Iris

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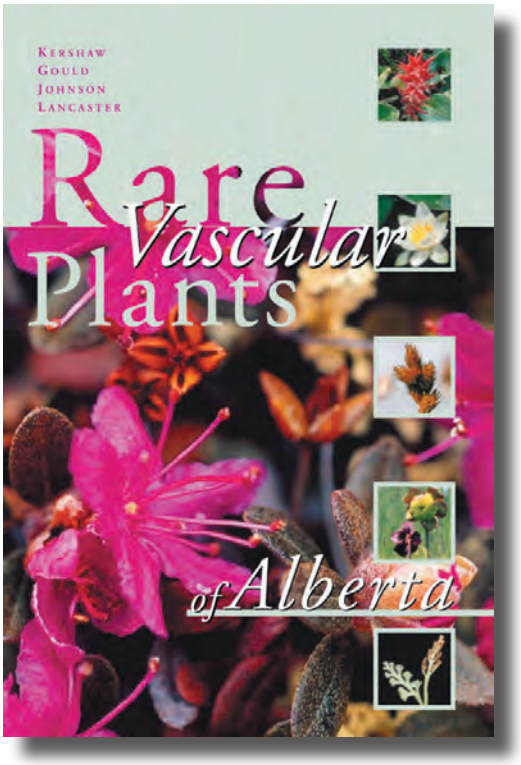
The Alberta Native Plant Council Newsletter

Revisiting ANPC's Rare Plants Book

by Linda Kershaw



When *Rare Vascular Plants of Alberta* was finally published in 2001, it was the culmination of 10 years of work involving many dedicated volunteers. From conception to completion, the book was a collaborative effort, with more than 100 individuals and organizations involved. In the following paragraphs, I have purposely left out individual names and funding agencies, because there are just too many. If you want more details, check out the preface in the book.

When you look at most species treatments in *Rare Vascular Plants of Alberta*, you will see that each consists of five main components: a block of text (name, description, and notes); a photo; a line drawing; an Alberta distribution map; a North America distribution map.

Text – Although the four editors compiled, organized, and edited the information, there were also more than 30 additional Alberta botanists who contributed species accounts and other text (you can see their smiling faces on page 483 of the book). Alberta Environment staff (first through the Recreation and Protected Areas Program and later through the Alberta Natural Heritage Information Centre [ANHIC]) was key to the project, from generating the initial species list to sorting out taxonomic problems and providing a wide range of information. Also, several distinguished botanists from outside the ANPC generously donated hours of time to review the completed text.

Photo – Thirty-seven photographers generously donated photos for the book, and most gave the ANPC permission to duplicate their images for use in educational material.

Line drawing – Illustrations came from a variety of sources, including an ANHIC collection of commissioned drawings and a variety of previously published works (most notably the five-volume *Flora of the Pacific Northwest* published by the University of Washington Press). The ANPC even commissioned some original drawings to fill the last remaining gaps.

Alberta distribution map – The detailed Alberta dot maps were provided by ANHIC during the last days of production. These were generated electronically using the ANHIC/ACIMS (Alberta Conservation Information Management System) database.

North America distribution map – The Biota of North America Program (BONAP) at the University of North Carolina kindly provided North

*See **Rare Plants Book**, page 2*

In this Issue . . .

***Rare Plants Book,** from page 1*

America distribution maps. Mapping projects are a huge undertaking, much too complex for a volunteer organization like ANPC to tackle, so generous donations from ANHIC and BONAP were very important to the book.

Something that you might not notice at first glance is the overall design of the book. When all of the components were finally compiled, the University of Alberta Press (UAP) and Canadian Forest Service took on the task of joint publication. Staff at the UAP designed the cover and the page layout and proceeded to insert all of the bits and pieces into the appropriate slots—a major undertaking with 415 photos, 480 drawings and >800 maps to place, plus hundreds of pages of text. At last, all of the information and illustrations began to form a real book. As production neared completion, 15 additional rare species were identified for inclusion, and these were added as an addendum to bring the book truly up-to-date.

And so, in 2001, the *Rare Vascular Plants of Alberta* finally hit the shelves and was welcomed with open arms and rave reviews. In 2002, it was awarded the Scholarly Book of the Year at the Alberta Book Awards and it also received the Canadian Forest Service Merit Award.

But the ANPC's work was not yet done. One of the major reasons for producing the book was to spread the word about Alberta's rare plants to non-botanists. To this end, we applied for and received a grant to purchase and distribute copies of the *Rare Vascular Plants of Alberta* to every municipal, university, college, and senior high school library in Alberta. Generating mailing labels for all of the libraries was surprisingly time-consuming, but eventually over 700 books were sent out, and the ANPC received a flood of thank-you notes from pleased librarians.

Another objective of the book was to help botanists and other plant enthusiasts identify and report the locations of rare plants, so that the ANHIC/ACIMS database could more accurately reflect the distribution and status of these species. We like to think that the *Rare Vascular Plants of Alberta* has been instrumental in achieving this goal over the past 11 years. Of the original 484 rare species in the book, 68 (13%) are no longer included in the ACIMS tracking/watch list. Some of these have been removed because of taxonomic confusion or lack of information, but most (48 or 10% of the original 484) are now considered too common or widespread to be classified as rare. Similarly, an additional 30 species (6% of the 484) have been moved from the tracking list to the watch list, because they are now known to be more widespread than they appeared in 2001.

Northern fringed gentian
Gentianopsis detonsa* ssp. *raupii
S1
Photo L. Kershaw

You would think that this would result in a substantially shorter tracking list for the province. But Alberta botanists are a busy bunch. Each year they find new and therefore rare species to report. Of the 442 species on the May 2012 tracking list, 54 species do not appear in *Rare Vascular Plants of Alberta* and of these, 35 also do not appear in the *Flora of Alberta*. The ANPC is trying to fill this information gap. Accounts have been completed for 18 of these new species, and the treatments can be found in the publications section of www.anpc.ab.ca. Of course, work continues on the remaining species. If you have good photos of any of the new species that you would be willing to share, please let us know.

That brings us up to the present. There are only a few books remaining in print, and there are lots of changes to be made, so this would seem to be a good time for a revision. We hope to meet with the publishers soon to discuss possibilities. Maybe an electronic version would be the way to go this time. We will let you know!

*See **Rare Plants Book**, page 3*

Rare Plants Book, *from page 2*

Species in *Rare Vascular Plants of Alberta* No Longer on the Tracking List or Watch List

Species	2000 SRank	2012 SRank	Pg #
Populus angustifolia	S3	S3	10
Oplopanax horridus	S3	S3	19
Vaccinium uliginosum	S2	S3	23
Potamogeton natans	S2	S3	32
Potamogeton praelongus	S2	S3	35
Malaxis monophylla	S2	S3	54
Eriogonum ovalifolium	S3	S3	60
Chenopodium leptophyllum	SU	SNR	66
Ranunculus gelidus	S3	S3	87
Aquilegia formosa	S2	S3	90
Draba fladnizensis	S1	SNA	95
Draba kananaskis	S1	SNA	96
Draba glabella	S1	SNA	98
Barbarea orthoceras	S2	S3	102
Erysimum pallasii	S3	S3	106
Cardamine bellidifolia	S2	S3	108
Cardamine umbellata	S2	S3	109
Drosera anglica	S3	S3	111
Sarracenia purpurea	S2	S3	113
Saxifraga nelsoniana	S2	S3	117
Parnassia parviflora	S2	SNR	125
Astragalus lotiflorus	S2	S3	133
Oxytropis jordalii	SRF	SNA	136
Psoralea argophylla	S3	S3	137
Lupinus lepidus	SRF	SNA	140
Epilobium oreganum	SRF	SNA	155
Epilobium mirabile	?	SNR	156
Pterospora andromedea	S3	S3	166
Primula stricta	S1	SNA	167
Asclepias ovalifolia	S3	S3	176
Veronica serpyllifolia	S3	S3	193
Pedicularis lanata	S2	S3	201
Castilleja lutescens	S2S3	S3	202-3
Orobanche ludoviciana	S2	S3	205
Orobanche uniflora	S2	S3	205

