Borealis

the newsletter of the

Alaska Native Plant Society

PO Box 141613, Anchorage, Alaska April 2007

Join us at our Next Meetings!

Monday, April 2, 7:30 p.m.

(Campbell Creek Science Center)

"Trekking Alaska in The Search For Plants"

Speaker: Forrest Baldwin

ANPS member Forrest Baldwin has traveled much of Alaska and the Yukon Territory in search of plants that he has never seen before. Come see this unusual program of wonderful scenes of interesting places such as the Noatak River, Kobuk Sand Dunes, Cape Thompson, Atka, and MORE!

Plant Family Study

Bryidae:Jointed Tooth Mosses, Part 1

Presenter: Andy Anderson-Smith

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Monday, May 7, 7:30 p.m.

(Campbell Creek Science Center)

"Vegetation Diversity in Chugach National Forest"

Speaker: Rob Develis

Rob is an avid outdoorsman and has made many studies in this part of Alaska that includes the area from Girdwood to Seward.

Plant Family

Bryidae:Jointed Tooth Mosses, Part 2

Presenter: Anjanette Steer

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For latest information on ANPS events, check our website at:

http:// AkNPS.org

Real Plants Eat Meat?

We've all heard the expression "real men eat meat", modified to "real birds eat meat". Let's talk about carnivorous plants? To many people, carnivorous plants conjure up images of horror movies and dark, dank swamps. But their ecology and natural history is a fascinating subject.

Carnivorous plants aren't all that different from other plants so you may not even recognize them as such when you come upon them in the wild. A carnivorous plant must display ALL of these characteristics:

1. Prey must find its way to the trap, and is usually encouraged to do so by attractants fabricated by the plant.
2. Prey must be captured by the plant.
3. The prey must die while in the clutches of the plant.
4. The prey must be digested.
5. The nutrients from the prey must be assimilated by the plant.

Some plants display some of these characteristics but not all. In Alaska we can find three different types of carnivorous plants as well as a number of semi-carnivorous plants and their prey is usually only insects and or their larvae.

Sundews (*Drosera*), bladderworts (*Utricularia)*and butterworts (*Pinguicula*) meet the terms of this definition, but they have different ways of attracting, capturing and digesting their prey. The leaves of sundews have numerous, minute hair-like appendages, like tentacles. These tentacles exude a shiny, dew-like substance (hence the name) that functions as an attractive nectar to insect prey and has adhesive compounds and digestive enzymes to trap the bugs as well. This method of catching insects is referred to as *adhesive trapping*, and it is also the capture method of choice for the butterwort. The butterwort is fairly plain-looking, but will grow colorful flowers that look similar to violets. The leaves of the plant are flat and grow in dense clusters. The common name comes from the greasy, buttery, feel of the leaves which secrete a digestive mucous. Insects are attracted and become stuck in the coating, providing a nutritious meal for the butterwort.

