

No. 76 March 2015

Iris

The Alberta Native Plant Council Newsletter



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Look for more information on the ANPC's website. www.anpc.ab.ca



ALBERTA
Native Plant
COUNCIL

Cover photo: Marsha Hayward;
Snakeskin liverwort (*Conocephalum conicum*).

Alberta species list is longer now

Dorothy Fabijan, Assistant Curator, Vascular Plant Herbarium, U. of Alberta

I have compiled a list of plants that are new to Alberta and not in the *Flora of Alberta* (Packer, 1983). These names have been added over the years, from various sources: specimens found in the University of Alberta Vascular Plant Herbarium (ALTA) and the University of Calgary Herbarium (UAC), Alberta Conservation Information Management System (ACIMS) reports, specimens submitted by collectors (primarily consultants) and voucher specimens from taxonomic research. Also, several of the taxa on the list are new arrivals to Alberta (weeds).

I started keeping a list of taxa not in the 1983 *Flora of Alberta* when I discovered *Wolffia* had been collected in Alberta in 1984. Before I knew it, the list was long enough to be significant.

During a *Carex* workshop with Dr. Bruce Ford some years ago, on our trip to Wilcox Pass, we observed a new species to Alberta (which Bruce and Joyce Gould had discovered on the reconnaissance trip prior to the workshop). Dr. Ford recognized *Carex bicolor* as distinct from *C. aurea* and suspected it could occur in Alberta. After the workshop, when the herbarium's *C. aurea* collection was examined, there were already specimens of both *C. bicolor* and *C. garberi* collected but not distinguished from the much more common *C. aurea*.

In 2006, I accompanied Joyce Gould on an Alberta Parks survey of the Kakwa Wildland Park. I helped Joyce explore as many alpine localities as we could get to, looking for rare alpine plants. We kept coming across a very distinctive *Castilleja*—short, very long hairy with deep fuschia-coloured flowers. Joyce suggested that this was *Castilleja parviflora*, which occurs in BC. Again, when the ALTA herbarium was checked, there were already several specimens, but they had all been misidentified as *C. miniata*.

More recently, Dr. J. B. Phipps of the University of Western Ontario borrowed ALTA specimens of *Crataegus* for some revisionary work, which also included extensive collecting in southern Alberta and Saskatchewan. When returning the loan, he was kind enough to send us a gift of vouchers of the several new taxa that were described as a result.

In all cases, the collections of a herbarium were invaluable in distinguishing taxa new to science or species new to a region. These specimens are curated with care and available for future reference in the

See **Species List Longer**, page 5

List of New Vascular Species in Alberta begins on page 2.

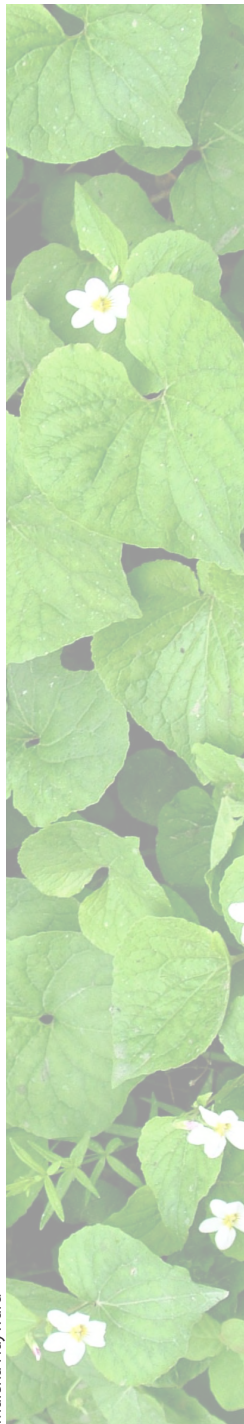
New Vascular Species in the Province of Alberta

(last updated January 2015)

The following taxa have been found in Alberta since the publication of *Flora of Alberta*, by E. H. Moss, second edition edited by J. G. Packer, 1983. ALTA invites your input. Please include supporting documentation, a voucher specimen or the location of the voucher specimen. Send submissions, corrections, and comments to fabijan@ualberta.ca.

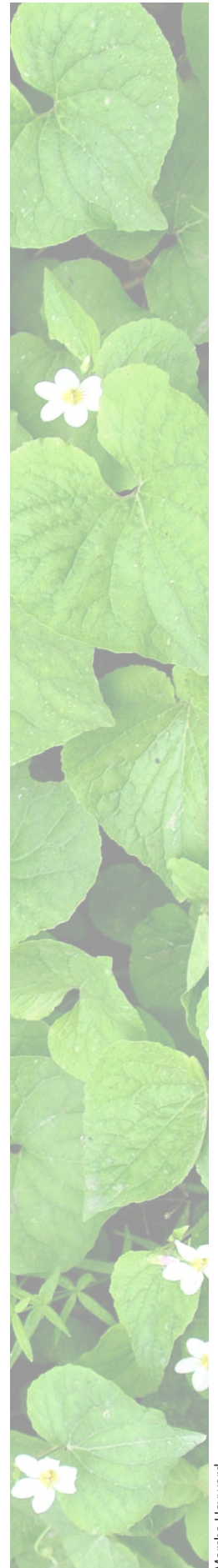
ABMI Alberta Biodiversity Monitoring Institute
 ACIMS Alberta Conservation Information Management System
 (formerly ANHIC, Alberta Natural History Information Centre)
 ALTA University of Alberta Vascular Plant Herbarium
 CAFB Northern Forestry Centre, Edmonton
 DAO Agriculture and Agri-Food Canada Herbarium
 Griffiths Graham Griffiths, pers. comm.

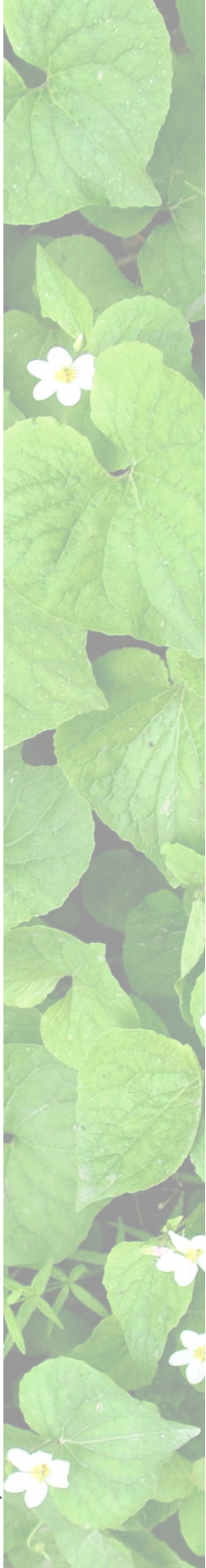
LEA University of Lethbridge Herbarium
 MICH University of Michigan Herbarium
 PMAE Royal Alberta Museum Herbarium
 Rare Vasc AB Kershaw et al. 2001. *Rare Vascular Plants of Alberta*
 UAC University of Calgary Herbarium
 UWO University of Western Ontario Herbarium



