

A Guide to the Ethnobotany of the Yukon-Kuskokwim Region

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Introduction

I. Yup'ik Spirituality and Worldview

Ethnobotany can be defined as the study of the relationship between humans and plants. This includes how plants are used, as well as how people name them, think about them and connect them to other aspects of life and culture.

This work is the result of a collaboration between western-trained botanists and anthropologists and many elders of the Yukon-Kuskokwim region, who have generously given their time to help in this project.

The Central Yup'ik culture holds a deep respect for the land and the resources that people rely upon for subsistence. Knowledge of plants and their harvest is part of a whole system of knowledge, and as such, is intimately connected with other areas of culture and subsistence practice. This fact was made abundantly clear to those of us who are western academic researchers when, at the end of a long and productive day speaking with elders about plants, one of them asked “When are we going to start talking about animals?” The idea of “ethnobotany” as a separate discipline of study is in many ways a notion that comes from outside of Yup'ik culture. For this reason, we attempt to show in this volume, wherever possible, ways that knowledge about plants is connected to other areas of life.

During our study of Central Yup'ik ethnobotany, one of the things that elders emphasized the most is the close interconnection of knowledge of plants to the moral and spiritual values of local people. There is surely no better way of introducing this connection than to point out the rules that guide people when they harvest wild plants. Elders, particularly Tacuk of Chevak and Danny Charles of Bethel, helped provide the following partial list.

1. It is the custom in this region to share what you gather. This is true *especially* for the first food you make of the season, and *especially* with the elders. Also, the first fish a boy catches, or animal he hunts, should be given to the elders. The first berries or greens that a young girl gathers are also given to the elders.
2. For all plants, say *quyana* – ‘thank-you’ after you pick them.
3. For purifying plants (such as *ayuq* or *ikiituq*), bury a bit of food where you picked them as an offering. You can also leave a bit of tobacco or water as an offering after picking plants.
4. Avoid stepping on young plants ripening in the spring. Just make one path and use that.
5. When you have to go to the bathroom, find a spot that just has grass.
6. Don't eat or sample plants if you don't know what they are.
7. Out of respect for nature, don't make unnecessary noise. Try not to scare animals too much.
8. Talk to animals that you see to tell them what you're doing there.
9. Ask the wind to blow harder if mosquitoes are out.
10. If any berries you're picking fall to the ground, say “grow next year.” to them.
11. Don't think too much about bears and other dangerous animals (or mention them aloud). It might make them come.

12. If you see a grave, put something you value (e.g. food, pennies, gum, ammunition etc.) in there, under dirt as an offering for the dead.

These rules are intended to put the reader in a frame of mind to understand some of the basic values that go along with knowledge about plants and other living things that we are sharing in this book. There are other proscriptions people follow that are not listed here.

II. Geographical and Cultural Area Covered

The idea to write this book was conceived in 2008, as part of a United States Department of Agriculture Drumbeats program grant, funding a new ethnobotany certificate program at the Kuskokwim campus (KuC) of the University of Alaska Fairbanks, in Bethel. We wanted to create a book that could be used as a text for students in our program as well as one that could serve for K-12 education in our region. We also hoped to provide a modest contribution to preserving the rich traditional ecological knowledge of useful plants in the Yukon-Kuskokwim (YK) region.

In order to realize our goals, we brought elders from villages of the YK region to our campus in Bethel for four Elder Councils to discuss plants of our region. The first of these was held in spring, 2008 and the most recent took place in summer, 2012. We have also interviewed elders in other local villages in connection with our program's yearly summer ethnobotany field classes. In all, 31 elders from 13 villages in our region participated. We recorded a total of 120 Central Yup'ik plant names, including instances of multiple terms for the same plant from different local dialects. These correspond to 73 plant species in 30 botanical families, along with three species of fungi, two lichens and one species of algae. Elders described uses of these plants, along with other information about ideal harvest times, methods of preparation, toxicity and anything else they considered important. We collected botanical voucher specimens for the plants in question, which are housed in the herbarium of KuC in Bethel. We thank Rose Domnick, Tacuk (Cecelia Martz) and Oscar and Sophie Alexie who translated for these sessions.

Figure 1 shows the general area covered by this book, with a red dot indicating specific villages of elders who contributed. The names and uses of specific plants vary from region to region, and from village to village. This fact makes writing a general book on the ethnobotany of the Central Yup'ik region a great challenge and a fully comprehensive treatment of this subject next to impossible. It is important to note that the ethnonym Yup'ik varies within this region, so that people in Chevak (but not Hooper Bay) refer to themselves as Cup'ik, while those on Nunivak Island call themselves Cup'ig. We have interviewed elders from a number of different villages to try to represent some of the variety in names and uses in our region. However, we make no claim to represent all of the dialectical differences or all of the local variations in use. Some of the local dialects, such as those from Egegik and the upper Norton Sound region, have few speakers left. We intend this book as an introduction to Central Yup'ik ethnobotany with a full admission that it is not complete. Similarly, there may be some uses of a spiritual nature, or belonging to specific families, that elders chose not to share with us. It is our hope that this volume will represent a work in progress, and that we may continue to add to it and expand it for future editions. For some of this information, time may be of the essence.

III. Previous Studies and Publications

Previous studies of the ethnobotany of our region and adjacent areas have been undertaken. These may be of interest to the reader and will be helpful for putting our findings in a larger context.

Early ethnobotanical work in the Central Yup'ik area includes Oswalt's (1957) article on plant use in Napaskiak. Husband and wife team Ager and Ager (1980) later published on their work on Nelson Island. Dennis Griffin (2001, 2008) has done extensive research on the ethnobotany of Nunivak Island. Margaret Lantis (1959) wrote about traditional medical practices of Nunivak Island, Nelson Island and the Lower Kuskokwim. Fortune (1985, 1989) reported some traditional medical techniques, including surgery among Alaskan natives, including some practiced in our region. Ann Fienup-Riordan (1994, 2012, 2013) has published numerous books about traditional Yup'ik subsistence, material culture and spirituality. She includes valuable and insightful information on plant uses within these broader topics.

The reader may also be interested in a number of significant published works on the ethnobotany of neighboring cultures of Alaska and Russia. A classic work for Dena'ina ethnobotany is Russell Kari's (1995) *Tanaina PlantLore (Dena'ina K'et'una)*. More recently, Russell (2011) has also published a book on plant use among the Sugpiat of Port Graham, Nanwalek and English Bay. Anore Jones's (2010) classic book *Plants that We Eat*, on the Iñupiat of the Kotzebue area is also highly recommended. Young and Hall (1969) published a short study of the ethnobotany of the St. Lawrence Island Siberian Yupik. Janice Schofield's (1989) classic work on Alaskan medicinal plants contains information that she learned from a variety of sources including native peoples of Alaska.

For Chukotka, Ainana and Zagrebin (1994) discuss neighboring Chaplinski Yupik edible plants, along with information about their preparation and storage. Yamin-Pasternak (2007) compares attitudes toward edible fungi among the Siberian Yupik (Chaplinski and Naukan) and Chukchi in Chukotka and Iñupiaq on the Seward Peninsula. In the broader ethnographic perspective, Bogoraz (1913) and later Tein (1994) describe the spiritual beliefs and shamanic healing practices of the Chaplinski and Naukan Yupik.

IV. Notes on the Organization of this Book

After struggling to find the optimal organization for this book, we settled on section headings based on broad life-form categories such as "Trees and Shrubs," or "Grasses" and use categories such as "Medicinals" or "Mouse Foods." It is important to keep in mind that many plants have multiple kinds of uses. For example, lowbush cranberries are both edible and medicinal, while the medicine colt's foot is eaten outside our region. For the purpose of organization, we have classified plants according to their best-known use or feature in our region.

Under each broad heading, plants are organized alphabetically by Latin name with Yup'ik and English names following. Since this book is about Yup'ik plant knowledge it would seem more satisfactory in some ways to organize the plants alphabetically by Yup'ik name. However, that would be difficult considering that many species have different names in different parts of our region.

We have used the Latinized scientific names from Hultén's (1968) *Flora of Alaska and Neighboring Territories* for the main heading of each plant. We believe that those names will be most familiar to our readers since they have been used in many ethnobotanical publications from our region. Under each individual entry, we also provide other synonyms, where appropriate, including more recent scientific names from *Flora of North America* (1993+). Distribution information for each species is taken from Hultén (1968) and *Flora of North America* (1993+).

Some plants in this guide are toxic, and indeed, some are mentioned only because they are sometimes confused with other edible or medicinal species. Great care should be taken in using medicinal plants in general, as these can also be toxic if consumed in excessive quantities.

Trees and Shrubs

Alnus spp. (Betulaceae) Birch Family

The alder species found in the central Yup'ik region are:

- 1) *Alnus crispa* (Ait.) Pursh subsp. *crispa* (= *A. viridis* Will. subsp. *crispa*),
- 2) *A. crispa* (Ait.) Pursh subsp. *sinuata* (Regel) Hult. (= *A. sinuata* (Regel) Rydb.), and
- 3) *Alnus incana* (L.) Moench subsp. *tenuifolia* (Nutt.) Breitung

Yup'ik: **cuukvaguaq** (widespread) [name means 'imitation pike']
 auguqsuli [this name is related to the Yup'ik word *auk* – 'blood'.
 Perhaps in old Yup'ik it meant 'something that looks like
 blood.' see the notes at the end of this entry]

English: alder



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

All local alder species are shrubs or small trees. *Alnus crispa* subsp. *crispa* and subsp. *sinuata* are widespread across northern and northwestern North America, extending into northeastern Russia. *Alnus incana* subsp. *tenuifolia* is found in northwestern North America. These species are found across all of Alaska except along the arctic coast.

USES

medicinal:

Tacuk of Chevak said alder wood can be burned until white ash is left, and this white ash is used to treat arthritis. The ash is mixed with water until it forms a paste, then put in on a bandage to use as a poultice. Someone who is suffering from arthritis in the hands can just stick their hands into a bowl of this paste. The bark can be chewed to treat thrush or other kinds of mouth sores.

other:

Alder wood is useful for smoking fish. Some people prefer the taste of fish smoked with alder, while others prefer to use cottonwood. People make “logs” for firewood by tying skinny branches together. Larger branches are also used and the wood burns hot.

Narrow twigs can be used to hold open split fish for drying. Some elders, including Esther Green and Mary Gregory of Bethel, said their parents told them that people used to make beds out of alder logs covered first with grass and then with cloth bedding or reindeer skins.

The bark of alders that grow near the mountains can be burned to make *araq* for mixing with tobacco. Additionally, the bark is used to dye boots and clothing made from animal skin, particularly wolverine or seal skin. It can also be used to dye grass for baskets.

notes on scientific and local names:

Some local elders call all alders in this region *cuukvaguaq*, while others insist that there are two different kinds, *cuukvaguaq* and *auguqsuli*. According to Oscar Alexie of Bethel, the two kinds can be distinguished by the appearance of the spots on the trunk. *Auguqsuli* have spots that resemble someone squinting while *cuukvaguaq* have larger more oval shaped spots that look like the spots on the skin of pike. Further complicating the situation, some elders use the term *auguqsuli* to refer to a type of willow. Those elders, who distinguish two kinds of alder, also say that they have different uses. *Cuukvaguaq* is the kind that is good for burning as firewood and produces a lot of heat. *Auguqsuli* is good for smoking fish, but not for burning, since it does not burn very hot. The latter is also used to produce a red dye. When you cut the wood and peel the bark, the wood is white but after a few minutes it turns red or orange.

Western botanists classify local alders in a different way. They recognize *A. crispa* subsp. *crispa* and *A. crispa* subsp. *sinuata* in their having shiny, sticky, early spring leaf surfaces, and both species are more likely to be found in subalpine uplands within the Y-K region. *Alnus incana* subsp. *tenuifolia* is more likely to be found along lowland stream margins within our region and has the reddish bark described above. Further observations are needed to fully understand how this relates to Yup'ik taxonomy and alder uses.

Betula nana L. subsp. *exilis* (Sukaczew) Hult. (Betulaceae) Birch Family

Yup'ik:	cayuggluk	(Chevak)
	cayuk	(Bethel)
	cukcukuayagaq	(Bethel)
	suksukuaq	(St. Mary's)
	cayugaq	(Nelson Island)

English: dwarf birch



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

This woody low shrub has a northern circumpolar range and is found throughout all of Alaska. Elders noted that they are found growing on tundra among berries, Labrador tea (*Ledum palustre*) and meadowsweet (*Spiraea beauverdiana*). In fact, meadowsweet is so associated with dwarf birch that it is sometimes called *cayugluum iilurri* – ‘dwarf birch’s cousin’.

USES

other:

Mary Gregory of Bethel said that the dried stems are bundled together and used to start fires, since they burn fast. Ash from the stems can also be mixed with tobacco, like *iqmik*. One elder, Cecilia Andrews of Chevak, said her grandmother used to pick the whole plant, including the root and leaves, bundle them together and use that to smoke fish. They produce a lot of smoke.

Betula papyrifera Marsh. subsp. *humilis* (Regel) Hult.
(Betulaceae) Birch Family

= *Betula neoalaskana* Sarg.

Yup'ik: **elnguq** (widespread)
 imegyut (the bark) (Nelson Island)

English: paper-bark birch, white birch



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This medium sized tree species is found over a wide range of northwestern North America in boreal and temperate forest. It grows across interior Alaska.