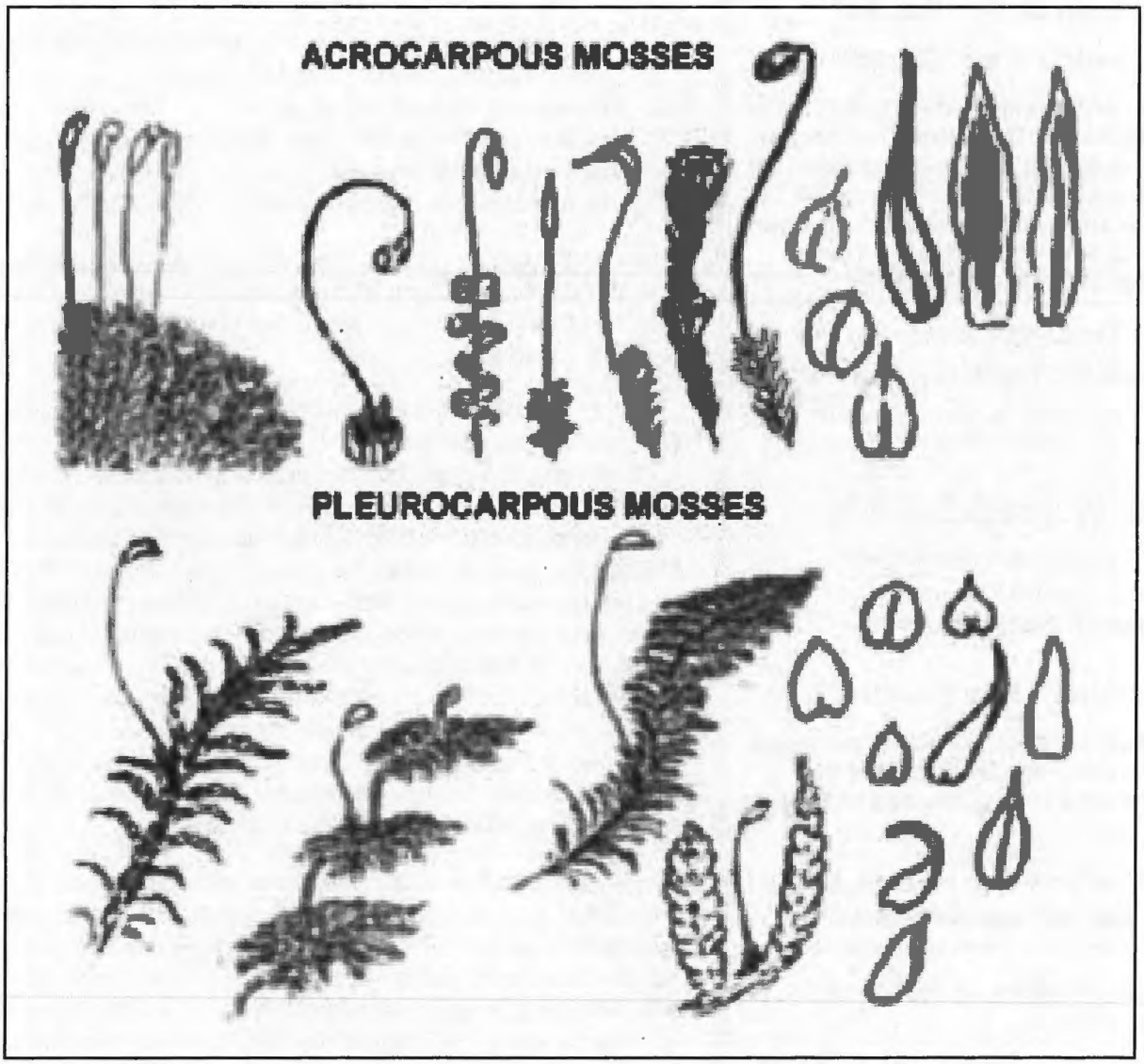
The bladderwort has a different system of catching food: the *suction trap*. It has many tiny bladders, or sacs with a lower pressure inside than outside the sac. The sacs have an airtight trap door with sensitive, hairlike structures, which when triggered by prey, open the door to the sac. Water and the prey are sucked into the vacuum produced by the sac, the door snaps shut behind the prey and digestion begins.

Bryidae: Jointed-Tooth Mosses -

The ***BRYIDAE*** is a subclass of the class Bryopsida. It most true mosses, of numerous genera and an estimated 10,000 species throughout the world. They belong to many families, but it is more useful to divide the genera into two growth forms. These are known as (a) **Acrocarpous** mosses and (b) **Pleurocarpous** mosses. In most standard guides to the mosses you will find the first group in the first half of the book, and the second group in the latter half.

(a) Acrocarpous mosses are those which grow **upright** as individual plants, either separately or very close together to form a turf, tuft, or cushion. In this group, the leaves nearly always have a costa, and the sporophyte grows from the tip or highest part (acros: highest; karpos: fruit). Perichaetial leaves not usually visible. Some of the common acrocarpous genera are Dicranum, Mnium, Polytrichum.

(b) Pleurocarpous mosses are the **prostrate** or creeping plants on ground, wood, or rock surfaces. Some of these add new intertwining or overlaid growth each year to form mats. The leaves are usually without costa and the sporophyte grows from the side of one of the branches of the plant (pleura: side; karpos: fruit). The perichaetial leaves are longer and often quite different from the regular leaves. Many of the pleurocarpous mosses are known popularly as "feather mosses" and "fern mosses", and include the genera Rhytidium, Rhytidiadelphus and Hylocomium.



