RDRN Established 1906

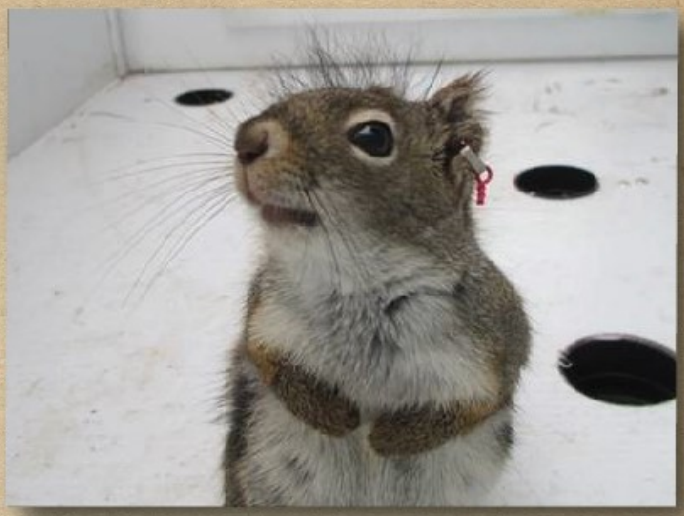
The Red Deer River Naturalist

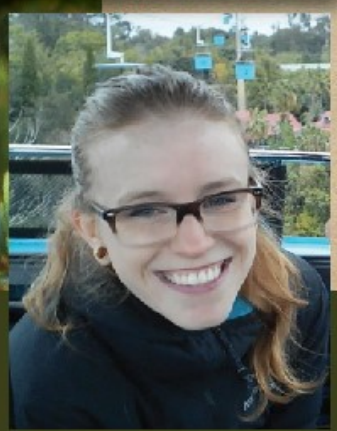
EDITORS: MYRNA PEARMAN, SUSAN VAN DER HOEK | SEPTEMBER/OCTOBER 2020

Going the Distance: The Local Vacancy Game and How it Changes Dispersal

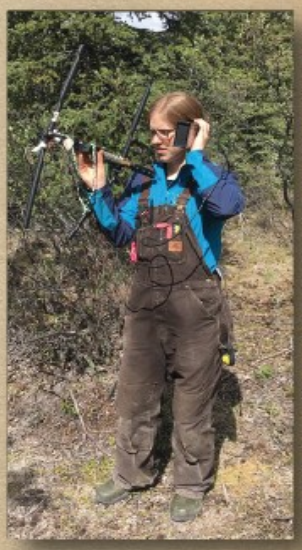
22
October 2020
7:30pm-9:00pm

RDRN Virtual Speaker Night with Zoom.
Create your Zoom account.
Click join a meeting.
Meeting ID: 81959784682
Meeting Passcode: 473623
Have your microphone on mute during the meeting.





All photos provided by April Martinig



Since 2016, April Martinig has been a PhD candidate at the University of Alberta in the Department of Biological Sciences. Her research explores animal behavioural ecology and the implementation of this knowledge to conservation strategies. More broadly, April studies how consistent variation in individual behaviour, particularly during dispersal, contributes to performance differences across a lifetime in red squirrels. When April is not chasing squirrels, she represents the University as a varsity athlete for the University of Alberta's wrestling team.

Everyone Welcome
to **join on-line.**
For questions call:
403-896-1189

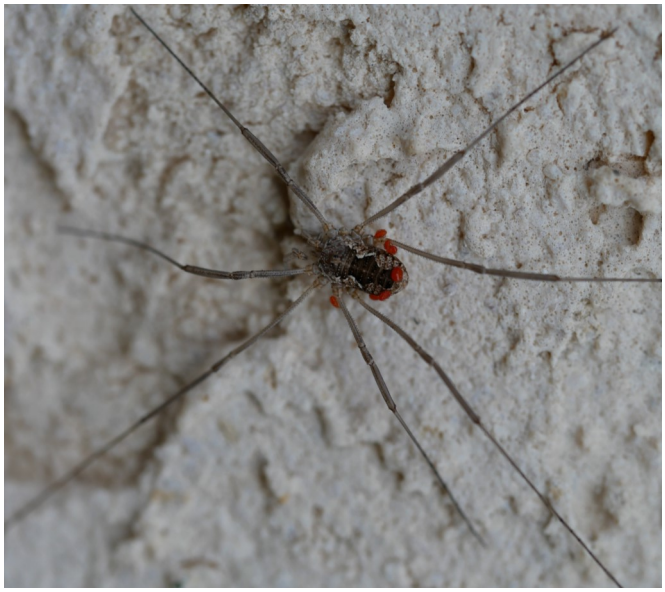
SPONSORED BY
RDRN Red Deer River Naturalists
www.rdrn.ca