USES

medicinal:

One elder, Rita Blumenstein of Anchorage, said the inner bark can be used to treat cancer. The bark is gathered in May, before the tree gets its leaves. It should be scraped, dried and crushed into a powder. One teaspoon is boiled for three minutes with eight cups of water in a non-aluminum pot. After cooling the decoction, one should drink 1/3 of a cup three times a day, with a meal, in the morning, at noon and at night, for 16 days. The whole procedure can be

repeated as needed. However, Rita warned that it should not be combined with chemotherapy. To store the medicine, strain it with cheesecloth and put it in the refrigerator. The same preparation can also be used in a steam bath to treat asthma.

other:

Branches that are naturally curved by the weight of snow can be used for sled runners and handles. The wood is hard, but you have to take care of it and varnish it, because it rots easily. The wood burns very hot, so some people do not like to use it in their stoves. The stove metal can get warped from the heat. Sometimes people use a couple of sticks in the middle of other wood. Long ago people used to make *piicikaq* – birch-bark baskets to hold berries and other things.

Myrica gale L. (Myricaceae) Wax Myrtle Family

Yup'ik: **no name given**

English: sweet gale



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

This species has a northern circumpolar distribution. It is found across interior and southern Alaska. It typically grows in wet boggy areas.

USES

Local elders did not give any uses for this plant. However, Kari (1995) notes that the Inland Dena'ina have used this species externally to treat cuts and boils as well as making a tea for tuberculosis.

Picea spp. (Pinaceae) Pine Family

Yup'ik:

TERMS FOR THE TREE AS A WHOLE

kevraartut (mid Kuskokwim)
nekevraartut (lower Kuskokwim)

STUMP WITH ROOTS put these with driftwood?

nasqunaq (stump with roots) (Yukon) [from word for head]
qamiqunaq (stump with roots) (Kuskokwim) [from word for head]
uqsunguaq (stump with roots) (upper Kuskokwim [from word for head])
mimernaq (hard upper roots) (general)
mimernarr (hard upper roots) (Hooper Bay, Chevak, Nunivak Island)
talliruari (hard upper roots) (Chevak) [means 'pretend arms']
talliquar (hard upper roots) (Hooper Bay, Chevak)

English: spruce



(photos courtesy Kevin Jernigan)

DISTRIBUTION

Picea glauca (white spruce) is found across northern North America including throughout much of Alaska, except in the furthest northern and western regions. In general, this species is not found growing in the coastal areas of our region. However, driftwood is often found in both coastal and river bottom villages. *Picea mariana* (black spruce) may be found in the uplands or muskegs of the middle Y-K region. Both species may offer resin, however, white spruce is likely the species most commonly used, or favored, especially for construction.

USES

food:

The resin was traditionally chewed like gum before store-bought gum was available. Some people said oil was added first to improve the texture. One elder remembered an old man from her childhood who would always get mad at kids who stole his supply of caulking resin (for boat building) to use it for gum.

medicine:

The resin can be put on cuts to help them heal faster, or on bandages placed on sores. Elders said this was used before western medicine was introduced, but many medicinal uses of spruce continue to the present day. One elder remembered her father putting resin on his toe after accidentally chopping it. People also add the sap to hot water, making a tea to treat sinus infections. One only needs to drink a small amount for relief. The needles can also be boiled for no longer than five minutes to make a medicinal tea for a similar purpose. Alternately, boiling water can simply be poured over the needles so they can soak. Some people mix in oil with the needles when making the tea. One elder said she gave the tea to her sick daughter, who had pneumonia, to drink in the morning before eating anything. The needles can also be stored in a sealable bag to use later in the steam bath. Modesta Myers of Pilot Station said, when you throw a little over the hot rocks, the vapor smells good, like Vicks. Breathing it in is useful for treating colds, breathing problems and for spiritual purification.

other:

general

Elders noted that there are many uses for the wood and roots. Some uses involve the thicker parts of the roots or trunks, while others involve the young, thin roots. People noted that the wood lasts a long time and does not rot easily. Villages upriver on the Kuskokwim and Yukon rivers, can harvest wood from standing spruce trees. Coastal villages must rely on driftwood.

boating

The wood from the trunk has many uses for building kayaks. It is also used to make paddles (*anguarutet*). Narrow paddles serve for fast paddling and the wider ones are good for slow paddling. There is also a double bladed paddle (*paangrutet*) used for fast paddling. The wood can be used to make rudder handles (*alularcuun*). The prow (*angyam ciunga*) and stern of the kayak can also be made of spruce. The wood is used to make *ayaperviik*, the left and right

supports, with a frowning female face and male smiling face on each side of kayak. They are also useful for making planks for sitting boards and mats to put on the bottom of a kayak. The pitch can be heated for caulking boats.

traps

Young thin roots are split and used for making binding (*em'at*) for blackfish traps (*carvacin*, *can'giicuatet*). They are tied together at the end of the trap. The split roots are also used to make the throat (*iluliraq*) of a fish trap. They serve for making mammal traps as well. For example, the root can be bitten and split a couple times and used to make a *teggvak*, a trap for land otter, mink and muskrats.

other hunting and fishing uses

Spruce wood was used for making handles for spears and harpoons, as well as cross pieces for drying chum salmon to keep the fish from folding over when they were split to dry.

bowls

The thick root can be used to make various kinds of bent wood bowls (*qantat*). One elder noted that people would steam and heat the bowl to bend it while taking a steam bath. Some specific kinds include *aluuyat* (large oval shaped dishes) and *tumnat* (small shallow bowls).

knives

The wood serves for making the handles of knives, including *mellgarr* (men's knives) and *yaaruitet* (story knives). Elders said spruce is good for making handles since it does not dry up and split.

other kitchen uses

Thicker parts of spruce roots with the right shape have been used to make a variety of other kitchen utensils, including: ladles (*ipuun*), pestles (*passitet*) and cutting boards (*ayallaq*).

other tools

Spruce wood is used to make a variety of other miscellaneous tools. These include: handles for adzes (*kepun*), ice picks (*cakin*) and hammers (*mulutuk*), along with wedges (*aitarutet*), and gaffs (*negciq*).

drums and masks

Spruce root is used to make traditional *kegginaqut* (masks), including loon masks. The wood can be bent for making drums and is useful for making drumsticks (*mumeq*).

footwear

Spruce wood has been used to make shoehorns, skates, snowshoes and boot insoles.

toys

The wood has also served for making toy dolls.

other

Spruce wood and roots are useful for a variety of other things that do not fit into any of the other headings above. The wood can be used to make tobacco boxes (*patutaucuarat*), net shuttles and to measure net mesh size. It is also good for making sleds (*ikamrat*) and bows (*urluvirkaun*). Spruce roots were traditionally soaked in lakes, hung in men's houses to dry and split to use for binding and sewing. Spruce resin is melted to use as a general sealant and the wood is gathered as firewood.

Populus balsamifera L. subsp. *balsamifera* (Salicaceae) Willow Family

Yup'ik:	qeltengulluut	(general) [means 'the ones with ugly scales']
	avngulget	(Hooper Bay, Chevak, Yukon and lower Kuskokwim) (Jacobson 1998) [means 'splitting']
	qugniilnguut	(mid Kuskokwim, coast) (Jacobson 1998) [name means 'not worth carrying' i.e. not good for firewood]
	ciiqut	(Chevak) (driftwood from cottonwood or driftwood in general)

English: balsam poplar, cottonwood



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species is a medium sized tree with a wide range over northern North America. It is found throughout all of Alaska except for the furthestmost arctic and western coastal regions.

USES

medicine:

Rita Blumenstein of Anchorage said that the leaf buds serve to treat migraine headaches. She recommended collecting them before the leaves unfurl in the summer and drying them. You pound them into a powder and put a spoonful in boiling water. Rita recommends drinking half a cup of that tea in the morning and another half in the evening. She warns that they are potent when new and can make a person feel dizzy. The bark can also be used to treat thrush in small children.

other:

This species is not favored as firewood, since it burns too quickly. Some people use the wood for smoking fish, but others say it makes the fish taste too bitter. Mary Gregory of Bethel said the wood can be used to make racks for drying fish. The wood has a pleasant smell and is good for making the walls of a smokehouse. The thick bark of old trees can be used to make small carvings, including toys that are very light weight. The carvings will not become waterlogged if you leave them on the beach. The bark of mature trees can also be made into ash to mix with tobacco, like *iqmik*.

Salix spp. (Salicaceae) Willow Family

Yup'ik: A common set of names for various types of willows is based on the term *uqvik*, which also means 'tree' (Jacobson 1984). Various suffixes can be added to this base. These terms vary depending on the particular species and between dialects of Central Yup'ik. For example, in some Yukon villages, the large shrubby species *Salix alaxensis* is called *uqvigpiit* - "large willows."

English: willow

DISTRIBUTION

Several species of *Salix* grow in southwestern Alaska. Depending on the species, they range from being dwarf shrubs to very tall shrubs, or even small trees. They are found in a wide diversity of habitats.

USES

Many uses for food and medicine are listed under individual species of willows. Some *Salix* species from other parts of the world have been studied for their analgesic (pain relieving) properties (Vlachojannis *et al.* 2009).

other:

People find little brown pieces of willow twigs and winter buds inside ptarmigan crops, indicating they are part of the diet of these birds.

Salix alaxensis (Anderss.) Cov.

Both varieties, var. *alaxensis*, and var. *longistylis* (Rydb.) Schneid. are found on the YK delta.

Yup'ik:

uqvik	(Chefornak)
enrilnguaq	(Akiak, coast)
uqvigpak	(mid Kuskokwim) (Ager and Ager 1980)
uqvialq, uqvigpiit	(Yukon)
uqvigaq, qugyuguat (Griffin 2001)	(Nunivak Island)

English: felt leaf willow



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species is found across a range of northwestern North America and the Russian Far East. It grows throughout Alaska.

USES

food:

The young leaves can be eaten raw with seal oil, or added to soups.

medicine:

The bark and the soft layer under the bark (the cambium) are medicinal. They can be removed, cut up, boiled and made into a tea or used to gargle to treat sore mouth and throat. They have a numbing effect. Also, one can cut off a small new branch in the spring and suck the sap to relieve mouth pain.

other:

The wood can be used for smoking fish.

Salix arbusculoides Anderss.

Yup'ik: **auguqsuli** (from Mary Gregory, Bethel) [name comes from the Yup'ik word *auk* – 'blood' Note: Some other elders said the name *auguqsuli* refers to alder species that are also used to produce a red dye.

English: littletree willow



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species ranges over northwestern North America. It is found across most of Alaska except for the furthest arctic and western coastal regions.

USES**food:**

The new leaves can be eaten in the spring and early summer. They are a good snack for children playing outside.

other:

The bark can also be boiled and used for dyeing fabric or skins a reddish or brown color.

Salix fuscescens Anderss.

Yup'ik: **uqvigaq** (Hooper Bay, Chevak)

English: Alaska bog willow, dwarf willow



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This dwarf shrub is found over much of Alaska, except for the area around Barrow, the Aleutians and the southeast.

USES

food:

The flower clusters (catkins) are chewed like gum.

Salix pulchra Cham.

Yup'ik: **cuyaqsuut** (mid Kuskokwim)
 cuyakegglit (Yukon)
 uqvigayagaat (Hooper Bay, Chevak)
 qugyuguat (Nunivak Island) (Griffin 2001)

English: diamond leaf willow



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species ranges from northwestern North America to the Russian Far East and northern Siberia. It grows throughout most of Alaska.

USES**food:**

The young tender leaves are harvested in the early summer and eaten raw, soaked in seal oil. Some people eat them plain, while others dry them and add them to soups. They can also be stored in seal oil in a glass container. Some elders say they are rich in vitamin C. One elder believes that the practice of eating these leaves was borrowed from Iñupiat people to the North.

medicine:

Some elders recommended gathering willow bark or picking the dried leaves that remain on the bushes in the winter to use for medicinal purposes. The bark and leaves can be chopped up and placed in small pan to boil 10-15 minutes for treating cough and sore throat. One elder recalled that her brothers consumed willow tea for a long period when they were ill with tuberculosis.

other:

According to Mary Active of Togiak, these bushes are good locations to place snares for trapping ptarmigan in the spring. Willows are preferred food for ptarmigan, so when they come to eat that, they will get snared.

Salix sp.

[It remains uncertain if this species is one of the four species described above, or a separate species of willow.]

Yup'ik:

cuyaqsuut	(general) (Jacobson 1984)
enrilnguut	(general) [means specifically a young edible willow shoot] (Jacobson 1984)
uqviaqsagaat	(Yukon)
uqvilqut	(Hooper Bay, Chevak)
uqvigaat	(Nunivak Island)

English: red willow

USES

medicine:

The bark is scraped off to make a tea for stomach aches. Some elders said this is can also be used to treat person who ate something poisonous. More details are needed on this latter use.

Spiraea beauverdiana Schneid. (Rosaceae) Rose Family
= *Spiraea stevenii* Rydb.

Yup'ik: **cayuggluum iilurri** (general) [means 'dwarf birch's cousin']

English: Steven's meadowsweet



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This low shrub is found over a wide range of Alaska, excluding the Aleutians, far north, and southeastern region. It also occurs in parts of the Russian Far East and east Asia. In our area it is commonly found on tundra.

USES

Local elders reported no uses for this species. They call it "dwarf birch's cousin" since it is often seen growing with that species (*Betula nana*) on the tundra.

Driftwood (in general)

Since these pieces of wood come from upriver, people cannot always determine which tree they come from. They do, however, recognize several different kinds.

