

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

December 2008/January 2009

Join us at our Next Meetings!

Monday, December 1, 7:30 p.m.

**SPEAKERS: Bob and Ann Fisher
"Hiking Around With Bob and Ann"**

Ann and Bob are ANPS members who have led many hikes for the Eagle River Nature Center. Come enjoy an evening while they tell you about some of their favorite hikes around Alaska.

Plant Family: Lemnaceae- Duckweed

Monday, January 5, 7:30 p.m.

**SPEAKER: Ginny Moore
"Going Native In Nepal"**

The tiny country of Nepal has many native plants that are similar to those in Alaska, but there are also many that could never grow here. What and why?

Plant Family: Typhaceae

**For latest information on ANPS events,
check our website at:**

[http:// AkNPS.org](http://AkNPS.org)

Botanical Art – You Can Do It!

Did you miss it this past summer? Here's your 2nd chance! The Alaska Native Plant Society is helping to sponsor a repeat visit by professional botanist, botanical illustrator, and teacher, Dr. Linda Ann Vorobik. She'll offer lectures and a weekend workshop.

OPENING RECEPTION: Friday, February 27th, 6:30 pm. Join Linda for a show of her work, reception, and introductory lecture on **An Introduction to Botanical Art**. No charge.

WORKSHOP: Saturday, & Sunday, February 28th and March 1st, 9 am to 4 pm. **An Introduction to Botanical Art.** Learn the basics for creating botanical illustrations. Linda, through demonstrations and lectures, introduces participants to drawing skills, parts of the plant, what botanical illustration is, and watercolor techniques as used for painting plant portraits. All skill levels are welcome: accomplished artists can increase their knowledge of botany and skilled botanists learn drawing and painting techniques. Sponsored by the Alaska Botanical Garden (call (907) 770-3692). Fee: \$125 for weekend.

SLIDE LECTURE: Monday, March 2nd: **Drawing and painting wildflowers throughout the west.** Join Linda at our regular ANPS monthly meeting for a slide lecture of her botanical travels and work in Alaska, and elsewhere in the west. No charge.

Here's what ANPS member Cara Wardlaw-Bailey says about the class: *"I took Linda Vorobik's workshop in Fairbanks in July 2008 and enjoyed it very much. Linda is an experienced botanist, artist, and teacher, and she was friendly, down to earth, and knowledgeable. She gave a straightforward overview of the basics of drawing techniques and scientific accuracy. She told us what standards are expected for botanical illustrations and she gave us opportunities to practice the techniques she showed us for drawing with pens and painting with watercolors. These included how to create a pleasing composition, draw smooth lines without stressing your hands, use different line weights and shading, and control the application and color of the paint. She also gave us advice on what supplies to use, and gave us an extensive, well-organized handout on the art techniques and botanical information so we would have something to refer to after the workshop. Linda gave demonstrations and short lectures during the workshop, but otherwise it was very hands-on. I found it useful both as a naturalist wanting to know more about botanical accuracy and as an artist wanting to know how to draw plants."*

Lemnaceae – The Duckweed Family

The Lemnaceae, better known as the Duck weed Family is a small family comprised of 4 genera and 29-30 species. The family is small in more ways than one, not only are there few members, but the group contains the tiniest of all seed plants. *Wolffia* is the smallest flowering plant with fronds measured in millimeters rather than inches. *Wolffia* fronds are 1.6 mm in diameter (approximately 1/16 inch).

Alaska has 2 species of Duckweed, both in the genus *Lemna*: *L. minor* and *L. trisulca*. Both species can be found in small ponds or standing water pools throughout much of central and southeast Alaska. *L. minor* floats on the surface, while *L. trisulca* floats beneath the surface.

All members of the family are aquatic plants. The plant body is reduced to a small to minute green thallus with or without 1-several unbranched roots. There are NO root hairs. (Can you suggest a reason why?) Reproduction is primarily by budding rather than the production of flowers. New thalli which emerge from reproductive pockets may separate or remain attached to the parent plant. Bulblets—resting thalli with abundant starch reserves—are produced before winter or during conditions unfavorable for growth.

