

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

January 2001

## Join us at our November meeting!

**Monday, January 8 , 7:30 p.m.  
at the Campbell Creek Center  
off 68<sup>th</sup> and Lake Otis**

### **Topic: Attu Island**

Attu Island, in the (almost) westernmost Aleutian Islands, not only has a very unique floristic heritage, it is also one of Alaska's richest historical 'hot spots' in many respects. Once supporting a large concentration of Aleut people, it was a very early focus of the Russian fur traders coming from the west. World War II brought Japanese invaders from the south (1942), followed by American bombers and troops from the east (1943). After the infamous 'Battle of Attu', the human history on Attu was drastically redirected. However, the migrant bird activity and tenacious plant life persist, and remain unique. Botanists, birders, and fox trappers are now the most frequent visitors to this remote and magical place that otherwise hosts only a small handful of Coast Guard personnel."

### **Speaker: Carolyn Parker**

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**Plant Family Study:**

**Water Plants**

**Presenter: Connie Kison**

## NPS Hits the Haul Road to Adventure!

Grab your plant press, fill your extra gas can, check the pressure in your tires, and load up on the Deet! We're makin' dust on the Haul Road to Adventure.... Prudhoe Bay or Bust! This is the chance you've been waiting for -- celebrating the Summer Solstice surrounded by the beauty of Alaska's great wilderness. Camping under the magic of the midnight sun with your NPS buddies (bring your eyeshades). Viewing plant communities in different geological settings. Telling tall tales and roasting wienies over the campfire. Expanding your first-hand experience and knowledge of Alaska's fascinating array of native plants.

Mark your calendars and start packing your gear -- the convoy heads out June 16th and returns June 24th. We'll travel through boreal forest and north to the alpine and arctic tundra -- the land of lichens and caribou, grizzlies and tundra swans. Breathtaking country, in the company of friends, new and old.

Expedition coordinators Diane Toebe and Phil Rumpel are mapping out an itinerary which includes departure from Anchorage on the 16th, and Fairbanks on the 17th (your choice of where to hook up with the group). All participants are responsible for arranging their own transportation, lodging, food, and gear. A tentative agenda and copies of the "Discover the Dalton Highway" pamphlet will be handed out at the NPS January meeting. Volunteers will be asked to help with safety, education, and logistics. These topics and others will be open for discussion at the next NPS meeting.

Coordinators are gathering information from BLM's "Discover the Dalton" publication and other sources on travel advisories, campsites, accommodations, and locations and availability of supplies. Information to help with the planning is welcomed. Please contact Diane in Anchorage at \_\_\_\_\_ or Phil in Palmer at \_\_\_\_\_ (email [prumpel@yahoo.com](mailto:prumpel@yahoo.com)) with your thoughts and suggestions. Don't forget to pack your favorite Robert Service poems to share around the evening campfire. Flutes, drums, guitars, fiddles? What better way to celebrate the joys of friendship and the discovery of new frontiers!

The success of the expedition is limited only by the spirit of team effort in dedicating ourselves to delving into the mysteries and beauty of Alaska along the Dalton Highway. So whether you want to call it the Haul Road, the Dalton Highway, or Alaska Highway 11, let's start planning now for a great trip.

# Has anybody ever ingested mosses or liverworts (Bryophyta) as food?

by James H. Dickson

In Europe, it has been well-known for a long time that mosses are often encountered, sometimes in large quantity, during archaeological excavations especially where there had been waterlogging. There have been many plausible explanations put forward to explain these occurrences such as packing, stuffing, wiping and caulking, and indeed the contexts in some cases have left no room for doubt about selective use for particular purposes; an outstanding example is the use of the large species *Neckera complanata* Hedw. for caulking the sewn boats in Bronze Age at Ferriby, England (Dickson 1973, 2000, Wright 1990). No archaeologist or archaeobotanist has ever suggested that the precise contexts indicated the use of bryophytes as food.