Family	Species	Voucher Specimens
Amaranthaceae	<i>Salsola collina</i> Pall.	ALTA
Amaranthaceae	<i>Salsola tragus</i> L.	ALTA
Aristolochiaceae	<i>Asarum canadense</i> L.	ALTA
Asteraceae	<i>Agoseris lackschewitzii</i> DM Hend. & RK Moseley	ALTA, UAC
Asteraceae	<i>Ambrosia acanthicarpa</i> Hook.	ALTA
Asteraceae	<i>Antennaria aromatica</i> Evert	ALTA
Asteraceae	<i>Bidens vulgata</i> Greene	ALTA, UAC
Asteraceae	<i>Dyssodia papposa</i> (Vent.) Hitchc.	ALTA
Asteraceae	<i>Erigeron lackschewitzii</i> GL Nesom & WA Weber	ALTA
Asteraceae	<i>Eupatorium purpureum</i> L.	ALTA
Asteraceae	<i>Hieracium piloselloides</i> Vill.	ALTA
Asteraceae	<i>Psilocarphus brevissimus</i> Nutt. var. <i>brevissimus</i>	ALTA
Balsaminaceae	<i>Impatiens glandulifera</i> Royle	ALTA
Boraginaceae	<i>Cryptantha kelseyana</i> Greene	UAC
Brassicaceae	<i>Camelina alyssum</i> (Mill.) Thell.	ALTA
Brassicaceae	<i>Cardamine dentata</i> JA Schultes	Griffiths
Brassicaceae	<i>Descurainia sophioides</i> (Fisch. ex Hook.) OE Schulz	ALTA
Brassicaceae	<i>Draba fladnizensis</i> Wulfen	ALTA
Brassicaceae	<i>Draba juvenilis</i> Komarov	ACIMS
Brassicaceae	<i>Rorippa truncate</i> (Jeps.) Stuckey	ALTA
Cabombaceae	<i>Brasenia schreberi</i> JF Gmel	ACIMS
Campanulaceae	<i>Campanula aparinoides</i> Pursh	ALTA
Campanulaceae	<i>Campanula glomerata</i> L.	ALTA
Caryophyllaceae	<i>Agrostemma githago</i> L.	ALTA
Caryophyllaceae	<i>Cerastium brachypodum</i> (Engelm. ex A Gray) BL Rob.	ALTA
Caryophyllaceae	<i>Silene armeria</i> L.	UAC
Caryophyllaceae	<i>Silene chalcedonica</i> (L.) EHL Krause	ALTA
Caryophyllaceae	<i>Silene hitchguirei</i> Bocquet	ALTA
Caryophyllaceae	<i>Spergularia salina</i> J Presl & C Presl	UAC
Cistaceae	<i>Lechea intermedia</i> Legg. ex Britton var. <i>depauperata</i> Hodgdon	ABMI specimen (PMAE)
Cornaceae	<i>Cornus unalaschkensis</i> Ledeb.	ALTA
Commelinaceae	<i>Tradescantia occidentalis</i> (Britt.) Smyth	PMAE, UAC
Cyperaceae	<i>Blysmus rufus</i> (Huds.) Schrad.	ALTA
Cyperaceae	<i>Carex bicolor</i> All.	ALTA

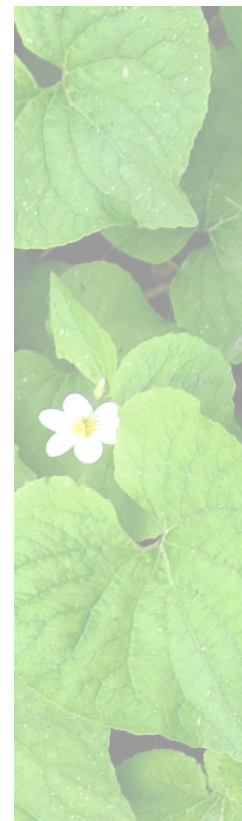
Family	Species	Voucher Specimens
Cyperaceae	<i>Carex cordillerana</i> Saarela & BA Ford	ALTA
Cyperaceae	<i>Carex echinata</i> Murr. ssp. <i>echinata</i>	ALTA
Cyperaceae	<i>Carex garberi</i> Fern.	ALTA
Cyperaceae	<i>Carex infirminevia</i> Naczi	ALTA
Cyperaceae	<i>Carex lapponica</i> O. Lang	?
Cyperaceae	<i>Carex pedunculata</i> Muhl. ex Willd.	ALTA, CAFB
Cyperaceae	<i>Carex saximontana</i> Mack.	ALTA
Cyperaceae	<i>Carex supina</i> Willd. ex Wahlenb.	ALTA
Cyperaceae	<i>Eleocharis mamillata</i> (Lindl. f.) Lindl. f.	ALTA
Cyperaceae	<i>Schoenoplectus heterochaetus</i> (Chase) Sojak	ACIMS
Dryopteridaceae	<i>Gymnocarpium disjunctum</i> (Rupr.) Ching	ALTA
Fabaceae	<i>Anthyllis vulneraria</i> L.	ALTA
Fabaceae	<i>Lathyrus palustris</i> L.	ALTA, UAC
Fabaceae	<i>Lens culinaris</i> Medik.	ALTA
Fabaceae	<i>Trifolium dubium</i> Sibth. (ID questionable)	UAC
Fagaceae	<i>Quercus macrocarpa</i> Michx.	ACIMS
Hydrocharitaceae	<i>Elodea bifoliata</i> H. St. John	ALTA, UAC
Hydrocharitaceae	<i>Elodea canadensis</i> Michx.	ALTA
Hydrophyllaceae	<i>Phacelia campanularia</i> Gray	ALTA
Isoetaceae	<i>Isoetes maritima</i> Underwood	ANHIC
Isoetaceae	<i>Isoetes occidentalis</i> Henderson	ALTA
Isoetaceae	<i>Isoetes</i> × <i>truncata</i> (AA Eat.) Clute (pro sp.)	ACIMS
Juncaceae	<i>Juncus regelii</i> Buchenau	ALTA
Juncaceae	<i>Luzula groenlandica</i> Bocher	ALTA
Juncaceae	<i>Luzula rufescens</i> Fisch & Mey.	ACIMS
Lamiaceae	<i>Physosegia ledinghamii</i> (Boivin) Cantino	ALTA
Lemnaceae	<i>Lemna turionifera</i> Landolt	ALTA
Lemnaceae	<i>Wolffia borealis</i> (Engelm.) Landolt	ACIMS
Lemnaceae	<i>Wolffia columbiana</i> H. Karst.	ALTA
Lentibulariaceae	<i>Utricularia stygia</i> Thor	ALTA pending
Liliaceae	<i>Triantha occidentalis</i> (S. Wats.) RR Gates ssp. <i>brevistyla</i> (CL Hitchc.) Packer	ALTA
Liliaceae	<i>Triantha occidentalis</i> (S. Wats.) RR Gates ssp. <i>montana</i> (CL Hitchc.) Packer	ALTA
Malvaceae	<i>Hibiscus</i> sp.	ALTA
Molluginaceae	<i>Mollugo verticillata</i> L.	UAC
Nymphaeaceae	<i>Nymphaea leibergii</i> Morong	ALTA
Oleaceae	<i>Fraxinus pennsylvanica</i> Marshall	ACIMS
Ophioglossaceae	<i>Botrychium 'michiganense'</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium ascendens</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium boreale</i> J. Milde	ALTA
Ophioglossaceae	<i>Botrychium campestris</i> WH Wagner & Farrar	ALTA
Ophioglossaceae	<i>Botrychium crenulatum</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium hesperium</i> (Maxon & Clausen) WH Wagner & Lellinger	ALTA, UAC
Ophioglossaceae	<i>Botrychium lineare</i> WH Wagner	ALTA (photo)
Ophioglossaceae	<i>Botrychium matricariifolium</i> (A. Braun ex Dowell) A. Braun ex Koch	ACIMS
Ophioglossaceae	<i>Botrychium minganense</i> Vict.	ALTA





