

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

October 2006

## Join us at our Next Meetings!

Monday, October 2, 6:30 p.m.

### Annual POT LUCK

Please Bring A Dish  
That Can Serve 6 people, and  
Some Selective Slides  
From Your Summer Plant Trips  
Campbell Creek Science Center

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Monday, November 6, 7:30 p.m.

Campbell Creek Science Center

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Stay Up-To-Date on all our  
activities by checking our very  
own web site:

[www.aknps.org](http://www.aknps.org)



There you'll find information on  
field trips, meetings, work  
parties and plant sales!

## Gathering Moss

Every year at this time we decide on a select group of plants for intensive study at monthly meetings throughout the year. This year's winner is the Moss or "Bryopsida" Class (or *Musci*) within the Phyla *Bryophyta*. Each month we will highlight a different group of mosses for study.

Because mosses are small and inconspicuous, they don't often receive as much attention as flowering plants, ferns, or conifers. Mosses do, however, play important roles in reducing erosion along streams, water and nutrient cycling in forests, and insulating the arctic permafrost. After flowering plants and ferns, mosses are the most diverse group of plants in the world, with more than 15,000 species. They are also one of the oldest groups of plants.

*Moss* is a term erroneously applied to many different plants (Spanish moss, a flowering plant; Irish moss, a red alga; pond moss, filamentous algae; and reindeer moss, a lichen).

### Non-Vascular Plants

Mosses, liverworts and hornworts are all classified as non-vascular plants, without a circulatory system to transport water and food. To keep a firm grip on the ground, and to help absorb water and nutrients, bryophytes have fine hairs growing from beneath (called *rhizoids*) rather than true roots.

Wherever they occur, mosses require moisture to survive because of the small size and thinness of tissues, lack of cuticle (waxy covering to prevent water loss), and the need for liquid water to complete fertilization. Some mosses can survive desiccation, returning to life within a few hours of rehydration.

In northern latitudes, the north side of trees and rocks will generally have more moss on average than other sides. This is assumed to be because of the lack of sufficient water for reproduction on the sun-facing side of trees. South of the equator the reverse is true. In deep forests where sunlight does not penetrate, mosses grow equally well on all sides of the tree trunk.

They look pretty lowly and insignificant, but have become dominant in particular habitats and *Sphagnum* itself is said to occupy 1% of the earth's surface (half the area of the USA).

### Classification

Mosses were traditionally grouped with the liverworts and hornworts in the Bryophyta (bryophytes), within which the mosses made up the class Musci. This is the classification found in many books available on mosses and liverworts. Over the last decade advances in DNA sequencing technology and other molecular analysis techniques have changed our understanding of plant evolution. A growing consensus suggests that the bryophytes represent 3 separate evolutionary lineages, and they have been split by taxonomists into three separate

phyla: Bryophyta (mosses), Hepatophyta (liverworts) and Anthocerophyta (hornworts)

The mosses are grouped as a single class, now named Bryopsida (Musci). Higher-level classification of the mosses is still not fully settled, and there is still considerable difference of opinion on the subclasses. For our purposes, we will divide our study as follows:

- November: Introduction to Mosses
- December: Andreaeidae (Lantern mosses)
- January: Sphagnidae (peat or Sphagnum mosses)
- February: Tetraphidae (4-tooth mosses)
- March: Polytrichidae (Hair cap mosses)
- April and May: Bryidae (Jointed toothed mosses)