Seasonal Sights and Sounds of Alberta: Acutely Sensitive Harvestmen and Parasitic Mites

By Dr. Sally Stuart

Throughout the month of August, I always notice an increasing number of delicate-looking invertebrates clinging to the stucco on the east side of our house. These animals are arthropods, belonging to the subclass *Arachnida,* but are really nothing like spiders. Rather they are Harvestmen and belong to an order (really a grouping) known as Opiliones. With long spindly, delicate legs and squat, almost rotund bodies, they are a "shy, inobtrusive" invertebrate.

According to John Acorn's *Bugs of Alberta*, there are at least eight species of Harvestmen (often referred to as Daddy Long Legs) in Alberta. I think of them as the gardener's friend, as they eat more or less anything, they are often predators (but rather weak ones), predominantly eating dead prey or decaying material, plants and fungi. Despite their appearance, they have two body parts—a cephalothorax and an abdomen. Protruding from the cephalothorax are four pairs of deli--looking legs, but also the mouthparts which are a pair of chelicerae. Their cephalothorax also has a pair of short pedipalps which play an important sensory role.



What fascinates me as a physiologist is that Harvestmen have an abundance of sensory organs, many of which serve unknown functions. Primarily nocturnal and preferring shady areas, they have a pair of eyes protruding from the cephalothorax. These eyes help them avoid predators and also enable them to avoid bright light. Their legs and pedipalps are covered in sensory organs, (one scientific paper I read identified nine different classes of such organs!). They have sensilla—a group of sensory organs resembling very small hairs—protruding from their exoskeletons. Inside these peg-like structures are the sensory neurons, some of which are chemoreceptors. Chemoreceptors detect odors, which among other roles, help them locate food items such as dead animals. Other sensory receptors allow them to select their preferred ecological niche that has the ideal temperature and humidity.

The main sensory appendages of Harvestmen seem to be the pedipalps and the first two pairs of legs. All these appendages have an abundance of sensilla. The third and fourth pair although important for movement have far fewer sensilla. Constantly using their second pair of legs to probe their surroundings, they wave them around, presumably interpret information provided from the various sensory receptors. Also found on their cephalothorax, between the first two pairs of legs is a pair of scent glands, sometimes called repugnatorial glands. Apparently these scent glands are an example of an ancient exocrine system which may have been around for 400 million years. They are probably primarily defensive glands, producing chemicals with an unpleasant odour. According to Arthur Evan in his superb *Field Guide to Insects and Spiders of North America*, "some species spray this noxious mixture at potential enemies. Others combine it with saliva and thrust it at predators with their pedipalps!" This conjures up a vision of these small creatures acting like gladiators, plunging their defensive weapons at their enemies! Scent glands might also provide protection against microbes or may act as pheromones for communication, probably playing an important role for courtship and reproduction.

As the accompanying Harvestmen picture reveals, I noticed that many of these creatures had small bright red mites clinging to their bodies. These mites are also arachnids but belong to a different order—*Acari*. Since this order contains more than 5,000 species in North America, I was unable to determine which species they were. An online article by Blake Newton suggested that they may have been the immature stage of a family of mites called *Erythraeidae*. Apparently the larval stages are frequently parasitic while the adults are predators.

Arthropods have what is known as an open circulatory system, contractions of the "heart" pumps fluid known as hemolymph via vessels which then ends up in open spaces "sinus" which surround the organs. Hemolymph is a life-sustaining fluid, playing a similar role to blood in humans. These tiny mites were parasitizing the Harvestmen, sucking the hemolymph fluid out of their bodies. Although the Harvestmen appeared unscathed by this, one can only assume that it must have deleterious effects on their long-term health.

