

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

November/December 2011

Upcoming Meeting

## Join us at our Next Meetings!

### Monday, Nov 7, 7:00 p.m.

(Campbell Creek Science Center)

**Topic:** "Impact of insects on native tree species and integrated pest management techniques to minimize damage"

**Speaker:** Michael Rasy, UAF Cooperative Extension Service, Integrated Pest Management Program

**Plant Family:** *Scrophulariaceae* (the Figworts)  
*Castilleja*

**Presenter:** Anjanette Steer

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### Monday, Dec. 5, 7:00 p.m.

**Topic:** "Macro-Photography For Native Plants" Talk and Mini-Workshop

**Speaker:** Julie Jesson

**Plant Family:** *Scrophulariaceae* (the Figworts)  
*Linaria*

**Presenter:** Joe Flynn

For the latest information about ANPS events and field trips, go to [www.aknps.org/](http://www.aknps.org/)



## Moth Outbreak Results in Defoliation

A widespread geometrid moth outbreak that has caused defoliation of berry crops, shrubs and trees on the Kenai Peninsula and Southcentral Alaska has spread as far north as Hatcher Pass this year. Michael Rasy, statewide integrated pest management technician for the UAF Cooperative Extension Service, said the outbreak was first reported in 2009 on the southern Kenai Peninsula. The most severely affected areas this year include Eagle River, around Summit Lake on the Kenai Peninsula, and near Homer and Seward where hundreds of trees have been defoliated. The culprits have been identified as the Bruce spanworm and the autumnal moth, which are geometrid moths.

Rasy said the blueberry and salmonberry crops have been affected in some areas as well. Bushes in a favorite spot in Eagle River have been denuded. There's just nothing there," he said. "Everything is brown and bare."

In some areas willow, birch and high-elevation shrubs have been especially affected. The defoliated plants look dead, but most will likely survive he said. Usually it takes several years of continuous defoliation to kill native deciduous trees, shrubs and berries.

The damage is done early in the spring. Caterpillars chew on the leaves and complete their work by the end of June before pupating in the soil. They reemerge during the fall to lay eggs that will hatch in the spring. The current outbreak should run its course in a few years.

Areas on the southern Kenai should see a significant decrease in moth activity in the next year, but the northern Kenai, Anchorage and Mat-Su Valley areas will likely have another year or so of heavy defoliation.

Watering plants and trees will aid survival. Certain berry crops and highly prized ornamental species may be sprayed with an insecticide beginning around the end of May but timing is critical. Caution is also recommended, however, since so many predators, including birds and other beneficial insects, are present at the same time as the caterpillars.

**NOTE:** Michael Rasy will be our guest speaker at the November ANPS meeting and will try to answer all of your questions about this outbreak of geometrid moths and how to deal with them.

# MYSTERY PLANT

Provided by Verna Pratt

This native plant can be found in alpine meadows and moist woodlands close to the mountains. It is circumpolar in northern areas, but not arctic. In Alaska, it can be found in Southeast, the Aleutian Chain, Southcentral, and Western Alaska as far north as the Alaska Range.

It has a slender, hair rhizome producing single hand-sized, triangular fronds that are very distinctive as the lower pinnae face downward. Usually they are 10-15 inches – the pinnae being hairy. (Answer on page 3 – Don't Peek!)



## General Guidelines for Seed Collection – There May Still Be Time!

Wait until the seed is ripe. Often the seed will become hard, dry and dark in color. The parent plant may show signs of dying back. Some seeds may have already dispersed.

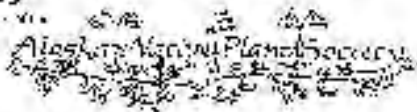
In some cases you can pull or shake off the seeds. In other cases it's easiest to cut off the seed head and clean it at home later.

Keep seeds dry. Put them in a paper (not plastic) bag or envelope until they are completely cleaned and dried. Once the seeds are cleaned and dry they can be kept in plastic bags, preferably in a dry cool dark place. Remember to label them carefully with the species, the date and the location where they were collected...especially if you plan to donate a portion to ANPS Seed Exchange.

Most seeds mature in the fall and are intended to germinate the following spring. It is often necessary to persuade a dormant seed that it has been through a winter. The exact requirement for each species can be looked up, but the commonest is cold damp stratification. This means moistening the seed and placing it in a cold environment for one or more months before planting.

