Borealis

the newsletter of the

Alaska Native Plant Society

PO Box 141613, Anchorage, Alaska April-May 2017

Join us at our Next Meetings!

Monday, April 3, 7:00 p.m

Main Topic: "The Flowers of Denali"
Speaker: **Tom Choate**

Ericaceae Family: *Cladothamnus* and *Gaultheria*
Presenter: Glenn Brown

Endangered Species: *Rumex krausei*
Presenter: Ginger Hudson

Monday, May 1, 7:00 p.m

Main Topic: "Barrow and Thermokarst Topography"

Speaker**: Marilyn Barker**

Endangered Plants: ***Douglasia arctica***
Presenter**: Beth Baker**

Ericaceae Family Plant: *Menziesia, Chamaedaphne* and *Andromeda*
Presenter: **Ginger Hudson**

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

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Keynote Speaker

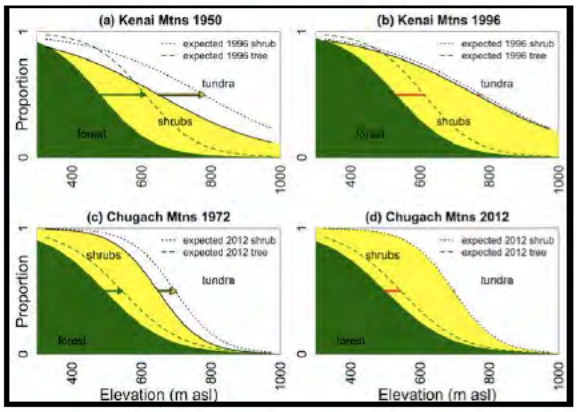
Southcentral Rising – Treeline, that is

APU Professor Dr. Roman Dial spoke at ANPS March meeting about studies he and his students have been making related to climate change in Southcentral Alaska.

Most researchers study shrub expansion in Northern Alaska; their work documents evidence that these changes are taking place in the Anchorage area too. They are using historic aerial imagery to quantify changes in shrub distribution and abundance since 1950, collecting data on soils, snow depth, and vegetation composition to see if differences exist between areas where shrubs are expanding and areas where they are not. Their preliminary data indicate that alder and tall-growing willow species are increasing in distribution and abundance at elevations above treeline.

Tall-shrub colonization (appearance of shrubs >1.5 m high) will substantial change habitat and the cycling of carbon, water and nutrients. Most tall-shrub expansion in South-central Alaska involves *Betula* (birch), *Alnus* (alder) and *Salix* (willow). Which taxon dominates will determine the magnitude and direction of changes in community properties. For example, important vertebrate herbivores favor *Salix* shrubs and avoid browsing *Alnus* and *Betula* shrubs. *Alnus* harbors N-fixing bacteria and lowers soil pH in subalpine soils.

Their study in the Chugach Mountains reported that the up-slope advance of all tall woody vegetation, taken together, closely matched climate velocity over the last half century.



(*Continued on Page 7*)

MYSTERY PLANT

I have simple unbranched stems. I do not have any hairs.
My leaves are mostly basal, they are spatulate with a prominent midvein. I do have a few simple stem leaves.
My flowers are white with 4 lovely petals which are twice as long as the sepals.
I produce small fruits known as silicles. Even my fruits lack hairs.

I used to be considered rare, but botanists have been finding me in lots of new places. I was known mostly from the arctic slope, but have been found in the Talkeetna and Chugach Mountains as well. Can you find me this summer?

ANSWER on Page 7.

(Many thanks to Marilyn Barker, to whom Verna Pratt passed the Mystery Plant torch after more than a quarter century. Marilyn has a lot of catching up to do!)

Sedge Workshop Announcement—July 2017

The Alaska Native Plant Society is excited to host two sedge identification workshops. These workshops will be this July taught by Dr. Tony Reznicek, authority on new world Cyperaceae and Curator of the University of Michigan Herbarium.

