



SPRING 2022 VOLUME 80.1

# BLUE JAY







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James M. Richards shares personal bird observations from Churchill, Manitoba, including the first Great Gray Owl nest record for the location, supplementing published records by Chartier and Jehl.



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Albert Peve found his way to the Queen Charlotte Islands (Haida Gwaii) in the early 1900s. After settling briefly in Naden Harbour, he built a cabin in Henslung Cove on the southeast coast of Langara Island. Peve's greatest contribution to natural history was the provision of local knowledge and assistance to many visiting oologists and naturalists.



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Blister beetles produce the toxin cantharidin, which protects them from attack by predators and microorganisms. Certain insects (cantharidiphiles) are immune to cantharidin and obtain it from blister beetles by feeding on their blood and therefore also acquire predator protection. Learn more about these beetles on page 24.



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In this issue's edition of The Nature Notebook, readers are introduced to the Western Jumping Mouse (*Zapus princeps*).

# FROM THE PRESIDENT

**Ken Ludwig**  
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Nature Saskatchewan, as an organization, is approaching the end of a three-year strategic planning cycle, and so our board members and staff gathered for a day in

mid-November to plan where we want to focus and what we want to accomplish over the next three years.

While our overall mission and vision remain unchanged, we worked together to project forward our aspirations for our organization and our work under the pillars of: conservation, education, research, member services, and administration (governance and operations).

Within the area of conservation, we agreed that we want to expand our focus into the aspen parkland and boreal forest areas of the province, while keeping up our efforts to address the challenges to our native grasslands and its flora and fauna. Our overall hope is to see more designated and protected natural areas in the province. We also have a number of significant conservation issues that we want to work on, including the concerning sell-off of Crown lands and the lack of a wetlands policy for the province.

Under the banner of education, we want to continue to grow public appreciation and knowledge about the natural environment in Saskatchewan, and to ensure to the best of our ability that everyone has full and equal access to experience our natural riches. To this end, we will look for ways to reach out and connect with marginalized communities in particular.

We also want to encourage more and broader-based research activity in our natural history, strengthen related data collection and sharing with other organizations doing similar work, and further promote participation in community science.

Our members and supporters are, of course, the base of our organization and our community, and we want to continue to be responsive to their needs and interests. We will conduct



Ken Ludwig

our member and supporter feedback surveys once again within the next three years to hear from them directly. We are also planning to review the structure of our meets and activities to ensure that they are addressing people's needs and wishes in the best way. We will certainly continue to foster our presence as a publisher in the province. And we have our 75th anniversary coming up in 2024, which we will want to celebrate with the people who are part of our community and support us.

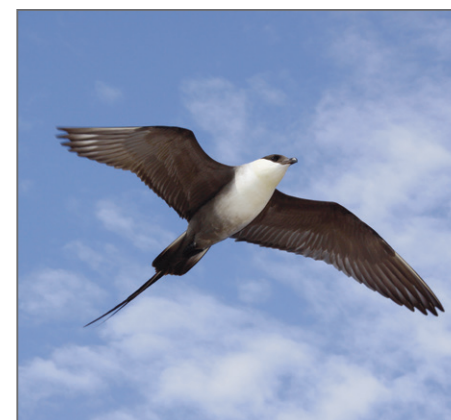
And, finally, we also want to work to ensure that Nature Saskatchewan as an organization is respected and responsible, is well-operating, and remains financially sound.

So, looking forward, we are anticipating further progress in our mission through the work of our dedicated staff and volunteers, the support of our members and larger community, and the commitment of our board members. Starting with our operating year 2022-23, we will develop annual work plans based on the new strategic plan to help us to keep focused on these priorities. 🐦



## ON THE FRONT COVER

A Nuttall's Blister Beetle (*Lytta nuttalli*) waits for a mate on a flowerhead of Wild Licorice (*Glycyrrhiza lepidota*) in Cypress Hills, Saskatchewan near Fort Walsh National Historic Site in July 2021. Photo credit: Joshua Christiansen.



## ON THE BACK COVER

Long-tailed Jaeger (*Stercorarius longicaudus*) photographed on June 28, 2009 at Cambridge Bay, NU. Photo credit: J.M. Richards.

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Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by Nature Saskatchewan.

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# BURROWING OWLS... OWL-WAYS IN OUR HEARTS

### Kaytlyn Burrows

Habitat Stewardship Coordinator  
Nature Saskatchewan


Hello *Blue Jay* readers! We hope you are doing well and have been able to navigate your way through these very challenging two years. We've been able to keep in touch with many Operation Burrowing Owl (OBO) program participants over the last little while, mostly over the phone, but we were very fortunate to get out in the field last summer and visit a few people in person. In total, we were able to visit with 25 OBO participants and 23 potential program participants, with 14 of them joining the program. We have welcomed and shared our sincere thanks to our new participants!

Overall, OBO currently has 348 landowners conserving just over 165,000 acres of Burrowing Owl habitat across southern and central Saskatchewan. We are always working hard to seek out interested landowners to join the program and we hope to continue increasing the number of participating landowners. The annual OBO participant census reported five pairs and three singles. In addition, we had a few Burrowing Owl sightings that came in through the toll-free HOOT line (1-800-667-4668) as well as staff sightings, including a nest with six young! We continue to remain optimistic that our Saskatchewan Burrowing Owl numbers will hold steady and hopefully even increase over time.

Because of the challenges presented by COVID-19, we had to pivot a few of our usual activities, including our Conservation Appreciation Day events. Typically, we visit a local community and enjoy a

locally-catered meal and educational presentations together. However, due to gathering restrictions, we were unable to host these events as usual. Instead, we took the events online and they were a huge success! In February 2021, we hosted a webinar called "All About Burrowing Owls!". The webinar brought Burrowing Owl conservationists and experts from British Columbia, Alberta, Saskatchewan and Manitoba together to discuss the conservation efforts taking place in each province. The response we received was so wonderful! In total, we had 311 attendees listen in and participate. More recently, we hosted another webinar called "The Great Migration!" where we learned about Burrowing Owl and Monarch migration and their wintering grounds. We had 153 attendees join us to learn about the fascinating world of migration. If you missed these events, all of the webinars are recorded and uploaded to Nature Saskatchewan's YouTube channel, so make sure to subscribe to our channel and check them out!

From all of us at Nature Saskatchewan, I would like to thank our Habitat Stewardship Summer Assistants, Carmen and Rachel, for all their hard work and dedication throughout summer 2021. It was a pleasure working with them and the successes of the field season and the program would not have been possible without them!

*As always, if you have any questions or comments, please do not hesitate to call at (306) 780-9833, toll free on our HOOT line at 1-800-667-4668, or email at [obo@naturesask.ca](mailto:obo@naturesask.ca). We would love to hear from you!* 

## POETRY

### Fiona And Ka-Keesh

Patti's pet Highland cow sports  
a brilliant accessory today.  
A magpie perched on her haunch  
glistens brilliantly despite  
the half-hearted glow  
of the sun from a grey-blue  
winter sky.

Ka-Keesh, for his part,  
has burrowed his talons  
down through Fiona's  
silken outer coat well  
into the wool by her hide.

Warmed by her great bulk,  
a living furnace, he appears  
content, pleased with himself.  
At 30 below zero,  
why wouldn't he be?

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# FOX SPARROW FALLOUT IN SOUTHEAST SASKATCHEWAN IN APRIL 2021



Fox Sparrow. Photo credit: Nick Saunders.

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Fox Sparrows (*Passerella iliaca*) are a summer resident in northern Saskatchewan but are a rare or uncommon migrant in the aspen parkland and mixed grass prairie region of the southern part of the province.<sup>1,2</sup> To account for this apparent rarity, Smith speculated that Fox Sparrows either fly over the parkland and grasslands or fly around it, during both spring and fall migrations.<sup>3</sup> Recent abundance animations produced by the Cornell Lab of Ornithology suggest the species follows the forest

through Manitoba and swings into Saskatchewan without crossing the parkland or grasslands.<sup>4</sup> Here I present evidence of an unusual fallout occurrence of Fox Sparrows in southeastern Saskatchewan based on eBird data and observations posted on the Facebook group “Sask Birders” (hereafter Sask Birders).

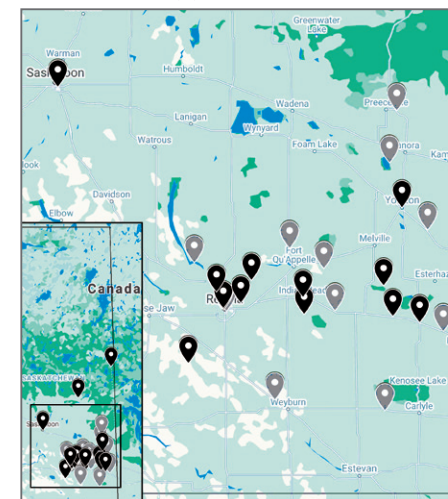
Overnight, on 11-12 April 2021, a winter storm began in southeastern Saskatchewan generated by a Colorado low pressure system centered over Ontario. The storm continued until 14 April during which 15-25 cm of snow fell throughout the region (from Regina east to the SK/MB border) and wind speeds reached 60 km/hr from the north.<sup>5</sup>

An unusual number of posts of Fox Sparrows on Sask Birders at the time of the storm caught my eye that something was going on. To examine the effects of this storm event closer, I searched through the Facebook group and found, through comments and posts, a total of 14 records of Fox Sparrows from 12 to 16 April (Figure 1 – gray points). I also searched the checklists submitted to eBird and found an additional 21 records of Fox Sparrows observed during the same period (Figure 1 – black points). Of the 14 records posted on Sask Birders, 11 did not appear in the eBird database. When all the locations were plotted, a clear pattern emerged showing most of

these observations matched the area covered by the storm, except for the two points where one and three birds had made it to Flin Flon, MB and Love, SK, respectively, prior to the storm (Figure 1). When one bird was observed over several days at the same location, I classified this as one record.

All of the 32 observations comprised of one to four birds, except for one record of eight birds seen by Don Weidl in Broadview on 13 April. An additional noteworthy observation from Virden, MB was made on 13 April by Amanda Galbraith, who recorded 20 Fox Sparrows at her feeder. Once grounded, many birds lingered for days after the snowstorm, presumably waiting for more suitable migration conditions. For example, I observed two birds at my feeders, near Edenwold, on the evening of 12 April and at least one remained in the yard, singing, until 21 April. A total of nine Fox Sparrows were recorded at seven locations in Regina and Saskatoon had four birds at four locations. Saskatoon was outside the storm’s path, so it is curious that four birds were recorded there during this period.

The Cornell Lab abundance animation suggests Fox Sparrows



**FIGURE 1:** Fox Sparrow observations in Saskatchewan from April 12-16, 2021. Records from eBird are in black and records from the Sask Birders Facebook group are in gray.

follow the forest through Manitoba and generally avoid southern Saskatchewan, so it is likely that the winter storm of 12 to 14 April blew the birds off-course into the parkland and grassland region of southeastern Saskatchewan.

To highlight the rarity of this fallout event, April records in eBird from south of the boreal forest show that few Fox Sparrows are observed each spring in the province. From 2017 to 2020, a total of eight, seven, seven, and six locations, respectively, were recorded in the entire month of April. Therefore, the 21 records that occurred over five days in April from eBird and the additional 11 sightings from the Sask Birders group is significant. An additional eight records from eBird were documented in the remainder of April in 2021.

While looking through the eBird Fox Sparrow records, I came across a similar apparent fallout in April 2017 along the forest fringe. On 15 April 2017, Bert Dalziel recorded 28 Fox Sparrows in his yard near Love, SK, while 100 km straight west, Dave Britton documented 67 Fox Sparrows at Christopher Lake, two days later on 17 April 2017.

It is clear that severe spring storms can have significant impacts on migrating birds. Platforms like eBird and the Sask Birders Facebook group can provide valuable data documenting these unique events at larger spatial scales to help us further understand the life history of birds.

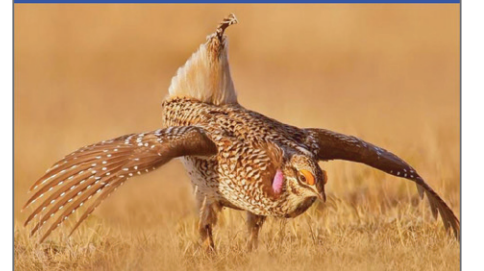
## Acknowledgements

I would like to thank the Cornell Lab of Ornithology for allowing me to use the eBird data for this manuscript, and the many observers who enter their observations diligently and with precision. I would also like to thank the community of observers on the Sask Birders Facebook group,

and specifically Michaela Baule, for sharing observations that helped build a better picture of the extent of this fallout event. Thanks as well to Kristen Martin and Ryan Fisher for their helpful comments, which improved this manuscript.

