

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

October/November 2007

Join us at our Next Meetings!

Monday, October 1, 6:30 p.m.

(Campbell Creek Science Center)

FALL POTLUCK

Bring a few slides or digital pictures of your
summer adventures to share

Tableware and beverages will be provided

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

(Campbell Creek Science Center)

"Seaweeds of Cook Inlet"

Speaker: Dr. Lillian Alessa

Plant Family

Linaceae: Flax Family

Presenter: Monica Hanson



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

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

Plants Named For People

What better way to honor a colleague or commemorate a life spent in the service of science than to name a plant after them? This tradition began in Linnaeus' day, and still continues today. Linnaeus named many plants after his friends. *Alstroemeria*, for example, honors Baron Clas Alströmer, who first collected this plant. Linnaeus used the name *Sarracenia* to recognize Michael Sarrazin, a physician from Quebec, who used the plant to treat smallpox. *Fothergilla* honours John Fothergill, the Quaker doctor who shared plants grown in his garden in Stratford so generously with Linnaeus.

Linnaeus' beloved students, or 'apostles', were honored with particularly beautiful plants— *Kalmia* for Per Kalm, who explored North America, *Thunbergia* for Carl Peter Thunberg, who went to South Africa and *Ternstroemia* for Christopher Tärnström, who died in Vietnam on his way to China. Linnaeus' son named the Australian genus *Banksia* for Sir Joseph Banks, who took Linnaeus' pupil Daniel Solander on the *Endeavour* voyage with James Cook that brought many Australian plant specimens to Europe.

It is not considered good form to name a plant after yourself, but Linnaeus, ever confident, had the distinguished Dutch botanist Jan Gronovius name *Linnaea borealis*, the tiny creeping Lapland herb, known as 'twinline', in his honor. Linnaeus loved this little plant and took it as his emblem. Tongue in cheek, Linnaeus wrote, '*Linnaea* ... is a plant of Lapland, lowly, insignificant, disregarded, flowering but for a brief space – from Linnaeus who resembles it.'

This issue of the Borealis newsletter highlights two native Alaskan species that were named for particular people – *Linum perenne*, var *lewisii*, and *Erigeron Muiri*. *L. perenne* is Alaska's lone member of the Linaceae, and *E. Muiri* is a rare plant, endemic to arctic Alaska. Their names help preserve the stories of those early botanists.

Today's botanists are also honored by their colleagues with plant names. Perhaps you, too, can be remembered in this way!

This year's plant family study will focus on monotypic families in Alaska. These families often get overlooked in our discussions because by definition each family has only one representative in the state. Our first family will be presented at the November meeting by Monica Hanson, a list of the remaining families and presenters follows.

Linaceae-----November Monica Hanson
Balsaminaceae---December Stan Vlahovich
Empetraceae---January Gary Rasmussen
Adoxaceae---February Andy Anderson-Smith
Araliaceae---March Beth Baker
Diapensiaceae---April Tom Choate
Myricaceae---May Anjanette Steer

MYSTERY PLANT ??????



This small plant is found only on the end of the Aleutian Chain and in Japan, so it is seen by very few people. It is more robust than its close relatives and has some unique characteristics. The thick, glossy, bright green, obovate

leaves have distinctly crenate margins and lie close to the ground. The upward facing, funnel-shaped flowers are on 2-3 inch stems, and are noticeably large for the size of the plant. These bluish lavender flowers have 5 connected petals, 5 slightly hairy, broad sepals, 5 stamens and a 3-parted stigma. Typical of this genus, the plant spreads by rhizomes and prefers dry, rocky tundra. The acute petals have ciliate margins and have white bearded stripes within.

Answer on page 7.

Alaska Native Plant Society Business Meeting

A regular meeting of the Board of Directors of the ANPS was held on September 7 at Marilyn Barker's home.

Our treasurer, Beryl Wardlaw-Bailey, reported that our year-to-date income is \$1187.25, year-to-date expenses were \$1794.11, and our bank balance at the end of August 2007 was \$6292.21.

President Andy Anderson-Smith reported that summer field trips were very successful. Andy has videotaped some field trips and he suggested that a possible fundraiser, educational project for ANPS could be the production of well-edited videos, that we could advertise and sell on our website and at meetings. He will continue to gather video footage over the next year and give us a sample.