See ***Rare Plants Book****, page 4*

Rare Plants Book, *from page 3*

Species in *Rare Vascular Plants of Alberta* No Longer on the Tracking List or Watch List (cont'd)

Species	2000 SRank	2012 SRank	Pg #
Machaeranthera tanacetifolia	SX	SX	220
Psilocarphus elatior	S2	SNA	229
Antennaria monocephala	S2	SNR	231
Coreopsis tinctoria	S2	S3	235
Hieracium cynoglossoides	S2S3	S3	253
Juncus filiformis	S2S3	S3	259
Juncus confusus	S2S3	S3	260
Eriophorum scheuchzeri	S3	S3	271
Carex haydeniana	S3	S3	281
Carex loliacea	S3	S3	287
Carex trisperma	S3	S3	288
Carex tonsa var. tonsa	S3	S3	291
Carex backii	SU	S3	292
Carex petricosa	S2	S3	294
Carex raynoldsii	S3	S3S4	295
Carex houghtoniana	S2	S3S4	303
Carex pseudocyperus	S2	S3	305
Carex pauciflora	S3	S3	307
Carex rostrata	S2	S3	308
Carex retrorsa	S2	S3	309
Agrostis thurberiana	S2	SNA	320
Danthonia californica	S3	S3	326
Danthonia unispicata	S3	S3	326
Poa nervosa	S3	S3	332
Poa leptocoma	S3	S3	333
Elymus elymoides	S3	S3	343
Elymus virginicus	S1	SNR	345
Huperzia haleakalae	S2	SU	350
Huperzia selago	S1	SU	350
Botrychium minganense	S2S3	SU	354
Polypodium virginianum	S2?	SNR	370
Botrychium boreale	S1	SNA	376
Hydrophyllum capitatum	S2S3	S3	383

Yellow monkeyflower
Mimulus guttatus
S2S3
Photo L. Kershaw

White water-lily
Nymphaea tetragona
S1
Photo L. Kershaw

See ***Rare Plants Book,*** *page 5*

Rare Plants Book, *from page 4*

Species in *Rare Vascular Plants of Alberta* Now on the Watch List Rather Than the Tracking List

Species Name In Book	2000 SRank	2012 SRank	Pg #
Polygonum polygaloides	S2	S3	63
Coptis trifolia	S3	S3	85
Ranunculus occidentalis var. brevistylis	S2	S3	86
Ranunculus uncinatus	S2	S3	87
Parietaria pensylvanica	S2	S3	92
Cardamine pratensis	S1S2	S3	110
Drosera linearis	S2	S3	112
Saxifraga ferruginea	S2	S3	117
Potentilla paradoxa	S2	S3	129
Astragalus purshii	S2	S3	133
Pyrola grandiflora	S2	S3	163
Gentiana glauca	S2	S3	173
Lycopus americanus	S2	S3	190
Physostegia virginiana var. ledinghamii	S2	S3	191
Pedicularis capitata	S2	S3	199
Plantago canescens	S2	S3	208
Artemisia tilesii	S2	S3	241
Senecio megacephalus	S3	S3	245
Stephanomeria runcinata	S2	S3	247
Trichophorum pumilum	S2	S3	271
Carex capitata	S2	S3	276
Carex hookerana	S2	S3	277
Carex parryana	S1S2	S3	295
Schizachyrium scoparium	S3	S3	310
Anthoxanthum monticola / Hierochloe alpina	S2	S3	314
Muhlenbergia asperifolia	S2	S3	317
Botrychium multifidum	S2	S3	358
Polypodium sibiricum	S1?	S3	370
Bromus vulgaris	S2S3	S3	378
Castilleja cusickii	S2S3	S3	384

Subnational Conservation Status Rank (SRank) definitions are listed on the website of the Alberta Conservation Information Management System (ACIMS).

http://albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-(acims)/tracking-watch-lists.aspx

See ***Rare Plants Book****, page 7*

Blasted Birches

by C. Dana Bush

I spent much of the summer in rubber boots, slogging through the muskeg in the boreal forest, identifying plants and looking for rare plants. Three of the dominant species are birches, and I began to curse every time I tried to key one out, so I now have lots of practice. Despite the practice keying out bog birch (*Betula glandulosa*) and dwarf birch (*Betula pumila*), I still fail. Finally, after struggling with the key and debating ad nauseum with my co-workers, I reached for the *Flora of North America* (FNA). Aha! The pesky shrubs are hybridizing.

According to John J. Furlow (FNA Vol. 3), "Where their ranges meet, *B. glandulosa* intergrades with both *B. pumila* Linnaeus and *B. nana* Linnaeus subsp. *exilis* (Sukaczev) Hultén, creating a confusing complex of intermediate forms. . . . Wherever *Betula glandulosa* comes in contact with *B. pumila*, it forms a bewildering swarm of plants, known as *B.* × *sargentii* Dugle, having intermediate states of most vegetative characters." Hmmm. Confusing complex. Bewildering swarm. That certainly describes what I was seeing.

From the description in FNA and the maps in *Flora of Alberta* (Moss 1983) it appears that *Betula glandulosa* occurs more often in drier upland habitats in the arctic, alpine, and boreal regions, particularly in the mountains of Alberta but also in boreal wetlands. *Betula pumila* is a somewhat more boreal species, occurring in swamps and muskeg. In northern Alberta, where they co-occur, I will now call them *B.* x *sargentii.* ♦

University of Calgary Herbarium — 50 Years & Still Collecting

by Bonnie Smith

The University of Calgary Herbarium currently holds over 86,000 vascular plant specimens as well as some 9,000 non-vascular plant specimens (6,700 lichens, 2,200 bryophytes, 500 algal and fungi collections). The primary focus of the vascular plant collection is the flora of Alberta and western Canada; however, specimens from across Canada and the United States, especially arctic regions, as well as specimens from many other countries are also contained within the holdings. Dr. Stuart Harris (retired, Department of Geography) is in the process of donating approximately 12,000 vascular plant specimens to the herbarium. The lichen and bryophyte specimens are also a recent donation from Dr. Harris. These collections document his research on permafrost in alpine and arctic habitats around the world. In addition, the non-vascular plant collection contains a reference set of Alberta lichens and bryophytes—on permanent loan from the Provincial Museum of Alberta (PMAE)—from our original holdings of some 90,000 specimens, which were sent to PMAE in 1995.

Herbarium holdings include a reference collection (one specimen of all non-rare Alberta species), a rare plant collection (based on specimens contained within the Alberta Conservation Information Management System list) and various teaching and special collections. Also, the vascular plant collection has some 11,000 historically important specimens, the greater proportion composed of 6,000 N. B. Sanson specimens (1891–1945)—the original herbarium of the Banff Natural History Museum—and 2,400 A. R. Prince specimens (1885–1936, the majority from the 1920s)—the original herbarium of the Nova Scotia Agricultural College. Included within the Sanson Collection are 718 original John Macoun specimens (collected with William Spreadborough in 1891 in advance of the opening of the museum in 1895). In 1970, the N. B. Sanson Collection of vascular plants was donated to the herbarium by the Parks Branch of the Canadian Department of Indian and Northern Affairs. A. R. Prince was the first head of the University of Calgary's Biology Department (1956–1965). Many other early collectors are represented by specimens in the historical collections. A database project is currently underway to account for all herbarium holdings and to make such information available online.

Various consulting companies and members of the public actively use the herbarium collections for identification and other purposes. The herbarium hosts monthly meetings of the Southern Alberta Rare Plant Study Group the first Saturday of the month, October to May—please contact ANPC for further information. We are actively accepting donations of well-pressed, interesting plant specimens (with label or suitable label information). The University of Calgary offers the course Principles of Plant Taxonomy (Bota 541) in the herbarium lab during the fall term.

