

No. 79 March 2016

Iris

The Alberta Native Plant Council Newsletter



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Cover photo: Marsha Hayward;
Leaves emerging in a spring aspen (*Populus tremuloides*)
woods.

Botany Alberta 2015: Botany Bliss in Waterton Lakes National Park

Sandy McAndrews

Botany Alberta 2015 took place in Waterton Lakes National Park (WLNP) between June 19 and 21, the weekend of the summer solstice. This superb national park is located in the far southwest corner of Alberta, at the Canada-United States border. In 1932, together with Glacier National Park in Montana, WLNP became part of the world's first International Peace Park (IPP), the Waterton-Glacier International Peace Park. In 1995, this IPP was designated a UNESCO World Heritage Site because of its biogeographical significance (Parks Canada 2012).

The biogeological significance of WLNP is derived largely from its location. Situated at the height of the continent in the Western Cordillera of North America, it is influenced by maritime and continental weather systems. Additionally, it is at the junction of prairie and mountain communities with watersheds that drain into three separate oceans. This unique combination of geography and climate influences resulted in vegetation complexes that are unique in the world (Parks Canada 2012).

WLNP contains four of Alberta's natural subregions: Alpine, Subalpine,

Montane, and Foothills Parkland. These four subregions provide enough variability for the existence of 45 separate vegetation communities, which provide habitat for more than 1,000 (more than half) of Alberta's vascular plant species. According to Parks Canada (2012), 50 of those species are nationally rare. Non-vascular species are abundant too. And, as one of the warmest places in Alberta, the park had high potential to see lots of flowering plants in June. A perfect place for botany enthusiasts!



Jones columbine (*Aquilegia jonesii* Parry) S1.

Armed with a Parks Canada collection permit, almost 30 of us ventured into all four of Waterton's natural subregions to collect plant specimens for some

Botany AB 2015, from page 1

of Alberta's herbaria, search for and document rare species, and enjoy the landscapes and the fellowship that comes from spending time with fellow enthusiasts. The herbaria foray locations we chose were based on Alberta Conservation Information Systems Management (ACIMS) data and the conservation status reports of spring 2015. Criteria for choosing foray locations included: species on wish lists from herbaria curators, previous occurrences, accessibility, conservation status, and phenology (species was identifiable in June). Based on those criteria, the workshop committee chose Bertha Lake, Cameron Lake, Crandell Lake, Hay Barns, Ruby Ridge, Sofa Mountain, Waterton Townsite, and Wishbone Trail as good options to meet as many of the criteria as possible. Specimens were collected where occurrences met the best practice standards for collection (1 specimen per 50 plants) and would be distributed to herbaria at the University of Alberta, University of Calgary, Medicine Hat College, and Olds College. All data we collected will be submitted to both Parks Canada and to ACIMS.



Happy foragers on the Wishbone Trail.

On Friday evening, June 19, we gathered at Crooked Creek Campground for a lesson on specimen collection from Dorothy Fabijan. Her talk covered collection best practices, collection equipment, removing the specimens from the site, storing specimens in the field, and storing them in plant presses. Specimens would then be mounted and labelled at their destination herbaria.



A. Scovill

Alpine townsendia (*Townsendia condensata* Parry) S2.

Our plans to document rare species were stymied a bit by the publication of the ACIMS updated tracking and watch list in July 2015. The rare species we targeted in June were not necessarily classified as rare in July. Nevertheless, we documented more than 50 vascular species and 46 non-vascular species over the two-day foray. Nine of the vascular species were ranked as S1 or S2 provincially (see Table 1 for definitions) on ACIMS updated July 2015 list. As you can see from Table 1, we found rare species in three of the four natural subregions found in WLNP, but most species were found in the Subalpine, where short growing seasons and cool temperatures prevail. We identified rare species at Cameron and Crandell Lakes, Ruby Ridge, Sofa Mountain, and the Wishbone Trail. Four of the non-vascular species identified were classified as rare. None of the species identified are nationally rare. Table 1 contains a list of the rare vascular species found at foray locations over the weekend.

Along with the S1 and S2 species, we identified close to 25 S3-ranked species. These are noteworthy because their conservation status is right on the cusp between rare and relatively secure.

Based on the information submitted about occurrences before the next major conservation status review, reviewers could decide they are at risk, still on the cusp, or moving towards security. It is interesting to make note of a few of the species we identified whose conservation status has improved since the last major review of the tracking and watch list. The status of both sweet purple cicely (*Osmorhiza purpurea* J.M. (Coult. & Rose) Suksd.) and slender bog orchid (*Platanthera stricta* Lindley) changed from S2 to S3. The status of small white violet (*Viola macloskeyi* FE Lloyd) shifted from S2S3 to S3. The shift in conservation status of those species is a good example of the value of reporting occurrences identified during excursions like Botany Alberta. The data collected on this foray will help establish the longer-term trends of these species.

Two species, one vascular and one non-vascular, are ranked as SU — unrankable due to lack of, or conflicting information (Alberta Environment and Parks 2015). Vascular species small alyssum (*Alyssum alyssoides* L.) was identified at Cameron Lake.