Despite the challenges that Harvestmen face, they are not entirely defenseless: besides their scent glands, they also have the ability to self-amputate legs. This sounds rather drastic but does not appear to be too detrimental unless it is one of the first and or second pairs of legs.

As COVID 19 continues to restrict us close to home, let us remember that we are lucky to be living in Alberta, where there is always an abundance of wildlife to observe and learn about right outside our doors. I suggest trying the free nature app—iNaturalist—which allows you to take pictures on your cell phones that can then be submitted for identification. (Warning: apparently it can become quite addictive, because some people submit thousands of entries). Collecting these data helps scientists monitor changes in the ecosystem, particular in terms of the effects of climate change.

May 30 & 31 Species Count 2020: Judy Boyd—compiler

Canada Goose 2291
Tundra Swan 1
Gadwall 170
American Wigeon 56
Mallard 844
Blue-winged Teal 741
Cinnamon Teal 26
Northern Shoveler 308
Northern Pintail 24
Green-winged Teal 66
Canvasback 56
Redhead 217
Ring-necked Duck 128
Greater Scaup 4
Lesser Scaup 483
Bufflehead 177
Common Goldeneye 55
Hooded Merganser 1
Common Merganser 15
Ruddy Duck 376
Gray Partridge 4
Ruffed Grouse 9
Common Loon 9
Pied-billed Grebe 5
Horned Grebe 14
Red-necked Grebe 40
Eared Grebe 472
Western Grebe 1
American White Pelican 156
Double-c Cormorant 34
Great Blue Heron 18
Turkey Vulture 8
Osprey 15
Bald Eagle 14
Northern Harrier 16
Cooper's Hawk 2
Swainson's Hawk 13
Red-tailed Hawk 102
Sora 20
American Coot 740
Sandhill Crane 4
Semipalmated Plover 1
Killdeer 39
Black-necked Stilt 17
American Avocet 37
Spotted Sandpiper 17
Solitary Sandpiper 1
Greater Yellowlegs 3
Willet 4
Marbled Godwit 8
Short-billed Dowitcher 2
Wilson's Snipe 62
Wilson's Phalarope 30
Red-necked Phalarope 2CW
Bonaparte's Gull 4
Franklin's Gull 25
Ring-billed Gull 73
California Gull 4
Black Tern 231
Common Tern 58
Forster's Tern 8
Rock Pigeon 146
Eurasian Collared-Dove 12
Mourning Dove 37
Great Horned Owl 12
Great Gray Owl 2
Northern Saw-whet Owl 4
Ruby-throated Hummingbird 22
Belted Kingfisher 3
Yellow-bellied Sapsucker 24
Downy Woodpecker 48
Hairy Woodpecker 22
Northern Flicker 18
Pileated Woodpecker 7
American Kestrel 11
Peregrine Falcon 2
Prairie Falcon 1
Western Wood-Pewee 7
Alder Flycatcher 1
Least Flycatcher 71
Eastern Phoebe 20
Western Kingbird 3
Eastern Kingbird 56
Loggerhead Shrike 1
Warbling Vireo 3
Philadelphia Vireo 2
Red-eyed Vireo 8
Canada Jay 1
Blue Jay 55
Black-billed Magpie 351
American Crow 328
Common Raven 108
Purple Martin 306
Tree Swallow 578
Bank Swallow 515
Cliff Swallow 434
Barn Swallow 107
Black-capped Chickadee 183
Boreal Chickadee 13
Red-breasted Nuthatch 3
White-breasted Nuthatch 26
House Wren 109
Marsh Wren 6
Ruby-crowned Kinglet 1
Mountain Bluebird 74
Veery 1
Swainson's Thrush 2
American Robin 431
Gray Catbird 16
European Starling 749
Cedar Waxwing 191
Common Yellowthroat 12
Yellow Warbler 155
Yellow-rumped Warbler 20
Spotted Towhee 2
Chipping Sparrow 50
Clay-coloured Sparrow 154
Vesper Sparrow 47
Lark Sparrow 4
Lark Bunting 1
Savannah Sparrow 109
Le Conte's Sparrow 2
Nelson's Sparrow 1
Song Sparrow 44
Lincoln's Sparrow 11
White-throated Sparrow 50
White-crowned Sparrow 12
Dark-eyed Junco 6
Rose-breasted Grosbeak 28
Red-winged Blackbird 1602
Western Meadowlark 41
Yellow-headed Blackbird 301
Brewer's Blackbird 365
Common Grackle 37
Brown-headed Cowbird 107
Baltimore Oriole 31
Purple Finch 14
House Finch 14
Pine Siskin 172
American Goldfinch 241
Evening Grosbeak 2
House Sparrow 307

