

Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

April/May 2013

Pulling For Alaska

Join us at our Next Meetings!

Monday, April 1, 7:00 p.m

Main Program: "Locak Ethnobotany"

Speaker: **Peggy Hunt**

Alaska Plant Materials Center

Bog Plants: Sparganium/Callitriche

Leader: **Ginny Moore**

Mini-Botany Botanist: David Douglas

Presenter: **Anjanette Steer**

Monday, May 6, 7:00 p.m

Main Program: "Kodiak Flora"

Speaker: **Beth Baker**

Bog Plants: Ranunculaceae/Lemnaceae

Leader: **Mary Hopson**

Mini-Botany Botanist: *Franz Karl Merten*

Presenter: **Dorothea Williams**

The Summer Field Trip Schedule will be distributed in Mid-May.

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

We're also on FACEBOOK! Friend us!



Become a Weed Warrior

Every summer since 2004, the Alaska Native Plant Society has organized volunteer invasive weed pulls through the Weed Warriors program.

Any plant can vex a gardener, but invasive plants are plants that become established and spread without natural controls. Alaska is not free from invasion, nor the damage noxious and invasive plants cause. Alaska is one of the few places in the world where we can stop the threat of invasive plants now, which makes it even more important to work together right away.

Where do Alaska's invasive weeds come from? Most of Alaska's invasive weeds are native to Europe and Asia but not North America. An important reason for this is that there are large areas of Europe and Asia that are very similar in climate and geography to Alaska. The plants of these regions are thus perfectly suited to thrive here when removed from their natural enemies in their native habitats.

ANPS Project #1: Tragapogon Weed Pull on Seward Highway

Great progress has been made in the past few years of control. We saw only one plant that went to seed last year. They are a biennial with short lived seeds, so there is hope we may eliminate this showy but obnoxious weed.

ANPS Project #2: Dandelion Dig on the Lowenfels Trail at Alaska Botanical Garden. Most of the big flowering plants that were brought in by tires are gone but it will take more persistent trips to eradicate all of the babies that keep popping up as a result of seeds flying in off of the Campbell Airfield Road.

Check the upcoming Summer Field Events calendar for specific dates and locations.

All are welcome-extra hands are always needed to help pull invasive plants and keep our corner of Alaska wild and free from weeds.



Pulling For Alaska!

Kid-Friendly Alaska Plant Guide

Students at Polaris School are partnering with members of the Alaska Native Plant Society, Alaska Botanical Garden, the Forest Service and local publishing experts to publish a kid-friendly Alaskan plant guide. The team has been working to select plants that will fit the audience, purpose and context of the project. Students in grades 4-12 have divided into task groups of illustrators, writers, researchers, layout and design. They meet each week on Monday, Wednesday and Friday from 10:25-11:15. They encourage anyone who would be willing to help guide these student groups to join them. Contact Mindi Vogel at vogel_mindi@asdk12.org.

Identify Trees in Winter - April 7

Want to learn how to identify Anchorage's broadleaf trees when they lack leaves? Interested in what moose eat and why? Gino Graziano will be leading a winter deciduous tree identification course in Russian Jack Park on April 7th from 1 to 3 that will focus on both topics. Gino writes: What happens when an ornamental tree that contains cyanide invades the same habitats that moose forage in? You can help scientists find out. Come learn about monitoring moose winter foraging ecology, winter tree identification, and invasive species ecology. Invasive Plants Instructor Gino Graziano, UAF Cooperative Extension Service, is working with Anchorage School District students to collect data on how moose foraging behavior is affected by the May Day chokecherry (*Prunus padus*), a common, but invasive, ornamental tree. This is your opportunity to participate in an ecological study concerning an invasive tree and moose, an icon of Alaska. We will start indoors with some background information and tree identification then head out into the forest to collect some data.