It is amazing that plants this small can still have flowers! Flowers are considered a rarity, especially in Alaska. The plants are monoecious, meaning that the male and female flowers occur in separate flowers on the same plant. Each inflorescence consists of 1 pistillate flowers and 1-2 staminate flowers with or without a tiny spathe. Petals and sepals are absent, male flowers have 1 stamen, and female flowers have 1 superior ovary with 1 locule and 1-7 basal ovules. The fruit is a utricle—a one seeded fruit surrounded by a bladder like fruit wall.

The Duckweeds are important food sources for waterfowl and fish, however, they can be serious weeds in still waters, ornamental ponds and aquaria.

Looking at the big picture, Lemnaceae are in the Order Arales, so their nearest Alaska relative would be the monstrous Skunk Cabbage, *Lysichiton americanum*. Moving up one more step, the Order Arales is in the Subclass Arecidae which contains most of the palm trees—Alaska's only claim to palm trees are fossils!



Lemna minor



Lemna trisulca

Typhaceae – The Cattail Family

Typhaceae is a small family consisting of a single genus **Typha**. Worldwide there are 10-15 species of *Typha*. In Alaska we have only one species, *Typha latifolia*. *T. latifolia* occurs in shallow waterways and marshes. It used to be relatively rare around the Anchorage area, but over the years I have been in Alaska, population numbers have increased, and it has moved from Westchester lagoon to Potter Marsh, along the coastal trail, and several local small lakes.

In some treatments the family Typhaceae, taxonomists broaden the family to include the Sparganiaceae—the Burr reed family. We will treat the Burr reed family by itself and learn about the Burr reed family in February.

Cattails are semi-aquatic herbs. The leaves are simple, alternate, entire and mostly basal. They are distichous—remember that term from last month? Also have parallel veins and somewhat fleshy or spongy. Plants are monoecious.

The inflorescence is determinate, compound and complex, appearing spicate. Male flowers (staminate inflorescences are found above the carpellate inflorescences.

Flowers are actinomorphic. The perianth is composed of numerous slender bristles. Staminate flowers have from 2-5 stamens, and carpellate flowers have a single carpel. The ovary is superior born on a long slender stipe, with one locule and one apical ovule.

The mature infructescence (a new word to refer to the compound/complex nature of the *Typha* inflorescence) of *Typha* is a large brown, velvety cylinder that eventually breaks apart. Each wind-dispersed unit comprises an achene-like fruit plus bristles (the persistent perianth). After dispersal, the “achene” splits releasing one seed.

Economically the plant is so useful, it has been nick-named the “supermarket of the marsh”

Leaves—used as matting and weaving material,

Stems—eaten raw or cooked; the tender inner core of spring stems is sometimes called Cossack asparagus!

Rhizomes—starch filled and can be ground as a source of white flour

Pollen—can be collected in bags and added to pancakes, muffins or biscuits.

Mature flower heads—kapok substitute, also used as quilt batting. Today it is still prized as a filling for childrens toys.

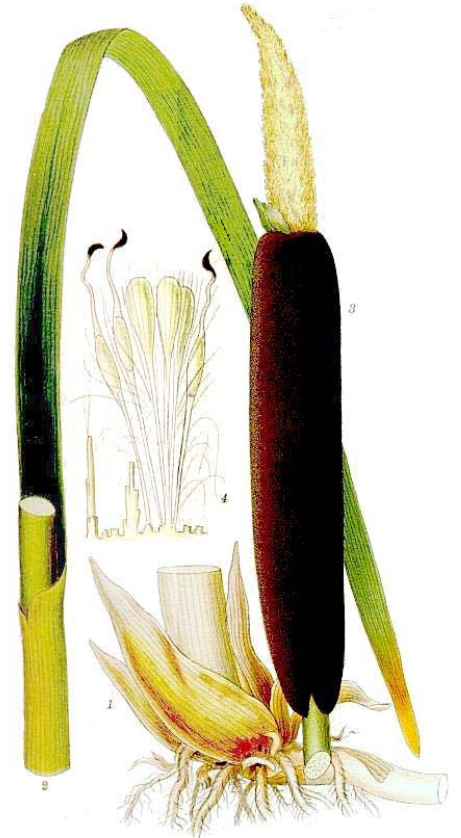
Entire stalk—used as decorative components for dried floral arrangements.