Family	Species	Voucher Specimens
Ophioglossaceae	<i>Botrychium oneidense</i> (Gilbert) House	ACIMS
Ophioglossaceae	<i>Botrychium pallidum</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium paradoxum</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium pedunculatum</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium pinnatum</i> St. John	ALTA, UAC
Ophioglossaceae	<i>Botrychium spathulatum</i> WH Wagner	ALTA
Ophioglossaceae	<i>Botrychium</i> × <i>watertonense</i> WH Wagner	MICH
Orchidaceae	<i>Liparis loeselii</i> (L.) LC Rich.	UAC
Orchidaceae	<i>Platanthera huronensis</i> (Nutt.) Lindl.	ALTA
Orchidaceae	<i>Platanthera stricta</i> Lindl.	ACIMS
Orchidaceae	<i>Spiranthes lacera</i> (Raf.) Raf.	ALTA, UAC
Orobanchaceae	<i>Castilleja parviflora</i> Bong.	ALTA
Orobanchaceae	<i>Pedicularis oederi</i> Vahl ex Hornem.	ALTA
Oxalidaceae	<i>Oxalis stricta</i> L.	ALTA
Papaveraceae	<i>Papaver rhoeus</i> L.	ALTA
Phrymaceae	<i>Mimulus brewerii</i> (Greene) Coville	ACIMS
Phrymaceae	<i>Mimulus glabratus</i> Kunth	ACIMS
Phrymaceae	<i>Mimulus ringens</i> L.	ALTA
Phrymaceae	<i>Mimulus tilingii</i> Regel	ALTA
Plantaginaceae	<i>Bacopa rotundifolia</i> (Michx.) Wettst	?
Plantaginaceae	<i>Nuttallanthus canadensis</i> (L.) DA Sutton	ACIMS
Poaceae	<i>Anthoxanthum monticola</i> (Big.) Veldk.	ALTA
Poaceae	<i>Aristida purpurea</i> Nutt.	UAC
Poaceae	<i>Bouteloua curtispindula</i> (Michx.) Torr.	ALTA, UAC
Poaceae	<i>Festuca multiflora</i> Walter	ACIMS
Poaceae	<i>Festuca viviparoides</i> Krajina ex Pavlick ssp. <i>krajinae</i> Pavlick	ACIMS
Poaceae	<i>Poa abbreviata</i> R. Br.	ALTA
Poaceae	<i>Poa bulbosa</i> L. ssp. <i>vivipara</i> (Koel.) Arcang.	ALTA
Poaceae	<i>Poa laxa</i> Haenke ssp. <i>baffiniana</i> Soreng	ACIMS
Polygonaceae	<i>Polygonum polygaloides</i> Meisn. ssp. <i>confertiflorum</i> (Nutt. ex Piper) Hickman	ALTA
Polypodiaceae	<i>Cystopteris laurentiana</i> (Weath.) Blasdell	ALTA
Polypodiaceae	<i>Polypodium sibiricum</i> Sipl.	ALTA
Portulacaceae	<i>Lewisia rediviva</i> Pursh	LEA, ALTA
Potamogetonaceae	<i>Potamogeton nodosus</i> Poir	DAO
Pteridaceae	<i>Adiantum aleuticum</i> (Rupr.) Paris	ACIMS
Pteridaceae	<i>Pallaea gastonyi</i> Windham	ALTA
Ranunculaceae	<i>Anemone narcissiflora</i> L.	ALTA
Ranunculaceae	<i>Ceratocephala testiculata</i> (Crantz) Roth	ALTA
Rosaceae	<i>Amelanchier alnifolia</i> (Nutt.) Nutt. var. <i>pumila</i> (T. & G.) A. Nels.	ALTA
Rosaceae	<i>Aruncus dioicus</i> (Walt.) Fern.	Rare Vasc AB
Rosaceae	<i>Aruncus sylvester</i> Kost.	ALTA
Rosaceae	<i>Crataegus aquacervensis</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus castlegarensis</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus cupressocollina</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus macracantha</i> Lodd. ex Loudon	ALTA

Family	Species	Voucher Specimens
Rosaceae	<i>Crataegus rivuloadamensis</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus rivulopugnensis</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus rubribracteolata</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Crataegus ursopedensis</i> J. B. Phipps & O'Kennon	ALTA, UWO
Rosaceae	<i>Potentilla subjugata</i> Rydb.	ACIMS
Rosaceae	<i>Potentilla villosula</i> Jurtzev	ALTA
Rosaceae	<i>Spiraea splendens</i> Baumann ex K Koch	ACIMS
Rosaceae	<i>Sorbaria sorbifolia</i> (L.) A. Braun	ALTA
Rubiaceae	<i>Galium bifolium</i> S. Wats.	ALTA, LEA
Salicaceae	<i>Salix famelica</i> (C. R. Bell) Argus - ID uncertain	ALTA
Salicaceae	<i>Salix pentandra</i> L.	?
Salicaceae	<i>Salix raupii</i> Argus	UAC
Salicaceae	<i>Salix tyrrellii</i> (Raup) Argus	ACIMS
Salicaceae	<i>Salix</i> × <i>fragilis</i> L.	ALTA
Saxifragaceae	<i>Tellima grandiflora</i> (Pursh) Dougl. ex Lindl.	ACIMS
Santalaceae	<i>Thesium arvense</i> Horv.	ALTA
Solanaceae	<i>Solanum dulcamara</i> L.	ALTA, UAC
Sparganiaceae	<i>Sparganium americanum</i> Nutt.	UAC
Utricaceae	<i>Laportea canadensis</i> (L.) Wedd.	UAC



Marsha Hayward

Coming in 2015: Complete review of species elements and ranks in ACIMS

Lorna Allen, ACIMS Coordinator

The National General Status project has contracted specialists across the disciplines to develop or update element lists for each province and territory, then to propose ranks using NatureServe ranking methodology. This is an ambitious project. It includes all species groups in ACIMS (with the exception of ecological communities) plus some new groups, such as grasshoppers. Some groups, such as bryophytes, have not had a group-wide review since the 1990s. No group in ACIMS has been systematically ranked using the NatureServe Rank Calculator (<http://www.natureserve.org/conservation-tools/conservation-rank-calculator>).

There are over 10,000 species element records that are being reviewed and added to (or updated in) ACIMS. In the past, ACIMS has used ad hoc committees to discuss the ranks and tracking lists, group by group. With

so many records, and short timelines, our approach for the General Status project needs to be different. ACIMS will review and, after any questions are resolved, accept the recommendations from the specialist.

What does this mean for ACIMS?

- New element groups added
- Updated taxonomy for all species element groups, that will be consistent across Canada and the NatureServe Network
- Updated ranks using the rank calculator methodology
- Revamped element tracking lists for species
- Note: Ecological community elements are not included in this review.

