

Borealis

the newsletter of the



December 1995

P.O. Box 141613, Anchorage, AK 99514

Anchorage Chapter ☆ December Meeting ☆

Monday, First Congregational Church
December 4 2610 E. Northern Lights Blvd.
7:30 p.m. (Please use back entrance)

Potential Commercial Uses of Seven Native *Artemisia* Species

with Stoney Wright

Stoney Wright, manager of the Alaska Plant Materials Center, will share his fascination with plants in the genus *Artemisia*, and discuss their potential economic uses.

Plant Family - Marlana Mooring will discuss quillworts, club mosses and spike mosses. See page 3.

Mini-Botany - Larry Read will present a program on terminology for describing leaves.

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

Dues

1996 dues will soon be due. Please note that there has been a small increase in membership fees this year, reflecting the increased costs of newsletter printing and mailing. A membership coupon with current rates is on Page 7.

Mystery Plant

If you want to admire this month's mystery plant in the field, take your rubber boots or prepare for wet feet. Our plant is found in ponds, shallow lakes, bogs, and marshes throughout much of the northern hemisphere. However, wet feet are a small price to pay for a close look at this stunning plant. From late May through June, showy racemes of white or pinkish flowers appear at the top of a mostly leafless stalk. Their petals have feather-like frills on the inner surface, giving them a fringed appearance. In Britain, some rate it as their most beautiful wildflower. Leaves are long-stalked, smooth, and shiny, with three ovate leaflets somewhat resembling those of a bean plant. The plant is often placed in its own family, although sometimes it's included with the gentians.

Answer on Page 3.



Mystery Plant drawings by Toby Tyler, ANPS Kachemak Chapter.

Volunteer Opportunities

Seed Swap Coordinator:

A volunteer is still needed to coordinate the seed exchange project this year. If you are interested, call Verna at

So far, we have very few seeds for this event. If you have any, please bring them to the December meeting, or mail them to the ANPS care of the post office box address.

Plant Family Presenters:

We still need volunteers to give short plant family presentations from February through May. The breakdown of family groups is as follows:

February	Spleenworts, Licorice Ferns, and Bracken Fern
March	Mountain Parsley Family, Deer Fern and Ostrich Fern
April	Marsh Ferns and Maidenhair Fern
May	Lady Fern and Shield Fern families

If you would like to give a 10-minute presentation at a membership meeting, give Verna a call (). You don't need to have slides as Verna has an extensive collection. Presenting is a great way to learn about plants - why not give it a try!

Election Results for the Anchorage Chapter

A slate proposed by the nominating committee was accepted at the November meeting. We welcome Frank Pratt to the board as Vice-president. Andrea Woods and Unison Hubbard will retain their seats, while Julia Ricketts will step up to president. The new slate becomes effective in January.

Anchorage Chapter Board Members

President	Julia Ricketts
Vice-president	Frank Pratt
Secretary	Andrea Woods
Treasurer	Unison Hubbard

Refreshments:

At November's meeting, we all enjoyed delicious cranberry bread and cookies baked by Marlana, and banana-cranberry jam from Verna. Yum! Thanks for a wonderful spread.

We know many members are excellent and creative cooks from the gourmet dishes that show up at our pot-luck suppers. Now, we're looking for volunteers to bring refreshments for membership meetings. Even better, if the recipe involves native plants and isn't a family secret, jot it down and send to the newsletter editors so that everybody can make it after a sampling at the meeting.

Of course, you don't have to bake - a visit to the grocery store will do nicely. The chapter will continue to supply juice, coffee, cups, etc. If you would like to volunteer, give Andrea Woods a call ().

Mini-Botany Presenters:

Help! Mini-botany presenters are needed for 1996. These 10-minute programs can be on anything plant related, and in the past have covered topics as diverse as: using keys, a favorite plant, phytochrome, activities at the botanical garden, plant adaptations, berries, and fossil plants.