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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 found in damp mountainous areas of interior Alaska, Northwest Alaska, a few isolated arctic spots Alaska and Siberia. It grows from an ovoid tuber deep in the moist tundra, and produces a few delicate stems with two narrow pointed leaves (about 2 in. long) and a frail stem with few white flowers. The flowers have two sepals and five petals with a yellow center. It does not appear to be very abundant, perhaps

because the tuber is edible or because it is not very noticeable. **ANSWER ON PAGE 6.**



Archibald Menzies (1754-1842)

Presenter: **James Sowerwine**

Archibald Menzies was born on March 15th 1754 in Scotland, where his father was a gardener on the local estate of Castle Menzies. He had a long and very active life as a surgeon in the Royal Navy, and a naturalist, who discovered more than 400 species previously unknown beyond their natural habitats. All of the Menzies boys joined their father as gardeners at the castle. Archibald later worked at the Royal Botanic Gardens in Edinburgh University and was encouraged to study medicine, botany surgery and chemistry. In 1782, Menzies enlisted with the Royal Navy, and was appointed assistant surgeon onboard *HMS Nonsuch*, an intrepid-class, third-rate, 64-gunner. He was involved in warfare almost immediately, as the ship was part of the British fleet which thwarted a French and Spanish invasion of Jamaica, at the Battle of Les Saintes, in April 1782, during the American Revolutionary War (1775-1783). His first long-range voyage was a circumnavigation the globe on board the *HMS Prince of Wales* as an assistant surgeon between 1786 and 1789; Menzies used this and subsequent travel as an opportunity to make plant collections from a range of locations around the globe. He circumnavigated the globe again between 1791 and 1795 as part of George Vancouver's expedition; this trip included a stop within Cook Inlet in Alaska. The strained relationship between Vancouver and Menzies, is well documented. It culminating in the latter's refusal to hand over his journals, etc., as was the custom. Menzies maintained that his records and specimens belonged only to Sir Joseph Banks, not the Royal Navy! This is wholly understandable, when Banks' instructions to Menzies included the documentation of all the plantlife he encountered in every country visited, by both scientific name and the name given by the locals, with seed and specimens to be gathered. Where seed could not be obtained, specimens were to be uprooted and planted in glass frames on the quarter deck of the "Discovery". This disagreement culminated in Vancouver recommending Menzies for a court-martial from the Navy, only withdrawn when Menzies apologised, after having got his work into the safe hands of Banks. Final naval postings included multiple locations in India. Menzies pursued further medical accreditation upon returning to England, where he opened a private medical practice in London. He stayed active within the botany community until his death in 1842 at age 88; this work included serving as the head of the Linnean Society.



Eric Hultén

Presenter: **Ginny Moore**

Oskar Eric Gunnar Hultén, (1894-1981) better known to Alaskans as Eric, was in his time the pre-eminent student of circumboreal floras, and overall one of the greatest of twentieth century plant geographers. Beyond being equally adept as a field biologist, specimen collector, herbarium organizer, literature synthesizer, and plant taxonomist, he was also an important producer of new theories. It was Hultén, for example, who first significantly challenged the earlier view that during the Ice Age most or all circumpolar lands were completely covered with ice and unfit for vegetation: his research led him to hypothesize instead that numerous refugia had existed, a conclusion that has largely proved out through many subsequent researches. Hultén coined the term "Beringia" to describe one particular such refugium he thought existed around the Bering Strait area during the glacial period days of lower sea levels, and the term has stuck and provided a foundation for thinking in an array of related fields. Hultén is also known for his theory of equiformal progressive areas, an elaboration on the "age and area" notion that plants change evolutionarily as they disperse out over time from refugial centers of origin. Several of Hultén's books became classics, including his regional surveys of Alaskan vascular plants (1941-1950 and 1968), his dot-map atlas of Scandinavian plant distribution (1950), and his phytogeographical syntheses of far-northern plant life (1958 and 1961).

Hailing from Halla in the Södermanland province of Sweden, he inherited an interest in plant life from his father. In 1920 he and his new wife joined the Swedish Kamchatka expedition, travelling by sled he explored the Bering Sound region and after his return in 1923 began work on the *Flora of Kamchatka and the adjacent islands* (published 1927-1930).

