

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

November/December 2009

## Join us at our Next Meetings!

### Monday, November 2, 7:30 p.m.

(Campbell Creek Science Center)

**Speaker:** Dominique Collett

Alaska Naturalist and Water-colorist

**Topic: "Natural history of the willow  
rosette gall midges in Alaska"**

The willow "rose" isn't a flower at all. It is a "gall" or insect house, which the plant is tricked into building for a small fly (midge) of the Cecidomyiidae (Gall Midge) family. Dominique will spin you their story with his own illustrations!

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### Monday, December 7, 7:30 p.m.

(Campbell Creek Science Center)

**Speaker:** Ayse Gilbert

**Topic: " Beautiful and Cruel !!  
Poisonous Native plants in Alaska"**

Ayse is an artist and garden designer, and has lived in Anchorage for 35 years. She paints plants, researches them and is just fascinated by the selection of plants in Alaska. She is currently on the Board of the Alaska Botanical Garden, and Cook Inlet Historical society.

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

**[http:// AkNPS.org](http://AkNPS.org)**

## Plugging In

### THE CONSORTIUM OF PACIFIC NORTHWEST HERBARIA

From: Ben Legler, University of Washington Herbarium, Seattle, WA  
blegler@u.washington.edu

The Consortium of Pacific Northwest Herbaria <http://www.pnwherbaria.org/> was created in 2007 to bring together regional herbaria and provide an online portal to the wealth of existing and emerging information about the flora of Pacific Northwest North America. Our definition of the region includes both U.S. states and Canadian provinces: Alaska, Yukon Territory, British Columbia, Washington, Oregon, Idaho, and Montana. All types of herbarium specimen collections are represented by the Consortium including vascular plants, bryophytes, liverworts, hornworts, algae, lichens, and fungi.

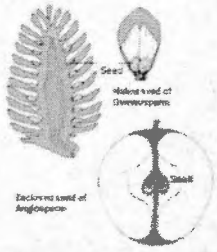
Providing online access to these specimens is a primary function of the Consortium web site. Currently, 643,000 specimen records from herbaria at University of Alaska Fairbanks, Oregon State University, University of Washington, University of British Columbia, and New York Botanical Garden can be accessed through the web site.

These specimen records can be accessed through a fully featured search portal at <http://www.pnwherbaria.org/portal/search.php>. Integrated into the search results is an interactive map display that shows a graphical depiction of the distribution of a set of specimens or any species. Users can zoom in to this map allowing, in many cases, visual clarification of the exact collection locations of individual specimens. Search results can also be downloaded in several formats for local use such as importing into Excel or GIS software, printing, or viewing in Google Earth.

In addition to specimen data, the Consortium web site provides links to relevant botanical resources hosted by regional herbaria. These include checklists, flora projects, online image collections, atlases, and individual herbarium databases. Also provided is an index of regional herbaria with contact information and summaries of each herbarium's holdings.

The PNW Herbaria Portal web site is managed by staff at the University of Washington Herbarium. For further information contact David Giblin (Herbarium Manager, [dgiblin@u.washington.edu](mailto:dgiblin@u.washington.edu)) or Ben Legler at the email above.

