



The Red Deer River Naturalist

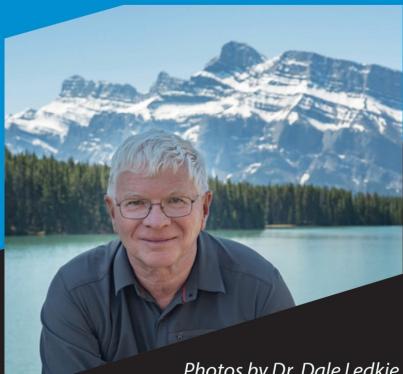
EDITORS: MYRNA PEARMAN, JUDY BOYD, SUSAN VAN DER HOEK

OCTOBER 2018

Red Deer River Naturalists Annual Banquet

**Friday,
October 26, 2018**
Doors open 6:00; Dinner 6:30 pm
**Pioneer Lodge, 4324 46a Ave,
Red Deer**
**Tickets are \$30 and available
at the Kerry Wood Nature Centre**

Award-winning Geologist and best-selling Author Dr. Dale Leckie guides you through the Canadian Rocky Mountain National Parks. The story of the Rockies, its rivers and valleys, glaciers and hot springs, caves and karst, mountain building and erosion unfolds. With eye-catching illustrations, photographs and easy to understand explanations, this presentation blends story telling with science and natural beauty. Be prepared to be amazed by the story written in the *Rocks, Ridges and Rivers* presentation.



Photos by Dr. Dale Leckie

Dr. Dale Leckie has a Ph.D. in Geology, and a M.Sc. and B.Sc. in Geography. He has worked as a Scientist with the Geological Survey of Canada and as a chief Geologist with a large Canadian oil company. Dr. Leckie is currently Adjunct Professor in the Geoscience Department at the University of Calgary. Dr. Leckie has been President of the Society for Sedimentary Geology (SEPM) and the Canadian Society of Petroleum Geologists (CSPG). He has been recognized for his long-term contributions to Geology and is an honorary member of SEPM and CSPG.

Dr. Leckie has been leading Geology field trips in Western Canada throughout his career. Rest assured, though, that you don't have to go too far into the field to see the sites and features described in "Rocks, Ridges, and Rivers" - all are accessible from Parks Canada roadside pullouts or via short walks along well-maintained trails.

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Red Deer River Naturalists
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SAPAA AGM: SATURDAY, OCTOBER 20

The Stewards of Alberta's Protected Areas Association (SAPAA) is holding their AGM at the Kerry Wood Centre .

9:30 AM	Speaker: Dr. Charles Bird: "Why We Preserve Locations like the J.J. Collett Natural Area"
11:00 AM	Speakers: Nissa Pettersen and Grace Wark (AWA) "AWA Wild Spaces 2020 Campaign"
NOON	Lunch (Please bring your own)
2:00 PM	Walk in the J.J. Collett Natural Area with Dr Charley Bird.

THIRD SYMPOSIUM ON WILDERNESS, WILDLIFE AND HUMAN-WILDLIFE INTERACTIONS: CHANGING THE PARADIGM

NOVEMBER 9 - 10, 2018

The Cochrane Ecological Institute will be hosting this third annual conference at the Cochrane Ranchehouse in Cochrane. This symposium attracts international speakers and is a very valuable gathering. Check out www.ceinst.org for more details. The link to ticket purchase (only \$40 each for the Symposium) can be found at www.facebook.com/CochraneEcological

NOVEMBER 9: AN ETHNOGRAPHIC APPROACH TO WILDLIFE CONSERVATION
NOVEMBER 10: SYMPOSIUM

INTERESTING SIGHTINGS:



Photo by Bill Heinsen

Bill Heinsen had a very yellow-colored House Finch visit his Calgary feeders.



A Long-tailed Weasel was seen on and off over the summer at Ellis Bird Farm.

Dr. David Bird

Feathering One's Nest

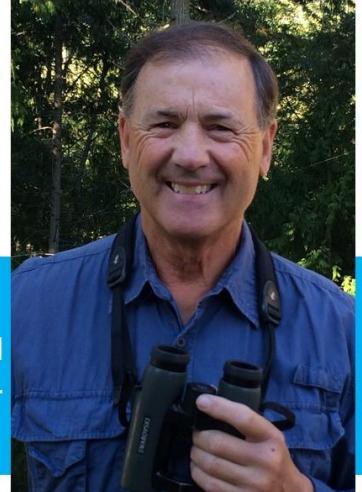
Why do birds use nests? How do they choose where to build them? Why do some birds nest in colonies? Could you build a 9,000 pound nest using only your toes and lips? How did 25 pounds of gold eyeglass frames end up in a house crow's nest? You will not believe some of the things bird do to house their eggs and babies!

