Borealis

the newsletter of the

Alaska Native Plant Society

PO Box 141613, Anchorage, Alaska Oct. – Nov. 2014

Join us at our Next Meetings!

Monday, Oct. 6, 6:00 p.m

Slide Show & Potluck

Everyone is invited to share up to 10 photos of their activities this past summer. The food is always yummy!

Monday, Nov. 3, 7:00 p.m

Main Topic: "Ethnobotany From a Native Perspective".

Speaker: Gary Ferguson BS, ND
Director of Wellness and Prevention,
Community Health Services
Alaska Native Tribal Health Consortium

Plants of Scree and Talus: *Synthris borealis* and *Polemonium boreale*

Leader: Marilyn Barker

Mini-Ethno-Botany: Artemesia, Birch

Presenter: **Beth Baker**

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

"Like" Us on Facebook!

Honoring Our Own!

Let's Focus on Ethnobotany – Plants in our Culture

> ***Ethno***: a culture's collective body of beliefs, aesthetic, language, knowledge, and practice.
> ***Botany***: the study of plants—from the tiniest fern or blade of grass to the tallest or oldest tree.

Some of the topics at our monthly meetings this year will focus on ethnobiology and particularly on ethnobiology in Alaska.

Gary Ferguson will kick off this discussion at our November meeting with a look at ethnobotany from a Native perspective. The mini-botany series will address the local use of several native Alaskan plants each month.

Ethnobotany is the study of how people of a particular culture and region make of use of indigenous plants. Ethnobotanists explore how plants are used for such things as food, shelter, medicine, clothing, hunting, and religious ceremonies.

Ethnobotany has its roots in botany, the study of plants. Botany, in turn, originated in part from an interest in finding plants to help fight illness. In fact, medicine and botany have always had close ties. Many of today's drugs have been derived from plant sources. Pharmacognosy is the study of medicinal and toxic products from natural plant sources. At one time, pharmacologists researching drugs were required to understand the natural plant world, and physicians were schooled in plant-derived remedies. However, as modern medicine and drug research advanced, chemically-synthesized drugs replaced plants as the source of most medicinal agents in industrialized countries. Although research in plant sources continued and plants were still used as the basis for some drug development, the dominant interest (and resulting research funding) shifted to the laboratory.

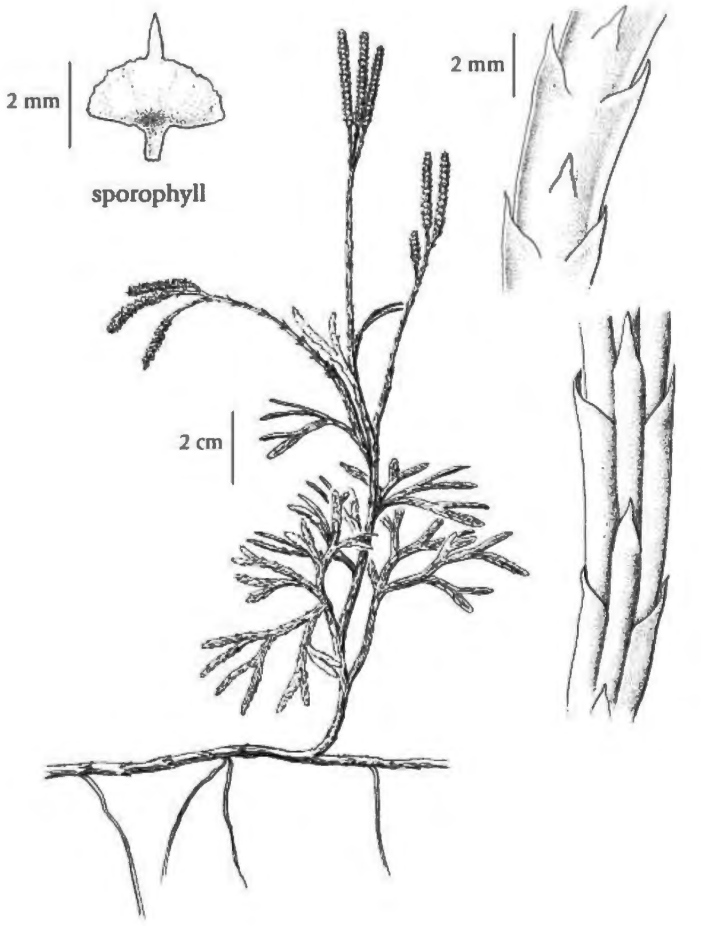
Today we are seeing a growing shift in interest once more; plants are reemerging as a significant source of new pharmaceuticals. Industries are now interested in exploring parts of the world where plant medicine remains the predominant form of dealing with illness. Universities are beginning to offer degree programs for those interested in pursuing careers in ethnobotany. Read more about this on page 3!