1. Smith AR, Houston CS, and Roy JF editors (2019) Birds of Saskatchewan. Nature Saskatchewan, Regina.
2. Callin M (1980) Birds of the Qu'Appelle. Nature Saskatchewan, Regina.
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4. Fink D, Auer T, Johnston A, Strimas-Mackey M, Robinson O, Ligocki S, Hochachka W, Wood C, Davies I, Iliff M, Seitz L (2020) eBird Status and Trends, Data Version: 2019; Released: 2020. Cornell Lab of Ornithology, Ithaca, New York. <https://doi.org/10.2173/ebirdst.2019>
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# 2021 LOON INITIATIVES REPORT: MADGE LAKE, DUCK MOUNTAIN PROVINCIAL PARK



Loon feeding chick, 19 June 2021. All photos courtesy of Doug Welykholowa unless otherwise indicated.



Loon with chick on back (second chick under left wing), 19 June 2021.



Two chicks jumping ship, 19 June 2021.

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Bob Wynes and I were able to do 14 complete counts of all the loons on the lake between 19 June and 21 September 2021. Three of these we did together, while the others were completed separately, often with guest spotters aboard. Our first spotting of loon chicks was on 19 June – about the same time as last year.

Total numbers of Common Loons this year were similar to previous years, with a high count of 80 adults on 14 July. We also found 15 chicks on the lake, 14 of which survived into mid-September. Two of those were only discovered as juveniles in September. We are fairly confident that they were hatched on the lake, as they were closely accompanied by two adults in one of the known nesting territories. It is quite possible that the chicks avoided our previous counts by hiding in the reeds, which are quite extensive in that territory. Prior to spotting the two juveniles, every time we spotted the adults in that territory, at least one adult kept close to the shore, just outside the reeds. This has happened on occasion in previous survey years in other territories.

A total of 23 nesting territories were noted this year. This is a drop of three territories from 2020. Four territories were abandoned, and an old territory that was last occupied in 2018 was re-established (see Figures 1 and 2 for comparison).

The highlight of this year's count was finding one pair of adults with a brood of four chicks. Although all

the chicks appeared to be the same age, we don't know if they all were from the same parents. We initially spotted three, followed by four a week later; however, based on the location, one chick may have been hiding in the reeds on the initial sighting. The four chicks all survived to seven weeks, after which only three were present for the remaining counts. We didn't find the nest, as the cove where it was likely located isn't accessible by power boat and is about a 5-kilometre paddle by kayak. There is a possibility that one or two of the chicks were adopted from an adjacent territory. Kathy Jones, the Canadian Lakes Loon Survey Volunteer Coordinator at Birds Canada, noted that this is only the 10th such sighting of a four-chick brood in 40 years of data collection across North America. Needless to say, we were very excited to have observed this rare event.

Comparing data over the last 11 years (Figure 3), the adult loon population has been very stable. The year-to-year variation is likely due to inaccuracies in counting the unpaired adults. As in previous years, the lake played host to a large number of unpaired young adults (3-5 year-olds). These loons were often spotted in different locations on the lake with each count, and group size varied from 10 to 34 birds, depending on the day. It is quite common for these young adults to gather in larger groups in the middle of the lake during the evening, while dispersing during the day to feed in other locations, including the many nearby kettle lakes surrounding Madge.

We again were fortunate enough to spot a pair of Trumpeter Swans with three cygnets in late September. Swans were noted earlier on nearby kettle lakes, but we didn't spot any nesting sites on Madge this year. Bald Eagles and Osprey were spotted throughout the season at various locations around the lake. One Osprey

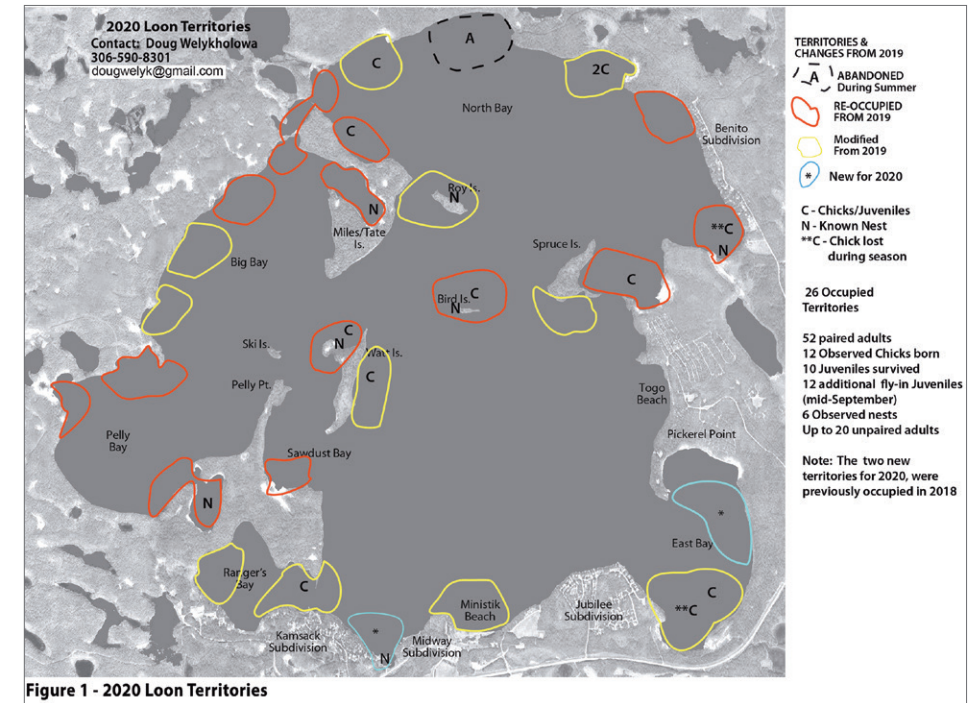


Figure 1 - 2020 Loon Territories

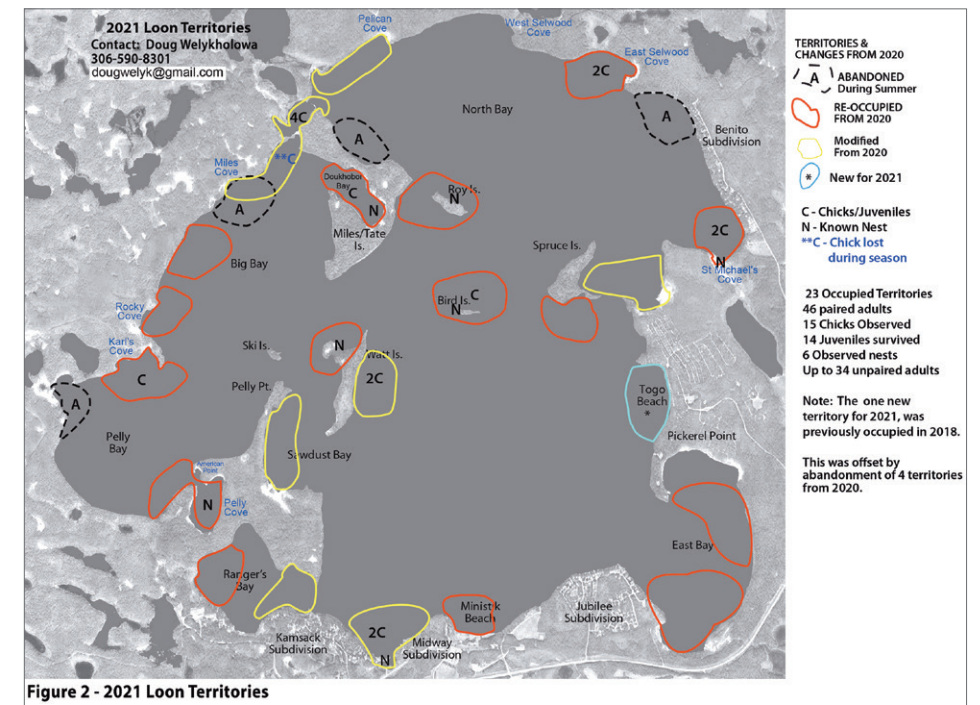


Figure 2 - 2021 Loon Territories

**Figure 3 - Madge Lake Loon Count Summaries 2010 - 2020**

Survey Year	Total Adults	# of Territorial Pair	Surviving Juveniles	# of Chicks or Juveniles Lost
2010/12 average		25	9	
2013	75	26	14	2
2014	86	26	9	2
2015	78	26	6	2
2016	82	26	10	0
2017	78	25	16	1
2018	72	26	12	0
2019	75	25	7	1
2020	72	26	10	2
2021	80	23	14	1



# NOTES ON THE BIRDS OF CHURCHILL, MANITOBA

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Chartier (1994) and Jehl (2004) brought most bird sighting records current to that time in regards to Churchill, Manitoba.<sup>1,2</sup>

In addition to what has been published and summarized by them, I would like to add the following observations from my own notebooks for 1983, 1989, 1990 and 1991.

**Harlequin Duck** – one male was observed on 26 June and 1 July 1983 off Cape Merry (J.M. Richards and B. Kern).

**Common Goldeneye** – a nest with eight eggs was seen by Richards *et al.* on 4 July 1983. The occupied nest (female incubating) was in a chimney at the Churchill Northern Studies Centre in the Akudlik area. This established the first nest record for Churchill (J.M. Richards and B. Kern).

**Band-tailed Pigeon** – the first record for Manitoba and for Churchill was from 29 June through 14 July 1981 by L. Augustowitch *et al* (Jehl 2004).

The second sighting for Manitoba occurred 15-27 April 1982 at Riding Mountain National Park by J. Crozier *et al* and the third for Manitoba and second for Churchill was on 2 July 1983 near Akudlik Marsh by R. Knapton and J.M. Richards.

**Pectoral Sandpiper** – a nest with four eggs was found on 1 July 1983 at Churchill at M 5.3 along Launch Rd. This represented the first nest record for Churchill and Manitoba, as noted by J.M. Richards, B. Kern and G. Trafford.<sup>3</sup>

**Ruff** – an adult was seen at Akudlik Marsh on 22 June 1991 (J.M. Richards).

**Long-tailed Jaeger** – an adult was at Cape Merry on 27 June and 1 July 1983 (J.M. Richards and B. Kern).



**FIGURE 1:** Great Gray Owl (*Strix nebulosa*) nest with three young. First found on 13 June 1990 (Jehl 2004) and photographed on 21 June. Nest was about 12 feet off the ground in a Tamarack or Larch (*Larix laricina*). Photo credit: J.M. Richards.

**Little Gull** – one at Cape Merry on 15 June 1983 and another at Akudlik on 24 June 1983. Five were at Goose Creek on 2 July 1989 (J.M. Richards and B. Kern).

**Northern Goshawk** – an adult was observed at Twin Lakes, 6 July 1989 (J.M. Richards and B. Kern).

**Bald Eagle** – one adult observed at Twin Lakes on 5 July 1989 (J.M. Richards and B. Kern).

**Great Gray Owl** – an adult was observed near Twin Lakes on 10 July 1989. (J.M. Richards and B. Kern). A nest was found nearby in 1990 and adults and three young were photographed by J.M. Richards and B. Kern on 21 June (Figure 1). This was the first Great Gray Owl nest record for Churchill.

**House Wren** – a singing male was

noted on 30 June 1983 at the old Dene village (J.M. Richards and D. McRae).

**Lark Bunting** – an adult male was seen by J.M. Richards on 30 June 1983 at the junction of RX Rd. and Pipeline Rd.

**Brewer's Blackbird** – one female was noted on 18 and 19 June 1983 at Akudlik Marsh (J.M. Richards, B. Kern *et al.*).

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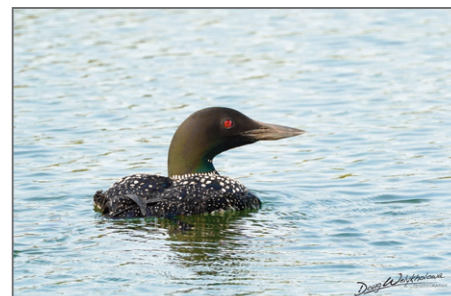
Loon with three chicks near west end of Miles Island, 14 June 2021.



Loon with four chicks at Miles Island, 26 June 2021. Photo credit: Bob Wynes.



Loon with chicks (approx. four weeks old), 14 July 2021.



Adult Loon, 26 July 2021.



Trumpeter Swans with three cygnets at Pelly Bay, 22 September 2021. Photo credit: Bob Wynes.



