

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

April 2001

Join us at our March meeting!

**Monday, April 2, 7:30 p.m.
at the Campbell Creek Center
off 68th and Lake Otis**

**Topic: "Plants Above the 70th
Parallel: Canoeing Northern
Rivers"**

Speaker: Dr. Gary Davies

Plant Family Study

**Aquatic Plants, Continued
Milfoil/Haloragaceae Family**

Presenter: Susan Klein

HELP WANTED!!

**ANPS needs your participation – we
can accomplish much if everyone
contributes!**

**Volunteers are needed to staff the ANPS
booth for Garden Week at the Sears Mall
on Saturday April 14th from 1 to 3 pm and
5 to 7 pm.**

**Coordinator for "Celebrating Wildflowers"
Week (June 7 -16th).**

**A coordinator is also needed for the
Friday neighborhood walks during that
week. These walks are coordinated
separately from but are included in the
field trip schedule.**

(Call _____ and volunteer today!)

Non-Native Plants – "Exotics" or "Weeds"?

As the seed catalogs continue to pour in, and Alaska gardeners begin the annual rush to colorize and beautify our environment before the next spate of winter sets in, it is also time to take stock of what plants we are using and how. It especially behooves us, as members of the Alaska Native Plant Society, to take great care to protect our native plants by discouraging the invasion of non-natives. Invasive non-native organisms are one of the greatest threats to the natural ecosystems of the U.S. and are destroying America's natural history and identity. These unwelcome plants, insects and other organisms are disrupting the ecology of natural ecosystems, displacing native plant and animal species, and degrading our nation's unique and diverse biological resources.

Millions of acres of once healthy, productive rangelands, forestlands and riparian areas have been overrun by invasive plants. They are invading recreation areas, BLM-managed public lands, National Parks, State Parks, roadsides, stream banks, and private lands.

Invasive alien plants:

- compete with and replace rare and endangered species;
- encroach upon limited habitat of rare and endangered species;
- disrupt insect-plant associations for seed dispersal of native plants;
- disrupt native plant-pollinator relationships;
- reduce and eliminate host plants for native insects and other wildlife;
- hybridize with native plant species, altering genetic makeup;
- serve as host reservoirs for plant pathogens and other organisms that can infect and damage desirable native and ornamental plants;
- replace nutritious native plant foods with lower quality sources;
- kill trees and shrubs through girdling;
- increase plant disease and stress in forested areas;
- prevent seedling establishment of native trees and shrubs;
- reduce vigor of mature trees through shading;
- reduce the amount of space, water, sunlight and nutrients that would be available to native species;
- increase erosion along stream banks, shorelines and roadsides;
- change characteristics of the soil structure and chemistry;
- alter hydrological flows and conditions

(Continued on Page 3)

Water Plants

Milfoil/Haloragaceae Family

Presenter: Susan Klein

This month we continue the study of aquatic plants and focus on the Milfoil/Haloragaceae family. These are plants that grow in shallow water in ponds or slow moving streams. In this family, there are six genera and 120 species worldwide.

Alaska has two genera and five species. *Hippuris* or "Mare's Tail" is the most common. These plants grow from stout rhizomes. The thick stems have whorls of narrow leaves and small inconspicuous flowers in the axils of the leaves.

H. vulgaris is circumpolar in the Northern Hemisphere. It frequently gives the appearance of miniature spruce trees standing in water. There are 6-12 leaves in each whorl. *H. tetra* is a smaller coastal species with 4-6 leaves in a whorl and it is found in brackish water. *H. montana* is a very small species (2 inches) of Southern Alaska. Although it is quite rare it can occasionally be found in shall water in the mountains.

