

NPSG

NOVEMBER
2008

SUBALPINE DAISY *Erigeron peregrinus*



NATIVE PLANT STUDY GROUP

An Historical Account of Contemporary Native Alpine Plant Distribution By Kristen Harrison

In his talk at our October meeting Dr. Ken Marr, curator of botany at the Royal British Columbia Museum, fulfilled the museum's mandate which aims to "explore and preserve British Columbia's cultural and natural heritage, to inspire curiosity and wonder, and to share our story with the world." For hundreds of years museums have led expeditions to unknown territory to gather specimens for study (1). Part of Ken's work at the museum is to inventory the relatively poorly documented vegetation of BC's northern alpine. Field work in the remoter regions is made difficult by the inaccessibility of the area, rugged terrain and financial costs. Many locations can only be reached by float plane (given a large enough lake to take off) or helicopter.

One of the main goals of this field work is to collect a representative specimen of every plant species that occurs in the study area. Upon collection of a specimen, numerous observations are made and recorded such as location, date, elevation, soil composition and associated species. The specimens are compressed in the field for quick drying in a plant press (or as Ken's daughter likes to call them "plant squeezers"). Plant presses are much like sandwiches in that they are

layers of paper-based materials that ensure a plant is dried quickly. Quick drying ensures that the specimen will retain most of its original features such as colour and shape.

Specimens are deposited in the herbarium at the Royal BC Museum where they are mounted with glue on acid-free paper, given a label summarizing field notes, assigned an accession number and filed in metal cabinets away from damaging light and moisture. Herbaria are critical to the preservation of dried plants and systematic naming. They provide a permanent record of each specimen and allow for future study involving measurements for species description, distribution maps, DNA extraction and exchange with specialists.

Ken has found that plant species are specifically adapted to particular mountain ranges. Plant communities in the alpine have evolved in conditions of short growing seasons, cold temperatures and multiple freeze-thaw cycles during the year. There are few annuals in the alpine because the growth cycles are too short to ensure the successful germination of seeds. The effects of glaciation can be easily seen in the alpine country, sculpting the plant communities living

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there. Streams flowing beneath glacial ice cause large gouges which can hold moisture and in turn support moisture loving species like Alpine saxifrage (*Saxifraga nivalis*) and Wedge-leaf primrose (*Primula cuneifolia* ssp. *saxifragifolia*). Similarly, ridges formed by retreating ice are home to dry tolerant species like Alaska draba (*Draba stenoloba*). Other abiotic factors such as snow and wind form microhabitats that plants utilize. The distribution of snow can predict the distribution of moisture loving plants after the snow has melted.

Plant morphology is also affected by such factors. An example of this is 'krummholz', a tree-line feature of alpine habitat, where continual exposure to winds causes vegetation to become stunted and/or deformed.

Cushioned or matted plant forms are common and can be seen in such species as Moss campion (*Silene acaulis*). Dwarf species are also common like Dwarf Alpine Hawksbeard

(*Crepis nana*), Mountain harebell (*Campanula lasiocarpa*) and *Salix* sp. The alpine landscape is constantly changing. Flowing water in the warmer months fills fissures in rocks and expands when it freezes. This process causes the rocks to shatter increasing the rate of erosion.

Continental glaciations and their climatic and geomorphic after-effects eradicated plant life from ice covered areas in BC1. Some of the surviving organisms found refuge in suitable patches of habitat and from these refugia could colonize newly available habitats as ice melted. In North America such refugia would likely have occurred in the Cordillera, in the Appalachians, along the ice-front in the centre of the continent, and possibly now flooded continental

shelves (1). The role of refugia within BC is not yet clear. It is thought plants survived either on peaks called "nunataks" (an Inuit term for a mountain peak that is surrounded completely by glacial ice), which poked above the ice surface, or in sections of the coast missed by the continental ice sheet called coastal refugia (1). In North America it is thought refugia may have existed in the Olympic peninsula, Brooks peninsula (Vancouver Island), Haida Gwaii and parts of interior BC (1).