A recipe to try: (from *Discovering Wild Plants*, Janice Schofield (1951)).

Cattail Corn on the Cob

Green immature flower spikes
Boiling Water
¼ cup butter
1 clove garlic minced

Place flower spikes in boiling water, Cook 5 minutes or until tender. Heat butter and garlic in small sauce pan. Dip flower spikes in butter. Eat like corn on the cob, discarding the central core. Both male and female flowers can be used.



Typha latifolia

Alaska Native Plant Society

2009 Seed List

| | <i>Scientific Name</i> | Common Name | Height | Flower Color | Comments |
|------|-----------------------------------|---------------------------------|-----------|--------------------|--|
| 1. | <i>Aconitum delphinifolium</i> | Monkshood | 2-4 ft. | Dark blue | Damp; stratify 2-4 months; may take 2 years to germinate |
| 2. | <i>Anemone multifida</i> | Cut-leaf Anemone | 6-10 in. | Cream and pink | Stratify |
| *3. | <i>Anemone multifida</i> | Cut-leaf Anemone | 10-14 in. | Magenta | Stratify |
| 4. | <i>Antennaria dioica</i> | Pink Pussytoes | 5-6 in. | Pink | Stratify |
| 5. | <i>Aquilegia brevistyla</i> | Small Blue Columbine | 12-14 in. | Lavender and white | Easy |
| *6. | <i>Armeria maritima</i> | Thrift | 4-7 in. | Light pink | Easy |
| 7. | <i>Arnica chamissonis</i> | | 16-24 in. | Yellow | Easy |
| 8. | <i>Cryptogramma crispera</i> | Parsley fern | 6-8 in. | | Directions with spores |
| 9. | <i>Dodecatheon pulchellum</i> | Shooting Star | 10-14 in. | Pink | Stratify; recommend direct sowing – may take two years |
| 10. | <i>Draba densifolia</i> | | 1 in. | Yellow | Easy |
| *11. | <i>Draba stenopetala</i> | | ½ in. | Yellow | Easy; needs good drainage |
| 12. | <i>Fritillaria camschatcensis</i> | Chocolate Lily | 12-16 in. | Brown | Wet stratify; may take 2 years; recommend to sow in place; wild, collected seeds |
| *13. | <i>Hedysarum alpinum</i> | Eskimo Potato | 2 ft. | Pink | Easy |
| *14. | <i>Mertensia paniculata</i> | Bluebells | 14-16 in. | Blue | Stratify; easy |
| 15. | <i>Mimulus guttatus</i> | Monkey Flower | 12-14 in. | Yellow | Easy; reseeds, may act like an annual |
| 16. | <i>Oxytropis campestris</i> | Field Oxytrope | 4-6 in. | Yellow | Easy |
| *17. | <i>Oxytropis nigrescens</i> | Purple or Blackish Oxytrope | 1-2 in. | Purple | Easy, needs very good drainage |
| 18. | <i>Papaver alaskanum</i> | Alaska poppy | 6-8 in. | Yellow | Easy; short-lived perennial; reseeds |
| 19. | <i>Papaver alboroseum</i> | White poppy | 2-3 in. | White | Easy; no stratification; may flower the first year; reseeds. Gravelly soil. |
| 20. | <i>Papaver alboroseum</i> | White poppy | 2-3 in. | Pink | Easy; no stratification; may flower the first year; reseeds. Gravelly soil. |
| 21. | <i>Papaver lapponicum</i> | Arctic Poppy | 5-7 in. | Yellow | Easy; reseeds |
| 22. | <i>Polemonium acutiflorum</i> | Tall Jacob's Ladder | 24-30 in. | Blue-lavender | Easy |
| *23. | <i>Polemonium pulcherrimum</i> | Low or Beautiful Jacob's Ladder | 8-10 in. | Lavender | Easy |
| *24. | <i>Potentilla uniflora</i> | One-flowered cinquefoil | 3-5 in. | Yellow | Easy |
| *25. | <i>Primula stricta</i> | Primrose | 5-6 in. | Pink | Easy |
| 26. | <i>Pulsatilla patens</i> | Pasqueflower | 10-12 in. | Purple | Easy; likes dry soil |
| *27. | <i>Ranunculus cymbalaria</i> | Spade-leaf Buttercup | 3-4 in. | Yellow | May need stratification |
| 28. | <i>Saxifraga tricuspidata</i> | Prickly Saxifrage | 3-4 in. | Cream | Easy |
| *29. | <i>Silene acaulis</i> | Moss Champion | 1 in. | Pink | Easy |
| 30. | <i>Swertia perennis</i> | Star gentian | 8-12 in. | Purple/blue | Stratification recommended |
| 31. | <i>Tellima grandiflora</i> | Fringed Cups | 15-18 in. | Green | Easy; aromatic, shade or sun |
| *32. | <i>Viola adunca</i> | Dog Violet | 3-4 in. | Purple | Easy |
| 33. | <i>Woodsia ilvensis</i> | Rusty Woodsia | 3-4 in. | | Directions with spores |