Growing plants from your own seed is a great way to expand your own garden or to provide extra plants for your friends and neighbors to grow. Careful and responsible collecting of seeds from wild plants can be an important part of regenerating endangered environments.

*Borealis*



### ALASKA NATIVE PLANT SOCIETY

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President	Anjanette Steer
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Membership	Verna Pratt
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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](mailto:tgmoore@gci.net)

## ANPS Seed Exchange is Open!

Please remember to send in seeds from your native plant gardens...or from ethically-collected wild sources...as soon as possible – and definitely by the December meeting date. The next issue of the *Borealis* Newsletter will contain a list of seeds that are available for purchase and they will also be available at future meetings.

**Thank You!**

To  
EVERYONE

Who led a field trip or work party this past summer and to all the participants!

You make it happen!

# Plant Family Study 2011/2012 Season- Scrophulariaceae

This year, the Alaska Native Plant Society will focus on the study of the plant family Scrophulariaceae/Figwort or Snapdragon Family. At each monthly meeting, a member will lead discussion of one or more genera of this family that can be found in Alaska.

If you've ever seen a common domestic snapdragon, then you know the Figwort family.

There are about 2800 species 200 genera of Scrophulariaceae distributed worldwide; many grow in the American Northwest. The name was derived from European species of *Scrophularia*, the common figwort. The plants were used to treat hemorrhoids, which were known as "figs". Figworts were also used to treat scrofula, a form of tuberculosis carried in the milk of infected cows. Except for the foxglove (*Digitalis*), the source of the heart stimulant digitalis, none of the members of this family is of noteworthy economic importance, but many, like the penstemons, are cultivated for their handsome flowers.

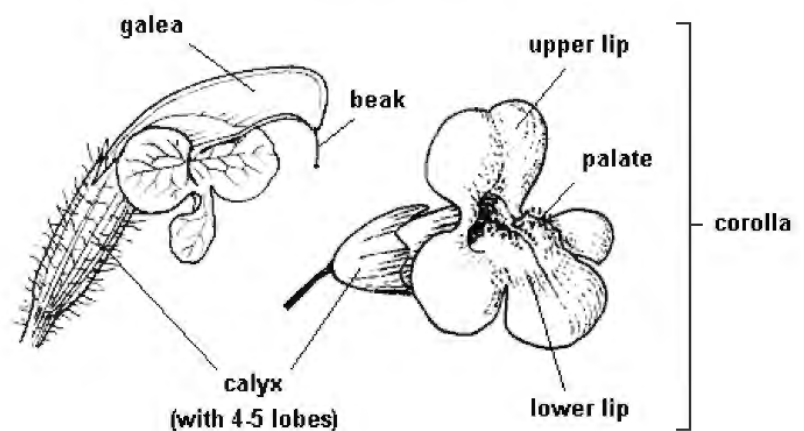
In the family Scrophulariaceae are some common **hemiparasites**, such as Indian paintbrush (*Castilleja*), lousewort (*Pedicularis*), and bird's beak (*Cordylanthus*). These have green, photosynthetic leaves, but a substantial portion of the parasite's carbon is derived from the host plant, parasitized from the roots.

## Characteristics of this Plant Family:

**Leaves, Stem & Roots** - Generally, the leaves are opposite or alternate, without stipules, and may be evergreen. Sometimes, they are lobed or cut.

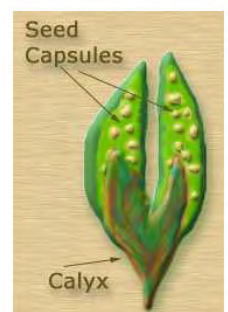
**Flowers** - The calyx under the flowers has five lobes, and the flowers are usually borne in spikes. There are two main flower shapes. Some species (e.g. *Veronica*), have four petals, but many have irregular shaped flowers with five petals, often joined to form a bell or tube, sometimes with two lips. Sometimes the two-petal upper lip becomes enlarged and hooded. This helmet shaped projection is called a **galea**. In some species (e.g. *Linaria*), there is a long hollow spur with honey to attract pollinators. There are two long and two short stamens attached to the petals.