Participants: 83 – Larry Bablitz, Bill Barritt, Karin Bjorge, Myron Bjorge, Jim Boyce, Judy Boyd, Larry Boyd, Lois Burkinshaw, Phil Burkinshaw, Alice Burnett, Terry Burnett,, Colleen Caddy, Jerry Caddy, John Caddy, June Campbell, Gavin Carlson, Glenna Carlson, Hailey Carlson, Vern Connelly, Anto Davis, Dave Deas, Dave Dewald, Morris Flewwelling, Eileen Ford, Stewart Ford, Betty Ann Golly, Byron Golly, Isabelle Golly, Stuart Golly, Theresa Golly, William Golly, Sheila Gongaware, Rick Guest, Sharon Guest, Gail Hachey, Connie Haustein, Bill Heinsen, Colin Hill, Keren Hill, Shaye Hill, Marlene Ironside, Darlene Johnson, Wayne Johnson, A. Alex Jones, Elaine Atkinson Jones, Carol Kelly, Keith Kline, Marion Larose, Jim Leslie, Sue Leslie, Claudia Lipski, Brenda Lissel, Shelley Macauley, Gwen Marshall, Lynda Marshall, Ron McDonald, Vi McDonald, Dorothy Murray, Sandy Murray, Antonia Nissen, Clint Nissen, James Nissen, Juanita Nissen, Tanya O'Donaghue, Myrna Pearman, Doug Pedersen, Tammy Pollock, Linda Prockiw, Darlene Reimche, Janita Sani, Heather Saunders, Harley Siebold, Kim Siebold, Joanne Susat, Harvey Sutherland, Rick Tallas, Bev Thompson, Rod Trentham, Rick Varjassy, Andrea Vopni, Zack Vopni, Althea Williams, Diane Wilton.

Weather: Day 1: Temp. 7 to 30°C; Wind speed: 2 to 40 km/hr. Wind direction: variable; Cloud cover: 5-100%. Day 2: Temp. 11 to 23°C; Wind speed: 5 to 40 km/hr. Wind direction: variable; Cloud cover: 5-100%. **Team Distance/Hours:** Total Team Mileage: 1514.5 km; by vehicle 1475.7 km; on foot 38 km; by canoe/kayak 0.8 km.Total Team Hours: 221.5 hr; by vehicle 78 hr. 5 min; on foot 30.75 hr; by canoe 1 hr; feederwatch 112 hr. 20 min. **Number of Species:** 142 + 2 CW; **Number of Birds:** 17,112 + 3 CW. **Highlights:** Highest recorded numbers since 2000: 2291 Canada Goose, 308 Northern Shoveler, 483 Lesser Scaup, 177 Bufflehead, 18 Great Blue Heron (same as last year), 15 Osprey, 14 Bald Eagle, 17 Black-necked Stilt (same in 2015), 3 Belted Kingfisher, 20 Eastern Phoebe, 56 Eastern Kingbird, 55 Blue Jay, 351 Black-billed Magpie, 306 Purple Martin, 515 Bank Swallow, 109 House Wren, 431 American Robin, 16 Gray Catbird, 191 Cedar Waxwing, 11 Lincoln's Sparrow, 1602 Red-winged Blackbird, 37 Common Grackle, 241 American Goldfinch, and 307 House Sparrow. Count Week birds were: 1 Northern Hawk-Owl, 2 Red-necked Phalaropes. **Other:** Number of participants was up from last year's 54 to 83. The number of bird species went up from last year's 130 to 142. (The highest recorded number of species since 2000 was in 2008: 153.) The count of individual birds was up from last year's 13,010 to 17,112. **Mammals**: Moose, Muskrat, Pronghorn Antelope, Red Squirrel, Richardson's Ground Squirrel, White-tailed Deer. **Amphibians**: Boreal Chorus Frog. **Insects**: Alfalfa Butterfly, Cabbage Butterfly, Canadian Tiger Swallowtail, Franklin's Ground Squirrel, Golden Northern Bumblebee, Honeybee, Hudsonian Whiteface, Mourning Cloak, Sonoran Bumblebee, Spring Azure, Whirlygig Beetle. **Areas Covered**: Zone 1 (Red Deer), Zone 3 (Gull Lake), Zone 4 (Lacombe), Zone 5 (Ellis Bird Farm), Zone 6 (Pine Lake), Zone 7 (Penhold), Zone 8 (Dickson, MRWC), Zone 12 (Crestomere), Zone 14 (Clive), Zone 15 (Alix), Zone 16 (Lousana), Zone 17 (Bigelow Reservoir), Zone 19 (Bowden), Zone 22 (Didsbury), Zone 25 (Three Hills), Zone 26 (Dry Island Buffalo Jump), and Zone 27 (Rocky Mountain House).

