

# Borealis

the newsletter of the



PO Box 141613, Anchorage, Alaska

NOVEMBER 1998

## JOIN US AT OUR DEC. MEETING

Monday, December 7<sup>th</sup> at the  
Campbell Creek Center  
off 68<sup>th</sup> and Lake Otis  
(See Map on Back)

"Macro-photography"  
Speaker: Dr. Jesse Owens

*Come and learn new techniques for  
photographing wild flowers!*

Dr. Jesse Owens, a professor in the Biomedical Program at UAA, will introduce the members to macro-photography techniques. He has travelled to many places in Alaska as well as out of the United States, including Mount Kilimanjaro. His presentation will focus on the use of macro-lenses to photograph plants and flowers as well as other objects. Dr. Owens' research interest is in neurobiology and assistance devices for the disabled. He teaches first year medical students at UAA.

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### Mini Botany Presentation

Verna Pratt will lead off the year's study of the Scrophulariaceae family and the genera: *Linaria*, *Penstemon* and *Mimulus*.

## Goldilocks Buttercup: New to North America

By Carolyn Parker, Research Assistant

University of Alaska Museum Herbarium,

Fairbank The Nulato Hills uplands in western Alaska were unknown botanically when Museum Herbarium staff were contracted by the Bureau of Land Management-Anchorage District Office to conduct a floristic survey of this large remote area two years ago. Our first field season was certainly rewarding; we found new populations of several of Alaska's rare plants including *Douglasia beringensis*, *Potentilla rubricaulis*, and *Festuca lenensis*.

However last summer, our second season, we collected a buttercup none of us recognized as part of our known Alaskan flora. Our field crew included Al Batten, Rob Lipkin, Barbara Murray, Carl Roland, Debbie Blank, and myself. In all we represented a lot of Alaskan field seasons - and this plant was new to all of us!

Back in Fairbanks, I researched our Herbarium library and plant collections and determined that this new addition was *Ranunculus auricomus*, the Goldilocks buttercup. A delightful bright yellow flower, it belongs to a large species complex that is known throughout northern Russia and Europe where it forms numerous geographic races or microspecies. Our new specimen from Nulato Hills is identical to plants Russian botanists refer to as *Ranunculus monophyllus* which is known from Chukotka, directly across the Bering Sea from western Alaska.

Our new collection appeared to be the first known record for all of North America!

*(Continued on Page 2: New Species Found)*

## New Species Found, (Continued From Page 1)

The Goldilocks buttercup has a close relative, *Ranunculus pedatifidus* ssp. *Affinis*, the Birdfoot buttercup, which is known throughout northern Alaska. We realized that if the basal leaves, those leaves arising from the base of the flowering stem, were missing from collected specimens, these two taxa would look very similar. When basal leaves are present, confident identification is easy. I decided to look very carefully at all our herbarium specimens of *R. pedatifidus* ssp. *Affinis* to see if the Goldilocks buttercup, *R. auricomus*, had been collected previously, but misidentified and overlooked as part of our flora. It had! A collection brought in by Tass Kelso from Serpentine Hot Springs on the northern Seward Peninsula had been in our herbarium since 1987. Dean Kildaw, a UAF graduate student, had brought us three additional collections from Bluff, a seabird colony 50 miles east of Nome. *Ranunculus auricomus* had been 'hiding' in our herbarium over ten years!

The specimens with intact basal leaves that we collected during the Nulato Hills survey alerted us that the Goldilocks buttercup was indeed a part of our Alaskan flora. The permanent herbarium collections, originally misidentified, had been preserved, and now document two additional localities and habitats for this species. This is critical information. *R. auricomus* will soon be listed by the Alaska Natural Heritage program as one of Alaska's rare plants, and because of our permanent collection data, we know more about its distribution and habitat preferences within Alaska beyond our recent Nulato Hills discovery.

Several additional plant species, like the Goldilocks buttercup, display a broad Asian distribution but are known only from westernmost Alaska where they are found in lush, moist meadows. Did they migrate across the Bering Land Bridge very recently? Have they encountered barriers to dispersal in Alaska restricting them to this region? Collections alone will not answer these questions. For this we need help from molecular and chromosomal investigations, and more thorough taxonomic studies.