The University of Calgary Herbarium began informally in 1960 with specimens donated to the university by Russell Carefoot and others. In 1962, Dr. C. D. Bird joined the Biology staff, donated his entire personal collection to the university, and became curator of the herbarium. At about this time the herbarium was given the code

Ode to a Herbarium

In a room in the basement of the Biological Sciences Building stands ranks of metal cabinets filled with pressed plants and groups of tall benches with dissecting scopes. This is the University of Calgary Herbarium. A coil-bound notebook on a table near the door contains the names of all amateur and professional botanists who visit. Past the walls of cabinets lies the book-lined corner office of the herbarium technician, Bonnie Smith.

A herbarium is built by collectors and maintained by technicians and curators. It becomes not only a repository of specimens, but also a history of botanists and institutions. We botanists come to the herbarium to learn the plants of Alberta, to check the identification of a rare specimen, or to identify an unknown plant. The botany community is a small one, and in perusing the collection one can find specimens submitted by many of our friends and colleagues, including Kim Ottenbreit, Jane Lancaster, Cliff Wallis, Mari Decker, Leslie Monteleone, and many beautiful specimens from Ian Macdonald.

While at the herbarium, we stay to chat with Bonnie and other botanists about field trips, mosquitoes and ticks, the obscure taxonomy of plants, the changes made in the Flora of North America, and the history of the collection. We leave with appreciation for this precious collection—so essential for field botanists and biodiversity—and for Bonnie's knowledge and help.

C. Dana Bush

*See **Herbarium**, page 7*

Herbarium, *from page 6*

designation "UAC"—as the university was then called the University of Alberta at Calgary—and was listed in the Index Herbariorum (the herbaria of the world). Dr. R. T. Ogilvie joined the staff in 1963 and became curator of the vascular plant herbarium, while Dr. Bird continued to curate the non-vascular plants. In 1967, Mrs. B. M. Hallworth became herbarium technician, and Dr. Bird again assumed curation of all plant groups. Dr. Bird retired in 1979, and in 1980, Dr. C. C. Chinnappa took over as director of the herbarium collections. Beryl Hallworth retired in 1977, and four years later Bonnie Smith took on the position of herbarium technician.

The University of Calgary Herbarium is located in the Biological Sciences Building in the basement, Room 013. The hours of operation are 8:30 a.m. to 4:30 p.m., Monday to Friday. The herbarium is open to the public. To arrange a visit please contact Bonnie Smith, Herbarium Technician, 403-220-5262 (smib@ucalgary.ca) or Dr. C. C. Chinnappa, Emeritus Professor and Director of the Herbarium, (ccchinna@ucalgary.ca). ♦

Widgeon-grass
Ruppia cirrhosa
S1
Photo L. Kershaw

Rare Plants Book, *from page 5*

Species on the Tracking List but Not in *Rare Vascular Plants of Alberta* or in *Flora of Alberta*

Species	2012 SRank	Posted on ANPC Website
Antennaria media	SU	
Asarum caudatum	SNR	
Botrychium lineare	S1	X
Botrychium oneidense	S1	X
Botrychium pallidum	S1	X
Bouteloua curtipendula	S1	X
Braya humilis ssp. humilis	S1	X
Braya humilis ssp. maccallae	S1	X
Braya humilis ssp. porsildii	S1	X
Campanula aparinoides	S1	X
Carex bicolor	S1	
Carex cordillerana	S1	X
Carex echinata ssp. echinata	S1	X
Carex garberi	S2S3	
Carex infirminervia	S1	X
Carex lenticularis var. lenticularis	S1	X
Castilleja parviflora	S1	X
Corallorhiza mertensiana	SU	
Cryptantha kelseyana	S1	
Draba paysonii var. treleasii	S2?	
Eleocharis erythropoda	SU	
Eleocharis mamillata	S1	
Elodea canadensis	SU	
Festuca lenensis	SU	
Fraxinus pennsylvanica	S1	X
Gymnocarpium disjunctum	S1	
Lathyrus palustris	S1	
Liparis loeselii	S1	X
Mimulus ringens	S1	X
Oenothera psammophila	SU	
Polemonium occidentale ssp. occidentale	SU	
Potamogeton nodosus	S1	
Psilocarphus brevissimus var. brevissimus	S2S3	X
Quercus macrocarpa	SU	X
Salix tyrrellii	S1	X
Schoenoplectus heterochaetus	S1	

Visit the ANPC website at www.anpc.ab.ca to order one of the few remaining books in print or to view addenda to *Rare Vascular Plants of Alberta.* ♦

The Botanical Legacy of W. C. McCalla

by Gloria J. Toole

Depression era students peer through the gloom. The green canvas blinds of their classroom at Calgary Normal School are drawn. Suddenly, a magnificent purple-blue flower blossoms on the projection screen. Each petal, pistil, and stamen is sharply defined, subtly shaded. Each stem and frond shines summer green. Faces change from student boredom to awe.

Their lecturer, William Copeland McCalla, sternly surveys his class through thick, round black spectacles. "This next slide brings out that point very well."[1]

He is creating a legacy of beauty and exacting botany.

This was no ordinary slide. It was one of nearly 1,000 black and white photos of western Canadian plants McCalla had photographed, then printed onto pieces of glass (3 ½ x 4 inches in size). Aided by a magnifying glass, he painted each detail with a fine brush and artfully mixed dyes and oil paints.[2] Finally, he covered each image with a protective glass plate.

"He showed such an understanding of the flower that the colour is completely accurate," says Dorothy Fabijan, present assistant curator at the University of Alberta Vascular Plant Herbarium.

McCalla taught 4,168 students (he counted them) at Calgary Normal from 1925–1937. Many became teachers. He established a Natural History Club and soon led club members into the field. One of his colleagues, Dr. McKerricher, wrote, "As of old he is much abroad and he is a real hunter, but he hunts with the camera."

Fruit of love-in-mist (*Nigella*) – an example of McCalla's hand-coloured lantern slides (See Note 4 below)

His photo-illustrated book, *Wildflowers of Western Canada*,[3] published in 1920, was issued to every school on the prairies. In it he described plants as vividly as novelists describe their characters: "From a close hard fight . . . the dandelion stays and fights it out . . . dodging serious lawn-mower injury by spreading its leaves flat and bearing its flowers on very short stems." He included sections on ecology such as "The Forest invading a Peat Bog." The book enticed teachers, thousands of students, and the general public to "hunt" as well. McCalla's influence spread like dandelions.

McCalla was born in 1872 in St. Catharines, Ontario. He briefly studied botany at Cornell but left because of asthma and poor eyesight. Nonetheless, he was unstoppable. He became a market gardener and experimental farmer. He lectured at various agricultural institutes in the province and at the Ontario Agricultural College in Guelph. Hoping for better health, he moved west in 1913, first to Edmonton, then to a farm at Bremner (now an acreage near Sherwood Park), and finally to Calgary.

When McCalla arrived, western Canadian botany had been only roughly defined through people like John Macoun and the botany team travelling with Captain John Palliser. A few other botanists such as N. B. Sanson, A. R. Prince, E. H. Moss and G. H. Turner were out collecting on the prairies and in the Rockies at the same time as McCalla. He eagerly exchanged specimens with Turner and Moss like some people trade hockey cards and regularly conferred with A. E. Porsild of the National Museum of Canada.

McCalla's eye for beauty, his explorer attitude, and his meticulous technique vastly expanded the field. W. C. packed his heavy bellows camera, tripod, and specimen box to do it. Once he camped for a whole week beside a rare mountain plant waiting for just the right light. Each specimen he collected was noted and dated in one of his field books (still available at the University of Alberta). A willow, gathered by him on an early trip to the Rockies in 1899, is named after him: *Salix maccalliana* Rowlee.

"He chose the best specimens," says Fabijan. "Good flowers, all the leaves; ones with no insects or disease."

*See **McCalla**, page 9*

***McCalla,** from page 8*

His mountings aren't just useful. Each page is a masterpiece of design. Even after 60 to 90 years of storage each colour is richly preserved. McCalla often created the design in the field. He carefully flattened the plant onto blotting paper ensuring no piece touched another. He added cardboard and strapped it into a press. He used his wife Margaret's oven for final drying: cookies had to wait. Each specimen was labelled, then stored in green enamelled cabinets secured in his study. Grandchildren entered "by invitation only."