You'll find researching a program is fun, and you'll learn a lot in the process. Pick a topic, and give Marilyn a call at

Next Chapter Meeting on January 8

The January meeting will be held on Monday, January 8, and not on the first Monday of the month. At the November meeting, attendees voted for the change as many people will be out of town, or busy with New Year activities.

In Fond Memory

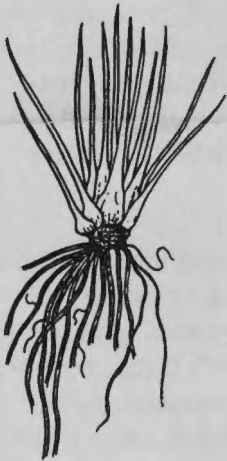
We are sad to report that Aline Strutz recently passed away at the age of 96. Aline was well known for her extensive plant and seed collections, and her beautiful wildflower gardens. She traveled throughout Alaska, making several new botanical discoveries. Donations can be sent to the ANPS, for the Plant Society Scholarship Fund.

Pteridophytes continued...

**The Microphylophyta:
Quillworts, Club Mosses and Spike
Mosses**

In Alaska, the microphylophyta are represented by three families, each with one genus: *Lycopodium* (Club Mosses), *Selaginella* (Spike Mosses), and *Isoetes* (Quillworts). Unlike ferns, whose leaves are divided into lamina (blade) and petiole (stalk), the microphylophyta have small, undifferentiated leaves with only one vein (called **microphylls**). In the case of *Isoetes*, these microphylls are grass-like, generally submerged, and grow from a corm-like base with roots. Those of *Lycopodium* and *Selaginella* are smaller and needle-like.

Hulten lists two species of *Isoetes*, one with two sub-species. The sub-species of *I. muricata* cover most of the state south of the Brooks range, with the exception of north-west and mid-western sections. *I. truncata* is confined to coastal south-central. However, these plants have been little studied and collected. They are generally found in shallow lakes with sandy or fine gravel bottoms. Leaves form a basal rosette, and sporangia are produced in spoon-shaped depressions at the base of leaves. Plants are heterosporous (producing male and female spores from separate sporangia).



Isoetes muricata

Lycopodium and *Selaginella* are common plants of terrestrial habitats. They have small, overlapping, scale-like leaves, much branched stems, and can root from branches. *Lycopodiums* have larger leaves, lack ligules, and are homosporous (producing only one type of spore). Plants in the genus *Selaginella* are heterosporous, and possess ligules (small hair-like or scale-like outgrowths from the leaf).

Many *Lycopodium* species produce club-like strobili composed of sporophylls (leaf or leaf-like structures that bear sporangia), leading to the common name of Club Moss. However, in some genera the strobilus is less well differentiated, e.g., *L. selago* (Fir Club Moss), a tundra plant with sporangia in axils of ordinary leaves, and erect stems that often all reach the same height. The eight species of *Lycopodium* in Alaska are commonly found in woodland and tundra habitats. Most have spike-like branches, except for *L. obscurum* (Ground Pine) which resembles a miniature pine tree, and *L. complanatum* (Creeping Jenny) which has flat, cedar-like leaves. Great lengths of this evergreen plant can be pulled up in one go, making it useful for Christmas wreaths. The spores of all club mosses contain volatile oils and sulfur, making them very flammable. Early uses included flash photography, stage lighting and fire crackers.



Ground Pine

Spike Mosses (*Selaginella* sp.) have less conspicuous strobili composed of angular sporophylls, giving the tip of the stem a squared off appearance. Of the two species in Alaska, one is herbaceous with membranous leaves (*S. selaginoides*) and the other is evergreen with densely overlapping, bristle-tipped leaves (*S. sibirica*).

Mystery Plant Answer:



Menyanthes trifoliata
Buckbean
Menyanthaceae

Turnagain Arm Trail Update by Julia Ricketts

Last month, we brought you news of trail developments on the Potter Creek section of the Turnagain Arm Trail. On October 28, Verna, Ginny, Trevor, and I met with Al Meiners, Chugach State Park Superintendent, and others involved with the project's engineering and landscape design. We spent a productive morning with them. They listened to our recommendations and concerns, while explaining parts of the project. Subsequently, we sent a letter, on behalf of the Anchorage Chapter, putting our opinions in writing. If you would like to see a copy of the letter, please give me a call.