Figure 1. *Ranunculus auricomus*



### THANK YOU/ MORE HELP NEEDED

Thanks to everyone who has offered to help with small presentations during the monthly meetings. We are still looking for a few more people to do mini botany and plant family presentations. These are easy and fun 5 -10 minute talks.

Two Plant Family presenters are needed. Genera available are *Veronica* (4-6 species) and *Lagotis*(2)/*Synthris*(1). Months available to do presentations are January, March, or April.

Also needed are a few people for mini botany presentations.

Call Verna at \_\_\_\_\_ if you can help.

## SCROPHULARIACEAE/Figwort or Snapdragon Family

This year we will concentrate on the Scrophulariaceae family - often called the Scrophs. Worldwide this family consists of 220 genera and 3000 species. In Alaska there are 10 genera (3 of which are introduced) and 58 species (9 of which are introduced).

This is mostly a temperate climate family but is closely related to tropical families such as Bignoniaceae/Trumpet Vine and Verbenaceae/Verbena. Members of the Scrophs family can be annuals, biennials, or perennials. Leaves are simple, often entire, but can be toothed or pinnately lobed. They can be placed alternate or opposite on the stems - rarely whorled.

The flowers, single or inflorescences, are frequently showy (not necessarily so in our climate). The flower consists of 4 or 5 connected sepals, 4 or 5 connected petals, 4 stamens (rarely 2 or 5) and a 2-parted connected ovary with seeds on a central column. Flowers are mostly zygomorphic (having bilateral symmetry). Hence a flower divided from top to bottom would produce a mirror image. See Figures 1 and 2 below.

This family might be confused with the Lamiaceae (formerly Labiatae) or mint family. The Lamiaceae family has a 4-lobed seed capsule - each lobe containing one seed. Leaves are frequently in whorls, flowers usually quite inconspicuous and stems frequently 4-sided (square).

This month Verna Pratt will do an introduction of the general characteristics of the Scrophulariaceae family and three specific genera: *Linaria*, *Penstemon* and *Mimulus*. All have flowers resembling the common cultivated flower that we all know as snapdragon. Each genera is represented in Alaska by only one species.

*Linaria vulgaris* is an introduced species and can frequently be found in waste areas. This 15-20 inch perennial has long narrow bluish-green leaves on its stems, and a dense terminal raceme of lovely light yellow flowers with an orange palette. Its distinct difference from the other two genera is its long yellow spur which is nearly as long as the rest of the flower. **GARDENERS BEWARE!!!** This plant was brought into this country from England, as a garden flower. Apparently it was not a rampant spreader there, but its rhizomatous habit and deep roots have proclaimed it a real nuisance weed (though admittedly pretty) in this country.

*Penstemon gormani* or Yukon Beardstongue is mostly found in Eastern Alaska near the Yukon River. It favors very dry, sandy slopes. The basal leaves, in a clump, are entire and spatulate; the stem leaves are narrow, entire and opposite on the stem. The large violet to bluish flowers are clustered at the top of the 10-12 inch stem and appear somewhat iridescent - a real attention getter!

*Mimulus guttatus* is found in damp areas from sea level up into alpine meadows throughout Southeast, South Central and the Aleutian chain, as far north as Circle Hot Springs in the Interior, and down into the Rocky Mountains and Pacific Northwest. It is commonly referred to as Yellow Monkeyflower or Wild Snapdragon. This rhizomous plant can act as an annual or perennial. It can be seen in mid-winter just below the surface of the water at the springs in Russian Jack Park in Anchorage. The leaves are opposite on the stems. They are succulent, glabrous, petiolate, rounded and finely toothed along the margin. They make a tasty addition to a salad!

