

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

November 2000

Join us at our November meeting!

**Monday, November 6, 7:30 p.m.
at the Campbell Creek Center
off 68th and Lake Otis**

Topic: The Landscape and Plants of
Katmai National Park and Preserve

Speakers: Beth Koltun and Susan
Klein will be your guides for a field trip to
Katmai National Park and Preserve. They
both worked on a vegetation mapping
project this past summer, and will present
a program on some of the plants and
landscapes encountered.

Plant Family Study:

**Water Plants
of the APIACEAE Family**

Presenter: Verna Pratt

Ancient Forest Under Glacier

At 140 miles in length and some 34 miles wide, including the Bagley Icefield, the Bering Glacier is the largest glacier in continental North America. For decades, the Malaysian Glacier, at approximately 2000 square miles, was thought to be the largest, but satellite imagery settled the question when the Bering Glacier was measured at more than 2,250 square miles.

In 1994 and 1995, major surges of the Bering Glacier attracted national media and scientific attention. These surges uncovered new moss and grass found growing on exposed layers of peat. The glacier became the subject of ongoing research projects by several institutions, including the Bureau of Land Management, U.S. Geological Services, the University of Alaska, and several other universities.

Ancient Tree Stumps Uncovered

Part of this interagency effort was to identify key ecological sites for long-term environmental monitoring. In 1998, John Payne, a wildlife biologist with BLM, noticed tree stumps in an area where the glacial ice is retreating. The stumps stood out in what is usually a barren landscape, prompting Payne to investigate. He was startled to find twigs, spruce needles and spruce cones scattered around the area – debris and ground cover that would normally be scraped away by a glacial advance.

Payne organized a research group to investigate the site. ANPS President, Marilyn Barker a UAA botanist, Anne Pasch, UAA paleontology professor emeritus, Kristine Crosse, UAF geologist and Peggy Fletcher, botanist and photographer, began a field inventory in August 1999.

They found splintered tree stumps with large root systems, suggesting that the trees had been growing vigorously prior to being overrun by the advancing glacier.

They also found new moss growth and new grass on recently uncovered layers of peat from the former forest floor. Ice was found below the peat, supporting one theory that this forest developed on top of the glacier, before being sheared off by a glacial surge.

(Continued on Page 2)



KJ Mushovic

A person could easily stand within the shelter formed by the great, twisted roots of this stump. The splintering dramatically illustrates the mighty force of glacial action. The large root systems of the sheared-off stumps imply that the trees had been growing vigorously prior to being overrun by the advancing glacier.

Carbon-dating tests on the materials they found showed that the ancient tree trunks were 400-700 years old. The peat moss they found was truly ancient, with ages ranging from 4,000 years to about the age of the trees. Shells they discovered will probably prove to be about 2,000-4,000 years old.

This past summer, Marilyn Barker's study group again returned to the Bering Glacier for research. This time they added "Mr. and Mrs. Alaska Native Plant People", Frank and Verna Pratt. They had been concerned that August would be too late for them to find very many species in flower, but they were pleasantly surprised, and everyone huffed and puffed to keep up with Verna as she explored the nunatak.

The group found an extremely large number of different species within this concentrated area – over 180 different species. Some of these plants found were outside of their known range, several by quite a distance.

Alaska Native Plant Society

The Alaska Native Plant Society recently voted to provide some financial support for continuation of this field project in the summer of 2001. We'll provide some of the matching funds for a larger grant request being coordinated by John Payne at BLM.

John says it is a massive project and he'll be looking for help from all sides, including volunteers willing to trudge up and down nunataks identifying plants. We'll keep you posted on the progress of the project and let you know more about how you might get involved closer to the field season.

Oops! They've Gone Native, Too

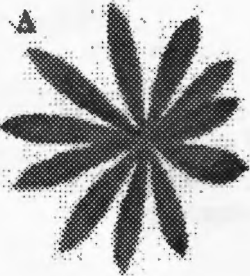


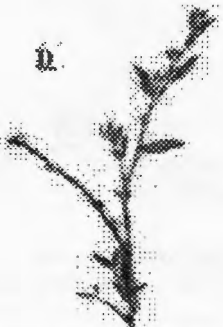
(Editor's Note: Last month we used this space to talk about the field studies of many Alaskan botanists. This month we're sharing an article by Boyd Shaffer, from Kenai, who is the editor of *The Botany News*, an

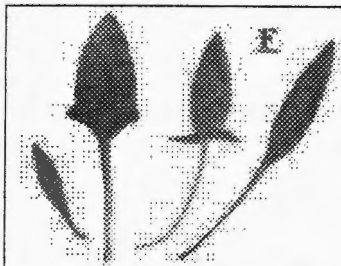
Some Introduced Plants

Alaska has a number of introduced plants that thrive in many areas, but none of them have ever been able to colonize the forests or the tundra. They live where forests are cleared, in gardens, farms, and even along trails.