The writing of this short paper was stimulated by the author's work on the Tyrolean Iceman whose body had lain frozen for 5,300 years till 1991 at 3,210m a.s.l in the Ötztal Alps (Dickson et al. 1996, Dickson 1997 and 2000, Fowler 2000). On his last journey the Iceman carried mosses of low to moderate altitudes where in Vinschgau and elsewhere in Südtirol they grow now in local abundance, especially on shady, limy rocks, and would have grown in at least as great, probably greater, abundance in the late Neolithic period before there had been much woodland clearance. The crucial species concerning the Iceman are the already mentioned *Neckera complanata* and also *Neckera crispa* Hedw.

If it is accepted that the Iceman deliberately carried mosses, notably *N. complanata*, what had been his purpose in doing so? The details of the recovery of the *Neckera* from the Iceman's clothes are regrettably insufficient to allow any single explanation to be advanced to the exclusion of others. The theories offered by JHD (2000) are as follows: padding or decoration for the clothes, food, medicine, hygiene and wrapping. The last two are the favored ones while the others are discounted. On the basis of present knowledge from archaeological excavations and ethnobotany on a world wide basis, what seems certain is this. The Iceman had not intended to consume the mosses as food. That statement can be made with confidence despite the leaf *Neckera complanata* found in the very small sample of food residue extracted from the colon (Oeggel 1999, 2000). This solitary, small leaf can be readily explained as an entirely unintentional ingestion, just as is the case for the few, sparse remains of mosses recovered from the

intestines of the famous Iron Age bog bodies from Denmark and England (Dickson 1997, 2000, Dickson et al. 2000).

Modern civilization depends on the consumption of cereals, and many other flowering plants are eaten either as staples or in minor ways. Also consumed are algae (seaweeds), lichens, fungi, pteridophytes [the fronds of ferns such as Bracken, *Pteridium aquilinum* (L.) Kuhn] and gymnosperms (seeds of both conifers and cycads and tubers and stem starch of the latter, Palmer, 1878). The writer knows of no evidence from any place, anywhere in the world, at any time, present, recent or distant past, that shows that large quantities of mosses are or have been used as food, not even as famine food. Furthermore there are almost no instances of mosses eaten in small amounts. There are two taxonomically imprecise reports of some Alaskan Inuit eating moss: "Bryophyta Unknown Moss No. 1" (Ager and Ager 1980, referring to Nelson Island) and Lantis (1959) reported that, on Nunivak Island, *Pohlia nutans* (Hedw.) Lindb. was boiled with seal meat to make soup. The very great rarity of moss eating by humans is not mentioned by these ethnobotanists and it is unclear if any bryologist confirmed the identifications. In his encyclopedic summary of American ethnobotany, Moerman (1998) lists bryophytes many times, but not once their use as food.

There appear to be no indications whatever of liverworts being consumed as food. However, there are a few instances of liverworts used as medicine and of mosses too. Bryophytes were dealt with by writers of herbals in the mid 16th century and later but they are given very little importance compared to flowering plants.

Though bryophytes are not known to be toxic, neither are they especially palatable nor nutritious (Crumb 1973, Richardson 1981). The lack of palatability of mosses may well relate to the large amounts of lignin-like substances present in the tissues. Lignin (the chemical basis of wood) is itself indigestible and furthermore it may inhibit the digestibility of carbohydrates. The statement on avoidance of mosses as food can be extended as a generalization to cover all large mammals, not just humans; browsing and grazing herbivores may ingest bryophytes accidentally with grasses or other palatable plants but none eat them selectively. If any reader thinks of Iceland Moss [*Cetraria islandica* (L.) Ach.], it should be stated that that species is a lichen, eaten by both humans and Reindeer/Caribou, as is Reindeer Moss [*Cladina rangiferina* (L.) Nyl.], another lichen. However, according to Reimers and Klein (1979,

p.159). Reindeer on Svalbard "feed heavily on mosses [sensu stricto] which are avoided elsewhere." These reindeer and the few Alaskan Inuit are the very sparse exceptions that prove the rule.

On reading this paper, if any anthropologist, archaeologist, archaeobotanist or bryologist knows of the eating of bryophytes in large or even small quantity as food, please inform the writer.