Yup'ik:	teggeraq (hard driftwood)	(Chevak)
	qupuaneq (a durable kind)	(Chevak)
	pilugpigaq (type that burns well)	(Chevak)
	ciquq	(soft wood, breaks easily, often indicates driftwood from cottonwood) (Chevak)

See also the entry for spruce (*Picea* sp.) on page 20 for more terms that can be applied to driftwood.

English: driftwood

USES

other:

Driftwood is used to make many important tools, household items and even toys for children. The bark is shaped like boats and can be used as a toy, for example. Other uses for driftwood are listed in the section for spruce (*Picea* sp.) on page 20.

Local people recognize different types of driftwood based on important characteristics of the wood, even though they are not always sure which tree the wood comes from. *Teggeraq* is a kind of hard driftwood used to make sled runners. *Qupuaneq* is another type used to fashion sleds and kayaks. This is the best type for threading the top part of fish traps. *Pilugpigaq*, on the other hand, is good to burn in stoves. It exudes heat without burning too quickly like some other types, including *ciquq* (cottonwood) do.

Tacuk of Chevak said, when you see a piece of wood lying on the ground that has been there for a long time, you should turn it over onto the other side. It does not want to stay on one side for too long. When you turn it, make a wish for something positive.

Edible Berries

Arctostaphylos alpina (L.) Spreng. (Ericaceae) Heath Family
= *Arctous alpina* (L.) Niedenzu

Yup'ik: **kavlak** (widespread)
 kavlagpak (Hooper Bay, Chevak)

English: bear berry



(photo courtesy Cindy Andrecheck)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This woody sub-shrub has a northern circumpolar distribution, including most of Alaska. In our region, it is commonly found growing on tundra with crowberry (*Empetrum nigrum*).

USES

food:

The berries are edible, although many people say they are not the most preferred. Some people, including Tacuk (Cecilia Martz) of Chevak and Mary Pete of Stebbins, consider it to be famine food or something to eat only to relieve thirst while out on the tundra. Others gather them while picking other berries and say they can be eaten plain, put in *akutaq* – “Eskimo ice-cream,” or, rarely, made into jam. They should be harvested in late August or early September when they are ripe and start to soften. Some people prefer to wait until after the first frost to pick them since fall berries will be sweeter.

Cornus suecica L. (Cornaceae) Dogwood Family

Yup'ik: **cingullektaq** (widespread) [This name is onomatopoeic, referring to the crackling sound they make when someone bites into the berries.]
 cingullkitaq (Chevak)
English: bunch berry, air berry



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This rhizomatous species has a northern boreal distribution. It is found throughout southern, western interior, and southwestern Alaska.

USES

food:

Bunch berry is edible but not generally preferred. Esther Green of Bethel said it can be eaten as it is or used in making *akutaq*, mixed with blackberries. It is picked in the summer or early fall. It stays red going into the winter.

medicine:

One elder noted that the berry has a lot of fiber and is good for cleaning the intestines. She said that, generally, any berry with a lot of water and air in it is good for this purpose.

other:

An elder from Chevak said there is a traditional dance and accompanying song of the Qissunamiut people, with one stanza involving this plant. The verse describes a person who is

berry picking, who decides not to pick the bunch berries because she already has enough other berries. It contains a verse stating: "let's pick the salmonberries, let's pick the blackberries, but leave the dogwood berries to the side." Children use them as play berries when they play 'house.'

Empetrum nigrum L. (Empetraceae) Crowberry Family

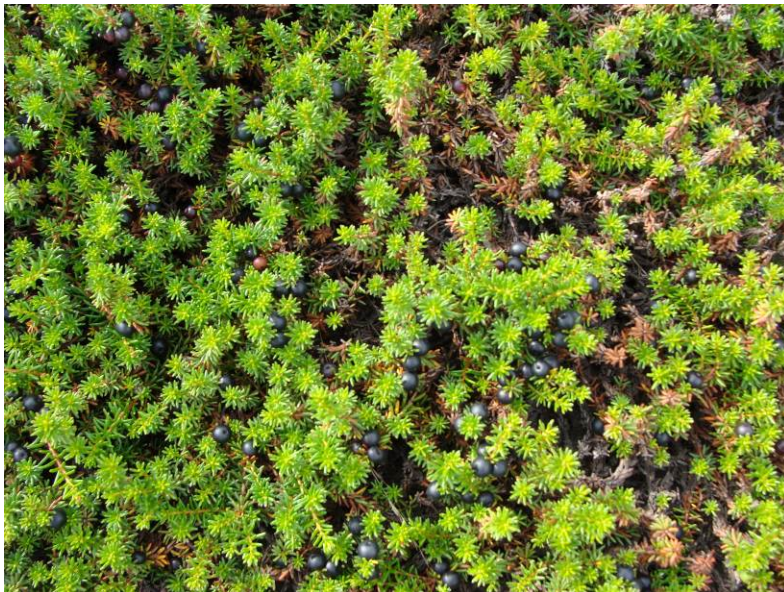
Some western botanists consider this berry belongs in the heath family, Ericaceae. Future ethnobotanical writings may reflect this change.

Yup'ik: **tan'gerpiit** (widespread, including the Kuskokwim and much of the coast)
 paunrat (Nunivak Island, some Lower Yukon villages) (Jacobson 1998)
 kavlakuaraat (Hooper Bay, Chevak) [means 'little bearberry' (*Arctostaphylos*)]

English: crowberry, blackberry

“Tan'gerpiit teglegarkarniitut” – “You can't sneak blackberries” (because they stain the hands, lips and mouth and someone will know if you take some)

Mary Active of Togiak



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This trailing woody species has a northern circumpolar distribution and is found across all of Alaska.

USES

food:

Black berries are the best berry for relieving thirst. They are also commonly eaten in *akutaq* – “Eskimo ice-cream,” which, in modern times, is prepared using sugar and vegetable shortening. In an older recipe, the berries are mixed with tomcod livers. They can also be mixed

with seal brain for a special delicacy. The seal head is cooked all day, the brain is removed and mixed with the berries without adding sugar.

medicine:

The juice from blackberries can be applied as drops for sore eyes. The stems and leaves are also boiled in water to make a wash for treating eye problems. Some people also use the leaves and stem to make a relaxing tea that is high in vitamins.

other:

The berries are used as a dye for coloring grass baskets. Some elders said that, as children, they took advantage of the staining juice, showing each other how it turned their tongues black. The stems with leaves are good to burn for making more smoke while smoking fish or as a mosquito repellent.

Oxycoccus microcarpus Turcz. (Ericaceae) Heath Family

= *Vaccinium oxycoccos* L.

Yup'ik: **uingiaraat** (Kuskokwim and Yukon) [means 'husband berries']
 quunarliaraat (Hooper Bay, Chevak)
 tumaglit (Nunivak Island) note: Ager and Ager (1980) also report
 the name *tumaglit* from Nelson Island, although this name
 refers to lowbush cranberry (*Vaccinium vitis-idaea*) in most
 places.

English: bog cranberry



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution and is found across all of Alaska except the arctic coastal regions. They are often found in damp areas growing on moss.

USES

food:

The berries are harvested in the early fall. The culinary uses are similar to low bush cranberries (*Vaccinium vitis-idaea*), but their flavor is a bit different. Since they are often not found in large quantities, some elders simply eat them where they grow rather than taking them home. They are edible plain or cooked with other food. One favorite recipe involves adding them to roast moose. They are also mixed with pike eggs, seal oil and sugar to make a kind of *akutaq* called *qerpertaq*.

medicine:

Some elders recommended eating the berries plain to treat coughs, colds, sore throat and mouth sores. The juice can also be squirted in a sore eye. In general, elders noted that this species has similar medicinal uses to those of lowbush cranberry (*Vaccinium vitis-idaea*).

other:

According to one traditional story, the reason cranes have red eyes now is that they lost their previous eyes and, after trying a variety of other berries, used bog cranberries as replacements.

Ribes triste Pall. (Saxifragaceae) Saxifrage Family

Yup'ik: **mercuullugpiit** (mid Kuskokwim) [literally means 'something big to drink water with] note: Jacobson's Yup'ik dictionary (1984) has *agautak* for this species, but this may be incorrect

English: northern red currant



(photos courtesy Kevin Jernigan)

DISTRIBUTION

The species is found in parts of northwestern North America and northern Asia. It ranges across most of Alaska except for the furthest arctic and westernmost regions.

USES

food:

The berries are edible and are good for making jellies.

Rubus arcticus L. (Rosaceae) Rose Family

This is a morphologically variable species that is split into three subspecies by many botanists. All are found within the YK delta area and produce juicy, raspberry-like berries.

Yup'ik: **puyuraarat** (widespread)
 puyurnit (Hooper Bay, Chevak)

English: dwarf nagoonberry, wild raspberry



(photo courtesy Cindy Andrecheck)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution. It occurs throughout most of Alaska except the furthestmost arctic regions. It is often found growing in grassy areas.

USES

food:

The berries can be eaten plain or mixed into *akutaq*. They are very highly appreciated but are often not plentiful in any one place.

Rubus chamaemorus L. (Rosaceae) Rose Family

Yup'ik:	atsalugpiaq	(Kuskokwim) (Jacobson 1998)
	naunrat	(coast) Nelson Island and mid coast – (Jacobson 1998)
	atsarpait	(Yukon)
	aqevyiit	(Hooper Bay, Chevak) (Jacobson 1998)
	atsat	(Nunivak Is.) (Griffin 2001)
	aqavsik	(Norton Sound and Unalakleet) (Jacobson 1998)

English: salmonberry, cloudberry



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

This species has a northern circumpolar distribution. It occurs throughout all of Alaska.

USES

food:

This species has a high vitamin C content and is also a source of iron, zinc and calcium (Thiem 2003). The berries are picked in late July and early August. People know that there will be a lot of these berries when there is an abundance of cotton grass (*Eriophorum* spp.) or butterflies earlier in the summer. They are good to eat plain or with a little sugar or honey, and are also popular for making jams. Katherine Hart of St. Mary's recalled that, in the old days, people would store them by putting them in gunny sacks in the water, and then take them out in the fall when it freezes. People also used to store them inside seal guts which were buried in pits. A traditional style of *akutaq* called *uqumyak* includes salmonberries mixed with snow.

Other types of *akutaq* can be made by mixing these berries with fish livers and seal oil, or with dried salmon eggs and seal oil. Some people store these berries with sour dock (*Rumex arcticus*) in barrels. The barrels can first be made waterproof by wiping the inside with moose or caribou fat.

Elders warned not to eat too many berries or to eat them when they are unripe to avoid diarrhea. Traditionally, a young girl who has had her first menstrual period had to be careful picking berries. If she wanted to pick them, she would have to pull a hair off her head and use that to tie the berry to a piece of grass or twigs first. If she did not do this it would cause berries to fall off the other plants.

medicine:

Rita Blumenstein of Anchorage recommended drinking salmonberry juice to treat colds, citing the high vitamin C content as beneficial.

Vaccinium uliginosum L. (Ericaceae) Heath Family

Yup'ik: **curat** (widespread)

English: blueberries



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

This low shrub has a northern circumpolar distribution. It is found throughout all of Alaska. In our region it is quite common on the tundra.

USES

food:

The berry is high in vitamin C, as well as flavonoids and flavonols with antioxidant properties (Latti *et al.* 2010). They are good to eat plain, or in various kinds of *akutaq*. One elder said she likes to put them in fish *akutaq*. They can also be eaten with milk and sugar, or with yoghurt. The berries can be mixed into bread dough or used to make jam. One elder told a story about a family who stored blueberries in a wooden container. They fermented and made the people feel intoxicated when they ate them. To avoid that, one should use the berries fresh or freeze them for later use.

Vaccinium vitis-idaea L. (Ericaceae) Heath Family

Yup'ik: **kavirlit** (mid Kuskokwim)
 tumaglit (Bristol Bay, Hooper Bay, Chevak, mid coast, Nelson Island)
 passiarkat (Yukon)
 kitngiit (Kotlik)

English: low bush cranberry



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This woody evergreen low shrub species has a northern circumpolar distribution and is found across all of Alaska except the arctic coastal regions. It is quite commonly found on the tundra in our region.