Where they came from can usually be ascertained by a bit of research.

It is evident that most of them came in seed for farms, and in grass seed for lawns, and later for hydroseeding. Some have found their way via the highway system in mud on the underside of cars and trucks. It is well known that roadside pullouts are ideal places to find plants that hitched rides on cars. In fact, their progress has been followed from Tok to Fairbanks and south along the railroad and highways and even by ferry to Kodiak.

	<p>Many species of plants are introduced by people who hope they will grow and spread. An example of such an introduction is the Lupine (<i>Lupinus polyphyllus</i>), which has traveled along our highways and wherever there is human activity, for so many years that most people think it is native. It cannot thrive in the forests or tundra, but it does hybridize with at least one of our native species and this hybrid can live almost anywhere. It is now becoming our most abundant form of Lupinus.</p> <p>True <i>polyphyllus</i> has 11 leaflets and they are pointed on each end. Normally they form a circle. Native species have more rounded leaflets, usually 7 to 8, and do not form a circle.</p>
<p>Black Bindweed (<i>Polygonum convolvulus</i>) has been introduced repeatedly with barley, oats and some wild seed mixes. It is an interesting vine with leaves resembling morning glory, which is not related. Bindweed is related to Burnet and Smartweeds. It can and will bind and smother plants. It is quite easily controlled and does not spread rapidly.</p>	
	<p>The well-known common Chickweed (<i>Stellaria media</i>) needs no introduction. It is a garden pest that has arrived with other seeds and on used garden equipment. It can be controlled with a lot of effort. Black plastic covering a garden with holes just large enough for the desired plants to grow in, works well. Even then, Chickweeds will try to crowd in.</p>
<p>Knotweed (<i>Polygonum aviculare</i>), is another plant that came in on garden equipment, grass seed, and even with some old time fertilizers. It creates mats and can endure harsh treatment. It can grow in driveways and gravel pits. It grows large and greener in your garden. There is a native species (<i>Polygonum Fowleri</i>) that grows only on salt water beaches. It never invades a garden.</p>	



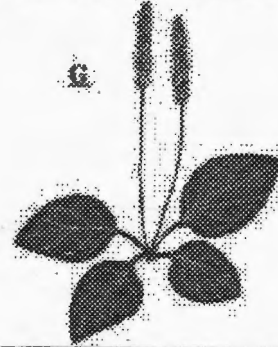
Various Sorrel leaf shapes and seasonal colors.

Named for its sorrel color, **Sheep Sorrel** (*Rumex acetacella*) is an abundant weed that is used in cooking and is equal to the famous French Sorrel of the gourmet chefs. When it grows in dry gravel it is hardly the lush plant used in cooking. It was not introduced as a cooking herb, but was also brought in with mustards, such as the seeds of cabbage and turnip. If you grow Sorrel for food, give it room to grow, sunlight and fertilizer. It will produce a good crop.

It is difficult to determine if it was originally brought here by Russians or some of the early settlers from the south. It is hard to imagine it being brought in with other seeds, but that is a possibility. It is found wherever gardens are planted or land is cleared and there is water and sunlight. It cannot compete with taller plants and grass.

Common **Plantain** (*Plantago major*) is another species that has followed settlers from Europe and through North America. It is another medicinal herb and possibly was planted by settlers. It does invade grass and could be introduced with most grass seeds. Illustration F shows various Sorrel leaf shapes and seasonal colors.

If it invades your lawn, a broad leaf spray will get rid of it. There are some other species that are native but do not have the broad leaves and will not cause to a problem in the garden.



Lamb's Quarters or Pig Weed is well established throughout Eurasia and most of North America. It does not thrive here without a bit of help. Wild plants are very stunted. If you enjoy eating it, take good care to give it sunlight and good soil. It is a fine pot herb. It was brought in with garden seeds and a few times introduced as a vegetable.

Pineapple weed also started in Europe and has followed settlers nearly everywhere. It is sometimes called Chamomile but that plant has white ray flowers and resembles a daisy. Pineapple weed grows wherever there is sunlight and no crowding from taller plants. It can be found along some of our trails. A tea made from the flower heads, which are composed of disk flowers, is very good and the equal of Chamomile in every way. Collect and dry them for a soothing and relaxing tea.



Shepherd's Purse (*Capsella bursa pastorios* and *C. rubella*) are well known medicinal herbs. The only difference is that rubella has elongated narrow leaves. Intermediate forms are common. Shepherd's purse is written in many herbals and has been used for centuries in Europe where it originated.