That invitation has since broadened. McCalla left the slides, 25 photograph albums, and thousands of mountings. Over 12,000 of the 115,000 specimens at the University of Alberta are his. Others are in Alberta's Provincial Archives, the University of Calgary, the National Museum of Canada, the New York Botanical Garden, the University of Toronto, the Royal Botanical Garden at Kew . . .

Now an intrepid public can discover the glory of his legacy.

NOTES:

1. The quotes related to Calgary Normal School appear in yearbooks archived and online at the University of Calgary library.

2. Some of the slides were digitally reproduced for an exhibit, *Immortal Nature's Ageless Harmony*, at the Provincial Archives, Edmonton in 2007. See: http://culture.alberta.ca/paa/eventsandexhibits/exhibits/botanicallantern.aspx. A set of four different images can be purchased as greeting cards through their shop.

3. The book can be downloaded at archive.org/details/wildflowersofwes00mccauoft.

4. Illustration credit: W. C. McCalla. 1925-1938. Fruit of Love-In-Mist (*Nigella*). Reproduction of hand-coloured lantern slide. The Provincial Archives of Alberta. Accession #PR1982.325/20. ♦

Whitehorse Wildland Park: Steward Report

Report by Sam Pittman, summarized by C. Dana Bush

Sam Pittman is the new steward of Whitehorse Wildland Park. What a great excuse to go hiking through a beautiful mountain pass (the Cardinal Divide) while working to protect it at the same time! Sam replaces Alison Dinwoodie, our previous steward, and he has submitted a detailed steward report to the ANPC Board.

In summary, Sam reports that revegetation of the rutted areas in the Cardinal Divide—damaged by recreation activities in the late '90s—is very limited. New signs and an effective boulder barrier should help this area re-establish without further disturbance. Thankfully, Sam did not see evidence of any recent off-road recreation damage on the Cardinal Divide, although off-road recreation use in the surrounding area was very high. He is concerned that there were no parks employees present during the busy August long weekend, and Alison concurred that it has been a long standing problem. Sam is interested in pursuing more options to replant native species, as it appears that the alpine plants are very slow to re-establish on disturbed sites. ♦

Example of persistent erosion and revegetation issues in the Cardinal Divide area
Photo S. Pittman

Typical slopes and views, Cardinal Divide area
Photo S. Pittman

Confusion with Cranberry Common Names

by C. Dana Bush

Common names vary across North America, and even across Alberta. This can cause some confusion when common names are quoted without the author seeing the actual plant and verifying the scientific name. I have seen Environmental Impact Assessments (EIAs) where an anthropologist reported that a native community used lowbush cranberries (meaning *Vaccinium vitis-idaea*) and the botanist mapped lowbush cranberry (*Viburnum edule*) in the EIA. The following is a summary of the various common names used in northern Alberta, along with the names listed in the *Flora of Alberta* and various field guides. The scientific names are from the *Flora of Alberta* with the new names from the *Flora of North America* (FNA) in brackets. Common names in bold are my preferred names.

Scientific Name	Common Names	Comments
Oxycoccus microcarpus Turcz. (*Vaccinium oxycoccus* Linnaeus)	**small bog cranberry**	Bogs and poor fens, on peatmoss. Tiny leaves with ridiculously large berries.
Vaccinium vitis-idaea L.	**cranberry** **lingonberry** bog cranberry lowbush cranberry	Sites with poor acidic soils, such as bogs, and with blueberries in sandy upland sites. Low growing, rhizomatous, and evergreen.
Viburnum edule (Michx.) Raf.	**mooseberry** lowbush cranberry highbush cranberry	Upland sites – under aspen, balsam poplar, or white spruce. Knee-high shrub. Autumn plants smell like . . . moose.
Viburnum opulus ssp. *trilobum* (Marsh) Clausen (*Viburnum opulus* var. *americanum* Aiton in ITIS.* No entry in FNA yet.) *Integrated Taxonomic Information System	**pembina** highbush cranberry	Moist river valleys. Limited distribution. Tall shrubs with clusters of berries.

Oxycoccus microcarpus
Photo M. Hayward

Vaccinium vitis-idaea
Photo E. Beaubien

Viburnum edule
Photo L. Hamilton

Viburnum opulus* ssp. *trilobum
Photo J. B. Posey ♦

Alberta Conservation Information Management System
ACIMS Website News for November, 2012
www.AlbertaParks.ca/Datarequests

DATA UPDATE: Element Occurrence (EO) data updated to November 2012

ACIMS has updated the *List of Tracked and Watched Elements* (rare species), *Tracked and Watched Ecological Communities*, and the *List of All Elements* for Alberta. The latest files (November 2012) are available for download on the ACIMS website at AlbertaParks.ca (or Google ACIMS Alberta).♦

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Are you located in southern Alberta and do you want to become more involved with the ANPC? We are currently seeking a Southern Director to coordinate and attend activities or events pertaining to the ANPC's interests in southern Alberta.

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Saturday, April 13, 2013

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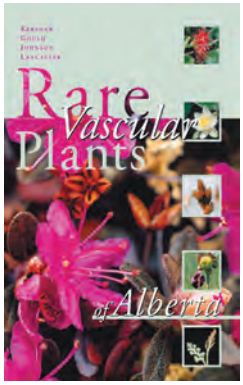


Addenda for the *Rare Vascular Plants of Alberta* are now available!

For information, drawings, and range maps of rare vascular plant species of Alberta not found in the *Rare Vascular Plants of Alberta* (Kershaw et al. 2001) please visit the Alberta Native Plant Council's website at www.anpc.ab.ca under Publications. This is an ongoing project with plant species added as the pages are completed.

Past issues of *Iris* are now available online at www.anpc.ab.ca

Alberta Emerald Awards 2010 Recipient

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.

Submission deadline for the next issue:

February 1, 2013

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

	Hieracium aurantiacum L.	*Hieracium flagellare* Willdenow	*Hieracium caespitosum* Dumortier	*Hieracium piloselloides* Villars	*Hieracium umbellatum* L.
corollas	orange, 10–14+ mm	yellow, 6–10+ mm (often each with red stripe on back)	yellow, 8–12+ mm	yellow, 6–9 mm	yellow, 10–18 mm
involucres	campanulate, 6–8 mm	hemispheric, (9–)12–13 mm	campanulate, 7.5–9 mm	campanulate, 5–7 mm	campanulate to hemispheric, (8–)9–11+ mm
florets per head	25–120+	90–120+	25–50+	(40–)60–80+	30–80+
pappus (bristles in all these species)	25–30+, white in 1 series, 3.5–4 mm	25–40+, white in 1 series, 4–5+ mm	25–30+, white in 1 series, 4–5(–6) mm	25–40+,white in 1 series, 3–4 mm	50–60+, straw-coloured to sordid in ± 2 series, 6–7 mm
achenes (columnar in all these species)	1.2–1.5(–2) mm	1–2.5 mm	1.5–1.8 mm	1.5–2 mm	2.5–3.5 mm
phyllaries (equal or subequal in all these species)	13–30+, apices acuminate, outer surfaces piloso-hirsute, stellate-pubescent, and stipitate-glandular	30–40, apices acuminate, outer surfaces stellate-pubescent, sometimes, piloso-hirsute and stipitate-glandular as well	12–18+, apices acute to acuminate, outer surfaces piloso-hirsute (hairs 1–2.5+), stellate-pubescent, and stipitate-glandular	12–18+, apices acute to acuminate, outer surfaces piloso-hirsute (hairs 0.5–1.5+), stellate-pubescent, and stipitate-glandular	12–21+, apices rounded to acute, outer surfaces usually glabrous, rarely piloso-hirsute and/or stipitate-glandular
bractlets at base of head (sometimes merging into phyllaries)	5–8+	13–15+	5–8+	3–12+	9–15+
peduncles	stellate-pubescent and stipitate-glandular	piloso-hirsute, stellate-pubescent, and stipitate-glandular	piloso-hirsute (hairs 1–2.5 mm), stellate-pubescent, and stipitate-glandular	piloso-hirsute (hairs 1–2+ mm), stellate-pubescent, and stipitate-glandular	usually stellate-pubescent
heads	3–7(–12+) in ± umbelliform arrays	2–4+ in ± umbelliform to corymbiform arrays	5–25+ in ± umbelliform or congested, corymbiform arrays	(3–)10–30+ in subumbelliform or corymbiform arrays	(1–)5–30(–100+) in corymbiform to subumbelliform arrays

Comparison Table of Hieracium Species Found in Alberta – Part I

Compiled by J. B. Posey

Over the past two or three years, there have been reports of introduced hawkweeds that were not known to be in Alberta. In some cases there are significant infestations. Yellow hawkweeds are superficially so similar that new introduced species could be mistaken for the native (sometimes problematic in agriculture) *Hieracium umbellatum*. Identification aids are needed to avoid misdirected eradication efforts. The key and spreadsheet you find here are an attempt to provide one such aid.