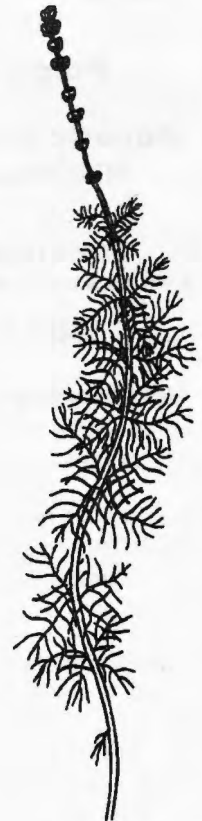
The *Myriophyllum* genus has two species in Alaska. Both grow worldwide in the Northern Hemisphere. The leaves are finely dissected and generally grow in a whorl. Only the flowering spike is above the water.

M. verticillatum can occasionally be found growing in ponds or slow-moving streams in Interior Alaska. It usually has 5 feather-like leaves in a whorl.



Myriophyllum verticillatum

M. spicatum's leaves are pinnately divided, narrow, thread-like leaves in whorls. It is more common in both interior Alaska and in Canada and is usually found in shallow ponds.



Myriophyllum spicatum



Hippuris vulgaris



Hippuris tetra



Hippuris montana



MYSTERY PLANT

This plant is only found in sub-Arctic and Arctic Coastal areas. It is a close relative of a very common plant found throughout Alaska that grows in meadows and woodlands. It is decumbent and grows on sandy seashores. The smooth, bluish-green stem leaves are fleshy, somewhat spatulate, and obovate. The basal leaves are larger, much more acute and have long petioles. The small, bell-shaped flowers are pink in bud, becoming blue. Occasionally they are all white. They frequently form round mats. This is an edible plant and one of its common names relates to its flavor. There are two subspecies in Alaska. One is Asiatic and barely reaches the Aleutian Chain. The other can be found across Arctic North America, into Greenland, Iceland and Northern Europe.



By Cara Wardlaw-Bailey©

Spruce

Snowshoeing through a dying forest
I find peace in the falling snow,
In the lacy shroud of fog over the valley
Though sadness I know.

Over the hills, past scraggly birch
With a reverent sense of awe,
For in the midst of a massive kill
Life cycles still go on.

The young spruce still flourish
Alders take over new ground.
But our beautiful old trees are dying
The changes are profound.

Sadly standing skeletons
With delicate lichens hung,
Remind of so many songs of life
In this forest once sung.

Sunlight breaks through the trees
Onto the sparkling snow.
Soon spring will return to the valley
And to the spruce, for all we know.

Forest progression will continue
It was time to make way.
I think they know better than I
These spruce were not here to stay.

By Cara Wardlaw-Bailey©



Alaska Native Plant Society Board Meeting

Minutes: March 7, 2001 6PM

President: Frank Pratt
Vice President: Leonard Grau
Treasurer: Sue Jensen
Editor: Ginny Moore
Plant Family Coordinator Verna Pratt
Field trip Coordinator: Susan Klein
Mini-Botany: Marilyn Barker
Secretary: Beth Koltun

Meeting was called to order at 7pm. Minutes of last meeting were read and approved as read.

Treasurer Susan Jensen reported that the AKNPS bank balance is currently \$8095.91.

After discussion of alternate potential service providers, it was unanimously agreed to continue to have UAA print and distribute the April and May 2001 newsletters. February 2001 newsletter costs were \$121.40 for copying and \$51.00 for mailing (\$47.50 plus residual stamps to total \$51.00)

Marilyn proposed the production of a publication to commemorate the 20th anniversary of the AKNPS. The idea will be presented in the April 2001 newsletter with a request for title suggestions. Names will be discussed and voted on by members at the April 2 general meeting. Titles proposed at the board meeting included Calla, Borealis, Linnea, Myosotis, and Eritrichium. Suggested article topics might include taxonomy, ecology, natural history, ethnobotany, horticulture, restoration, botanists or personalities.

Additional volunteers are needed to staff the AKNPS booth for Garden Week at the Sears Mall on Saturday April 14th from 1 to 3 pm and 5 to 7 pm.

The Celebrating Wildflowers program is June 7 through the 16th. A coordinator is needed for the Friday neighborhood walks. These walks are coordinated separately from but are included in the field trip schedule.

The AKNPS is required to provide 27 hours of volunteer service annually for the Campbell Creek Science Center as part of our rental agreement. We fulfilled 11 hours in September but still need to provide 16hrs.