Chugach State Park officials have the difficult task of balancing needs of various user groups, while watching their budget decline. Although the construction took us by surprise, it is part of the park's 1985 plan. The current development was proposed by the DNR, Division of Parks and Outdoor Recreation and the Dept. of Transportation and Public Facilities in conjunction with the Federal Highway Administration, and financed by federal and state funds to improve recreational and scenic facilities along the Seward Highway. Conditions attached to these funds demand certain standards, such as minimum trail width and provision of handicapped access. These conditions are partially responsible for the huge scale of the project, although contractors have exacerbated the problem by not always working to the park's plans. We understand the desire to create handicapped accessible trails, and to encourage new park users. However, we question the need for such extensive clearing. The old trail provided an intimate forest experience. The new one offers great views over Turnagain Arm, but has sacrificed much that made the place special.

Project plans were submitted to the US Fish and Wildlife Service (USFWS) for review for conflicts with endangered or threatened species. None are involved here. Only species that are threatened globally are covered by the Endangered Species Act. As populations of both rattlesnake ferns (*Botrychium virginianum*) and Selkirk's violets (*Viola Selkirkii*) occur outside of Alaska, they are not covered. Ginny Moran, in her capacity as endangered species biologist for the USFWS,

recommended a survey for sensitive plant species, but there is no legal requirement for the park to conduct one. In Alaska, there is no state list of endangered or threatened plants, and no legal protection for plants that do not meet federal requirements, however rare they may be within the state. No survey occurred, and no consultations were made with experts. Consequently, park officials were unaware of the plants' existence and, unfortunately, gave no consideration to the wildflowers that made this trail special for so many people. On the positive side, Meiners now appears genuinely concerned about the loss of rare plants and other wildflowers. He is willing to take steps to speed recovery along the new trail, provide some funds for revegetation efforts, and avoid conflicts between sensitive species and future projects. We look forward to a brighter partnership.

Until spring, we can't be exactly sure of the impact on the rare plants. Verna's best guess is that the ferns are buried beneath gravel close to the second intersection of the new and old trails. However, so many local landmarks are missing that it is difficult to precisely locate them. As a result of our meeting, verges where violets may have survived will not be seeded. Next spring, we will locate any survivors and make sure the park knows of their whereabouts.

Although we regret the unnecessary loss of rare plants and other wildflowers, ANPS members are working with Al Meiners to actively encourage revegetation by native species along the new trail. The park's landscaping plans call for light seeding of verges with Norcoast Bering Hairgrass and Polargrass, relatively fine native species that should allow wildflowers to reseed naturally. ANPS members began additional seeding with selected wildflowers this month.

On November 4, Verna and Frank Pratt, Jean Poor, Trevor, and I started seeding in areas where new top soil has been laid. In addition to commercial seed, we used seeds collected from native species in Verna's yard, and from plants near the trail. Commercial seeds included: columbine, larkspur, lupine, and watermelon berry. Verna provided Siberian aster and mountain ash. Along the trail we gathered and planted seeds from mountain ash, highbush cranberry, cow parsnip, parsley hemlock, prickly and nootka roses (and their hybrids), sweet-scented bedstraw, and sidebells pyrola. We will continue reseeding efforts next year, and plan several seed

collecting trips to the area next summer. In addition, the park may permit transplanting of some wildflowers closer to the trail. We'll need lots of volunteers!

Our goal is to restore components of the native flora, so all seeding and transplanting will involve selected species that previously occurred along the trail. Several members have lists or are very familiar with the species formerly in this location. Care will be taken to avoid introducing plants that don't belong here, and that may subsequently compete with

natives. By hastening re-establishment of natives, we hope they gain a foothold before more invasive, non-native species (e.g., clover, dandelion, and plantain) become established. We encourage hikers to remain on trails while revegetation work is in progress.