MYSTERY PLANT

Each year while looking for lingonberries and strolling through the mixed woods in September, there is one plant that really stands out. Seldom do the two plants mix.

Unlike lingonberry, this plant likes drier and shadier sections of the same woodland areas. It crawls along the ground on thick, rope-like runners that are buried in the forest duff. Its coarse, flattened, evergreen branches are forked much like animal antlers. The small leaves are in four ranks around the branches which send up long stemmed spikes of spores that send yellow powder through the air as you walk through the vegetation. When making wreaths with evergreen branches, this plant can be used like rope to bind things together and makes a wonderful addition both in texture and color.

Answer on Page 7.



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- If you do not have a Rewards Card, they are available at the Customer Service desk of any Fred Meyer store.
- For more information, please visit www.fredmeyer.com/communityrewards.

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ALASKA NATIVE PLANT SOCIETY

State and Anchorage Chapter Officers

President	Anjanette Steer
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Secretary	Beryl Wardlaw
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Anchorage Chapter Program Coordinators

Membership	Bernadine Raiskums
Plant Family	Beth Baker
Mini-Botany	Beth Baker
Field Trips	Marilyn Barker

Newsletter ("*Borealis*")

Editor	Ginny Moore

Borealis is published bi-monthly, fall through spring. Articles may be sent to Ginny Moore, , Anchorage, AK 99516.
Phone or FAX: , E-mail: elfinwood@gmail.com

Alaska Botany Forum in Anchorage - October 30-31, 2014

The Alaska Native Plant Society will host the 2014 Alaska Botany Forum on Thursday October 30th and Friday October 31st, 9am to 4:30 pm daily in room 307 of the Consortium Library on the University of Alaska Campus in Anchorage.

Formerly known as the Alaska Rare Plant Forum, the meetings are open and free to all who are interested in Alaska's flora. It is the one opportunity Alaskan field botanists have to meet in one room!

Presentations will pertain to Alaskan plant systematics, phytogeography, floristics and rare plants.

It may not be too late to get on the agenda to share your summer research findings. Contact the organizers at: akbotanyforum@gmail.com

Even if you have nothing to present this time, you should definitely check out the schedule and attend as many sessions as you can! Note that while the sessions are free, parking at UAA is not free.

Ethnobotany in Alaska – Plants Sustaining People

The **UAF Ethnobotany Certificate Program** is the first such program in this state and only one of a handful that are currently being offered in the entire United States. Students enrolled in the EBOT program learn: basic plant biology & floral ecology of Alaska, economic applications of Ethnobotany, basic applied chemistry of plants, research methods for local specific projects, as well as traditional and new uses of Alaska native plants. These skills will prepare students for employment in wildlife and cultural management agencies, education, and other rural-based jobs, as well as further college milestones such as the Associates and Bachelor of Science degrees. http://www.uaf.edu/drumbeats/ethnobotany

The **Ethnobotany Teaching Garden** at the Alaska Plant Materials Center in Palmer includes the study of how the many cultural groups in Alaska use plants as food, medicine, and technology. The Plant Materials Center works with people throughout Alaska to learn about and plant their own Ethnobotany Garden. http://plants.alaska.gov/Ethnobotany.html

There have been numerous publications describing the traditional use of native Alaskan plants by various ethnic groups. Some can be purchased from local and on-line bookstores. Read about one of these on Page 6. Below you'll find information about one you can download for free!

A project titled "Traditional Use and Conservation of Plants from the Aleutian, Pribilof, and Commander Islands", prepared in 2006 for the Institute for Circumpolar Health Studies and Aleut International Association, produced an annotated bibliography of the literature pertaining to the traditional, historical, and contemporary Aleut use of plant resources. The annotations are specifically designed to present concise evaluations of the usefulness of particular works for providing information regarding the ways in which plant materials (including wood, flowers, roots, grass, and so on) were utilized by Aleuts.