We will post a fully updated element list and tracking list, group by group,

as each review is completed. I fully expect that there will be some ranks that will need further adjustment, and hope that you will feel free to send in your comments as you see things that need additional work. This is a huge opportunity to have a complete review – which we can then tweak as needed. ♦

Species List Longer, from page 1

herbarium or at the University of Alberta Vascular Plant Herbarium's searchable database at:
<http://www.biology.museums.ualberta.ca/VascularPlantHerbarium.aspx>

or through the University of Alberta Natural Sciences portal:
<http://naturalscienceportal.museums.ualberta.ca/> ♦

ANPC Board Positions Up for Election in 2015

These board positions are up for election in 2015:

- President
- Secretary
- Southern Director

We are now accepting nominations.

If you are interested in joining the ANPC board, please send an email to Sandy McAndrews, ANPC Secretary, at s.mcandrews@shaw.ca or phone her at 403-874-3171. Include the position that you are interested in and your contact information.

This is the current slate of nominees for the board positions that are up for election:

- President – vacant
- Secretary – Sandy McAndrews (incumbent)
- Southern Director – Christina Metke (incumbent)

Voting will take place at the annual general meeting on Saturday, April 11, 2015, in Sundre, Alberta, at the Sundre Community Centre (96 - 2 Avenue NW).

The AGM is held in conjunction with the ANPC's annual workshop.

Workshop and AGM 2015

Exploring the World of Non-vascular Plants

April 11, 2015
Sundre Community Centre
96 - 2 Avenue NW
Sundre, AB

Early bird rates until March 27, 2015. For more information, check ANPC's website. Program, accommodation, and registration details will be posted as they are finalized. (www.anpc.ab.ca) ♦



Interview with Laurie Hamilton, our outgoing president

Why did you join the board of the Alberta Native Plant Council?

The ANPC is a strong organization with a vibrant community of active volunteers. The mandates of the ANPC are aligned with my personal beliefs – my desire for the conservation of biodiversity and native plants in Alberta. The ANPC is involved in a wide range of projects that I wanted to be involved with. I've never been bored volunteering with the ANPC.

What did you like best about the job?

The camaraderie – sharing my passion with other like-minded people. I felt like we were making a difference.

What was the hardest thing about the job? Or liked least?

Working with people who do not attend regularly, but who expect that their opinions should hold sway even after the board has made a decision.

How much time do you invest in this role?

I work about 10 hours per month to prepare for meetings, answer phone calls, respond to emails, and generally coordinate people. During my term as president, there were three board meetings per year, plus the AGM and workshop; however, the board has recently decided to change the timing of the meetings, so that they are more dispersed throughout the year and are shorter in duration.

What do you think you accomplished during your two-year term?

We decentralized our meetings by using conference calls, so we no longer have to drive to Red Deer, and we recently re-organized our meetings so that they are shorter (3 hours) and more often (once a month). We are implementing a more formal structure, with a pre-approved budget and up-dated bylaws. The info emails give more direct communication between the board and our members, and Project Outreach developed new displays and handouts to promote the ANPC. All positions on the board are filled and administration of ANPC has been maintained, which indicates an organization with continued momentum.

How would you describe the role of the president?

Primarily, I worked to balance the exciting new initiatives people proposed with the ongoing projects to which we were committed. I tried to balance the passions of individuals with the ANPC mandates and the support of the volunteers. I enjoy running a focused and time-sensitive meeting. I feel strongly that the president's role is not to run with their own vision, but to listen to the board members, to summarize their ideas and concerns, and to identify action items. ♦

Council Business & Kudos

ANPC Board Meetings: Moving to a monthly format

The ANPC executive recently voted to change the format of board meetings planned between now and our AGM in April. Meetings will now be held monthly, on the third Saturday of each month, starting at 9:30 a.m. for 2.5 to 3 hours.

If you think you might be interested in becoming more involved in ANPC, maybe as a committee volunteer or an elected board member, these meetings are an excellent way to learn more about our organization and to meet some fellow botanists. Join us in person or by phone. Meetings are a way to make friends with other plant folks, enjoy lunch, and do good things for the environment.

Please contact Sandy McAndrews at s.mcandrews@shaw.ca or Laurie Hamilton at laurie@zanshinenvironmental.com for more information. Committee volunteers and board members must be members of ANPC.

The 2015 dates for board meetings are:

- February 21
- March 21

ANPC Website Changes

Mark Mayner's time as our webmaster is coming to a close. Mark, to you, sincere thanks for all your help in keeping our website running. Good luck to you in whatever comes next!

As Carole Dodd takes over as webmaster, you'll see some changes to the website over the next few months. One is an option for online payments.

In early February, ANPC will implement an online payment option, through PayPal. You'll still be able to use Canada Post to submit fees and register for workshops, but you'll be able to pay for things online, as well. ♦

Thanks to . . .

Kristyn Houseman

Kristyn sat on the board as the Reclamation and Horticulture representative since 2012 and was instrumental in updating ANPC's native seed source list, building on the work of Chrissie Smith and June Flanagan. Many thanks to Kristyn for her input and participation at board meetings and other projects.

Mark Mayner

Mark has volunteered as ANPC's webmaster since 2012. He jumped into the vacant webmaster position and took it on with what seemed like no effort. Mark has been working with our new webmaster to ensure a seamless transition, and for that ANPC is grateful. Webmaster is an essential job for the organization, and Mark's contributions were very much appreciated.

Welcome to . . .

Carole Dodd

Carole has agreed to take over as the ANPC webmaster, and she has already familiarized herself with the website. Carole identified a need to convert it to using a new software to facilitate easier updates in future. Watch the website for additional webpages and a refreshed look as the transition progresses. ANPC welcomes Carole as our new webmaster.

Kristen Andersen

Kristen has agreed to take on the position of Education and Information Committee lead. She has already been very active in ANPC by taking on the stewardship of Whitehorse Wildland Park in 2014 and participating in the Central Alberta Rare Plant Study Group (Edmonton). ANPC looks forward to working with Kristen to develop this committee, and we welcome her energy and passion for native plants. ♦

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And many volunteer writers . . .

An e-flora for Alberta? Isn't it time?

Rationale for an e-flora of Alberta

Patsy Cotterill

Last winter I spent considerable time trolling the 'net, looking at nomenclatural databases and flora websites. This was largely to identify photos and specimens collected while travelling out of province the previous summer.

In doing this, my envy of the resources that several American states and regions and even other countries have developed grew, along with the wish to emulate these online floras, many with links to fascinating ancillary information. This desire was heightened by the knowledge that we still do not have a new edition of the *Flora of Alberta*, despite more than a decade of work. This flora, published in 1959 by Dr. Ezra Moss and updated, with distribution maps, by Dr. John Packer in 1983, provided Albertan botanists with a tremendous advantage. Over the years, however, as taxonomy and nomenclature have changed, the *Flora* has become outdated and this advantage has gradually been lost.

A print flora and an e-flora website fulfill different if somewhat overlapping mandates, and even with a modern print flora for the province, a website would be desirable. When I looked at e-flora BC online, conceived and operated by Dr. Brian Klinkenberg of UBC and his wife, Rose, my feeling was: *Why can't we have one, too?*

Some botanists have suggested that we don't need an online flora of our own; we can simply use the resources of other databases that cover our area. We have few if any endemics in Alberta, so most of our species are included in other floras. My rebuttal is that we need one for accessibility and convenience (all our information compiled in one place). It is why I would use a regional flora rather than a national or international one, and why, to identify

a local sedge, I would first open *Flora of Alberta*, before resorting to *Flora of North America*. With a digital flora I could do the digital equivalent of both.