The next board meeting will be held in September 2001.

Alaska Rare Plant Forum

The Alaska Rare Plant Forum meetings will be held in Anchorage April 5 and 6, 2001. The Watson Conference Room at the Fish and Wildlife Service building at 1011 East Tudor Road has been reserved for both days. Everyone who has an interest in hearing more about what Alaska's research botanists have been up to is urged to attend. Topics may include results from last year's field season, plans for the upcoming summer, and any research involved in in the area of interest (Alaska and Beringia). A final presentation schedule will be mailed in late March. Contact US Fish and Wildlife Service for more information or to receive a schedule.

20th Anniversary Commemorative

The Alaska Native Plant Society turns 20 in 2002. To commemorate the event, the ANPS Board has begun to plan the publication of a publication that highlights 20 years of Alaska Native Plant Study.

Marilyn Barker will present the topic and explain the general concept at the April 2 meeting.

We're soliciting title suggestions from among the general membership. Some titles that have been proposed include: Calla, Borealis, Linnea, Myosotis, and Eritrichium. Use your imagination and help us come up with a meaningful title. Names will be discussed and voted on at the April 2 meeting. If you have a good idea but can't attend the meeting, give one of the Board members a call before the meeting.



Non-Native Plants (Continued from Page 1)

Native Range. A *native* (indigenous) species is one that occurs in a particular region, ecosystem, and habitat without direct or indirect human actions (Kartesz and Morse, 1997). Species native to North America are generally recognized as those occurring on the continent prior to European settlement. Endemic is used to describe populations of native animals, plants or other organisms, that are have relatively restricted distributions and are confined to certain environments.

Organisms are considered *non-native* (alien, exotic, foreign, introduced, non-indigenous) when they occur artificially in locations beyond their known historical natural ranges. Non-native can refer to species brought in from other continents, regions, ecosystems and even other habitats. Species exotic to the U.S. include those transported from Europe, Asia, Africa, South America, Australia and other parts of the world. It also includes any species moved by people from one locality in the U.S. to a new one. For example, black locust (*Robinia pseudoacacia*) is native to the southern Appalachian region of the eastern U.S. Because of its rapid growth and hardiness, it was planted all around the U.S. during this century for living fences, erosion control, wind breaks and other purposes. Even though it is native to the U.S., black locust is considered exotic

Once an Exotic, Always an Exotic! European settlers brought hundreds of plants to North America from their home lands, for food, medicinal, ornamental, and other purposes. Introductions of exotic plants continue today, and are increasing due to an exploding human population, increased international travel, and the intentional and accidental movement of large numbers of species between continents as a result of expanded international trade. Many introduced plants have become naturalized across the continent and some are replacing North American native plant species. These naturalized plants, however much a part of our current landscapes and ecosystems, are nonetheless exotic, since they were moved here by people rather than by natural means. Because the historical distributions of some species are unknown or unclear, research continues to attempt to unravel the tangle of human and natural influences responsible for their current ranges.

Growth Habit - Invasiveness. The most important aspect of an alien plant is how it responds to a new environment. An invasive species is one that displays rapid growth and spread, allowing it to establish over large

areas. Free from the vast and complex array of natural controls present in their native lands, including herbivores, parasites, and diseases, exotic plants may experience rapid and unrestricted growth in new environments.

Invasiveness is enhanced by features such as strong vegetative growth, abundant seed production, high seed germination rate, long-lived seeds, and rapid maturation to a sexually reproductive (seed-producing) stage. Invasive plants reproduce rapidly, either vegetatively or by seed. Their phenomenal growth allows them to overwhelm and displace existing vegetation and form dense one-species stands.

Not all exotic species are considered harmful. For example, a small number of non-invasive alien plants (e.g., corn, wheat, oats) form the basis of our agricultural industry and pose little to no threat to our natural ecosystems. However, each alien plant is one less native host plant for our native insects, vertebrates and other organisms that are dependent upon them.