# DISPENSING LOCAL KNOWLEDGE: DECADES WITH ALBERT PEVE IN HENSLUNG COVE, LANGARA ISLAND, HAIDA GWAI

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Langara (formerly North) Island and adjacent Cox and Lucy islands are located at the northwest corner of Graham Island, the northernmost of the two larger islands of the Haida Gwaii archipelago (known for a time as the Queen Charlotte Islands), British Columbia. Visits to the Island by many naturalists, oologists and ornithologists for a few days or weeks began in the early

20th century, lured primarily by the prospect of collecting specimens of Peale's Peregrine Falcon (*Falco peregrinus pealei*) and eggs of the Marbled Murrelet (*Brachyramphus marmoratus*). Among the early visitors was a man named Albert Peve, who was drawn to the Island not by its nesting birds, but as a place of solitude. He arrived on Langara Island at the beginning of World War I and settled on the east shore of Henslung Cove, the larger and more westerly of the two coves on the southeast end of Langara Island (Figure 1). He remained there for nearly 40 years. Although Peve

was not a naturalist, he lived close to nature and observed it over the years — so necessary for survival under the harsh conditions. He left a few specimens of birds but no written legacy; his contribution to the understanding of the natural history of the area was through his willingness and perhaps necessity to assist and share his local knowledge with many visiting naturalists.

## Emigrating to Canada, and Haida Gwaii

Albert Peve was the name given on his death certificate, but he also was referred to as A.J. Peve,<sup>1</sup> Pavie,<sup>11</sup> Armand Peavy,<sup>3</sup> Mr. Peve,<sup>18</sup> Armand Peve,<sup>24,40</sup> Al Peevey,<sup>13</sup> Pavic,<sup>26,33</sup> and Pevey.<sup>14</sup> According to the U.S. Census Board, Peve was born in Illinois on 22 February 1875. It is not known with certainty when he arrived on Langara Island, but apparently it was "before or during WWI", according to Charles Guiguet,<sup>24</sup> who met him during collecting trips to Langara Island in the mid-1940s and in 1952. Peve's absence from the 1900 U.S. census suggests he had already moved to Canada, and eventually to the Queen Charlotte Islands and Naden Harbour. This is confirmed by a local news item published in the *Queen Charlotte Islander*, which noted Peve undertook a round trip between Naden Harbour and Masset in 1914 to meet a man from Victoria who accompanied him on the return trip the following day.<sup>1</sup> Was Peve employed at the crab cannery that operated in Naden Harbour at that time,<sup>42</sup> as he sought an appropriate site to set down roots? If so, his move to Langara Island occurred

following the beginning of WWI, by which time a fish cannery had been established in Henslung Cove.<sup>42</sup>

The Canadian federal voters' lists from 1930 to 1980 revealed Peve was not registered when he lived on the Queen Charlotte Islands, but his name appeared on the 1953, 1957 and 1958 lists for Hopkins Landing, British Columbia. Peve was forced to leave after apparently suffering a stroke in Henslung Cove in 1952, according to field notes recorded by Frank Beebe.<sup>29</sup> A party from the Provincial Museum in Victoria, consisting of Beebe, Guiguet and G. Clifford Carl had been on Langara Island for about a week, staying at the Co-op Fishing Camp in Henslung Bay. The trio planned to photograph family groups of Ancient Murrelets (*Synthliboramphus antiquus*) on the night of 31 May/1 June as the precocial chicks clambered from their burrows down to the ocean. Beebe wrote in his field notes: "We were all set to go up the hill here on Langara [to the murrelet colony on Iphigenia Point] when word came in that Armand Peve, a real old timer at the bay and only permanent resident of this place had 'gone nuts' during the night sometime. Charlie [Guiguet] and the fellow who looks after the camp went over to see about it. Apparently [sic] the old fellow had taken a stroke. He had done some damage to his shack. Masset was radio-telephoned and the police sent here. Meantime Charlie sort of camped with the old fellow. So we didn't get out at all until after noon." (see note A) Peve died in the Pender Harbour hospital on 31 March 1958.

## Solitude in Henslung Cove

Peve lived alone, but as Dalzell (p. 22) noted, "... he was too busy [to be lonely] trapping, doing a bit of fishing and acting as a lineman on the emergency telephone line which ran

from Henslung to the light-station [at Langara Point]."<sup>13</sup> He was referred to as the best known resident of Henslung Cove, and his cabin was visited by fishermen, especially during inclement weather. A photograph shows Peve in his garden (Figure 2), taken in 1939 by Edgar H. Crawford, a well-known logging operator and one of Peve's regular visitors.<sup>13</sup> Crawford played a leading role in the formation of the North Island Trollers Co-operative, and organized its first exploratory meeting, which was held on the beach in front of Peve's cabin on 15 June 1935.<sup>13,31</sup> Following incorporation of the Co-operative on 13 August 1935, a general meeting was held at the same site two days later.<sup>31</sup>

Decades of living alone in Henslung Cove undoubtedly brought Peve into frequent contact with the Haida people, particularly in summer with the early settlement of Dadens just around the corner adjacent to Beal Cove. His survival may have depended upon this association, but nothing was written on the subject. Peve's other life-lines were the people in charge of the light-station and the short-lived salmon cannery (photo in Simpson, p. 8<sup>42</sup>) that operated in Henslung Cove in 1918-19 and the floating stores and ice rooms ("fish-camps"), which were eventually operated by personnel of the North Island Trollers Association until it was

amalgamated with the Prince Rupert Fisherman's Cooperative Association in 1938.<sup>31</sup> The fish-camp in Henslung Cove (photo in Phillips, p. 46<sup>31</sup>) was busy with fishermen delivering their catches and stocking up on groceries and other commodities. Many of the fishermen probably traded stories with Peve.<sup>13</sup>

## Dispensing local knowledge

Oologist Solomon J. Darcus (Figure 3), who had spent 1919-20 observing birds and collecting eggs in the Cypress Hills, Saskatchewan,<sup>38</sup> met Peve during his first visit to Langara Island, in 1926, to lay the ground work for an extended search for the egg of the Marbled Murrelet, which was planned for the following year.<sup>8</sup> The two men wasted no time visiting a nearby seabird colony (Figure 4), apparently on Cox Island. For "a few days" in June of that year, Darcus was joined by naturalist and friend, the Rev. C.J. Young (Figure 5),<sup>c</sup> who was living in Ontario at the time. Young noted that "With the exception of the lighthouse keeper, his wife and assistant there is only one man living on [Langara] island",<sup>44</sup> a reference to Peve. Recognizing Peve's knowledge of Langara Island and surrounding area, Darcus arranged for him to accompany them as they briefly explored Langara and

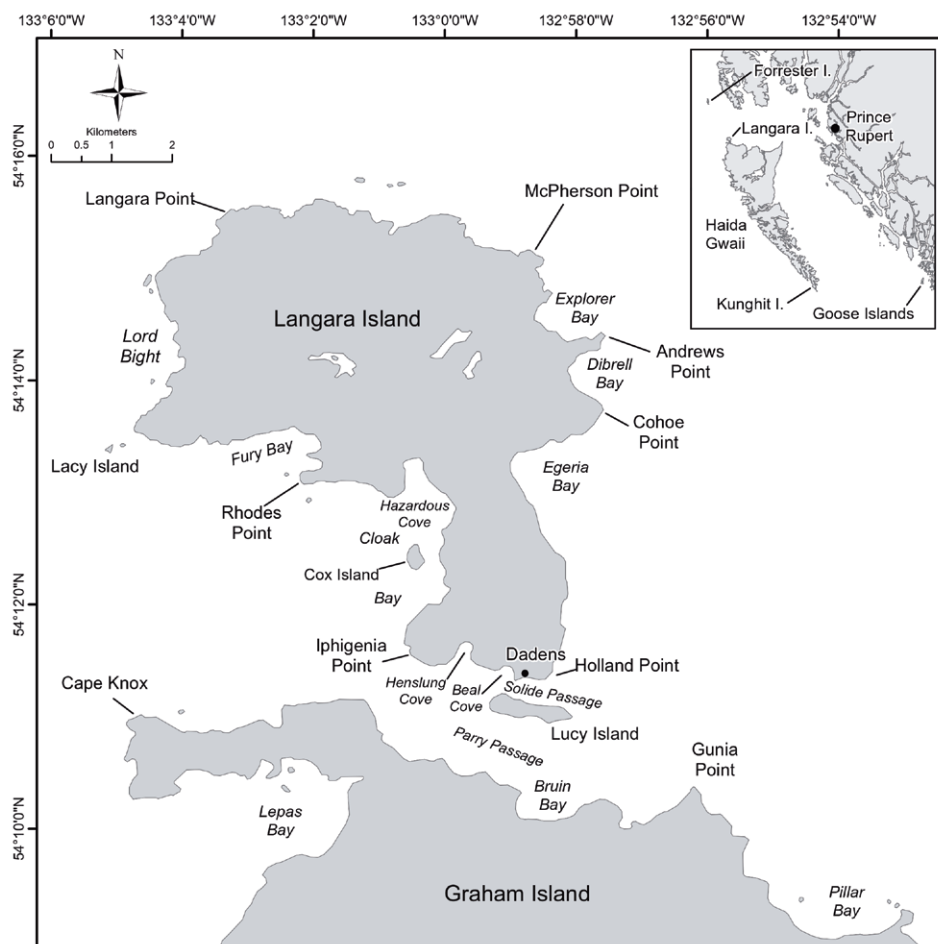


FIGURE 1. Map of Langara Island, Haida Gwaii (Queen Charlotte Islands), British Columbia, showing the site of Peve's cabin and garden in Henslung Cove. Map prepared by Mapmonsters GIS Ltd, Victoria, BC.



FIGURE 2. Albert Peve in his garden in Henslung Cove, Langara Island, 1939. Photo by Edward Crawford. From Dalzell<sup>13</sup>, courtesy of Port Clements Historical Society.

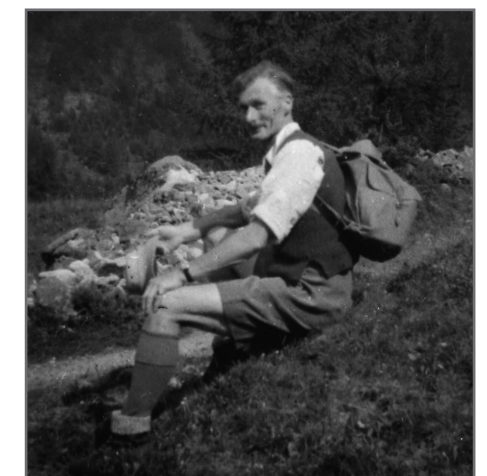


FIGURE 3. Solomon John Darcus and hiking gear, Canyon Ranch in the southern Okanagan valley, 1926. Courtesy of Penticton Museum & Archives (PMA 3243).



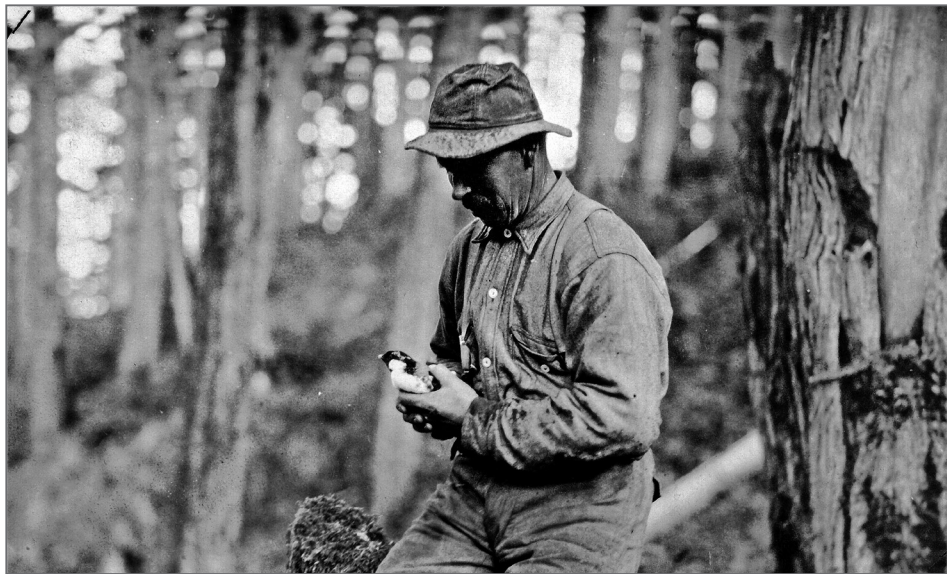


FIGURE 4. Albert Peve and Ancient Murrelet, Cox Island, Haida Gwaii, June 1926. Photograph by the late S.J. Darcus.

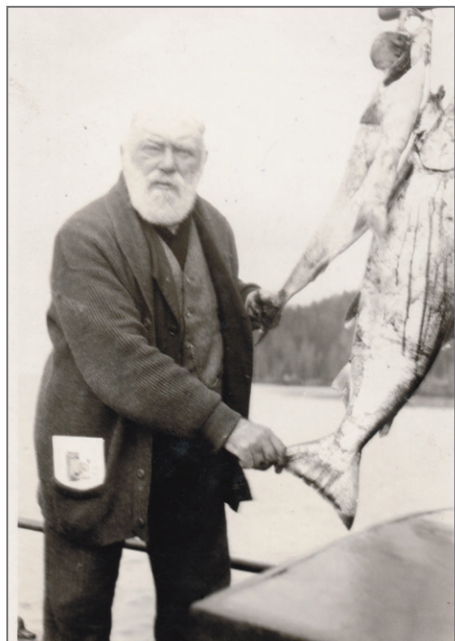


FIGURE 5. Rev. C.J. Young joined S.J. Darcus on Langara Island in mid-June 1926. Inscribed on the back of this photo: "C.J.Y.'s catch of salmon, Langara Island, 25th ... June, 1926." Photograph by S.J. Darcus.

