

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

February/March 2013

Join us at our Next Meetings!

Monday, February 4, 7:00 p.m

Main Program: "Botanical projects and happenings on the Chugach National Forest"

Speaker: **Kate Mohatt** PWSZ Ecologist
US Forest Service, Glacier District

Bog Plants: Ranunculaceae/Lemnaceae
Leader: Mary Hobson

Mini-Botany Botanist: Archibald Mantzies
Presenter: James Sowerwine

Monday, March 4, 7:00 p.m

Main Program: "Anchorage Trees Health Report"

Speaker: **Stephan Nickel**
Alaska Dept. of Natural Resources

Bog Plants: Potamogetonaceae
family/Pondweeds
Leader: Verna Pratt

Mini-Botany Botanist: *Eric Hultén*
Presenter: Ginny Moore

For the latest information about ANPS events and field trips, go to www.aknps.org/



Remembering.....

Frank Pratt - 1930-2012

Founding ANPS member Frank Gardner Pratt Jr., passed away in Anchorage on December 15th, 2012. He was born in Cambridge, MA, and came to Alaska in August 1966 as an Army Intelligence Officer.

Many long time ANPS members may remember that Frank was the original editor of this Borealis Newsletter, a post which he held from 1982 until 1997. Frank was also a volunteer leader and doer in many realms.

With his wife, Verna, he began exploring and photographing Alaska's natural beauty. Soon what was an avocation became a business and in 1989 they self-published their first book, *Field Guide to Alaskan Wildflowers*. Since that time they have produced *Wildflowers along the Alaska Highway*, *Wildflowers of Denali National Park*, and *Alaska's Wild Berries and berry-like fruit*, as well as cards and posters.

Frank's interest in photography began at an early age, and being a pharmacist by profession, he had a natural interest in plants. His real interest in wildflower photography developed, however, when it became clear that this was one way for him and Verna to spend time together. It was the old adage of, "If you can't beat 'em, join 'em".

When asked about his interest he often replied that Verna made a poor hunter out of him, as he now spent much of his time looking at the ground rather than at the horizon.

Frank was an avid and active member of the Alaska Chapter of the North American Rock Garden Society, Alaska Native Plant Society and the Alaska Society of Outdoor and Nature Photographers, and his work has been published by *Alaska* magazine, *National Geographic*, and other publications. An active amateur radio operator, he was a member of several communications organizations as well as the National Press Photographers Association.

In 2009, the Anchorage Chapter of the Alaska Master Gardeners gave out their first ever Lifetime Achievement Award to Frank and Verna Pratt. The award was a large granite stone, suitable for the garden, of course, with an attached plaque that read, "In Recognition of Your Knowledge and Dedication to Teaching Others to Appreciate and Understand the Wildflowers of Alaska."

It's that time of year again - time to "Think Summer" - as in "Field Trips"!

It is time to start planning this summer's field trips so that all members can arrange their own summer plans accordingly, especially if trips require extra time or money, or a limit on how many can attend. Our outings are ALWAYS fun, no matter what size the group, or whatever the weather. There have been many memorable trips. Let's make this a memorable year.

Once again we're asking you to get all excited about taking a group of plant lovers to one of your favorite places to enjoy the summer bounty.

Contact Marilyn Barker at afmhb@uaa.alaska.edu, or Telephone _____ with you proposals.

You should include the following:

- 1) Your name and email address,
- 2) Title of the field trip,
- 3) Name(s) and contact information for all organizers,
- 4) A brief description of the field trip,
- 5) Preferred day(s) of the field trip,
- 6) Special needs,
- 7) Enrollment limit and
- 8) Tentative budget (e.g., travel and food items; estimated cost per participant).

It would be great if we could have the whole slate of summer activities lined up by the end of April!

Borealis

the newsletter of the



ALASKA NATIVE PLANT SOCIETY

State and Anchorage Chapter Officers

President	Anjanette Steer
Vice President	James Sowerwine
Secretary	Beryl Wardlaw
Treasurer	Bernadine Raiskums

Anchorage Chapter Program Coordinators

Membership	Bernadine Raiskums
Plant Family	Beth Baker
Mini-Botany	
Field Trips	Marilyn Barker

Newsletter ("*Borealis*")

Editor Ginny Moore

FAX: _____

Borealis is published bi-monthly, fall through spring. Articles may be sent to Ginny Moore, _____, Anchorage, AK 99516. Phone or FAX: _____, E-mail: tgmoore@gci.net

MYSTERY PLANT

This plant is exclusive to dry places on the tundra in the mountains of interior Alaska, down through Canada and as far south as Colorado. It has oblanceolate basal leaves that have stiff hairs. The smaller and narrower stem leaves are also hairy.