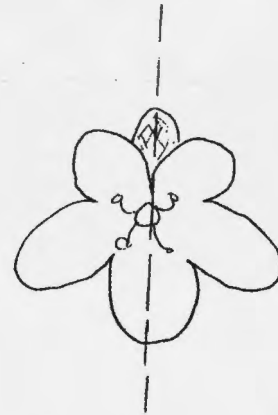


Figure 1. Example of a Zygomorphic Flower

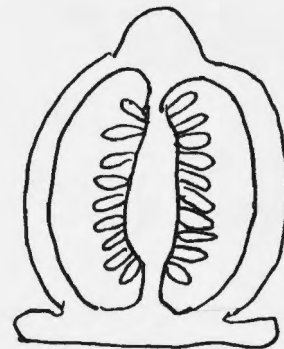


Figure 2. Scrophularian Seed Capsule

## ????Mystery Plant????

This perennial plant of coastal South Central and Southeast Alaska often goes unnoticed until it is in seed. It appears in the woods in the spring as Baneberry, *Actaea Rubra*, young plants are also emerging and it is similar in appearance. Its leaves however are covered with fine hairs - unlike the glabrous leaves of Baneberry. The flowers that follow close behind are very small greenish-purple and inconspicuous. The small green fruit that appears along with the flowers have a mild anise flavor.



LIBRARY CORNER

BY VERA PRATT

**Talkeetna Twines** by Suzanne Bassette,  
Published by Publications Consultants, Anchorage, Alaska;  
\$14.95; ISBN 1-888125-27-6

*Talkeetna Twines* is a captivating novel about a woman's experiences while surviving in the wilderness in Alaska after a devastating event changed her life. Although I rarely read novels, this story held me in suspense - but it left me with a few plant questions. It is too bad that a local plant person was not consulted, but I suspect that few people will care, as it is a very well written novel.

Rather than write a book review, I chose to urge others to read this and let us know if you have any comments about the plant descriptions. Write to me c/o the ANPS address on the back of the newsletter. I will wait until the February newsletter to comment further. Enjoy!

## A Garden Writing Workshop

The Alaska Rock Garden Society is sponsoring a garden writing workshop on Saturday, January 9, 1999, from 1 to 5 p.m. at the Alaska Cooperative Extension classroom in the Carleton Trust Building at Lake Otis and Northern Lights in Anchorage. This workshop is designed to inspire, encourage, and help gardeners and garden club members who do write or who would like to write about gardening. The workshop will address newsletter editing and writing for magazines, newsletters, newspapers, and books.

The featured speaker is nationally known garden writer Rob Proctor from Denver. A recent article of his appeared in *Horticulture* magazine, Sept./Oct. 1998, entitled *Tulips with a Bright Future*. His garden and gardening techniques were featured in an article published in the December, 1997, issue of *Horticulture*. He will speak at 1 p.m. for an hour or so about his experiences as a garden writer, after which there will be time for questions from the audience.

At 3 p.m., a panel moderated by Allen Deitz and comprised of local garden writers with diverse experiences and expertise will present viewpoints, and discussion with the audience will ensue. Panelists already secured include Jeff Lowenfels, garden writer for the *Anchorage Daily News*, Lenore Hedla, author of the *Alaska Gardener's Handbook*, and Verna Pratt, photographer and author of several well-known wildflower books. The workshop will conclude at 5 p.m. after this panel discussion.

Cost for the workshop is \$40. Questions can be directed to and registration can be made with Annie Nevaldine, by regular mail to 4960 E. Fifth Avenue, Anchorage 99508, by e-mail at [anevaldine@corecom.net](mailto:anevaldine@corecom.net), or by phoning

The Rock Garden Society would like registration made and fees paid by December 15, 1998

### Answer to Mystery Plant:

*Osmorhiza purpurea* or Sweet Cicely

Apiaceae or Parsley family

## Scientific American Magazine Reports UAA Research On Alaskan Plants At Risk

Scientific American Magazine reported in their August 1997 issue that the long-term survival of eight percent of Alaska's native higher plants (trees, shrubs, grasses and flowers) is at risk. This is based on work by the Alaska Natural heritage Program of the University of Alaska Anchorage as part of a cooperative effort between Heritage Programs across the united States and the nature Conservancy. The joint Heritage Network analyzed records for 16,000 native species across all 50 states.

Plant species were considered to be at risk if they have fewer than 100 known populations or fewer than 10,000 individuals worldwide, or if they faced known threats such as habitat loss, grazing, or competition from introduced plants.