There was also discussion about whether we should reintroduce our T-shirt line. Beryl offered to gather some information on costs. One of the reasons why we haven't continued the previous project is that it has been difficult to find a place to store the inventory of T-shirts between sales events. Another concern is having an inventory of the most appropriate sizes. Comments and suggestions from the members would be greatly appreciated.

The club is in need of a few key volunteers. The most pressing need is for a Program Coordinator – someone to arrange for speakers for about 5 monthly meetings. Please consider supporting our outreach programs by volunteering for this task!

LINACEAE—The Flax Family

By Marilyn Barker

There are at least 6 genera and over 220 species in the Linaceae, but in Alaska it is monotypic. It has only one species, *Linum perenne* L. var *lewisii* (Pursh) Eat. & Wright. *Linum perenne* is commonly known as Wild Flax. At the Family level, members of the Linaceae are defined as herbs or shrubs with simple entire leaves. Their flowers are perfect with (4) 5 sepals, (4) 5 petals and (4) 5 stamens. The stamen filaments are basally connate (fused at the base) and the fruit is a capsule.

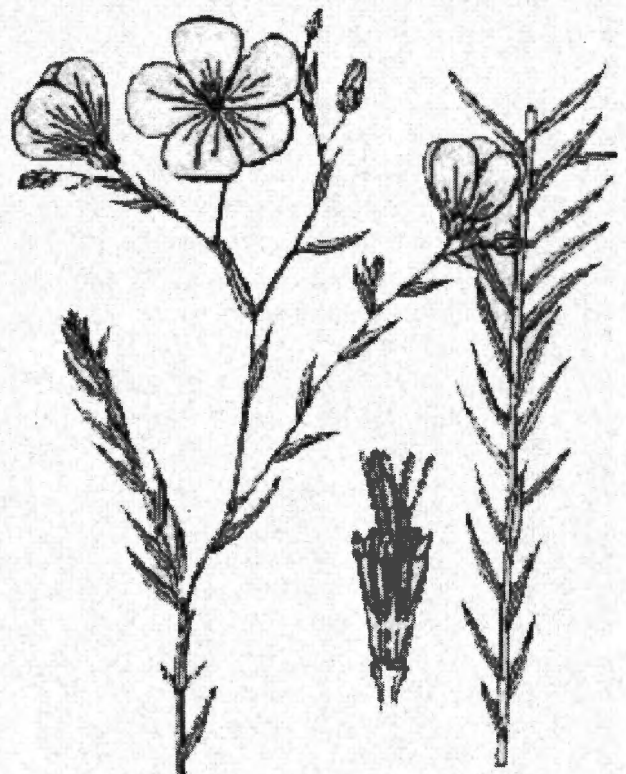
The generic name *Linum* derives from the Greek word "linon" which means thread. "Linon" was Latinized to "linum". The specific epithet of the plant, *perenne*, draws attention to its perennial nature. The particular variety we have was named for Captain Meriwether Lewis of the Lewis and Clark expedition. "The bark of the stem is thick and strong and appears as if it would make excellent flax," Lewis wrote in his journal on July 9, 1806, soon after he discovered it near what is today Great Falls, Montana. President Thomas Jefferson had sent him west with this philosophy: "The greatest service which can be rendered any country is to add a useful plant to its culture", and Lewis believed *Linum perenne lewisii* might just be one of those useful plants.

Linum perenne, wild flax, is a species that is usually associated with the prairies of the Midwest. In Alaska it can be found on dry river bars and dry slopes and bluffs in central and eastern Alaska. *L. perenne* has very slender stems, up to 20 inches high which appear deceptively frail, they aren't. (*Linum* provides the strong fibers for linen cloth.) The stems are smooth and alternately leafy with grey-green, linear, entire inch long leaves. The sepals number 5 and are lanceolate with a membranous edge. Unfortunately the 5 delicate blue petals are fugacious (soon falling). The shiny brown seed capsules contain numerous seeds that are rich in oil. Linseed oil of commerce is obtained by crushing the seeds of another *Linum* species.