There are 36 species of *Hieracium* in *Flora of North America* (FNA). Of those species, four native species are in Alberta, and four introduced species are, or might be, here. Of the introduced species, *H. caespitosum* (meadow hawkweed) has been found recently and *H. aurantiacum* (devils' paintbrush)—which was "rare, found near Edmonton" in Edition 1 of the *Flora of Alberta*—is now so common that efforts to eradicate it may be futile.

To further complicate things (and to demonstrate the limitations of this approach), *H. glomeratum* Froel. (a species not included in FNA) has been reported in the Crowsnest Pass area. The first finding of this species in North America was in SE BC in 2001 (Wilson et al. 2006 Can. J. Botany 84: 133-142). So, *caveat lector* (let the reader beware)! As with any key, you may find that you're looking at a plant that's not included. Wilson's *Key to Identification of Invasive and Native Hawkweeds (Hieracium* spp.*) in the Pacific Northwest*, covering 23 native and introduced species and subspecies, is available at http://www.for.gov.bc.ca/hfp/publications/00230/.

	Hieracium scouleri **Hooker**	***Hieracium triste*** **Willdenow ex Sprengel**	***Hieracium albiflorum*** **Hooker**
corollas	yellow, 10–12 mm	yellow, 5–6 mm	white, 9–10 mm
involucres	campanulate, 8–10 mm	± campanulate, (6–)7–10 mm	± campanulate, (7–)8–10(–11) mm
florets per head	20–45+	20–60+	(6–)12–25+
pappus (bristles in all these species)	32–40+, white or straw-coloured in ± 2 series, 6–7 mm	30–40+ white or sordid in ± 2 series	30–40+, straw-coloured in ± 2 series, (4–)5–7 mm
achenes (columnar in all these species)	3 mm ± (red-brown or black)	1.5–3.5 mm	2.5–4 mm
phyllaries (equal or subequal in all these species)	12–21+, apices rounded to acute, outer surfaces piloso-hirsute, stellate-pubescent, and stipitate-glandular	13–21+, apices acuminate, outer surfaces piloso-hirsute (hairs 1–3+ mm), stellate-pubescent, and stipitate-glandular	8–13+, apices acuminate, outer surfaces piloso-hirsute (hairs 1–2+ mm), stellate-pubescent, and stipitate-glandular
bractlets at base of head (sometimes merging into phyllaries)	5–13+	5–8+	5–12+
peduncles	usually stellate-pubescent, sometimes piloso-hirsute and/or stipitate-glandular as well, rarely glabrous	stellate-pubescent and stipitate-glandular	usually glabrous, sometimes stipitate-glandular, not stellate-pubescent
heads	(3–)9–25+ in corymbiform to thyrsiform arrays	usually 2–8+ in corymbiform arrays, sometimes borne singly	(3–)12–50+ in corymbiform to paniculiform arrays

	Hieracium aurantiacum L.	*Hieracium flagellare* Willdenow	*Hieracium caespitosum* Dumortier	*Hieracium piloselloides* Villars	*Hieracium umbellatum* L.
leaves	basal 3–8+, cauline 0(–1+); blades spatulate to oblanceolate, 45–70(–160+) × 10–35 mm, lengths 3–5+ times widths, bases cuneate, margins entire, apices acute, faces piloso-hirsute (hairs 1–2+ mm) and stellate-pubescent	basal 8–12+, cauline 0(–2+); blades spatulate to oblanceolate, 20–45(–130+) × 8–20(–25+) mm, lengths 2–3+ times widths, bases cuneate, margins entire, apices rounded to acute, upper surfaces piloso-hirsute (hairs 1–4+ mm) and stellate-pubescent, piloso-hirsute (hairs 1–4+ mm) underneath	basal 3–8+, cauline 0–2(–5+); blades oblanceolate to lanceolate, 35–120(–180+) × 12–20+ mm, lengths 2–6(–10+) times widths, bases cuneate, margins entire or denticulate, apices rounded to acute, faces usually piloso-hirsute (hairs 1–3+ mm) and stellate-pubescent, sometimes glabrate	basal 3–8(–20+), cauline 0–2(–4+); blades oblanceolate to lanceolate, 30–100(–150+) × 8–20+ mm, lengths 2.5–8+ times widths, bases cuneate, margins entire or denticulate, apices rounded to acute, faces glabrous or piloso-hirsute (on midribs and at margins, hairs 1–4+ mm)	basal 0(–2), cauline (5–)8–15(–45+); blades lance-elliptic to lanceolate, (20–)50–100(–150) × (10–)15–25(–40+) mm, lengths (3–)5–10+ times widths, bases cuneate to rounded or truncate (then sometimes ± clasping), margins usually toothed (to laciniate), denticulate, or entire (often ± revolute, at least distally), apices obtuse to acute, faces glabrous or ± stellate-pubescent, sometimes ± scabrellous (especially at or near distal margins)
stems	lower piloso-hirsute (hairs 2–4+ mm), upper piloso-hirsute (hairs 1–4 mm) and stipitate-glandular	lower piloso-hirsute (hairs 2–4+ mm) and stellate-pubescent, upper piloso-hirsute (hairs 1–4 mm), stellate-pubescent, and stipitate-glandular	lower piloso-hirsute (hairs 1–3+ mm) and stipitate-glandular, sometimes stellate-pubescent as well, upper piloso-hirsute hairs 1–4+ mm), stellate-pubescent, and stipitate-glandular	lower usually piloso-hirsute (hairs 2–4+ mm), rarely glabrous, upper usually glabrous, sometimes piloso-hirsute (hairs 1–3+ mm), stellate-pubescent, and/or stipitate-glandular	lower usually glabrous, sometimes piloso-hirsute and/or stellate-pubescent, upper usually glabrous, sometimes stellate-pubescent
plants	15–35(–60+) cm	5–12(–20+) cm	20–75 cm	15–40(–70+) cm	15–60+ cm
stolons	sometimes	sometimes	sometimes	sometimes	no

Comparison Table of Hieracium Species Found in Alberta – Part II

Compiled by J. B. Posey

	Hieracium scouleri **Hooker**	***Hieracium triste*** **Willdenow ex Sprengel**	***Hieracium albiflorum*** **Hooker**
leaves	basal 0(–5+), cauline (3–)5–10+; blades lanceolate, oblanceolate or narrowly oblong to elliptic, 50–100(–200) × 10–25(–35+) mm, lengths (3–)4–8+ times widths, bases cuneate, margins entire or denticulate, apices obtuse to acute, faces usually piloso-hirsute (hairs 1–5+ mm) and stellate-pubescent, rarely glabrous	basal (3–)5–12+, cauline 0–2(–3+); blades obovate to spatulate or oblanceolate, (15–)25–40(–60+) × 5–10(–25+) mm, lengths 2–3+ times widths, bases cuneate, margins usually entire, rarely denticulate, apices rounded to obtuse (often apiculate), faces usually glabrous, sometimes stipitate-glandular and/or scabrellous, lower surfaces usually glabrous, sometimes scabrellous and/or stipitate-glandular (not piloso-hirsute)	basal (0–)3–8+, cauline 1–5(–12+); blades oblanceolate, 40–100(–300) × 12–30(–60+) mm, lengths 3–5+ times widths, bases cuneate, margins usually entire, sometimes sinuately toothed, apices obtuse to acute (not apiculate), faces piloso-hirsute (hairs 1–6 mm), rarely glabrous
stems	lower usually piloso-hirsute (hairs 1–8+ mm) and stellate-pubescent, sometimes glabrous, upper usually piloso-hirsute (hairs 1–8+ mm) and stellate-pubescent, rarely stipitate-glandular as well, sometimes glabrous	lower glabrous or stellate-pubescent, upper usually piloso-hirsute (hairs 1–8+ mm) and/or stellate-pubescent and/or stipitate-glandular, sometimes glabrous	lower usually piloso-hirsute (hairs 1–6+ mm), rarely glabrous, upper glabrous
plants	(15–)35–60+ cm	(3–)10–20(–40+) cm	15–40(–90) cm
stolons	no	no	no