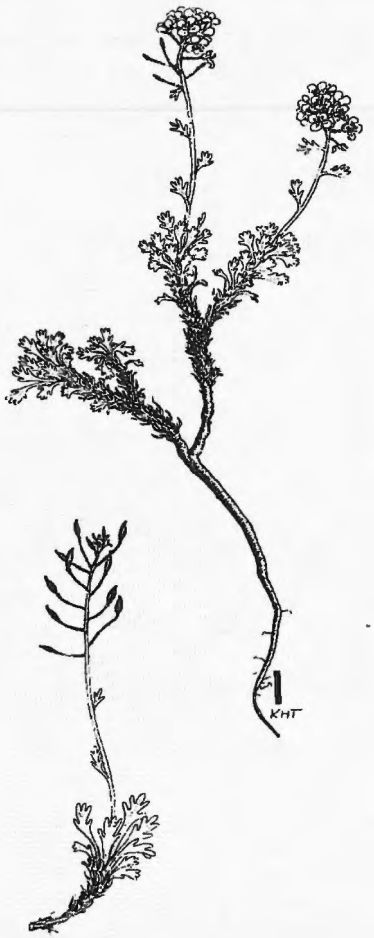
MYSTERY PLANT ??????

This small plant is an attractive perennial wildflower which would be suitable for a trough or rock garden. It can be found in the mountains in northwestern Alaska and the Brooks Range. The lobed, silvery leaves are covered with short, branched hairs.

This plant is typically matted with several spreading to ascending stems from 5-20 cm long rising from the basal leaves. The herbage consists of a mix of long, soft, simple or forked hairs and shorter, often freely branched hairs. The bases of established plants are often covered with the dried remnants of older leaves. The leaves are copiously covered with grayish, fine and freely branched hairs. The petioles of the leaves are equal to or longer than the blades and have long hairs along their margins near their base. The basal leaves have ovate to obovate blades that are pinnatifid to pinnately compound with the 5-7 lobes linear to narrowly obovate in shape. The several leaves of the stems are reduced in size up the stems.

The inflorescence is a raceme of white flowers which often have pinkish veins. The herbage of the raceme often consists of long hairs. The 4 pinkish to purplish sepals are about one inch long while the 4 petals are 1-1.5 inches long. The flowers are in a tight cluster at the ends of the branches. These elongate with age and produce long glabrous seed capsules.

The fruits are siliques are lanceolate to oblanceolate in shape and pointed at both ends. They are glabrous and ascend from hairy pedicels.



In Alaska several subspecies/varieties of this plant have been described and genetic studies may yet redefine their relationships. All are found on rocky hillsides or in gravel. It may be found from Alaska south to British Columbia and Alberta and south through the Rocky Mts. to Colorado, western Utah and Nevada.

CHECK OUT the new website of the Juneau Chapter of the American Primrose Society: www.alaskaprimroses.org

The American Primrose Society is dedicated to:

bringing the people interested in Primula together in an organization;
increasing the general knowledge of and interest in the collecting, growing, breeding, showing and using in the landscape and garden in the genus Primula in all its forms;
serving as a clearing house for collecting and disseminating information about Primula.

The Juneau Chapter extends a warm welcome to other Alaskans (especially those in the Bush), garden clubs, communities, and other plant societies to use their site as a resource. Join in the Primula alakana Forum; ask questions, seek and give assistance and advise. Most of all enjoy the passion of growing primula in Alaska!!

You can also find out more about the national show being held this year in Juneau! And meet Ed Buyarski of Juneau, current President of American Primrose Society, and some of the other Alaskan members of the national Board.

CALLING FOR FIELD TRIPS

It's that time of year again - time to "Think Summer" - as in "Field Trips"!

It is time to start planning this summer's field trips so that all members can arrange their own summer plans accordingly, especially if trips require extra time or money, or a limit on how many can attend. Our outings are ALWAYS fun, no matter what size the group, or whatever the weather. There have been many memorable trips. Let's make this a memorable year.

On the next page you'll find the standard Field Trip Planning Worksheet and once again we're asking you to get all excited about taking a group of plant lovers to one of your favorite places to enjoy the summer bounty.

All members are encouraged to submit field trip proposals. Preliminary proposals for field trips should include the following: 1) your name and email address, 2) title of the field trip, 3) name(s) and contact information for all organizers, 4) a brief description of the field trip, 5) preferred day(s) of the field trip, 6) special needs, 7) enrollment limit and 8) tentative budget (e.g., travel and food items; estimated cost per participant). It would be great if we could have the whole slate of summer activities lined up by the end of April! **PLEASE RETURN THE FIELD TRIP FORM TO ANJANETTE STEER BY APRIL 20.** E-mail:anj@ak.net, Tel:
Slow Mail: HC 03 Box 8490, Palmer, Alaska 99645

FIELD TRIP TO SEWARD PENINSULA/NOME – June 27-June 30

The early bird gets the first worm, and maybe even an extraordinary field trip! Frank and Verna Pratt have already started planning a special trip to Nome and the Seward Peninsula, Wednesday, June 27 through Saturday, June 30 (returning on July1). Five rooms have already been reserved at the Nugget Inn in Nome, but you'll have to hurry because there aren't many rooms available in high season. At the Nugget Inn, a room with a Queen-sized bed will be $109 (including tax), and a room with two twin-sized beds costs $130 (including tax). The rooms are small so there is no room for cots/extra persons. The schedule will allow for 3 full days to explore the three roads out of Nome and two half days to explore Anvil Mountain, visible from downtown Nome) and the town itself. This area is fabulous floriferous tundra with many unique plants. Participants are responsible for getting themselves to Nome, for their daily food and lodging, and for a share of the cost of the rental van.