Hultén undertook another great expedition the following year (1932), this time to the Aleutian Islands, where he and his companion collected some 3,500 herbarium specimens. In 1937 he published both his *Flora of the Aleutian Islands* and received his doctorate from Lund with a thesis on the quaternary history of the Arctic and Boreal biota. After producing his thesis, Hultén moved on to study the Alaskan flora on many outings, publishing his *Flora of Alaska and Yukon* between 1941 and 1950. Married in 1920 to a fellow scientist, Dr. Elsie Vougt, his spouse accompanied him on many of his expeditions and was a keen collector in her own right. Together they had two children.

Callitriche

In April Ginny Moore will lead a discussion of Callitriche and Sparganium and genera of plants of bogs and marshes in Alaska.

Callitriche (*Cal-lí-tri-che*) is a genus of largely aquatic plants known as **water-starworts**. Previously, it was the only genus in the family **Callitrichaceae**. However, this family is now included in the Plantaginaceae (plantain family). The family name Callitrichaceae retains its status as *nomen conservandum* (name to be retained).

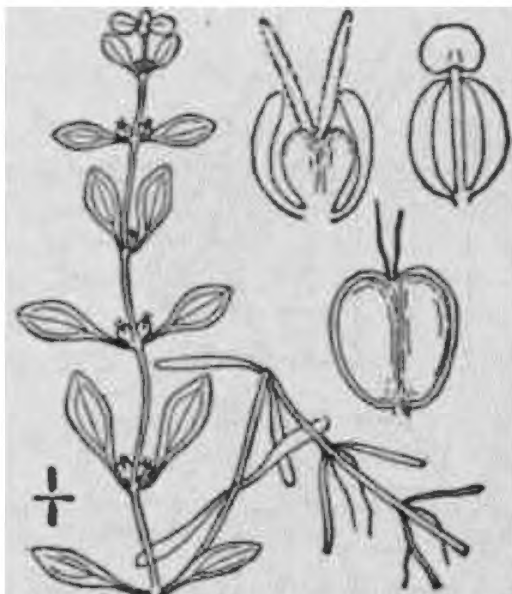
Callitriche are remarkable for having flowers able to be pollinated by wind when emergent (anemophily), by water when floating at the surface (epihydrophyly), as well as when submerged (hypohydrophyly)

Water-Starworts are so called because of the shape of their floating apical rosettes. They are most common in slow-flowing waters where muddy and silty sediments predominate, although they will grow in still and fast-flowing conditions up to 1 m deep. They are intolerant of inorganic pollution. They have slender stems and long, thin submerged leaves which expand when they reach the surface. The submerged leaves are characterized by the notched ends. The genus is extremely polymorphic, taking on different leaf shapes in different environmental conditions. Classification and distinction between species is often only possible by examination of the flowers and seeds. The Water-Starworts should not be confused with *Crassula helmsii*, which has similar shaped leaves to the submerged type exhibited by Callitriche species but no notches in the leaf tips.

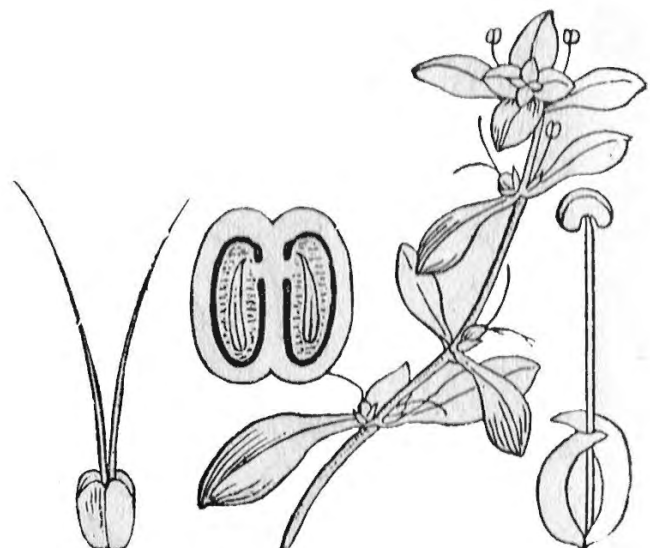
There are approximately 25 species worldwide, some of which are semi-terrestrial while all other species are restricted to freshwater aquatic habitats.

They have small insignificant flowers, with male and female flowers occurring on the same plant. The seeds contain four nutlets within an elastic coat. They sink to the bottom when released and can lie dormant in the mud for up to five years. Often this accounts for their sudden appearance in waters which have recently been cleared or dredged. Darkness inhibits the germination of the seed.