Kerry Wood Nature Centre • Tuesday, October 16th • 7:00 PM • No Charge



As an Emeritus Professor of Wildlife Biology at McGill University, Dr. Bird has published 200 scientific papers, supervised 50 graduate students, and has written/edited ten books. Dr. Bird is a past-president of the Raptor Research Foundation Inc. and the Society of Canadian Ornithologists. He writes a bird column for *Bird-Watcher's Digest* and *Canadian Wildlife* magazines and does a biweekly video blog for *Brome Bird News*.

Most recently, Dr. Bird has become a champion of renaming the Canada Jay and having it made Canada's National Bird.



In Red Deer for only one night on an Alberta tour! Co-hosted by Kerry Wood Nature Centre, Red Deer River Naturalists and Ellis Bird Farm.

DR. SALLY STUART'S SEASONAL SIGHTS AND SOUNDS OF ALBERTA: *NOCTURNAL SCALY WINGS, MYSTERIOUS MOTHS*

Moths are fascinating. Throughout the summer, armed with a newly purchased macro lens, I would go outside each morning at about 6:30 AM to photograph the moths attracted to the lights at the front of our house. According to Arthur Evans' *Field Guide to Insects and Spiders of North America*, there are 12,000 species of Lepidopterans (the insect group to which moths and butterflies belong) in North America. Of these, over 11,000 species are moths!

Despite their abundance, most people know little about them, probably because they are seldom encountered in the daylight hours. Most human-moth encounters involve the larvae (caterpillars), which are often considered economic pests because they can damage plants with their chewing mouth parts. However, moths play important roles in the ecosystem because they are a major food source for animals, such as bats and birds, and they are important pollinators.

One particularly intriguing example of a relationship that has existed for millions of years—that of the Yucca plant and the Yucca moth—can be seen in the semi-arid regions of southeastern Alberta. The Yucca Moths mate in freshly opened flowers of the Yucca plant (picking up pollen in the process). Female moths then find another Yucca flower, into which they insert their ovipositor and deposit eggs adjacent to the developing ovule which, when fertilized, will become the seeds. The moth will then climb to the tip of the style and will, using specialized tentacles, transfer the pollen. The pollen then travels down the style and fertilizes the egg. This relationship is termed “obligate mutualistic relationship” because without the Yucca Moths, the plants cannot be pollinated and without the Yucca plant, the caterpillar—which feed on the seeds and fruit—would not be able to survive.

The Lepidopteran group refers to their scaly wings. Fossilized wing scales indicate this insect group was present in the late Triassic, about 200 million years ago. The millions of scales that cover their bodies are remarkable structures, having a diverse range of functions, including sexual attraction, camouflage, warnings about noxious taste, reflecting or absorbing sunlight, and protection against spiders (they can be shed when caught in webs). However, some of their most amazing functions relate to the avoidance of predatory bats.

Ever since bats evolved about 53 million years ago and evolved ways to detect moths, moths have been evolving mechanisms to avoid detection. Scientists examined the structure of moth scales in detail, revealing their complex

structures. They are made in layers of a hard chemical called chitin and have a somewhat honeycomb appearance containing air pockets. Incredibly, research shows that this structure allows them to absorb high frequency sound waves, hence making it harder for bats to detect them. Butterfly scales do not have this attribute.

Some species such as hawk moths (*Sphingidae*) have modified scales at the rear end of the body called “stridulatory scales.” These scales can produce high frequency sounds, which in turn jam the ultrasonic sounds produced by bats, hence confusing the bat, as they rely on the returning echo to detect their prey. Moth’s can hear using a tympanic membrane, which in most species is located in the thorax at the base of the wings. It appears that the frequencies at which most bats echo-locate corresponds to the frequencies that moths hear best.

As a physiologist, moth antennae are particularly interesting to me. While some antennae are very simple structures and others are complex, all contain small bristles or hair-like odour-detecting structures called sensilla. The One-eyed Sphinx (*Smerinthus cerisy*) photographed at my place in early July (shown here), had some of the most elaborate antennae.