Phytogeography is concerned with the geographic

distribution of plant species and involves the distribution of individual species ranges to the factors that govern the composition of entire communities and floras. Ken, along with co-worker Richard Hebda (Curator of earth history and botany at RBCM) and Gerry Allen (Uvic professor of botany), are looking at



Phlox diffusa SPREADING PHLOX

DNA markers of plants to follow the migration of alpine plant species since the last ice age 15,000 yrs ago under the hypothesis that an interior BC refugia existed at this time. To study historical plant migrations one can use the DNA of plants living now because DNA records the history/genealogy of a population by way of beneficial mutations. In their study Mountain sorrel (*Oxyria digyna*) is being used as the representative specimen to study plant migrations post glaciation because of its ubiquitous distribution and hardiness. Thus far, the team has looked at 1030 individuals of Mountain sorrel and 13 genotypes have been identified. Interestingly, their preliminary results show most genetic diversity occurring from central BC rather than south and north of the ice (con't on page 7)

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VOLUNTEER OPPORTUNITIES

- The Anti-ivy League of Cadboro Bay is fighting an ongoing battle. Is your warrior spirit ready to tackle the soul-sucking expanse of this pernicious weed? Contact Agnes at 721-0634 or thelynns at shaw.ca for more info.
- Hospital Rock: Contact Agnes as above
- Volunteer at Swan Lake Christmas Hill Nature Sanctuary For further details contact Joan at 479-0211 or email volunteer@swanlake.bc.ca.
- Beacon Hill Park Ivy Pull, Saturdays (except long weekends), 9 am-Noon southeast woods near Cook and Dallas. Bring gardening gloves. No dogs. Volunteers welcomed. Call Cornelia, 920-3556 or kacy at islandnet.com .
- Oak Bay Native Plant Garden meet every Fri. morning from 9-11, weather permitting. Corner of Beach Drive and Margate Avenue. New members welcome. Guided walks in March and April.
- Brighton Avenue Walkway Restoration. Removal of invasives and re-planting of native species in a Garry Oak rocky outcrop situation. Work each Sun. 9:30 - 11:30. Meet at Hampshire and Brighton, 2 blocks south of Oak Bay Ave.
- Garry Oak Restoration Project
If you would like to volunteer with restoration of these Saanich parks, please contact Jen Eastman at ferns1 at telus.net All times are 9:30-11:30 am.
Sat Nov 22 at Wetherby Park
Sat Nov 29 at Little Mount Doug
Sat Dec 6 at Playfair Park
Sat Jan 11 at Camas Park
Sat Jan 17 at Chatterton Hill Park

The Haliburton Wetland Restoration Team is looking for native shrubs to use in hedgerows at the farm. Contact Kristen at 598-6546 or kristenh at uwic.ca

EVENTS AND OUTINGS

- Every Saturday at 1:30 pm: Tour of Merve Wilkinson's Wildwood Forest, Ladysmith. Jay, 250-245-5540
www.ecoforestry.ca/WildwoodMap.htm