USES

food:

Elders consider the berries to be very nutritious. Indeed, low bush cranberry is a good source of vitamins A and C (USDA 2013). They are boiled and used in a variety of *akutaq* recipes. One kind, *qerpertaq*, uses crushed berries mixed with pike eggs. *Passiaq* is cranberries crushed and mixed with seal oil, sugar and aged fish eggs. They also work well in a number of desserts, including cakes, breads, pies and cobblers. Cranberries are also good in salads, jams, sauces, and, of course, eaten plain. Elders pointed out that they are refreshing to eat raw when one is hungry or thirsty out on the tundra. However, they warned that they are very acidic when ripe and can lead to sores on the palate or tongue. Others said they should not be consumed after eating fermented fish heads or aged meat because they can cause poisoning in that case.

medicine:

general

Elders said that the berries and their juice are good for treating many illnesses. The leaves are prepared as a tea to boost the immune system.

cold/flu

The berries serve to treat colds, fevers and flu. Sometimes they are eaten raw for that purpose. Other people cook them without adding sugar. One elder said the berries saved people during past flu epidemics along the Yukon.

breathing problems

To treat breathing problems, the stems and leaves are put in water that is heated until it comes to a boil. The sick person puts a towel over his head and inhales the vapor. Rita Blumenstein of Anchorage says this can also be done for children or babies who have asthma. Some people also boil the leaves or put hot water on them to make a drink to help with chronic or acute breathing difficulty. One elder said that just eating the plain berries can help with breathing trouble.

kidney and bladder problems

Low bush cranberries are used for treating urinary tract infections and kidney stones. Rita Blumenstein of Anchorage recommends crushing the berries and mixing them with water to drink. This species has been investigated for its efficacy in treating urinary tract infections (Wojnicz *et al.* 2012).

liver problems

Some elders said the berries are good for the liver when crushed and eaten.

snow blindness and eye issues

Mary Gregory of Bethel said that juice from the berries is put in the eyes to treat snow blindness and general soreness. It stings at first, but then is soothing.

healthy blood

Lena Long of Saint Mary's recommended drinking the juice daily without sugar to help maintain healthy blood.

stomach ache

The juice from the berries is also considered a good cure for stomach aches.

other medicine

A couple of additional medicinal uses do not fit neatly into the categories listed above. One elder said the berries can be crushed and cooked for three minutes and consumed to treat gallstones. The stones are said to come out with the feces. Another mentioned that, when a

person has a wound that will not heal, the red berries can be crushed and put on it. The berries are also crushed and chewed for cold sores in the mouth. They make the saliva run, and that helps.

other:

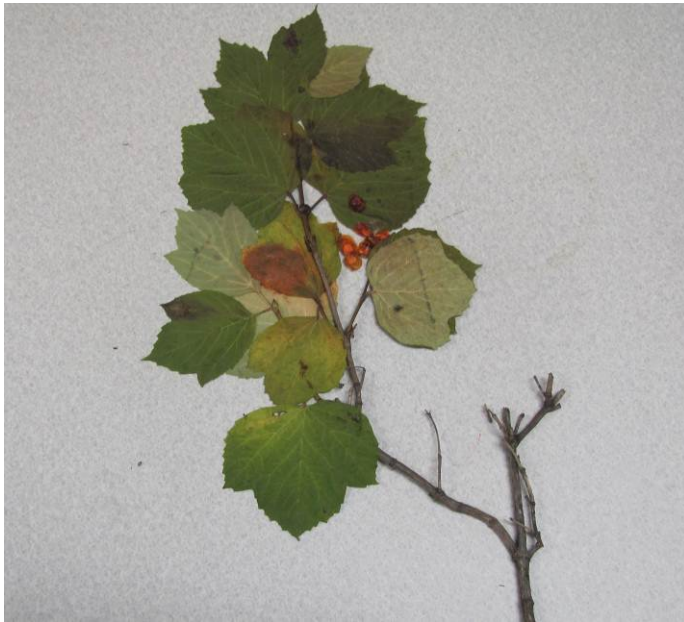
Marjorie David of Mekoryuk said low bush cranberries are used to make a pink dye for grass baskets. Julia Brown of Kongiganak noted that berries picked during the spring thaw were formerly used as lipstick by children. The berries can also be strung together to make a necklace.

Viburnum edule (Michx.) Raf. (Caprifoliaceae) Honeysuckle Family

Yup'ik: **agautaat**

note: Jacobson's Yup'ik dictionary (1984) has *mercuullugpiit* for this species, but this may be incorrect.

English: highbush cranberry



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This shrub has a wide distribution across northern North America in boreal and temperate forests. It grows throughout southern, southwestern and interior Alaska.

USES

food:

Mary Gregory and Esther Green from Bethel said the berries are good in *akutaq* and jam.

Mouse Foods

Equisetum spp. (Equisetaceae) Horsetail Family

Yup'ik: **tayarlunguat** (above ground part) [means 'fake mare's tail']
 qetget (root nodules) (widespread)

English: horsetail



root nodules of *E. arvense*
(photos courtesy Kevin Jernigan)



E. arvense

DISTRIBUTION

Six species of *Equisetum* are found in southwestern Alaska. All of these are found across most of the state and also have circumpolar distributions. Some species such as *E. arvense* are common in sandy and other open areas, whereas *E. fluviatile* is found in shallow ponds and lakes, and *E. palustre* is found in moist to very wet habitats.

USES

food:

The roots of some horsetail species (e.g. *E. arvense*) produce roundish black nodules about the size of blackberries (*Empetrum nigrum*). These are commonly found near some villages, but less common near others. For example, Cecilia Andrews of Chevak said people used to find this in mouse caches in Old Chevak, but not so much in the village's current location. These nodules taste sweet and are edible for people. People gather *qetget* along with other stored roots and stems from vole nests in the fall. Elders said that people should not take all of the food in a vole cache and should leave some other food, such as dried salmon in exchange.

Carex spp. (Cyperaceae) Sedge Family

Yup'ik: **utngungssarat** (edible part harvested by voles) (widespread)

English: teardrop shaped mouse food



(photo courtesy Kevin Jernigan)

DISTRIBUTION

The firm, white inner stem bases of these sedges are gathered from voles' nests and come from one or more of the smaller *Carex* species in our region. Elders say that the plants grow in wet areas, which is true of many species in this genus.

USES

food:

The fleshy stem base of these sedges is harvested from the nests of voles in the fall, cooked and eaten with seal blood soup or seal meat. It is eaten in soups with caribou, moose, duck or goose meat. Finally, it can also be made into *akutaq*. People on the coast sometimes compare different types of mouse food to different kinds of seals that people eat. They say that, just as coastal people have seal meat as their staple food, that rodents have their own parallel staple foods. This kind is specifically said to be like the voles' *nayiq* (ringed seal).

medicine:

One man said that if a person ever finds a red *utngungssarat* in a vole cache, that he can hold it and pray over it and he will become a healer. The red ones are very rare.

This cotton grass species has a northern circumpolar distribution and is found across interior, western and northern Alaska in moist to very wet habitats.

USES

food:

The base of the stem and underground tuber, or “nut,” are edible and can be gathered from the plant itself, or in the fall from vole nests. Elders say that people should take no more than half of the voles’ cache and should leave some food like dry fish in return. The stem bases are eaten raw, either by themselves or put in *akutaq*. The tuber is elongated and ¾” to 1½” in size. The outside has a thin coat brown and the inside is white. The tubers are often put in seal blood soup or eaten with seal meat. They can also be eaten in broth with tomcod livers and eggs. Some people make them into *akutaq*, either raw or cooked. Steve Whiteshield of Chevak said the best time to gather these is after the first snowfall. They taste sweetest then. He recommended blanching them and then freezing them to store for later use. Oscar Alexie of Bethel said the texture reminds him of a coconut.

medicine:

The flowering tops of cotton grass can be put on sores and boils. For example, to help heal boils, one takes the ‘cotton,’ flattens it, puts tobacco leaves on it and places it on the infection. The cotton will stick to the skin like an adhesive bandage and the boil head will release. Elders say that the medicine draws out the *aninguam yua* – ‘person of the boil.’ The flowering head can also be soaked in seal oil and placed on an infected sore to help draw out the pus. One elder mentioned using it in this fashion to treat an infected eye.

other:

This plant is also important as an indicator species. Elders say that cotton grass blooms are plentiful in years when the berries will be plentiful.

Potentilla egedei Wormsk. (Rosaceae) Rose Family

= *Argentina egedei* (Wormsk. ex. Hornem.) Rydb.

[Note: This species has been separated into several subspecies by some botanists.]

Yup'ik: **enegaasget** (general)
 marallaq (Chevak)

English: Eged's silverweed, sweet potato



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution and is found over most of Alaska, except for the far north (Hultén 1968). Plants in the Yukon-Kuskokwin region are found growing along the sea coast, in estuaries, and along the banks and floodplains of larger rivers.

USES

food:

The roots of this species are cooked and eaten. People find them in vole caches and eat them with seal blood soup or seal meat. They can also be eaten in broth with tomcod livers and eggs or made into *akutaq*.

Type of Mouse food (Poaceae) Grass Family

Yup'ik: **kangcingcaat** (Chevak)

English: type of mouse food

DISTRIBUTION

This mouse food is reddish brown and looks like tangled thread. Elders consider this to be the roots of “real grass” (*evepik*) – *Calamagrostis canadensis*. We have not collected a specimen, so a confident identification has not yet been made.

USES

food:

These are eaten raw with dried fish eggs (*ciilluviit*).

Another Type of Mouse food

[Note: The correct identification of this plant has yet to be determined. Eds.]

Yup'ik: **neqnellkutet** (Chevak) [means 'things that are not good for us to eat']

English: bad mouse food

DISTRIBUTION

This is an unidentified kind of black, hard, stringy and sticky root found when people harvest other kinds of mouse food, such as *marallaq* (*Potentilla egedei*).

USES

These are considered inedible for people, but not poisonous. They are said to be like the mouse's version of *tetaq*, or "stink seal," corresponding to male seals in rut. The latter are also inedible, with stinky meat and oil that smells like gasoline.

Other Edible Plants

Caltha palustris L. (Ranunculaceae) Buttercup Family

Yup'ik: **allngiguaq** (Chevak) (Jacobson 1984)
 allmaguaq (Nelson Island) (Garibaldi 1999)
 wivlut (Nunivak Island) (Griffin 2001)

English: marsh marigold



photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution and is found growing in ponds throughout a wide range of Alaska.

USES

food:

The leaves and stem are collected early, before they flower in the summer. They are boiled, changing the water two or three times to leach out toxic chemicals, including protoanemonin before eating. Griffin (2001) reports that people on Nunivak eat the cooked young leaves and stems with seal flipper or seal oil.

Claytonia tuberosa Pall. ex Willd. (Portulacaceae) Purslane
Family

(This genus is considered to be in Montiaceae by some botanists.)

Yup'ik: **ulqiq** (widespread) (Ager and Ager 1980)

English: Eskimo potato, tuberous spring beauty



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species grows on mountain slopes and in alpine valleys in interior and western Alaska and in parts of the Russian Far East.

USES

food:

The tuberous root of this species is edible and is often compared to a potato. Ager and Ager (1980) report that people in Tununak eat them raw with seal oil, and also sometimes cook them in soup with duck or goose meat.

Epilobium angustifolium L. (Onagraceae) Evening Primrose
Family

= *Chamerion angustifolium* (L.) Scop.

Yup'ik: **ciilqaarat** (widespread)

English: tall fireweed



(photo courtesy Cindy Andrecheck)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution, including most of Alaska. It is commonly found in disturbed areas such as roadsides, recently burned areas, and river floodplains.

USES

food:

The flowers are collected and eaten in late summer. They can also be used to make jam or syrup. People gather the young shoots in the early summer when they are still small, red and tender. The shoots can be eaten raw with seal oil, put in salads or added to soups. They are also stored in seal oil along with fish in a seal poke. The leaves can be dried and used for tea.

medicine:

The whole plant including the root can be cut up, mixed with petroleum jelly and stinkweed (*Artemisia tilesii*) leaves to make a poultice for treating boils. It should be left on for two days. *E. angustifolium* has been investigated for its antimicrobial (Kosalec *et al.* 2013) and anti-tumor properties (Stolarczyk *et al.* 2013).

other:

Fireweed also makes a good seasonal indicator. When the flowers are blooming it means that summer is coming to an end. Also, when the leaves turn red it is a sign that it is getting cold.

Heracleum lanatum Michx. (Apiaceae) Parsley Family

Yup'ik: **tarnaq** (Nelson Island)

English: cow parsnip

DISTRIBUTION

This species ranges over northern North America and the Russian Far East. It grows throughout southern and central Alaska. In our region it is found on the lower Yukon, upper Kuskokwim and around Dillingham.

USES

food:

Cow parsnip is harvested in the summer before it blooms. The peeled stem can be eaten raw, but the leaves should not be eaten, since a chemical in the surface hairs can make it irritating or numbing to the lips. Care should be taken with this species since some people have a strong allergic reaction to it.

Hippuris tetraphylla L. f. (Plantaginaceae) Plantain Family
(formerly Haloragaceae)

Yup'ik: **tayaruq** (widespread)

English: mare's tail



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species is found in scattered regions across the northern hemisphere, primarily in brackish habitats. It grows along most of the Alaskan coast except for the Aleutian Islands. It is a common plant to find in ponds.

USES

food:

The whole plant (except the roots and submerged stems) is gathered from ponds right after freeze-up by skimming the ice surface with a shovel or rake. Plants can then be put on tarps to dry and store in bags for the winter. Other people gather them in the spring from the lakes just when the ice is lifting. Freezing makes them soft and easier to cook. The plant is not eaten when green in the summer because it is too bitter. Rabbits eat them when they are green, but to people, these summer plants taste bitter like *cungak*, fish bile. The cooked plant can be put in soup with seal blood and fish eggs (such as tomcod roe) or in *akutaq*. They can also be eaten with *qayussaaq*, a kind of aged fish that has been dried and boiled.

medicine:

One elder said the plants are a good source of fiber.

other:

This species is eaten by geese as well as hares.

Hippuris vulgaris L. (Plantaginaceae) Plantain Family
(formerly Halagoraceae)

Yup'ik: **tayagum ilurii** (general)

English: mare's tail



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species is found throughout the northern hemisphere. It grows in ponds across all of Alaska.

USES

food:

Some elders consider this to be another edible species of mare's tail. Similarly, Griffin (2001) reports that this species is eaten on Nunivak Island.

other:

Some people consider this species to simply be another kind of *tayarut*, while others maintained it is not a proper member of that category. Some elders called this species *tayagum ilurii* – 'mare's tail's cousin,' because it is different from, but clearly related to the species *Hippuris tetraphylla*. Those people consider *Hippuris tetraphylla* to be the real mare's tail (*tayaruq*). Western botanists consider the two species of mare's tail as closely related, but distinct, based on leaf shape and habitat.