The pinkish-blue ligules are surrounded by hairy, somewhat reflexed bracts. The achenes (seeds) are also hairy. These plants can easily be missed if not in bloom as they grow from a single tap root and don't appear to be very numerous. Their foliage also looks very much like *Aster sibiricus* that might be in the same area. They have a solitary flowering head that is quite showy (1 1/4 in.) on a 4 to 5 inch stem, often arising above the foliage of other plants in the area.



ANSWER ON PAGE 6.

George von Langsdorff

Presenter: **Marilyn Barker**

Georg Heinrich von Langsdorff, Baron de Langsdorff (b. Wöllstein, Germany, April 8, 1774; d. Freiburg, Germany, June 9, 1852) was a Prussian aristocrat, politician and naturalist. He lived in Russia and was better known by his Russian name, *Grigori (Gregory) Ivanovitch*. He was a member and correspondent of the Russian Imperial Academy of Sciences and a respected physician, graduated in medicine and natural history at the University of Göttingen, Germany.

Langsdorff first participated as naturalist and physician in the great Russian scientific circumnavigation expedition commanded by Ivan Fedorovich Kruzenshtern, from 1803 to 1805. He left the expedition in Kamchatka to explore the Aleutians, Kodiak and Sitka; and returned from San Francisco by ship to Siberia and thence to Saint Petersburg by land, arriving in 1808.

Edward Lhuyd

Presenter: **Annie Nevaldine**

Ranked among the greatest antiquaries, naturalists, and scholars of his time, Edward Lhuyd was born in 1660 and died 1709. The Welsh naturalist spelled his surname several ways: Lhwyd, Llywd, Lloyd, and even the Latinized version, Eduardus Luidius. He preferred Lhwyd, the Welsh form, and adopted its use in 1688.

Lhuyd's father was involved with agriculture and hired a professional gardener and well-respected botanist, Edward Morgan, who strongly influenced the younger Lhuyd. Lhuyd was a sort of Renaissance scholar, with his first scientific interest being botany, later to be followed by geology and archeology, and later still by Celtic and Cornish linguistics.

Lhuyd established the existence of a distinct alpine flora particular to Snowdonia, a region in Wales around Mt. Snowdon, the highest mountain in Wales, 3560 feet. Following his Wales research and documentation, he traveled to Scotland and England, and his interest in archeology blossomed and he catalogued fossils, stones, and shells. Lhuyd distinguished himself as a scholar of the two Celtic language families and of the Cornish language. Later in life, his main interests grew to include antiquities, genealogies, and philology. His interest in botany and geology never ceased; rather, his subjects of interest widened and became more complex.

Lhuyd was the keeper of the Ashmolean Museum from 1690 until his death 19 years later.

Of particular interest to Alaskans is *Lloydia serotina*, a species he studied in Snowdonia known to us as the Alp lily and to Brits as the Snowdon lily. In addition to Great Britain, the alp lily is found in the Alps and the Carpathians and along the west coast of America from New Mexico to Alaska, where it's found locally in the Chugach mountains. Unfortunately, it is believed to be the first plant to become extinct in Great Britain due to global warming. There are considerations to introduce it into Scotland with the hope that it might survive longer there.

An international conference to celebrate Edward Lhuyd was held in 2009 to coincide with the tercentenary of his death. It was a fitting tribute to honor such a gifted naturalist, antiquary, and Celtic linguist.

Alaska Native Plant Society Summer Field Trip to Nome, Alaska

Dates – July 1-3, 2013 (leave Anchorage on June 30, return to Anchorage on July 4)

Organized by Anjanette Steer Contact: anjsteer@gmail.com Home phone

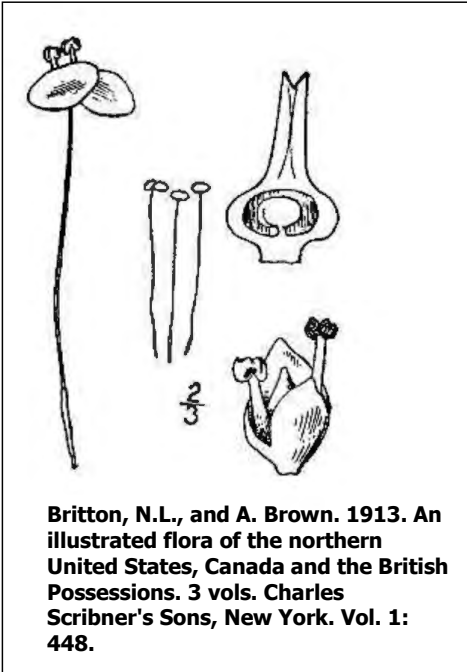
Explore areas along the Nome-Teller Road, Kougarak Road, and Council Road



Plants of Bogs & Marshes

Lemnaceae/Duckweeds

In February Mary Hopson will lead a discussion of Ranunculaceae and Lemnaceae family plants of bogs and marshes in Alaska. The Duckweed/Lemnaceae family includes the world's smallest flowering plants. Worldwide there are 5 genera and at least 35 species. Two species, *Lemna minor* and *Lemna trisulca*, have been reported in Alaska.