ALASKA NATIVE PLANT SOCIETY 2009 Seed Exchange

The Alaska Native Plant Society sells seed of plants native to Alaska, which have been collected by members during the year. Seeds can be purchased at the regular monthly meetings or by mail order.

NOTE to Donors: If you have gathered seeds that you'd like to donate, please do. We will offer them at meetings and upcoming mall shows.

The price is \$0.50 per package. Package sizes vary considerably due to the number or amount of seeds collected. Some rare or difficult to collect species may contain few seeds, while some easy to collect species may contain a large number of seeds. For mail orders, include an additional \$0.50 for 1 -5 packages, or \$1.00 for 6 or more. Make checks payable to: Alaska Native Plant Society. Send order to: Alaska Native Plant Society, PO Box 141613, Anchorage, AK. 99514

Seed Germination Information

Use a sterile mix for best results. Fine seed should be sprinkled on the surface. Cover large seeds with soil. Keep mixture moist by covering with plastic. For best results water from the bottom of a tray or spray with a fine mister.

If your only seed starting experience has been with easily germinated vegetables or annual flowers, more patience is going to be required when it comes to growing perennials from seed successfully. Some types germinate within days, others take several weeks, and a large number of perennials require what is called **stratification** -- basically, simulating the conditions that exist outside over the winter. These types of seed are sometimes described as "cold germinators". The usual trick is to place the seed with some moist, sterilized commercial seeding mix inside a plastic bag, then storing it in a refrigerator for a period of time to break down the natural chemical germination inhibitors within the seed. A typical period of time is about three to four months. Then the seed is sowed as usual and started indoors under lights. Another approach is to sow the seed in late fall in pots, then leave it outside in a protected (but unheated) coldframe for the winter.

ANPS SEED EXCHANGE ORDER FORM

Orders will be filled in the order that they are received

Order by plant number appearing before the name

| | | | | | | | | | | | | | | |
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The price is \$0.50 per

packet. For mail orders, add \$0.50 for 1 -5 packets, or \$1.00 for 6 or more.

PLEASE NOTE: Seeds marked with a * are in limited supply, so if you are ordering them, list an alternative in case they are no longer available.