Alaska tied for 14<sup>th</sup> highest threat with Idaho, Wyoming and Washington states, but was well below the two highest states (Hawaii at 61% and California at 32%). Alaska scored higher than Midwestern and Northeastern states, which may have already lost many of their rare species. California's level is high because of urban development and Hawaii's plants are threatened by exotic plant and animal introductions. Alaska is in the middle: it still has its rare plants and has experienced only limited habitat loss.

"Our data don't mean that the Alaskan landscape will soon be littered with federally endangered plant species," explained Robert Lipkin, botanist with the Alaska Natural Heritage Program. He cautioned against over-reacting to the data. "Few Alaskan plants are faced with extinction in the near future unless there is a dramatic increase in development pressures. We do have concerns with several species because of their small population size and limited range. Our work should serve as an early warning. We need to take a proactive approach and keep small problems from growing bigger. Now is the time to solve problems, rather than waiting until species get on the Federal Endangered Species List."



## PLANT TERMINOLOGY

*Definitions of some of the botanical terms used in this newsletter.*

*Basal leaves:* leaves that are clustered at the bottom of a stem

*Capsule:* a fruit that contains two or more seeds

*Glabrous:* smooth; devoid of hair

*Inflorescence:* a flower cluster

*Petiolate:* having a petiole or leaf stalk

*Raceme:* a flower arrangement in which individual flowers have stalks and are attached to an elongated axis or stem; flowers bloom from the base upwards

*Rhizomatious:* having underground plant stems that produce roots below and send shoots upward

*Spatulate:* broad and rounded at apex and tapering at base; flattened spoon-shaped

*Succulent:* fleshy and full of juice or water

*Whorl:* three or more leaves arranged around a stem

*Zygomorphic:* divisible into similar halves in only one plane; bilaterally symmetrical

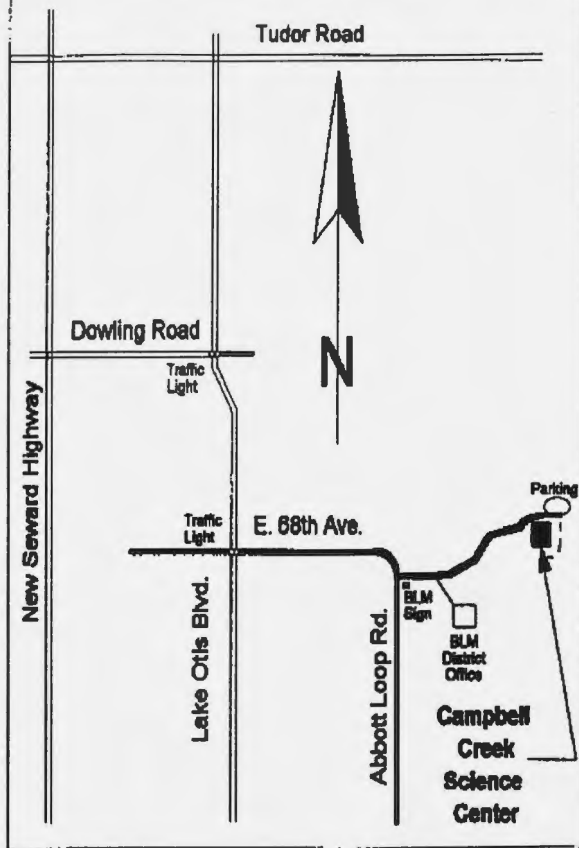
## WEEDS IN WINTER

In Alaska almost half the year is winter. The flowers and greenery that brought us so much pleasure from April to October are gone, and people who enjoy looking at and identifying plants put their books away. However, the plants have by no means disappeared and it is still perfectly possible to identify them. Several books have been published to help people identify some of those herbaceous plants that don't disappear over the winter, but remain as dead woody tissue in various shades of brown or gray, sometimes with fruits, sometimes just as stalks. Two favorites, although intended for plants of New England and Eastern US, contain information that will be useful to Alaskans as well:

*Weeds In Winter*, by Lauren Brown,  
Houghton Mifflin Co., 1976

*A Guide To Nature In Winter*, by Donald Stokes,  
Little, Brown & Co.; 1976

**Map To The New Meeting Place  
Campbell Creek Science Center**



**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  
P.O. Box 141613  
Anchorage, AK 99514**