Hieracium albiflorum
Photo J. B. Posey

piloso-hirsute refers to surfaces with scattered to crowded, tapered, whiplike, straight or curly, smooth to ± barbellate hairs mostly (0.5–)2–8(–15+) mm (sometimes called setae)

stellate-pubescent refers to surfaces with scattered to crowded, ± dendritically branched (often called, but seldom truly, stellate) hairs mostly 0.05–0.2+ mm (such surfaces are sometimes described as floccose)

stipitate-glandular refers to surfaces with scattered to crowded gland-tipped hairs mostly 0.2–0.8(–1.2+) mm

Source: *Flora of North America North of Mexico*, key to Asteraceae and *Hieracium* species descriptions. ♦

Key & Species Descriptions for Hieracium in Alberta

Compiled by J. B. Posey

This document includes those species of *Hieracium* from the *Flora of North America* (FNA) that do or might occur in Alberta, based on these assumptions:

- Species native to North America with restricted ranges remote from Alberta can be excluded.
- Species introduced to North America, if the highest reported elevation is 100+ m, can be excluded even though they occur in adjacent jurisdictions.
- Species introduced anywhere in North America, if they occur at elevations exceeding 100+ m, might occur here.

There are 36 species in FNA. Of these, 4 native species are known to occur, and 4 introduced species might occur in Alberta, one (or 2) of which do.

KEY (make sure you're not looking at a species from some other genus like *Sonchus* or *Crepis*)

1.	Flowers orange	**Hieracium aurantiacum**
	Flowers yellow, pale yellow, cream, or white	**2.**
2.	Flowers white (or rarely cream to pale yellow)	**Hieracium albiflorum**
	Flowers yellow	**3.**
3.	Leaves mostly on the stem (basal usually none, rarely up to 5, cauline rarely as few as 3, usually 5-15, up to 45)	**4.**
	Leaves mostly basal (cauline usually none, sometimes up to 5)	**5.**
4.	Leaves mostly glabrous (or slightly stellate-pubescent or scabrellous)	**Hieracium umbellatum**
	Leaves mostly pilose to hirsute & stellate-pubescent, like hound's-tongue, rarely glabrous	**Hieracium scouleri**
5.	90 or more florets per head	**Hieracium flagellare**
	80 or fewer florets per head	**6.**
6.	Corollas 5-6 mm, heads usually 2-8+, sometimes single	**Hieracium triste**
	Corollas 6-12 mm, heads as few as 5, usually more (up to 30)	**7.**
7.	Stems entirely pilose to hirsute, also stellate-pubescent toward the top	**Hieracium caespitosum**
	Stems usually pilose to hirsute at the base, sometimes glabrous; usually glabrous at the top, sometimes pilose to hirsute	**Hieracium piloselloides**

SPECIES DESCRIPTIONS (from FNA)

Hieracium aurantiacum Linnaeus, Sp. Pl. 2: 801. 1753.

Orange hawkweed, épervière orangée

Pilosella aurantiaca (Linnaeus) F. W. Schultz & Schultz-Bipontinus

Plants 15–35(–60+) cm. **Stems** proximally piloso-hirsute (hairs 2–4+ mm), distally piloso-hirsute (hairs 1–4 mm) and stipitate-glandular. **Leaves:** basal 3–8+, cauline 0(–1+); blades spatulate to oblanceolate, 45–70(–160+) × 10–35 mm, lengths 3–5+ times widths, bases cuneate, margins entire, apices acute, faces piloso-hirsute (hairs 1–2+ mm) and stellate-pubescent. **Heads** 3–7(–12+) in ± umbelliform arrays. **Peduncles** stellate-pubescent and stipitate-glandular. **Calyculi:** bractlets 5–8+. **Involucres** campanulate, 6–8 mm. **Phyllaries** 13–30+, apices acuminate, abaxial faces piloso-hirsute, stellate-pubescent, and stipitate-glandular. **Florets** 25–120+; corollas orange (drying scarlet to purplish), 10–14+ mm. **Cypselae** columnar, 1.2–1.5(–2) mm; **pappi** of 25–30+, white bristles in 1 series, 3.5–4 mm.

Flowering (May–)Jun–Aug(–Sep). Disturbed sites (fields, lawns, roadsides), bogs, clays, sands; introduced; 10–300(–1000+) m; St. Pierre and Miquelon; Alta., B.C., Man., N.B., Nfld. and Labr., N.S., Ont., P.E.I., Que., Sask.; Alaska, Ark., Calif., Colo., Conn., Fla., Ga., Idaho, Ill., Ind., Iowa, Ky., Maine, Md., Mass., Mich., Minn., Mont., N.H., N.J., N.Y., N.C., Ohio, Oreg., Pa., R.I., S.Dak., Tenn., Vt., Va., Wash., W.Va., Wis., Wyo.; Europe.

Hieracium flagellare Willdenow, Enum. Pl. suppl.: 54. 1814.

Hieracium flagellare var. *amauracron* (Missback & Zahn) Lepage; *H. flagellare* var. *cernuiforme* (Naegeli & Peter) Lepage; *H. flagellare* var. *pilosius* Lepage; *Pilosella flagellaris* (Willdenow) P. D. Sell & C. West

Plants 5–12(–20+) cm. **Stems** proximally piloso-hirsute (hairs 2–4+ mm) and stellate-pubescent, distally piloso-hirsute (hairs 1–4 mm), stellate-pubescent, and stipitate-glandular. **Leaves:** basal 8–12+, cauline 0(–2+); blades spatulate to oblanceolate, 20–45(–130+) × 8–20(–25+) mm, lengths 2–3+ times widths, bases cuneate, margins entire, apices rounded to acute, abaxial faces piloso-hirsute (hairs 1–4+ mm) and stellate-pubescent, adaxial piloso-hirsute (hairs 1–4+ mm). **Heads** 2–4+ in ± umbelliform to corymbiform arrays. **Peduncles** piloso-hirsute, stellate-pubescent, and stipitate-glandular. **Calyculi:** bractlets 13–15+. **Involucres** hemispheric, (9–)12–13 mm. **Phyllaries**30–40, apices acuminate, abaxial faces stellate-pubescent, sometimes, piloso-hirsute and stipitate-glandular as well. **Florets** 90–120+; corollas yellow (often each with abaxial red stripe), 6–10+ mm. **Cypselae** columnar, 1–2.5 mm; **pappi** of 25–40+, white bristles in 1 series, 4–5+ mm.

Flowering May. Disturbed sites, roadsides, forest edges; introduced; 10–300(–600+) m; B.C., N.B., N.S., P.E.I., Que.; Conn., Ind., Maine, Mass., Mich., N.H., N.Y., Ohio, Pa., Vt., Va.; Europe.

The type of *Hieracium flagellare* may have resulted from a cross between plants of *H. caespitosum* and *H. pilosella*(A. Cronquist 1980).

Hieracium caespitosum Dumortier, Fl. Belg. 62. 1827.