Typical Figwort Flowers



The flowers have two pairs of anther-bearing stamens, and a sterile fifth stamen—a taxonomically important feature. All these parts are attached at the base of the ovary. The flowers are bisexual and sometimes have brightly colored and conspicuous associated bracts.

**Seeds** - In most members of this Family, the seedpod is a **dry capsule**, formed from a **superior ovary**. The seed capsule is usually dehiscent, containing many small seeds, which may be smooth or patterned. The capsule is rarely indehiscent, when it can be dry or succulent. In many cases, the seedpod is pointed and opens like a beak.



*Scrophulariaceae* (the Figworts)*Castilleja* – The Paintbrushes

At our November meeting, Anjanette Steer will begin our new plant family study of *Scrophulariaceae* with a discussion of *Castilleja* genus.

The paintbrushes are species of *Castilleja*, named for Domingo Castilleja, an early Spanish botanist. There are many—about 250 species—in the west; Hultén listed 15 species in Alaska. In 1934, Francis W. Bennell wrote that “The Indian Paint-Brushes, among the most beautiful plants of the *Scrophulariaceae*, are notoriously a difficult group taxonomically. They are almost all American, and most numerous on the western sides of the continent; one species *Castilleja pallid*, extends westward from Alaska into the Palearctic Region. (Francis W. Pennell. 1934. *Castilleja* in Alaska and northwestern Canada. Proceedings of the Academy of Natural Sciences of Philadelphia)

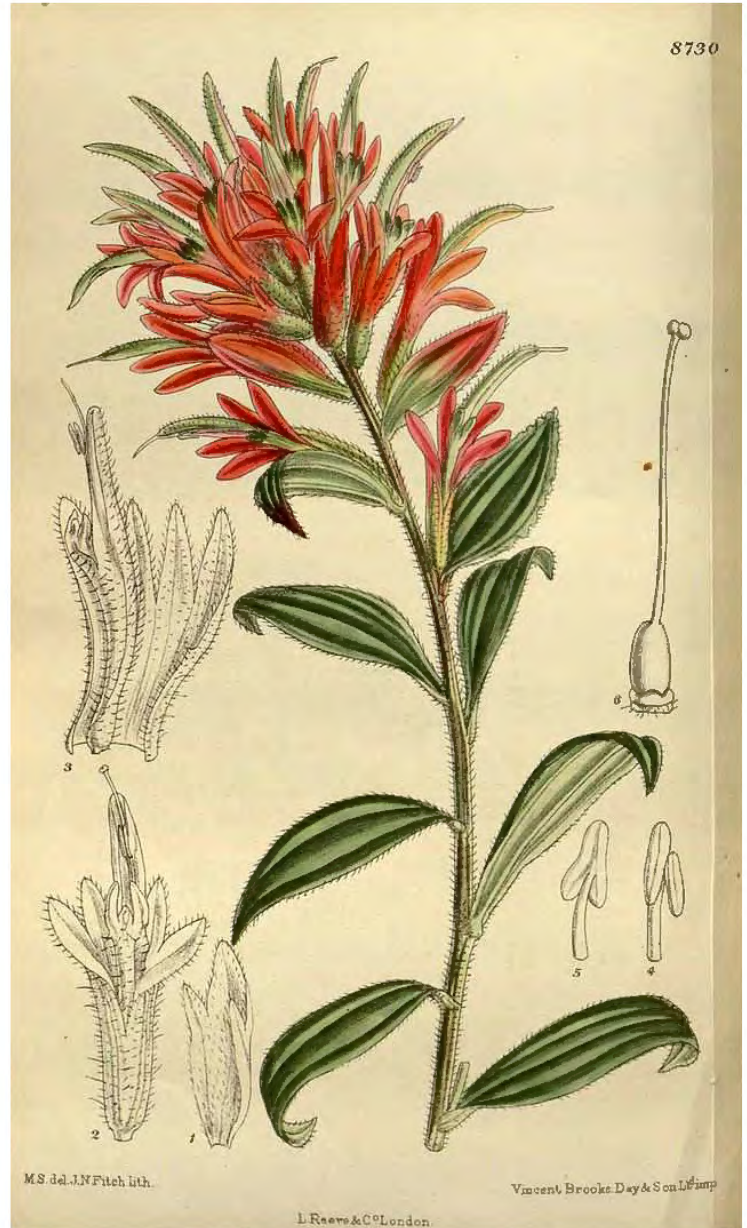
Their classification is still difficult since so many genera in the species look similar.