## Gymnosperms – “Naked Seed Plants”

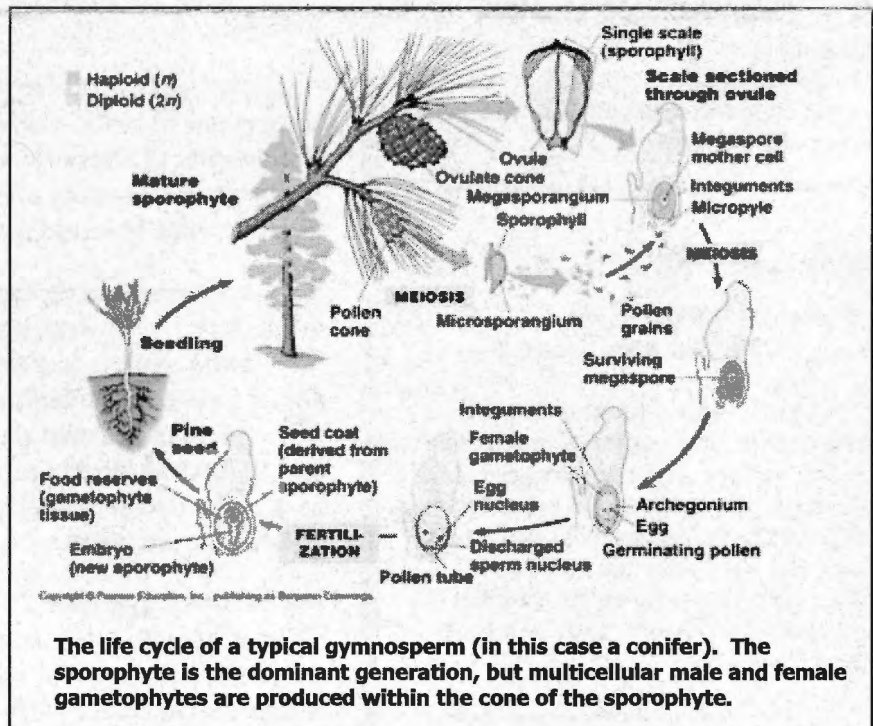
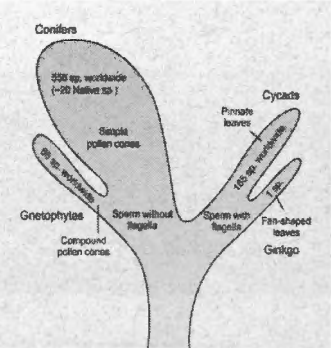


The plant groups that will be studied at monthly meetings throughout the coming year – November through May – are all Gymnosperms. The November meeting will provide a general overview of this group of vascular plants. Gymnosperms are seed plants that do not produce flowers. The term *gymnosperm* means "naked seed." In flowering plants (or *angiosperms*, which means "vessel seed") the ovary wall or fruit encloses the seeds, whereas in gymnosperms there is no equivalent structure; hence, the interpretation of the seeds as "naked" or not enclosed.

Seed plants evolved more than 350 million years ago and the first seed plants were gymnosperms. There are four groups of gymnosperms living today—Coniferophyta, Cycadophyta, Ginkgophyta, and Gnetophyta—but many additional groups are known from the fossil record. The relationship of the flowering plants to the gymnospermous seed plants remains a hotly contested issue within the scientific community.

Although each group of gymnosperms has its own specific characteristics, some features are shared throughout:

- Gymnosperms have cones or strobili and do not bear fruit; angiosperms have flowers.
- Gymnosperms produce seeds that develop on the surfaces of specialized leaves (sporophylls) instead of being enclosed within a fruit as in flowering plants.
- Gymnosperm sporophytes are trees or shrubs, with a few vine-like species – with secondary growth that does not occur directly from the tips of the plant but occurs horizontally (or radially) rather than vertically. The most abundant product of secondary growth is the secondary xylem (xylem is the water-conducting tissue of plants), or wood.
- Aspects of reproduction are shared by all gymnosperms. The ovule consists of female nutritive tissue plus the female gamete, both enclosed by a layer of protective tissue, the integument. The male gamete is carried within the pollen. In most gymnosperms pollen is produced in great amounts, and the pollen grains are dispersed by the wind. A small amount of sticky liquid is exuded at the tip of the ovule. Pollen grains become stuck in this pollination drop and, as the drop dries, the pollen is pulled into the ovule. Depending on the type of gymnosperm, the male gamete is released from the pollen and swims to the egg, or the male gamete is transported within a tube that grows to the egg. The fertilized egg then develops into the embryo of the seed. When the seed germinates, the embryo grows to produce the young seedling using the female nutritive tissue as a source of energy.



