demonstrate the best way to plant a tree.

About \$15,000 is available in grants this year, and requests for between \$250 and \$2,000 will be accepted. A one-to-one match is required (a \$500 grant requires a \$500 match). The match may be cash or in-kind services. A brief, written report, showing how all funds were spent (grant and match) and slides of the event, is required by June 28.

Arbor Day is celebrated on the third Monday of May in Alaska, which is Monday, May 20 this year. The

deadline for submitting applications for Arbor Day grants is 4:30 p.m. on Thursday, February 15. The Urban & Community Forestry Council will review the applications and notify applicants of its selections by Wednesday, March 20.

About 500 trees are available to give away for planting on, or near, Arbor Day. The trees are about two feet tall, so they will need special care and protection in order to thrive and grow to be large and healthy specimens. Criteria used to select successful applicants will include quality and appropriateness of planting design and maintenance plan, and level of community involvement. Species available are: birch, crab apple, lodgepole pine and Siberian larch. For Arbor Day Trees the deadline for applications is 4:30 p.m. on Wednesday, March 20. Successful applicants will be notified by Monday, April 1 about the number and species of trees they will receive.

Applications for both Arbor Day Grants and Arbor Day Trees programs are available in all Division of Forestry offices, and in the Department of Natural Resources Public Information Center at 3601 C Street, Suite 200 in Anchorage. If you have questions or would like an application by mail, call the Urban & Community Forestry office in Anchorage at 269-8465 or 269-8466.

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Plant Family
Mini-Botany
Field Trips
Ginny Moran
Verna Pratt
Marilyn Barker
To be announced

Borealis

Editors Julia Ricketts

Trevor Ricketts

Circulation Martha Hatch

The newsletter of the ANPS is published monthly except for June, July, August and September. Material for the March issue should be mailed to: Julia and Trevor Ricketts,

, Anchorage, AK 99516 to arrive by

February 16.

1996 Seed List

Seeds donated to the annual seed swap will be available at the February meeting of the Anchorage Chapter. Each packet will cost 50 cents. For mail orders, add 50 cents for postage for 1-3 packets, or \$1 for 4 or more packets. Seeds have not been stratified, but directions for stratification are at the end of the list.

An asterisk (*) shows those seeds with a limited supply (3 packets or less). If you particularly want to purchase any of these seeds, please call Verna Pratt at to reserve them on a first-come first-served basis.

ALASKAN WILDFLOWERS -

all perennials

- 1.. Anemone parviflora (Windflower) 4-6" tall with large, white flowers, spreading by rhizomes. Plant in rock garden or border. Very good garden plant.
- 2. Arnica frigida (Frigid Arnica) 6-10" tall, large, yellow daisy (showy plant), good garden plant, prefers dry areas.
- 3. Arnica lessingii (Lessing's Arnica) 5-7" tall with yellow, daisy-like flowers. Rock garden.
- 4. *Astragalus nutzotinensis (Nootka Milk Vetch) small white to pink flowers. Small, delicate, decumbent plant. Dry soil.
- Campanula rotundifolia (Bluebells of Scotland) sprawling plant, 8-14" tall with lavender bellshaped flowers. Plant in sun or shade. Reseeds
 well. Good for banks, walls or borders. Very good
 garden plant.
- 6. Chrysanthemum arcticum (Arctic Daisy) 8-18" tall. White flowers.
- 7. Dodecatheon pulchellum (Shooting Star) early blooming with bright pink flowers. 12-15" tall. Clump-forming. Slow to germinate; damp stratification recommended.
- 8. *Draba incerta (Whitlow Grass) forms small clumps, 3-5" tall with yellow flowers. Dry soils or rock garden.
- 9. *Draba kamtschatica (Kamchatka Draba) 3-5" tall, white flowers. Good in rock garden.
- Geranium erianthum (Wild Geranium) Large specimen, 15-30" tall, with lavender flowers. Reseeds easily. Sun or shade. Very good garden plant.
- 11. *Hedysarum alpinum* (Eskimo Potato) spikes of small, pink flowers. 15-24" tall. Spreader good for meadows.
- 12. Hedysarum mackenzii (Wild Sweet Pea) clumpforming plant, 12-20" tall, aromatic, with pink flowers. Good garden plant.
- 13. Lupinus nootkatensis (Nootka Lupine) spikes of blue flowers. 15-36" tall. Spreader. Meadows or

- dry soil. Slow to germinate, may need to be scarified to speed germination.
- 14. *Mimulus guttatus* (Yellow Monkey Flower) 10-18" tall with large, yellow flowers. Can form mats. Reseeds. Prefers damp sites, good for pools.
- Myosotis alpestris asiatica (Alpine Forget-me-not)
 8-12" plant with blue or pink flowers. Reseeds.
 Meadows or dry soils. Very good rock garden plant.
- 16. Oxytropis campestris (Northern Oxytrope) 10-15". White variety, likes dry soil.

No stratification is needed for poppies.