An element of pride is also involved: a database of our own is our way of showing off to the world our botanical diversity in Alberta, and that we are proud and passionate about it. Our database could also include much more local knowledge than we would ever find in one covering a much larger geographic area. Alberta's current botanical presence online is woefully inadequate, scattered and user-unfriendly: for example, try Googling "Alberta's vegetation" and see what you get.

Vision statement for an e-flora

The mission statement of the website Calflora, to my mind, covers all bases of what an e-flora database should or would do:

"The Calflora Database is a nonprofit organization dedicated to providing information about California plant biodiversity for use in Education, Research and Conservation. Calflora is structured as a digital library to fulfill the following objectives:

1. To serve as a repository for information on California wild plants in electronic formats from diverse sources, including public agencies, academic institutions, private organizations, and individuals.
2. To provide this information in readily usable, electronic formats for scientific, conservation, and educational purposes.
3. To serve public information needs related to scientific study, land management, environmental

analysis, education, and appreciation of California plant life.

4. To coordinate and integrate efforts towards these objectives undertaken by scientists, public agencies, private organizations, and members of the public.

Calflora was conceived as a collaborative research project to collect and re-distribute information about California's wild plants, including habitat descriptions, photographs, observations, nomenclature, and distribution maps. . . . Calflora serves a large and increasing number of users, including researchers, scientists, students, environmental consultants, landscapers, and amateur enthusiasts."

Substitute "Alberta" for "California" and "Alflora" for "Calflora," and we have our rationale for developing an e-flora for Alberta. Let me stress the importance of objectives 3 and 4. I believe that a significant role of the flora will be to reach out to and educate the general and student publics, as well as the practitioners of botany, the consultants and land managers, teaching and providing them tools for their work. Alberta's population is expanding rapidly, and with it development and activity, providing an ever larger audience (market) for botanical information, and the need for an informed public who understands and appreciates the value of our natural ecosystems and biota, and who will advocate for their conservation.

Cataloguing and monitoring will be a huge component of botanical operations as the government moves forward with regional plans for the province; indeed our botany database should be linked to a much larger biodiversity website. A digital flora will also serve to train the botanists we need for this work.

See *E-flora Rationale*, page 9

E-flora Rationale, from page 8

We need citizen scientists and more dedicated “parataxonomists” collecting and identifying plants under the guidance of professionals. Most people rely on popular plant guides for identification and information rather than the *Flora of Alberta*. An e-flora would combine the functions of both.

The ANPC’s role in producing and maintaining such a database, if any, has yet to be defined. However, in my opinion it should be a significant one, as a database fulfills the ANPC’s objectives of education, appreciation and conservation of Alberta’s flora.

Databases and their components

The various databases I checked exhibit considerable variety in the way they present information, and some variety in the types of information they include, such that one gets the urge to “mix and match,” picking the best features from each of them. I prefer to have much of my species description on a single page, for example, rather than having to click on sub-pages to assemble it all, and I’m a big fan of ecological information. I loved the way that Calflora has checklists for numerous publicly accessible locations, which of course link to their species pages. I spent some time playing with both the pictorial and dichotomous keys of GoBotany, which covers the New England states and puts emphasis on being popularly accessible. I liked the comparison charts for species in multi-specific genera included along with dichotomous keys in NOPD, an e-flora of northern Ontario in the early stages of development, and I like the way the e-flora BC encourages readers to learn plant families and to contribute locations and photographs to their database.

Example of a database

- Home page
 - Contents
 - About us
- Search
 - Family
 - Genus

- Species
- Common name
- Species descriptions (species pages, taxon reports)
 - Text
 - Distribution maps
 - Photos
 - Links to other databases and print floras
 - Identification such as simple illustrations, keys or concordance tables
- Checklists
- Glossary
- References
- How to contribute
 - Photos
 - Donations
 - Locations
- Website developer and host

All databases cover vascular plants but some also provide access to bryophyte and lichen databases, and no doubt all websites aspire to include everything that is popularly considered to be a plant. We have bryophyte and lichen experts in Alberta and should definitely include them.

Listed below are some of the websites I have looked at to date. No doubt there are many more, and I look forward to another winter of digital surfing.

What has the ANPC done so far?

In response to a call for volunteers following AGM 2014 in Drumheller in April a number of people came forward to form an ad hoc committee. The ANPC board requested that the committee develop a proposal for ratification. (We are still open to more volunteers, so contact me at nutmeg@planet.eon.net if you wish to be involved or to share ideas and information.) Since most volunteers are in Calgary and Edmonton, we will host locations there and connect via conference calls.

The first step may be to choose a database – and fill it. Although our botanists may be willing to volunteer their time and expertise to provide content, we will need to obtain grants

to pay for professional advice from database managers, programmers and IT personnel. An e-flora – like a print flora – will be a multi-year initiative, akin to building a large house, which will then require continuous maintenance. To make progress we will have to work on several projects at the same time, ensuring that they dovetail and are consistent with each other. An e-flora for Alberta is admittedly a daunting enterprise, but I perceive a huge need that we must respond to. The sooner we start, the better!

**I want to gratefully acknowledge the time Rose Klinkenberg of e-flora BC spent with me this spring, explaining via email how their excellent e-flora was set up and operates.

E-floras, plant atlases, and e-herbaria

Want some winter field trips? Here are some websites to have fun wandering through on dark winter nights. Let me know of any features you particularly like and of any other websites you endorse.

Alabama Plant Atlas (Check out “About the Atlas”)

<http://www.floraofalabama.org/>
Calflora

<http://www.Calflora.org>
Canadensys-Vascan

<http://data.canadensys.net/vascan/search>

e-Flora BC: Electronic atlas of the flora of BC

<http://www.geog.ubc.ca/biodiversity/eflora/>

Flora Ontario Integrated Botanical Information System (FOIBIS)

<http://www.uoguelph.ca/foibis/>
GoBotany

<https://gobotany.newenglandwild.org/>
Michigan Flora Online

<http://michiganflora.net>

Northern Ontario Plant Database (NOPD)

<http://www.northernontarioflora.ca/>
University of Alberta Vascular Plant Herbarium

<http://vascularplant.museums.ualberta.ca>

See **E-flora Rationale**, page 14

Common Coulee Plants of Southern Alberta

Review by Christina Metke



John Bain, June Flanagan and Job Kuijt.
2014. *Common Coulee Plants of Southern Alberta*, Second Edition (2014). University of Lethbridge Herbarium. 154pp.

Coulees and plants, together? That sounds like just my kind of book. I jumped at the opportunity to review it for *Iris* as soon as I heard the title.

The first edition of *Common Coulee Plants of Southern Alberta* was published by Job Kuijt in 1972. The book was recently updated and revised by John Bain and June Flanagan, and the second edition was released in digital form by the University of Lethbridge in 2014. The book is available electronically (PDF or EPUB) at no charge at: <https://www.uleth.ca/dspace/handle/10133/3376>. EPUB format usage notes are included in the authors' Preface to the Second Edition.