This article was reprinted, with permission of the editor, from The Botany News. The Botany News is published monthly and is the voice of The Kenai Peninsula Botanical Society, an educational organization sponsored by the Biology Dept. University of Alaska Anchorage, Kenai Peninsula College. They meet on the first Saturday of each month at the Kenai Peninsula College in Kenai. Each month's edition is usually posted online about 5 days earlier at: <http://www.wildlifeartprints.com/kpbs.htm>

Water Plants - Cicutas Apiaceae/Parsley Family

Our Plant Family studies this year will focus on water plants – what we see growing in ponds, lakes and shallow water in Alaska.

Verna Pratt will kick off the series at our November meeting with a discussion of the Cicutas, in the parsley, or Apiaceae Family. There are three species in Alaska and all are considered to be very poisonous.



Cicuta douglasii is mostly a coastal plant of Southeast and Southcentral. It is also found at hot springs in the Interior. Its leaves are toothed, broad and usually tri-pinnate.

A similar plant to *Cicuta Mackenzieana* is *Sium suave*, found in a few locations in the Interior. It is not considered poisonous.



Cicuta Mackenzieana is probably the most common, as it is found in marshy water throughout Interior Alaska and most of Southcentral. This species is common in Eklutna Flats. The white umbels of flowers are easily seen atop the tall stems with finely dissected and toothed leaves.

Cicuta bulbifera is rare in our area. In fact, Hultén's *Flora of Alaska* indicates its nearest location as Eastern Northwest Territories in Canada. However, it has been found on at least one lake in the Matanuska Valley. It also has very narrow wavy, margined leaves and small bulblets in the uppermost leaf axils. It often does not produce seeds, as the bulblets serve the same purpose.



Plant Family Presenters Needed

Pick your date and subject from the subjects below. Species are grouped by likeness or habitat. In some instances, not all species included need to be addressed. Call Verna _____ if you can help with this. (Page numbers cited are from Hultén's *Flora of Alaska*.)

1. Nymphaeaceae Family (3 species, pp. 449-450) and *Polygonum amphibium* (Water Smartweed, p. 387)
2. *Caltha palustris* (Marsh Marigold, p. 454), *Menyanthes trifoliolate* (Buckbean, p763), *Calla palustris* (Wild Calla Lily, p. 281), *Potentilla palustris* (Marsh cinquefoil, p. 608)
3. Haloragaceae Family (Water Milfoil, 5 species, pp. 694-696) and *Equisetum fluviatile* (Water horsetail, p. 36)
4. *Lycopus* sp (Water Horehound 2 species, pp790-791) and *Lysimachia thyrsoiflora* (Tufted Loosestrife, p. 750)
5. Potamogetonaceae Family (Pond Weeds, 17 species, pp. 71-79)
6. Sparganium sp. (Burweed, 7 species, pp. 67-69) and *Callitriche* sp. (Water starworts, 4 species, pp. 677-678)
7. Ranunculaceae (3 water crowfoot species, pp 469-470), Duckweeds (2 sp. P. 282) Bladderworts (water species only, pp. 830-831)

Gardeners Go Wild!

This past summer National Wildlife affiliate Wildlife Federation of Alaska and the Bureau of Land Management teamed up with other agencies and organization in Anchorage to host an educational event to teach Anchorage gardeners about the value of natural landscaping.

Natural landscapes are good for the environment. Native plants, those that occur naturally in an area, improve the quality of our air, water, and soils. They provide much-needed habitat for birds, bees, ladybugs, butterflies, and numerous wildlife.

BLM botanist Debbie Blank said the group hoped to "plant" the idea that there are alternatives to showy ornamentals. "Native plants require less maintenance than introduced species. They're better adapted to our climate and more resistant to insect pests or disease. They don't need fertilizer that can run off into our waterways. And native plants provide valuable wildlife habitat that is rapidly being lost in the Anchorage bowl. It is amazing how many birds you can bring to your backyard with just a few plants."

Natural landscaping avoids the use of exotic, introduced plants that escape cultivation in private gardens to eventually crowd out native vegetation in natural areas like the Campbell Tract and Far North Bicentennial Park. In the Lower 48, most noxious weeds were originally ornamental plants from other countries. With few natural enemies to keep them in check, non-native plants become invasive, reducing the diversity and quantity of native plant species.

Craig Tufts of the National Wildlife Federation adds that "Natural landscapes provide people with a sense of place that distinguishes where they live from the rest of the world. Why should a yard in Anchorage look like one in New Orleans or Dallas?"

Enthusiastic gardeners learned about landscaping with native plants, tips for creating backyard habitat for birds, bees and butterflies, herbal and food uses of wild plants, and even how to landscape to discourage moose browsing.

To learn more about wild gardening call Renee at the Wildlife Federation of Alaska: (907) 258-4803.