The flowers of the various paintbrushes are almost hidden by colorful surrounding leaves, called bracts. They occur in many shades and colors -- rose, pink, red, orange, yellow, and even white. The flowers themselves are made up of a four-spiked calyx from which five united petals, called a corolla, protrude. The corolla is shaped into a narrow, elongate, greenish-yellow tube. The two lower lobes of the corolla form the characteristic two lips. There are two tiny lateral ones, and then an overhanging beaklike fifth lobe known as a “galea”, (the Latin word for helmet).

The leaves of paintbrushes are alternate, lance-shaped or linear or finely divided into 3-5 linear segments. The fruits are capsules, with many net-veined seeds.

All paintbrushes have rather woody, well branched root systems.

The plants are “hemi-parasites” or partly parasitic on the roots of other plants, such as sagebrush and rabbitbrush. This makes them difficult to grow in a home garden, which does not have the needed host plants.

**Mystery Plant Answer***Thelypteris phegopteris*

Northern Beach Fern

Family Thelypteridaceae/Marsh Fern

*Scrophulariaceae* (the Figworts)*Linaria*

In December Joe Flynn will continue our study of the *Scrophulariaceae* family with a discussion on the *Linaria* genera.

*Linaria vulgaris*, known commonly as common toadflax, butter and eggs or wild snapdragon, is a perennial plant, that often grows in clumps up to 2 ½ feet high. The common name is taken from the flowers' color combination, and the Latin genus name is derived from *linum*, the genus of flax, because the leaves resemble this species. It is believed that a tea made from this plant is good for skin eruptions, jaundice and as a laxative. Leaves are numerous, alternate, pale green, narrow, up to 2 ½ inches long and pointed at both ends. Flowers are yellow with an orange throat and 1-2 inches long, appearing in dense terminal clusters and resembling snapdragons, with a tube-like structure extending below the lower lip of the corolla. The fruit is an ovate to egg-shaped capsule that is ¼ to ½ inch long. Seeds are flattened, ovate and winged.

**Ecological Impact**

Yellow toadflax is a persistent and aggressive invader that is capable of forming dense colonies. It can suppress native grasses and other perennials, primarily through intense competition for limited soil and water. This species contains a poisonous glucoside that is reported to be unpalatable and moderately poisonous to livestock. Yellow toadflax is an alternate host for tobacco mosaic virus. It reduces soil moisture and nutrient availability, changes soil texture and composition, and alters local pollination ecology.

**Biology and Invasive Potential**

Yellow toadflax reproduces by seeds and creeping rhizomes. Plants cannot self-fertilize and are pollinated by insects. Seed production ranges from 1,500 to 30,000 seeds per individual but seed viability is generally low. Seeds are winged and can be carried by the wind, and they may remain dormant for a period of up to 10 years. Taproots may penetrate the soil to 3 feet deep and extend 10 feet away from the parent plant. Disturbance promotes invasion and is necessary for establishment to occur.

**Distribution and Abundance**

Yellow toadflax was imported into North America in the late 1600s as an ornamental and for folk remedies. They are easy to grow and very hardy. Yellow toadflax was often one of the first flowers planted at mining settlements, and it often still remains in these abandoned townsites and spreads into surrounding wild areas.

It occurs on sandy and gravelly soil on roadsides, pastures, lake and beach shores, cultivated fields, meadows, and gardens. It is found throughout the United States and in every Canadian province and territory. It is commonly found throughout southcentral and interior Alaska, particularly near settlements. Native to southcentral Eurasia, its present distribution is worldwide.

**Management**

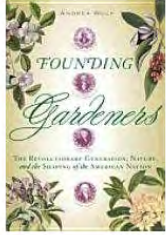
Cutting, mowing, and tilling are effective ways to eliminate plant reproduction by seed, and hand-pulling can control small infestations if monitored and retreated over many years. Control is most effective in early summer, after flower bud formation but before flowering. Herbicide treatment can significantly reduce plant infestations. Several biological agents effective against yellow toadflax have been approved by the USDA. A weevil, *Gymntron antirrhini*, is the most important agent for biological control in British Columbia and the northwestern US. Other agents include shoot- and flower-feeding beetles (*Brachypterolus pulicarius*) and root-boring moths.