- For information on many environmental activities in our area check the Green Diary from the EcoNews website at earthfuture.com/greendiary/
- Consult the CRD parks website for detailed information on their programs; wear appropriate clothing for the weather and sturdy footwear for all outings: www.crd.bc.ca/parks
- For all VNHS activities, please contact Agnes at 721-0634 or email her (thelynns at shaw.ca) if you need more information. No pets please. Bring a lunch and plenty to drink for the all day outings. Check the Victoria Natural History Society at vicnhs.bc.ca
- **Sat Nov 22** CRD Parks 11 am Autumn Ascent of Mill Hill. Meet in parking lot off Atkins Rd, Langford.
- **Sun Nov 23** CRD Parks 10-12 Hike Thetis Lake. Meet at the lakeside parking area west of the main parking lot.
- **Sat Nov 29** CRD Parks 1 pm Magnificent Mushrooms of Francis/King Regional Park. Meet at the Nature Centre off Munn Rd.
- **Sun Nov 30** CRD Parks 11-3 Adults only. Sooke Potholes Hike. Meet at the info sign in parking lot 1.
- **Sun Nov 30** VNHS Mushroom Study Session. Please note this is an observation trip, not intended for collecting. Bring lunch, snacks and drinks for potentially an all-day outing. Meet at UVic Parking Lot 6 near the Chapel at 10:00 a.m. (free parking on Sunday).
- **Sat Dec 20** CRD Parks 10-noon Craigflower Creek Hike. Meet at Craigflower Creek trailhead off Highland Rd off Watkiss Way.
- **Sun Dec 28** CRD Parks 10:30-1 The Other side of Witty's. Meet at the Nature Centre off Metchosin Rd.
- **Tues Jan 20** VNHS Botany Night Rare Plants of Salt Spring Island: Research and New Discoveries. Robin Annschild, is conducting a research project on the impact of grazing by sheep on the Endangered Yellow Montane Violet and recently discovered a new population of Scouler's catchfly. Swan Lake Nature House, 7:30 p.m. Admission free, everyone welcome. Bring your friends.

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Results of Two Sessions on NPSG Directions

Why did you come tonight?

To learn

- ... I need to learn about native plants (6X)
- ... To further my knowledge about the use of native plants in the wild and for landscaping in the garden
- ... Speaker (5X)
- ... Burns bog presentation (13X)
- ... To learn about bogs --I know almost nothing about bogs, the plants and the ecosystem
- ... Interest in rehabilitation in general
- ... Native plants are an essential part of the ecosystem--want to keep learning about them
- ... Interested in propagation
- ... Interested in medicinal food use
- ... Detailed presentations on local areas
- ... Class-related information I want to know more about
- ... Interest in native plants, habitat and conservation

Social connection

- ... First meeting of the year-reconnection (2X)
- ... Social contacts with people who have similar interests (2X)
- ... Visit with friends
- ... I'm in Victoria on a Thursday night (usually in Vancouver) and Burns Bog is a fascinating place
- ... Missing connection to garden community
- ... Share with other like-minded people

What keeps you coming back? (Or if this is your first time here, how did you hear about us?)

Learning/education

- ... Because I learn (4X)
- ... Interesting/good speakers (6X)
- ... Presentations (2X)
- ... The thirst for native plant knowledge
- ... Great source of knowledge
- ... There is always something new about native plants
- ... To learn more about (the issues around) our native environment (2x)
- Education/information (3X)
- Continued learning about the natural environment

Social/sharing information

- good people/company to learn from (3X)
- Vast array of knowledge of members
- Continually given information, opportunities, fabulous newsletter
- newsletter
- The people and information (3X)
- Networking (2X)
- Good to see what groups in Victoria are interested in
- 7 years-I've had the opportunity to learn so much from the



STRIPED CORALROOT *Corallorhiza striata*

talks, and form other members (seaside plants, mycorrhizal fungi etc.)

- ... Being exposed to new topics I wouldn't otherwise know that I am interested in or should care about
- ... Share passion and interest in native plants
- ... Nice folks
- ... Meeting like-minded people
- ... Support for changing my garden into a native plant garden

Access to native plants

- ... Native plant draw (4X)
- ... The meetings are fun (3X)

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Action/advocacy

- ... I want to support native plants as an environmental solution
- ... Hearing of the many volunteer projects on restoration that are available
- ... Getting info. about events
- ... Interested in supporting the group
- ... I haven't been to a meeting in 6 years due to working in Vancouver. I still get Adolf Ceska's Botany emails and I often go to similar meetings in Vancouver. I am a big native plant nut, especially Garry oak ecosystems. I'm also a hiker and like to id the plants I see

Why else do you value this group?