Hieracium pratense Tausch; *Pilosella caespitosa* (Dumortier) P. D. Sell & C. West

Plants 20–75 cm. **Stems** proximally piloso-hirsute (hairs 1–3+ mm) and stipitate-glandular, sometimes stellate-pubescent as well, distally piloso-hirsute (hairs 1–4+ mm), stellate-pubescent, and stipitate-glandular. **Leaves:** basal 3–8+, cauline 0–2(–5+); blades oblanceolate to lanceolate, 35–120(–180+) × 12–20+ mm, lengths 2–6(–10+) times widths, bases cuneate, margins entire or denticulate, apices rounded to acute, faces usually piloso-hirsute (hairs 1–3+ mm) and stellate-pubescent, sometimes glabrate. **Heads** 5–25+ in ± umbelliform or congested, corymbiform arrays. **Peduncles** piloso-hirsute (hairs 1–2.5 mm), stellate-pubescent, and stipitate-glandular. **Calyculi:** bractlets 5–8+. **Involucres** campanulate, 7.5–9 mm. **Phyllaries** 12–18+, apices acute to acuminate, abaxial faces piloso-hirsute (hairs 1–2.5+), stellate-pubescent, and stipitate-glandular. **Florets** 25–50+; corollas yellow, 8–12+ mm. **Cypselae**columnar, 1.5–1.8 mm; **pappi** of 25–30+, white bristles in 1 series, 4–5(–6) mm.

Flowering May–Jul(–Aug). Disturbed sites, stream sides; introduced; 10–300(–1500) m; B.C., Man., N.B., Nfld. and Labr. (Nfld.), N.S., Ont., P.E.I., Que.; Conn., Del., D.C., Ga., Idaho, Ill., Ind., Ky., Maine, Md., Mass., Mich., Minn., Mont., N.H., N.J., N.Y., N.C., Ohio, Pa., R.I., S.C., Tenn., Vt., Va., Wash., W.Va., Wis., Wyo.; Europe.

The type of *Hieracium floribundum* Wimmer & Grabowski probably resulted from a cross between plants of *H. caespitosum* and *H. lactucella* (P. D. Sell and C. West 1976).

Hieracium piloselloides Villars, Prosp. Hist. Pl. Dauphiné. 34. 1779.

King devil, épervière des Florentins

Hieracium florentinum Allioni; *Pilosella piloselloides* (Villars) Soják

Plants 15–40(–70+) cm. **Stems** proximally usually piloso-hirsute (hairs 2–4+ mm), rarely glabrous, distally usually glabrous, sometimes piloso-hirsute (hairs 1–3+ mm), stellate-pubescent, and/or stipitate-glandular. **Leaves:** basal 3–8(–20+), cauline 0–2(–4+); blades oblanceolate to lanceolate, 30–100(–150+) × 8–20+ mm, lengths 2.5–8+ times widths, bases cuneate, margins entire or denticulate, apices rounded to acute, faces glabrous or piloso-hirsute (on midribs and at margins, hairs 1–4+ mm). **Heads** (3–)10–30+ in subumbelliform or corymbiform arrays. **Peduncles**piloso-hirsute (hairs 1–2+ mm), stellate-pubescent, and stipitate-glandular. **Calyculi:** bractlets 3–12+. **Involucres**campanulate, 5–7 mm. **Phyllaries** 12–18+, apices acute to acuminate, abaxial faces piloso-hirsute (hairs 0.5–1.5+), stellate-pubescent, and stipitate-glandular. **Florets** (40–)60–80+; corollas yellow, 6–9 mm. **Cypselae** columnar, 1.5–2 mm; **pappi** of 25–40+,white bristles in 1 series, 3–4 mm.

Flowering (May–)Jun–Aug(–Sep). Disturbed sites; introduced; 10–300(–1500) m; B.C., N.B., Nfld. and Labr. (Nfld.), N.S., Ont., P.E.I., Que.; Conn., Del., Ga., Ill., Ind., Iowa, Maine, Md., Mass., Mich., Minn., Mont., N.H., N.J., N.Y., N.C., Ohio, Pa., R.I., S.C., Vt., Va., Wash., W.Va., Wis.; Europe.

Plants called *Hieracium praealtum* Villars ex Gochnat (at least those called *H. praealtum* var. *decipiens* W. D. J. Koch) reputedly differ from members of *H. piloselloides* in having blades of their proximal leaves stellate-pubescent abaxially (M. L. Fernald 1950); such plants may be found in the flora and may merit taxonomic recognition.

Hieracium umbellatum Linnaeus, Sp. Pl. 2: 804. 1753.

Hieracium acranthophorum Omang; *H. canadense* Michaux; *H. canadense* var. *divaricatum* Lepage; *H. canadense*var. *fasciculatum* (Pursh) Fernald; *H. canadense* var. *hirtirameum* Fernald; *H. canadense* var. *subintegrum* Lepage;*H. columbianum* Rydberg; *H. devoldii* Omang; *H.* ×*dutillyanum* Lepage; *H. eugenii* Omang; *H. kalmii* Linnaeus; *H. kalmii* var. *canadense* (Michaux) Reveal; *H. kalmii* var. *fasciculatum* (Pursh) Lepage; *H. musartutense* Omang; *H. nepiocratum* Omang; *H. rigorosum* (Laestadius ex Almquist) Almquist ex Omang; *H. scabriusculum* Schweinitz; *H. scabriusculum* var. *columbianum* (Rydberg) Lepage; *H. scabriusculum* var. *perhirsutum* Lepage; *H. scabriusculum*var. *saximontanum* Lepage; *H. scabriusculum* var. *scabrum* (Schweinitz) Lepage; *H. stiptocaule* Omang; *H. umbellatum* subsp. *canadense* (Michaux) Guppy; *H. umbellatum* var. *scabriusculum* (Schweinitz) Farwell

Plants 15–60+ cm. **Stems** proximally usually glabrous, sometimes piloso-hirsute and/or stellate-pubescent, distally usually glabrous, sometimes stellate-pubescent. **Leaves:** basal 0(–2), cauline (5–)8–15(–45+); blades lance-elliptic to lanceolate, (20–)50–100(–150) × (10–)15–25(–40+) mm, lengths (3–)5–10+ times widths, bases cuneate to rounded or truncate (then sometimes ± clasping), margins usually toothed (to laciniate), denticulate, or entire (often ± revolute, at least distally), apices obtuse to acute, faces glabrous or ± stellate-pubescent, sometimes ± scabrellous (especially at or near distal margins). **Heads** (1–)5–30(–100+) in corymbiform to subumbelliform arrays. **Peduncles**usually stellate-pubescent. **Calyculi:** bractlets 9–15+. **Involucres** campanulate to hemispheric, (8–)9–11+ mm.**Phyllaries** 12–21+, apices rounded to acute, abaxial faces usually glabrous, rarely piloso-hirsute and/or stipitate-glandular. **Florets** 30–80+; corollas yellow, 10–18 mm. **Cypselae** columnar, 2.5–3.5 mm; **pappi** of 50–60+, stramineous to sordid bristles in ± 2 series, 6–7 mm.

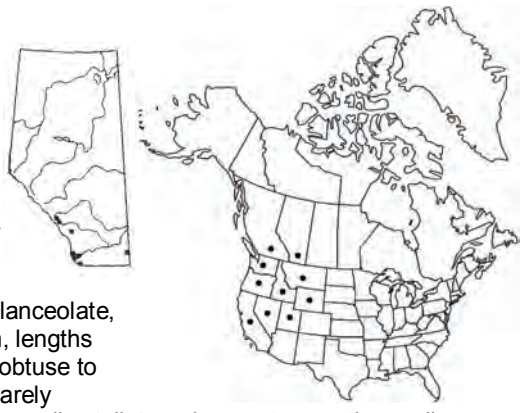
Flowering (Jun–)Jul–Sep. Disturbed sites (fields, roadsides), rocky slopes, openings in forests, prairies, thickets; 600–3200 m; Greenland; St. Pierre and Miquelon; Alta., B.C., Man., N.B., Nfld. and Labr., N.W.T., N.S., Ont., P.E.I., Que., Sask., Yukon; Alaska, Colo., Conn., Idaho, Ill., Ind., Iowa, Maine, Mass., Mich., Minn., Mo., Mont., Nebr., N.H., N.J., N.Y., N.Dak., Ohio, Oreg., Pa., R.I., S.Dak., Vt., Wash., W.Va., Wis., Wyo.; Europe, Asia.

