

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

MARCH 2000

## Join us at our March meeting!

Monday, March 6<sup>th</sup>, 7:30 p.m.  
at the Campbell Creek Center  
off 68<sup>th</sup> and Lake Otis

**Topic: A Visit To Botanical  
Gardens In The Lower 48**

**Speaker: Debbie Hinchee**

Debbie Hinchee, a member of the Alaska Native Plant Society, will present a program on botanical gardens in the lower 48 including design ideas that could be incorporated our gardens or in the Anchorage Botanical Gardens.

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**Plant Family Study:  
BRASSICACEAE/Mustard**  
**Cochlearia and Cardamine spp.**

Presenter: Anjanette Steer



## Help Save Wild Orchids!!

The Alaska Orchid Society is again requesting that we pass on the word to help with their efforts to keep orchids from being dug in the wild for resale.

The Alaska Orchid Society requests your help with the conservation of *Calypso bulbosa* and other native Alaskan orchids. Several summers ago a large number of *Calypso* orchids were removed from the King Mountain Campground in the Matanuska Valley. It is possible that some of these orchids and *Calypso bulbosa* from other areas were the ones offered for sale to the greenhouses and garden centers in Anchorage.

Although experiments are underway for the reproduction of *Calypso* plants from seed, no source presently exists for the wholesale production of the Alaskan orchid. Thus, all *Calypso* plants offered for sale must be assumed to have been wild collected, and *Calypso* plants collected in the wild almost never survive being transplanted, except under expert care.

To prevent further destruction, the Alaska Orchid Society requests that you do not purchase any *Calypso bulbosa* plants. In addition they request that all suppliers of other native orchids be asked to verify that the plants were not wild-collected. Several individuals are propagating *Cypripedium guttatum* and a few other native orchids, and we do not want to discourage that activity.

Also, if you do have any of the *Calypso bulbosa* in your stock, the Alaska Orchid Society requests that you donate these plants for use at the Alaska Botanical Garden. A tax-deductible receipt is available from the Alaska Orchid Society.

Wild collection has completely eliminated entire populations of native orchids from many lower 48 states. We do not want to repeat that experience in Alaska. To donate your plants and for further information, please contact Sally Karabelnikoff. She can be reached at \_\_\_\_\_ or email: [Sallyk@customcpu.com](mailto:Sallyk@customcpu.com).

## Plant Family Study

### BRASSICACEAE/Mustard Family

At the March meeting, Anjanette Steer will tell us more about the *Cochlearia* and *Cardamine* species of the Brassicaceae/Mustard family. Both genera grow in damp areas and both have edible vitamin-rich leaves, so were important food supply for early settlers.



*Cochlearia officianalis* is a coastal species found growing on rocky shores. Young plants form a rosette of small, long petiolate, spoon-shaped leaves that can withstand cold winter temperatures. This

made their vitamin C-rich leaves readily available to seafaring sailors who often suffered from scurvy during the long ocean voyages. Hence the common name "Scurvy Grass". Another common name, "Spoonwort", is derived from the shape of basal leaves. Leaves on the flowering stems are longer, have shorter petioles and are often toothed. The small, numerous white flowers produce globose capsules/silicles in subspecies *oblongifolia* and elliptical silicles in subs. *Artica*.

The *Cardamine* genus has nine species in Alaska. We will concentrate on the four most common species that you might find. The following two species are circumpolar.



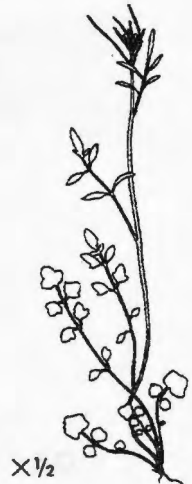
*Cardamine bellidifolia*, commonly called "Alpine Cress", is a small alpine plant with long petiolate rounded leaves with a bunt tip. The tiny white flowers are barely noticed but the long silicles tower over this miniature plant found in wet snow seeps throughout Alaska.