This material was adapted from "Yellow Toadflax – Invasive Species of Alaska" produced by Alaska Natural Heritage Program, University of Alaska Anchorage.





# BOTANY BOOKSHELF



***Founding Gardeners***  
By Andrea Wulf  
Hardcover, 352 pages  
Knopf 2011

As British troops closed in on New York City in the fall of 1776, Gen. George Washington had something crucially important on his mind. Congress had ordered him to hold the city, but on the eve of the battle, he set aside his maps and documents and began a letter to the steward of his estate, Mount Vernon, detailing the construction of a new garden.

"What is more remarkable than the timing, really, is that he's asking for only native species," author Andrea Wulf told *All Things Considered* guest weekend host Linda Wertheimer. "As if he wants to create an all-American garden where no English tree is allowed to claw its roots in the soil."

Wulf is the author of a new book, *Founding Gardeners: the Revolutionary Generation, Nature, and the Shaping of the American Nation*. She describes a side of the Founding Fathers not often seen: Washington, Thomas Jefferson, John Adams and James Madison were all avid — even obsessive — gardeners.

Washington dreamed up a new way to collect and use manure in his gardens. Jefferson treasured the seeds brought back by the Lewis and Clark expedition and tried them all out at Monticello.

But of all the founding fathers, it was John Adams who was really what we would recognize today as a gardener, "because he loves his dirt. He just loves getting his hands dirty and having his hands in the manure, in the soil," Wulf says. "He, whenever he is involved in political battles, he is yearning, yearning to be in his garden."

Wulf adds that Abigail Adams probably welcomed her husband's obsession with his garden, because it helped him work off his famous temper. "He has this sort of totally visceral connection with the soil, I think."

That connection with the soil was a central part of the founders' vision, Wulf says. "They all agree that agriculture should be the foundation of the American republic ... they believe that the independent, small-scale farmer ... is really the foot soldier of the infant nation."



***Weeds: In Defense of Nature's Most Unloved Plants***  
By: Richard Mabey  
Published by Ecco, June 2011

The true story—and true glories—of the plants we love to hate. From dandelions to crabgrass, stinging nettles to poison ivy, weeds are familiar, pervasive, widely despised, and seemingly invincible. How did they come to be the villains of the natural world? And why can the same plant be considered beautiful in some places but be deemed a menace in others?

In *Weeds*, renowned nature writer Richard Mabey embarks on an engaging journey with the verve and historical breadth of Michael Pollan. Weaving together the insights of botanists, gardeners, artists, and writers with his own travels and lifelong fascination, Mabey shows how these "botanical thugs" can destroy ecosystems but also can restore war zones and derelict cities; he reveals how weeds have been portrayed, from the "thorns and thistles" of Genesis to Shakespeare, *Walden*, and *Invasion of the Body Snatchers*; and he explains how kudzu overtook the American South, how poppies sprang up in First World War battlefields, and how "American weed" replaced the forests of Vietnam ravaged by Agent Orange.

Hailed as "a profound and sympathetic meditation on weeds in relation to human beings" (*Sunday Times*), *Weeds* shows how useful these unloved plants can be, from serving as the first crops and medicines, to bur-dock inspiring the invention of Velcro, to cow parsley becoming the latest fashionable wedding adornment. Mabey argues that we have caused plants to become weeds through our reckless treatment of the earth, and he delivers a provocative defense of the plants we love to hate.

Set on a chronological course, "Weeds" is first and foremost a book of color. We tend to think of weeds as greenish, but Mabey points out the reds, blues, whites, yellows and purples that make up this collection of "aliens"...a word he uses frequently throughout. His book is largely central to the weeds of Britain (naturally, as he is British himself) but it is not confined to those sceptered isles. He speaks often of the weed invasion of the United States, which includes purple loosestrife and that rampant kudzu in the American south.