Recovery will be slow: Seeds planted now won't produce blooming plants for several years, and natural revegetation by species that don't transplant or seed easily will take much longer. We've lost a section of trail we all valued, but are hoping for better communication with the park in the future.

**Fungal Galls on Menziesia -
A Unique Report of Mycophagy**
Submitted by Rob Lipkin

Compton, Brian D. 1995. "Ghost's ears" (*Exobasidium* sp. affin. *vaccinii*) and fool's huckleberries (*Menziesia ferruginea* Smith): a unique report of mycophagy on the central and north coasts of British Columbia. *Journal of Ethnobiology* 15 (1): 89-98.

Exobasidium spores may infect the leaves, stems, and flowers of fool's huckleberry or false azalea, resulting in organ deformation and hypertrophic growth that accompanies fungal development. Eventually the fungus sporulates on the surface of mycocecidia (fungal galls) that range from 1 -2 cm in size and are somewhat berry-like (i.e., globular, somewhat sweet, and crisp). The mycocecidium produces a whitish bloom when sporulating, but the immature structure may be pale rose to purplish.

The cultural roles of mycocecidia (fungal galls) of the fungus *Exobasidium* sp. affin. *vaccinii* on *Menziesia ferruginea* Smith (false azalea, or fool's huckleberry) among various pacific northwest coast cultures are identified and discussed. As many as nine distinct coastal groups named and ate these mycocecidia. These galls were occasionally eaten fresh when they were found but there is no evidence that they were gathered or prepared in any way. Among at least three coastal groups, the Henaaksiala, Heiltsuk, and Tsimshian, the mycocecidia had mythological importance.

I haven't noticed these galls, but then I don't spend much time botanizing in Menziesia country. I wonder if they are common (or present) in Alaska? Rob Lipkin.

Plants are Downright Dangerous!

The following piece, submitted by Marilyn Barker, provides food for thought, especially with the holiday season and all its delicious temptations just around the corner!

Plants are downright dangerous. Try to think of any food that makes eating irresistible which is not derived from plants! And as if plant inventions like chocolate (Ah chocolate!), coffee, wine, and spices would not do enough damage to the neat and trim appearance of human bodies, the plants provide us with addictive substances, too. Keep in mind who seduces our brains with tricky substances like nicotine, cocaine, or morphine! So, let us not be too sentimental about some other slightly beneficial plant products like digitalis, aspirin, and five million other pharmaceuticals. Look at the inner city problems all over the United States and tell me that those problems were not caused by plants!

Guenter Albrecht-Buehler, in the Dynamic Genome: Barbara McClintock's Ideas in the Century of Genetics (Nina Federoff and David Botstein, Eds.; Cold Spring Harbor Laboratory Press).



Alaska Native Plant Society
Treasurers Report
For the quarter ended September 30, 1995

Jan-Jun'95 Jul-Sep'95 Yr to date

Beginning Cash Balance	5012.21	3081.60	5012.21
Receipts:			
Membership Dues	1167.00		1167.00
Sale of Prints	60.00		60.00
Sale of Decal Stickers	4.5		4.5
Sale of Sew On Patches	4.75		4.75
Sale of Seeds	233.50		233.50
Contribution to Scholarship Fund			0
Contribution, Unrestricted			0
Homer Chapter Membership Dues.			0.00
Advertising	46.00		46.00
Donations:	0.73		0.73
Books	55.38		55.38
	0		0
Total Receipts	1571.86	0.00	1571.86
Disbursements			
Newsletter: Printing and Postage	702.72		702.72
Business License	58.00		58.00
P. O. Box Rental	0.00		0.00
Seed Sale Envelopes	22.95		22.95
Administrative Supplies and Postage			0.00
Monthly Meetings, Refreshments			0.00
Refunds			0.00
Donations			0.00
Scholarships			0.00
Anchorage Chapter, 30% of Membership Dues	755.10		755.10
Field Trips	86.10		86.10
ANPS Shirts	1857.1		1857.1
Folded Handouts	20.5		20.5
Total Disbursements	3502.47	0.00	3502.47
Closing Cash Balance	3081.6	3081.60	3081.6