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### MYSTERY PLANT

This small alpine plant can be found growing in dry rocky areas from the Yukon Territory border to midway out the Aleutian Chain. Most locations are in Southcentral Alaska, but there are also some plants found in the Alaska Range.

The rosette of small slightly toothed leaves lies flat on the ground, the numerous, small, 5-petalled flowers are singular and on 3-inch stems. Like most alpiners, it blooms early in the season.



*Answer is on Page 5.*

## Water Plants of Marshes & Bogs

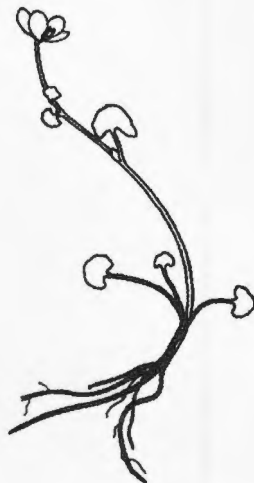
This month we will investigate a series of plant families that can be seen in shallow water in marshes, bogs, or the margins of lakes. They frequently grow together, so have been grouped in that manner here. Actually there are four families represented.

The first three groups, although different families, have the same species name – *palustris*. *Palustris* means "growing in wet areas", which definitely fits their habitat.



*Calla palustris*, "wild calla", is in the Araceae or Arum Family. It has large, succulent, heart-shaped leaves with palmate veins. The tiny flowers are hardly noticed. They are on a thick spadix (stout spike) subtended by a white bract/spathe. The red berries that appear in the fall are poisonous. Normally this very distinctive plant is found growing near the edge of lakes.

*Caltha palustris*, "marsh marigold", is in the Ranunculaceae or Buttercup Family. This family usually has 5 petals, 5 sepals and a cushion of stamens. The leaves are thick, somewhat succulent and kidney-shaped. The stems are hollow. The bright yellow flowers have shiny sepals. This early bloomer can be found near the edge of lakes or in slow-moving water.



*Potentilla palustris*, "marsh cinquefoil", is in the Rosaceae or Rose Family. It is found growing in shallow water of lakes or marshes. The toothed, 5-part (usually) leaves give it the common name of "marsh five-finger". Unlike the previous species, the leaves of this plant are rough and somewhat hairy.

This is a characteristic that is not common to wetland plants. This is another distinctive plant as it has brown flowers. A member of the Rose Family, it has 5 sepals (purplish brown), 5 petals (brown) and many stamens. The leaves have stipules, another common trait of the Rose family. It blooms in July or August.

The final water plant we will study this month is *Menyanthes trifoliata*, commonly known as "buckbean" or "bog bean". It is now in the Menyanaceae, or Bogbeam Family. It generally grows on the edge of lakes or wetlands in a bog. The leaves have 3 leaflets. This is another early bloomer and very distinctive.



The 5-part white flowers are very aromatic and are arranged on a loose raceme above the leaves. The sepals are pinkish and the petals have fine white hair around their margins, giving them a very delicate lacy look.

All of these plants spread by means of creeping rhizomes, giving them a chance to hang tight in moving water.



## ANNUAL MEMBERSHIP APPLICATION/RENEWAL

The Alaska Native Plant Society was organized in 1982 by an enthusiastic group of amateur and professional botanists. It is a non-profit educational organization with the goal of uniting all persons interested in the flora of Alaska. Membership is open to any interested individual or organization. If you wish to join us, please indicate the category of membership you desire, fill in the form below and mail it with the appropriate remittance to:

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

STATUS  New  RENEWAL  
CATEGORY

- Full-time Student \$ 5  
 Senior Citizen \$10  
 Individual \$12  
 Family \$18  
 Organization \$30

Name \_\_\_\_\_

Address \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone: (Home) \_\_\_\_\_ (Work) \_\_\_\_\_

Membership is on a calendar year basis.