*Cardamine pratensis*, known throughout the northern hemisphere is commonly called "Cuckoo Flower". Flowers are white or pale pink and 5/8 to 3/4 inches across, and can be up to ten inches tall. It can be found in wet areas, along streams, throughout the state at low to mid elevations. The basal leaves consist of many small rounded hairless leaflets, similar to Jacob's Ladder.

*Cardamine umbellate* is probably the tastiest of the wild cresses – it has a hot radish flavor. The flowers are tiny and white atop a 4-6" stem. Basal leaves are similar to *C. pratensis* but leaflets are larger, more elongated, and with wavy margins. It too can be found in wet areas near streams throughout Alaska, mostly south of the Arctic Circle.

*Cardamine purpurea* is almost everyone's favorite as it is covered with small but showy flowers ranging from white to deep purple. Basal leaves are lyrate (dandelion-like) with rounded lobes, and on long petioles. They grow in wet meadows and on wet scree slopes throughout interior and western Alaska.



Although some of these plants are garden worthy and can easily be cultivated by seed, *Cardamine umbellate* should never be used in a flower garden as it spreads rapidly by seed and soon carpets your garden with tiny seedlings.

# ARCTIC & SUB-ARCTIC POPPIES

## A Potentially Challenging Topic for A Circumpolar Research Program

Edited By Gary Rasmussen

Christopher Grey-Wilson is the Editors of POPPIES<sup>1</sup> the first scholarly book devoted solely to poppies. He covers all the members of the poppy family, not just *Papaver*, the "true poppies." For many years he was a Principal Scientific Officer at the Royal Botanic Gardens, Kew, working as a Research Botanist, and Editor of *The Kew Magazine*. The purpose of this article is to summarize those portions of his work covering poppies common to Alaska. There are widely scattered colonies, of similar poppies found in North America, Greenland, Iceland, Arctic Europe, Arctic Russia, Northern Japan and the Aleutian Islands. There is a great deal of confusion among the available references concerning the proper taxonomy (naming and classifying) of these poppies.

### ICELAND POPPY, *Papaver nudicaule* L.

The Iceland Poppy has been introduced to Alaska by the Highway Department to seed construction areas and has become naturalized along roadsides and old gravel pits. The flowers are on scapes up to 18" tall and occur in a wide range of colors including white, pastel, yellow and orange. The flower color may vary on a single plant through



the growing season depending on the stresses, including temperature. A plant which produces pure white flowers in the warmth of mid-summer may produce pastel colored flowers in crisp temperatures of early fall.

The Iceland Poppy, *Papaver nudicaule*, does not come from Iceland; the true wild form is restricted to Asia. "In cultivation *P. nudicaule* has been crossed with its cousins and selected to produce a sturdy race of rather gaudy poppies commonly called Iceland poppies and generally found in catalogues and lists under the name *Papaver nudicaule*."

### ARCTIC POPPY, *Papaver radicum* Rottb.

"This widespread arctic species is closely related to *P. nudicaule*, being a tufted perennial, but it is a small plant, seldom over 25 cm (10 in.) tall in flower." The flowers are usually yellow, rarely pinkish or white; the petals often wither and persist around the developing fruit. "This is undoubtedly a very variable species with many local forms and races – no less than 14 subspecies have been described from Europe alone, mostly restricted to small areas in the mountains of Scandinavia."

"Other names in the '*P. radicum* complex' that occasionally turn up in seed lists include *P. alaskanum* Hultén, *P. macounii* Green, *P. nigro-flavum* Hultén, and *P. walpolei* Porsikil. However, it must be emphasized that although many of these entities can be separated geographically, their overall characters show considerable overlap and a wide-based research program in both the Old and the New World is needed to ascertain whether or not any of these 'minor species' can be properly maintained. In cultivation they are often very difficult to separate, generally hybridize freely and tend to be short-lived. All are colourful and pretty little poppies well worth growing."