**Do you have a good botany book to recommend? Do tell!**

# INDOOR BOTANY

Field trips and berry picking activities are over, gardens have been put to bed, and we've had our potlucks to share what happened and what didn't. Now what? There's a long season ahead of us until the next chance for outdoor botany but all winter there will be many activities available to get you prepared and to encourage you to learn more about a different area – here's your chance to study up on mushrooms, herbs, fruit trees, roses. Or bring that garden inside and learn about orchids, African violets, and more. Below you'll find a list of some of the events that are happening in our neighborhoods in the next few months, with information on how to find out more about each group. I know there are lots more outlets out there, and mostly focused on Southcentral Alaska. If you know of other group activities in your location that we should let others know about – send an e-mail to [tgmooore@gci.net](mailto:tgmooore@gci.net) and we'll get the word out.

## **November 3, Thursday 7:00 pm**

**Anchorage Wildflower Garden Club, Ice Sculpture Inspirations & How to Make Them.** Presentation by Kathy Zeitz, Valley Garden Club. Location: Pioneer School House, 437 E. 3rd Avenue, Anchorage

## **November 3, Friday 12 Noon-1:30 pm**

**Anchorage Herb Study Group,** Anchorage Cooperative Extension Service, 1675 C Street

## **November 8, Tuesday, 7:00 pm**

**Central Peninsula Garden Club;** Cook Inlet Aquaculture Building, 40610 Kalifornsky Beach Road, Kenai. Visit website for more information: [www.cenpengardenclub.org](http://www.cenpengardenclub.org)

## **November 10, Thursday 6:30 pm**

**Harvest Successes and Failures,** Alaska Pioneer's Fruit Growers, BP Energy Center 900 E. Benson Blvd. Anchorage. Gary Masog, Website: <http://www.apfga.org>

## **November 10, Thursday 10:00 am**

**Anchorage Wildflower Garden Club, Softening Vertical Surfaces,** Presentation by Annie Nevaldine, Master Gardener, Central Lutheran Church, 1420 Cordova Street, Anchorage

## **November 15, Tuesday**

**Anchorage Garden Club Holiday Tea.** Wells Fargo Bank, Northern Lights Blvd. & C St., Anchorage

## **November 15-16, Tuesday & Wednesday**

**Anchorage Garden Club 51<sup>st</sup> Holiday Flower Show.** Wells Fargo Bank, Northern Lights Blvd. & C St. Anchorage

## **November 19, Saturday 2:00 pm**

**Alaska Rock Garden Society,** Cooperative Extension Service, 1675 C Street, Anchorage. Monthly program meetings are held on the third Saturday of the month and rotate between Anchorage and valley locations. Visit website link for more information. <http://www.args.org/>

## **November 21, Monday 7:00 pm**

**Hardscape Happenings: Arbors, Fences, Walkways** Alaska Master Gardener Association Anchorage meeting. Panel presentation, UAF Cooperative Extension Service, 1675 C Street, #100, entrance off 16<sup>th</sup> Ave,

## **November 22, Tuesday – 7:15 pm**

**Alaska Orchid Society - "Orchid Companion Plants";** BP Energy Center, Anchorage  
Wayne Toups will have some ideas for companion plants to grow with your orchids. There are many houseplants that thrive with the same growing conditions as particular orchids. Stay current on Facebook: <https://www.facebook.com/pages/Alaska-Orchid-Society/199991986718895?sk=wall&filter=1>

## **December 2, Friday 12 Noon-1:30 pm**

**Anchorage Herb Study Group,** Anchorage Cooperative Extension Service, 1675 C Street

## **December 8, Thursday 6:30 pm**

**Updates and Future Plans for the USDA Agricultural Research Service,** Alaska Pioneer's Fruit Growers meeting. Presentation by Dr. Dan Barney, Horticulturist, Agricultural Research Service, Palmer. Location: BP Energy Center 900 E. Benson Blvd. Anchorage, Gary Masog,

## 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.

**IT IS TIME TO RENEW!** Would you rather receive your Alaska Native Plant Society electronically? You can save postage, paper, and receive your information in a more timely fashion! All you need to do is e-mail Ginny Moore at [tgmoore@gci.net](mailto:tgmoore@gci.net) and your next newsletter will be sent electronically instead of by snail mail. If you converted to electronic format previously, would you please remind us again – a computer gremlin ate the list and there wasn't a backup. But there will be next time! Thanks!

Alaska Native Plant Society  
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Anchorage, AK 99514