Honckenya peploides (L.) Ehrh. (Caryophyllaceae) Chickweed Family

Yup'ik: **it'garalget** (Nelson Island)
 tukullget (Nunivak Island) [means 'feet']

English: beach greens



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a coastal northern circumpolar distribution and is found throughout coastal Alaska. It is found on sandy beaches, sometimes together with beach bluebells, *Mertensia maritima*.

USES

food:

The leaves and stems can be gathered to eat in early summer before the plant starts flowering. The leaves can be eaten raw with seal oil. They can also be cooked and mixed with salmonberries in *akutaq*.

Joseph David of Mekoryuk says the leaves and stems are commonly eaten raw with seal oil. They can also be diced up to put in *akutaq* or cooked in soup with herring eggs. They are good with half dried or boiled fish. Neva Rivers of Hooper Bay believes that people in her region learned to use this plant from Iñupiaq speakers to the north. The name used in Hooper Bay, *tuk'ayit*, is similar to *tukkaayuk*, the name Anore Jones (2010) reports from the Kotzebue region. Interestingly, elders from other regions said that local people always knew this plant was edible and, indeed, names of other Yup'ik regions do not resemble the Iñupiaq word for this species.

Mertensia maritima (L.) Gray (Boraginaceae) Borage Family

Yup'ik: **neqnirliar** (Nelson Island) (Ager and Ager 1980)
 ciunerturpat (Nunivak Island) (Griffin 2001)

English: oysterleaf, beach bluebell



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This low spreading species is found in much of coastal Alaska. It grows among sand or pebbles on beaches, sometimes near *Honckenya peploides* (beach greens).

USES

food:

None of the elders we interviewed described this as food. However other sources do mention this as an edible species. Ager and Ager (1980) report that the plant was boiled and eaten with seal oil on Nelson Island. Griffin (2001) mentions that people on Nunivak Island used to eat the leaves, but no longer do. Ainana and Zagrebin (1997) write that the Chaplinski Yupik of Chukotka gather the leaves and stems of this species along with those of beach greens (*Honckenya peploides*). They call both species by the same name, *mytağraq*, since both are found in the same habitat and both have succulent edible leaves and stems. The Chaplinski Yupik ferment the stems and leaves along with *nunivaak* (*Sedum rosea* or roseroot) to store for latter consumption.

other:

Mary Pete of Stebbins recalled that the root of this species has been used as a lure for fishing. It has a distinctive odor that attracts fish.

Oxyria digyna (L.) Hill (Polygonaceae) Buckwheat Family

Yup'ik: **quunarliaraat** (Nelson Island) (Ager and Ager 1980)

English: mountain sorrel



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This herbaceous species is found throughout the northern hemisphere including all of Alaska.

USES

food:

The elders we interviewed did not discuss this plant. However, Ager and Ager (1980) report that people on Nelson Island would consume the leaves and stems with seal oil, either raw or cooked.

Pedicularis kanei Durand Orobanchaceae (formerly in Scrophulariaceae)
Broomrape Family

= *Pedicularis lanata* Cham. & Schltdl.

Yup'ik: **ulevleruyiit** (widespread)

English: woolly lousewort



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species is native to parts of northern North America and the Russian Far East. It is found across most of Alaska although it is rare in the south central and southeastern regions.

USES

food:

Mary Gregory of Bethel said the whole plant can be fermented and eaten like sauerkraut. This is similar to what Jones (2010) reports for Iñupiat people of the Kotzebue area. There, people traditionally harvest the flowering tops, cover them with water and let them ferment to store for later use. Griffin (2001) states that people on Nunivak Island would sometimes suck the sweet nectar from the flowers of *Pedicularis verticillata*, a relative of this plant. Ager and

Ager (1980) report that people on Nelson Island harvested the roots of species in this genus in the spring and ate them raw with seal oil.

Polygonum alaskanum (Small) W.Wight ex Hultén
(Polygonaceae) Buckwheat Family

= *Aconogonon alaskanum* (Small) Soják

Yup'ik: **angukaq** (widespread) (Jacobson 1998)
 nakaaq (Yukon delta, south coast) (Jacobson 1998)
 naunraq (Russian Mission) (Jacobson 1998)
 nauciq (Norton Sound) (Jacobson 1998)

English: wild rhubarb



(photos courtesy Kevin Jernigan)

DISTRIBUTION

Polygonum alaskanum is found over a wide range of central and western Alaska.

USES

food:

The leaves can be eaten raw and the stem can be cooked to make pies.

Potentilla palustris (L.) Scop. (Rosaceae) Rose Family

= *Comarum palustre* L.

Yup'ik: **pingayunleget** (Chevak, Nelson Island) [related to the Yup'ik word for eight]

English: marsh five-finger



(photos courtesy Cindy Andrecheck and Kevin Jernigan)

DISTRIBUTION

This species is found in wet places including shallow water. It has a northern circumpolar distribution and is found throughout all of Alaska (Hultén 1968). It is typically found with the base of the stem growing in water, often in shallow parts of lakes.

USES

food:

In Chevak, people used to make a tea out of the fruit and flowers (*atsait*) to drink as a refreshing beverage. These were picked in late summer or early fall when they are mature and put fresh into boiling water that had been collected from rain. Ager and Ager (1980) report that, on Nelson Island, people used make a tea out of the dried leaves before commercial tea arrived. It was consumed simply as a beverage, not for medicinal purposes.

Ranunculus pallasii Schlecht. (Ranunculaceae) Buttercup Family

Yup'ik: **kapuukaq** (widespread)

English: Pallas buttercup

“Tunguuralriinek kangerluteng. Aciit qaterluteng, kiingan cuassarluni” – “Pick them just when things are thawing in spring before they flower.”

Mary Gregory of Bethel



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This aquatic buttercup is found in coastal areas and has a circumpolar distribution including western and northern coastal Alaska. It is typically found growing in ponds.

USES

food:

The young rhizomes can be harvested when they are just sprouting in the spring. The root can be thrown back into the water so that the plant will grow again. They are boiled and eaten in soups. Cecilia Martz of Chevak said you can also boil them and eat them with seal oil and salt. They can also be made into *akutaq*, but they are not edible raw. When plants are harvested young, the taste is a bit like carrots. Later during the summer, when they flower, they start to taste bitter and spicy and should be avoided. One lady from Hooper Bay, Juliana Springer, says they can be harvested in the fall as well. In that case, you blanch them, let the hot water drain off and place them in the freezer to use later.

Rosa acicularis Lindl. (family Rosaceae)

Yup'ik: **tuutaruaq** (widespread)

English: rose



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a northern circumpolar distribution. It is found throughout Alaska except in the northernmost arctic and western coastal regions. In our region, it is usually found in forested areas.

USES

food:

The fruit (hips) can be used for *akutaq* when they are ripe and turn orange. They can also be used to make jam. Sophie Alexie of Bethel remembered that her parents told her not to eat more than two or three at once to avoid getting sick.

Rumex acetosella L. (Polygonaceae) Buckwheat family

= *Acetosa acetosella* (L.) Mill.

Yup'ik: **no name given**

English: sheep sorrel



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species is found throughout the northern hemisphere and with scattered populations in the southern hemisphere. It grows throughout coastal southern Alaska.

USES

food:

The leaves are said to be edible.

Rumex arcticus Trautv. (Polygonaceae) Buckwheat Family

Yup'ik:	quagciq	(widespread, including much of Kuskokwim, and some Yukon and coastal villages) (Jacobson 1998)
	aatunaq	(Hooper Bay, Chevak) (name for the leaves of the plant, considered to be the female part) (Jacobson 1998)
	naunrayagaq	(Hooper Bay, Chevak) (name for flower stalk, considered to be the male part)
	civassaq	(Nunivak Island) (Jacobson 1998)
	quunarliq	(Kotlik and upper Kuskokwim) (Jacobson 1998)

English: sour dock



(photo courtesy Cindy Andrecheck)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species occurs in northwestern North America and northern Asia. It is found throughout all of Alaska except in the southeast.

USES

food:

The leaves of this species are eaten as greens. They are stored with berries in the fall to be eaten over winter. In some villages, including Chevak, the leaves are placed on top of stored berries instead of colt's foot (*Petasites frigidus*) to keep mold from growing on them. They can be eaten raw with seal oil. Some elders said the leaves can be added to oatmeal and pancakes.

medicine:

The leaves and stems are used to treat intestinal parasites. One elder recalled that, when she was young and suffered from tapeworms, her mother made her fast, only eating broth, before consuming cooked sour dock leaves mixed with seal oil. Other people suggested mixing the cooked leaves with cranberries to clean the intestines, saying parasites will be excreted the next day.

other:

Tacuk of Chevak remembers a game children would play with sour dock. Kids would sit facing each other in two rows. Each one would be competing against the person sitting across from him. Opponents would shape the long leaf into a tight roll, put it in their mouths and chew. The one who managed not to make a face at the sour taste would win. This has the dual purpose of being a fun game and a useful lesson for life. Those who show their emotions too easily are considered childish. A stoic disposition is a trait valued in adults.

Saussurea nuda Ledeb. (Asteraceae) Aster Family

Yup'ik: **nasqupaguaq** (Chevak) [name means 'fake head'] note: Jacobson (1984) lists *Senecio pseudoarnica* for this name in Hooper Bay and Chevak, but that is likely an error, since *S. pseudoarnica* contains toxic pyrrolizidine alkaloids (Turner and Szczawinski 1991).

English: nutty saw-wort



(photo courtesy Kevin Jernigan)



(photo courtesy Kevin Jernigan)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This herbaceous species is found in western Alaska and in a few other parts of the state. In our region it is mostly found close to the coast in wet tundra. It also occurs in some other parts of North America and East Asia. Tacuk of Chevak mentioned the Cup'ik view that the flower stalks of this plant (and others) are male and the leaves are female.

USES

food:

The leaves and young flower shoots are cooked in fish broth or eaten with *ukuk* (seal oil) and salt. Mary Pete of Stebbins noted that they are also eaten with sea mammal meat.

Saxifraga spp. (Saxifragaceae) Saxifrage Family

Includes:

- 1) *Saxifraga spicata* D. Don (= *Micranthes spicata* (D. Don) Small) and
- 2) *Saxifraga punctata* L. subsp. *nelsoniana* (D. Don) Hultén (= *Micranthes nelsoniana* (D. Don) Small)

Yup'ik: **muchuktulak** (Nelson Island name for *S. spicata*) (Ager and Ager 1980)

English: saxifrage

DISTRIBUTION

Saxifraga spicata is found in parts of western and central Alaska. In our region, it occurs along the coast and on the Yukon. *Saxifraga punctata* subsp. *nelsoniana* occurs over a wide range of Alaska.

USES

food:

Elders in our region did not mention these species. However, according to Ager and Ager (1980) people on Nelson Island would eat the young leaves and sometimes stalks raw, often with seal oil and fish.

Sedum rosea (L.) Scop. subsp. *integrifolium* (Raf.) Hultén
(Crassulaceae) Stonecrop Family

= *Rhodiola integrifolia* Raf.

Yup'ik: **caqlak** (Hooper Bay, Chevak, Scammon Bay)
 ulevleruyiit (Scammon Bay)
 megtat neqait (Bethel) [means 'bumblebee food']

English: roseroot



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This perennial succulent herb has a northern circumpolar distribution, and is found throughout Alaska.

USES

food:

The leaves and stems of the young plants that are not yet flowering can be dried and added to soup. They can also be eaten with seal oil, either raw or cooked. Some people also eat the stems and flowers in salads. The flowers should be boiled before eating.

medicinal:

The fresh roots can be chewed and applied to sores to help them heal. The root can also be dried and ground into a powder to use for treating thrush and skin sores. It can be applied to gauze and then placed on the sore. The roots may also be soaked in hot water, peeled and chewed to ease a toothache or sore throat.

Medicinals

Achillea millifolium L. (Asteraceae) Aster Family

includes *A. borealis* Bong.

Yup'ik: **anuqtuliar** (widespread) Some elders say the name *anuqtuliar* refers to both local yarrow species, *A. millifolium*. and *A. sibirica*. Other elders say *anuqtuliar* refers only to *A. millifolium*.
 qanganaruaq (Mary Gregory from Bethel, Rita Blumenstein from Anchorage)

English: yarrow

“Aciat qecugluku tamualuku mecua igluku sinus-aalriani.” – “Take off the root and chew it, swallowing the juice for sinus infection.”

Elsie Chimegalrea, Bethel



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

This herbaceous perennial has a northern circumpolar distribution. It is found throughout all of Alaska, particularly in disturbed areas.

USES

medicine:

The whole plant can be boiled and used as a hot compress to treat arthritis. According to Rita Blumenstein of Anchorage, the roots can be chewed to help relieve sinus infections and toothaches. The whole plant can also be boiled and put in a spray bottle to use for sinus infections, or boiled to steam for coughs and colds. Another way to treat coughs is by making a tea with the younger plants. One elder, Oscar Alexie of Bethel, said his mother used to dry the

roots for treating asthma and pneumonia. Chewing on them opens up the air channels in the same way that menthol does. Oscar tells the story of a friend at the hospital who was being treated for pneumonia. She chewed on the fresh roots (while also receiving western medicine) and reported that she had no more problems in the month following her release. Elders noted that the plant does not lose its medicinal properties when dried. Antispasmodic flavonoids have been isolated from this species and it has also been studied for the ability of aqueous (water) extracts to inhibit gastric ulcers (Saeidnia *et al.* 2011).