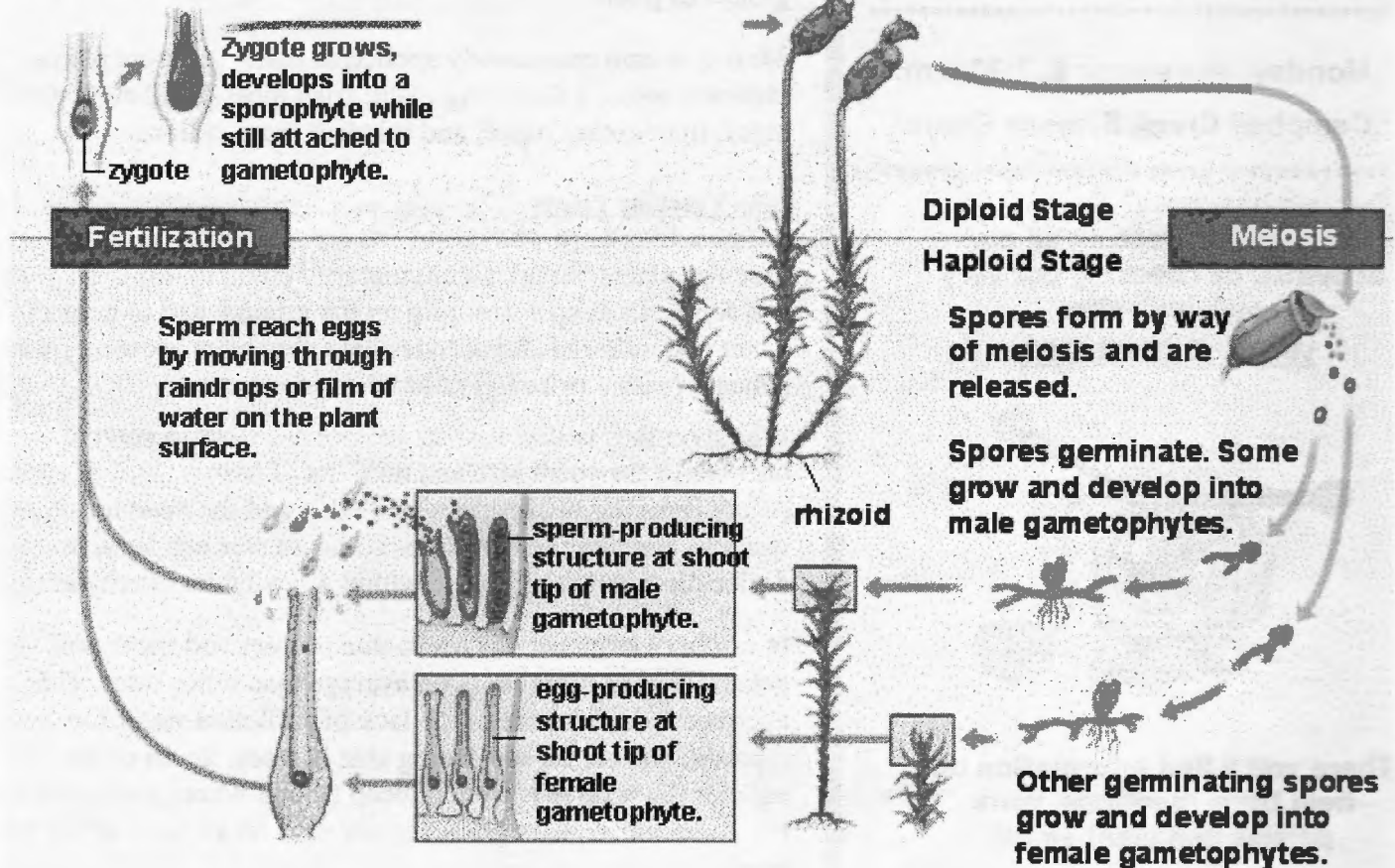
Wouldn't you like to volunteer to lead the discussion one of these months? Learn and share!

Of all land plants, bryophytes alone have independent gametophytes and attached, dependent sporophytes. Compare this life cycle to that of the fern, last year's study group.

# Moss Life Cycle

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Mature sporophyte (spore-producing structure and stalk), still dependent on gametophyte.





## Mystery Plant:

This slender annual plant often has one stem (4-10 inches high) with a few flowers, but can be branched if the growing conditions are favorable. Leaves are opposite, rounded near the base becoming linear and pointed on the upper portion. The flowers are less than  $\frac{3}{4}$  inch, light blue, open-face and usually have 5 pointed petals (sometimes 4).

This plant is usually found in very damp areas. It is often missed due to its size, color and habitat.

It grows throughout most of Interior Alaska except the Alaska Range and Western Alaska.

### ALASKA NATIVE PLANT SOCIETY

#### State and Anchorage Chapter Officers

President	Andy Anderson
Vice President	Ken Johnson
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#### Anchorage Chapter Program Coordinators

Main Program	Luise Woelflein
Plant Family	Verna Pratt
Mini-Botany	Marilyn Barker
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](mailto:tgmoore@gci.net)



To ALL of the field trip leaders and work group participants who took time from their busy summer schedules to volunteer for Alaska Native Plant Society activities!

**YOU MAKE IT HAPPEN!**

## HELP!

We need members to volunteer for our landscaping project at the Campbell Creek Science Center on BLM's National Public Lands Day, **Sat. Sept. 30**. This will also help reduce the fee for our monthly meeting room. Bring any native plants you'd like to donate. The new landscaping is looking really nice. Help us make it even better!

**Mystery Plant Answer**  
*Lomatogonium rotatum*  
 Star Gentian  
 Gentianaceae/Gentian Family

### NEWSLETTER'S NEW CYCLE

Beginning with this newsletter, you will now be receiving newsletters for Oct., Dec., Feb, and April. Postcards will be sent as meeting reminders for Nov., Jan., March and May. We hope this will help eliminate late newsletters and give field trip planners more time to organize. No changes to meeting dates and times.



## 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) \_\_\_\_\_ E-Mail: \_\_\_\_\_

Membership is on a calendar year basis.

Seeds Needed For Seed Exchange! Bring to Verna at Oct  
or Nov meeting or mail to PO Box above. We'll begin selling  
them at December meeting.

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