BOW VALLEY NATURALISTS NEWSLETTER, <u>SPRING 2009</u> BOX 1693, BANFF, AB T1L 1B6

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OUTINGS

MAY SPECIES COUNT

Saturday and Sunday, May 30 & 31

The Bow Valley Naturalists' portion of the May Species Count, a province-wide event co-ordinated by the Federation of Alberta Naturalists, will be held on May 30th in the **Mount Yamnuska** area and on the 31st in the **Banff-Canmore** area. Last year the count was held on March 24-25, the earliest dates it can be done (always the last full weekend in May). This year it will be done on the last dates it can take place. We are hopeful that the count will produce higher results. If only it will start warming up.

Compared to 2007, the numbers reported last year were much lower for flowering plants. The bird count was nearly the same for the Yamnuska and a higher number in Banff.

Flowering plants reported:

Yamnuska: 53 species in 2008 compared to 84 in 2007. Banff: 66 species in 2008 compared to 88 in 2007.

The bird numbers:

Yamnuska: 61 species in 2008, 58 in 2007. **Banff**: 98 species in 2008, 85 in 2007.

For more information and to find out how to participate contact:

Diane & Mike McIvor at 762-4160 Bob Smith at 678-4720

Banff Community Bird Walks 2009 Spring Migration Series

The Banff Community bird walks are guided by volunteers and are free of charge. Everyone is welcome whether it's your first time birding or your hundred and first. The meeting place is at the corner of Sundance Road and Cave Avenue by the Recreational Grounds.

Here is the schedule:

- Monday May 11 7:50 am
- Monday May 18 9:00 am (notice the late start)
- Monday May 25 7:50 am
- Monday June 1 7:50 am
- Monday June 8 7:50 am

For more information contact: Tomo Fujimori at banffcommunitybirdwalk@hotmail.com

EVENTS

Banff National Park 2009 Research Updates Speaker Series at the Whyte Museum

Thursday, May 14, 7 - 9 pm

From Rock Concerts to Rock Climbing: Visitor Perceptions About Special Events in the Mountain National Parks
Sheila Luey

Burgess Shale Bits and Bites

Jean Bernard Caron

Thursday, May 21, 7 - 9 pm

- Besant in the Mountains: 2000 Years of CulturalHistory in Banff National Park Sheila Greaves, Brad Himour
- Views on Vegetation Management: What the Locals Think
 Bonnie McFarlane
- March of the Worm: An Exotic Parasite in Banff National Park Elk
 Nathan DeBruyn

Thursday, May 28, 7 - 9 pm

- Does Size Really Matter? Impacts of Introduced Trout on Streams Amanda Warman
- Scuds and Squeezes, What Do They Have in Common? Castleguard Cave Explorations Greg Horne

Events are free! Call 762-1464 for more information or email Heather.Dempsey@pc.gc.ca

Art Show Opening - the BVN Connection

Beginning Saturday, June 27, a very interesting art show will be on display at the Canmore Public Library Gallery for two weeks. It will consist of paintings by two Calgary artists – Lyse Deselliers and Mary-Leigh Doyle – who have been inspired by the exploits of Karsten Heuer and Leanne Allison on their various expeditions (Yellowstone To Yukon Hike, Being Caribou, Finding Farley). The opening of the show will take place at 7:00 pm on Saturday the 27th. It will include a cash bar and thanks to the generosity of the artists, all proceeds from the bar will be donated to the Bow Valley Naturalists. Be sure to put this date on your calendar. You can enjoy the show, meet the artists, and have a drink for BVN.

MAPS VOLUNTEERS HELP WANTED!

If you dare to watch the sunrise and get up close and personal with birds there's no life like it. We have a job for you! For several years BVN has been running a bird banding project in the Bow Valley. The project is part of the monitoring program managed by the Institute for Bird Populations based at Point Reyes Bird Observatory in California. MAPS's (Mapping Avian Productivity and Survivorship) goal is to provide long-term demographic data on birds as an aid to identifying the factors driving bird population trends. We will be setting up a schedule of volunteers for the summer to be sure we have the help we need to operate the MAPS bird banding station at Ranger Creek.

Email Peter.Duck@shaw.ca if you want to add your name to our list of potential volunteers.