Three types of information were recorded for each reference: (1) the kinds of plant uses reported (e.g., raw materials, medicine, food, and spiritual) and the specific plants used; (2) the nature of the data used in each reference (e.g., archaeological, ethnohistoric, ethnographic, oral history, linguistic, etc.); and (3) basic documentation for the reference (e.g., author, title, date, villages and islands covered, etc.). You can download the complete publication from the Conservation of Arctic Flora and Fauna (CAFF) website: *http://www.caff.is/component/dms/view_document/33-aleut-ethnobotany-an-annotated-bibliography?Itemid=217*

Monthly Meetings Are THE Roots of ANPS

Summer is the time to be in the field studying plants in their natural habitats (as well as all the other things we jam into those precious few months. Fall, winter, and spring are times to strengthen our knowledge base and renew our ties with other botanists and plant lovers. Our ANPS monthly meetings are meant to do just that!

This year, as well as a slate of interesting topics from "expert" speakers from the community, we will continue to learn from each other. At each monthly meeting there are two different opportunities for members to share what they know or have learned about a particular topic. Each year there is a mini-botany program as well as a short presentation on plant communities. Beth Baker has done a fantastic job of organizing these programs and we've had enthusiastic response from members willing to take on these topics.

Mini-botany Series for 2014-15: Ethnobotany

As our cover story indicated, ethnobotany will be a continuous thread of discussion woven throughout the season. The mini-botany series will highlight two Alaska native plants and the role they have and continue to play in the culture of our people:

Month	Topic	Presenter
November 3	Artemesia; birch	Beth Baker
December 1	spruce; sphagnum moss	Mel Langdon
January 5	willow; yarrow	James Sowerwine
February 2	plantain; fireweed and river beauty	Glenn Brown
March 2	Devil's club; bull kelp	John Trent
April 6	dandelion; beach greens	Mike Monterusso
May 4	alder; horsetail	Anjanette Steer

Plant Community Series: Plants of Scree and Talus

There are many environments in which plants grow, and each has specialized species or species with distinct characteristics unique to each environment. Those plants that choose to grow in the scree and talus fields (those accumulations or deposits of broken rock fragments at the base of crags, cliffs or ridges) tend to form low mounds, more loose than those in crevices, but still tight enough to keep a low profile, and to take advantage of the added heat and protection from the rocks in the scree. Month by month, we'll have a snapshot view of a couple of these special Alaska native plants of the scree zone.

Month	Topic	Presenter
November 3	*Synthris borealis* and *Polemonium boreale*	Marilyn Barker
December 1	*Papaver alboroseum, Silene acaulis*	Verna Pratt
January 5	*Cadamine bellidifolia, Oxytropis nigrescens*	Glenn Brown
February 2	*Astragalus nutzotineaus* and *aborginum*	Dennis Ronsse
March 2	*Crepis nana* and *Saxifraga bronchialis*	Mike Monterusso
April 6	*Claytonia scammaniana* and *C. sarmentosa*	Marilyn Barker
May 4	*Saxifraga oppositifolia* and *Eritrichium arctoides*	Glenn Brown

Plant Family Study

NOVEMBER

Plants of Scree and Talus – Tough and Hardy

In November, we'll begin the mini-botany series highlighting plants of scree and talus. In order to set the stage, let's talk a little bit about this ecosystem where these plants thrive.

In mountainous regions, eroded rocks often gather below slopes or glaciers. Weather cycles gradually break down the rocks, and the result is a mixture of silt and stone. Scree is the smaller rocks and talus are the boulders and larger rocks. These steep, wind-scoured, loose talus and scree are often blown free of snow during winter, exposing plants to severe environmental stress. Soils are usually gravelly and rocky, and can be acidic or calcareous depending on the rock. Organic matter is found in very limited quantities in pockets among boulders, or in fractures or the leeside of the bedrock slabs. A very cold climate and high winds during winter, may be followed by and by high winds, high UV radiation and high surface daytime temperatures during summer months, especially on south and west facing aspects. Altogether, it would seem like an improbable habitat for plants. And it is true that plant cover is usually less than 10%. In fact when one manages to get out onto a scree it seems at first to be entirely plantless, then one small plant is spotted, then another and another. The plants are often grey like the stones, fleshy, and tend to be scattered fairly evenly across the scree several feet apart. At first they all appear the same, but closer inspection reveals several different and mostly quite unrelated species. About a dozen of these are found only on scree and there only away from the margins, in the deeper and most mobile parts. It is clear then that conditions are not as impossible as they seem.