As a source of fiber, flax was cultivated in very ancient times, both in Africa and Eurasia. It is portrayed in Egyptian tomb paintings as early as the 2nd Dynasty, and actual seed-capsules of flax were discovered in a tomb at Abusir el-Melak that dates from 3100 BC.

Various native peoples used flax for cordage and string, as well as for mats, snowshoes, fishing nets and baskets. The blue flax plant also had medicinal uses and was employed as a poultice for swellings, as an infusion for eye problems and gastrointestinal distress and as a wash for the body and hair. Sacagawea's Shoshone people used flax in this way. Several native tribes of the upper Missouri River region used flax seed as food because of its nutritive value and flavor.

Today, the seeds of a close relative of Lewis's blue flax, *Linum usitatissimum*, are used to make flax oil, rich in omega-3 fatty acids and lignans with a variety of reported health benefits.



John Muir – An Early Alaskan Botanist

John Muir was born in Dunbar, Scotland, on February 5, 1838. His family moved to a farm in Wisconsin when John was eleven years of age. As biographers point out, young John Muir endured a harsh Calvinist upbringing. In his autobiography, *The Story of My Boyhood and Youth*, Muir frequently juxtaposes the pure wilderness of the Wisconsin woods with thrashings from his stern father. Young Muir invented, among other things, a wooden clock that told the time of day, the day of the week, and the month of the year, an automatic feeder for horses; and a combined thermometer, hygrometer, barometer, and pyrometer.

At the University of Wisconsin he did not take a regular course but picked classes he thought would be most useful to him: chemistry, mathematics and physics, a little Greek and Latin, botany, and geology. Later, he said of his education, "Anyhow I wandered away on a glorious botanical and geological excursion, which has lasted nearly fifty years."

In 1867, Muir suffered a blinding eye injury that changed his life. When he regained his sight, Muir resolved to 'turn his eyes to the fields and woods.' There began his years of wanderlust. He walked a thousand miles from Indianapolis to the Gulf of Mexico. He sailed to Cuba and Panama, crossed the Isthmus, and up the West Coast, landing in San Francisco in March, 1868. From that moment on, though he would travel around the world, California became his home.

Muir met the eminent Harvard botanists Asa Gray and John Torrey in Yosemite in 1872, and in 1873 he met Albert Kellogg, botanist for the California Academy of Sciences. These men identified some plant specimens for Muir and formed life-long correspondences with him. Gray sent him his four botanical text books and asked Muir to send him specimen plants from his travels.

In 1879 John Muir went to Alaska for the first time. In Alaska, Muir wanted to see, touch, and explore living glaciers, whose imperceptible motion he was convinced sculpted and furrowed the earth into spectacular landforms like those of his own Yosemite Valley. Muir sent an account of his adventures in installments to the San Francisco Bulletin even before he got back to California. Muir further described Glacier Bay and southeast Alaska in public lectures and magazine articles. Eventually these writings were collected and refined in a book, Travels in Alaska, published in 1915, the last year of his life.

Muir's articles and lectures on Glacier Bay probably attracted more interest among tourists than among

scientists as steamships began offering excursions up the Inside Passage in the early 1880s. As historian Ted C. Hinckley stated, Muir's "half-booster, half-scholarly articles and talks on Alaska carried the attractions of an Inside Passage vacation into tens of thousands of homes." In the meantime, the largest glacier in the bay was named in his honor and was at one time the most renowned glacier in North America.

In 1880 he joined an expedition to the Arctic, and then journeyed into Siberia, China, India, Europe, Egypt, Japan, New Zealand, and Australia. In 1881 he joined another arctic expedition aboard the *Corwin* to search for a missing ship and two lost whaling vessels. All the while he continued to write, submitting articles for newspapers and periodicals, and published well over 300 articles and several books documented the breadth of his travels and the depth of his love for the natural world.

In a letter to Asa Gray, dated October 31, 1881, Muir wrote "I returned a week ago from the polar region around Wrangell Land and Herald Island, and brought a few plants from there which I wish you would name as soon as convenient, as I have to write a report on the flora for the expedition. I had a fine icy time, and gathered a lot of exceedingly interesting facts concerning the formation of Bering Sea and the Arctic Ocean, and the configuration of the shores of Siberia and Alaska. Also concerning the forests that used to grow there, etc., which I hope some day to discuss with you."