- ... Values protecting ecosystems
- ... Learning about the environment
- ... Advice
- ... Share passions and info. (2X)
- ... (Good) information (2X)
- ... The variety of topics covered in the presentation
- ... Value the common interest and knowledge base
- ... Questions and answers
- ... Meet people with similar interests (2X)
- ... Friendship with those with similar interests
- ... They support native plants
- ... Access to salvage opportunity (3X)
- ... The good / awesome / fabulous newsletter (6X)
- ... The tea and cookies(2X)
- ... The (great) people (who are involved) (6X),
- ... warm, welcoming atmosphere
- ... The knowledge-what an amazing knowledgeable group who are willing and happy to share that knowledge
- ... Others have the same interests in native plants
- ... Easy access
- ... Reasonably priced
- ... A great deal for the money!
- ... Not too "militant" about what we believe, the support comes from a positive, helpful state of mind
- ... Discussion from the question jar
- ... Native plants are important and need all the help they can get
- ... Programs offered (speakers)

- ... Having the chance to talk with other native plant enthusiasts and share information
- ... The raffle (6X)
- ... Adjunct to VHS
- ... Urban gardening
- ... Open to all, not exclusive
- ... Raises profile of use of native plants
- ... Learning
- ... I like to tap into the expertise available
- ... Camaraderie

The Second Session:

Rate the following from 1-3, (1 being the most and 3 being the least important to you):

NPSG promotes the use of native plants

1 = 8 2 = 16 3 = 9

NPSG seeks to conserve native plants and their habitats

1 = 24 2 = 5 3 = 4

NPSG learns about native plants in South Western BC

1 = 11 2 = 10 3 = 12

Are there any other reasons for our existence other than learning, promotion and conservation of native plants?

- Political involvement in habitat loss
- Preserving habitat
- Provide habitat for all native species
- Rebuild lost ecosystems
- Demonstrable native plant ethics in our neighbourhoods
- Demonstrating how native plants can be re-incorporated into gardens and landscapes
- Learning about other non-native plants
- Support from members growing native plants
- Friendships
- Social aspect of meeting
- Advocacy for native plants
- Social contacts
- Meeting others with similar interests
- Social contact with like-minded people
- About ¼ of flora in BC is considered rare: plants here are special!

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- Opportunities to learn more about current issues
- Fun and accessible way for people to get engaged with horticulture (especially native)
- Learning about invasive plants and their removal
- Salvage plants
- Using native plants in our lives (i.e. food)
- Teaching about the threats to native plants
- Salvaging plants from construction sites

Are there people who should know about the NPSG that we have not yet reached?

Gardeners, developers, students (elementary to high school), Botanists in governmental service, Nurseries Municipalities-use of native plants in their gardens/ parks, Numerous hiking groups in greater Victoria Students in restoration courses at Uvic and Camosun College; horticulture trade in the area; Master gardening students at Horticulture Centre of the Pacific/ Glendale Gardens; Families-through children to the future for enjoyment and respectful protection High school and university students; Nurseries that sell native plants; Landscapers who use some/all native plants in the gardens they work on; Would be nice to see more young people, fewer of us old farts Gardeners; "Landscapers" wielding weed whackers and leaf blowers and planting English ivy! Other related NGOs-Compost Ed. Centre, Food Roots, TLC etc. to distribute our literature?

Camosun College; Royal Roads University; Hiking groups; All environmental committees Greater Victoria municipalities

Yes, lots. I think the name native plant "study" group intimidates some people. I suggest changing the name to Native Plant Society. There are a lot of gardeners who use native plants, who take our brochure at our NP workshops, but I seldom see them here, I wonder why.

Elementary schools; Young students, more developers, designers; Yes-local governments for more education on conservation of natural areas and the importance of using native plants in landscaping.

What about involving First Nations teachers and speakers; The public at large; More university students; Horticulture students; Contact with current

students of local horticulture programs, perhaps inviting a class to attend a meeting to get the word out and promote interest in the group.

High school and college student; possibly organic farmers in the area; Other gardeners

PLANT PROPAGATION

Some excellent sites for plant propagation of local species (and others).