See Botany AB 2015, page 3

Botany AB 2015, from page 2

Table 1. Foray locations and associated rare vascular plants identified during Botany Alberta's 2015 herbaria foray in Waterton Lakes National Park

Foray Location	Alberta Natural Region ¹	Identified Provincially Rare Species ^{2,3} (Scientific name)	Identified Provincially Rare Species ^{2,3} (Common name)	Comments
Cameron Lake	Subalpine	<i>Listera caurina</i> Piper (S2)	western twayblade	Near Akamina Lake
Crandell Lake	Subalpine	<i>Spiraea splendens</i> Baumann ex K. Koch var. <i>splendens</i>	pink meadowsweet	N/A
Ruby Ridge	Subalpine	<i>Carex geyeri</i> Lineham (S2)	Geyer's sedge	Along Lineham Creek
		<i>Microseris nutans</i> (Hook.) Sch.-Bip. (S2)	nodding microseris	Grassy slope
		<i>Mimulus floribundus</i> Lindl. (S1)	small yellow monkeyflower	Rocky ledges
		<i>Suksdorfia ranunculifolia</i> (Hooker) Engler (S1)	suksdorfia	Wet ledges
	Alpine	<i>Townsendia condensata</i> Parry (S2)	alpine townsendia	Scree
Sofa Mountain	Alpine	<i>Aquilegia jonesii</i> Parry (S1)	Jones' columbine	Rocky ledges
Wishbone	Montane	<i>Cypripedium montanum</i> Douglas ex Lindley (S2)	mountain lady's slipper	Revegetated aspen burn

Notes: 1. Alberta Parks (2005) albertas-natural-subregions-map-2005-high-resolution.pdf. Retrieved January 2016 from <https://www.albertaparks.ca/media/4118978/albertas-natural-subregions-map-2005-high-resolution.pdf>

2. Alberta Environment and Parks (2015a) List of all Vascular Plant Taxa Confirmed for Alberta as recorded in the ACIMS database - October 15, 2015. URL unavailable on January 26/16.

3. Based on Alberta Conservation and Information Systems conservation status where:

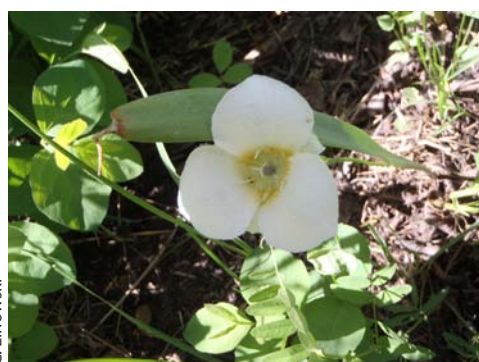
S1- ≤ 5 occurrences or vulnerable to extirpation

S2 - ≤ 20 occurrences or vulnerable to extirpation

S3 - ≤ 100 or somewhat vulnerable due to other factors (e.g. range restricted, small populations, other factors)

Source: Alberta Environment and Parks (2015b). Species Conservation Ranks <http://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/tracking-watch-lists/species-conservation-ranks/>

C. Linowski



Mariposa lily (*Calochortus apicularis*) near the Wishbone Trail.

The liverwort *Radula complanata* was identified near Bertha Lake.

But our weekend was not just about rare species. Most of us had the pleasure of seeing iconic WLNP species like Mariposa lily (*Calochortus apiculatus*

Baker), a beautiful lily, and beargrass (*Xerophyllum tenax* (Pursh) Nutt.), two species confined to the southwest corner of Alberta. WLNP is awash in colour in June.

The bryologist in our group found four rare non-vascular species, at Bertha Lake: *Leskeella nervosa* (S2S3), *Pseudoleskea patens* (S1S2), *Rhizomnium magnifolium* (S2S3), and *Seligeria campylopoda* (S2S3). She also identified the SU-ranked species *Radula complanata* described above.

Thanks go to the kind folks at Crooked Creek Campground for letting us have exclusive use of their cookshack for the entire weekend: it was a perfect venue for pre- and post-excursion gatherings, lectures, plant identification, and pizza. Thanks too go to Elisabeth

Beaubien for forwarding the idea of the herbarium foray. The weekend could not have happened without the efforts of these wonderful ANPC volunteers: Joelyn Kozak, Patrick Kyle, Tony Blake, Bill Leach, Ashley Pierce, Jodie Krakowski, Leslie Monteleone, Cathy Linowski, Carole Dodd, and Allison Scovil. THANK YOU! And finally, a heartfelt thank-you to all participants for bringing your enthusiasm and expertise.

In closing, we had a great time. Participants liked the built-in purpose of the collection foray, and of course, like most of our fantastic province, the location was sublime. Stay tuned for news about Botany Alberta 2016. Ideas to date include a visit to one of ANPC's

See **Botany AB 2015**, page 5

Herbarium on the Move . . .

Donna Cherniawsky

It's likely you have heard that the Royal Alberta Museum is moving downtown. So is the herbarium ... but right now we're still here!

What is a herbarium? To answer this, I often use the analogy of a library. Instead of books, a herbarium has dried plant specimens. Like a library, it is organized in a particular manner. It may be based on a specific classification ordered by family or ordered alphabetically by genus. Like a call number on a book, each plant specimen has an accession number that is its unique identifier in its herbarium and database. Like a library, a herbarium loans to and requests specimens from other herbaria for research or identification purposes.