Leader: Verna Pratt; Call to reserve your spot. We hope to have all spots filled by March 31.

ALASKA NATIVE PLANT SOCIETY

2007 FIELD TRIP PLANNING WORKSHEET

Return this form to: Anjanette Steer by April 20.
E-mail: anj@ak.net, Tel: Mail: HC 03 Box 8490, Palmer, Alaska 99645

Leader: _____

Telephone: _____ FAX: _____ E-Mail: _____

Field Trip to: _____

Date: _____ Day of Week: _____ Time Allotted: _____

Meeting Time: _____ Meeting Place: _____

Driving Distance/Car Pooling, etc. _____

_____

Reservations by (date): _____

Level of Difficulty _____ Minimum Age: _____

Description of Trip: _____

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Special Instructions: _____

_____

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EXAMPLE OF ACROCARPOUS MOSSES

Dicranum elongatum and *D. groenlandicum* are both are Arctic-alpine species sharing nearly the same type of habitat with almost the same distribution. D. fragilifolium is a rare boreal species with shiny, light green to yellowish brown, erect-spreading leaves. The distal portion of the leaves is fragile and often broken off, thereby giving the plants a distinctive appearance. The deciduous leaf apices presumably serve as a type of asexual reproduction by regenerating to produce new plants.

Dicranum polysetum: **Electric Eels or Wavy Dicranum**

This light green to yellow-green moss grows on soil, rocks, decaying wood and humus in open, dry to moist forest. It is common and locally abundant throughout Alaska and Canadian boreal forests. It may grow to 3 inches tall. It covers large areas of ground and is good for sitting on. The stems are covered with whitish, matted rhizoids; *Leaves* - up to .4 inches long, spread more or less at right angles from stem, edges wavy. *Sporophytes* - 1 - 5 stalks per plant, 1-1.5 in. long; capsules 1-1.5 in. long, inclined or horizontal, curved.

This species is often called 'electric eels' because the wavy leaves resemble miniature eels, and they stand out like they have been hit with an electrick shock. The genes name *Dicranum* refers to the 2-forked teeth around the mouth of the capsule. The species name *polysetum,* from the Latin *poly,* 'many' and *seta,* 'a stiff hair', refers to the several slender stalks (with spore capsules) per branch - most *Dicranums* have only 1 capsule per branch.

In most common *Dicranum* mosses (including electric eels), the male plants have been reduced to tiny buds on the leaves of female plants. This combines the advantages of having the sexes separate, to encourage outbreeding, with the convenience of having plants of the opposite sex nearby, to increase the chances of fertilization.

EXAMPLES OF PLEUROCARPOUS MOSSES

Rhytidiadelphus triquetrus: **Shaggy Moss; "Electrified Cat's Tail Moss"** grows on humus, mineral or organic soils, rotting logs and stumps; mostly in fresh to wet, moderately rich forest habitats. It is circumboreal. This dark to bright-green or yellowish-green moss grows in wide-spreading masses and is up to 4 inches tall. The stem leaves are egg-to heart-shaped, with a long tapered and pointed top. The sporophytes are cylindrical, curved capsules that are horizontal to hanging on reddish-brown stalks. The name "electrified cat's tail moss" is derived from its appearance.

Hylocomium splendens: **Stair-step Moss**

Stair-step moss is the most common moss in the boreal forest, growing on soil, humus, decaying wood in a wide range of forest habitats as well as moist thickets and tundra.. It is also our most northern feather moss, extending well in to the Arctic. Those who know stair-step moss from warmer, moister climates may be surprised to discover the less robust, once-to twice-branched specimens of the boreal forest. Plants from the Arctic tundra, however, are much smaller, only once- or twice-pinnate, and usually lack the arching innovations. The stem leaves have obtuse or abruptly acute apices. Although these two forms are quite distinct and could easily be named as separate species, between the temperate rainforest and the Arctic tundra there exist plants of every intermediate form. It is best, therefore, to treat this continuum as a single variable species. It does not seem worthwhile to apply names to the infraspecific variants.