"For some types of ecosystem resilience depends, paradoxically, on change. A good example is the alpine scree, which if not disturbed from time to time may eventually become an alpine meadow. Far from being disadvantaged by disturbance, true scree plants are favored by it. Often short-lived as individuals, scree plants characteristically reproduce by vegetative fragmentation (for example in many campanulas and sedums), or have deep-delving taproots that can produce new shoots after decapitation once the scree resettles (as in many members of the dandelion and cabbage families). In the closed community of the alpine meadow, where the ability to compete successfully for resources is paramount, these scree plants are generally unable to compete and soon die out."

Alpine Plants - Ecology For Gardeners*, by John E.G. Good and David Millward, 2007*

Most scree and bedrock inhabiting plants are highly adapted to this xeric environment and occur as singular plants among the exposed rocks or in bedrock fractures. These species are typically cushioned, matted or succulent, or grow as flat rosettes, often with thick leaf cuticles or a dense cover of hairs.

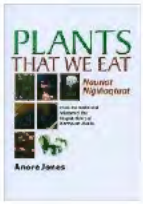
An interesting study reported from China ("Alpine Scree Plants Benefit From Cryptic Coloration With Limited Cost" by Niu Y, Sun H) suggests that the gray color of many of these plants is a further adaptation for survival. Defensive coloration, known as cryptic coloration, is well known in the animal world. Using the results of a molecular phylogeny study of Corydalis in China, they found that various species with gray leaves have evolved several times from the ancestral green condition, exclusively in the alpine scree habitat. Their conclusion was that the extreme environmental conditions associated with alpine scree may induce the production of anthocyanins, which contribute to form this leaf color. In addition, plants may suffer higher stress from herbivores in such habitats with open vegetation. In the study, they noted that the gray leaf color had not evolved in the alpine meadow species.

Join us throughout the year as we focus on several of these especially tough and hardy Alaska natives.

FROM OUR BOOKSHELVES

Tanaina Plantlore: An Ethnobotany of the Dena'ina Indians of Southcentral Alaska
By Priscilla Russell Kari
Publisher: Alaska Geographic
4th edition, 1995
ISBN 978-0930931490

This comprehensive guide includes more than one hundred plants recognized by the Dena'ina people of Southcentral Alaska. Common English names together with scientific names, and the Native name and its translation, combine with full-color photos and detailed descriptions of each plant. The Dena'ina people are Athabascan Indians with extensive knowledge about local plants. Historically, they used plants for food, medicinal purposes, and everyday uses such as dyes, chewing gum, glue, and waterproofing material. Plants were also used to construct buildings, boats, sleds, snowshoes, spears, cooking utensils, and other items. The Dena'ina still use plants for many of these purposes today. Priscilla Russell Kari is an ethnobotanist who collaborated with the Dena'ina people to put together this book. For more than a decade, she gathered and compiled the traditional knowledge that they shared with her about plants. It is her hope that this book will dispel notions fostered during early contact in the 1800s that Native people have neither medicine nor any knowledge of medicinal herbs and make people more aware of the rich cultural heritage of the Dena'ina people.



Plants That We Eat
By Anore Jones
Publisher: University of Alaska Press
Publication date: 7/28/2010
Edition number: 2
ISBN-13: 9781602230743

Plants That We Eat is a handy, easy-to-use guide to the abundant edible plant life of Alaska. Drawing on centuries of knowledge that have kept the Inupiat people healthy, the book uses photographs and descriptions to teach newcomers to the north how to recognize which plants are safe to eat. Organized by seasons, from spring greens through summer berries to autumn roots, the book also features an appendix identifying poisonous plants.

Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in The Rain Forest
By Mark J. Plotkin
Publisher: Penguin Books
August 1, 1994
ISBN-10: 014012991X

In *Tales of a Shaman's Apprentice*, ethnobotanist Mark J. Plotkin recounts his travels and studies with some of the most powerful Amazonian shamans, who taught him the plant lore their tribes have spent thousands of years gleaning from the rain forest.