PMAE (formerly the Provincial Museum of Alberta Herbarium, Edmonton) includes vascular plants (including gymnosperms, ferns, and fern allies), mosses, liverworts, and lichens. They are housed in one herbarium space but physically partitioned into their respective groups.

Herbaria have many roles in the scientific and public communities. By providing a plant specimen inventory of a region's vegetation, herbaria achieve the important role of providing the means to accurately identify plant specimens. Accurate plant identification is necessary for the work of botanists, ecologists, plant systematists, conservationists, naturalists, geneticists, and forensic scientists – to name a few. Herbaria are essential repositories for voucher specimens of botanical research of any kind. They also protect precious "TYPE" specimens, the plant specimens permanently attached to original plant names. Herbaria serve the public community by providing plant identification services and information pertaining to botanical queries. PMAE also provides botanical interpretive material for museum exhibits, education, and public programs.

PMAE has been at the Glenora site in Edmonton since 1967 when the museum opened. From the very beginning, all of the specimens and artifacts were treated with great conservation care. The museum collections were, and continue to be, placed in a carbon dioxide fumigator for three weeks to destroy all pests. The collection areas have been supplied with positive air pressure to further reduce the risk of pests. The collections are housed in secure, environmentally controlled spaces. All specimens are stored in archival metal cabinets with gasket-lined doors, shown below.



Donna Cherniawsky

PMAE has been managed by three former curators: Bill Savale, Julie Hrapko, and Roxy Hastings. Each of them brought their own focus, talents, and research interests. Collections were acquired across the province and North America by museum staff, in addition to external acquisitions and donations. With the invaluable assistance from countless curatorial assistants, technicians, and volunteers for the past 48 years, PMAE now has over 165,000 plant specimens. What began strictly as a provincial collection has since expanded into an international one.

Numerous exsiccatae and heritage collections reside at PMAE, most notably A.J. Grout, J.M. Lindberg, N.B. Sanson, A.R. Prince, and G.R. Pegg. There are also some unique heritage collections from individual Albertans, such as Barbara Mary George. She was an early 20th century watercolour artist.



Donna Cherniawsky

The herbarium holds specimens for many non-vascular (left) and vascular (right) plants.

After she painted a plant, she collected it and pressed it (only the common species, of course). Her paintings are deposited in the museum's collection of Western Canadian history. Several years ago we exhibited them together. Cross-department collaboration is definitely one of the advantages of working at the museum.

Over the last few years the focus of the museum's botany curatorial staff has temporarily shifted from building and researching collections to museum renewal, including natural history gallery development. The herbarium, however, is still active and available for research, plant identification, and specimen verification by researchers, students, and the public.

I am saddened to leave my home in Glenora (I have been here for over 20 years!), but I look forward to getting settled in the new, and larger, space downtown. I welcome revisiting fieldwork, collections, new acquisitions, and research.

In 2018, please come by and say "hello" at the new RAM's herbarium in downtown Edmonton.

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No. 78 January 2016

Iris

The Alberta Native Plant Council Newsletter

Wanted: Iris Editor

The ANPC is looking for a new editor for *Iris*. This is an interesting position that can be easy (compile articles that our members send) or challenging (solicit articles on specific topics, edit articles, and coach budding writers). The current editor, Dana Bush, will work with you for a full year, as you ease in to the position. Call her at 403-831-6840 to chat.

In This Issue:
Two New Species
Clyde Fen
Steward
Clyde Fen
Juncos
(Disturbance)
Tongue
P to Q
News and
Puzzling
Findings
with Key
Native Plant
Beard
(Pens)

Cover photo: Martha Hayward. Looking through green alder (Alnus crispa) encased in ice crystals along the Gold River.

the genus *Arethusa*. It has a broad range in North America, extending from Alberta in the west to Newfoundland in the east, and as far south as South

Dragon's mouth orchid (*Arethusa bulbosa*)

See New News Species, page 2

Botany AB 2015, from page 3

stewardship sites (Big Sagebrush, Clyde Fen, Nisku Native Prairie and Whitehorse Wildland Park), Lakeland Provincial Park, Fort Assiniboine Sandhills Wildland, Onefour Heritage Rangeland, or another foray in a yet to be determined location. Details will be posted on ANPC's website ... <http://anpc.ab.ca/> and in ANPC's monthly Info-email.

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Beargrass
(*Xerophyllum tenax* (Pursh) Nutt.), an iconic Waterton Lakes National Park species.

P. Kyle



J. Krakowski

Forget-me-not species (*Myosotis* sp.)
with checkerspot butterfly. ♦

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Find us on

Hello ANPC Members,

Just wanted to take a quick moment and put out the word on the new ANPC Facebook page. The goal of the page is to help promote the ANPC as well as share its values through a collaborative sharing of fun news and events.

Items like photos from trips (preferably including or asking for a plant ID), updates to regulations, or even news and journal articles could all be posted to the page. The hope is to have an active and vibrant community that will help share the benefits that the ANPC provides.