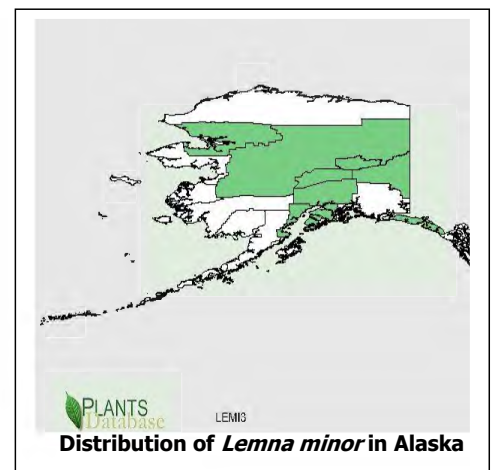
The plants form a thallus (not differentiated into leaves and stem), typically no more than $\frac{1}{4}$ inch in diameter. The little plants float in the water with thread-like roots dangling below.

While the plants are tiny, the flowers are microscopic. If you did look at a duckweed under a microscope you would see separate male and female flowers on the same plant, lacking sepals or petals. Male flowers have one or two stamens, while female flowers consist of a simple pistil, producing 1-7 seeds. Taxonomists believe the duckweed flowers are modified versions of the familiar leafy spathe and club-like spadix of the skunk cabbages, Jack-in-the-pulpit, calla lilies, and other members of the Arum family (Araceae), and indeed recent genetic studies suggest that duckweeds probably belong in an expanded version of the Arum family. Despite their diminutive size, the flowers of duckweeds can attract flies, mites, small spiders, and even bees that can spread the plant's pollen after being attracted by sticky secretions from the stigma. Duckweeds can also be "contact pollinated" through the collision of adjacent floating stems that jars pollen loose and on to the receptive stigma.

However, sexual reproduction is the exception rather than the rule in duckweeds. More often, species propagate asexually by forming chains of new stems from vegetative buds. Some duckweed can also produce specialized buds called turions that break off the parental stem and sink to the bottom of a lake or pond to over-winter. In spring, the starch-filled turions rapidly begin to metabolize, causing the structure to float back to the surface and grow into a typical duckweed stem.

Duckweeds grow quickly and produce new offshoots rapidly. Dense populations are an important food source for aquatic waterfowl and fish, but can become a nuisance to humans. Scientists have recently come to appreciate the fast growth rate of duckweeds, however, and the plants are being used for bioremediation of waterways with excessive amounts of phosphorus and nitrogen from agricultural runoff. Harvesting duckweeds as a crop can remove these pollutants and provide valuable livestock feed or fertilizer. Researchers are also developing techniques to use genetically modified duckweeds to synthesize insulin and other commercially valuable proteins (being plants, duckweeds are immune to animal viruses, making them invaluable in creating new biomedicines).

- [Wayne Armstrong's Lemnaceae Page](#): Everything you could possibly want to know about duckweed, including photos.
- [The Charms of Duckweed](#) by John W. Cross on the Missouri Botanical Garden site: fact sheet.
- [Aquatic Plants of the North](#) by Earl J S Rook: details on habit and nutritional content.
- [U.S. Forest Service Celebrating Wildflowers: Lemna minor](#)
- [PLANTS Profile - Lemna minor, Common duckweed](#): USDA Plants Database Profile



Plants of Bogs & Marshes

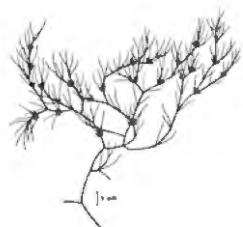
Potamogetonaceae family/Pondweeds

Potamogetonaceae, commonly referred to as the **pondweed family**, are an aquatic family of monocotyledonous flowering plants. There are roughly 120 species spread across six genera. The largest genus in the family by far is *Potamogeton*, which contains about 100 species.