There are ~~128~~ 140 paid members as of September 30, 1995

Significant transactions since September 30, 1995:

Shirts printing (Paid)	829.60
Sale of Shirts (Received)	1222.00
Donations (Received)	400.00

Yaso Thiru, Treasurer

Recipe of the Month

Rose Hip Juice Knox Blox

Submitted by Aliene Thunell

(or use with other fruit and juice mixtures)
Makes about 9 dozen squares

To extract rose hip juice:

The easiest way to do this is to cover the fruit with water and simmer until soft. Strain well, reserving the juice. Repeat the process, and then combine both strained fluids. The juice can be sweetened to taste, and bottled in sterile jars.

To make bars:

- 4 envelopes Knox unflavored gelatine
- 1 cup cold fruit juice
- 3 cups fruit juice, heated to boiling

1. In bowl, sprinkle gelatine over cold juice; let stand 1 minute.
2. Add hot juice and stir until gelatine is completely dissolved.
3. Pour into 13 x 9 inch baking pan. Chill until firm. Cut into 1 inch squares.
4. Squares can be rolled or dipped in sugar before eating.

What's In A Name?

Myosotis alpestris (Forget-me-not)

The State Flower of Alaska

The genus name *Myosotis* translates as mouse's ear, and describes the short, soft leaves of some species. *Alpestris* refers to the alpine meadow habitat in which this particular species grows.



Many tales seek to explain the common name of this plant. Forget-me-not is a translation of the Old French "*ne m'oubliez mie.*" Whoever wore the flower was not forgotten by his or her lover. In a German version of the tale, a knight picked forget-me-nots for his lady as they walked by the river; he tripped and fell in, but before he was drowned, he threw her the flowers, crying "*vergiss mein nicht,*" which is the German name for this flower.

The plant is also sometimes known as Scorpion Grass because the flowers grow on one side of a stalk that turns back on itself like the tail of a scorpion. The plant was used to treat scorpion stings.

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	[] \$12	City: _____ State: _____ Zip: _____
Family	[] \$18	
Organization	[] \$30	Telephone: (Home) _____ (Work) _____

Membership is on a calendar year basis. Any renewals before the end of 1995 will be valid until December 1996.

ANPS State Officers

President Sally Karabelnikoff
Vice-president Ginny Moran
Secretary Jean Tam
Treasurer Yaso Gurusingan-Thiru

Anchorage Chapter Board Members

President Jean Poor
Vice-president Julia Ricketts
Secretary Andrea Woods
Treasurer Unison Hubbard
State Board Rep. Marilyn Barker

Anchorage Chapter Program Coordinators

Main Program Ginny Moran
Plant Family Verna Pratt
Mini-Botany Marilyn Barker
Field Trips Julia Ricketts

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 January issue should be mailed to: Julia and Trevor Ricketts, Anchorage, AK 99516 to arrive by December 15.

The Perfect Christmas Present!

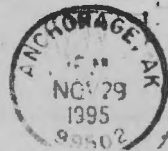


Need the perfect present for family or friends? Let our colorful ANPS shirts solve your Christmas shopping blues this year. The shirts, jointly designed by Susan Jensen and Verna Pratt, feature favorite wildflowers and berries printed on an ivory background for T-shirts, and on white for sweatshirts. Prices are as follows:

Short-sleeved T-shirt	\$16
Long-sleeved T-shirt	\$20
Sweatshirt	\$25

Postal orders: Please add 10% to cover mailing costs.

Alaska Native Plant Society
P.O. Box 141613
Anchorage, AK 99514



IS YOUR MAILING LABEL CORRECT?

Please take a moment to check your mailing label and make sure that your name, address and your renewal date are correct.