Create A Backyard Wildlife Habitat

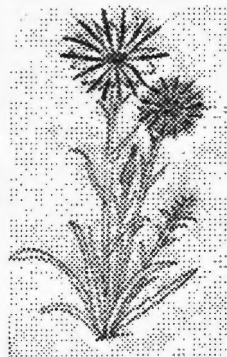
The National Wildlife Federation rewards people who restore habitat to their yards by certifying their properties as official Backyard Wildlife Habitat sites. To qualify for certification, a yard or garden must provide four essential elements: food, water, shelter, and a place to raise young. Native plants play an important role in every habitat and fulfill many of these essential habitat elements. Suited to the soils and climate of an area, locally native plants support 10-50 times as many species of wildlife as non-native plants.

Specific species, especially birds, can be attracted to your yard by carefully choosing which native plants to include in your landscape. And, although you may not be able to completely eliminate their visits, you can also lessen the impact of grazing moose through your plant selection and location. Information on native plant specifics can be found by visiting Alaska Department of Fish and Game's Landscaping for Wildlife web page at: www.state.ak.us/local/akpages/FISH.GAME/.

MYSTERY PLANT

Have you seen this invader?

Although attractive, this WEED is considered obnoxious in the Lower 48, and perhaps efforts to eradicate it should be pursued before it becomes a problem in Alaska.



It is most obvious when in seed, and can be seen on the Seward Highway south of the Weigh Station. Don't bother looking in Hultén's *Flora of Alaska* as you won't find it there. It only arrived in recent years, after improvements and reseeding of the road.

It is 15-24 inches tall, with long bluish-green leaves. The long, triangular shaped buds open up into a very attractive yellow daisy-like flower-head, which becomes a large, tan, dandelion-type seed-head that is spread by the wind. This first appeared in one small, high, enclosed valley, but is now very widespread.

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

- Full-time Student \$ 5
 Senior Citizen \$10
 Individual \$12
 Family \$18
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Telephone: (Home) _____ (Work) _____

Membership is on a calendar year basis.

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 Vice President Frank Pratt
 Secretary Beth Koltun
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Main Program Susan Klein
 Plant Family Verna Pratt
 Mini-Botany Verna Pratt
 Field Trips Diane Toebe

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 or E-mail: mooretg@alaska.net

Write an article - Get a prize!

The Botany News is looking for new and interesting articles on nature for our readers. If you have information you can share about your experiences or botanical interests, we would love to hear from you. Perhaps you took a trip to an interesting area or have a nice garden. Maybe you live in an area that we would all like to know more about. Our readers are from all over the world and we would love to hear from our far away friends and as well as our Alaskan neighbors. Maybe you have some hints about growing wildflowers or bird watching that you can pass on. Don't be Shy!

Just type your article up and email it or snail mail it to us. If you have photos to go along with it all the better! If you can't email photos, that's okay, just mail them to us and we will scan them and return them to you.

And here is the best part! When we use your article, we will give you a free copy of our Botany News CD! And it will be a special edition with your article in it so you can always have it even after it is no longer on the internet!

So, sit down and start writing today and send or email your article to:

Boyd Shaffer - Editor, Botany News
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Collect Those Seeds

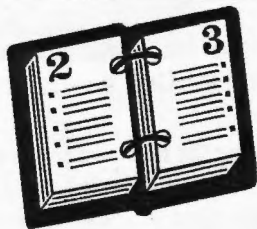
There may still be time to collect seeds of native plants so that next year we'll have a great selection of seeds for the Seed Exchange.

Read up on how to collect and store seeds in October's feature article, Pages 1-3.

MYSTERY PLANT ANSWER

Western Salsify, Oyster Plant, Goutbeard

Tropogon Dubius



UPCOMING PLANTS & NATURE EVENTS

- November 6, 7:30 PM **Alaska Native Plant Society Monthly Meeting: "The Landscape and Plants of Katmai National Park and Preserve"**. Alaska Native Plant Society members Beth Koltun and Susan Klein worked on a vegetation mapping project in Katmai National Park and Preserve this past summer. Susan and Beth will show photographs of the plants and landscape of Katmai
- Nov. 4, 6:00pm **Kenai Peninsula Botanical Society** in room 137 at Kenai Peninsula College. There will be a lecture on birds and how they affect your garden by Boyd Shaffer.
- November 18, 2:00 PM **Alaska Rock Garden Society meeting: Reports from the China Seed Expedition**, Cooperative Extension Service, Carlton Trust Building, 2221 E. Northern Lights Ave.
- November 28 **Alaska Orchid Society Monthly Meeting**
- December 4, 7:30 PM **Alaska Native Plant Society Monthly Meeting: "Using Mathematics To Model Plant Development"**. Alaska Native Plant Society member Curvin Metzler will reprise his program from the spring on using mathematical algorithms to model plant growth.

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



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