On the Arctic shores of Alaska, near Cape Thompson, Muir found a previously unknown species of *Erigeron* - an asteraceous plant with showy, daisy-like flowers. He sent it along with many other specimens to Asa Gray. Gray described it as "the most interesting and apparently the only new species of an extensive and truly valuable collection made by Mr. Muir in a recent searching cruise which he accompanied, and which extended to [Wrangell Land]. The plant seems to have been abundant, for it occurs in the collection under three numbers."

Gray promptly who promptly named it *Erigeron Muirii*, in honor of its finder, thus redeeming a promised made ten years earlier when he wrote to Muir, "Pray, find a new genus, or at least a new species, that I may have the satisfaction of embalming your name, not in glacier ice, but in spicy wild perfume."

In 1899, Muir was one of the 25 scientists on the privately-financed E.H. Harriman expedition to Alaska

that made the largest botanical collection ever gathered from Alaska.

He traveled extensively throughout Europe and in 1903-04 made a trip around the world. Yale and the

His writing besides hundreds of newspaper and magazine articles include: *The Mountains of California* (1894); *Our National Parks* (1909); *My First Summer in the Sierra* (1911); and *The Yosemite* (1912). After his death there appeared *Letters to a Friend* and his unpublished prose and letters, which contained his almost complete work on Alaska.

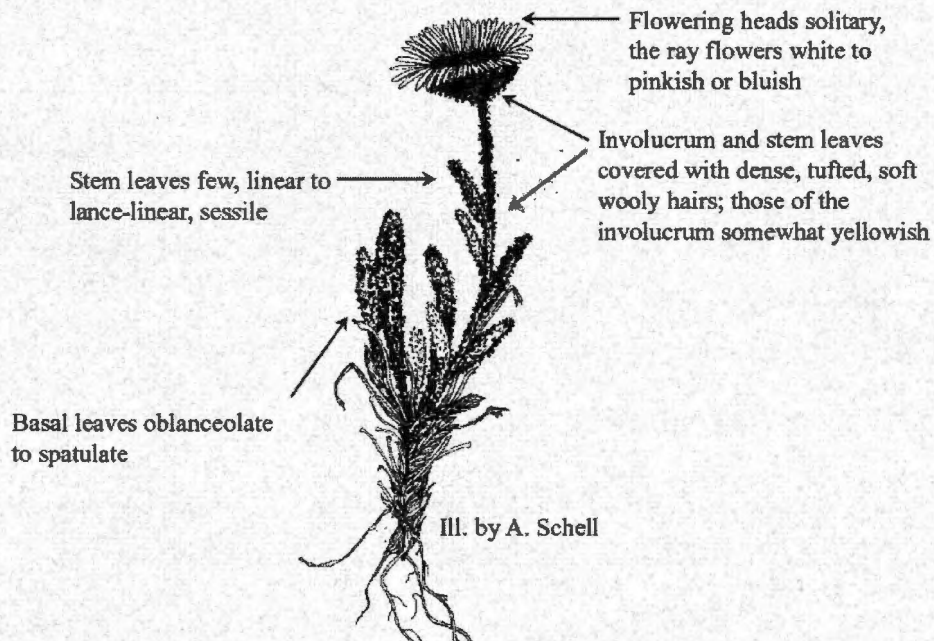
Universities of Wisconsin and California gave him honorary degrees. He was a member of the American Academy of Arts and Letters.

John Muir was a pioneer conservationist, preceding the conservation movement by many years in his advocacy of the preservation of the forests and the establishment of national parks. It was partly through his influence and efforts that the United States Government has carried on the great work of creating National Parks. Both the Sequoia and Yosemite were created largely due to his efforts.

A Rare Alaskan Plant: *Erigeron muirii*

Muir's fleabane

Erigeron muirii
Gray



Distribution: An endemic species of arctic Alaska, including Cape Thompson, Anaktuvuk Pass, Sagwon uplands, Toolik Lake, Canning River, and Kongakut River.