Updated nomenclature and colour photographs supplement the original text and line drawings. The book thus retains its original intent, ease of use and often charmingly old-fashioned plant descriptions (*Cryptantha celosioides*, for instance, is described as “a strikingly handsome plant” with a “very sweet perfume”), yet improves upon its functionality and content. Bain and Flanagan indicate that their photographs were intentionally composed to complement Kuijt's line drawings; this thoughtful approach has resulted in a mix of benefits and possible drawbacks. On one hand, the appearance, growth form and scale of smaller plants in particular are beautifully captured. Unfortunately, the overall shape and habit of larger plants (trees, shrubs and even some herbs) are not well illustrated. Many species in the book could have benefited from the inclusion of an additional photograph or two that better demonstrate what the species looks like as a whole.

The authors included both the species nomenclature presented in the original work and current nomenclature, as well as some interim species names; this is both interesting and handy, as it allows one the ability to date oneself by way of one's preferred terminology. (For example, I am not quite of the *Ceratoides lanata* era—I learned *Eurotia lanata*—yet I still instinctively chafe at the unwieldy *Krascheninnikovia lanata*. Take from that revelation what you will.) As a rare plant enthusiast, I would have also appreciated the inclusion of some notes on plant rarity, where applicable, in the revised edition.

As is the case with most “picture books” on plants, *Common Coulee Plants of Southern Alberta* is not intended as an exhaustive botanical key or flora. Therefore, while it doesn't include what more advanced users might consider to be key identifying features or useful botanical information, the intent of the book—to provide a simple, useful tool for assisting naturalists in identifying local plants—is still achieved.

Overall, the second edition of *Common Coulee Plants of Southern Alberta* is a lovely little publication, full of interesting information on coulee habitats and plants, clear illustrations, and approachable and engaging plant descriptions. I have already recommended the book to others (from folks who have expressed a nascent interest in plants that I am enthusiastically attempting to cultivate, to professional biologists), and I don't hesitate to recommend it to any *Iris* readers who enjoy an informed stroll in southern Alberta's beautiful coulee habitats, as well.

Christina Metke is a biologist, mom and blogger. She likes plants, long walks on the prairie and products with high SPF. ♦

Beaver Hills UNESCO Biosphere Nomination

The Beaver Hills region, also known as the Cooking Lake Moraine, is a unique geographical area: an island of boreal forest and wetlands surrounded by aspen parkland. It is home to a huge diversity of animal and plant life as well as Elk Island National Park, Cooking Lake-Blackfoot Provincial Recreation Area, Ministik Bird Sanctuary, Miquelon Lake Provincial Park, and a number of smaller provincial natural areas.

The Beaver Hills Initiative (BHI) is nominating the Beaver Hills region for a UNESCO Biosphere designation. The BHI is a group of more than 30 volunteer organizations who are working together to ensure we continue to maintain a balance between environmental sustainability and economic prosperity. To support the Biosphere nomination, go to www.beaverhills.ca and click on the link that says “Biosphere Nomination.” The deadline is March 2015. ♦



Marisha Hayward

Puzzling Pairs: *Potentilla finitima* & *Potentilla pensylvanica*

C. Dana Bush

Ah, the joys and frustration of taxonomy. I found what I thought to be sandhills cinquefoil (*Potentilla finitima* Kohl & Packer), a globally rare species (S1 (G2G3Q)), in sandy soils north of the Canadian Forces Base Suffield. I have always struggled to differentiate this from the very similar prairie cinquefoil (*Potentilla pensylvanica* L.), a common prairie species across the Canadian prairies (S5), or even *P. bipinnatifida* Dougl. ex Hook, so I took this opportunity to parse out the taxonomy and identification.

It turns out that the taxonomy has changed and is not yet firmly settled. The *Flora of Alberta* and the Alberta Conservation Information Monitoring System (ACIMS) use *P. finitima*, and will continue to do so until the *Flora of North America* publishes the Rosaceae volume or it is dealt with in a new version of the *Flora of Alberta* (L. Allen, pers. comm.). Other sources list it as a synonym of *P. bipinnatifida* (NatureServe) (L. Allen, pers. comm.), *P. lasiodonta* Rydb. (ITIS, BONAP, VASCAN), and *P. lasiodonta* included within *P. pensylvanica* (Scoggan). The Database of Vascular Plants of Canada (VASCAN) says that "*Potentilla lasiodonta* Rydberg is an accepted species name sensu FNA Ed. Comm., in prep." Jane Lancaster reports that Dr. Packer identified her specimens as *P. lasiodonta*. The three species have distinct chromosome counts: *P. lasiodonta* (*finitima*) $2n = 14$, *P. pensylvanica* $2n = 28$, and *P. bipinnatifida* $2n = 56$ (Kohl and Packer, 1975). So the most current work indicates that it is a distinct species and the accepted name is *Potentilla lasiodonta* Rydberg.

This doesn't, however, help identify the species. A trip to the U of C Herbarium revealed that Beryl Hallworth (a former assistant curator and collector) collected a number of specimens from the University prairie directly behind her house (now the site of the Children's Hospital). Her specimens have distinctly reticulate veins in the

leaves — much different from *P. pensylvanica*. The bractlets were inconsistent within the flower heads, although all the *P. lasiodonta* (*P. finitima*) had some bractlets that were distinctly longer than the sepals.

Potentilla lasiodonta is often found on stabilized sand dunes or extremely dry sandy soils (as its common name suggests), but I have found *P. pensylvanica* in similar sites. *P. lasiodonta* only occurs in southern parts of Manitoba, Saskatchewan, Alberta, North Dakota, and Minnesota. Both plants can be infected by a rust that noticeably thickens the stems, although *P. lasiodonta* is almost always infected, while prairie cinquefoil is often free of it.

Here is a key adapted from the *Flora of the Great Plains* and the *Flora of Alberta* that reflects what I see. If any of you botanists disagree, please write or call and perhaps we can come up with something better.

Upper leaflet surface conspicuously reticulate-veined; some bractlets of calyx much longer than sepals; petals 3-5 mm long ($2n = 14$)

P. lasiodonta Rydberg
(synonym = *P. finitima* Kohli & Parker) = sandhills cinquefoil

Upper surface of leaflets often obscurely veined; bractlets of calyx about as long as sepals; petals 4-6 mm long ($2n = 28$)

P. pensylvanica L. = prairie cinquefoil



Sandhills cinquefoil
Potentilla lasiodonta Rydberg.

Prairie cinquefoil
Potentilla pensylvanica L.

Illustration © C. Dana Bush

Sources:

ACIMS: Alberta Conservation Information Management System. June 2013. List of Tracked and Watched Elements. Available at: <http://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-%28acims%29.aspx>.

Allen, Lorna. November 2013 pers. comm. Alberta Conservation Information Management System, Alberta Tourism, Parks and Recreation, Edmonton, AB.

BONAP's Taxonomic Data Center (TDC): North American Vascular Flora. 2013. The Biota of North America Program. Available at: bonap.net/tdc.

Database of Vascular Plants of Canada (VASCAN). Canadensys.data.candensys.net/vascan/search.

ITIS: Integrated Taxonomic Information System. Available at: www.itis.gov.

Kershaw, Linda J., Joyce Gould, Derek Johnson, and Jane Lancaster. 2001. Rare Vascular Plants of Alberta. Edmonton, AB: University of Alberta Press and The Alberta Native Plant Council.