For more than a decade, Dr. Plotkin has raced against time to harvest and record new plants before the rain forests' fragile ecosystems succumb to overdevelopment—and before the Indians abandon their own culture and learning for the seductive appeal of Western material culture. *Tales of a Shaman's Apprentice* relates nine of the author's quests, taking the reader along on a wild odyssey as he participates in healing rituals; discovers the secret of curare, the lethal arrow poison that kills in minutes; tries the hallucinogenic snuff epena that enables the Indians to speak with their spirit world; and earns the respect and fellowship of the mysterious shamans as he proves that he shares both their endurance and their reverence for the rain forest. Mark Plotkin combines the Darwinian spirit of the great writer-explorers of the nineteenth century—curious, discursive, and rigorously scientific—with a very modern concern for the erosion of our environment and the vanishing culture of native peoples.

From What We Gather – around the web

The Cooperative Extension Service – Native Plants Factsheets

The Cooperative Extension Service has over 300 publications written by university specialists which contain information of interest to Alaska residents. Many are available online. While you might expect that they have many publications on horticulture and home gardening, you might not know that they also have a series on "Native Plants of Alaska", as well as "Invasive Plants". Many of these factsheets are web-only publications but may be very useful, especially in regard to plant propagation of some of these native plants.
www.uaf.edu/ces/info/askexpert

AKEPIC Non-Native Plant Database

The Alaska Exotic Plants Information Clearinghouse (AKEPIC) is a database and mapping application that provide geospatial information for non-native plant species in Alaska and neighboring Canadian Territories. These products are the result of an ongoing cooperation among federal and state agencies in Alaska. The Alaska Natural Heritage Program administers the mapping application, database and website associated with the project. These data are primarily intended to support the identification of problem species and infestations, thus promoting early detection and rapid response across Alaska. Additionally, these data are used in a variety of research and modeling activities. http://aknhp.uaa.alaska.edu

Answer to Mystery Plant (Page 2)

Lycopodium complanatum
New Name*: Diphasiastrum complanatum*
Christmas Greens or Creeping Jenny
Lycopodiaceae family

Ethno-botanical Note:

The plant contains several alkaloids, lycopodine and clavatine, which are considered toxic and could be life-threatening in large doses. The spores, however, are not considered toxic. In ancient times the entire plant was used for medicinal uses, but since the 17th century, it is predominantly the spores that are used. Spikes with spore cases are picked in summer and the spores (a yellow powder) shaken out. In Europe and North America, the powder was dried and used to make a medicinal tea to increase urine production, stimulate menstrual flow and relieve spasms. It was considered useful for correcting 'female complaints' and was said to stimulate sexual desire. The spore powder was forced into the noses of people who needed reviving. It was also said that if the spores were boiled, the decoction would both kill lice and improve bad wine. The spores have been used as a dusting powder in the drug industry, protecting abrading surfaces and preventing pills from sticking together. Spores are also applied as a dusting powder on wounds, chafed areas and skin diseases like eczema.

When mixed with air, the spores are higly flammable because of their high fat content and their large surface area per unit of volume. Lycopodium powder has been used in fireworks and explosives, fingerprint powders, as a covering for pills, and as an ice cream stabilizer. Today the principal use of the powder is to create flashes or flames for magic acts and theatrical effects. It is also sometimes used as a lubricating dust on skin-contacting latex goods, such as condoms and medical gloves.

The powder is also highly hydrophobic; if the surface of a cup of water is coated with lycopodium powder, a finger or other object inserted straight into the cup will come out dusted with the powder but remain perfectly dry.

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, pleas indicate the category of membership you desire, fill in the form below and mail it with the appropriate remittance to:

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

STATUS ☐ **New** ☐ **RENEWAL**

CATEGORY

☐	**Full-time Student**	**$12**
☐	**Senior Citizen**	**$12**
☐	**Individual**	**$15**
☐	**Family**	**$20**
☐	**Organization**	**$30**

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City: _____ State_____Zip_____

Telephone: (Home)_____(Work)_____E-Mail: _____

Membership is on a calendar year basis.

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