Cox islands in 1926 and to assist his party the following year. Field notes for 1927 noted that Darcus, accompanied this time by Wesley E. Burtch, a friend from Kelowna, and occasionally by an assistant keeper from the lighthouse, worked out of a base camp at McPherson Point from 10 April to 8 July 1927. They undertook seven trips to the south end of the Island, usually on foot but occasionally in a row boat, and on all but one trip they were joined by

Peve. They stayed overnight at Peve's cabin at least once and used his row boat. Darcus described the first trip to the south coast of Langara Island in his field notes:<sup>14</sup>

Tuesday 19 [April 1927] – Left the cabin at McPherson's Point to walk to Parry Pass[age] at south end of island. We followed the shore line and in places the walking was very rough over conglomerate rocks. The morning was clear and sunny after a stiff frost the fresh water pools being frozen over. The ground in the woods is snow covered ... arrived at the Pass at 1pm after a five hour walk. Sky becoming clouded in the afternoon, renewed acquaintance with Albert Peve with whom I had spent a few days here last June, in the afternoon all three of us walked over the high coastline to visit the Peale's Falcons eyries. Saw both the birds at the one over Parry Pass, but did not examine the eyrie. We also saw both the falcons at the next nesting site about a mile round the coast but do not think they have eggs yet ... Walked back through the woods to Peve's Cabin at 5pm.

Although Darcus was primarily interested in collecting eggs of the Marbled Murrelet, eggs of Peale's Falcon were second on his list, but

apparently there was competition. On 28 April, the day after they arrived again on the south end of the Island, Darcus and Burtch climbed to the top of Cox Island, but finding the falcon's nest empty, they concluded that it had "been robbed as there were no eggs and no sign of the birds." That evening they rowed across Parry Passage to Graham Island to visit a Peale's Falcon's eyrie but found footprints in the sand that led in that direction and they did not venture as far as the nesting cliff near Cape Knox. Darcus wrote, "I believe that Albert Peve who lives at the Pass has taken the eggs from all the Peale's Falcon's eyries down here as we have seen his foot prints to all of them." Nothing was proven and though Darcus apparently planned to collect the falcons' eggs himself, nothing further was recorded about falcon eggs in his field notes.

Did Peve collect Peregrine Falcon eggs for someone else, possibly Allan Cyril Brooks, the well-known collector, painter and long-time resident of the Okanagan valley?<sup>6,28</sup> The two men probably met in 1920 when Brooks visited Langara Island (Carter and Sealy 2010), but the only specimens on record that Peve collected for Brooks were seven birds taken in 1937 (see below). An online search (e.g., VertNet.org) for Peregrine Falcon eggs taken on Langara Island revealed several sets collected by Brooks in 1920 that were catalogued in the Museum of Vertebrate Zoology, University of California, but none was taken in 1927 during Darcus's second visit. Eggs that Peve may have taken in that or another year did not become part of the Brooks collection, and did not turn up separately in searches of other egg collections. Darcus still managed to collect several sets of falcon eggs, which are catalogued in the Western Foundation of

Vertebrate Zoology and the Royal Ontario Museum.

The quest for the Marbled Murrelet's egg generated even more competition. Darcus claimed to have collected the first eggs of this species on Cox Island, in 1927,<sup>15</sup> but the discovery elicited considerable doubt, including that by Peve,<sup>18</sup> who had accompanied Darcus to Cox Island the day the collections were made. It was eventually confirmed the eggs were laid by Ancient Murrelets,<sup>7,17</sup> then an abundant nesting species on Cox Island.<sup>18</sup>

Darcus's association with Peve continued. On 4 June, Darcus, Burtch and Peve rowed across Parry Passage to Graham Island. Following an arduous trip on foot along the shoreline around Cape Knox, the trio returned to explore islets in Lepas Bay. A faded photograph taken by Darcus that day shows Burtch and Peve standing on the sandy beach of Lepas Bay with one of the islets in the background (Figure 6). Darcus wrote: "Visited one of the islands in Lepas Bay, there are a number of fresh burrows on this island and I think they are Rhinoceros Auklet's [*Cerorhinca monocerata*] burrows. One egg of Pigeon Guillemot [*Cephus columba*] found in one Cassin's Auklet's [*Ptychoramphus aleuticus*] burrow, pair of [Whimbrels *Numenius phaeopus*] seen. Walking back through the woods to the Pass we thus made a complete circuit of Cape Knox, taking seven hours."<sup>14</sup> The trio returned on 6 June and visited another island in Lepas Bay, this time discovering nests of Fork-tailed Storm-Petrel (*Oceanodroma furcata*) and Leach's Storm-Petrel (*O. leucorhoa*). These were deduced to be the first breeding records for Lepas Bay Islands and collectively the fifth breeding record for each species in British Columbia.<sup>8</sup> Darcus briefly described that visit:



FIGURE 6. Photograph uncovered in the British Columbia Nest Records Scheme, hand-labelled "Petrel Island, Le Pas [sic] Bay, West Coast of Graham Island B.C. 4 June 1927 Albert Peve and Wesley Birtch [sic] on beach." Photograph by S.J. Darcus.

After landing [on Graham Island] we walked through the woods to Lepas Bay and constructed a raft on the beach and all three of us paddled out to the island about 200 yds off shore. I do not think this island has ever been landed on before [at least by naturalists]. Found numbers of both Fork-tailed and Leach's Petrels nesting on this island. None of the Leach's Petrel's have eggs yet, as we examined a number of their nesting holes, finding both birds in many of them. A number of Fork-tailed Petrels have deposited their single egg, and a few of the eggs are almost incubated now, although most of the holes contained the fresh egg. Number of Cassin's Auklets nesting on the island, most of which have the young hatched, but a few of the burrows contained the single egg still. A few Glaucous-winged Gulls [*Larus glaucescens*] nest on this island also, but are only just beginning to construct their nests. There four species of sea birds were all we found nesting there. Most of the island has a luxuriant growth of grass and wild flowers. There are also some trees on the island, which is about three acres in extent and the highest parts about 100 ft above high water mark. Song Sparrows [*Melospiza melodia rufina*] abounded amongst the long grass. After spending about

four hours on the island we set sail again on our raft for the shore. The day was beautifully fine and warm with brilliant sunshine. Returned to the cabin on the Graham Island shore of the Pass; Russet-backed Thrushes [Swainson's Thrush *Catharus ustulatus*] abound here also Varied Thrushes [*Ixoreus naevius*].

Darcus last mentioned Peve in his notes on 20 June. He wrote, "Fine weather continues, walked to one of the Peale's Falcon's nests on the coast north and found it contained 4 eggs, the second laying as I had taken the first of 2 eggs May 1st. Coming back to the cabin we packed up after lunch and set out in the row boat for Parry Pass, being towed by an Indian with his Launch [sic] part of the way. Taking up our quarters with Albert Peve in his cabin until we are ready to make the trip down the west coast of Graham Island."<sup>14</sup> Peve did not accompany Darcus and Burtch down the west coast (Figure 7). Having conducted research on seabirds on and around Langara Island in the early 1970s, equipped with a reliable inflatable boat and outboard motor, it is difficult to imagine the conditions and dangers of navigating the strong currents of Parry Passage in a row



boat, and especially the exposed waters and swells off the west coast of Graham Island.

### Observations of birds

Peve provided the second record and only report of a large-scale die-off of the Horned Puffin (*Fratercula corniculata*) in British Columbia. In a handbook of the diving birds and tube-nosed swimmers of British Columbia, Guiguet (pp. 100-101) stated that Peve “reported dead horned puffins washed up on beaches in numbers one winter in the early 1940’s.”<sup>23</sup> Guiguet later informed me that Peve “told [him] that horned puffins occurred regularly in winter off Langara Island and that in the 1930’s a big die-off occurred and ‘winrows’ of dead horned puffins washed ashore at Bruin and Henslung Bays.”<sup>24</sup> Regardless of the discrepancy in the reported dates of the die-off, and because a specimen was not preserved, Horned Puffin remained on the hypothetical list for British Columbia and Canada, until a female was salvaged from a beach on Langara Island in 1971.<sup>40</sup>

The number of dead puffins and the year of the die-off remain uncertain. Peve probably relayed this information to Guiguet during one of his collecting trips in 1946 or 1947. Guiguet’s field notes revealed the two men visited frequently, often at Peve’s cabin, but this die-off of Horned Puffins was never mentioned. On 17 May 1947, Guiguet noted that Peve collected Tufted Puffin (*F. cirrhata*) eggs on Cox Island “last year”;<sup>22</sup> nothing more was written and the eggs did not turn up in egg collections. Peve became familiar with Tufted Puffin colonies near Cox Island in 1926 (Figure 8), an islet off the west side of Langara Island that would be the focus of Darcus’s search for Marbled Murrelets’ nests



FIGURE 7. Wesley E. Burtch with bear skin, west coast of Graham Island, Haida Gwaii, May 1927. Photograph by S.J. Darcus.

the following year.

Peve presumably met Brooks during his visit to Langara Island in 1920, though Brooks did not mention it.<sup>5,28</sup> In fact, C. de B. Green joined Brooks during that trip, which was noted only in passing.<sup>28</sup> Apparently Peve did not collect specimens for Brooks or anyone else until 1937, when seven specimens of

six species of birds were collected on Langara Island. By that time, Brooks had curtailed his long-range field activities.<sup>28</sup> The specimens became part of the Brooks collection and Peve was named as collector (Figure 9). These specimens are catalogued in the Museum of Vertebrate Zoology (MVZ) at the University of California, Berkeley:



FIGURE 8. Albert Peve and Tufted Puffin; inscribed in Darcus’s hand on the back of the photo is “Peve & Tufted Puffin, Langara Island, 20-6-1926.” This colony was located on the SW corner of Langara Island, where Darcus took four eggs of this species the following year.<sup>18</sup> Photograph by S.J. Darcus.



FIGURE 9. Labels attached to male Red-winged Blackbird (MVZ 104807) collected by Albert Peve on Langara Island, British Columbia, 14 October 1937; the specimen was part of the Allan Brooks collection. Note: “Striking male” hand-written on the auxiliary label. Photo credit: Jessica Shi.

### Red-breasted Sapsucker

(*Sphyrapicus ruber ruber*; MVZ 102175, ♂, 14 September 1937)

### Hairy Woodpecker

(*Picoides villosus picoides*; MVZ 82280, ♀, 8 September 1937 and MVZ 102217, ♀, 11 September 1937)

### Mountain Bluebird

(*Sialia curruoides*; MVZ 103810, ♂, 11 October 1937)

### American Robin

(*Turdus migratorius caurinus*; MVZ 103603, ♂, 10 September 1937)

### Pine Grosbeak

(*Pinicola enucleator carlottae*; MVZ 71258, ♀, 15 January 1937)

**Red-winged Blackbird** (*Agelaius phoeniceus nevadensis*; MVZ 104807, ♂, 14 October 1937)

The Mountain Bluebird, Pine Grosbeak and Red-winged Blackbird were the first specimens of these species taken on Haida Gwaii, whereas specimens of the other species had been taken previously.<sup>30,35</sup> Arrangements made for Peve to collect these specimens were not uncovered in Brooks’s papers held in the MVZ archives or Greater Vernon Museum and Archives, which was not surprising, as Brooks was typically reticent regarding his collecting associates.<sup>28</sup>



FIGURE 10. Albert Peve standing beside skeletal remains of a beach-cast whale, Lepas Bay, Haida Gwaii, 1926. Photograph by S.J. Darcus.