<https://www.facebook.com/Alberta-Native-Plant-Council-753266894819050/>

Check it out, and Like the page if you are interested in getting updates and contributing to the ANPC's social media presence.

Cameron Johnson

In Search of the Elusive Dwarf Woolly-heads in Southeastern Alberta

Catherine Linowski

You have to admit that field botanists, professional and amateur alike, have a pretty warped idea of “fun” when you try to explain to others the Where’s Waldo-like excitement of finding a rare or unusual plant, moss, or lichen. Try to describe scrambling up a scree slope of sharp shale to high alpine ridges to locate tiny white poppies or practically crawling through drying mud on the edge of ephemeral wetlands to hopefully come across tiny pea-size balls of fuzz, to those not bitten by the botany bug, and you will get raised eyebrows and perplexed looks concerning one’s mental state.

Certain plants definitely challenge the botanist in their game of hide and seek. Combine tiny size, variable population sizes, and a Goldilocks-like fussiness about habitat, and you see what you are up against in trying to locate dwarf woolly-heads. And just to make it really interesting, let’s throw in some deceptive look-alikes and controversy about what species occur where.

Classified in the Order Asterales, Family Asteraceae and Tribe Gnaphalieae members of the Genus *Psilocarphus*, woolly-heads share the characteristic of greyish-white, tomentose to pilose hairs on the stem and leaves with other closely related genera including these: *Anaphalis* sp. (pearly everlasting), *Antennaria* sp. (pussy toes), *Gnaphalium* sp. (cudweed), and *Filago* sp. (field cotton rose). Early classification proposed by Dr. Asa Gray in 1848 (*Manual of the Botany of Northern United States*) suggests five different species of *Psilocarphus* in North America. *Psilocarphus* species range from California through Nevada, Oregon, Wyoming, Washington, Utah, Idaho, and Montana. In Canada there are only three recognized species of *Psilocarphus*: *P. brevissimus* var. *brevissimus* (dwarf woolly-heads), *P. tenellus* var. *tenellus* (slender woolly-heads), and *P. elatior* (tall woolly-

heads). According to the January 2016 COSEWIC report, *P. tenellus* and *P. elatior* are limited to coastal B.C. while *P. brevissimus* is limited in range to a small area in southern B.C. near Princeton (referred to as the southern B.C. population) and another area in southeastern Alberta/southwestern Saskatchewan (the prairie population) separated from each other by over 500 km and a number of mountain ranges. *The Flora of North America*



C. Dana Bush

Dwarf woolly-heads (*Psilocarphus brevissimus*) grow close to the ground.



C. Dana Bush

suggests that some specimens of *Psilocarphus* (*P. elatior* and *P. brevissimus*) display intermediate forms, opening the question of the possibility of cross-breeding between species. Early reports of *P. elatior* specimens from Alberta and Saskatchewan were based on erect forms of *P. brevissimus*.

Conservation status rankings for dwarf woolly-heads within the United States varies from SNR, S2 to S1. In Canada,

as of 2015, the conservation rankings include Saskatchewan (S1S2), British Columbia (S1), and Alberta (S2S3). The S2-S3 ranking assigned in Alberta may be the result of misidentification or confusion during surveys between dwarf woolly-heads and other *Psilocarphus* sp. or with closely related species such as *Gnaphalium*.

According to the January 2016 COSEWIC management plan for dwarf woolly-heads, the prairie population includes some 50 extant subpopulations centred in southeastern Alberta and southwestern Saskatchewan within the dry mixed grass prairie region. Large fluctuations in population size occur, typical of annual plants dependent upon very specific precipitation and temperature ranges for successful germination and establishment. Adding to the difficulty in monitoring population sizes for dwarf woolly-heads is the challenge to locate them, even when habitat criteria are considered.

Past surveys as reported by the 2016 COSEWIC management plan indicate subpopulation sizes in the prairies ranging from a mere handful of plants to thousands. COSEWIC (2006) reported that the projected aggregate total population of dwarf woolly-heads in the prairies could be between 9,000 and 27,000 in peak growing years and between 2,000 and 5,000 in years with poor growing conditions. Accurate survey counts are difficult because of the dwarf woolly-heads’ growth habit and tendency to grow in amongst look-alike plants like *Gnaphalium*. Population trends for this species are unknown. Another issue described in the 2016 COSEWIC management report is that limited resurveys of dwarf woolly-heads subpopulations have been conducted so population trends and general understanding of the ecology of the plant is not well understood.

See **Dwarf Woolly-heads**, page 7

Dwarf Woolly-heads, from page 6

So now that the challenges of finding dwarf woolly-heads are understood, let's get an idea of the appearance and habitat requirements. The following is extracted from the 2016 COSEWIC management report: "Dwarf woolly-heads is a short annual herb with woolly leaves. Plants grow from 2-10 cm tall, often prostrate or matted and much-branched, and have a short taproot. Leaves are present only on the stem, are opposite, 5-15 mm long and approximately 1.5-5 mm wide; the upper leaves often surpass the flowering heads. Leaves are covered in whitish, woolly hairs. Flower heads are spherical, 6-9 mm across, and are densely woolly. Flower heads are usually solitary and located in leaf axils or ends of the stems, and contain 8-80 female flowers and a few central male flowers. Unlike most members of the family Asteraceae, flowers of this species lack involucre (small bracts beneath the flowers), or ray petals. Female flowers are enclosed in woolly, sack-like receptacle bracts which are 2.5-4.0 mm long at maturity. These, like most structures on the plant, are densely woolly. Fruits are achenes that are 1-2 mm long, flat, free from barbs or hairs, and are tipped with a small, offset style."