The Water-Starworts can cause problems by blocking flow in drainage systems and by dominating slow-flowing ponds and canals. In such conditions they form dense mono-specific stands. They are important as food and shelter for fish, as an invertebrate habitat and as food for ducks.



**Callitriche hermaphroditica,
plant and fruit**



**Callitriche verna,
flower and fruit**

Sparganium/Bur-Reed

Sparganium, commonly known as the bur-reed, is a genus of aquatic plants of shallow marshes, ponds and streams. There are 9 species found in the United States and Canada

Identifying bur-reeds in the field presents a special challenge to botanists. The group has its own set of specialized terms. Often, at least until mid-summer, you need to be familiar with vegetative characteristics of the different species. Most fruits are not ripe until late summer, so understanding the features of the flowers and inflorescences is important for spring or summer field surveys. Additionally, there is remarkable phenotypic plasticity within species. Plants of some species are typically limp and floating, but erect and emergent during periods of low water levels. In species with normally erect leaves, deep or moving waters often suppress flowering and stimulate formation of only long, ribbon-like leaves that resemble those of species that produce only floating leaves. Species normally having floating leaves sometimes produce partially erect leaves when stranded. Depauperate or deep-water individuals of species that usually bear branched rachises sometimes have simple rachises with shortened internodes, and then the flowers and fruits are often reduced in number, but their morphology is little affected.

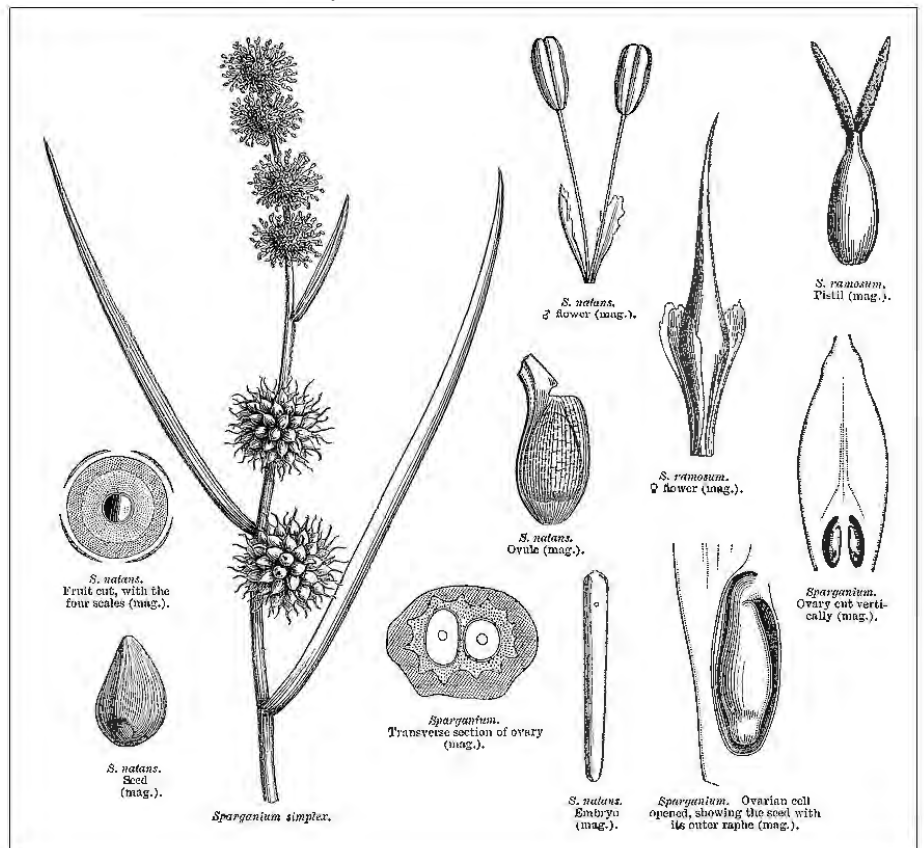
The stem, which may be floating or emergent, emerges from a buried rhizome, which like many wetland plants, is dependent upon aerenchyma (air channels which allow the exchange of gases between the shoot and the root) to transport oxygen to the rooting zone. The leaves are strap-like. The flowers are borne in spherical heads, which bear either male or female flowers. The seeds may accumulate in the soil as dense seed banks, which allow the plants to regenerate during low water periods.