ISSUES

Petition Response: Carefully Considered Spin

Mike McIvor

Right at the April 9th deadline determined by the Auditor General Act, Environment Minister Jim Prentice sent a response crafted by Parks Canada officials to the petition submitted by the Jasper Environmental Association, UTSB Research, and BVN to the Commissioner of the Environment and Sustainable Development. (The background to this issue was covered in previous newsletters available on BVN's website <www.bowvaleynaturalists.org>). In this petition the groups had raised concerns about a number of aspects related to Parks Canada's approval of site guidelines for the Marmot Basin Ski Area in Jasper National Park; a series of questions requiring answers was presented.

It would be fair to say that the answers were both more or less what was expected and extremely disappointing. Clearly, senior managers with Parks Canada have embraced their own fanciful "gain game"; it's their story and they're sticking to it. Despite highlighting the definition of Substantial Environmental Gain as "a positive change in key ecological conditions..." the response completely fails to identify any actual, on the ground changes to key ecological conditions that would result from moving a line – the ski area's lease boundary – on a map. Of course the reason real, positive changes are not identified is because they exist only in the imaginations of these managers.

As to the concerns expressed by Jasper National Park's biologists that removing only a portion of the Whistler's Creek drainage from the leasehold would not be significant, especially given the proposed increase in development? Well, it was very comforting to learn from the response that even though "not every single opinion was directly reflected in the final products" the views of Parks Canada's own specialists were "carefully considered".

And the views of the public, including conservation groups – 10 regional and national organizations joined JEA, UTSB and BVN in signing 2 letters to the previous minister – who challenged the false substantial environmental gain argument? You guessed it.

Those views too, despite having no effect at all on the managers' chosen direction, apparently also were "carefully considered". The groups are now carefully considering their next steps.

Mountain National Parks Management Plan Review

This process is now underway with initial information gathering and analysis. During the summer, draft management plans will be prepared and readied for review in the fall. In the winter, finalized plans will be submitted to parliament for approval. Along this route, beginning now, there will be opportunities for the public to participate.

Much of the consultation will be conducted on-line. Information about upcoming opportunities for public participation is available at www.pc.gc.ca. And you can join the on-line public participation site by emailing pc.gc.ca.

We hope to arrange a meeting with Mike Murtha, a senior planner with Parks Canada, for an overview of the process and a discussion of what the key issues will be. Once a date is set we'll notify members on the BVN email list; other members who are interested but are not on that list should phone the McIvors to ensure you will be notified at the same time.

Parks management plans are very important documents so this review process is very important. We strongly encourage everyone to participate. Parks Canada needs to be made aware that many people staunchly uphold national park values and don't appreciate the current shift towards parks as playgrounds.

Vision 1994

Back in the early 1990s, Parks Canada had launched a public consultation process as part of its first Four Mountain Park Management Plan Review. BVN participated actively and in our Fall 1994 Newsletter we provided members with a brief update on the progress of the review, encouraging them to become involved. Then we went on to point out that since Parks Canada had not yet articulated a vision for the 4 Mountain Park Block, we were prepared to offer one. We wondered if it still was relevant today, fifteen years later, at a time when Parks Canada is reviewing mountain park management plans again and when senior park managers seem determined to increase visitation numbers. We've reproduced it below. Let us know what you think.

The 4 Mountain Park Block will be the heart of the protected core of the Rocky Mountain Ecosystem. The scale of this protected core, which will be surrounded by compatible land uses, will be large enough to allow the full flourishing of biological diversity and ecological processes.

The 4 Mountain Parks and Parks Canada will have contributed to a profound shift in human sensibilities. The Earth is re-inhabited as a home, not exploited as a collection of commodities. Parallel with a substantial decline towards sustainable levels of population world wide, human use in the 4 Mountain Parks has declined. The quality of park experience for all visitors has risen dramatically since the industrial-tourism-growth paradigm was dismissed as an historical and philosophical aberration. Parks Canada, park residents and people in the regions surrounding the 4 Mountain Parks have been world leaders in testing the changes and constraints required for

adaptation to a model of sustainability. They have pioneered a new economics based on ecological values and have shown the way towards restoration of landscape and human communities. The 4 Mountain Parks are celebrated for their contribution to a greater whole and for the lessons they have taught humanity.