Keith kline's Bird Focus Group Walks

October 3—Bower Woods - Meet across the street from 37 Selkirk Blvd. in the green space
October 17—Maskepetoon Park - Meet at the playground on the west side of Kerry Wood Drive
October 24—Riverbend Upper Trail Meet in the parking lot at the bottom of the hill at entrance to the golf course. **Meet at 10:00 AM. Dress for the weather and bring cameras/binoculars. Everyone is welcome.**

Celebrate Fall! Join Don Wales for a Berry Nice Walk at KWNC Wednesday, October 21 — 10:00 AM till noon.

Molly Banister Drive Extension Protection

For the first time in 28 years City Administration has recommended removing the Molly Banister Drive Extension protection from all future plans (of course City Council voted to do this in an 8 -1 decision on January 27, 1997.) The agenda was 1,087 pages, one of the longest in anyone's memory. It included a detailed, excellent ecological report from the City Parks Department. Council narrowly voted to pass First Reading 5 -3. Mayor Tara Veer had recused herself because of where she lives. Public hearings and 2nd and 3rd readings will be October 26th, however they decide to hold them. During Covid-19, to this point public input has been by phone with 10-minute time slots.

Board Notes

Greetings from Tony, Don, Rod, Bob, Keith, Daryl, Rick, Anto, Sarah, Cliff and Susan. Here is what we have been working on:

- We have arranged Bird Focus group walks to enjoy as well as Flower Focus meetings. Check the website for details and updates.
- Our website, Facebook and Twitter - #RDriverNats accounts are active. We have a new Instagram account @RDriverNats.
- We continue to discuss, oppose and advocate for issues in our city and province. We are concerned with: Blackfalds Lake/Lacombe Lake, Molly Banister Drive Extension, open-pit coal mining, Alberta park closures, water usage in industry, Red Deer River/ Medicine Flats floodplain gravel pits.

OUR PARKS IN PERIL: *September 15th Press Release from CPAWS Northern and Southern Alberta:*
CPAWS Northern and Southern Alberta Chapters are pleased to see the government's investment in parks infrastructure. However, we are dismayed to hear the Minister continues to move forward with removing 175 parks from the Parks System. The Premier stated in the announcement that "Albertans are a stubborn bunch" and we agree. Albertans from across the province continue to ask for a commitment from this government that all of these parks will remain protected within the parks system. Write the Premier, the Minister and your MLA!!

#DefendABParks #dontgobreakingmyparks #saveourparksab
https://www.leadnow.ca/dont-let-kenney-privatize-nature/

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.

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

rdrn.nature@gmail.com www.rdrn.ca

Our thanks to NOVA for underwriting the cost of newsletter printing

NOVA Chemicals®

Photos, unless otherwise noted, by Myrna Pearman