- 17. Papaver Hultenii (Hulten's Poppy) 4-6" high with small, yellow flowers. Needs space to prevent mold. Reseeds. Dry soils or rock garden. Excellent garden plant.
- 18. Papaver lapponicum (Lapland Poppy) yellow flowers. Small clumps to 8". Needs dry soil. Reseeds easily.
- 19. *Papaver* sp. probably mixed, perhaps even hybrids between *P. Hultenii* and *P lapponicum*. 6-10". Yellow flowers, dry soil.
- 20. Parnassia Kotzebuei Small plant with small white flowers. Prefers damp areas. Damp stratification recommended.
- 21. Polemonium pulcherrimum (Beautiful Jacob's Ladder) early blooming with 3/4" lavender-blue flowers. 6-12" showy clumps. Dry soil, border or rock garden. Re-seeds easily. No stratification needed.
- 22. *Potentilla villosa (Villous Cinquefoil) 3-6" tall, with yellow flowers. Forms 6" mounds. Good rock garden plant.
- 23. Saxifraga tricuspidata (Prickly Saxifrage) 5-7" tall, with cream flowers. Good rock garden plant.
- 24. Veronica grandiflora (Aleutian Speedwell) matforming plant, 2-4" tall, with blue flowers. Rock gardens and borders. Damp stratification recommended.

more on next page

NON-NATIVE PLANTS

These European plants were donated by Alan Flack of Great Britain. Hardiness unknown.

30. *Aquilega bertonalii (Alpine Rock Columbine) - one foot tall, blue flowers. Rock garden plant.

31. *Anchusa caespitosa (Tufted Alkanet) - up to one foot tall. Blue flowers.

32. Anthyllis rubens (Alps Anthyllis) - one foot tall, pink flowers.



Footnotes on Stratification:

Some seeds require special treatment for good germination. This occurs naturally outdoors, but if you are starting your seeds indoors or plan to scatter them outside in the spring, you will need to read further.

Our ANPS seeds have not been stratified this year. Some do not require it. Stratification is accomplished by treating seeds with a cold treatment for a period of about 45 days. Some prefer brief thawing periods, so this is recommended for all seeds requiring stratification. Some also require dampness during this time.

Some Methods of Stratification:

- Method #1. Place packets of seeds in a box or plastic bag in a freezer. Remove to thaw about every 10 days, and return to freezer. Repeat this cycle for the full time period. Those seeds that require dampness should be sprinkled with water before returning to the freezer each time.
- Method #2. Scatter outdoors if you can locate where you want them at this time.
- Method #3. Plant in flats, put outside, and cover with snow. Be aware that it is difficult to keep trays moist once the snow leaves. Moisture is critical at that time, especially when young plants start growing.
- Method #4. Place seeds in a plastic bag (so they don't get continually soaked) in a somewhat protected area, where they won't blow away. (Seeds that require dampness should not be in plastic bags.) Bring them indoors about every 10 days to thaw, then return them outside for the duration of the stratification period. After this, you may plant them indoors and enjoy watching them grow, or plant outside as soon as possible (drying winds sometimes make it difficult to keep them moist). If you plant them inside, be sure to put seedlings next to a window for good natural light, or place them close to an artificial light.

ANNUAL MEMBERSHIP APPLICATION / RENEWAL

The Alaska Native Plant Society was organized in 1982 by an enthusiastic group of amateur and professional botanists. It is a non-profit educational organization with the aim of uniting all persons interested in the flora of Alaska. Membership is open to any interested individual or organization. If you wish to join us, please indicate the category of membership you desire, then clip and mail this application with the appropriate remittance to: Alaska Native Plant Society, Membership Dept., P.O. Box 141613, Anchorage, AK 99514.

Select the membership category you desire:

Full Time Student	[] \$5	Name:			
Senior (over 65)	[} \$10	Address:			
Individual	fA\$12	City:	_State:	Zip: _ ·	
Family	[]\$18				
Organization	[]\$30	Telephone: (Home)_		(Work)	
Membership is on a cale	endar year basis.				

ALASKA NATIVE PLANT SOCIETY

SPRING & SUMMER 1996: FIELD TRIP PLANNING WORKSHEET

Field Trip to:						
Leader(s):	· · · · · · · · · · · · · · · · · · ·	Telephone:				
Date:	Day of Week:	Time Allotted:				
	Meeting Place:					
Reservations by:						
Level of Difficulty:		Minimum age:				
Description of trip:						
	ms to Bring:					

Please hand in completed forms to the Field Trip Chair at Anchorage Chapter meetings, or mail to the ANPS P.O. Box Office address. Field trip schedules will be sent out to members in the first week of May.

The ALASKA GARDENER'S HANDBOOK by Lenore Hedla

This classic, yet witty tome on how to grow anything that will grow in the 49th state is a handy reference book for cheechakos and sourdoughs alike.

Lenore Hedla, the dean of Alaska gardeners and garden writers, has penned this, her fourth book on far north gardening, with benefit of more than 40 years experience tilling the soil of Alaska.

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