Bow Valley Happenings

First and Last

Brenda Lepitzki

Most of us eagerly look for our "firsts" of spring, usually the first robin or the first crocus, and it's interesting to compare the timing of these over the years. That's why we were so excited to see an early dragonfly, a Four-spotted Skimmer, at 3rd Vermilion Lake on 18 April. This was much earlier than we've ever seen other dragonflies such as darners flying. We witnessed its maiden flight from the lakeside to a bush across the road, where it rested its new shimmering wings. Four of us stood admiring the skimmer. Not one to rest long, it took off again in the slight wind. Suddenly as Dwayne said "Hey what's that bird" a small feathered bullet shot out of nowhere toward our subject, and landed uphill on a rock. The glossy wings were soon plucked as the song sparrow ate its sizeable meal. We watched, dismayed at the short adult life of this skimmer. Mutterings of "darn bird", "dragon slayer" and "did anyone get a picture?" were heard as we watched the final moments of our most memorable first so far this spring.



Song Sparrow

photo: D. McIvor



Four-spotted Skimmer

photo: D. McIvor

Monsters of the Bow

Brenda Lepitzki

The first time I encountered one I was horrified. My brother and I were fishing along the Bow River, and we had to climb from the narrow sandy shore up the bank in order to move upstream. We simultaneously grabbed different stumps leaning out over the river as we scrambled upwards and as my brother let out a yell, I saw what I also had just missed squishing with my hand – a rather large, grotesque dead thing that looked like it was a monster. I think it even ended the fishing trip we were so startled.

Curiosity took over soon after, however, and we were told by my father that the monsters were actually exuviae, or shed larval skins of stoneflies. These insects live two lives. First they are aquatic, as larvae hatching from eggs laid in or near the water, and then as terrestrial and aerial adults. In both stages they are an important food source for other animals such as fish, birds, and small mammals.



Stonefly exuvia

photo: M. McIvor

Larval stoneflies live mostly in streams and rivers in the foothills and mountains, and along with mayflies and caddisflies are indicators of the quality of the aquatic habitat. Most larvae will live two years in that stage, moulting many times and growing larger by eating other invertebrates or algae and detritus. When the time comes to transform to adult form the larvae crawl to shore and climb up objects like stones (hence the common name) or stumps. There they rearrange their bodies and emerge as adults, usually winged, and crawl or fly some distance away from the water. The last larval skin left behind is a perfect imprint of the insect, and in good condition they can be used to identify the individual to family level. Some stonefly species found in the mountains are very large, over 5 cm long, but most are half that size.

Many stonefly species do not feed as adults, and only live a short while, even as little as a week. Their only pursuit is to find a mate and lay eggs. Males of some species drum their abdomen on the ground or perch, attracting females that sense the vibrations and drum back. Most stoneflies emerge during spring or summer, but there are some which emerge in February to March, known as the winter stoneflies. These smaller stonefly species from several different families may be seen walking on snow or emerging from the water underneath the ice on debris.

Those earlier days were brought to mind this winter when we once again encountered these "monsters" along the Bow River. The exuviae were still clinging to bushes and stumps along the river's edge, in spite of the driving winter winds. Now I regard them as signs of the incredible diversity and productivity of insect life, even here in the mountains.

But I still have to rush home sometimes to briefly escape the real monsters. These ones mostly have two legs, not six, and strange ideas about what national parks are all about. Not even my father can explain them and make them harmless.

Cicada song

Brenda Lepitzki

Even as the snowflakes drift softly down in another springtime flurry, you can probably hear some of the newly arrived birds such as juncos and kinglets singing. There is another song to listen for, but you won't hear it for a long time after reading this.



In the warm, dry days of late summer, near a mixed or poplar forest, you may hear a high-pitched buzzy hum in the heat of the afternoon and early evening. The songsters of spring have long given up their territorial and mate-attracting warbles, but this single-pitched song is similarly the mating call of a cicada. You can spend long hours trying to locate even the tree the cicada is singing from because of its loud, confusing volume. Easier to find are the cicada's closest relatives, the plant hoppers and spittle bugs, which we commonly find in the lower levels of vegetation and in our gardens.

This is one of those creatures that I have only known about in recent years. I can't determine if it is because when I was younger, I never paid any attention to the finer details of life in the mountains, such as the insects and other smaller life forms, or if it is because these creatures are moving into this area. In any case, I only heard cicadas here after experiencing them in eastern Canada and Illinois, where the cicada song bombards your ears incessantly in the hot summer afternoons.