See **Puzzling Pairs**, page 14

LEA – The University of Lethbridge Herbarium

John Bain, Emeritus Professor of Botany and Director, U. of L. Herbarium

When Job Kuijt began, in 1968, to assemble specimens and build a herbarium at the University of Lethbridge, his first action was to contact his botanical colleagues across North America to establish exchange programs that would allow the collection to include taxa from across the continent rather than just southern Alberta species. The botanical community responded generously, and soon the herbarium became established, serving primarily as a teaching resource for the field botany class that Kuijt taught most summers. In turn, the student collections generated in that course provided ample exchange material, and the herbarium continued to grow.

By the late 1970s, Kuijt's Flora of Waterton Lakes National Park project was well underway, and the thousands of voucher specimens collected in conjunction with that effort found their way into the herbarium, making the collection an extraordinary resource for anyone interested in the flora of southern Alberta.

Throughout this time Kuijt continued his world-renowned research on mistletoes and amassed a collection of this group that reflected their global biodiversity. When he retired from the U. of L. in 1989, the mistletoe collection was moved to the University of

Victoria, where he would continue his research on them, and since then to the herbarium at Berkeley.

Since 1989, the herbarium has continued in its role as a teaching and research tool for those interested in the plants of southern Alberta. Most recently, in collaboration with the U. of L. Library, we have digitized the collection, making it freely available online¹ for anyone to use. The digitized collection includes over 21,000 high resolution photos of vascular plants, complete with label data, and has been included in larger aggregate collections such as the Consortium of Pacific Northwest Herbaria², Canadensys³, and the Global Biodiversity Information Facility (GBIF)⁴. Our long association and collaboration with Waterton Lakes National Park has further resulted in the digitization and publication of their collection as well as collaborations with other Rocky Mountain national parks who have small herbaria that would benefit from this work.

These projects have in turn inspired the digitization of other "classic" botanical resources pertinent to southern Alberta. The recent publication of a second edition, digital version of Kuijt's *Common Coulee Plants of Southern Alberta* reflects our continuing collaboration with the University library, as the book is a free download from their site⁵. In future we hope to also release a digital, updated version of the *Flora of Waterton Lakes National Park*.

Visitors are always welcome at the U. of L. herbarium, either in person (C-470, University Hall) or online (<http://scholar.ulethbridge.ca/bain/>).

Endnotes

Websites for more information:

1. <http://digitallibrary.uleth.ca/cdm/landingpage/collection/herbarium>

See *Herbarium*, page 14

Powderface Willow

Ken Wright

Reprinted with permission from *Calgary Gardening*, the newsletter of the Calgary Horticultural Society

Powderface willow (*Salix commutata* 'Powderface') is a problem solver plant – one that can grow in very dry, full sun locations with ease. There are no sites too windy, too hot, and too dry for this alpine selection. Powderface is truly low maintenance; the upright habit gives the shrub an interesting, well-kept appearance.



Ken Wright

Powderface willow is 1 m high and 0.5 m wide with long, narrow, willow-like silvery grey leaves. The surface of the leaf is very hairy, giving it a soft, fuzzy appearance. In winter, the stems also have the soft matted hairs and the same soft look and feel. This plant was selected at Bow Point Nursery from seedlings grown from a mother plant up the Powderface Trail west of Calgary. Powderface's mom is growing in a wide, rocky, wind-swept valley by upper Canyon Creek. The alpine eco-region is a desert with short growing seasons, long cold winters and intense sunshine in the summer. This gives the plant the genetics to survive and thrive in the Calgary area.

See *Powderface Willow*, page 13

John Bain



Collecting plants at Josephine County in Oregon.

Powderface Willow, from page 12

The silver grey leaves give the plant a place in the landscape as an accent plant, either as a single specimen plant interspersed through a landscape, or as a short hedge. When used as a short hedge, Powderface willow maintains an optimum height without pruning; its consistent height and shape make for an ideal, unique, and showy hedge.

Powderface willow does require a hot, dry, full sun location. It will not perform well in wet areas, shade areas, or beds with irrigation. If it does not perform to expectations, please stop watering.

The fall colour is hard to describe; sometimes it looks pink, sometimes purple, and sometimes that strange colour that may be mauve. The leaves hang on to the shrub well into fall and early winter, sometimes changing shades as the days shorten and the nights get cooler and longer.

It works well for screening the electric box in the front yard, accent for address stones, and that narrow mystery strip between urban driveways. It can handle snow load and the salt associated with city streets.

It is a perfect substitute for silverberry (wolf willow) where there is a desire for the silver leaves without the spreading, take-over attitude. This plant does not sucker and could be described as tidy.

It does seem resistant to willow borers as long as it is grown in a full sun, dry site.

Ken and Pamela Wright own Bow Point Nursery, west of Calgary. They specialize in growing native woody plants of Southern Alberta. www.bowpointnursery.com ♦

Tongue-tied, from page 13 (right)

Charters, Michael L. N.D. *California Plant Names: Latin and Greek Meanings and Derivations, A Dictionary of Botanical and Biographical Etymology*. Webpage: Calflora. URL: <http://www.calflora.net/botanicalnames/> ♦

Tongue-tied in Latin: F to L

C. Dana Bush

Here are the pronunciation guides for F to L. The surprises this time are the G's, which are always hard (ge-*ră*-nee-um for geranium), and J, which is pronounced with a y (yung-kus for Juncus). Coincidentally, Christina Metke's book review on page 10 mentions *Krascheninnikovia lanata*, which spurred me to parse out that pronunciation. The only tip I could find (Charters n.d.) was that the s and ch are both pronounced and ko is accented, hence Kras-chen-inn-i-ko-v-i-a.

Vowels

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

F

Festuca	fes-too-ka (alpine = äl- <i>peen</i> -a)
Frageria	fra- <i>gah</i> -ree-a
Fraxinus	fraks-i-nus

G

Gaillardia	gay-lard-ee-a
Galium	gă-lee-um
Gaultheria	gawl-the-ree-a
Gentiana	gen-tee-ah-na
Geranium	ge- <i>ră</i> -nee-um
Geum	gay-um
Glechoma	glay-kō-ma
Glyceria	gli-se-ree-a
Goodyera	gud-yer-ra
Grindelia	grin-del-ee-a
Gymnocarpium	gim-nō-kar-pee-um
Gypsophila	gip-sof-i-la

H

Hedysarum	hay-dis-a-rum
Helenium	he-le-nee-um
Helianthus	hay-lee- <i>ānth</i> -us
Helicotrichon	he-lik-to- <i>tri</i> -kon
Helleborus	he-le-bor-rus
Heracleum	hay-ra- <i>klee</i> -um
Heuchera	hoy-ka-ra
Hieracium	hee-e- <i>rah</i> -kee-um
Hippuris	hi- <i>pewr</i> -ris
Holboellia	hol-burl-ee-a (as in Arabis holboellii)
Hordeum	hor-dee-um

I

Impatiens	im- <i>păt</i> -ee-enz
Iris	ee-ris

Consonants

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

J

Juncus	yung-kus (effuses = e- <i>few</i> -sus)
Juniperus	you- <i>ni</i> -pe-rus

K

Kalmia	kăl-mee-a
Kohleria	kō-le-ree-a
Krascheninnikovia	Kras-chen-inn-i-ko- v-i-a

L

Lactuca	lăk-too-ka
Lamium	lă-mee-um
Larix	lă-riks
Lathyrus	lă-thi-rus
Ledum	lay-dum
Lewisia	loo-is-ee-a (as in Linum lewisii)
Leymus	ley-mus
Liatris	lee- <i>aht</i> -ris
Lilium	lee-lee-um
Linanthus	leen- <i>ānth</i> -us
Linaria	leen-ah-ree-a
Linum	leen-um
Lobelia	lō-bel-ee-a
Loiseleuria	lwū-ze-lur-ree-a
Lonicera	lon-i-se-ra
Lupinus	lu- <i>peen</i> -us
Luzula	luz-ew-la
Lysimachia	li-si- <i>măk</i> -ee-a
Lythrum	lith-rum

References:

Coombes, Allen J. 1985. *Dictionary of Plant Names: Botanical Names and Their Common Name Equivalents*. Timber Press, Portland, Oregon.