Name _____ Number of packets ____ @\$.50 = \$ ____

Address _____ Mailing cost (\$.50 for 1-5 or \$1.00 for 6 or more) = \$ ____

City _____ State _____ Zip _____ Total enclosed \$ ____

Make checks payable to: Alaska Native Plant Society

Send order to: Alaska Native Plant Society, PO Box 141613, Anchorage, AK. 99514

The Saga of Lake Otis

By Marilyn Barker

The Alaska Native Plant Society sponsored two trips to Lake Otis last summer, June 15 and a month later on July 16. The idea of the plant survey at Lake Otis came about when some abnormal frogs had been sited at the lake. A team from UAA led by Frank von Hippel collected 12 frogs. One of the collected frogs had serious abnormalities. All the frogs were taken to the UAA laboratory to be analyzed for pesticides and other environmental chemicals. Our plan was to inventory the flora surrounding the lake and look for any abnormalities in the plants. The study was coordinated with Alaska Community Action on Toxics (ACAT).

The lakeshore flora varied quite a lot. The south shore was notably boggy with typical bog species as *Rubus chamaemorus* “cloudberry”, *Oxycoccus microcarpus* “bog cranberry”, *Drosera rotundifolia* “sun dew”, and *Vaccinium uliginosum* “blueberry”. The north and west shores were very disturbed and were home to a huge *Typha latifolia* “cattail” colony. The east shore had a large park with associated lawn. Most of the lake shore showed signs of human use, from concrete walls to lawns.

Eighty-three species of vascular plants were identified, including 8 weedy exotics. The exotics include *Alopecurus pratensis*, *Prunus padua*, *Plantago major*, *Linnaria vulgaris*, *Viccia cracca*, *Stellaria media*, *Taraxacum officinale* and *Poa annua*.

A couple of plants are worth a special note. First we found the rare orchid, *Malaxis paludosa*. It is a small orchid, commonly known as the “Small Adder’s mouth”; there was a healthy population of about 50 plants. Second was the presence of the mint *Lycopus uniflorus* “Water Horehound”. *L. uniflorus* is about 350 miles out of range. The dots on Hulten’s map place it in Fairbanks and Ketchikan with no dots in between.



Then there were the abnormal plants. We found 3 species of atypical plants. Two of the three were abnormal only in size. *Calamagrostis canadensis* “bluejoint grass” was 8 feet tall! It was followed in height by *Alopecurus pratensis* at 6 feet tall.

The other plant, a sedge, was so bizarre that I mis-identified it in the field as a *Scirpus*, when it was a *Carex*! Not a very easy mistake to make, but this *Carex* was quite different. It keyed to *Carex rostrata* in Hulten, (now *Carex utriculata*). Like the *Calamagrostis* and *Alopecurus*, it was larger than expected, and it formed dense, branched clusters of inflorescences—hence mimicking *Scirpus*. I conferred with Dr. Tony Reznicek, he confirmed the identification and while he was in town and we came up with five possible ideas as to how the plants became so bizarre.



Malaxis paludosa

1. a local mutation within the small population.
2. excessive supply of nutrients.
3. excessive use of herbicides/pesticides.
4. a parasite affecting the apical meristem or
5. a combination of 2 of the above suggestions.

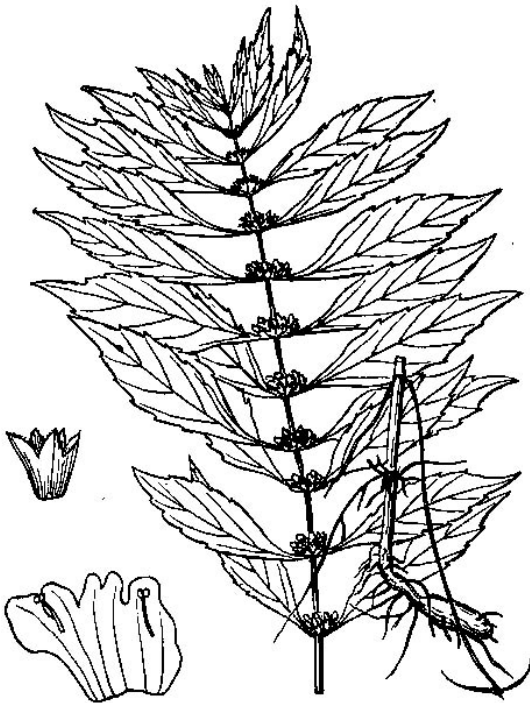
The plan is to return next summer to see if the population shows these same traits.