Dwarf woolly-heads (*Psilocarphus brevissimus*)

Key features to separate *P. brevissimus* from other *Psilocarphus* species are the solitary to few heads produced, leaves that are opposite paired, and as distinguished by earlier descriptions by Dr. A. Gray, capitulate leaves that are appressed to the head producing almost a cauliflower-like appearance.

Capitulate leaves surpass the flowering heads in *P. brevissimus* but not to the same extent as *P. elatior*, which may be two to three times the leaf height above the head. Probably the most important and determining confirmation of *Psilocarphus* species versus young *Gnaphalium* plants is the presence of the scarious beak to the fructiferous bract, essentially a hardened little finger that pokes out from the female flower.

Habitat requirements for the dwarf woolly-heads include: open, drying mud margins of ephemeral and temporary wetlands, primarily class 2 and above; disturbed, hummocky areas where cows or other animals have reduced litter and created microclimate moisture gradients are favored as well as gleysolic to solonchic medium- to fine-textured soils that are moderately calcareous and slightly saline. The 2015 *Saskatchewan Guide to Survey for Rare Species* suggests that dwarf woolly-heads may also occur in plowed croplands.

Indicator species that are associated with dwarf woolly-heads include: popcorn flower (*Plagiobothrys scouleri*), pincushion plant (*Navarretia leucocephala* ssp. *minima*), water foxtail (*Alopecurus aequalis*), and needle spikerush (*Eleocharis acicularis*). Class 2 wetlands meeting soil and salinity criteria as previously indicated and with marginal occurrences of *Grindelia squarrosa* and *Beckmannia syzigachne* are prime candidates and should be the focus of targeted surveys for dwarf woolly-heads. That being said, these habitat requirements will not guarantee success in discovering new populations of dwarf woolly-heads. A targeted survey in 2015 in southeastern Alberta, to reconfirm a historical population and identify new locations, resulted in a success rate of only 1 in 45 wetlands surveyed containing dwarf woolly-heads.

Are you up for the challenge?

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- Gray, Dr. Asa. 1848. *Manual of the Botany of the Northern United States* Harvard University, 1848.
- Catherine Linowski, along with her husband Ron Linowski, is a field botanist and has assisted in the monitoring of many S-1 ranked species in southeastern Alberta and southwestern Saskatchewan. She is the organizer for the Medicine Hat ANPC Plant Study Group. Cathy is also the Coordinator of the Medicine Hat College Environmental Reclamation program and instructor in Biology, Environmental Science and Plant Taxonomy. ♦

Tongue-tied in Latin: R to Z

C. Dana Bush

In my frustration to figure out the pronunciation of Alberta species not listed in Coombs, I have perused the internet, only to become more frustrated and confused. Botanical Latin is heavily influenced by regional accents. Michael Charters, in a long essay outlining his frustration, concluded that scientific names (Latin with some Greek and a mixture of personal names from other languages) are written languages, so the spoken form will vary from region to region. *The Jepson Manual* (Hickman 1993) (citing W.W. Weber) suggests that in the interests of communication, we try to use European pronunciation when speaking to Europeans. For example, Coombs, who is British, writes *Senecio* as se-ne-kee-ō, but Charter's (American) would say se-nee-see-ō because 'c' before 'i' is pronounced as in "center." My conclusion: Use the same pronunciation as the folks around you — and say it with conviction.

Here are a few brief and easily remembered rules:

1. Pronounce each and every syllable (excluding some diphthongs that form a single sound such as ae and oe). *Cotoneaster*, for example, should be pronounced co-to-ne-as-ter not cot-on-easter. I think this is the most useful and consistent bit of advice.
2. Compound words are divided according to their root element (trä-kee---kar-pus).
3. C and G are generally pronounced as hard consonants (cat and get).
4. Proper names should retain their original pronunciation — if it isn't too awkward (*Doug-las-ii* not *Dou-glass-ee-eye*).

For a more comprehensive list of rules, see Michael Charters' websites: California Plant Names.

Next is Table 1, copied directly from Charters, summarizing European and UK/US pronunciation. Notice that Charters does not distinguish between

Table 1: European and English Pronunciation of Botanical Latin from Charters n.d.