See **Tongue-tied**, page 13 (left)

News and Events

E-flora Rationale, from page 9

University of Athabasca Herbarium
<http://digiport.athabascau.ca/herbarium/>
University of Lethbridge Herbarium
<http://digitallibrary.uleth.ca/cdm/landingpage/collection/herbarium>
UWisconsin Robert W. Freckmann Herbarium
<http://wisplants.uwsp.edu>

Some public-friendly information on Alberta vegetation and species can be obtained from:

http://en.wikipedia.org/wiki/Category:Flora_of_Alberta
but none of the references given for these "55 pages" of information are of Alberta literature. Can anyone enlighten me?

For the Alberta Conservation Information Management Systems (ACIMS) list of species, Google ACIMS Alberta, go to Tracking & Watch Lists, go to List of All Elements and also List of Tracked and Watched Elements, etc. Note that this list follows NatureServe taxonomy and nomenclature, not consistent with Canadensys-Vascan. ♦

Puzzling Pairs, from page 11

Lancaster, Jane. November 2013 pers. comm. Kestrel Research, Cochrane AB.

Moss, E. H. 1983. Flora of Alberta, Second Edition Revised by John G. Packer. University of Toronto Press.

NatureServe Explorer. NatureServe Canada. Available at: www.natureserve-canada.ca.

Kohli, B. and John G. Packer. 1975. A Contribution to the Taxonomy of the *Potentilla pensylvanica* complex in North America. *Can. J. Bot.* 54: 706-719.

Scoggan, Homer J. 1978. The Flora of Canada: Volumes 1-4. National Museums of Canada.

The Great Plains Flora Association. 1986. Flora of the Great Plains. Edited by Ronald L. McGregor and T. M. Barkley. 1st Edition. University Press of Kansas. ♦

Herbarium, from page 12

1. <http://www.pnwherberia.org/>
2. <http://data.canadensys.net/explorer/en/search>
3. <http://www.gbif.org/>
4. <https://www.uleth.ca/dspace/handle/10133/3376> ♦

Botany Alberta 2015

Last year's attendees identified the Porcupine Hills of SW Alberta as an ideal location for Botany AB 2015. Is this a region that you'd like to visit with other plant geeks? Or do you have a natural area to suggest for Botany AB's 2015 weekend?

If you'd like to be involved in Botany AB at Porcupine Hills or have another great suggestion, please email info@anpc.ab.ca with BOTANY AB in the subject line. Ideally, the area will have a group campground and enough interesting vegetation to occupy two days of field activities.

Project Outreach display booth volunteers needed

If you like meeting people and talking plant talk, you may be interested in attending events representing ANPC at a booth display in your local area. We are developing a list of interested ANPC members to call on as display booth volunteers. For more information, please contact Jacqueline at mjredburn@hotmail.com.

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.

Copyright remains with the authors except where noted. Permission to reprint is generally granted, but please contact the editors for details.

Submission deadline for the next issue:

October 1, 2015

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

Rare Plant Study Groups

There are four rare plant ecology study groups associated with ANPC. Three meet throughout the year, indoors through the fall and winter and outdoors through the spring and summer. Beginning in October or November and running through until April, the following groups generally meet monthly. Group participants nurture their interest in and expand their knowledge of Alberta's native plants and communities and local ecology. **Please contact facilitators for details and to confirm attendance.**

Central Alberta Rare Plant Study Group (Edmonton)

Location: University of Alberta Herbarium, B-613 (botany wing), Biological Sciences Building (east end), Saskatchewan Drive, Edmonton. Date: Last Wednesday of the month; October to April inclusive. Time: 6:30 to 8:30 p.m. Facilitator: Varina Crisfield (vcrisfield@gmail.com).

Southern Alberta Rare Plant Study Group (Calgary)

Location: University of Calgary Herbarium, Biological Sciences Basement. Date: First Saturday of the month; October to April inclusive. Time: noon to 4:00 p.m. Facilitator: Heide Blakely (enzian44@shaw.ca).

Medicine Hat Rare Plant Study Group

Location: Medicine Hat College Herbarium (L155). Date: Third Saturday of the month (except February) from noon to 3:00 p.m. Facilitator: Cathy Linowski (clinowski@memlane.com).

Northern Plant and Ecology Study Group (NPESG)

This is a field-based study group, active through the growing season and into early autumn. Contact Marsha Hayward for more information (wildloonart@telus.net).



ALBERTA
Native Plant
COUNCIL



28th Workshop and Annual General Meeting Exploring the World of Non-vascular Plants

Saturday, April 11, 2015

Sundre Community Centre, Sundre, Alberta

Please watch our ANPC website for the announcement of the speakers
at this year's workshop: www.anpc.ab.ca

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. Consider a position on the Executive, or volunteer for committee work.



We have not secured a block of hotel rooms for the delegates but accommodations are available at the following:

[BEST WESTERN PLUS Mountainview Inn & Suites](#)

[Chinook Country Inn](#)

[Parkwood Motor Inn](#)

[Deer Valley Bed & Breakfast](#)

Other accommodations are available in the city of Olds, about 40 km to the east of Sundre



**28th Workshop and Annual
General Meeting**
Exploring the World of Non-vascular Plants

Saturday, April 11, 2015 Sundre, 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:

2015 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/2015 workshop](http://www.anpc.ab.ca/2015%20workshop)



REGISTRATION FORM: (Please print)

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

WORKSHOP FEES:

<input checked="" type="checkbox"/> Applicable Box	Early Bird Rate until Friday, March 27, 2015	Regular Rate after Friday, March 27, 2015
ANPC members	<input type="checkbox"/> \$75	<input type="checkbox"/> \$90
Non-members	<input type="checkbox"/> \$90	<input type="checkbox"/> \$105
Students	<input type="checkbox"/> \$35	<input type="checkbox"/> \$45
Seniors	<input type="checkbox"/> \$50	<input type="checkbox"/> \$65

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

ANPC MEMBERSHIP FEES:

<input checked="" type="checkbox"/> Applicable Box	
Individual	<input type="checkbox"/> \$25
Family	<input type="checkbox"/> \$45
Senior	<input type="checkbox"/> \$10
Student	<input type="checkbox"/> \$10
Corporate	<input type="checkbox"/> \$100
Lifetime	<input type="checkbox"/> \$500

Total Enclosed

\$ _____