The family is considered to be one of the most important angiosperm groups in the aquatic environment because of its use as food and habitat for aquatic animals

Members of the pondweed family are perennial, aquatic herbs, usually found in fresh or salty water rather than swamps. The plants have both narrow, submerged eaves and broad, floating leaves. The flowers are usually bisexual, except for a few species that produce male and female parts in separate flowers on the same plant (monoecious). There are 4 scale-like “tepals”, and 4 stamens. There are 1-4 simple pistils (apocarpous), each maturing as a single dry seed (an achene) or sometimes as a drupe (a berry with a stony seed) or nutlet.

Phyllospadix scouleri, Scouler’s Surfgrass, is not a seaweed, nor is it a grass. It is a flowering monocot in the family Potamogetonaceae. There are three species of *Phyllospadix* along the northern Pacific coastline, the most common of which is *P. scouleri*. You can identify it by its long, smooth and somewhat flattened leaves. It also has three vascular bundles per leaf, one along the center and one near each margin. These, however, can only be seen with a microscope. The plant has rhizomes with numerous roots per node. It is usually attached to rocks in the mid- to lower intertidal zones. Sometimes sand will wash over the rocks, giving the appearance that the surfgrass is growing out of the sand. You may find large amounts of surfgrass washed onto the beaches after strong waves have dislodged it during winter storms.

***Phyllospadix scouleri******Zannichellia palustris***

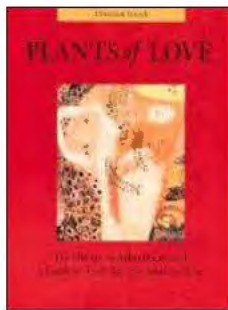
Zannichellia palustris, horned pondweed, is a plant found in fresh to brackish waters in the United States, Europe, and South America. Horned pondweed is a delicate underwater branching perennial that can grow to a length of 1 m. It has opposite, thread-like leaves that emerge in such a way as to give the plants a uniform shape. Unlike many look alike aquatic plants which have flowers that emerge from the water on spikes, horned pondweed has inconspicuous underwater flowers and fruits located at the leaf bases. Look for this plant in brackish or alkaline streams, ponds, ditches, and lakes.

***Potamogeton praelongus* Wulfen, white-stemmed pondweed and *Potamogeton richardsonii* (A. Bennett) Rydb., Richardson's pondweed** both have broad, wavy-edged underwater leaves with leaf bases that wrap part way around the stem and no floating leaves. The leaves of white-stemmed pondweed have prow shaped tips and are longer than those of Richardson's pondweed. Richardson's pondweed leaves are often green and white banded. White-stemmed pondweed is often the first pondweed seen in early spring.

***Potamogeton pectinatus* L., sago pondweed, *Potamogeton filiformis* Pers., slender-leaved pondweed, and *Potamogeton vaginatus* Turcz., sheathing pondweed** have long, narrow underwater leaves and no floating leaves. They have membranous sheaths (stipules) partially fused to the leaf bases. They have membranous sheaths (stipules) fused to leaf bases for at least 2/3 the length of the stipule. Often the leaves spread out to produce a bush-like appearance. Some authors place all three species in the genus *Stuckenia*.

***Potamogeton pectinatus***

FROM OUR BOOKSHELVES



PLANTS OF LOVE

"*Plants of Love: The History of Aphrodisiacs, and A Guide to Their Identification and Use*", by Christian Ratsch, 1997 10 Speed Press, ISBN 089815-928-8 \$19.95 (US)

Just in time for St. Valentine's Day, we've discovered a book called "Plants of Love: The History of Aphrodisiacs and a Guide to their Identification and Use" by German ethnobotanist Christian Ratsch.

For centuries humans have searched for plants and potions to enhance both love and lovemaking. Aphrodite, Goddess of Love and symbol of sexuality, is said to have emerged from the sea bearing herbs that could cure impotence, enhance sexual pleasure, and provoke both love and fertility. What were those herbs, did they really work, and where can we find them today?

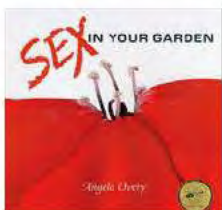
Plants of Love, a fascinating romp through history detailing our often obsessive --and surprisingly successful-- search for aphrodisiacs, may well have the answers to these questions. A beautifully illustrated, coffee-table conversation starter, it explores the history, culture, and religious beliefs related to plants used as aphrodisiacs.

Christian Ratsch employs medieval European paintings, Egyptian hieroglyphics, Tibetan folk art, and erotic Asian silkscreens to enhance the lively text, stories, and information on the safe use of these special plants. An eye-opening array of plants and herbs--including nettles, asparagus, seeds of the iboga bush, and ginseng--are discussed in detail to explore and illustrate the science and symbolism of aphrodisiacs throughout history.