Letter	Reformed academic system (in use mostly in Europe)	Traditional English system (in use mostly in the US and UK)
long a	as in <i>father</i>	as in <i>fate</i>
short a	as the first <i>a</i> in <i>apart</i>	as in <i>fat</i>
ae	as <i>ai</i> in <i>aisle</i>	as <i>ea</i> in <i>meat</i>
ai	-----	as in <i>care</i>
au	as <i>ou</i> in <i>house</i>	as <i>aw</i> in <i>bawl</i> or <i>August</i>
c	always as in <i>cat</i>	before <i>a, o, u, oi</i> as in <i>cat</i> before <i>e, ae, oe, i, y</i> as in <i>center</i>
cc	before <i>i</i> or <i>y</i> , as <i>ks</i>	as <i>ks, k</i> or <i>s</i> usually as in <i>king</i> *
ch	as <i>k</i> in <i>king</i>	as <i>k</i> or <i>ch</i>
long e	as in <i>they</i>	as in <i>me</i>
short e	as in <i>pet</i>	as in <i>pet</i>
ei	as in <i>rein</i>	as in <i>height</i>
eu	-----	as in <i>cute</i>
g	always as in <i>go</i>	before <i>a, o, u, oi</i> as in <i>gap</i> before <i>e, ae, oe, i, y</i> as in <i>gem</i>
long i	as in <i>machine</i>	as in <i>ice</i>
short i	as in <i>pit</i>	as in <i>pit</i>
j	as <i>y</i> in <i>yellow</i>	as <i>j</i> in <i>jam</i>
ng	as in <i>finger</i>	as in <i>finger</i>
long o	as in <i>note</i>	as in <i>note</i>
short o	as in <i>not</i>	as in <i>not</i>
oe	as <i>oi</i> in <i>toil</i>	as <i>ee</i> in <i>bee</i> or <i>Phoenix</i>
oe (at end of word)	as <i>o-i</i> (two syllables)	as <i>o-e</i> (two syllables as in <i>Aloë</i>)
oi	-----	as <i>oi</i> in <i>toil</i>
ph	as <i>p</i> or <i>p-h</i>	as <i>f</i> in <i>fall</i>
t	as in <i>table</i>	as in <i>table</i>
ti (within a word)	as in <i>native</i>	as in <i>nation</i> **
long u	as in <i>brute</i>	as in <i>brute</i>
short u	as in <i>full</i>	as in <i>tub</i>
ui	as in <i>we</i>	as in <i>ruin</i>
v	as <i>w</i> in <i>window</i>	as <i>v</i> in <i>van</i>
long y	as <i>u</i> in French <i>pur</i>	as <i>y</i> in <i>cypher</i>
short y	as in French <i>du</i>	as <i>y</i> in <i>cynical</i>
x	-----	as <i>z</i> at beginning of word and as <i>ks</i> elsewhere
		*as <i>church</i> in names derived from languages other than Greek
		**This is what Stearn says, but I (Charter) can't find any names pronounced this way.

Botanical Latin, from page 8

American and British pronunciation. Below is Table 2 that we have been following these last months, based on British pronunciation.

Table 2: British Pronunciation of Botanical Latin from Coombes 1985

Vowels

ă = cat
a = apart, canal
e = let
o = hot
ō = note
i = in
ie = kite
oi = usually as oy in boy but classically as o-i
u = full
ū = tub

Consonants

c = always hard as in cat
g = always hard as in gate
s = as in this, not as in those

The following words are taken from or adapted to Coombes pronunciation (to be consistent with the previous articles).

- * My guess at the pronunciation
** Charters
*** But, vaccine and succeed are pronounced with a ks?

R

Ranunculus	rah-nun-kew-lus
Rhamnus	rām-nus
Rhododendron	ro-do-den-dron
Rhus	rus
Ribes	rie-beez
Rosa	ro-sa
Rubus	rub-us
Rumex	ru-meks

S

Sagittaria	să-gi-tah-ree-a
Salix	să-lik
Sambucus	săm-bew-kus
Sarracenia	sâ-ra-sen-ee-a
Saxifraga	săks-if-ra-ga
Schedonnardus	ske-don-nar-dus*
Schizachne	ski-zach-nee*
Schizachyrium	ski-za-ki-ree-um*
Schoenoplectus	shoo-no-plek-tus

Scirpus	skir-pus
Scrophularia	skrō-few-lah-ree-a
Scutellaria	sku-te-lah-ree-a
Sedum	say-dum
Selaginella	se-lah-gi-nel-a
Senecio	se-ne-kee-ō
Silene	si-lay-nee
Sisyrinchium	si-si-ring-kee-um
Smilacina	smee-la-keen-a
Solanum	so-lay-num
Solidago	so-li-dah-gō
Sorbus	sor-bus
Spartina	spar-teen-a
Sphaeralcea	sfie-rāl-kee-a
Spiraea	spee-rie-a
Stachys	stă-kis
Stipa	stee-pa
Streptocarpus	strep-to-kar-pus
Suaeda	su-ee-da**
Symphoricarpos	sim-fo-ree-kar-pos

T

Tamarix	tă-mar-riks
Tanacetum	tăn-a-set-um
Taxus	tăks-us
Thalictrum	tha-lik-trum
Thermopsis	ther-mop-sis
Thlaspi	thlăs-pee
Tierella	tee-a-rel-la
Townsendia	town-zend-ee-a
Trachycarpus	tră-kee-kar-pus
Tradescantia	trâ-des-kănt-ee-a
Tragopogon	trâ-go-pō-gon
Trifolium	tri-fo-lee-um
Trillium	tri-lee-um
Trollius	tro-lee-us
Tsuga	tsoo-ga
Typha	tee-fa