### Experiences with mammals

A photograph of Peve standing beside the skeletal remains of a beach-cast whale at Lepas Bay (Figure 10) was uncovered among photos taken by Darcus in 1926. Christopher M. Stinson, Beaty Biodiversity Museum, University of British Columbia, identified the whale as probably a species of beaked whale, possibly Cuvier’s Beaked Whale (*Ziphius cavirostris*),<sup>43</sup> a species recorded frequently off Haida Gwaii.<sup>19</sup>

Almost nothing was known of the resident mammals on Langara Island when Guiguet trapped in all habitats during his first visit there in 1946. That is, until he talked to Peve, the trapper. Guiguet’s field notes revealed an expectation of capturing shrews, including water shrews, and possibly a deer mouse (*Peromyscus* sp.), voles, weasels and mink, but only the Black Rat (*Rattus rattus alexandrinus*) was taken as well as a species of shrew (*Sorex monticolous*). Peve related observations of deer mice “as large as a small rat”, which Guiguet concluded were young rats, after sampling widespread sites on the Island without capturing *Peromyscus*. On 16 May 1946, Guiguet found a dead Ancient Murrelet that had been chewed on the neck, about

which he commented: “... Looks like weasel work to me.” Later, penned in the margin of his field notes were the words: “Wrong, no weasels on Island. Peve.” The murrelet had been killed by a rat. Peve later confirmed what Guiguet had by then concluded: “There are very few predatory animals here, i.e., weasels, mink, etc.” He also told Guiguet that “[Allan] Brooks had taken mice (*Peromyscus* by Peve’s description) at a place not far from here. He also says that besides shrews & rats there are two other mice here on the island — assuming *Peromyscus* as one, the other known, I imagine, is a vole.”<sup>22</sup> There is no evidence of historic presence of a species of vole (*Microtus*) on Haida Gwaii<sup>20</sup> or a deer mouse on Langara Island.<sup>37</sup>

Pickings were slim for a trapper living on Langara Island. The nearest source of the endemic American Marten (*Martes americana nesophila*) was Graham Island, and the endemic Ermine (*Mustela erminea haidarum*) was rare.<sup>20</sup> On top of that, it was a hazardous trip by row boat across Parry Passage. Red Squirrels (*Tamiasciurus hudsonicus*) had not been introduced to Haida Gwaii,<sup>34</sup> the Sea Otter (*Enhydra lutris*) was extirpated,<sup>19</sup> and the Northern Raccoon (*Procyon lotor*) was



accidental,<sup>4</sup> leaving only Northern River Otter (*Lontra canadensis*) accessible on Langara Island, in addition to seals. Peve trapped marten, however, undoubtedly on Graham Island. Dalzell (p. 21) commented that he "... managed to gain the trust of marten enough for some of them to take food from his hand. This gave him the idea of applying for a homestead on nearby Lucy Island to establish a marten farm. He caught and set out several pairs. But Mr. Marten is an aggressive animal with his own ideas about territory. The plan did not succeed."<sup>13</sup>

The introductions apparently occurred in the 1920s, as Cumming, who visited Langara and Lucy islands in June 1930, reported that "Many [Ancient Murrelet] burrows... contained deserted eggs, the birds having probably been killed by Marten which were introduced on the island a few years ago."<sup>10</sup> Cumming undoubtedly learned of the introduction during a conversation with Peve. In a letter written on 1 April 1932 to James A. Munro, Chief Federal Migratory Bird Officer for the western provinces, Cumming stated, "When we were leaving Lucy Isle<sup>D</sup>, Pavie [sic] asked us if we wanted some eggs which we took back to Masset. He told us he was going to burn them under a stump as he did not get a month's wage from Darcus for guiding him when he was on a previous visit. He was promised a cheque when Darcus reached Vancouver"; it is not known whether Peve received the payment. Darcus returned to Langara Island for several weeks in 1936 but he did not mention Peve in his field notes.

Peve may have released martens on Langara Island or, if held in captivity before release to Lucy Island, there was risk of escape. Either way the risk was real. Marten swim occasionally<sup>25</sup> and it is only

a short distance from Lucy Island across Solide Passage to Langara Island (Figure 1). In 1952, Guiguet described the behaviour of a marten captured on Graham Island and held for photographs on Langara Island.<sup>22</sup> On 29 May, he wrote: "Spent early p.m. photographing marten with Clifford [Carl] and Frank [Beebe]. Set up a few small logs & placed bagged marten on open rocky beach. Camera set up, loosened draw strings & animal emerged, but would only show head – preceded to lower the logs as they were too high – animal bolted for the woods – Frank & I managed to recapture it after a chase. Slow movement of animal deceptive – actually covering ground quickly – good change of pace we nailed him just short of the timber. Had a repeat performance a few minutes later – caught him at the timber. Last time he was slowed down and hurt during capture – and some good shots were made. Marten is now specimen #2319 [Royal British Columbia Museum #5797]." A close call! Neither Wayne Nelson nor I recorded marten on Langara Island in the late 1960s and early 1970s and the species was not recorded during efforts to eliminate rats from Langara Island.<sup>26</sup> Two unconfirmed sightings were made by lighthouse keeper K. Brunn in 1985, one on the beach opposite Cox Island in February and one at close range on the boardwalk east of the lighthouse at Langara Point in early November.<sup>32</sup>

Sales of furs would have provided Peve much-needed money for supplies, but I did not uncover sales records held in the Hudson's Bay Company (HBC) archives. His name also does not appear in the HBC servant's contracts or in any records pertaining to furs purchased at either Masset or Port Simpson, on the mainland coast.<sup>41</sup> The dates of operation of the HBC post at

Masset predated Peve's residence on Langara Island.<sup>2,12</sup> With the extirpation of the sea otter,<sup>19,21</sup> the Northern Fur Seal (*Callorhinus ursinus*) became the staple of the fur trade at Masset.<sup>2</sup> Nevertheless, some mammals trapped on Graham Island provided type specimens on which descriptions of subspecies of the endemic mammals of Haida Gwaii were based, including the marten.<sup>30,36</sup> Introductions of other fur-bearing mammals to Haida Gwaii came too late to benefit Peve.<sup>9</sup>

### Epilogue

Each of us who has conducted research in the field, especially at remote sites, have benefited from assistance for the general aspects of living provided by local residents, and often as sources of information pertaining to the natural history of the area and the species that were the subjects of our studies. Albert Peve assisted in various ways the naturalists who visited Langara Island during the early decades of the 1900s. I often pondered what it would have been like to have visited with Peve, who lived "just around the corner" from my camp at Dadens when I studied seabirds on and around Langara Island in the early 1970s.

### Notes

<sup>A</sup>. Beebe was intrigued by adult Ancient Murrelets as they guided their recently hatched chicks to off-shore feeding sites. His party captured murrelet chicks as they descended the nesting slopes on Iphigenia Point and held them until morning when there was enough light for photographs. The chicks were released but because there were no adults present, their attempt to photograph them being escorted out to sea failed. Guiguet's field notes told the story:<sup>22</sup>

Bird activity began about midnight and was really humming by one o'clock. Watched old birds bringing young to the sea while F. Beebe and Dr. Carl collected young for movie work. Tide well out by [sic] rising. Young observed following old birds out of woods. It appears that the young are escorted by one adult from the burrow - the other adult calling from the sea. Watched the adults and young about the wharf where lights, boats and ships confused them more than somewhat. Retired about 1:30 p.m. meditating on the remarkable diving and swimming ability of both adults and young of this species. The flying underwater technique is used by both old and young ... Released [in daylight] young murrelets for photography – crow [Northwestern Crow, now American Crow *Corvus brachyrhynchos caurinus*] took one of the young released and two others showed positive interest.

<sup>B</sup>. Darcus did not provide details of observations made during his preliminary visit in 1926 in accounts of his work on Langara and Cox islands the following year.<sup>15,16</sup> He noted only that "Marbled Murrelets were seen daily near the shore of the island, but no nest was found. If a few pairs of this species were breeding on the [Langara] island, it would have been very difficult to discover their burrows among the thousands of burrows of the other burrow-nesting species breeding there. However, I obtained a clue to a breeding colony of Marbled Murrelets on a smaller island [Cox Island] close by, finding on this island a dead Marbled Murrelet and some wings of the species in the eyrie of a Peale's Falcon."<sup>15</sup> He concluded a "nesting colony" of Marbled Murrelets was nearby and vowed to return; indeed, he returned in 1927 to search intensively for the nest of this species.<sup>15</sup>

<sup>C</sup>. Young observed birds near Masset before spending a few days on Langara Island in June 1926 with his friend, S.J. Darcus, who had been there for two weeks in search of a Marbled Murrelet's nest. Young's observations of colonies of Ancient Murrelet and Cassin's Auklet near Dadens and on nearby Lucy Island<sup>10</sup> were the first reports of nesting at these sites; by 1970 the colonies were abandoned.<sup>39</sup>

<sup>D</sup>. Cumming collected birds at several sites along the north coast of Graham Island between mid-June and the end of July 1930, "... with the intention of investigating the nesting of certain sea birds on the extreme northwest end of Graham Island."<sup>10</sup> He listed 63 species of birds recorded between Rose Spit and Langara Island, 13 of which were observed at Langara Island from late June to 19 July.<sup>39</sup>

### Acknowledgements

I am especially indebted to Patrick J. Darcus for providing copies of his grandfather's field notes, digitized by his sister Jeannine Darcus, and for diligently poring over and scanning photographs from family albums. R. Wayne Nelson provided excerpts from Frank L. Beebe's field notes for 1952, and Alora L. Nelson provided information from the censuses. R. Wayne Campbell provided copies of unpublished field notes of Charles J. Guiguet that covered three collecting trips to Langara Island between 1946 and 1952, and provided an early photograph filed in the British Columbia Nest Record Scheme. Jeanne Boyle and Dennis Ooman provided a photograph archived in the Darcus files at the Penticton Museum & Archives, and hosted a visit to the collection. Lesley Kennes (Royal British Columbia Museum) and Michael Rodway provided information on specimens and recent observations of marten on Langara

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# FIRST NEST RECORDS OF THE PECTORAL SANDPIPER (*CALIDRIS MELANOTOS*) FOR MANITOBA

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The Pectoral Sandpiper (*Calidris melanotos*) has long been considered an uncommon migrant in Manitoba and a transient in spring and fall at Churchill.

To help document its timeline and history in Manitoba, and Churchill in particular, the following notations would apply. In 1934, Taverner and Sutton referred to this species at Churchill as "A transient, more common in autumn than in spring"<sup>1</sup> and they offered no suggestion that this species had ever nested in Manitoba. In 1955, Mowat and Lawrie gave one spring record for Churchill and suggested that this species was rare in that area and in locations to the north such as Chesterfield Inlet (Igluligaarjuk).<sup>2</sup>

In 1970, Jehl and Smith stated that "Pectoral Sandpipers are uncommon at Churchill" in spring and more common in fall.<sup>3</sup> As well, they stated that "We have no evidence that Pectoral Sandpipers nest anywhere in the region." In 1975, Cooke *et al.* referred to the Pectoral Sandpiper as a rare summer visitor on Cape Churchill.<sup>4</sup> In 1983, Lane and Chartier showed this species as irregular in spring and more common in fall, with no suggestion of breeding at Churchill.<sup>5</sup> In 1986, Godfrey gives the breeding range as being along the coast of Yukon and Northwest Territories, Banks Island, and Melville Island, Bathurst Island, Victoria Island, Devon Island, northern Baffin Island,



FIGURE 1: Well concealed nest of Pectoral Sandpiper, 2 July 1983. Churchill, Manitoba. Photo credit: J.M. Richards.

Prince of Wales Island, Adelaide Peninsula, Southampton Island in Nunavut, Northern Ontario (Cape Henrietta Maria), and Churchill, Manitoba.<sup>6</sup> He also used summer records for the Prince Patrick and Bylot islands without evidence of breeding. He based his claim of breeding at Churchill on the 1983 record below.

In 2018, Johnston (*in* Richards and Gaston) added Cornwallis Island, King William Island, Mansel Island, Prince Charles Island, and the Boothia Peninsula to the breeding range in Nunavut.<sup>7</sup> In 1988, Chartier continued to show their occurrence as spotty and irregular; however, only by then was it shown as having bred in Churchill.<sup>8</sup> In 1994, Chartier showed the Pectoral Sandpiper as a species you are "lucky to find" in summer and "may see" during spring and fall migration and lists it as having bred in the past.<sup>9</sup> Her statements revolve around known

nesting attempts in 1983, 1987 and 1992. In the 2003 book, *The Birds of Manitoba*, it is listed as a common and widespread migrant in Manitoba, and a rare and irregular breeder on the coast.<sup>9</sup> This is based on three nesting attempts near Churchill as well as courtship displays observed at Cape Churchill (La Pérouse Bay) in 1984.<sup>11</sup>

In 2004, Jehl referred to this species at Churchill as uncommon.<sup>12</sup> He mentions the 1983 nest found there (but gives no date) and the fact that males were engaged in mating displays near Cape Churchill in 1983 and 1984 although no nests were found there. He concluded that it was possible that nesting took place both years. He cites Moser and Rusch (*ibid.*) saying that in 11 previous summers on the Cape, this had not been previously observed. Of interest here, more recent studies have confirmed the general status of this species in Manitoba. For example,

## POETRY

### A winter of bird abundance

When grasses brown and warblers leave

With its array of calls,  
many does a mockingbird deceive

The first hoary redpoll,  
on Christmas eve  
Seeds from cones,  
crossbills retrieve

The faint call of a bunting,  
you can perceive  
Juncos less abundant,  
for there is snow to heave

Rowan and Teal Clarke

9 years of age  
Edenwold, SK





FIGURE 2: Pectoral Sandpiper incubating four eggs, 2 July 1983. Churchill, Manitoba. Photo credit: J.M. Richards.

there were only nine sight records for this species included in the data base during the monumental 2010-2014 Breeding Bird Atlas period, and none were considered as possible breeding birds in Manitoba during that time.<sup>13</sup>

The discovery of an occupied nest on 1 July 1983 by Jim Richards, Bruno Kern and George Trafford would appear to be the first nest record for Churchill and for Manitoba. This was confirmed at the time by Herb Copland at the Manitoba Museum of Man and Nature, as well as by shorebird expert Lou Oring, who was shown the nest by Richards on 4 July. A search of Prairie Nest Record Scheme cards housed at The Manitoba Museum and a literature search, produced no nest records prior to July 1983 and none since June 1992.