The plants flower in late spring to late summer, and the flowering season is shorter northward and at higher elevations. Fruiting is in late summer and fall, and some plants flower and fruit simultaneously in late season, especially northward and at higher elevations. Occasional plants have only staminate flowers.

The flowers are borne in globose **heads**, the female flowers borne in separate heads from the male flowers.

- The male heads are borne at the tips of the inflorescence axis and branches, and the whole male head is deciduous. After it has fallen, you can tell where it was attached by the scar that is left on the stem.
- The female flowers are packed into spiky heads of their own. Each female flower will bear one or two stigmas, depending on the species. The stigma remains prominent in fruit, developing into a sharp-pointed beak. The beak may be straight, curved or hooked and may function in dispersing the fruits. The *bur* refers to the spiky appearance of the fruit heads.

Mature fruits are needed for identification of some species. The tepals, style, and often the stigmas remain attached to the mature fruits; the persistent style and stigma form the beak. The staminate rachises often persist, and the location and numbers of staminate heads can be determined from the scars of the fallen heads, even in fruiting specimens.



FROM OUR BOOKSHELVES



The Last Giant of Beringia: The Mystery of the Bering Land Bridge

by Dan O'Neill Westview Press, 2004; \$26.00

(Note: At the April ANPS meeting, in her discussion of Eric Hultén, Ginny Moore mentioned this book as having a very detailed description of Hultén's life and time in Alaska.)

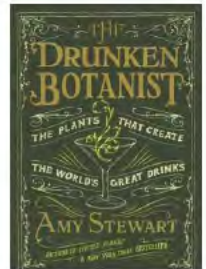
In this finely researched, elegantly written book, Alaskan historian Dan O'Neill relates a dual story, that of geologist Dave Hopkins, the last giant of the title, and the converging discoveries that led to the articulation of the now-accepted Beringia land-bridge theory.

The intriguing theory of a land bridge linking Siberia and Alaska during the coldest pulsations of the Ice Ages had been much debated since the idea was first proposed in 1589. But proof of the land bridge—now named Beringia after eighteenth-century Danish explorer Vitus Bering—eluded scientists until Dave Hopkins set himself to the task of solving the mystery. This compelling blend of science, biography, and history follows the life story of the eclectic Hopkins as he solves this mystery—and creates an international stir that solidified his place in history. An account that is both thrilling and accessible, *The Last Giant of Beringia* is popular science writing at its best.

The Drunken Botanist - The Plants That Create the World's Great Drinks

by Amy Stewart; Algonquin Books • 2013

Sake began with a grain of rice. Scotch emerged from barley, tequila from agave, rum from sugarcane, bourbon from corn. Thirsty yet? In *The Drunken Botanist*, Amy Stewart explores the dizzying array of herbs, flowers, trees, fruits, and fungi that humans have, through ingenuity, inspiration, and sheer desperation, contrived to transform into alcohol.



Of all the extraordinary and obscure plants that have been fermented and distilled, a few are dangerous, some are downright bizarre, and one is as ancient as dinosaurs—but each represents a unique cultural contribution to our global drinking traditions and our history.

This fascinating concoction of biology, chemistry, history, etymology, and mixology—with more than fifty drink recipes and growing tips for gardeners—will make you the most popular guest at any cocktail party.

The Territorial Seed Company has put together a *Drunken Botanist* Plant & Seed Collection based on the book, and wholesale grower Log House Plants, based in Oregon, is supplying the plants to garden centers and other retailers on the West Coast.