U

Ulmus	ul-mus
Utricularia	ew-trik-ew-lah-ree-a

V

Vaccinium	va-keen-ee-um***
Valeriana	va-le-ree-ah-na (o-fi-ki-nah-lis
Veratrum	vay-rah-trum
Verbascum	ver-bās-kum
Verbena	ver-bay-na
Veronica	ve-ro-ni-ka
Viburnum	vee-bur-num
Vicia	vi-kee-a
Viola	vee-o-la

X

Xanthium	zănth-ee-um*
Xerophyllum	ze-ro-fil-lum*

Y

Yucca	yoo-ka
-------	--------

Z

Zigadenus	zi-ga-day-nus
Zizea	zi-zee-a*

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Iris is published three times a year by ANPC. The Council aims to increase knowledge of Alberta's wild flora and to preserve this diverse resource for the enjoyment of present and future generations.

If you have an announcement, article or other item, you are invited to submit it to the editor for publication. Items concerning native plants will be given highest priority.

The editors reserve the right to edit submissions, but will review changes with the authors whenever possible. Disputes will be resolved in favour of the audience.

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Submission deadline for the next issue:
October 15, 2016

A subscription to *Iris* is included with membership in the ANPC. To join, contact the secretary, or check our website, www.anpc.ab.ca.

News and Events

ANPC Workshop, AGM & Seed Exchange 2016

Date: April 30, 2016

Location: Stettler, AB

Topic: Rare Plant Conservation

Program specifics will be posted at www.anpc.ab.ca and in the ANPC info-email as they evolve. Register online or use the mail-in registration form at the back of this newsletter.

Seed Exchange: Bring sealed envelopes of native seeds for sharing, exchanging for other seeds, or donating. Please be sure your seed packets are labelled with the Latin name, the collection site, and the approximate number of seeds.

Field Trip: Sunday, May 1 at Rachel Agnes Hayes 2 – a Nature Conservancy of Canada property on the east shore of Buffalo Lake.

Please plan to join us!

Botany Alberta 2016

Join us for a weekend of botanizing at Fort Assiniboine Sandhills Wildland Provincial Park and Clyde Fen Natural Area. We're just starting on the planning now. Check www.anpc.ab.ca for more details.

Mixed Grasss Forum 2016

Theme: Water, Wetlands and Reclamation

Date: April 14, 2016

Location: Medicine Hat College
(S159 Lecture Theatre)

Time: 9:00 a.m. to 4:00 p.m.

Pre-registration is available through Medicine Hat College Continuing Studies. Early-bird registration fee is \$40 (\$20 for students), available up to April 8. Register at the door for \$50 (\$25 for students). To pre-register, call 403-529-3844 and give Course Code MHC CC0062. Contact clinowski@mhc.ab.ca for more information.

Range Health Assessment Training – September 15, 2016

The Foothills Restoration Forum is offering range health assessment training at a new venue in the Mixedgrass prairie: Antelope Creek Ranch, near Brooks, Alberta. This course offers field-based training on common plant identification, use of soils and landscape mapping (AGRASID and GVI) in relation to Alberta's Range Plant Community Guides and Range Health Assessment Manuals. These tools are designed to classify and assess grassland plant communities and are critical for pre-site assessments, reclamation design, and restoration of native grassland. Designed for students, ecologists, land owners, regulators, planners, reclamation practitioners, and anyone interested in learning more about native grassland ecosystems.

Early Bird Registration: Register by Friday August 12, 2016, for \$135.00 per person (includes course materials). Registration after the early bird date is \$150.00 per person.

Online registration is available at www.foothillsrestorationforum.ca or you are welcome to contact Donna Watt directly at: corpirate@shaw.ca or 403-563-8925 for student rates, registration, and additional information.

Foothills Restoration Forum Annual Fall Information Session – November 17, 2016

Claresholm Community Hall, Claresholm, Alberta

A variety of stakeholders will gather for one day to listen to presentations on grassland conservation and restoration. The open mic session fosters a collaborative environment for the exchange of current information and new ideas through short updates on emerging issues, current projects, restoration efforts, and techniques for restoring native grassland habitats. The event includes our 'traditional' welcome cinnamon rolls, a catered lunch, and plenty of opportunity to visit and network.

Plant Happenings

After decades of keeping us informed about all things botanical, Lorna Allen is retiring as the publisher of Plant Happenings.

Many of us have come to rely on the broad range of information that Plant Happenings has provided to us over the years. It's clearly too valuable to give up, so ANPC has agreed to carry on the effort.

If you have been a recipient of Plant Happenings in the past, you need to resubscribe. Contact Anna Marie at amozolik@gmail.com to renew or start your subscription, if you haven't already.

Within the next few months, Plant Happenings will be available on ANPC's website.

If you have submissions for Plant Happenings, please submit them to Anna Marie at amozolik@gmail.com.