Many thanks to the folks that participated on these forays, Neil Shishido, Verna Pratt, Mell Langdon, her daughter Quin, Ken Johnson and Luise Woelflein.

Mystery Plant - Who Am I?

The Mystery Plant for this month is a stranger to many people as it is generally found in much warmer climates. This plant was found on an ANPS field trip this past summer, where it was a new location for the plant is Alaska. Previously it had only been seen at hot springs in the Fairbanks area.

This square-stemmed herbaceous plant has opposite, glabrous, mostly sessile leaves that are lance shaped and have sharp teeth along the margins. It can be found growing in marshy areas around lakes or at hot springs. It spreads by fine runners. The small flowers are close to the stem in the axis of the leaves. The four broad connected sepals are toothed and ciliate, enclosing four tiny white petals.



**MYSTERY PLANT
ANSWER**
Lycopodium uniflorum
Water Horehound
Menthaceae/Mint Family

ELECTION OF OFFICERS

At our December meeting, we will have our election of officers for the next year. The following names have been submitted. Additional nominations will be taken from the floor.

President: Debbie Hinchey
Mel Langdon
Vice President: Ken Johnson
Secretary: Beryl Wardlow
Treasurer: Bernie Raiskums

**THANK YOU TO THE MANY
VOLUNTEERS WHO MAKE
OUR ORGANIZATION WORK
- Would you like to be one
too? We're here for you!**

ALASKA NATIVE PLANT SOCIETY

State and Anchorage Chapter Officers

| | | |
|----------------|---------------------|----------|
| President | Andy Anderson-Smith | 301-4793 |
| Vice President | Ken Johnson | 562-9787 |
| Sec/Treasurer | Cara Wardlaw Bailey | 698-3385 |
| Treasurer | Beryl Wardlaw | 698-3385 |

Anchorage Chapter Program Coordinators

| | | |
|--------------|-----------------|---------------|
| Membership | Verna Pratt | 333-8212 |
| Plant Family | Marilyn Barker | 333-0602 |
| Mini-Botany | Ken Johnson | 562-9787 |
| Field Trips | Anjanette Steer | (907)745-5121 |

Newsletter ("*Borealis*")

| | | |
|--------|-------------|---------------|
| Editor | Ginny Moore | 345-7004 |
| | | FAX: 345-1355 |

Borealis is published bi-monthly October through May. Articles may be sent to Ginny Moore, 14530 Echo Street, Anchorage, AK 99516. Phone or FAX: 345-1355, or E-mail: tgmoores@gci.net

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 goal 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, fill in the form below and mail it with the appropriate remittance to:

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

STATUS New RENEWAL

CATEGORY

- | | | |
|--------------------------|-------------------|------|
| <input type="checkbox"/> | Full-time Student | \$12 |
| <input type="checkbox"/> | Senior Citizen | \$12 |
| <input type="checkbox"/> | Individual | \$15 |
| <input type="checkbox"/> | Family | \$20 |
| <input type="checkbox"/> | Organization | \$30 |

Name _____

Address _____

City: _____ State _____ Zip _____

Telephone: (Home) _____ (Work) _____ E-Mail: _____

Membership is on a calendar year basis.

NOW IS THE TIME TO RENEW YOU MEMBERSHIP FOR 2009!!

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