The circumscription of *Hieracium umbellatum* adopted here is supported by research done by others, especially G. A. Guppy (1978) and E. Lepage (1960). *Hieracium canadense* var. *kalmii* (Linnaeus) Scoggan, referable here, is an illegitimate name.

SELECTED REFERENCE

Lepage, E. 1960. *Hieracium canadense* Michx. et ses alliées en Amérique du Nord. Naturaliste Canad. 87: 59–107.

Hieracium scouleri Hooker, Fl. Bor.-Amer. 1: 298. 1833.



Hieracium absonum J. F. Macbride & Payson; *H. albertinum* Farr; *H. chapacanum* Zahn; *H. cynoglossoides* Arvet-Touvet; *H. scouleri* var. *albertinum* (Farr) G. W. Douglas & G. A. Allen; *H. scouleri* var. *griseum* A. Nelson

Plants (15–)35–60+ cm. **Stems** proximally usually piloso-hirsute (hairs 1–8+ mm) and stellate-pubescent, sometimes glabrous, distally usually piloso-hirsute (hairs 1–8+ mm) and stellate-pubescent, rarely stipitate-glandular as well, sometimes glabrous. **Leaves:** basal 0(–5+), cauline (3–)5–10+; blades lanceolate, oblanceolate or narrowly oblong to elliptic, 50–100(–200) × 10–25(–35+) mm, lengths (3–)4–8+ times widths, bases cuneate, margins entire or denticulate, apices obtuse to acute, faces usually piloso-hirsute (hairs 1–5+ mm) and stellate-pubescent, rarely glabrous. **Heads** (3–)9–25+ in corymbiform to thyrsiform arrays. **Peduncles** usually stellate-pubescent, sometimes piloso-hirsute and/or stipitate-glandular as well, rarely glabrous. **Calyculi:** bractlets 5–13+. **Involucres** campanulate, 8–10 mm. **Phyllaries** 12–21+, apices rounded to acute, abaxial faces piloso-hirsute, stellate-pubescent, and stipitate-

glandular. **Florets** 20–45+; corollas yellow, 10–12 mm. **Cypselae** (red-brown or black) columnar, ca. 3 mm; **pappi** of 32–40+, white or stramineous bristles in ± 2 series, 6–7 mm.

Flowering Jun–Sep. Disturbed sites, openings in pine forests and sagebrush, borders of meadows; 400–3000 m; Alta., B.C.; Calif., Idaho, Mont., Nev., Oreg., Utah, Wash., Wyo.

Hieracium triste Willdenow ex Sprengel, Syst. Veg. 3: 640. 1826.

Chlorocrepis tristis (Willdenow ex Sprengel) Á. Löve & D. Löve; *Hieracium gracile* Hooker; *H. gracile* var. *alaskanum*Zahn; *H. gracile* var. *densifloccosum* (Zahn) Cronquist; *H. gracile* var. *detonsum* (A. Gray) A. Gray; *H. gracile* var.*yukonense* A. E. Porsild; *H. triste* var. *fulvum* Hultén; *H. triste* subsp. *gracile* (Hooker) Calder & Roy L. Taylor; *H. triste*var. *gracile* (Hooker) A. Gray; *H. triste* var. *tristiforme* Zahn

Plants (3–)10–20(–40+) cm. **Stems** proximally glabrous or stellate-pubescent, distally usually piloso-hirsute (hairs 1–8+ mm) and/or stellate-pubescent and/or stipitate-glandular, sometimes glabrous. **Leaves:** basal (3–)5–12+, cauline 0–2(–3+); blades obovate to spatulate or oblanceolate, (15–)25–40(–60+) × 5–10(–25+) mm, lengths 2–3+ times widths, bases cuneate, margins usually entire, rarely denticulate, apices rounded to obtuse (often apiculate), faces usually glabrous, sometimes stipitate-glandular and/or scabrellous. **Heads** usually 2–8+ in corymbiform arrays, sometimes borne singly. **Peduncles** stellate-pubescent and stipitate-glandular. **Calyculi:** bractlets 5–8+.**Involucres** ± campanulate, (6–)7–10 mm. **Phyllaries** 13–21+, apices acuminate, abaxial faces piloso-hirsute (hairs 1–3+ mm), stellate-pubescent, and stipitate-glandular. **Florets** 20–60+; corollas yellow, 5–6 mm. **Cypselae**columnar, 1.5–3.5 mm; **pappi** of 30–40+ white or sordid bristles in ± 2 series, 4–5 mm.

Flowering (Jun–)Jul–Aug(–Sep). Rocky slopes, stream sides, conifer forests, drying meadows, subalpine meadows; 100–3500 m; Alta., B.C., N.W.T., Yukon; Alaska, Calif., Colo., Idaho, Mont., N.Mex., Oreg., Utah, Wash., Wyo.

Hieracium albiflorum Hooker, Fl. Bor.-Amer. 1: 298. 1833.

Chlorocrepis albiflora (Hooker) W. A. Weber

Plants 15–40(–90) cm. **Stems** proximally usually piloso-hirsute (hairs 1–6+ mm), rarely glabrous, distally glabrous.**Leaves:** basal (0–)3–8+, cauline 1–5(–12+); blades oblanceolate, 40–100(–300) × 12–30(–60+) mm, lengths 3–5+ times widths, bases cuneate, margins usually entire, sometimes sinuately toothed, apices obtuse to acute, faces piloso-hirsute (hairs 1–6 mm), rarely glabrous. **Heads** (3–)12–50+ in corymbiform to paniculiform arrays. **Peduncles**usually glabrous, sometimes stipitate-glandular. **Calyculi:** bractlets 5–12+. **Involucres** ± campanulate, (7–)8–10(–11) mm. **Phyllaries** 8–13+, apices acuminate, abaxial faces piloso-hirsute (hairs 1–2+ mm), stellate-pubescent, and stipitate-glandular. **Florets** (6–)12–25+; corollas yellow, 9–10 mm. **Cypselae** columnar, 2.5–4 mm; **pappi** of 30–40+, stramineous bristles in ± 2 series, (4–)5–7 mm.

Flowering (May–)Jun–Sep. Chaparral, conifer forests, meadows, stream beds, serpentines, volcanics, around mineral springs; 10–2900 m; Alta., B.C., N.W.T., Que., Sask.; Alaska, Calif., Colo., Idaho, Mont., Nev., Oreg., S.Dak., Utah, Wash., Wis., Wyo.; Mexico (Chihuahua, Sonora).

Sources:

Strother, John L. 2006. *Hieracium*. In: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford. Vol. 19, 20 and 21, pp. 219, 178, 179.

Moss, E.H. 1983. Flora of Alberta. Second edition. Revised by J.G. Packer. University of Toronto Press, Toronto, Ontario. ♦

Unusual western wood lily (*Lilium philadelphicum*) with four sepals and four petals.

Photo J. B. Posey

ANPC Objectives

The Alberta Native Plant Council strives to:

- Promote knowledge of Alberta's native plants.
- Conserve Alberta's native plant species and their habitats.
- Preserve plant species and habitat for the enjoyment of present and future generations.

The Council's specific objectives are:

- To educate individuals, industry, and government about native plants.
- To promote awareness of native plant issues through a newsletter, an annual workshop, and in the media.
- To co-ordinate information and activities concerning Alberta's native plants.
    - o To develop briefs or position papers for special projects; for example, biodiversity, forest vegetation management, wetlands, rare species or phenology.
    - o To organize field trips, plant studies and May Species Counts.
    - o To update lists of current research and conservation projects.
- To preserve natural habitats and plant communities.
    - o To support legislation that protects native plants.
    - o To take action to establish, preserve and manage protected areas.
    - o To undertake Alberta projects jointly with like-minded groups.
- To encourage appropriate use of Alberta's native plants.
    - o To produce information on the use of native plants in land reclamation.
- To develop and distribute collection, salvage and management guidelines.
    - o To update a list of native seed sources and suppliers for horticulture and reclamation.

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