The most important aspect of an alien plant is how it responds to a new environment. An invasive species is one that displays rapid growth and spread, allowing it to establish over large areas.

Impacts of Invasive Alien Plants. Invasive non-native organisms are one of the greatest threats to the natural ecosystems of the U.S. and are destroying America's natural history and identity. These unwelcome plants, insects and other organisms are disrupting

the ecology of natural ecosystems, displacing native plant and animal species, and degrading our nation's unique and diverse biological resources. Aggressive invaders reduce the amount of light, water, nutrients and space available to native species, alter hydrological patterns, soil chemistry, moisture-holding capacity, and erodibility, and change fire regimes (Randall 1996). Some exotics are capable of hybridizing with native plant relatives, resulting in unnatural changes to a plant's genetic makeup; others have been found to harbor plant pathogens, such as bacterial leaf scorch (*Xylella fastidiosa*) that can affect both native and non-native plants, including ornamentals (McElrone, et al.,1999). Still others contain toxins that may be lethal to certain animals. For example, garlic mustard has been found to contain compounds that are lethal to a native butterfly species.

Exotic organisms have been referred to as biological pollution (Westbrooks 1991). In some cases, exotic plant invaders are driving our rarest species closer to extinction. According to the U.S. Fish and Wildlife Service, an estimated 42% of the nation's endangered and threatened species have declined as a result of encroaching exotic plants and animals. And management of these species is expensive. Each year, the National Park Service and the

Fish and Wildlife Service spend an estimated 2 and 10 million dollars, respectively, on controlling exotic plants (Westbrooks, 1998). Invasive plants also cause great economic losses and expenditures each year, measured in billions of dollars, for agriculture, forestry, range lands and roadways management (Westbrooks 1998).

Impacts to Native Fauna. Our native fauna, including insects, birds, mammals, reptiles, fish and other animals, is dependent on native plants for food and shelter. While some animals have a varied diet and can feed on a wide number of plant species, others are highly specialized and may be restricted to feeding on several or a single plant species. For example, caterpillars of the monarch butterfly have evolved to feed primarily on plants in the genus *Asclepias* (milkweeds) that contain special chemicals. The term host plant is generally used to describe a plant species that is required food for at least one stage of an insect or other animal. As exotic plants replace our native flora, fewer host plants are available to provide the necessary nutrition for our native wildlife.

Approximately 4,000 species of exotic plants (Kartesz and Morse 1997) have established free-living populations in the United States. Four hundred exotic plant species have been identified as a threat to our native flora and fauna as a result of their aggressive, invasive characteristics.

What You Can Do

The best way to reduce plant invasions is to focus on preventing non-native species introductions, managing existing infestations, minimizing disturbance to forests, wetlands, barrens and other natural communities, and learning to work with, rather than against, "Mother Nature."

In order to prevent the introduction or spread of invasive alien plants into natural areas, and to help restore our native flora and fauna, you can:

- Avoid disturbance to natural areas, including clearing of native vegetation, planting of non-native plants and dumping of yard wastes.
- Do not purchase or use invasive exotic species in your landscaping or for land restoration or erosion control projects.
- For landscaping, use plants that are native to your local region as much as possible or those that are not known to be invasive.

- Know your plants. If you are unsure of the identification of a plant, take a sample to a university, arboretum, department of agriculture office, local nature center, or native plant society for assistance. Find out if it is known or thought to have invasive tendencies. If the exotic plant is closely related to an invasive species, it is likely to have similar tendencies. To be on the safe side, if you don't know it, don't grow it.
- Control exotic invasive plants in your landscape either by removing them entirely or by managing them to prevent their spread outside your property. This may include pruning to prevent flowering and seed dispersal or cutting, mowing or herbicide use to prevent vegetative spread.

- Discuss your concerns about invasive exotic plants with nurseries and garden shops and ask them not to sell these species.

Provide them with printed material (such as this) explaining the problem to read later. Ask for non-invading alternatives instead.

- Notify land managers of invasive exotic plant occurrences.
- Offer to assist in exotic plant removal projects.