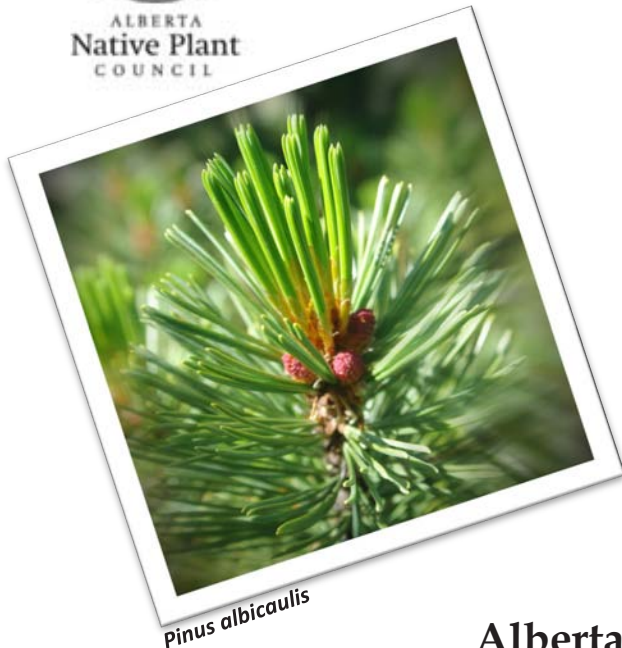
You don't have to be an ANPC member to receive this publication—all you have to do is ask. But we hope you'll consider becoming an ANPC member.

Lorna, sincere thanks for your dedication to providing us with information about botanical issues and events.

Anna Marie, thank you for jumping in to take up the effort.



ALBERTA
Native Plant
COUNCIL



Pinus albicaulis

PROGRAM TIMES:

Check –in and Registration: 8:00 am—8:30 am
Workshop Presentations: 8:30 am—4:15 pm
Annual General Meeting: 4:30 pm—6:00 pm
Banquet and Guest Speaker: 6:15 pm—9:15 pm

Everyone is invited to attend the AGM.

Learn about ANPC activities.

An informal botanizing foray will be organized for Sunday, May 1, 2016, weather permitting. More details will be available on our website.

We have a block of rooms booked at a special price at the Super 8.

Please see details at [www.anpc.ab.ca/2016 Workshop](http://www.anpc.ab.ca/2016%20Workshop)

A list of other accommodations is available at the Town of Stettler website:

<http://www.stettler.net/admin/contentx/default.cfm?PageId=8976>

Alberta Native Plant Council 29th Workshop and Annual General Meeting Rare Plant Conservation

Saturday, April 30, 2016

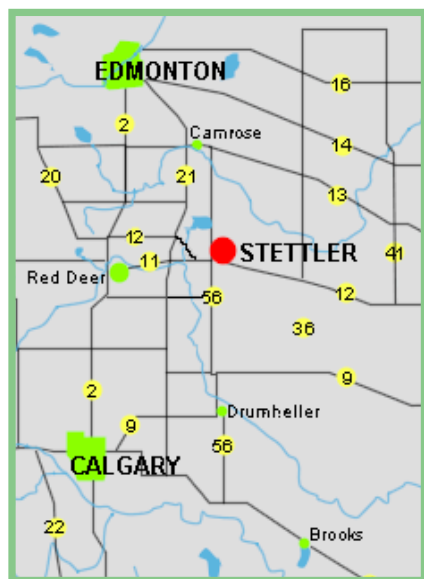
Stettler Recreation Centre, Stettler, Alberta

You may register online for the workshop here:

[www.anpc.ab.ca/2016 Workshop](http://www.anpc.ab.ca/2016%20Workshop)

Please watch our ANPC website for all the details about this year's workshop:

www.anpc.ab.ca



Town of Stettler



Tripterocalyx micranthus



29th Workshop and Annual General Meeting Rare Plant Conservation

Saturday, April 30, 2016

Stettler Recreation Centre

6202—44 Avenue, Stettler, Alberta

For WORKSHOP & REGISTRATION INFORMATION

Contact: 403-485-1144 or ANPCworkshop@gmail.com

To REGISTER by MAIL:

Mail registration form and cheque or money order to:

2016 ANPC Workshop

Box 1530 Vulcan, AB T0L 2B0

*Please make payment to Alberta Native Plant Council

To REGISTER ONLINE (with PayPal or credit card) please see our website page: [www.anpc.ab.ca/2016 Workshop](http://www.anpc.ab.ca/2016%20Workshop)

REGISTRATION FORM: (Please print)

NAME:
AFFILIATION:
ADDRESS:
CITY:
PROVINCE:
POSTAL CODE:
PHONE NUMBER:
EMAIL ADDRESS:

WORKSHOP FEES:

☒ Applicable Box	Early Bird Rate until Friday, April 8, 2016	Regular Rate after Friday, April 8, 2016
ANPC members	☐ \$75	☐ \$90
Non-members	☐ \$90	☐ \$105
Students	☐ \$35	☐ \$45
Seniors	☐ \$50	☐ \$65

Dinner Banquet with Guest Speaker ☐ \$50
My diet is restricted (please describe):

ANPC MEMBERSHIP FEES:

☒ Applicable Box	
Individual	☐ \$25
Family	☐ \$45
Senior	☐ \$10
Student	☐ \$10
Corporate	☐ \$100
Lifetime	☐ \$500

Registration **cancellation** will be accepted until April 15, 2016 and will be subject to a \$20 processing fee.

Total Enclosed

\$ _____