Cicadas spend several years underground as nymphs, feeding on tree sap in roots. Some will emerge every year as adults to reproduce then die, but some eastern cicadas only emerge after a 13 or 17 year underground period (that genus is aptly named *Magicicada*). These emergences are spectacular with thousands to millions of individuals maturing at once. This is an effective strategy to overwhelm predators, but think of the cacophony!

When they emerge, the nymphs crawl up tree trunks and transform into adults. Adults are stout-bodied bugs, with bright markings on the dorsal surface of the thorax and large, clear wings. The males sing by vibrating two drum-like structures on their thorax at a very high rate. It is a race to attract a mate before the killing frosts of autumn arrive. Eggs are laid in tree twigs, where the nymph hatches, falls to the ground and burrows to find the tree roots which will sustain them. I think the cicada we have seen here in the park is *Okanagana*, but this is an identification by photo only. So

far, I've only heard them in forests with stands of poplar, such as in the Yamnuska, and near Cascade mountain, and by the river below the bridge in Banff. *Okanagana* is more northern in its distribution than other common cicadas.

There is so much more to learn about cicadas, especially in our local environment. Where else in Banff National Park are they found? How would the indiscriminate use of fire, especially on a large scale, affect their populations and life cycles? Are they adapted to fire? Or have they been able to successfully colonize because of fire suppression? How many species are here? How long is their life cycle?

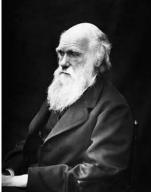
Better just start by making sure you get out to listen for this summer's cicada symphony.

Celebrating Science

Shellev Mardiros

2009 is an anniversary year for two events in the history of science that transformed our understanding of the world around us. In 1609, Italian polymath Galileo Galilei pointed a recently invented novelty, the telescope, to the night sky and his observations thereafter led to a literal cosmic shift in human thinking – although, as always, the triumph of observation and reasoning as opposed to sincere erroneous conviction was not a foregone conclusion. In his time Galileo faced the Inquisition on a charge of heresy. Even now, 400 hundred years later, humankind has accepted that the sun does not revolve around the earth but we may still be clinging to the illusion that the world revolves around humans.

Charles Darwin, born in 1809, published "On the Origin of Species" in 1859, proposing the mechanism by which all life diversified from a common beginning, and thereby laying out in a systematic way the profound interconnectivity of living things and their environment. No Inquisition threatened Darwin but his demotion of humans from "God's creation" to mere animal was not universally popular.



Charles Darwin

Both men advanced the cause of the scientific method as a means of understanding the world – curiosity, painstaking observation and record-keeping, open-minded contemplation, testing of hypotheses. Today, advances in biology, medicine, geology and space science have made the theory of evolution as uncontroversial among scientists as the theory of heliocentrism, but surprising numbers of people – including, apparently, Canada's current Minister of Science and Industry – reject evolutionary explanations in favour of faith-based belief systems.

The trouble with characterizing scientific explanations as equal to, but no better than, beliefs based on faith, intuition, personal experience or other non-scientific foundations, is that we are left with no objective means of assessing what has happened, is happening or will happen on our planet. Perhaps a widespread ignorance of science leads many of us to reject the evidence and the consensus among natural scientists, that our planet is facing a human-caused climate change crisis upon which we must act urgently.

It was no doubt difficult for the populace in 1609 or 1859 to appreciate and adopt the radical changes in worldview that carefully considered observations of the natural world were forcing upon them. Likewise, we in 2009 are reluctant to acknowledge what climate science tells us.

Perhaps this year's global Darwin 2009 Festival and the International Year of Astronomy will inspire us, in a celebratory way, to think more deeply about the discoveries of the past and our responsibilities for the future.

BOOK REVIEWS

Natural Acts by David Quammen

I was recently in Victoria, BC for a couple of weeks. One afternoon I tore myself away from the waterfront and met a friend and her two sons at 'The Bug Zoo', an unpretentious establishment on Courtenay Street. About 40 exotic 'buggy' species are accommodated in aquariums, each customized for its current occupants. There is a big colony of leaf-cutter ants housed in linked containers along the perimeter walls of one room, and there are several scorpions and tarantulas residing in another room. A knowledgeable and affable interpreter explains the natural history of each species and coaches those interested in handling one for a few moments. The appeal is universal.