These two workshops will be held in Anchorage at the UAA Herbarium on the campus of UAA. The workshop will include 2.5 days in the classroom and 0.5 day in the field. The workshops are scheduled for:

Session #1: July 11-13, 9am-4pm
Session #2: July 15-17, 9am-4pm

The workshop will be oriented toward field biologists with a minimum of an intermediate level of plant identification skills. Previous experience with dichotomous keys is required. This will be a great opportunity to brush up on your sedges.

The class will include an introductory lecture about sedge biology and systematics, including a review of recent sedge research. Lab work will focus in identifying specimens and learning sedge morphology. The field trip will include getting hints on how to recognize sedges in natural habitats. Please feel free to bring specimens of sedges you would like help identifying. The cost of the 3 day seminar is $200.

If you are interested in attending please email Beth Baker as soon as possible at daisymae@mtaonline.net. We are limiting each class to no more than 10 participants. Once you have registered we will send information on payment.

NEW ALASKA SEAWEEDS

From: Sandra Lindstrom, Dept of Botany, University of British Columbia, Vancouver, as reported in BEN (Botanical Electronic News) March 16, 2017 http://victoria.tc.ca/mailman/listinfo/ben-l

When I first began studying Alaskan seaweeds, I expected the flora to represent a depauperate extension of the species found along the coast from California to British Columbia. Early on, I was surprised to discover not just newly recognized species like *Neodilsea natashae*[1] (now *Dilsea natashae*[2]) but entirely previously undescribed genera (and species) like *Hommersandia maximicarpa* [3] and *Orculifilum denticulatum*[4].

We continue to find formerly unknown species from Alaskan waters. *Aureophycus aleuticus* represents not just a new genus and species of kelp[5], but also a new family[6]. *Pyropia taeniata* is now recognized as distinct from *Pyropia pseudolinearis*[7], the Japanese species with which it was formerly confused. Common species of Alaska seaweeds are highlighted in ***Field Guide to Seaweeds of Alaska***[8]. Work continues elucidating this fascinating marine flora as other previously unknown species continue to be described.

Orculifilum denticulatum

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ALASKA NATIVE PLANT SOCIETY

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

References

[1] Lindstrom, S. C. 1984. *Neodilsea natashae* sp. nov. (*Dumontiaceae*, *Rhodophyta*) with comments on the family. *Phycologia* 23: 29-37.

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[3] Hansen, G. I., & Lindstrom, S. C. 1984. A morphological study of *Hommersandia maximicarpa* gen. et sp. nov. (*Kallymeniaceae*, *Rhodophyta*) from the North Pacific. *J. Phycol*. 20: 476-488.

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[5] Kawai, H., Hanyuda, T., Lindeberg, M., & Lindstrom, S. C. 2008. Morphology and molecular phylogeny of *Aureophycus aleuticus gen. et sp.* nov. (Laminariales, Phaeophyceae) from the Aleutian Islands. J. Phycol. 44:1013-1021.

[6] Kawai, H., Hanyuda, T., Ridgway, M., & Holser, K. 2013.Ancestral reproductive structure in basal kelp _Aureophycus aleuticus_. Scientific Reports_ 3, 2491; DOI: 10.1038/srep02491

[7] Lindstrom, S. C., Lindeberg, M. R., & Guthrie, D. A. 2015. Marine macroalgae of the Aleutian Islands: I. *Bangiales*. Algae 30:247-263.

[8] Lindeberg, M. R., & Lindstrom, S. C. 2010. Field Guide to Seaweeds of Alaska. Alaska Sea Grant College Program, Fairbanks, iv + 188 p. [Reprinted with minor modification in 2016.]

ANPS News and Business

Moving On – Mike Monterusso

ANPS Secretary and Alaska Botanical Garden Gardens and Facilities Manager **Mike Monterusso** has accepted the Plant Conservation Program Associate position at the Minnesota Landscape Arboretum. This is an excellent career move for Mike, enabling him to delve more deeply into research and conservation while exploring the world of academia. Please join us in congratulating him and thanking him for doing such a great job for ANPS over the past five years. He is a key member of our organization and will be sorely missed. His last day at ABG will be April 7th. We are very pleased to announce that Ginger Hudson has been willing to take over for Mike as ANPS Secretary!