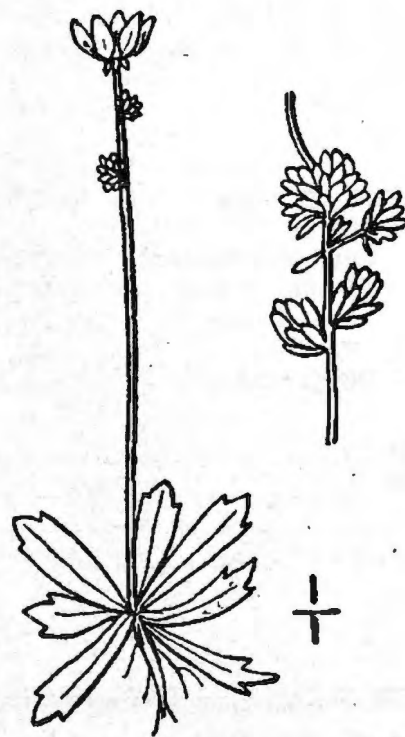
An unusual attribute of the gymnosperms, except for the gnetophytes, is the long length of time—a year or more—that passes between the production of the egg and the sperm and the actual occurrence of fertilization.



## MYSTERY PLANT

According to the plant list of Fort Richardson, this plant exists in the Chugach Mountains, which makes it a range extension. Hultén's *Flora of Alaska* lists it as being circumpolar, including north of the Brooks Range, Coastal Western Alaska, the Aleutian Chain, some scattered parts of the Alaska Range, Eagle Summit area and extreme S.W. Yukon and northern SE Alaska.

This is a spindly plant with small wedge-shaped, toothed, ciliate leaves. There is one flower atop the long (up to 8") stem. The other buds merely develop into somewhat reddish bulbils. The flowers have 5 white clawed petals and 10 stamens. The sepals are ovate and reflexed in age. Although the flowers are sparse and small, this is a distinctive plant due to the bulbils on the stem and the wedge-shaped leaves.



### **Borealis**

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

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Plant Family	Marilyn Barker
Mini-Botany	Ken Johnson
Field Trips	Anjanette Steer

#### **Newsletter ("Borealis")**

Editor           Ginny Moore

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Articles may be sent to Ginny Moore,  
Anchorage, AK 99516. Phone or FAX:           E-  
mail: [tgmoore@gci.net](mailto:tgmoore@gci.net)

## Upcoming Botanical Events

**November 12, Thursday, 10 a.m. – 12 p.m.**

Wildflower Garden Club meeting, "A Facelift for the Older Garden" presented by Rita Jo Shoultz, Fritz Creek Gardens, Central Lutheran Church, 1420 Cordova St., Anchorage. For more information, [gardencentral.org/asfgc/wildflowergardenclub](http://gardencentral.org/asfgc/wildflowergardenclub).

**November 21, Saturday, 2 p.m.** Alaska Rock Garden Society:

"Plants on the Edge: A floristic inventory of the Bering Glacier Region"; a 10 year study of the very large receding glacier located between Cordova and Skagway. Speaker: Marilyn Barker. Held at the CES conference room on Northern Lights.

# Thank You!

WHAT A SUMMER IT WAS!

To all the great Summer Field Trip leaders,  
to Anjanette Steer for organizing our calendar,  
and to all of you who came and brought friends.

It is our Membership that keeps us going!

## 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

- |                          |                   |      |
|--------------------------|-------------------|------|
| <input type="checkbox"/> | Full-time Student | \$12 |
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Membership is on a calendar year basis.

**Would you rather receive your Alaska Native Plant Society electronically? You can save postage, paper, and receive your information in a more timely fashion! All you need to do is e-mail Ginny Moore at [tgmoore@gci.net](mailto:tgmoore@gci.net) and your next newsletter will be sent electronically instead of by snail mail.**

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