Elders disagree about whether there is a significant difference between this species and Siberian yarrow (*Achillea sibirica*). Some people say that they are different and should not be mixed when gathering. *Achillea millifolium* has finer leaves and a sweeter more gentle smell than Siberian yarrow. Others say that the roots of *A. millifolium* have a minty taste and make the tongue numb. That is another way to know that you have the right kind of yarrow to use as medicine.

other:

Children also play with this plant. They decorate their hair and clothes with the leaves and flowers.

Achillea sibirica Ledeb. (Asteraceae) Aster Family

Yup'ik: **anuqtuliar** (mid Kuskokwim) Some elders say the name *anuqtuliar* refers to both local yarrow species, *Achillea*. and *A. sibirica*. Other elders say *anuqtuliar* refers only to *A. millifolium*.

English: Siberian yarrow



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This species is an herbaceous perennial found in northwestern North America and the Russian Far East. It grows across interior Alaska, particularly in disturbed soil.

USES

medicine:

Some elders said this yarrow species is not good for treating illness. Others disagreed, saying the whole plant can be harvested in July and August as medicine. Some people said to boil it in water and use the water to treat arthritis by taking a cloth and repeatedly dipping it in the solution and applying it where the pain is. Elders said this procedure removes water from sore joints. The flowers can be removed from the plant, dried and stored in sealable bags. For colds and asthma, one chews the dried flowers and swallows the juice, but not the flowers themselves.

Esther Green of Bethel said that the dried leaves can be rolled up into a plug to put in the nose as a clotting agent to stop nose bleeds. The dried roots can also be chewed to alleviate asthma.

Angelica lucida L. (Apiaceae) Parsley Family

= *Angelica gmelinii* (DC.) Pimenov

Yup'ik: **ikiituk** (widespread)

English: wild celery

(photos courtesy Kevin Jernigan)



DISTRIBUTION

This herbaceous perennial is found in northwestern North America and the Russian Far East. It grows throughout southern, interior, and western Alaska. Some elders consider this plant to be the male version of sea lovage (*Ligusticum scoticum*).

USES

food:

The stem of the young plant can be peeled and eaten raw. Plants that are flowering and older ones with tough stems should not be eaten. Many people eat this plant where it is found rather than taking it home. Some elders say it is good as a snack when out berry picking. However, others warn not to eat it after consuming walrus meat, because it can cause upset stomach in that case. Some elders say that the flowering part is male and the vegetative part is female. Some people said the female part is not edible, while others believe it is a good source of fiber and vitamins. Cecilia Andrews of Chevak, noted that her grandmother used to pick the leaves and cook them with fish.

Elders warn not to confuse this plant with water hemlock, a species that has similar looking flowers. Oscar Alexie of Bethel said that when he was a child, his mother never sent him to pick wild celery on his own, in case he came back with water hemlock. There are several ways to tell the two species apart. Water hemlock has fine feathery leaf segments, while wild celery has wider leaf segments. Water hemlock is found growing with its base submerged in water, while wild celery is not. Also the flower clusters of water hemlock are more globe-shaped, while those of wild celery are flattened on top.

medicine:

The root can be harvested in the spring or fall, dried thoroughly and crushed to use on bruises or burns. It can also be massaged in for bodily aches and pains. Eating the stem is said to be good for treating tapeworms. Oscar Alexie of Bethel stated that it is also good for treatment for tapeworms in dogs. The bound up stem is forced down a dog's throat. It comes out the other end along with the worm. A related species not found in Alaska, *Angelica sinensis*, is used extensively in traditional Chinese medicine and has been studied for its anti-inflammatory properties and potential utility in treating rheumatoid arthritis (Yang *et al.* 2013).

other:

Chevak elder Tacuk (Cecilia Martz) recalls one of her elders recounting the importance of wild celery in the Bladder Festival (*nakaciuq*). This celebration involved blowing up and tying seal bladders to put them back in the water, insuring the future harvest. In preparation for the festival, local elders would watch adolescent boys to see which were the most respectful and embodied the qualities valued by the community. They selected five youths to gather dry dead wild celery sticking out of the snow. When they encountered the first stalk, one boy buried a piece of fish at the base and explained to it why they needed to gather that plant. The boys would leave that first one, but pick five other wild celery stalks. People used the stalks for a variety of purposes in the festival. For example, they purified the *qasgiit* (men's houses) by smudging with them.

Oswalt (1957) reported spiritual uses from Napaskiak that were no longer practiced when he did his research. People told him that the stems and flowering tops were once burned to smoke the inside and outside of houses for purification. Oswalt was also reported that the dried stems and flowers were gathered after freeze up to use for ceremonial occasions. People did not recall the details, however, even then.

Artemisia tilesii Ledeb. (Asteraceae) Aster Family

Includes *A. unalaskensis* Rydb.

Note: *Artemisia tilesii* is a highly variable species that has been divided into several subspecies, varieties or races by different botanists, but is now considered by most to be all within a broadly circumscribed single species.

Yup'ik: **caiggluk** (widespread)
 naunerrluk (Nunivak Is., lower coast) [means “bad plant, weed”]
 qanganaruaq (many Kuskokwim villages) [means “imitation squirrel”]
 naunerakayak* (Tuntutuliak) [means “great plant” see note at end of entry]
 caggluk (Norton Sound) (Jacobson 1998)

English: stinkweed, wormwood

“Irniamnun tutgaramnun iinruvkalaranka, ellaitnun elitesqelluki. Cumaciq'langraitki pilartut.” –
“I give them to my children and my grandchildren for medicine because I want them to learn.
Even if they do not like the taste, they consume it.”

Julia Brown of Kongiganak



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This is an herbaceous perennial found in western North America and Siberia. It grows in disturbed soil and roadsides, and is found throughout the Yukon-Kuskokwim region and much of Alaska.

USES

medicine:

general:

The stem, leaves and flowers have numerous medicinal properties. The new shoots can be picked in the spring, or the mature plant are typically gathered from late August to October. Some elders believe that plants with flowers are more potent than younger ones. Some people warned that the fresh green plant is too strong for internal use and recommended gathering it to make internal preparations only after the first frost. In general, there is no complete agreement over exactly when and how to gather the plant. The dried plants can be stored for a year without losing their properties. Elders warn that this medicine may have harmful effects if combined with pharmaceutical drugs. The related species *Artemisia absinthium*, which grows worldwide in the temperate zones, has been studied for its anti-fungal, vermifugal and antioxidant properties (Bora and Sharma 2011).

spiritual:

The leaves are soaked in water to make a poultice for purifying in a similar manner as holy water, when someone is dealing with the death of a loved one or other difficult emotions. People also pick the flowers and rub them on their hands for purification.

respiratory:

The whole plant can be put in a pot of boiling water, and a person with respiratory problems can inhale the vapor in order to sweat and to open up the lungs. A tea made from the stems, leaves and flowers is also used for treating colds and pneumonia. Some people select the flowering tops to make a tea for asthma and shortness of breath. You can put the leaves into the *maqi* bucket in the steam bath to clear sinuses and help the lungs. Dried leaves can also be crumbled and burnt on the stove for sinuses and the respiratory system.

skin related:

The leaves are put into the *maqi* bucket in the steambath for cleansing pores. Oscar Alexie of Bethel explains that the steam in the steam bath is very hot, so when you use the stems as a switch, you force the hot air to your body. It burns, and switching helps the plants secrete their juices and forces them into your pores. Stinkweed can be put into your home washbasin for skin cleansing properties.

body pain:

For joint pain, one can boil the plant in water, soak a cloth in the liquid and use it as a hot pack. The stems with leaves also make good switches to use in the steam bath to treat arthritis and general body pain.

injuries:

The leaves can also be dampened and placed on surgery scars at night when one goes to bed, to help them heal. One can also chew up the leaves to make a spit poultice for cuts and scrapes.

other health related:

One elder recommended boiling the plant for twenty minutes, or until the color becomes quite dark, letting it sit overnight, straining it and drinking a half a cup in the morning and evening as a general tonic for good health. Elder Tacuk from Chevak noted that people also chew on the leaves as a way of ingesting the juice as a healthful tonic. The whole plant minus the roots can be boiled in water as a tea for treating stomach problems.

other:

Since this plant has a strong pleasant smell, it is useful for cleaning one's hands after eating fermented fish, or stinkheads; otherwise the smell of those foods will stay on the hands for a long time. So you rub your hands with the leaves of this plant and it helps the smell to leave sooner.

***note on local name:**

One local person, Martha Perry, mentioned that people in the village of Tuntutuliak, where she is from, do not use the name *caiggluk*, even though people in other nearby villages do. That is because Caiggluk is used as a personal name there. This reflects a general practice to make up a name, or use a name from another dialect in a case where the name of a plant is the same as a personal name.

Ledum palustre L. subsp. *decumbens* (Ait.) Hultén (Ericaceae)
Heath Family

= *Rhododendron tomentosum* Harmaja

Yup'ik: **ayuq** (widespread)

English: Labrador tea, tundra tea



(photo courtesy Cindy Andrecheck)

DISTRIBUTION

This woody low shrub has a northern circumpolar distribution and is found throughout all of Alaska. It is one of the most characteristic plants of the tundra in our region.

USES

food:

The leaves can be mixed with regular tea (*Camelia sinensis*) and made into a beverage. Some local people recognize a male and female version of this plant. They consider plants with flowers to be male and say the non-flowering plants are female. The female version is considered to taste better, and is preferred for tea. Both are said to have similar medicinal properties. In contrast to the local view, academic botanist maintain that the flowers of this species have both male and female parts.

medicine:

general uses and prevention

This species has been studied for its analgesic, anti-inflammatory, antimicrobial and antiviral, properties (Dampc and Luczkiewicz 2013). In our region, some people drink tundra tea regularly, to prevent getting sick. Others, however, warned about drinking it too often (see below). The leaves and stem are also sometimes burned in a house to protect it from illness.

One elder said her grandparents would circle a sick person with the smoking plant to drive away the illness. Others said that the smoke can help revive an unconscious person or one who is very weak.

flu/cough

During epidemics of influenza and other infectious diseases, in the early 20th century, people would burn the leaves and stem to purify their houses. Annie Blue of Togiak recalls that, during that period, everyone's house would smell like *ayuuq*. Elders would open all the windows and tell the sickness to leave. The leaves can also be chewed or made into a tea to help treat colds and coughs. One elder, Rita Blumenstein of Anchorage, noted that the tea can even be used for tuberculosis. She said when people drink it they will stop spitting up blood. Modesta Myers, from Pilot Station, recounted suffering from a serious cough when she was younger. Medicines from the pharmacy were not helping, so her mother mixed leaves from tundra tea and *caiggluk* (*Artemisia tilesii*) and boiled them in water in a covered pan until the tea was concentrated. Modesta drank ½ cup twice a day until she improved.

breathing problems

Strong tea made from *ayuuq* leaves is used for breathing problems. Some people said that the concentrated tea will cause a constricted trachea to open up. One elder recounted that she started to have trouble breathing one day, while picking berries. She chewed Labrador tea seed heads and swallowed the juice. Her breathing became normal.

blood related

One elder said she drinks *ayuuq* tea every day to treat high blood pressure. She said it helps with the associated headaches. Another elder told a story of using *ayuuq* to treat a headache she suffered while out picking berries on the tundra. She didn't have any medicine with her, but she remembered her grandmother telling her about the medicinal properties of tundra tea. She chewed the leaves of *ayuuq* and covered her eyes with moss to help with the throbbing headache. She replaced the moss with new cool pieces when they became warm. Labrador tea leaves have also been prepared as a tea for treating bloody stools.

other

Juliana Springer from Hooper Bay said her grandfather was cured of appendicitis using a tea made from *ayuuq* and the bark of a dwarf willow species. She described it as "super-strong medicine," and other elders agreed.

warnings

Some elders warned against drinking Labrador tea in large quantities, or on a daily basis. One person said her doctor told her that excessive use can lead to high blood pressure. Another claimed that it could thicken the blood or cause it to slow down. Some considered this species

bad for the heart when consumed excessively. Many also thought that natural medicines in general, and tundra tea in particular, should not be mixed with pharmaceutical drugs. They said that plants become potent since the summer growing season in our region is very short.

other:

Tundra tea is also used for purification in a spiritual sense (*tarvaq* in Yup'ik). Elders say that those who have lost a family member require purification before going out to hunt, so that their bodies will smell of the earth and nature again. People tie this species in bundles and hang them to dry. For purification, a person can burn a bundle to let the smoke go in through the bottom of his *qaspeq*, while waving his arms to let it go up. People often say prayers during this process. In the past, when a shaman died, people would burn some in the door of his house to protect themselves from his spirit. Nowadays, people still smoke houses and buildings to rid them of malicious spirits, including ghosts. One can also put some Labrador tea on the stove in the steam house and burn it in religious ceremonies, in Jesus' name, to remove spiritual impurities. It is often burned in church instead of other incense. Some people prefer *ayuuq* because the smell of other church incense makes them sick.

A sprig of Labrador tea can also serve to ward off bees. Juliana Springer of Hooper Bay said to wave it in the air and say "*ukni, ukni, ukni...*". This is telling the bees to go make honey.

Matricaria matricarioides (Less.) Porter (Asteraceae) Aster
Family

= *Matricaria discoidea* DC.