Fall-Winter Plant Family Study – You Can Help!

As our winter meetings are winding down it is time to begin planning for next year. Our Plant Family study at each meeting will focus on the *Rosaceae*, the rose family in Alaska. We encourage – and BEG - you to participate in this little educational program by selecting a genus in the family and giving a brief 5-6 minute report at one of the meetings. You don't need to be a member of ANPS. Below are the rose family genera and number of species in Alaska. Contact Dennis.ronsse@gmail with your request for genus & month.

Alpine Spiraea (*Luetkea pectinata*)
Avens (*Geum*) 7 in AK- Glenn Brown February
Berries (*Rubus*) 7 in AK
Black Hawthorne (*Crataegus douglasii*)- Glenn Brown
Burnet (*Sanguisorba*) 3 in AK
Cinquefoil (*Potentilla*) about 30 in AK
Crab Apple (*Malus fusca*)
Creeping Sibbaldia (*Sibbaldia procumbens*)
Goatsbeard (*Aruncus sylvester*)
Little Rose (*Chamaerhodos erecta*)
Mountain Ash (*Sorbus*) 3 in AK
Mountain Avens (*Dryas*) 5 in AK
Pacific Ninebark (*Physocarpus capitatus*)
Serviceberry (*Amelanchier*) 2 in AK- Annie Nevaldine (January)
Spiraea 2 in AK
Strawberry (*Fragaria*) 2 in AK
Wild Rose (*Rosa*) 3 in AK
Tall Cinquefoil (*Drymocallis arguta*, previously *Potentilla arguta*)
Marsh Five-finger (Comarum palustre, previoiusly *Potentilla palustris*)
Shrubby Cinquefoil (*Dasiphora fruticosa*, previously *Potentilla fruiticosa*)

A reminder as you plan for which month to request: We meet on the 1st Monday of each month at Campbell Creek Science Center from November to May. Because CCSC is closed Monday, Jan 1, 2018 we will meet Jan 8, 2018 instead.

Fred Meyer community rewards
Where shopping & giving unite

IT WORKS!
ANPS HAS ALREADY EARNED $$$
FROM JUST A FEW MEMBERS SHOPPING AT FREDDY'S!
WON'T YOU JOIN US?
IT DOESN'T AFFECT YOUR OWN REWARDS POINTS.

Fred Meyer is donating $2.5 million per year to non-profits in Alaska, Idaho, Oregon and Washington, based on where their customers tell them to give. Here's how the program works:

- Sign up for the Community Rewards program by linking your Fred Meyer Rewards Card to (non-profit) at www.fredmeyer.com/communityrewards. You can search for us by our name or by our non-profit number **90390**.
- Then, every time you shop and use your Rewards Card, you are helping (non-profit) earn a donation!
- **You still earn your Rewards Points, Fuel Points, and Rebates, just as you do today.**
- 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.

Winter Scavenger Hunt

By Laura Emerson

I am an ANPS member who doesn't make it to the regular monthly meetings because I live at the foot of Mt. Susitna and have only fly-in access. Currently, I am enrolled in a fascinating on-line course in Applied Ethnobotany (offered by the University of Alaska-Fairbanks).

As the name suggests, this field studies human use of plants - for food, fuel, textiles, shelter, medicine, and anything else. On February 4, our professor instructed the students to harvest local plants for several projects. Really? In February? In Alaska? What could I find this time of year?

***Alectoria sarmentosa* "Witches' Hair Lichen**

Well, duh, trees. I live in a forest! But besides their much-appreciated gifts of firewood, construction material, mulch, and spring birch sap, I did not know much. So one winter day, my husband and I pulled on our snowshoes and dragged a little plastic sled through the woods for a scavenger hunt. How fun! In half an hour, we gathered two species of pendulous (hair) lichen with the evocative colloquial names of "witch's hair" (*Alectoria sarmentosa)* and "bear hair," (*Bryoria capillaria*) chopped some chaga (*Inonatus obliquus*) and "punk" conks (*Phyllenus igniarius*) off old birch trees, peeled off some loose birch bark, and gathered a handful of frozen spruce resin globules.