Grey-Wilson lists the Japanese Poppy, *Papaver miyabeana* Tatew. as a separate species. However, after studying his color plate 74, of this species, side by side with my own photographs of *P. alaskanum*, photographed along the Denali Hwy., I am unable to distinguish any differences between the two. Therefore, I suspect *P. miyabeana* is also a member of the '*P. Radicum* complex'.

### ARCTIC POPPY, *Papaver lapponicum* (A.Tolm.) Nordh.

A tufted perennial closely related to *P. Radicum*. Stems and flower buds have gray-brown or reddish-brown hairs, with an overall gray appearance. The leaves are covered with whitish hairs. The yellow flowers are small - approximately one inch across, and the petals generally fall off as the fruits develop.

## PINK POPPY, *Papaver alboroseum* Hultén

An extremely rare little poppy indigenous to the Portage Glacier are of Upper Cook Inlet, Alaska. It has solitary pale pink flowers on decumbent scapes (drooping stems) up to six inches long. In recent years a white color form has been identified ranging from Northwestern Canada westward through the Aleutian Islands to Russia's Kamchatka Peninsula. It is a dainty dwarf Iceland-type poppy. A rare gem, it is ideal for rock gardens or raised beds, where its dwarf stature can be appreciated.

I have maintained a small bed of this delicate little species for a number of years, and have observed its growth is very sensitive to minor changes in soil conditions. My observations lead me to believe light is required for seed germination, but I have never conducted a controlled experiment to be certain. Seeds of many poppies require light to germinate. Since this rare plant is indigenous to our area, I encourage club members to add this little gem to their own collections.

The seeds of these species are extremely small. Iceland Poppy averages 158,000 seeds per ounce. *P. rhoeas* averages more than a quarter million seeds per ounce.<sup>2</sup> The seeds are like fine dust particles. Widely scattered colonies of arctic poppies show surprisingly similar morphological characteristics. These poppies have circumpolar occurrence, in mountainous areas on sparsely vegetated moraines, screes, river gravels and stony steppes. All of these habitats are exposed to violent winds during severe storms. It is common to observe clouds of dust blowing down the Knik River valley towards Palmer, AK. Anyone who has observed these clouds should be able to visualize the extremely small poppy seeds being swept into the upper atmosphere carried by the jet stream, and distributed circumpolarly. This theory may explain how the isolated colonies were originally established. It does not attempt to explain which colonies have evolved into separate species or which colonies are just different races of the same species. If plants from different colonies are capable of cross-pollinating and producing fertile offspring, they are only different races or subspecies regardless of how drastically different the parents appear. Conversely, if members of different colonies cannot cross-pollinate and produce fertile offspring, they are separate species regardless of how similar the parents appear.

<sup>1</sup> Grey-Wilson, Christopher. *Poppies, A guide to the Poppy Family in the Wild and in Cultivation*, Timber Press, Inc., 9999 W.W. Wilshire, Suite 124, Portland, Oregon; 1993. \$32.95

<sup>2</sup> *Johnny's Select Seeds. Catalog* 1999, RR 1 Box 2580, Albion, Maine 04910, p. 132.

## Mystery Plant

This plant can be found on wet scree slopes. ANPS field trips in the past have found it on Lazy Mountain and Twin Peaks, so it is more widespread than Hulten's Flora of Alaska indicates. It is quite common in the Alaska and Brooks Ranges. Leaves are basically 3-parted, divided again with blunt lobes. Stems and leaves are shiny and often have a purplish cast. The small 5-petaled yellow flowers are often just above the rocks and gravel. Blooming time varies from mid-June to late July, depending on snow melt.