Stair-step moss is the only moss with a step-like arrangement of branch clusters. You can estimate the age of a plant by counting its 'steps' - a new level is produced each year. Large quantities of this beautiful feather moss have been used as green carpets in floral exhibitions. The genus name *Hylocomium,* from the Greek *hyle,* 'wood' and *mnium,* an ancient name for a moss, means 'moss of the forest'. *Splendens* is the Latin word for 'shining'; although stair-step moss is seldom glossy, it is indeed splendid. Stair-step moss often grows in abundance with big red stem. Less vigorous stair-step moss specimens could be confused with big red stem, but stair-step moss is usually twice-branched, has many hair-like paraphyllia on its stems, and is not as shiny as big red stem.

This moss is olive green, yellowish or reddish green, with reddish stems creeping up to 8 inches and often with branches on branches; the current year's growth arises from near the middle of the previous year's branch, producing feathery 'fronds' in step form; forms springy mats. The leaves are tiny, oval, smooth-edged with a wide base that narrows abruptly to a tip. ***Sporophytes*** - uncommon; stalk red-brown, 1 - 3 cm long; capsules brown, inclined, 1.5 - 3 mm long, with long beak on lid.

UPCOMING EVENTS

APRIL 2: ANPS Monthly Meeting, 7:30 PM Campbell Creek Science Center

APRIL 14: Spring Garden Show, Anchorage Sears Mall; 10-4

Learn about local gardening clubs and stop by the ANPS table. Hear about upcoming events and volunteer opportunities.

APRIL 26-27: Alaska Rare Plant Forum, Anchorage

The 2007 annual meeting will be held in the Gordon Watson Conference Room at the USFWS Regional Office at 1011 East Tudor road (accessible by turning east on 42nd from Old Seward Hwy). USFWS and The Alaska Natural Heritage Program will co-host the meetings. Contact Helen Cortés-Burns (AKNHP)at anhc@uaa.alaska.edu or , for more information. Remember these meetings are open (and free) to all interested in Alaska's flora, so pass the word!

MAY 7: ANPS Monthly Meeting, 7:30 PM Campbell Creek Science Center

MAY 18-20: AMERICAN PRIMROSE SOCIETY ANNUAL MEETING – JUNEAU, AK

Primrose Show, Garden Tours, Plant Sales, Business Meeting and more. Questions and inquiries, tickets and additional information can be sent to Ed Buyarski at or email amprimsoc@hotmail.com

MAY 19: ALASKA BOTANICAL GARDEN PLANT SALE

ABG Plant Sale and Membership Drive, at the ABG nursery. Educational presentations offered throughout the day and local gardening clubs will have specialty plants for sale. Sat 10am-12pm ABG members only. 12-4pm public welcome.

June 23 & 24 10th Annual ALASKA BOTANICAL GARDEN FAIR

Alaska Botanical Garden: Sat 11am-6pm; Sun 11am-5pm. Both days include: invitational Garden Art Show & Sale, craft and plant vendors, speakers, demonstrations,, music and food. Plant Show for Alpine and Rock Plants. Admission $5/person, 2 and under Free

ALASKA NATIVE PLANT SOCIETY
State and Anchorage Chapter Officers

President	Andy Anderson-Smith
Vice President	Ken Johnson
Secretary	Cara Wardlaw-Bailey
Treasurer	Beryl Wardlaw Bailey

Anchorage Chapter Program Coordinators

Main Program	Open
Plant Family	Marilyn Barker
Mini-Botany	Open
Field Trips	Anjanette Steer

Newsletter ("*Borealis*")

Editor Ginny Moore
FAX:

Borealis is published bi-monthly October through May. Articles may be sent to Ginny Moore, Anchorage, AK 99516. Phone or FAX: or E-mail: tgmoore@gci.net

MYSTERY PLANT ANSWER

Smelowskia calycina
Alpine Smelowskia
Brassicacea/Mustard Family

To guest speakers, plant family leaders, and mini-botany speakers, as well as those who do the behind-the-scenes coordinating.

YOU MAKE IT HAPPEN!

Want to participate more? Don't hesitate to "raise your hand" and make an offer - you won't be turned down! We need the support of everyone!

ANNUAL MEMBERSHIP APPLICATION/RENEWAL

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

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

STATUS ☐ **New** ☐ **RENEWAL**

CATEGORY

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

Name _____

Address _____

City: _____ State_____Zip_____

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

Membership is on a calendar year basis.

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

Membership is on a calendar-year basis - it is time to renew!