With subsequent research I learned that, even at this inhospitable time of year, in such a short period, I had harvested materials for medicine, food, cordage, insulation, padding, clothes, insect repellent, and containers. Wow! I am now absolutely hooked on ethnobotany.

Matted and absorbent **HAIR LICHEN** were commonly used by First Peoples and settlers for diapers, wound dressings, menstrual pads (I always wondered about that), insulation for both shelter and clothing, and padding/stuffing. Some groups made low quality clothes and blankets with them.

I may harvest some to augment potting soil, since it is nicely absorbent, and I always appreciate the lichen (and the twigs they dangle from) as rapidly igniting fire starters. Perhaps most interesting is that epiphytic lichen like these are studied by many forest services and scientists to measure air pollution and climate change because, sadly, they are extirpated or rare in regions coated with acid rain and other pollutants.

CHAGA (a burnt looking sterile conk that grows on old birch trees) has an impressive pedigree as an immunity builder and anti-cancer medicine (commercialized in Russia, China, and Japan but not recognized by the US FDA). In boreal forests, it is a common alternative for coffee and tea. We drink it now, too. It has a pleasant, weak coffee sort of flavor.

The smooth **PUNK CONKS** that appear on the E and N sides of old and dying birches have been smoked by generations. I look forward to trying them as a smoking insect repellent this June. Maybe I can replace those noxious chemical burn coils!

BIRCH BARK confers a sweet and tasty flavor to tea, with some reputed medicinal benefits, too, for headaches and pain. The bark is waterproof and useful for containers, from baskets to canoes. Several years ago, I made a table of birch and willow, topped with birch bark, that has stood the test of several year's daily use.

SPRUCE RESIN drips on the south sides of spruce trees, in skinny golden lines. This time of year, it is easy to chip off a handful at a time with one's fingernail and store in a jar. Melted, it can waterproof clothes and containers. As medicine, it has been inhaled as a steam, drunk in tea or chewed like a gum, to fight respiratory ailments. To me, it smells better than it tastes, and the flavor lingers in the mouth, tainting subsequent foods, but, like other resinous substances, it certainly does induce one to breathe deeply!

Globules of spruce resin below, bark above

This research opened my eyes to what grows ON the trees as well as the majestic spruce and birch themselves. How clever (or motivated) were the ancestors who figured out how to use such resources. Bit by bit, lesson by life lesson, I am learning to take fewer things at face value, including those gnarly and hairy growths in my woods.

Pre-Summer Hike and Weed ID – May 18

Gino Graziano, Invasive Weeds Instructor at UAF Cooperative Extension Service, will host a hike on Thursday evening, May 18, at the Campbell Creek Airstrip. You will have an opportunity to try out the Alaska Weeds ID, a mobile application for identification and reporting of invasive weeds in Alaska. You can download the app ahead of time or borrow an I-pad for the hike. Gino will introduce us to the app and explain how the identification and reporting functions work.

We will meet at 6:00PM the Campbell Airstrip trailhead off of Campbell Airstrip road (Link below), and hike up Campbell creek to look for invasive *Prunus padus*, and record presence and absence locations for land managers who told me that this area should be resurveyed. Along the way we will discuss some of the interesting issues and observations we have about the *Prunus* invasion in Alaska.

"Alaska Weeds ID", a mobile application for identification and reporting invasive weeds in Alaska is available for free. (apps.bugwood.org/apps/alaska) The app works for both IOS and Android devices. It includes an interactive key, and form to report sightings of potential invasive weeds or get identification help. The app development was done in partnership with the University of Georgia and others, with support of the Western Alaska Landscape Conservation Cooperative and funding from the U.S. Geological Survey and U.S. Fish and Wildlife Service.