### NEW INTERNET HOME STUDY PROGRAM CERTIFIES WILDLIFE HABITAT NATURALIST

If you love to feed, photograph or just observe wildlife, this new Internet-based home study course might be for you. Participants will discover how to provide a "helping hand" to wildlife in their own backyard habitats and will take what they already know about wildlife to a higher level. This innovative, interactive course will help people better understand enjoy and manage wildlife on their properties, plus develop a sense of stewardship toward wildlife. You can take the course at home, at your own pace and on your own time. The instructors are working, wildlife and horticulture professionals. For more information, or to enroll, go to <http://www.windstar.org/wildlife> or contact Janet at or e-mail: [janet@windstar.org](mailto:janet@windstar.org).

# NEWS FROM THE UAF HERBARIUM

## MOVING ON; MOVING IN

As many of you know, Elena Conti left her position as Herbarium Curator last July to accept a job in Zurich. We shall miss her, but know that she is excited about the research possibilities of her new job. Fortunately the University acted quickly to fill the vacancy and we all had the pleasure of meeting 3 very well qualified candidates for the position in early November. This position is split between the Museum (as Herbarium Curator) and the Department of Biology and Wildlife (as Assistant Professor of Biology).

We are pleased to announce that Amy Denton has accepted the job and will start next November 1st. Amy did her graduate work under Benjamin Hall at the University of Washington, receiving her doctorate in 1997. Her dissertation is on the evolution and phytogeography of one of the sections of *Rhododendron*, which involved doing fieldwork in China and Tibet. During her stay at the U of W she twice served as acting curator of herbarium WTU while Sarah Gage was doing prolonged fieldwork. Amy is now working on a postdoc with Michael Clegg at the University of California at Riverside, studying the evolution of part of the genome of the genus *Ipomoea* (morning glory). Her research interests include plant molecular systematics and phylogeny estimation, especially among closely related taxa; Quaternary biogeography and historical population demography in northern glacial refugia; molecular population genetics; and the molecular basis of adaptation to environmental stress.

## 1999 FIELD WORK

With BLM support, Herbarium and BLM personnel initiated a floristic survey of the foothills of the southwestern Alaska Range in the Lime Hills Quad last June. The U.S. Air Force generously let us use the Sparrevohn Long Range Radar Site (roughly 200 miles due west of Anchorage) as a headquarters in exchange for an inventory of the military reserve immediately surrounding the site. The Sparrevohn staff fed us well, provided good company, and otherwise took good care of us during our stay. The field crew consisted of Carolyn Parker and Alan Batten from the Herbarium, Debbie Blank and Randy Meyers from BLM, Rob Lipkin from the Alaska Natural Heritage Program and volunteer Tako Raynolds. The area is floristically interesting, with belts of pure limestone alternating with acidic rock types. It is

far enough west (close enough to the Bering Sea) to have a more maritime climate than the eastern interior, and this

is reflected in the flora. We were able to add a new site for *Douglasia beringensis* (on limestone, in the Lime Hills). This species has previously been known from the Seward Peninsula, the Nulato Hills, and the Kokrines Hills so this is a long range extension to the southeast. It is ranked G1S1 on the rare plant tracking list maintained by AKNHP. We also found a new locality for *Smelowskia pyriformis* on limestone screes in the Lyman Hills of northeast Lime Hills quad. This species is endemic to the western Alaska Range and southwestern Alaska and is ranked G2S2.

Both Alan and Carolyn undertook separate floristic forays with Carl Roland (NPS) in various parts of Denali National Park. Carl is continuing to increase the list of taxa known from the Park at a startling rate. Alan and Carolyn also initiated an inventory of vascular plants in the Poker-Caribou Creeks Research Watershed, a Long Term Ecological Research (LTER) site about 30 miles north of Fairbanks. This inventory will continue next summer and hopefully, include cryptogams. We were surprised, but charmed, to find at least one Alaska rare plant: *Carex deflexa*, known only from 2 other localities within Alaska.