### ALASKA NATIVE PLANT SOCIETY State and Anchorage Chapter Officers

President Frank Pratt  
Vice President Leonard Grau  
Secretary Beth Koltun  
Treasurer Sue Jensen

### Anchorage Chapter Program Coordinators

Main Program OPEN  
Plant Family Verna Pratt  
Mini-Botany Verna Pratt  
Field Trips Susan Klein

### Newsletter ("*Borealis*")

Editor Ginny Moore  
Circulation Martha Hatch

*Borealis* is published monthly October through May.  
Articles may be sent to Ginny Moore,  
Anchorage, AK 99516. Phone or FAX:  
or E-mail: [mooretg@alaska.net](mailto:mooretg@alaska.net)

### Tour Guide Training

Verna Pratt will offer some slide presentations for tour guide trainees for the Alaska Rock Garden Society 2002 - the annual meeting of the North American Rock Garden Society which will be held in Anchorage June 6-9, 2002. Hikes will be offered on the 7<sup>th</sup> and 8<sup>th</sup>, and will include something for everyone: easy, moderate, and difficult venues for doodlers, photographers, and mountain goats.

The slide presentations for trainees will be held at the Extension Service office in Anchorage (2221 E. Northern Lights)

Tuesday, January 9, 2001, 7 PM

Thursday, January 18, 2001, 7 PM

or Saturday, January 27, 2001 Mat-Su College in Palmer: 2 PM

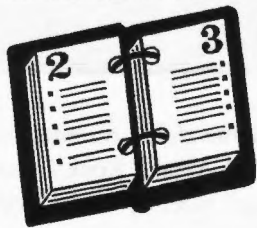
This gives you three choices of dates to get a preview of which plants to study and review on your own during the winter. There will also be extensive in-the-field training in June 2001 and again in late May/early June 2002. If you plan to help at the conference and need to brush up on your plant knowledge, please plan to attend one of these sessions. You don't have to be an expert, but we will make you feel like one after the training!

### Wanted: ANPS Program Chair

We're desperately in need of someone to fill the position of Program Chair for the rest of the year. It is an enjoyable position that lets you decide who will present the main program at the monthly meeting. Programs can be lined up in advance, so you don't have to find someone each month. You could even schedule the whole year with the suggestions and topics outgoing chairperson Susan Klein has provided. She has also created a short "cheat sheet" of what to do when. Call Susan at \_\_\_\_\_ or \_\_\_\_\_ days.

### MYSTERY PLANT ANSWER

*Androsace alaskana*  
*Alaska Jasmine*  
*Primulaceae/Primrose family*



## UPCOMING PLANTS & NATURE EVENTS

January 8, 7:30 PM **Alaska Native Plant Society Monthly Meeting:** *Campbell Creek Science Center*

Slide presentations for ARGS tour guide trainees for North American Rock Garden Society 2002 Conference  
(see page 5 for more details) Choose one of the dates below:

January 9, 7 PM Extension Service office in Anchorage (2221 E. Northern Lights)

January 18, 7 PM Extension Service office in Anchorage (2221 E. Northern Lights)

January 27, 2 PM Mat-Su College in Palmer

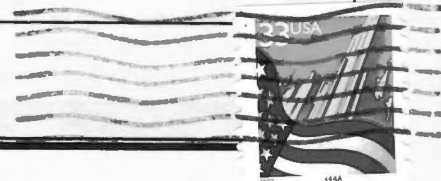
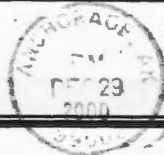
January 26, 7 PM **Alaska Rock Garden Society China Trip Slide Show**

The Alaska Rock Garden Society will present a special slide show at the Anchorage Museum of History & Fine Arts

Jamie Rodriguez will provide the program, using his slides, as well as those of other members of the seed collecting expedition. You'll see spectacular scenery, close-ups of plants, people and general living condition.

*The show is free to the public and includes a package of seeds that were collected on the trip.*

February 5, 7:30 PM **Alaska Native Plant Society Monthly Meeting:** *Campbell Creek Science Center*



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

**January is a time for renewal - ANPS Membership Renewal Time!**