Richards and Kern noted a male at a lek engaged in typical courtship display; low fluttering flight and emitting 'booming' sounds on 18 June 1983, as well as on 22 June at Mile 5.3 along the Launch Road at Churchill. On 23 and 30 June, at least two males were engaged in courtship displays there. We shared our findings with a visiting birder, George Trafford from Scotland who was keen on seeing nests and

suggested that he should keep watch on the area as did we. We found a nest with four eggs (female incubating) on 1 July in open, wet subarctic tundra. The nest, well concealed on one side in a clump of dry grass, was a shallow scrape lined with leaves and other dead vegetation. The nest, eggs, and adult were photographed by Richards on 2 July. The nest still contained eggs and was being incubated on 4 July. There was no sign of the two males or any additional nests on any subsequent visits by any of us over the next several days. It is unknown whether this nest was successful or not.

Jim Briskie and Dawn Sutherland



FIGURE 3: Nest/four eggs of Pectoral Sandpiper, 2 July 1983. Churchill, Manitoba. Photo credit: J.M. Richards.

found a nest (second for Churchill and for Manitoba) near Twin Lakes, Churchill on 16 June 1987. The nest was beside a clump of sedge, and the habitat was wet, soggy open peatland. On that date the nest contained four eggs and the female was incubating. A male was engaged in courtship display nearby. The nest was inspected about five days later and the eggs were cold, and no adults were seen in the area. The nest was checked again about four days later and the eggs were still cold, and again, no sign of the adults. This nest was considered deserted.

In 1992, 4-5 males displayed persistently near the 'Golf Balls' along Launch Rd., and at Twin Lakes near Churchill, and Jehl (*ibid.*) found a nest with four eggs on 18 June at Twin Lakes; this would be the third known nest for Churchill and Manitoba. The eggs were found to be cold on 28 and 29 June and led him to the conclusion they were deserted.

Mention should be made of possible reasons for this species to linger south and east of its regular breeding range. Summer 1992 was particularly cold up north (Mt. Pinatubo eruption) and may have forced birds to short-stop on their way north. Similar conditions may have existed in the other years that there were breeding attempts.

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## Nature SASKATCHEWAN

# SPRING MEET 2022

JUNE 17, 18 & 19, 2022 REGINA/AVONLEA, SK

### Friday, June 17

Refreshments will be available; coffee, tea, cookies, muffins

6:30 p.m. Registration at the Atlas Hotel in Regina

7:30 p.m. Speaker TBA

8:30 p.m. Logistics and program outline/instructions for Saturday

### Saturday, June 18

8:30 a.m. Board bus to depart from Regina to tour Avonlea badlands, Missouri Coteau and Claybank Brick Plant

12:00 p.m. Lunch break at Claybank Brick Plant

5:00 p.m. Cocktails

6:00 p.m. Banquet

7:00 p.m. Speaker TBA

### Sunday, June 19

9:00 a.m. Annual General Meeting at the Atlas Hotel in Regina

## SUGGESTED ACCOMMODATIONS

### Atlas Hotel

Block reserved under Nature Saskatchewan until May 13, 2022. Call 1-844-586-3443 (toll-free number) to reserve your room.

Additional details, and a registration form, will be available in the next issue of *Blue Jay* and on the Nature Saskatchewan website. Please note that plans are subject to change due to the COVID-19 pandemic and may be revised to follow the latest public health guidelines.



# A TALE OF TWO BEETLES: A VAMPIRE AND AN ENIGMA (INSECTA: COLEOPTERA: MELOIDAE, PYROCHROIDAE)

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The 30 species of blister beetles (Coleoptera: Meloidae) known from the Canadian Prairie provinces<sup>1</sup> are a conspicuous and ecologically important part of the grassland biota. The beetles, which are generally of medium to large size (3 – 25 mm) and often conspicuously colored, are usually found feeding on a variety of flowers.

These beetles are active during the day and do not make much effort to conceal themselves so appear to be vulnerable to predators. However, like many species of conspicuous insects, they have chemical protection. The name blister beetle refers to a toxic chemical, cantharidin (Box 1), in the body of these insects.

The body of a blister beetle, unlike that of most beetles, is not hard and armoured, but rather is leathery and can withstand light attack and mauling by a predator. When attacked or roughly handled, the beetles exhibit reflex bleeding where blood is exuded through the body wall, generally at specific points such as joints on the legs. This blood carries cantharidin and probably other compounds that are deterrents to most attackers. A familiar example of reflex bleeding is shown by lady beetles, which when handled (or tasted<sup>2</sup>), leave a bitter taste from alkaloids in the blood. The blood of blister beetles is avoided by many predators ranging from ants to birds<sup>3</sup> and can blister tender human skin.<sup>4</sup>

Cantharidin, although occurring

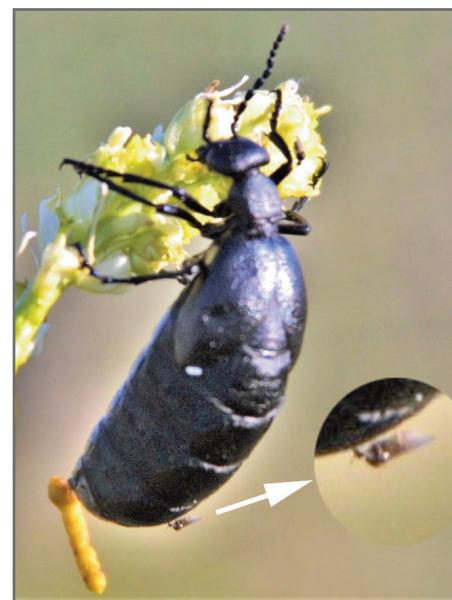
## BOX 1. CANTHARIDIN

(from the Greek “kantharis”, a name for blister beetle) - A highly toxic odourless (to humans), colourless compound that is produced by blister beetles (Meloidae) and a few members of a related family. Cantharidin can irritate or blister (vesicate) skin and is highly toxic when ingested. A predator of a blister beetle is likely to have an unpleasant meal, and blister beetle poisoning and even death from ingestion is considered a significant agricultural problem in parts of the US. Horses are especially susceptible to blister beetle poisoning when they ingest either living or dead beetles from grass or hay. However, cantharidin is an imperfect poison for some animals (e.g. frogs, a variety of insects) can tolerate it and some even require it for various life history functions.<sup>3,4,30</sup>

in the blood, is not evenly distributed throughout the beetle's body. Concentrations tend to be higher in males than in females and are highest in glands in the reproductive system. It has been thought that males produce cantharidin in accessory glands of the reproductive system and transfer most of it to females during mating as females produce little.<sup>5,6</sup> However, recent work suggests that at least some synthesis occurs in the fat body<sup>7</sup>, and larvae may also produce the substance. Females lay eggs containing cantharidin that protects

them, as well as hatching larvae, from attack by predators and microorganisms.<sup>8</sup> Cantharidin can also function as a pheromone during courtship and as a mating inducer.<sup>3,9</sup>

When someone gets a good idea, it is certain to be copied, and this applies to cantharidin. Beetles in several families related to the Meloidae either have some ability to synthesise the toxin or they pick it up from some other source. Some species of the beetle families Pyrochroidae and Anthicidae are attracted to cantharidin and blister beetles on which they feed. They ingest cantharidin and pass it on to their eggs and larvae, also as a chemical defense against predation. Some mirid bugs (Hemiptera: Miridae<sup>10</sup>) and no-see-um flies (Diptera: Ceratopogonidae, Figure 1) feeding on blister beetles are also attracted to cantharidin.



**FIGURE 1:** Female *Meloe angusticollis* Say feeding on Death Camus (*Zygadenus gramineus* Rydb.). Enlargement - the small no-see-um fly (Diptera: Ceratopogonidae: *Atrichopogon* sp.), a probable cantharidiphile, feeding near the end of the abdomen. Photo credit: D. Larson.

Eisner termed this attraction to cantharidin as cantharidiphilia, and gave examples of insects from the orders Coleoptera, Diptera, Hemiptera and Hymenoptera that are cantharidiphils.<sup>3</sup> The following account is of a local example of a beetle genus of known cantharidiphiles.

## The vampire beetle: *Pedilus* (Pyrochroidae)

One group of beetles, members of the genus *Pedilus* Fischer (Pyrochroidae), have been observed feeding on the blood of blister beetles of the genera *Meloe*<sup>4,11,12,13,14,15,16</sup> and *Epicauta*.<sup>15,17</sup> Although the observations involve only a few species of *Pedilus* and two genera of blister beetles, this blood-feeding appears to be widespread, but is probably opportunistic and not necessary for the completion of the life of *Pedilus*.

On 4 July 2021, I observed a feeding aggregation of Nuttall's blister beetle (*Lytta nuttallii* Say) on silvery lupine (*Lupinus argenteus* Pursh), 16 km south of Maple Creek, SK (SW28-9-26 W3) (see The Enigma on the next page). I photographed these beetles and later that day, when examining the photographs, noticed that two blister beetles had objects near the rear end of the body. Enlargement of the photos revealed these were beetles of the genus *Pedilus* that were holding onto the blister beetle's body with their mouthparts (Figure 2). On 5 July, I returned to get better quality photographs and to collect specimens of *Pedilus* to determine the species (Figure 3). Three specimens of *Pedilus* were collected off the elytra of blister beetles along with five additional specimens that were in an excited state and climbing the lupines amongst the blister beetles. These specimens were obviously attracted

by the blister beetles, for although specimens of *Pedilus* can be regularly collected by sweeping herbs, grasses, and low bushes in riparian areas and woodlands, I have never previously found an aggregation.

The *Pedilus* specimens on the blister beetles were at the apex of the elytra and on an intersegmental membrane of the abdomen. Several were holding on only by their mouthparts, the legs were appressed against their bodies. When picked up, they disengaged quickly and there was no obvious sign of damage at the point where the mouthparts were attached to the elytra, although I did not closely examine the blister beetles before releasing them. Other observers of this behaviour also noted lack of evident injury to the host, although several reported elytral damage on *Meloe*.<sup>11,13,14</sup> These observations are consistent with the beetles having their mouthparts anchored into the elytra and probably feeding on fluid rather than chewing the host, thus they were probably feeding from blood sinuses in the elytra. Feeding damage has been reported from *Meloe*, which



**FIGURE 2:** Nuttall's Blister Beetle with two male *Pedilus monticola* feeding at the apex of the elytra and intersegmental membrane of the abdomen. 4 July 2021. Photo credit: D. Larson.



**FIGURE 3:** Nuttall's Blister Beetle with a male *Pedilus monticola* feeding at the apex of the elytra. 5 July 2021. Photo credit: D. Larson.

differs from most other blister beetles in having reduced, non-functional wings (Figure 1), and the elytra are relatively thin, perhaps making them more susceptible to damage from feeding by *Pedilus*.

The eight collected *Pedilus* specimens are males. In general sweep-net collecting, both males and females have been collected although males of the species predominate (of the 27 specimens in my collection the sex ratio is 21♂: 6♀). It was likely all specimens associated with the blister beetles were males, but the sample size is too small to be certain.

These specimens were pinned and will be deposited in the Royal Saskatchewan Museum. Their identity is uncertain as the taxonomy of North American *Pedilus* is unsettled. They are probably the species Bousquet et al. referred to as *P. longilobus* Fall<sup>1</sup>, but they do not match *P. longilobus* in the shape of their genitalia. The genitalia of these specimens most closely resemble published figures of genitalia of



a western species, *P. monticola* Horn<sup>17,18</sup>, so I refer them to this species. *Pedilus monticola* has been reported feeding on *Meloe* in BC<sup>10</sup> although it has been suggested that the record actually refers to an undescribed species of *Pedilus*.<sup>20</sup>

The males have the apex of the elytra somewhat tumid with a concave impression. Some species of *Notoxus* (Anthicidae) that have males that feed on cantharidin, have the elytral tips with apical tubercles from which the females feed and obtain cantharidin.<sup>21,22</sup> This is the site on blister beetles where *Pedilus* usually feed, and in turn this modified portion of the male *Pedilus* elytra could be a feeding site for female *Pedilus*. Similar to blister beetles, male *Pedilus* pass cantharidin along to females during mating, and possibly through female feeding on male elytral secretions although this has not been observed. Males of another Prairie species of *Pedilus*, *P. abnormis* (Horn), have unmodified elytra. Could this mean they do not pass cantharidin on to females or do so only during mating?