Habitat: Dry, south-facing fellfields, bluffs, terraces, alluvial fans, gravels and rock outcrops, from 950 ft. - 3,000 ft. elevation. Usually in sparsely vegetated communities, often in *Dryas octopetala*, prostrate-shrub, forb tundra.

Similar Species: *E. grandiflorus* Hook. has leaves that are pubescent with long white hairs, rather than the very distinctive tangled, wooly hairs of *E. muirii*, and its involucre pubescence is white rather than yellowish. *E. caespitosus* Nutt. has an involucre that is pubescent with short stiff hairs. *E. hyperboreus* Greene has linear (rather than lanceolate) upper stem leaves and purple-black cross-walls in its involucre hairs.

Notes: Reports from Wrangel Island, Russia and from Herschel Island, Canada are apparently in error.

References: Hultén 1967, 1968; Murray 1980, Walker et al. 1987, 1989; Welsh 1974; Wiggins and Thomas 1962.

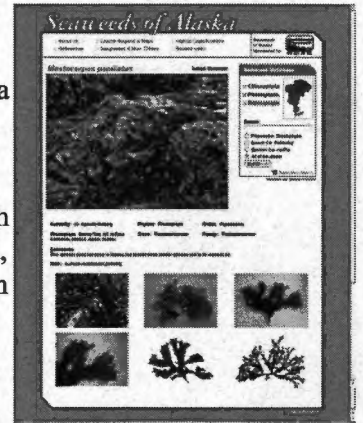
From: *Alaska Rare Plant Field Guide*, Alaska Natural Heritage Program;
http://aknhp.uaa.alaska.edu/rareguide/Botany_Alaska_Rare_Plant_Field_Guide.htm

Seaweeds of Alaska – New & Noteworthy Resources

Seaweed Website: SeaweedsOfAlaska.com

Cook Inlet RCAC sponsors a website that displays images and information for many of the seaweeds that occur on beaches in the Gulf of Alaska. Mandy Lindeberg photographed over 120 different seaweed species and is working to compile the information and images within a web-based, searchable taxonomic structure. Taxonomic expertise is being provided by Dr. Sandra Lindstrom.

The home page of the website allows visitors to access seaweed information through a search tool or by looking at links to individual species organized under the categories for green, red, and brown algae. The imagery available for each species might include photos of the algae in their natural habitats, at different stages of growth or bleaching, in a close-up of a single plant, or as a pressed specimen. In a few instances, microscopic detail showing individual cells is provided. The web site also describes different intertidal habitats and regions of the Gulf of Alaska and shows map locations of individual sampling sites where intertidal photos have been collected. In July, the website was presented in Juneau at the annual meeting of the Phycological Society of America, a gathering of botanists who specialize in algae.



Biogeography of Alaskan seaweeds

Sandra C. Lindstrom

Journal of Applied Phycology; Publisher: Springer Netherlands

ISSN 0921-8971 (Print) 1573-5176 (Online); Issue: Volume 18, Numbers 3-5 / October, 2006

Abstract A recent survey of seaweed specimens collected in Alaska over the past two centuries, together with the application of molecular techniques to recent collections, has revealed a surprisingly diverse flora given the history of glaciation, large areas of unsuitable habitat, and otherwise harsh environmental conditions. The number of recognized species has increased from 376 in 1977 to about 550 today. Species show a variety of biogeographic patterns: species that occur primarily to the south and have their northern limit in Alaska, species that occur primarily to the west and have their eastern limit in Alaska, species that are primarily Atlantic but extend through the Arctic to Alaska, and a number of endemics. Within these broad distribution patterns are more localized patterns often involving disjunctions. These disjunctions, the occurrence of endemic species, patterns of genotype distributions, and the overall richness of the seaweed flora support the idea that marine refugia must have existed in Alaska during Pleistocene glaciations.