- Work with your local government to encourage the use of native plants in their urban and suburban landscapes. Provide them with lists of attractive, non-invasive locally native alternatives that are naturally more hardy, pest-resistant, and provide more nutritious food for wildlife than cultivated plants.

- For further information on the control of specific weeds please contact your local Alaska Cooperative Extension district office, or Michele Hebert at 474-2423, or Page Spencer at US National Park Service: 257-2625

This information was compiled from BLM, National Park Service, and Cooperative Extension publications on their websites. More information can be found at refuges.fws.gov

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 | \$ 5 |
| <input type="checkbox"/> | Senior Citizen | \$10 |
| <input type="checkbox"/> | Individual | \$12 |
| <input type="checkbox"/> | Family | \$18 |
| <input type="checkbox"/> | Organization | \$30 |

Name _____

Address _____

City: _____ State _____ Zip _____

Telephone: (Home) _____ (Work) _____

Membership is on a calendar year basis.

MYSTERY PLANT ANSWER

Mertensia Maritima ssp. Maritima
"Oysterleaf" or "Sea Lungwort"

Borage/Boraginaceae Family

Volunteers Needed

**Garden Week Display at the Sears Mall
Saturday, April 14**

Call Verna _____ if you can help man the booth
on Saturday, April 14. Set-up starts at 8:30 AM

Summer 2001 Field Trips

Marsh marigolds in March? Well, not quite! But it won't be long before we'll all be wanting to be out finding them and the elusive plants, too. Take us to your favorite plant spot. There is still time to organize a summer field trip. You can use the Field Trip Worksheets that were included in the February newsletter and fax them to me at

or email me at popcorn@ak.net. Thanks.

Susan Klein, Field Trip Coordinator



ALASKA NATIVE PLANT SOCIETY

State and Anchorage Chapter Officers

President	Frank Pratt
Vice President	Leonard Grau
Secretary	Beth Koltun
Treasurer	Sue Jensen

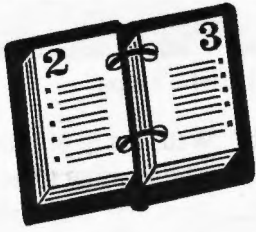
Anchorage Chapter Program Coordinators

Main Program	OPEN
Plant Family	Verna Pratt
Mini-Botany	Marilyn Barker
Field Trips	Susan Klein

Newsletter ("*Borealis*")

Editor	Ginny Moore
Circulation	Martha Hatch

Borealis is published monthly October through May. Articles may be sent to Ginny Moore, Anchorage, AK 99516. Phone or FAX: _____ or E-mail: mooretg@alaska.net



UPCOMING PLANTS & NATURE EVENTS

- April 2, 7:30 PM Alaska Native Plant Society Monthly Meeting *Campbell Creek Science Center*
April 5-6 Alaska Rare Plant Forum *U.S. F&WS East Tudor Road, Anchorage*
April 7, 6:00 PM Kenai Peninsula Botanical Society Monthly Meeting *Room 137 -Kenai Peninsula College*
April 14, 10AM-7 PM Garden Week Display at Sears Mall
April 21, 2 PM Alaska Rock Garden Society Monthly Meeting *Mat Su College, Fred & Sarah Machetanz Bldg. Rm 103: "Garden Photography" and "Hosting a NARGS Annual Meeting"*
May 7, 7:30 PM Alaska Native Plant Society Monthly Meeting *Campbell Creek Science Center*

Training Tour Guides Hike: Wed, June 12 and Thursday June 13 (see article on page)

UAA Classes:

- May 8,15,22,29 "Local Flora", Biology 075, UAA, 1 credit; Verna Pratt; Tue. Eves., 6-9:30 PM
May 30-June 13 "Discovering Wild Plants", UAA, 1 credit, Alaska Outdoor Experimental Education
Wed. eves., 6-9PM and Sat. and Sun., June 9 & 10: 9AM-6 PM; Verna Pratt
June 5-21 "Recreational Botany" Tues and Thurs. eves 6-10 PM and Sat. June 16, 9AM-6 PM

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