Eisner raised the question of where do cantharidiphiles obtain their cantharidin?<sup>3</sup> Blister beetles are the principal source identified to date, so it seems appropriate to examine the biology of the presumed cantharidin donor of this observation.

### The enigma: Nuttall's blister beetle (*Lytta nuttallii* Say)

There are three large (length = 7 to 21 mm), vividly metallic blister beetle species of the genus *Lytta* Fabricius that occur in grassland and parkland portions of the Prairie provinces.<sup>23</sup> *Lytta cyanipennis* (LeConte) and *L. viridana* (LeConte) are metallic dark purple, blue, or green all over, whereas *L. nuttallii* is similar except the elytra are metallic dark violet to brassy and the head and pronotum have a coppery reflection (Figures

2, 3, 4). *Lytta cyanipennis* is western and confined to the foothill region of Alberta, *L. viridana* and *L. nuttallii* are widespread in prairie and parkland.

This discussion focuses on *L. nuttallii*, Nuttall's Blister Beetle, as it is the most commonly encountered species and the species on which *Pedilus* was observed to feed. However, *L. cyanipennis* and *L. viridana* are so similar in adult behavior that most observations apply equally well to all members of this group of species, and there is evidence that hybridization among the three may occasionally occur where their ranges overlap.<sup>23,24,25</sup>

Adult Nuttall's Blister Beetles occur most abundantly in June and early July. They are almost always found feeding on flowers of various species of Leguminosae. Marschalek & Young give a long list of plants from which the species has been collected.<sup>20</sup> There are some reports of damage to non-leguminous crops, but it is unlikely that any non-leguminous plant can sustain the insects. Although reported from a variety of plants, *L. cyanipennis* could be maintained in the lab only on *Lupinus*.<sup>23</sup> The plant species I have most frequently found specimens on are various species of milk-vetch (e.g., Two-grooved Milk-vetch (*Astragalus bisulcatus* (Hook), Drummond's Milk-vetch (*A. drummondii* Douglas), Narrow-leaved Milk-vetch (*A. pectinatus* Douglas)) and Silvery Lupine (*Lupinus argenteus* Pursh). Beetles are found on Caragana (*Caragana arborescens* Lam., also a legume) often enough to have the common name Caragana Beetle, but this non-native plant is probably only an incidental host.

The beetles feed on flowers, developing seed pods and sometimes on the leaves.<sup>25</sup> Selander described the feeding of *L. cyanipennis*: "In captivity they feed more or less continuously, day and night. Their fecal material, which is emitted in large quantity,

### BOX 2. HYPERMETAMORPHOSIS

– is an unusual type of insect development shown by blister beetles, as well as members of a few other insect groups. It is characterized by successive larval stages having quite different forms and behavior. In blister beetles the instar 1 larva (triungulin) is sclerotized and active and seeks out a host, instars 2 – 5 are grub-like feeding stages, instar 6 is a contracted, sclerotized (hardened) non-feeding form (coarctate stage) that passes the winter, instar 7 is grub-like but does not feed, it moults into a pupa which moults to an adult.<sup>23,31</sup>

contains great amount of undigested plant tissue; it is presumably this inefficient utilization of food that accounts for the unusually ravenous habits of the beetles."<sup>23</sup>

The beetles seldom occur singly. They are usually observed in aggregations on the food plant where, besides feeding, the beetles are busily engaged in courtship and mating (Figure 4). I refer to these aggregations as circuses (Figure 5). A definition of circus is "an arena for a travelling show of acrobats, trained animals,



FIGURE 4: A mating pair of Nuttall's Blister Beetle on Silvery Lupine. Photo credit: D. Larson.

clowns, etc."<sup>26</sup>, and this well describes the frenetic behavior of the beetles. Mating occurs with the sexes joined end to end and the beetles remaining active and feeding so they often end up pulling against or hanging from each other. Copulation lasts a long time, generally within the range of 8 to 10 hours during which time the beetles feed and move about.<sup>27</sup>

It has been suggested that this gregarious habit of adults may function as a mechanism to keep beetles near the site they developed and thus giving newly hatched larvae a better chance of finding suitable food.<sup>23</sup> However, these circuses seem to be congregation on a food source for the purposes of feeding and mating. Groups form when one or a few beetles find a suitable plant and then more individuals are recruited, probably by means of sex or aggregation pheromones.<sup>27</sup> Circuses vary in size from a few beetles to larger groups not exceeding a couple of thousand, but most probably contain fewer than 100 beetles.<sup>25</sup> In a patch of food plants, the beetles are usually on only a localized subset of plants.<sup>25</sup> Typically, circuses break up with the abrupt abandonment of the site as the beetles fly off individually over a few hours so that a large circus one day is gone the next. Dispersal occurs when



FIGURE 5: A circus of Nuttall's Blister Beetle on Drummond's Milk Vetch. Photo credit: D. Larson.

the edible parts of the food plant, especially flowers and developing seed pods, are consumed, but may also occur even though resources remain.

But this is the enigma, where do the beetles in a circus come from and where do they go? We don't know. The larval stages are known because they have been reared in captivity, but they are unknown in the field. We can speculate on the probable life history based on bits and pieces of information obtained from keeping adults captive, lab rearing larvae, and inferences from other species of *Lytta* whose life history is known.

Blister beetle larvae feed on either the eggs of grasshoppers, or the brood and stores of solitary bees (Box 3). All *Lytta* for which the larval stages are known feed on provisions and immature stages in the nests of wild bees. Thus, our species of *Lytta* are probably bee nest predators. Caged, mated females of the three Prairie species have been observed to lay eggs in burrows in the soil of their cages.<sup>24</sup> Each female digs a burrow 1 to several cm deep, deposits a mass of eggs, and then backfills to cover them. The triungulin hatching from an egg seeks out food by crawling through or over the soil. Thus, Nuttall's Blister Beetles must lay eggs close to the nests of suitable ground-nesting

### BOX 3. THE LARVAL FOOD OF BLISTER BEETLES

Blister beetle larvae feed either on grasshopper eggs or cell provisions and brood in the nests of solitary bees.<sup>32</sup> Adult beetles of species that are bee nest predators either lay eggs in the soil and the first instar larva (triungulin) seeks out host nests, or beetles lay eggs in the soil or on vegetation and triungulin moves to flowers where it waits to latch onto the hairs of a visiting bee which transports it to the nest.

Nuttall's Blister Beetles, based on lab observations and what is known of the immature stages of related species, lay eggs in clusters in the soil and the triungulin probably seeks out nests of ground-dwelling solitary bees. The bee nests consist of a number of cells, each with a bee egg or larvae and provisions of pollen for its development. The blister beetle larva eats the contents of one, or probably more, cells.

bee hosts as the triungulin larvae have limited mobility. No bee species occurs in high enough density to support the populations of adults seen in most circuses, so females must disperse to egg-laying sites.<sup>25</sup> Church & Gerber found captive females could lay as many as five batches of eggs each with an average of 320 eggs (corresponding to the number of ovarioles<sup>28</sup>), with an average length of 6 to 7 days between batches.<sup>25</sup> Feeding is required to develop each batch of eggs and mating to fertilize them, so over the average life of a beetle, 3 to 5 weeks<sup>25</sup>, there must be several movements from feeding and mating sites to oviposition sites then again to a feeding site. Thus, the circuses are likely forming, dispersing and reforming in new locations as food sources become



available (e.g. host plant species change with the seasonal phenology of the vegetation).

The large size of an adult Nuttall's Blister Beetle necessitates a large host bee, although larval blister beetles are known to devour the contents of more than one cell in a bee nest so smaller bees could be the host with a beetle larva feeding on several cells. The host bees are probably members of the genus *Anthophora* (Apidae, Apinae) as these are the host of some known species of *Lytta*.<sup>23</sup> These are robust bees, the majority of which make non-aggregated nests in flat ground.<sup>29</sup> Interestingly the provisions of their cells are reported to have a distinctive "yeasty" smell,<sup>29</sup> which suggests a cue a blister beetle larva could use in finding a host nest. Leafcutter bees (Megachilidae) are also a possible host for the only report of female Nuttall's Blister Beetles ovipositing in the wild is by Church and Gerber who stated "oviposition sites were all small bare patches located in native grassland vegetation and in light, sandy soil. The remains of a large number of nesting cells of leafcutter bees (*Megachile* sp.) were distributed throughout this area along the riverbank. Though the larvae of *L. vesicatoria* fed on the provisioned materials of *Megachile* species in the laboratory (Selander 1960), it is not known whether this bee is a larval host of *nuttalli*."<sup>25</sup> It is certain that honeybees, bumble bees and domesticated leafcutter bees are not hosts for their nests have been extensively studied without finding Nuttall's Blister Beetles. However, stores and larvae of honeybees and domestic leaf-cutter bees have been used to rear larvae in the lab.<sup>23</sup>

## Discussion

There are some good clues as to what the life history of Nuttall's Blister Beetle might be. However, confirming the assumptions and

uncovering life history details for this big, brash colourful beetle still offers an interesting challenge and perhaps some surprises for naturalists. Also, these insects seem to reflect the impacts of human activity on the prairies. Most of the records of Nuttall's Blister Beetles feeding on non-leguminous plants and causing crop damage date from the 1930s and since that time the beetles have existed in relatively small populations in areas with natural prairie. The related *Lytta viridana* has largely disappeared from the southern Canadian prairies although I have occasionally found small circuses in southwestern Saskatchewan and adults occasionally in wind-drift of lakes. Church and Gerber attribute these population declines to intensification of agriculture which has reduced habitat for wild bees.<sup>25</sup> The state of these blister beetle populations is probably a good proxy for the state of larger ground nesting prairie bees, although we do not know which ones.

One has to ask what is the significance of the observation of *Pedilus* feeding on *Lytta nuttalli*? Studies on the pyrochroid beetle *Neopyrochroa flabellata* show that males accumulate cantharidin and use it to induce females to mate.<sup>3</sup> Cantharidin is not essential for mating to occur, but it greatly enhances a male's chance of success. Does the female need cantharidin to develop and lay eggs, or do the eggs need the protection of cantharidin? Again, we don't know. Given the erratic movements and local variation in abundance of Nuttall's Blister beetles, they would seem to be a very uncertain source of cantharidin if it is an essential material for *Pedilus*. Likely, male *Pedilus* are facultative feeders on cantharidin from whatever source is available and perhaps those males lucky enough to find a source have enhanced reproductive success.

This possibility suggests that there are chemical webs we are hardly aware of hidden within the familiar ecological webs.

## Acknowledgements

I thank Cedric Gillott and Margaret Larson for their helpful reviews of the paper.

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**P.S.** My first job as a high school student was working as a summer student in 1961 for Dr. Norman Church and his technician Bill Pelham at the Agriculture Research Station, Lethbridge Alberta. Church was interested in the hormonal control of metamorphosis in insects and the hypermetamorphosis of blister beetles was especially interesting. Thus, he wanted large numbers of larvae in various stages of development. It was found that larvae of wheat-stem sawfly were acceptable food for larval *Lytta* but each sawfly larvae had to be dissected out of its wheat-stem home. That was my work. It was rather dull, but compensated for by wonderful days in the field watching, collecting and chasing dispersing blister beetles. Since then, I have not been able to see blister beetles without feeling nostalgia and wonder. 🐦



HAVE YOU SEEN A GRACKLE WITH A YELLOW LEG BAND?

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# NATURE SASKATCHEWAN PROGRAM UPDATES

Rachel Ward  
Habitat Stewardship Coordinator

## STEWARDS OF SASKATCHEWAN BANNER PROGRAM BREAKS 200 PARTICIPANTS!

This has been a big year for the SOS banner program, including some great efforts for the Sprague's Pipit and our participants growing to more than 200!

We spent some time focusing on the Sprague's Pipit, a prairie bird best known for its distinctive call. The male Pipits sing while performing the longest known flight display of any song bird. Due to their secretive nature, these birds are rarely seen and their presence is usually determined by hearing the male's song. The Sprague's Pipit prefers large blocks of native mixed-grass prairie and is an excellent indicator of ecosystem health. For this portion of the field season, we were in southwest Saskatchewan, part of the province's grasslands that have identified important habitat for the Sprague's Pipit.

It was also a great year for staff sightings for species at risk! Between grid road searches and incidental encounters, staff reported many sightings for species at risk other than Burrowing Owls, Loggerhead Shrikes and Piping Plovers, which are covered by separate programs. The majority of the sightings were Ferruginous Hawks, Lark Buntings and Common Nighthawks. Other species included Baird's Sparrows, Chestnut-collared Longspurs, Bobolinks, American Badgers, and Sprague's Pipits. One sighting of Common Nighthawks included at least 30 birds! The Rare Plant Rescue crew was also lucky enough to spot a Long-Billed Curlew flying overhead.