<http://www.nwplants.com/> This is Wally W Hansen's website, he is a grower and retailer in Oregon who is very generous in his descriptions of plants, their uses and propagation advice. There is a terrific free Northwest Native Plant Journal associated with this site that will provide you with many, many hours of enjoyment.

<http://nativeplants.for.uidaho.edu/network/> This site is more scientifically based and the plants can be from anywhere in the US, Canada, Mexico, US Virgin Islands, Hawaii and other Pacific Islands. If you can find the plant, the propagation information is excellent.

http://www.goert.ca/propagation_guidelines/ The Garry Oak and Associated Ecosystems site offers comprehensive information on our native plants, their descriptions, requirements and propagation techniques.

http://www.royalbcmuseum.bc.ca/Natural_History/Plants.aspx?id=274 Dr. Richard Hebda has written countless articles describing our native plants. Many of these have propagation information.



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Continued from "An Historical...."

sheet lending support to the notion that an interior refugia may have existed.

Clearly, in times when the importance of changing environmental factors has become so crucially important to native plant distribution and survival, the knowledge Ken and his colleagues are gathering becomes ever more important.

1 Hebda, R. J., Haggarty, James C. 1997. Brooks Peninsula: An Ice Age Refugium on Vancouver Island, Occasional Paper No. 5. Ministry of Environment, Land and Parks.

The Native Plant Study Group meets on the third Thursday of the month from Sept through May except Dec at 7 at the MacLaurin Building, UVic. Please join us. Membership fees are \$15.00 annually or a \$2.00 charge for drop-in. Check Room Schedule for new meeting locations.

UPCOMING MEETINGS

Jan 15 Room D116
Member's Presentation Night

Feb 19 *Harry Hickman Building Room 110*
"Borrowing a Root" Transplanting Practices of British Columbia Indigenous Peoples with *Dr Nancy Turner*. This talk presents accounts and examples of indigenous transplanting practices and the implications of such practices. Dr. Nancy Turner of Victoria is an internationally-distinguished scholar and scientist who has devoted her life to documenting the endangered knowledge of First Nations.

LINKS:

Victoria Natural History Society
www.vicnhs.bc.ca
Native Plant Society of BC
www.npsbc.org
South Vancouver Island Mycological Society
svims.ca
Garry Oak Ecosystems Recovery Team:
www.goert.ca
Swan Lake Christmas Hill Nature Sanctuary:
www.swanlake.bc.ca

For UVic events:

New parking policy--pay parking is in effect 24 hours a day. You must purchase a \$2 parking permit for the evening.

NATIVE PLANT STUDY GROUP
(Sub-group of the Victoria Horticultural Society)

The NATIVE PLANT STUDY GROUP is a non-political group dedicated to learning about B.C. native plants, as wild populations and in garden settings, and to supporting conservation of native plants and their habitats. The group is guided by a volunteer steering committee. Members are encouraged to volunteer for this committee. Participation in outside events, by the group, or by individual members using the NPSG name, is dependent on approval of the steering committee or, where indicated, by the at-large membership. Activities requiring funding must receive approval by the general membership.

Chair: Angela Deering
Co-chair: Valerie Elliott
Speakers: Moralea Milne
Treasurer: Joan Varley
Newsletter: Moralea Milne
Plant Rescue: Todd Doherty
Field Trips: Jean Forrest
Pat Johnston
Membership: Agnes Lynn
Publicity: Valerie Elliott
Room Set-up: Pat & Wayne Robertson
Plant Raffle: Heather Pass
List-serve: Linda Beare & John Olafson
Refreshments: Pat McMahan
VHS Liaison: Heather Pass

Native Plant Study Group members are required to become members of the Victoria Horticultural Society. Fees are \$25.00/yr and help pay for insurance to cover field trips. Send \$ to Box 5081 Stn. B, Victoria, V8R 6N3

The NPSG Newsletter is produced by Moralea Milne

NOTES