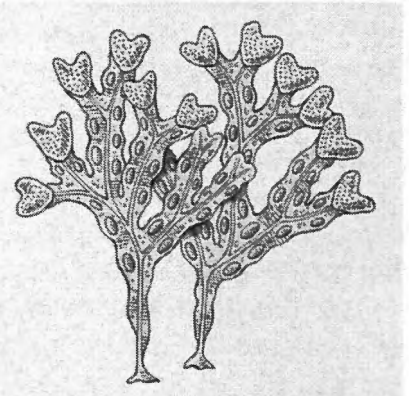
Common Edible Seaweeds in the Gulf of Alaska

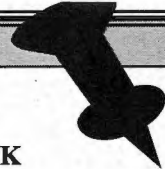
Author: Dolly Garza **Publisher:** Alaska Sea Grant College Program, Fairbanks

ISBN: 1-56612-086-1; **Year :** 2005 ; **Price:** \$10.00 US

For millennia, Alaska Natives have subsisted on the wild edibles—plants, animals, and seaweeds—found in abundance along Alaska's shores. In this book, Dr. Dolly Garza, a Haida-Tlingit Indian, tells how to locate, identify, and prepare several species of seaweeds and one beach plant as tasty snacks and for the dinner table.

A University of Alaska Fairbanks professor of fisheries based in Ketchikan, Dolly was raised in SE Alaska where her family harvested seaweeds as a diet staple, a practice they continue today. In this award-winning book Dolly she shares with you her firsthand knowledge about the pleasures of harvesting, preparing, and eating some of the most common and delectable wild edibles found along the Gulf of Alaska coast. Recipes for seaweed seasonings, snacks, main and side dishes are included





UPCOMING EVENTS

OCTOBER 1, MONDAY: ALASKA NATIVE PLANT SOCIETY FALL POTLUCK
6:30 PM Campbell Creek Science Center

October 4, Thursday

Anchorage Garden Club Meeting, "Ten Ways to Kill a Lawn" presented by Julie Riley, Extension Horticulture Agent, 7:30 pm. Pioneer School House basement, corner of 3rd and Eagle,

October 11, Thursday

Wildflower Garden Club meeting, "Dry Flower Arranging", presented by Della Barry & Liz Rockwell, 10 am, Central Lutheran Church, 15th & Cordova,

October 15, Monday

Anchorage Master Gardener Association meeting, "Genetically Modified Organisms", 7 pm, presented by Dr. Roseann Leiner, Extension Horticulture Specialist, UAF Cooperative Extension Service, 2221 E. Northern Lights Blvd. (behind Medical Park),

November 1, Thursday

Anchorage Garden Club Meeting, "Fall Blooming Perennials" presented by Annie Nevaldine, 7:30 pm. Pioneer School House basement, corner of 3rd and Eagle,

NOVEMBER 5, MONDAY: ALASKA NATIVE PLANT SOCIETY – see Page 1 for details

November 8, Thursday

Wildflower Garden Club meeting, "Climate Changes in Anchorage", presented by the National Oceanic and Atmospheric Administration, 10 am, Central Lutheran Church, 15th & Cordova,

November 19, Monday

Anchorage Master Gardener Association meeting, "Great Alaskan Taste Discoveries", 7 pm. Bring a special treat with recipe to share. UAF Cooperative Extension Service, 2221 E. Northern Lights Blvd. (behind Medical Park),

November 29, Thursday

Wildflower Garden Club special meeting, "Holiday Wreaths", taught by Wayne Leiser, 10 am, Dimond Greenhouses, 1050 W, Dimond Blvd., \$20/person,

MYSTERY PLANT ANSWER

Campanula chamissonis

Bluebell or Campanula Family/Campanulaceae

ALASKA NATIVE PLANT SOCIETY State and Anchorage Chapter Officers

President Andy Anderson-Smith
Vice President Ken Johnson
Secretary Cara Wardlaw-Bailey
Treasurer Beryl Wardlaw Bailey

Anchorage Chapter Program Coordinators

Main Program Open
Plant Family Marilyn Barker
Mini-Botany Open
Field Trips Anjanette Steer

Newsletter ("*Borealis*")

Editor Ginny Moore

FAX:

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



To guest speakers, plant family leaders, and mini-botany speakers, as well as those who do the behind-the-scenes coordinating.

YOU MAKE IT HAPPEN!

Want to participate more? Don't hesitate to "raise your hand" and make an offer - you won't be turned down! We need the support of everyone!

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) _____ E-Mail: _____

Membership is on a calendar year basis.

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



Membership is on a calendar-year basis - it is time to renew!