Amy Stewart is an award-winning author of six books on the perils and pleasures of the natural world, including three *New York Times* bestsellers, *Wicked Bugs*, *Wicked Plants* and *Flower Confidential*. There is an entire website dedicated to this book, including planting information and recipes: <http://drunkenbotanist.com/about-the-book/>

***Growing, Older: A Chronicle of Death, Life, and Vegetables* by Joan Gussow**

Joan Gussow has influenced thousands through her books, *This Organic Life* and *The Feeding Web*, her lectures, and the simple fact that she lives what she preaches. Now in her eighties, Gussow's memoir *Growing, Older* begins when she loses her husband of 40 years to cancer and, two weeks later, finds herself skipping down the street—much to her alarm. Why wasn't she grieving in all the normal ways? With humor and wit, she explains how she stopped worrying about why she was smiling and went on worrying, instead, and as she always has, about the possibility that the world around her was headed off a cliff. But hers is not a tale, or message, of gloom. Rather it is an affirmation of a life's work—and work in general.

Scattered throughout are urgent suggestions about what growing older on a changing planet will call on all of us to do: learn self-reliance and self-restraint, yield graciously if not always happily to necessity, and—since there is no other choice—come to terms with the insistencies of the natural world. Gussow delivers another literary gem—one that women curious about aging, gardeners curious about contending with increasingly intense weather, or environmentalists curious about the future will embrace.

Upcoming Botanical Events

CLASSES

Native Plants of Alaska: OLÉ! (www.oleanchorage.org) Wednesdays April 3-24 Members of the Alaska Native Plant Society will present a series of four lectures on the native flora of Alaska. You will learn about native plants from all over the state, including Kodiak Island and the Seward Peninsula. There will also be a day-long field trip in Chugach State Park on July 11th.

Local Wild Flowers: Alaska Botanical Garden (www.alaskabg.org) A month long field botany class with Verna Pratt and Dr. Marilyn Barker, about local plants, their identification, and uses. The class meets every Wednesday in May and registrants will attend either morning or evening sessions, not both. Limit 15 people per morning or evening session. Registrants will be given location at time of registration. Class fee does not include field trip transport or optional books / supplies. For more information please call 907-770-3692.

PLANT SALES:

Sat. May 18, Alaska Rock Garden Society--10am to 4pm, 7446 E. 20th Ave.

Sat, May 25, Alaska Rock Garden Soc.--10am to 4pm, Alaska Botanical Garden

Sat. May 25-- Alaska Rock Garden Soc.--10am to 3pm, 3379 Inlet Vista Cir., WASILLA (by way of Fairview Loop Rd,About 5 mi.)-----Sat. June 1, Wildflower Garden Club--10am to 4pm, 7435 Old Harbor Avenue

Sat. June 1, Anchorage Garden Club--10am to 4pm, 3734 W. 35th Ave.

Summer 2013 Botany Field Seminars from Alaska Geographic

Mosses and Lichens: A World Underfoot

May 31 - June 2, 2013

Interior Alaska is truly a land of mosses and lichens. With a combined total of over 800 species, they are one of the most diverse species groups in Denali National Park and Preserve. Join Denali botanist Sarah Stehn for an introduction to the smallest, yet ever-present members of Alaska's vegetation. This course is based out of the Murie Science and Learning Center Field Camp, located 29 miles inside the park along the Teklanika River. Please visit www.alaskageographic.org or call [907-683-6432](tel:907-683-6432) for more information or to register.

Edible and Medicinal Plants

July 5 - 7, 2013

Join herbal author Janice Schofield for a weekend of discovery and creation as we explore different habitats of the Denali region to learn about wild plants of Alaska. Our group will craft delectable wild meals and prepare herbal products for first aid and body care. This class is a lively, hands-on interaction with the plants. Please visit www.alaskageographic.org or call [907-683-6432](tel:907-683-6432) for more information or to register.

Wildflowers of the Chugach

July 6 & 7, 2013

Meander through the Chugach National Forest with wildflower expert and author Verna Pratt. Explore the diverse adaptations of flora rooted in the valleys, slopes, bog and rainforest. Observe plant characteristics, classification, and adaptations when wildflowers are at their peak in the Chugach Mountains - including locations such as Bryon Glacier, Girdwood, and Turnagain Arm Pass. Please visit www.alaskageographic.org or call [907-683-6432](tel:907-683-6432) for more information or to register.

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.

**Summer Field Trip Schedules Will Be Mailed in May
If you haven't renewed membership, you'll miss it!**

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