Graduate student Jan Jorgensen and Alan Batten visited the Dalton Highway in July to collect specimens of *Oxytropis arctica* var. *arctica*, *O. jordalii* and their relatives for DNA analysis as part of Jan's thesis project to shed light on the taxonomic affinities of *Oxytropis arctica* var. *barnebyana* (funded by the U.S. Air Force). There is certainly a confusing array of morphological features encountered in this group. Specimens were collected from Prudhoe Bay pingos, the Sagavanirktok R. floodplain, and the Brooks Range. Jan also visited the Seward Peninsula, along with recent Biology and Wildlife graduate Erik Suring, to collect additional populations of *Oxytropis arctica* var. *barnebyana* and *O. arctica arctica*. Thanks to help from Rich Harris, Linda Hasselbach and Peter Neitlich, the trip was a great success. Jan recently returned

from a very successful trip to Norway where she was able to finish her molecular work in the lab at the University in Oslo with help from Dr. Christian Brochmann, Siri Fjellheim and Hanne Grundt.

Carolyn was invited to join a segment of the Tundra Northwest 1999 expedition, sponsored by the Swedish Polar Research Secretariat, which was traveling by icebreaker through the central Canadian Arctic. A set of the vascular collections acquired during this trip will be housed at ALA. In September, Carolyn joined Nancy Moore of the Alaska Plant Materials Center in Palmer for a month on Attu Island in the western Aleutians. Several Asian taxa reach their easternmost extent here, giving the vegetation a distinctive Kamchatkan flavor, unlike that found in the eastern portion of the archipelago. The growing season at Attu is greatly extended, relative to much of Alaska, and Nancy and Carolyn were able to collect both seeds and herbarium specimens up through mid-October. David and Barbara Murray spent three and a half weeks in China last July and August when they accompanied Dr. Chien-Lu Ping (UAF-Palmer) and others on a China-US expedition to the Qinghai-Tibet Plateau, sponsored in part by the National Geographic Society. The Murrays supplied botanical descriptions for each of the eight sites at which the soils scientists dug pits and studied soil morphology. The work was conducted between 15,000 and 16,000 ft. elevation in areas of alpine steppe and alpine (*Kobresia*) meadow. Of special interest is the correspondence of the *Kobresia* meadows to the plant cover Vicky Wolf (UAF) has described from an 18,000 kya buried surface on the Seward Peninsula.

#### VISITORS

Herb Wagner and a group of fern hunters including his wife Florence, Art Gilman, Peter Zika and Jason Grant visited the Herbarium for several days in June, having been enticed here by some intriguing *Botrychium* specimens from the Grant's family cabin on the Salcha River that had been mailed to Herb by Jason. They found a lot of interesting *Botrychiums* and gave us a quick lesson in *Botrychium* taxonomy while they were here. They are convinced that there is a new taxon related to *B. boreale* and *B. pinnatum* here in interior (and southcentral) Alaska. We were greatly saddened to hear

that Herb had passed away early this January at his home in Ann Arbor.

#### SPECIMENS

Recent large additions to our herbarium include specimens from Ellesmere Island, Seward Peninsula (collections documenting an inventory of the Bering Land Bridge National Preserve involving David Murray and several other botanists), and The Flora of the Russian Far East, a large exsiccate distributed by the Russian Academy of Sciences branch in Vladivostok (with support from the Andrew W. Mellon Foundation). These will greatly expand both the depth and breadth of the Herbarium.

#### ANNOUNCEMENT

The Alaska Rare Plant Forum will be held in Fairbanks April 6 and 7 this spring, in the main conference room at the Bureau of Land Management building near the corner of University Avenue and Airport Road. Featured speakers will be Amy Denten, the newly hired Herbarium Curator, and 'Jack' Frost, retired historian from UAA. Amy will talk about her work in Tibet, and Jack will talk about George Stellar's trip with Vitus Bering.

Everyone who would like to offer a presentation is urged to contact the organizers as soon as possible. Topics may include results from last year's field season, plans for the coming summer, and any research you are involved in. If you do wish to make a presentation, submit a title, the amount of time you need, and if important, a preferred time and date. Even if you are not offering a presentation, we encourage you to attend, for as past participants know, this is a very effective opportunity for botanists working throughout the state to meet, and exchange information and ideas.