After the visit to the bug zoo, I walked a couple of blocks to Munro's, Victoria's premier bookstore elegantly occupying a neoclassic building designed for the Royal Bank in 1909. It is compact by the standards of big-box bookstores, always has great current publications and also makes room for some intriguing books at bargain prices.

One of the books I bought is *Natural Acts* by David Quammen, author of *Monster of God* and *The Reluctant Mr. Darwin*. In part, it is a reprise of a book he first published in 1985. However, this edition, published in 2008, has a new introduction and a whole section of essays written since 2000.

It was a perfect volume to explore after my trip to the Bug Zoo. Stories of insects drew me into a book about a whole lot of other science-related content. Most of the 'old' introduction is about beetles and the first essay is all about mosquitoes — who would ever guess that something positive could be written about a most annoying pest? Stories of other species follow: snakes and spiders, bats, crows, octopus and butterflies.

Other sections include stories about scientists, a few essays explore conundrums — Is Sex Necessary? Yin and Yang of Tularosa Basin — a personal essay about a loved dog, a discussion of weeds and a long essay about cloning. Some of the tales are familiar; some are not. Nonetheless, each is fresh, with a little twist, a new perspective or an ethical challenge to ponder.

Don't gloss over the introductions — the original and one newly penned for this volume. Each essay has intrigue, occasionally a little humour, and draws the reader to the next, possibly unfamiliar, topic. I was sorry to turn the last page. The content and writing style of David Quammen's books insure lasting appeal. *Natural Acts* will stay on my shelf. Most certainly, I will revisit some of the essays and, occasionally, loan the volume to a friend. *Colleen Campbell*

One Square Inch of Silence by Gorden Hempton

Try to imagine a place where you can listen for 15 minutes in daylight hours without hearing a human- created sound; a place where the only sounds are those of the natural world around you. No engines; no tires on pavement or steel wheels on steel tracks; no phones ringing; no unwanted tunes; no horns or sirens; no distant passenger jets. If you come across such a place, you may have found one square inch of silence.

One Square Inch of Silence is more than a place, however. The brainchild of Gordon Hempton, it's the name of a campaign to protect natural soundscapes. A professional sound collector in the U.S., Hempton won an Emmy Award in 1992 for writing, recording, and directing the PBS documentary "Vanishing Dawn Chorus" a portrait of the sounds of silence around the globe. Silence, he makes clear, is not the absence of sound, it's the absence of noise. And his greatest concern is not with the noise in cities but with the loss of silence in wild places.

In the 1980's, as his interest in acoustic ecology deepened, Hempton began a quest for quiet. Using a grant he received in 1989 he produced a report, The Preservation of Nature Sounds as a Natural Resource of the Pacific Northwest, in which he articulated the role of One Square Inch as a natural soundscape management tool. Noise radiated, he thought, why shouldn't silence. Can protecting one square inch of quiet manage a thousand square miles around it?

Realizing there are no places left in Europe or eastern North America that could meet the requirements he concentrated his search in the western U.S. On Earth Day, 2005, the first – and so far, the only – One Square Inch of Silence was designated at a site on the Hoh River in the temperate rain forest of Olympic National Park in Washington State.

Wouldn't it be wonderful to establish a National Quiet Places System Hempton muses, but then he says, wait a minute, one already exists; it's called the National Park System. Interestingly, in the U.S., National Park Service documents actually identify silence and the natural soundscape as natural resources. Unfortunately, despite management obligations to protect natural resources, no park has put forward a plan yet, to protect the quiet of wild places.

But at least it is recognized as a value. In Canada, you will look in vain through Parks Canada policy or management planning documents for the slightest consideration of the soundscape let alone the idea that the opportunity to experience natural quiet is a worthy "visitor experience" objective. I should add that not all the blame for this should be laid at the door of Parks Canada. Perhaps the reason for managerial silence on this topic is because those of us who care about it have not made our case loudly enough. As Hempton says "Saving silence will take many voices." Gordon Hempton's ideas have now taken shape in a book co-written with journalist John Grossman that was published this

spring: "One Square Inch of Silence: One Man's Search for Natural Silence in a Noisy World". In it, he presents passionate arguments not just for reducing noise but for protecting and restoring quiet. Sound meter in hand, surveying the soundscape, he takes us on a journey across the US in an ancient Volkswagon van from his home in Washington State to Washington, D.C. where he lobbies politicians and bureaucrats who could help bring about the kind of changes he believes are necessary. He is particularly concerned with noise in wilderness areas but we need more quiet everywhere, he says, worrying about Quiet Deficit Disorder because the loss of silence leads inevitably to the loss of awareness.