A detailed, photo-illustrated listing of over a hundred plants gives full information in their specific aphrodisiacal properties, and dozens of age-old recipes --from the sublime to the downright peculiar-- for beverages, ointments, pills, incenses, and snuffs give graphic testimonial to just how far people have been willing to go in the name of love.

From intriguing potions popular in ancient Pompeii to Chinese opium dens of the nineteenth century, to our modern fascination with unorthodox uses for such common plants as garlic and ginger, this is a book for the lover in all of us.

Christian Ratsch (born 1957) is a German writer on ethnopharmacology. Ratsch earned a doctorate in Native American cultures. He conducted field research for three years while living with the Lacandón Indians in Chiapas, Mexico investigating shamanism first-hand, and completed his doctorate on their incantations and spells. Ratsch resides in Hamburg with his wife Claudia Müller-Ebeling. He is the founder and co-editor of *The Yearbook of Ethnomedicine and the Study of Consciousness*.



Sex in Your Garden

- Author: Angela Overy
- ISBN-13: 9781555913359
- Publisher: Fulcrum Publishing; Publication date: 1/6/1997

And how do our plants celebrate Love? This book takes a clear and concise peek at the reproductive processes of garden plants and their relationship to their various pollinators. Written with a flair for the humorous and a touch of the absurd, ***Sex in Your Garden*** is the perfect addition to any gardener's or botanist's bookshelf.

Asteraceae (Aster) Family

Mystery Plant Answer: *Erigeron grandiflorus* ssp. *grandiflorus*

Alaska Native Plant Society 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 for current year. 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.

You can download a copy of the order form with these instructions at http://aknps.org/pdfs/Seed_Order_Form.pdf

#	Name	Common Name	Size	Flowers	Comments
1	<i>Dodecatheon jeffreyi</i>	Sierra Shooting Star	12-24"	Magenta	Blooms early; Sow at 40° for 4 months, then 70°
2	<i>Dryas drumondii</i>	Yellow Mountain Aven	6-10"	Yellow	Blooms June, July; Sow @ 4°C for 3 months, then place @ 20°C for 3 months.
3	<i>Erigeron glabellus</i> ssp. pubescens	Streamside Fleabane	4-20"	blue to pinkish rays, disks yellow	Blooms June, July
4	<i>Iris setosa</i> (white form)	White blooming Iris	12-20"	White	Winter sow in vented containers, coldframe or unheated greenhouse; stratify if sowing indoors
5	<i>Loiseleuria procumbens</i>	Alpine Azalea	Under 6"	Pink	winter sow in vented containers, coldframe or unheated greenhouse; stratify if sowing indoors
6	<i>Mimulus guttatus</i>	Monkeyflower	8-20"	Yellow	Full sun, lots of moisture. Seed is dust-like.
7	<i>Minuartia arctica</i>	Arctic sandwort	8-10"	White/pink	No pretreatment necessary
8	<i>Papaver alaskanum</i>	Alaska Poppy		Yellow	No pretreatment; cold store seed: Plant outdoors in spring
9	<i>Papaver alboroseum</i>	Portage Poppy	To 6"	Pale Pink	
10	<i>Potentilla uniflora</i>	One-Flowered Cinquefoil	2-10"	Yellow	Seeds will usually germinate in 14-30 days. Sow 1mm deep in a well-drained seed sowing mix at about 20°C.
11	<i>Saxifraga bronchialis</i>	Spotted Saxifrage	2-6"	White with tiny yellow or purple spots	Germination occurs after 4 months of warm temperatures following cold stratification.
12	<i>Viola adunca</i>	Western Dog Violet Early Blue Violet	Under 6"	Blue to Deep Violet	Seeds will usually germinate in 14-21 days, even under good conditions germination may be erratic. Normally germinates in the dark. Sow seeds about 2mm deep in a Well drained seed sowing mix at about 22°C.

References for Germination Protocols

1. <http://nativeplants.for.uidaho.edu/network> - Good site to search for germination protocols by common or scientific name. Have found that protocols from northern states are most applicable to our species. The Nursery is entering Alaskan protocols on this database.
2. **Seed Germination Theory and Practice**. 2nd edition. Norman Deno. 1993. <http://www.slideshare.net/PX8/t3b244>
3. **Seeds of Wildland Plants: Collecting, Processing and Germinating**. James A. Young & Cheryl G. Young. 1986.

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.

**TIME TO RENEW! ANPS Membership is on a calendar year basis,
so this is your reminder that this is the time to renew your membership!**

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