Contacts: Carolyn Parker University of Alaska Museum Herbarium 907 Yukon Drive Fairbanks, AK 99775-6960, e-mail: [fnclp1@uaf.edu](mailto:fnclp1@uaf.edu)) and Janet Jorgenson, USFSW, 101 12<sup>th</sup> Avenue. Rm. 236, Fairbanks, AK 99709; [janet\\_jorgenson@mail.fws.gov](mailto:janet_jorgenson@mail.fws.gov); e-mail: [janet\\_jorgenson@mail.fws.gov](mailto:janet_jorgenson@mail.fws.gov) mailing list.

## 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.

### FIELD TRIPS

It is field trip planning time again. Diane Toebe is our chairman again this year, so give her a call or start thinking about where you'd like to lead a trip. Let's make this another great field trip year.



### MYSTERY PLANT ANSWER

Ranunculaceae/Buttercup Family

Ranunculus gelidus

### ALASKA NATIVE PLANT SOCIETY

#### State and Anchorage Chapter Officers

President Marilyn Barker  
 Vice President Frank Pratt  
 Secretary Beth Koltun  
 Treasurer Sue Jensen

#### Anchorage Chapter Program Coordinators

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

#### 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)

### SUMMER JOB OPENING \_ PRIBILOF ISLANDS

POSITION TITLE: Interpretive Tour Guides

DURATION: May 8, 2000 - August 31, 2000

PAY RATE: \$8.00/hour, DOE. Plus Room and board

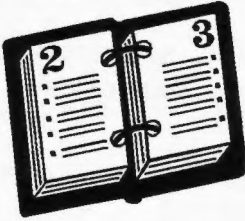
SUMMARY OF POSITION: Tour Guides are responsible for visitor management, public relations, and interpretive services for the visiting public.

#### REQUIREMENTS:

1. Valid driver's license required, with a good driving record.
2. Preference will be given to persons with birding skills and marine mammal experience. A strong background in Pribilof history and Aleut culture are also decided assets.
3. Strong communication and people skills and willingness to work intensively with diversity of people under difficult conditions is essential, as well as the ability to work independently with a minimum of supervision.
4. Willingness to work long hours when required especially at peak of tour season. The ability to work and function in weather conditions such as fog, rain and wind.
5. Tour guides are to drive a 22-passenger bus and be responsible for fueling, cleaning, and maintenance of the bus. Walking/hiking tours are also required.

TO APPLY: PLEASE SEND RESUME TO:

St. Paul Island Tour  
 Tanadquix Corporation 1500 W. 33<sup>rd</sup> Ave. Suite 220,  
 Anchorage, AK 99503-3505



## MARCH PLANTS & NATURE CALENDAR

**March 3, 3:PM** - UAA Campus (parking is free Friday afternoons!) ENGR 110 Todd Eskelin a TBA topic on birds

**March 6, 7:30 PM** – ANPS January monthly meeting Campbell Creek Science Center

**March 8, 6:00 PM** - ANPS Board Meeting at Marilyn Barker's. Please call Marilyn if you plan to attend.

**March 14, 10:00 AM** – Wildflower Garden Club monthly meeting (call for more info)

**March 18, 2 PM** – Alaska Rock Garden Society Regular Meeting, Fellowship Hall, United Methodist Church, 725 W. 9<sup>th</sup> Avenue, Anchorage. Program "Getting Started In Rock Gardening"

**March 23, 7:30 PM** – Alaska Herb Study Group, Carleton Trust Bldg, 2221 E. Northern Lights

**April 3, 7:30 PM** – ANPS February monthly meeting. Campbell Creek Science Center

**April 6-7 - ALASKA RARE PLANT FORUM**, Fairbanks (see page for more details)

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



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**It's Membership Renewal Time!**  
**Check your mailing label to see if you're Y2K Compliant!**