Map of location to meet:
https://www.google.com/maps/place/Campbell+Airstrip+Trailhead,+Anchorage,+AK+99507/@61.165513,-149.7688977,17z/data=!3m1!4b1!4m5!3m4!1s0x56c89731ec5ba215:0x86febc17636ff6fc!8m2!3d61.165513!4d-149.766709

Invasive Weed Seed Found in Locally-Bought Chicken Feed

A Kodiak poultry farmer recently discovered seeds from an invasive plant species, *Cirsium arvense*, also known as "Canada thistle" or "creeping thistle" in the poultry feed she had bought. Heather Stewart, invasive plant and agricultural pest coordinator for the Alaska Division of Agriculture's Plant Materials lab was contacted, and she purchased and tested whole-seed chicken seed products from many sources around the state. That search found three additional prohibited seeds: *Galeopsis tetrahit*, also known as hempnettle; *Avena fatua*, also known as wild oats; and *Polygonum convolvulus*, also known as wild buckwheat or black bindweed.

Scratch and Peck Feeds, a Washington-based organic feed producer was notified of the discovery and responded: "We were not aware of the presence of the weed seeds," said Diana Ambauen-Meade, owner and founder of Scratch and Peck Feeds, "and we are grateful for the farmer's identification. We believe the seeds were harvested with grains straight from the fields where they were grown."

Stop sale notices were issued for one batch of Organic Whole Barley from 3/2016, one batch of Naturally Free Organic Starter from 6/2016 and one batch of Naturally Free Grower from 9/2016.
Any bags from those batches remaining have been destroyed per instructions from the Alaska Division of Agriculture. No other batches have been identified by the state. Action has already been taken to further test batches of our grains to ensure the avoidance of invasive species seeds. "We have not been told to discontinue the sale of any other batches of our products," said Ambauen-Meade.

Southcentral Shrubline Expansion – (continued from Page 1)

Their study shows that *Alnus* and *Salix* shrubs colonize tundra landscapes differently in response to climate warming, thereby replacing different tundra types.

Ecologically the change in thermally-responsive vegetative area is sensitive to terrain steepness, so that studies should expect more shrub expansion in areas of shallow slopes than steep slopes. The repeat aerial photography from 1972-2012 indicated that tall *Salix* was rare in 1972 and colonized warmer slopes by 2012. Tall *Alnus* colonized steeper, cooler slopes both by 1972 and 2012. *Salix* and forest colonized similar thermal space. Colonization probability for both shrub genera was maximized at intermediate elevations. *Alnus* colonization adjacent to dwarf-shrub tundra was twenty times as likely as *Salix* colonization. *Salix* colonization adjacent to low-shrub/herbaceous tundra was three times as likely as *Alnus* colonization. Replacement of dwarf-shrub tundra by *Alnus* and of low shrub/herbaceous communities by *Salix* will affect herbivores and soil properties.

One of their studies, "Thermal segregation drives patterns of alder and willow expansion in a montane ecosystem subject to climate warming" was published in January 2017, and can be found online at www.researchgate.net/publication/312389911.

ANSWER TO MYSTERY PLANT described on Page 2: *Thalaspi articum*, now listed as *Noccaea arctica*, but still in the Brassicaceae/ Mustard Family

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**

Name _____

Address_____

City: _____ State_____Zip_____

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

Membership is on a calendar year basis.

IT IS TIME TO RENEW YOUR ANPS MEMBERSHIP!

Don't get caught unprotected! If you haven't renewed your membership by February 1, 2017, we'll be forced to cut your name from the roster, and you won't receive further issues of the newsletter, or the Summer Field Trip Schedule, or e-mail updates, such as the notification that they January meeting had been postponed a week, or the message about Verna Pratt's passing. Plus, you won't be doing your part to help promote the cause for Native Alaska Plant education for everyone! JOIN or REJOIN TODAY!

Alaska Native Plant Society
P.O. Box 141613
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