Natural quiet is rare and fleeting in the Bow Valley and, of course, one square inch of silence would be impossible to find. We have to work to turn-off the noise of traffic, helicopters, trains, and the incessant urban hum that emanates from the towns. And after tuning-out noise in self-defense, we have to re-learn how to hear bird songs or the flow of the river.

Do you have your favourite quiet places in the Bow Valley or in the backcountry? Cherish them. And do what you can to keep them that way. *Mike McIvor*

"Where civilization is most advanced, few birds exist. I would rather have birds than airplanes."

Charles Lindbergh, pioneer aviator quoted by Hempton and Grossman in **One Square Inch of Silence**.

"Silence alone is worthy to be heard."

Henry David Thoreau – January 21, 1853 quoted by
Terry Tempest Williams in her new book:
Finding Beauty in a Broken World.

It's a Small World

Mike McIvor

A number of years ago, in the early days of January I received a phone call from a fellow in Whistler, B.C. named Karl Ricker. He explained he was an avid birder who participated in several Christmas Bird Counts in the western interior and along the coast of B.C. and that he was the compiler for the Whistler CBC. He wanted to compare those results with our counts in the mountains of Alberta. Subsequently, each year he would call around the same time and we would exchange information over the phone, sometimes sending complete compilations through the mail.

This year I didn't hear from him until early February when a package arrived at the post office. Assuming he had sent more results, I read his handwritten letter with interest that soon turned to delight. Somewhere, he had come across our January 2009 winter newsletter (now on our website) so he was aware how we had done. Cold conditions were far from unique to the Banff-Canmore count he assured me and said of the 8 counts he participated in, he couldn't decide which had been the most brutal.

But after briefly sharing some feathered highlights he went on to say that what had really caught his attention in the newsletter was the article on Dr. E. M. Walker and his discovery of the "ice bug" on Sulphur Mountain. Why? Because his father had taken courses from Walker at the University of Toronto in the late 1920's and early 1930's. At that time, William Edwin (Bill) Ricker was working towards a PhD in fisheries science. Walker urged him to augment his workload by undertaking what was then, a wide-open field of study, that of stoneflies (Family Plecoptera). Bill Ricker went on to become an internationally renowned fisheries scientist and scientific editor AND a world authority on stoneflies, discovering a great many species new to science. In fact, he was so prolific an author in both fields that apparently many people believed his articles were the work of 2 different men with the same name.

I know this because the package Karl sent was not about bird counts; it was a series of reprinted articles from the journal Environmental Biology of Fishes, published in 2006 as a tribute to his father. From these, I learned much about the life of a fascinating man. A few years after completing his PhD at the U. of T., Bill (everyone, including his sons called him by this name) left Canada to teach at Indiana University in the U.S. before returning in 1950 to a position at the Pacific Biological Station in Nanaimo, B.C. He remained there until his "official" retirement in 1973 but maintained an active office at the Station until less than a year before his death at the age of 93.

His early interests actually were in plants and birds and although he obviously traveled a different route with his academic and professional careers, these were never abandoned. And a passion for science did not preclude a love of music; in the early 1950's he learned to play the double bass so he could join 3 of his sons – Karl played the French horn – as a member of the Nanaimo Symphony Orchestra.

Immersing himself in the scientific literature of the 50's and 60's it became clear that a great deal of the fisheries research in the world, including some of the finest, was being conducted in the Soviet Union. So Bill taught himself Russian, becoming so proficient that in 1973 he published the Russian-English Dictionary for Students of Fisheries and Biology, a communications tool still widely employed. The recipient of many honours and awards for his immense contributions one recognition that especially pleased him was the naming of the Canadian Fisheries Research Vessel, the W. E. Ricker in 1986, the same year he was appointed an officer of the Order of Canada.

Two of his former colleagues wrote that Bill Ricker "had a life of discovery". It made me think the possibilities are endless for all of us if we keep exploring the world around us. Realizing this particular story in which I have learned about 2 of Canada's foremost scientists began when I turned over a log at the base of Mt. Rundle and found an "ice bug", reminded me yet again, that every time we go out there is something waiting to be discovered.



spring blooming Calypso orchid