Yup'ik: **atsaruat** (widespread) [means "fake berry"]
 itemkeciyaat (Hooper Bay/Chevak)

English: chamomile, pineapple weed



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This herbaceous perennial is widespread in the northern hemisphere and scattered in the southern hemisphere. It is found across all of Alaska except the arctic coastal regions. It is commonly found in disturbed areas. Elders noted that the plant seems to only grow where dogs live. Some people speculated that the species does well in areas where dogs dig and disturb the soil. Others believe that dog feces help the plants to grow.

USES

food:

One elder said that the flowers, leaves and stems are edible and nutritious, when added to soups.

medicine:

The most common medicinal use of this plant is for cough. The flower cluster, or "berry" as it is commonly called, is boiled in water as a tea. Ben Flynn of Chefnak recommended drinking ½ cup of this tea twice a day, in the morning and in the evening to treat a cough or mild case of pneumonia. Elsie Chimegalrea of Bethel, pointed out that it is better tasting than another

common cough remedy, stinkweed (*Artemisia tilesii*). Chamomile tea also has a calming effect and is sometimes used to treat headaches, stress or depression. One elder said she used it to treat scarlet fever. Tacuk of Chevak said that the tea is a good general tonic for good health.

The flowers are lightly boiled, and wrapped in cloth to make a compress for sore muscles. The stems can be bundled and used in steam baths as switches for sore muscles, although some people find them to be too small for this purpose. Tacuk recalled a lady she knew who had bad arthritis in her legs. The lady was thinking to save money for a wheel chair on her doctor's advice, when she remembered her grandmother speaking to her about the medicinal power of chamomile. So the lady decided to follow her grandmother's advice. She made a hot pack from the whole chamomile plants (except the roots) to put on the affected area for 15 days, 15-20 minutes each day. She had to be careful to do this consistently. If she forgot one day the process would have to start again. Each time, when she was done, she threw the sickness out with the chamomile and thanked the plant. Someone with multiple sore places must use a different hot pack for each, to avoid transferring the sickness from one spot to another. If the process is working correctly, there will be a slimy substance on the hot pack when it comes off. Elders say that is the arthritis coming out. Other people steam with chamomile to treat arthritis. The related species *Matricaria recutita* has been studied for its anti-inflammatory and anxiolytic (pain relieving) properties (McKay and Blumberg 2000).

other:

This species is used to predict the berry crop. When chamomile is plentiful, the berry crop will also be plentiful. One elder said her mother would throw the whole dried plants on the wood for smoking fish. She remembers that smoke would go everywhere. Children also use them as fake berries when they are playing.

Nicotiana tabacum L. (Solanaceae) Nightshade Family

Yup'ik: **cuyaq** (widespread) (Jacobson 1984)

English: tobacco

DISTRIBUTION

Nicotiana species are not native to Alaska. They were domesticated in tropical America and spread far into North America during precolonial times. Nelson (1899) states that people in this region obtained tobacco through trade with people of Chukotka even before European contact in the 19th century.

USES

medicine:

People in our region have used this species to heal cuts, boils and even to treat cancer. Elders said the leaves should be dampened and placed directly onto a wound or boil. The infection will be drawn out and removed. They say the wound will heal faster that way. Oswalt (1957) reported that people in the mid Kuskokwim region would sometimes mix a small amount of store-bought tobacco in the food of a dog to strengthen it or cure it of illness.

other:

The leaves have been combined with ash from *ikmiq* (*Phellinus igniarius*) to make a more potent chew or snuff. The ash is alkali and helps to convert the nicotine in the tobacco into its freebase form, which is more readily absorbed.

Petasites frigidus (L.) Fr. (Asteraceae) Aster Family

includes *P. hyperboreus* Rydb.

Yup'ik: **qaltaruaq** (coast) [means 'play bucket']
 kalgaguaq (Nunivak Island)
 pellukutaq (leaves) (mid Kuskokwim)
 arakaq (Chevak, leaves)

English: colt's foot

“Qaltaqluki, atsarcuutekluki.” – “Use them to cover berries in containers.” (People do this so the berries don't get moldy).

Margie David



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This herbaceous species is found in northwestern North America and northern Asia. It is present throughout all of Alaska.

USES

food:

Elders we interviewed in this region did not consider this species edible. Oscar Alexie, from Bethel, for example, said the leaves are too furry on the bottom. However, Ainana and Zagrebin (2011) state that the Chaplinski Yupik of Chukotka eat the leaves and stem raw and roast the underground rhizome.

medicine:

Rita Blumenstein of Anchorage said the leaves can be boiled to make a decoction for gargling to treat colds and sore throats. Other elders agreed, and gave the following procedure for preparing this medicine: 1) fill a small cup with leaves, tamping them down, 2) put in two cups of water, 3) boil and strain the liquid with cheese cloth. 4) het the strained liquid with one cup honey to make a syrup. The related species, *Petasites hybridus*, has been studied for its antispasmodic and analgesic (pain relieving) properties (Aydın *et al.* 2013).

other:

Colt's foot is used to cover berries that are being stored in containers. The side of the leaf that has little furry hairs is placed upwards. The leaves help to keep the berries moist and keep them from getting moldy. Children also fold the leaves and sew them together with grass as a bucket for berry picking. Oscar Alexie of Bethel noted that the conical shape, like a martini glass, helps you feel like you are filling up your bucket faster. In Chevak, people used to use dead leaves to make ashes for a kind of *ikmiq* to mix with chewing tobacco.

Valeriana capitata Pall. (Valerianaceae) Valerian Family

Yup'ik: **teptukuyak** (widespread) [means 'strong smelling']

English: valerian



(photo courtesy Cindy Andrecheck)

DISTRIBUTION

This species is an herbaceous perennial with a range in northwestern North America and northern Asia. It is found throughout all of Alaska.

USES

medicine:

The plants can be picked in the spring or fall to use as medicine. The roots are boiled in water to make into a tea for treating anxiety or hyperactivity in children. The child should drink a half cup every night before going to bed. The tea is also calming for those suffering from trauma or shock and is calming for those suffering from arthritis. In Chevak, people sometimes breathe in the scent of roots to treat throat congestion.

other:

Rita Blumenstein of Anchorage said the plant and roots can also be boiled in water and the extract can be poured over the fish nets to attract salmon. Other people say the plant can be tied onto nets for the same purpose. They say that the fish like the smell.

Poisonous Plants

Aconitum delphiniifolium DC. (Ranunculaceae) Buttercup
Family

Yup'ik: **esetegneg** (Nunivak Island) (Griffin 2001)

English: monkshood

“We used to pretend they’re our fingernails”
Esther Green, Bethel



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This herbaceous perennial grows in northwestern North America and the Russian Far East. It is found throughout all of Alaska. One elder, Cecilia Andrews of Chevak, noted that this species often grows near *qatlinak* (*Urtica gracilis*). All parts of this plant are toxic, especially the roots.

USES

Some elders said they were warned as children that this plant is very poisonous and not to play with it. However, one noted that she and other friends used the petals as decorative flowers on the table when they played ‘house,’ or as pretend fingernails. They did not know they were

poisonous. However, other uses were not mentioned. Generally, elders said this plant should be avoided, and we definitely do not recommend picking or using it.

Actaea rubra (Ait.) Willd. (Ranunculaceae) Buttercup Family

Yup'ik: **tulukaruut neqait** (general) [means Raven's food]

English: baneberry



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species is an herbaceous perennial with a wide range over temperate and boreal forests of northern North America. It is found throughout southern and interior Alaska.

USES

Elders recognize this as a poisonous species and warn that it should not be confused with highbush cranberry. The two often grow in the same kind of habitat, but baneberry tends to grow lower to the ground, while highbush cranberry is a taller bush. Both species have red berries, but baneberries have a shinier hue.

Andromeda polifolia L. (Ericaceae) Heath Family

Yup'ik: none given

English: bog rosemary



(photo courtesy Cindy Andrecheck)



bog rosemary (left) and Labrador tea (right)
(photos courtesy Jernigan and Cindy Andrecheck)



bog rosemary (top)
Labrador tea (bottom)

DISTRIBUTION

This woody sub-shrub has a northern circumpolar distribution and is found throughout all of Alaska.

USES

No uses were given for this plant and it is widely considered poisonous. The species contains the toxic diterpene andromedotoxin, which can cause vomiting, dizziness and respiratory problems (MacKinnon and Pojar 2004). The leaves resemble those of the common medicinal *Ledum palustre* (*ayuq*). However, *ayuq* has fine red hairs on the back of the leaves and a strong aromatic odor, while bog rosemary's leaves are white on the back and have no odor. The flowers also have a different shape (see photos above).

Cicuta mackenzieana Raup (Apiaceae) Parsley Family

= *Cicuta virosa* L.

Yup'ik: **uqutvaguaq** (widespread, including Chevak)
 anguturluq (Nelson Island)
 tunuk'alok (old spelling) (mid Kuskokwim) (Oswalt 1957)

English: water hemlock



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This is an herbaceous perennial with a northern circumpolar distribution. It is found throughout southwestern and interior Alaska. It usually grows with the base of the stem submerged in water and is often found in the shallow areas of lakes.

USES

No uses were given for this plant and it is widely considered very poisonous. It contains the toxic polyacetylene cicutoxin, which acts as a convulsant (Wittstock *et al.* 1997). Elders said muskrats eat this plant. However, some said it is safe for people to eat a muskrat even after it has consumed water hemlock. Great care is advised with this species since it is very toxic.

Grasses and Sedges

Arctagrostis latifolia (R. Br.) Griseb. (Poaceae) Grass Family

Yup'ik: **qayikvayit** (Chevak)

English: polar grass

DISTRIBUTION

This species grows in tundra, wet areas and along river banks. It ranges across Alaska and parts of Siberia and the Russian far East.

USES

other:

According to Cecilia Andrews of Chevak, people would weave this grass into containers (called *napagciilluut*) to put black fish or other fish into to age. The baskets were put on the ground to let the fish ferment, then, when the snow started to fall, they got covered. People dug them out later when they wanted to eat them.

Calamagrostis canadensis (Michx.) Beauv. (Poaceae) Grass
Family

Yup'ik: **evepik** (Chevak)
 tugglugpiit (Chevak)

English: bluejoint



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This grass has a wide distribution in the northern hemisphere and is found over a wide range of Alaska.

USES

other:

According to Cecilia Andrews of Chevak, this grass can be used for boot insoles, but has to be softened first, as it has a sharp edge and can cut the skin when dry. Also, kids use it for whistling.

Carex lyngbyei Hornem. (Cyperaceae) Sedge Family

Yup'ik: **kelugkaq** /general)
 pekneret (Nunivak Island)

English: water sedge



(photo courtesy Kevin Jernigan)



(photo courtesy Kevin Jernigan)

DISTRIBUTION

This sedge species is found in wet areas in northwestern North America and the Russian Far East. It occurs across coastal southern and western Alaska. It is also possible that people group other large species of sedges under the same local names as this one. So far, we have only collected this species, however.

USES

food:

Elders said the white base of the stem is edible and contain nutrients, including B vitamins. The roots can also be cut up and cooked to make *akutaq*. People collect the seeds and use them like rice, putting them in seal or duck soup.

other:

The stems can be dried and braided into mats or used as insoles for fish skin boots. Cecilia Andrews of Chevak said the plants that grow straight without a flower are the female ones. Those are picked to make mats for kayaks. Mary Pete of Stebbins said to harvest sedges for drying while still green before bugs get to them. The blades can also be used to make baskets which can be filled with blackberries and sunk into lakes to store for eating later. The berries are put in during the summer and taken out around freeze up. The treatment gives the berries a sweet taste.

Deschampsia beringensis Hultén (Poaceae) Grass Family

Yup'ik: **cucukcuat** (Chevak)
 cukcukcuat (Bethel)

English: grass species

DISTRIBUTION

This species is found on the Lower Kuskokwim and along the coast of much of southern Alaska. It is common in muddy areas.

USES

other:

One elder said her mother used to tell her to look for this kind of grass to find owl eggs. This species and other similar ones were used traditionally to stuff mattresses. In Chevak, the word *kangciraq* is used to designate insulation that is made from any kind of grass.

Elymus arenarius L. subsp. *mollis* (Trin.) Hultén (Poaceae)

Grass Family

= *Leymus mollis* Trin.

Yup'ik: **taperrnaq** (general)

English: rye grass, beach grass



(photos courtesy Kevin Jernigan)

DISTRIBUTION

The species has a northern circumpolar distribution. It's found on sandy beaches throughout coastal Alaska. Elders considered that the seed heads are the male part, and the leaves are the female part.

USES

food:

One elder said that the seeds are edible, and that people who are out hunting sometimes eat them as a snack.

other:

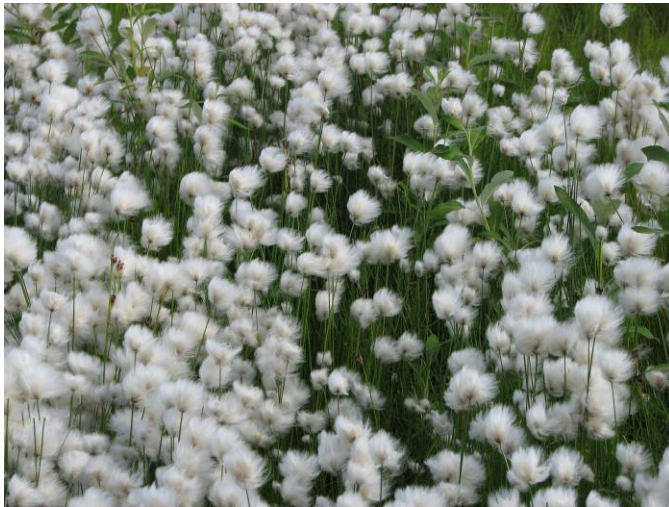
The leaves are also harvested in the fall to make many useful things. Some elders say the grass that grows in the dunes closest to the sea is strongest. They believe that the salt air toughens them. Another person suggested that grass growing farther away from the shore can be sprinkled with salt water to make it stronger. After picking, the grass is braided together and hung to dry. The most important use is for making baskets. Some baskets serve for hanging food, including dried fish. The grass can also be woven to make a variety of other objects such as jump ropes, bags and kayak mats.