For night-flying moths, the challenge of finding suitable mates in the dark has been met using chemicals called pheromones. Male moths use their antennae to detect the pheromones produced by females; they fly upwind, often in a zig zag flight pattern, waving their antennae to sample the air with their complex sensilla. The sensilla contain tiny pores, which allow the chemicals to be detected by the sensory cell receptors. These receptors have the ability to detect a single molecule of pheromone! A male Spruce Budworm Moth (*Choristoneura fumiferana*) can detect pheromones from several kilometers away.

Survival relies on sensory perception. Evolution has provided moths with an exquisite sense of smell and hearing. When you are next out on a warm late summer night, imagine the stridulatory scale-generated “screams” of the moths and the scent of their pheromones!



Photo by Sally Stuart

NATURE NOTES FROM AL BATT:

pleasing palette. Faith Baldwin wrote, “Autumn burned brightly, a running flame through the mountains, a torch flung to the trees.” In the 1600s, people began using the phrase “fall of the leaf” to refer to the autumn season. Over time, it was shortened to fall. The word fall comes from the Old English word feallan, which means “to fall or to die.”



BIRD FOCUS: KEITH KLINE

All walks start at 1:30 PM

October 6: Heritage Ranch. Meet in the first parking lot

October 13: Riverbend Golf Course. Meet in the first parking lot at the bottom of the hill

October 20: Gaetz lake Sanctuary. Meet at KWNC

October 27: Hazlett Lake. Hwy 11A west, last right turn going west before the interchange (where I will be standing)

November 3: Powerline at 30 Ave and 22 St. Meet at Vanier Dr and 22nd St. Park on Vanier Dr.

November 10: South of Red Deer College. Meet in the south west parking lot beside the weather station

November 24: Bower Woods. Meet at # 35 Selkirk Dr.

December 1: Gaetz Lake Santuary. Meet at KWNC. Cake and coffee to follow

INSECT FOCUS: DON WALES

Wednesdays • KWNC

10:00 AM — 12:00 PM

October 17: *Trichoptera* (caddisflies), *Neuroptera* (nerve-winged insects) and a start on *Coleoptera* (Beetles)

November 21: More beetles

January 16, 2019: *Lepidoptera* and miscellaneous Orders

February 20, 2019: *Diptera*- the flies

March 20, 2019: *Hymenoptera*

April 17, 2019: Field trip and review

May 15, 2019: Field trip

RDRN Bird Focus Group Walk • June 2, 2018 • Hazlett Lake, Red Deer • 14 Observers • Host: Keith Kline

Species: Red-winged blackbird, Clay-colored Sparrow, Alder Flycatcher, Yellow Warbler, Tree Swallow, Least Flycatcher, American Goldfinch, Black-capped Chickadee, European Starling, House Finch, American Robin, Cedar Waxwing, Red-tailed Hawk, Northern Flicker, American Crow, Black-billed Magpie, American Coot, Ruddy Duck, Redhead, Ring-billed Gull, Northern Shoveler, Mallard, Lesser Scaup, Red-necked Grebe, Common Raven.

AMERICAN KESTREL NEST BOX PROGRAM

The Alberta American Kestrel Nest Box Program is a Citizen Scientist initiative that involves the installation of nest boxes in Alberta to help kestrels find safe and secure places to nest and to facilitate observation and monitoring by citizen scientists.

Mitchell Warne is currently seeking suitable locations to install the kestrel nest boxes in Alberta. The preferred habitat for kestrels is pasture and hay land. However, the habitat can also be a mix including some agriculture. If you would like to volunteer to have a kestrel nest box installed on your property and/or to observe/monitor any nest box(es) please contact him at info@warneinthewild.com. Additional information can be found at <https://www.warneinthewild.com/alberta-kestrel-nest-box-program>



The Red Deer River Naturalists, the first natural history organization to be established in Alberta, was incorporated as a society in 1906. The objectives of the society are to foster an increased knowledge, understanding and appreciation of natural history, and to support conservation measures dealing with our environment, wildlife and natural resources.

Annual membership is \$15.00 for individuals and \$20.00 for families.

Regular meetings are held at 7:30 p.m. on the fourth Thursday of most months at the Kerry Wood Nature Centre, 6300-45 Ave., Red Deer, AB. Non-members are welcome. Members are encouraged to contribute to this newsletter. The deadline is the last Friday of the month.

rdrn.nature@gmail.com www.rdrn.ca
<http://wearenaturalwise.blogspot.com>

Box 785 Red Deer, AB T4N 5H2
Phone/Fax: 403.347.8200



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