The SOS staff were thrilled to be back in the field to visit with landowners this year. We visited with 14 current participants and 59 potential participants. As a result, we welcomed 33 new landowners to the program, bringing our total SOS participants to 207! We focused on many landowners with habitat for the Sprague's Pipit this year. Of the 33 new participants, 16 signed up to conserve more than 17,000 acres of habitat for Sprague's Pipits. Participants are also conserving habitat for Barn Swallows, Common Nighthawks, Ferruginous Hawks, Bobolinks, Chestnut-collared Longspurs, Northern Leopard Frogs, Short-eared Owls and Monarch Butterflies. The total acres conserved under the SOS banner program is now more than 175,000 at almost 1,200 sites — nearly double the number of sites and acres from last year!

To date, more than 900 species at risk have been reported for the 2021 annual participant census. Prominent

species include Barn Swallows, Ferruginous hawks, Bobolinks, Common Nighthawks, Northern Leopard Frogs and Tiger Salamanders.

There were 25 sightings called in to our HOOT line for the SOS program. The sightings included Common Nighthawks, Chestnut-collared Longspurs, Tiger Salamanders, Ferruginous Hawks, Sprague's Pipit and many Monarch Butterflies.

These sightings provide valuable information about the numbers and locations of these species, which aids conservation efforts. If you would like more information about the Stewards of Saskatchewan banner program, or would like to report a species at risk sighting, please call 306-780-9832 or 1-800-667-HOOT (4668) toll-free, or email outreach@naturesask.ca. 🐦

## A DRY YEAR FOR THE PIPING PLOVERS

The International Piping Plover Census was initially scheduled to take place this summer; however, it has been delayed due to COVID-19 and is now projected to occur in the summer of 2023. Staff still managed to get out and visit with two of our current participants this summer and provided beneficial management practices plans to both. The beneficial management practices plans provide more details on the Piping Plovers, their life cycle and showcase how to maintain or improve their habitat while ensuring operations function properly for landowners. The total participant count for the Plovers on Shore program stayed consistent at 60 participants, protecting 137 miles of shoreline.

It remains to be seen what effect the dry year will have for the Piping Plover population in Saskatchewan. The drought has brought a hard year for many of the landowners in Saskatchewan and this can also have an effect on the shore birds. Droughts can change the suitability of habitat for plovers by increasing the distance between the water line and nesting sites, or remove it entirely by drying out wetlands. Piping Plovers generally have low reproductive success and this can be exacerbated during drought years.

Despite the dry summer, the census this year is already showing higher numbers of plovers than last year's low numbers. To date, the Plovers on Shore census is nearly complete and there have been seven pairs, 14 singles and two juveniles reported by participants for a total of 30 plovers, compared to last year's total of 13 plovers. A Piping Plover sighting was also called into the HOOT line for a pair

of plovers and a nest with four eggs.

If you would like more information about the Plovers on Shore program, or would like to report a species at risk sighting, please call 306-780-9832 or 1-800-667-HOOT (4668) toll-free, or email outreach@naturesask.ca. 🐦

## SHRIKES SOUTH OF THE DIVIDE

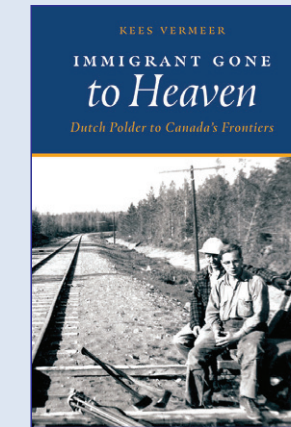
Grid road searches this year were done in the South of the Divide region of southwestern Saskatchewan, with visits to landowners interspersed throughout 10 days. Between the grid road searches (where we drive along a grid road and stop to observe from the vehicle if we see something familiar in the shrubs or shelterbelts) and incidental sightings, there were 36 Loggerhead Shrikes seen. There were 31 adults and five juveniles spotted. When they have left the nest the juvenile shrikes can be distinguished from their parents by their fluffier, slightly messy appearance and often faint barring on their chest.

Staff visited with 33 potential participants to discuss the program and learn whether they were familiar with the Loggerhead Shrikes, or if they had seen any of the impalements on barbed wire or thorny shrubs that are characteristic signs of shrikes. We were thrilled to welcome 21 new landowner participants to the program, bringing our total participants up to 292! We were also happy to visit with 23 of our current Shrubs for Shrikes participants this summer. Together the Shrubs for Shrikes participants are now conserving more than 130,000 acres.

The Shrubs for Shrikes census is complete with 193 total shrikes reported by participating landowners. There were 66 pairs, 50 singles and 11 juveniles among the reported shrikes. The HOOT line received 22 calls for sightings of Loggerhead Shrikes, with eight pairs, 18 singles and one juvenile reported. Currently, population estimates for the Loggerhead Shrike continue to display a downward trend. We remain hopeful that, with the help of so many wonderful stewards maintaining suitable habitat, the population decline will be halted if not reversed.

If you would like more information about the Shrubs for Shrikes program, or would like to report a species at risk sighting, please call 306-780-9832 or 1-800-667-HOOT (4668) toll-free, or email outreach@naturesask.ca. 🐦

## IMMIGRANT GONE TO HEAVEN by KEES VERMEER



*Immigrant Gone to Heaven* is a remarkable book. It grips the reader from the moment the author joins an Emigration Training Centre in the *Biesbosch* region of the Netherlands with the goal of moving to Canada. We follow his experiences as he lands in Canada and works his way up from farm-hand to obtaining a doctorate in Zoology. The section of the book detailing his explorations in ornithology are as fascinating as the stories of immigration and the memories of World War II. The book takes the reader on a riveting journey of exploration in many facets of social history and science as viewed through the lens of an inquisitive and always optimistic upbeat man. I strongly recommend this book to anyone interested in learning more about World War II, immigration, bird behavior or even just in how a life's journey can unfold with all its unexpected twists and turns.

**Tom Bijvoet**  
Publisher, *DUTCH the Magazine – De Krant*

Brimming with charming personal anecdotes and fascinating ornithological research in equal measure, Kees Vermeer's *Immigrant Gone to Heaven* paints a vivid picture of an adventurous and fearless life. Vermeer's curiosity and insight into the natural world are evident from his descriptions of childhood nest-hunting in the Dutch polder, to his pioneering work with seabirds on British Columbia's windswept *Triangle Island*. His stories of everyday life under Nazi occupation are enthralling in their own right. Naturalists, scientists and history buffs alike will enjoy this book.

**Annie McLeod**  
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# THE NATURE NOTEBOOK: WHAT WAS THAT IN THE GRASS?

Jared Clarke

*Do you know the jumping mouse? The jumping mouse, the jumping mouse. Do you know the jumping mouse that lives in southern Sask?*

Have you been so lucky to see this blur of a mouse? The Western Jumping Mouse (*Zapus princeps*) is one of my favourite small mammals to find around our farm (besides the Short-tailed Weasel, of course!) but rarely do I come across these creatures.

All my encounters have gone like this — I am walking through some tall grass during the day and just happen to notice an almost imperceptible sway of the grass close to where I stepped but not close enough to have been caused by me. I freeze. Then, I slowly lower my body as I look down at the base of the grass and find a small mouse, roughly the same size as a Deer Mouse (*Peromyscus maniculatus*), staring back at me, itself frozen in place. The mouse has a beautiful buffy-tan colour on its sides and a thick darker brown stripe down its back. And, astonishingly, the tail on

this mouse is enormously long — 12 to 16 cm in length! I slowly try to take my phone out to snap a photo, but I've gotten too close. Just as its name suggests, it takes one giant leap and it's gone!

Jumping mice are amazing little critters! According to the University of Michigan's Animal Diversity webpage, Western Jumping Mice do not reach sexual maturity until they are two years old and can live up to six years! Compare that to a Meadow Vole (*Microtus pennsylvanicus*), which usually lives for two-to-three months and maybe up to 16 months (female meadow voles start breeding at 25 days old). Jumping mice can have two to three litters per year but usually only have one as the young take so long to grow and fatten up for the winter.

Being active mostly at night may be why I do not see them often. At this time, they forage for seeds, leaves and bugs. They also hibernate during the winter so they aren't around then either. Their burrows are two feet below ground and are difficult to find for a hungry predator. The mice come out of hibernation



possibly in May.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports that Western Jumping Mice are not at risk. Looking on the iNaturalist database, however, only four jumping mice observations exist in Saskatchewan, including one of mine.

If you have been wondering if jumping mice really do jump, the answer is definitely yes! There has been some debate about how far they can actually jump, though. Early 20th century authors claimed they could jump three metres, but it now looks like around 1.2 metres is more realistic. Either way, they can jump an amazing distance for a tiny little mouse.

So, this summer when you are walking along through the tall grass along the edge of some trees and you notice the grass move beside you, maybe you will find a beautiful mouse with a ridiculously long tail staring up at you. See if you can do better than me and actually get a photo. If you do, I would love to see it. Happy searching!

*Jared Clarke is a grade 6/7 teacher and biologist who lives on a small farm near Edenwold, SK with his family. He has been bird watching since the age of five after a Spotted Towhee visited his yard. Follow him on Twitter @jaredthebirdguy.*



Western Jumping Mouse. Photo credit: Will Richardson, Tahoe Institute for Natural Science.

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# HUMAN NATURE

## FALLING IN LOVE WITH THE PRAIRIES

Olivia Yurach  
Saskatoon, Saskatchewan

Growing up in Saskatoon, my family and I loved exploring the natural areas of the city such as the Meewasin trails and the Northeast Swale. Every summer we left the city and visited my grandparents' cabin at Thomson Lake. While my friends went north to their lakes, we would head south through the prairies. I'd spend hours looking out the car window as we drove.

As a child, I complained about the boring, flat landscape. However, my parents were quick to correct me and asked me to look a bit harder. I started with counting cows and looking at power lines. Each time we drove to Thomson Lake, I found new things to appreciate, like the valleys, rolling hills and the diversity of plant species. When we passed through the Qu'Appelle Valley, my family always discussed pulling over and hiking the hills. Although we never did, it was a dream of mine. I know my appreciation for the prairies was rooted in the long drives to Thomson Lake.

Fall was my favourite time of year to spend at the lake. Thousands of birds stopped by on their way south for the winter. Having a biologist as a dad, he was always pointing out an interesting mushroom, plant or bird. Each year the Purple Martins came back to the bird houses they had in the yard. The cabin was my second home — just like it was for the birds. We'd spend the summer months at the lake, and when fall came, we both would head off. Thomson Lake instilled my love for the prairies and wetlands. It is a place of recreation, but also a home to many species.



Olivia's dogs in front of the sunset at Thomson Lake.



Olivia's Grade 11 class exploring Grasslands National Park.

As I continue learning at the University of Saskatchewan, I have focused some of my studies on protecting watersheds. In Saskatoon, the Northeast Swale is a vital wetland and plays an important role in remediating climate change and supporting biodiversity. Currently, Saskatchewan is the only province without a comprehensive wetland protection policy. This makes the Northeast Swale unique since it is protected under a municipal policy. I look forward to learning more about wetlands in Saskatchewan and their important role in the grassland ecosystem.

This past summer, while working for Nature Saskatchewan, I was taken back to my childhood, driving

through southern Saskatchewan. Instead of counting cows and looking at powerlines, we looked for rare birds and plants. It felt special to finally pull over the car, in the middle of nowhere, and get out to hike through the prairies like my family always planned to do.

The prairies are our home. When I hear people complain about the boring, flat landscape, I respond like my parents did and ask them to look a little closer. Protecting the land and appreciating the special areas we have is part of our collective role in honouring the treaties. I am so fortunate to have had amazing experiences on the prairies and I want the same for future generations. 🐦



Olivia's sister, Alice, on the drive through the Qu'Appelle Valley.

# MYSTERY PHOTO



Photo credit: Bob Gehlert.

## SPRING 2022

QUESTION: To what species of bird does this feather belong? Hint: this bird's favourite source of protein is carpenter ants.

Please send your answers to the *Blue Jay* editor, Annie McLeod, by email at [bluejay@naturesask.ca](mailto:bluejay@naturesask.ca) or by letter mail (address on page 4). Those with correct answers will be entered into a draw for a prize from Nature Saskatchewan.

Have you taken a picture that may make for a good mystery photo? Send it to the editor for possible inclusion in an upcoming issue.



Photo credit: Christine Goytan.

## WINTER 2021

ANSWER: The insect shown in the Winter 2021 Mystery Photo was a Four-spotted Ghost Moth (*Sthenopis purpurascens*). This moth, which can be found in Canada and the United States, has a wingspan of 66-100 mm and has two colour forms — a purple-grey and a yellow-brown. 🐛





*Nature*  
SASKATCHEWAN

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