Eriophorum spp. (Cyperaceae) Sedge Family

including: *E. russeolum* E. Fries (= *Eriophorum chamissonis* C.A. Mey.),
E. scheuchzeri Hoppe

Yup'ik: **melquruaq** (Lower and mid Kuskokwim) [means 'imitation feather']
qitmiruat (Chevak)
maqaruaruaq (Tununak, Yukon) [means 'imitation rabbit']

English: short cotton grass (single head)



(photo courtesy Cindy Andrecheck)

DISTRIBUTION

E. russeolum: This plant has a northern circumpolar distribution and is found throughout most of Alaska, especially in coastal or near-coastal regions.

E. scheuchzeri: This species has a northern circumpolar distribution and is found throughout Alaska.

USES

medicinal:

Joseph David, from Mekoryuk recalled that the cottony material can help to treat sores and cuts. The 'cotton' can be soaked in seal oil or ointment, flattened out, and placed on a wound. It is then covered with gauze to help the sore heal well, without scarring and infection. The cotton will stick like a Band-Aid. Instead of seal oil, some elders recommend putting tobacco leaves on

the cotton to help draw out the *aninguam yua* – ‘person of the boil.’ A similar procedure can also be used to treat warts.

other:

Ben Flynn, of Chefnak, noted that the cotton can also be used for earplugs. The plant also serves as an indicator for when salmonberries are starting to become ripe. When the cotton starts blowing away in the wind, it is time to pick the berries. Also, when the cotton grass is plentiful, the salmonberries will be plentiful.

Ferns

Fiddlehead fern species

Athyrium filix-femina (L.) Roth subsp. *cyclosum* (Rupr.) Christens. (= *Athyrium filix-femina* (L.) Roth var. *cyclosum* Rupr.) (Athriaceae) Lady Fern Family

Dryopteris dilatata (Hoffm.) Gray subsp. *americana* (Fisch.) Hult. = (*Dryopteris expansa* (C. Presl) Fraser-Jenk. & Jermy) (Aspidiaceae) Shield Fern Family

Yup'ik: **cetupaguat** (Kuskokwim) [means 'fake long fingernails']
 cetuguat (coast, Yukon)
 ceturqaaraat (Nelson Island)

English: *Athyrium filix-femina* = lady fern,
 Dryopteris dilatata = wood fern



(photo courtesy Kevin Jernigan)

DISTRIBUTION

Athyrium filix-femina: This species is distributed widely in northern North America. It is found across southern and southwestern Alaska and scattered in interior Alaska.

Dryopteris dilatata: This species has a northern circumpolar distribution. It is found throughout southern, western and interior Alaska.

USES

food:

The fiddleheads are edible before they unfurl. They are harvested in the spring when they first sprout and then cooked. Elders often gather them at fish camps. A toothbrush can be used to clean the hairs off the fiddleheads before cooking. The fiddleheads can be put in seal meat soup, or cooked and diced to put in *akutaq*. They are also good steamed or fried in butter. One

elder noted that roots of young ferns can also be put in soup. Elders agreed that no part of older plants is edible.

medicine:

One elder said the brown hairs on the fiddle heads are good for cleaning the intestines.

Mosses

Mosses (general)

Yup'ik: **uruq** (general)

English: moss



(photo courtesy Memmi Rasmussen)

DISTRIBUTION

Mosses are widely distributed globally and found over all of Alaska, often in wet areas. Elders said local people traditionally used several green species, depending on what was available. They avoided red moss, believing it to be dead. In this case the red moss may refer to the sporophyte stage of some local species.

USES

food:

Esther Green of Bethel described how moss is harvested in the summer and used in the process of fermenting fish. The moss is placed in a layer at the bottom of a box. The fish goes on top of that and then another layer of moss covers the fish. During times of famine, some people used to let moss dry and eat it soaked in seal oil.

other:

Longer species found in bogs were once used with a piece of cloth as a sanitary pad. The cloth could be washed and the moss changed as needed.

Sphagnum spp. (Sphagnaceae) Sphagnum family

Yup'ik: **uruq** (widespread)

English: Sphagnum moss, peat moss



(photos courtesy Kevin Jernigan)

DISTRIBUTION

Sphagnum species are common in peat bogs and have a wide distribution, especially in the northern hemisphere (Moore and Bellamy1974).

USES

food:

In former times, during famines, *Sphagnum* moss was dried and eaten with rancid seal oil or whatever was on hand. Mary Pete of Stebbins said people used to dry huge mounds of it to use when times were tough.

medicine:

One elder told a story about how to use *Sphagnum* moss to treat a headache. She was out on the tundra picking berries when she had migraines and her eyes started throbbing. She didn't have any pharmaceutical medicine with her. Remembering a cure her grandmother had taught her, she put cool moss on her eyes and chewed leaves of *ayuq* (*Ledum palustre*). When the moss

became warm she replaced it with a new cool piece. She continued to use the moss and chew *ayuq* leaves until she felt relief.

other:

Sphagnum moss was picked and stored to use for scrubbing dishes cleaning one's hands after eating. In former times, this species was used as diapers and as the wicks of seal oil lamps. They were also soaked with seal oil and aged to close seams on skin kayaks and boats.

Miscellaneous Plants

Impatiens noli-tangere L. (Balsaminaceae) Touch-me-not
Family

Yup'ik: **qecengqayulit** [means 'the ones that suddenly jump']

English: touch me not

DISTRIBUTION

This herbaceous perennial has a wide range over parts of Europe, Asia and North America. It is found scattered across southern and interior Alaska, often in forested areas.

USES

other:

Kids touch the seed pods for fun, to watch them burst open.

Mertensia paniculata (Ait.) G. Don (Boraginaceae) Borage
Family

Yup'ik: **punaiyulinu'kait** (old spelling) [bumblebee food] (Oswalt 1957 lists this name for *Mertensia* sp.) (mid Kuskokwim)

English: bluebell, lungwort



(photo courtesy Kevin Jernigan)

DISTRIBUTION

The species is found in parts of temperate North America. It grows throughout a wide range of western and interior Alaska.

USES

other:

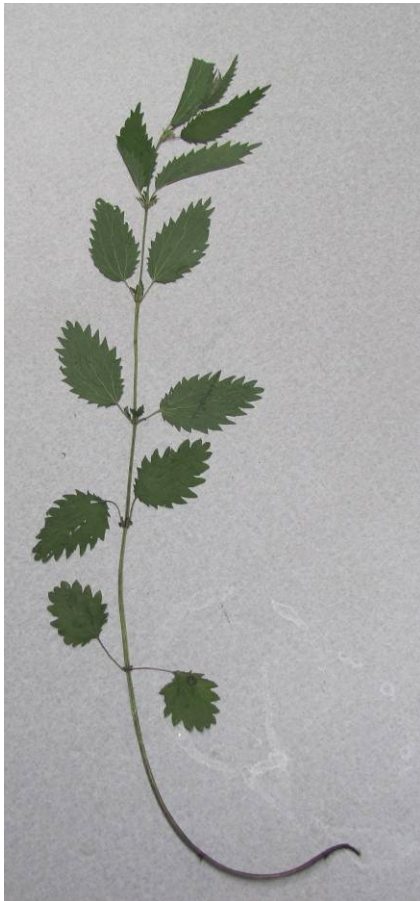
One elder said she used the flowers as decorations, as a child, when she would *yuraruq* – ‘pretend dance.’

Urtica gracilis Ait. (Urticaceae) Nettle Family

= *Urtica dioica* L. subsp. *gracilis* (Ait.) Selander, includes *U. lyallii* S. Wats.

Yup'ik: **qatlinaq** (widespread)

English: stinging nettles



(photos courtesy Kevin Jernigan)

DISTRIBUTION

This species has a wide range in temperate and boreal forest across northern North America. It is found over a large part of the southern half of Alaska.

USES

other:

Elders recognize a male and female version of this species. They say the male plant (*qatlinam angucalua*) has longer leaves and has fruit hanging down, while the female plant (*qatlinam arnocalua*) has rounder leaves and no fruit. The female plant also has more stinging hairs. One elder said the female version is good for chasing naughty kids away.

Algae

Fucus gardneri P.C.Silva (Fucaceae)

Yup'ik: **elquat epuit** (Mary G.) [means 'stem for herring eggs']

English: bladderwrack, rockweed

DISTRIBUTION

This species of brown algae is found growing on rocky shores and is absent in mud flats. It is found over a wide range of the Alaska coast, across the Bering Strait in Chukotka and as far south as central California (O'Clair and Lindstrom 2001).

USES

food:

People pick this algae from rocks in the spring, after herring lay their eggs on them. The herring and seaweed are eaten together. Cecilia Andrews of Chevak said this species can be braided, hung and stored for winter in seal pokes or in a dry place. They can be soaked and eaten as desired. People on Nunivak Island sometimes eat the seaweed raw without fish eggs on it.

Lichens

Fungi

Mushrooms in general

Yup'ik:	palurutaq	(Hooper Bay, Chevak and Nelson Island) (general term for poisonous mushrooms)
	pupigna	(another general term for poisonous mushrooms) (Jacobson 1984)
	tuunram ciutii	(Nunivak Island) (Jacobson 1984)
English:	mushroom	



(photo courtesy Kevin Jernigan)



(photo courtesy Memmi Rasmussen)

USES

Although a few fungus species are eaten by some people in our region, most local elders consider mushrooms to generally be poisonous. Many people say they burn the mouth when a person tries to eat them.

other:

Tacuk of Chevak said that children use mushrooms as pretend food when they are playing house. However, they do not actually eat them, since they are warned by adults not to.

Lycoperdon spp. (Agaricaceae)
(formerly Lycoperdaceae)

Yup'ik: **agyam anaa** (general) [The name *agyam anaa* literally means 'star poop.' Elders use this term to refer to shooting stars, which people traditionally believed turned into this fungus when they hit the ground.]

English: puffball fungus



(photos courtesy Kevin Jernigan)

DISTRIBUTION

In our region, puffballs are commonly found in the late summer or early fall. In early stages of growth, they are white and fleshy inside. Older puffballs are hollow with copious brown spores. When stepped on, the spores are released in a brownish cloud. One locally common species, *Lycoperdon perlatum*, is associated with alder trees (*Alnus* spp.) (Brunner *et. al.* 1992).

USES

food:

When they are still young and tender, some puffballs can be gathered as food. They should be washed and cooked before eating. Once they mature, they have brown powder (spores) inside and are not edible.

medicine:

The powder inside the mature fungus is medicinal. It can be put directly on a rash to treat it. Danny Charles of Bethel said that men use the powder when they get a cut while hunting and are far from medical care. Oscar Alexie, also of Bethel, used it on an itchy scar, and it gave him relief. The species *Lycoperdon perlatum* has been investigated (Ramesh and Pattar 2010) for its antimicrobial properties.

Phellinus igniarius (L.) Quél. (Hymenochaetaceae)

Yup'ik: **kumakaq** (Kuskokwim)
 arakaq (Yukon)

English: ikmiq

DISTRIBUTION

This polypore species ranges across North America and Europe. It is parasitic on various trees, especially birch species (Blanchette *et al.* 2002).

USES

medicine:

This species is used to treat sore muscles and joints. One method is to burn it until only white ashes are left. The ashes are boiled in water once and then the water is removed. New water is added and it is boiled again. The water from each boiling is combined and poured into a basin for use in steaming sore body parts. Elders say this process helps treat body pain by removing impurities. Sophie Alexie of Bethel recommended burning the fungus into ash, putting the ash in an old sock and then placing the sock where one is suffering arthritis pains in the steam bath.

other:

Esther Green of Bethel said the fungus is also used for smoking fish, to prevent mold. Some people place it on the stove to make smoke for repelling gnats and other insects. It can even be burned at fish camp to ward off bears. When bears smell the smoke they will think a forest fire is near and will want to stay away. The ash can also be sprinkled on nets and boats while saying special words to bring good luck in fishing. Some people mixed the ash with chewing or snuff tobacco to make the its effect stronger.

Piptoporus betulinus (Bull. ex Fr.) P. Karst. (Fomitopsidaceae)
(formerly Polyporaceae)

Yup'ik: *ciutnguaq* (widespread) [note: the name comes from the Yup'ik word for ear, due to the fungus' ear-like appearance]

English: Birch bracket

DISTRIBUTION

This species is parasitic on paper-bark birch trees. It is found in a wide range of temperate North America and has a circumboreal distribution (Watling 1984).

USES

medicine:

One elder, Rita Blumenstein of Anchorage, said this fungus is useful for treating arthritis. It is boiled in water first, and then strained out. The remaining water can be saved and reheated to use with a hot pack to put on the body where it hurts.

other:

University of Fairbanks mycologist Gary Laursen also noted (pers. com.) that some people use the ash of this fungus to make a preparation similar to *ikmiq* to mix with tobacco.

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