



# ALBERTA LEPIDOPTERISTS' GUILD NEWSLETTER

## FALL 2019

Welcome to the ALG Newsletter, a compendium of news, reports, and items of interest related to lepidopterans and lepidopterists in Alberta. The newsletter is produced twice per year, in spring and fall, edited by John Acorn.



Garita skipper, photographed on a south-facing valley top in Edmonton, by Bob Brown, A few of them still coexist here with the much more common European skippers.

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# Unexpected Encounters

Bob Brown

When searching for butterflies in a given area, one expects to find some species frequently. Other species will be seen less frequently but are still known to be there. Occasionally, a species is seen that is either unknown to that area or is seen so rarely that it takes the viewer by surprise. This is an account of three rare encounters, all of which took place in the mountains in the Canmore area.

I spend a lot of time in the mountains and I frequently visit Middle Lake in Bow Valley Provincial Park. I was there on June 3, 2019 when I found this Two-banded checkered skipper.



I returned eight days later and found three of them. A significant snowfall had occurred and melted away between the two visits. I am familiar with Two-banded checkered skippers from observations in British Columbia over the last four years, but seeing them at Bow Valley PP was a surprise. They have been reported from the area but observations of them must be rare.

The next butterfly encounter occurred on August 8, 2019 on the Burstall Pass trail. I reported this on the Alberta Leps email but I'll recount it here. Burstall Pass is in Peter Lougheed Provincial Park; the trailhead is approximately forty kilometers south of Canmore in the Spray Valley. I hiked to the pass with several companions and on our return we spotted a suspected White Admiral, which turned out to be a Lorquin's Admiral.

This specimen was out of its expected range but Ted Pike later replied that he had seen one in that area several years ago.

The third encounter happened on August 9, 2019. This butterfly appeared on





the summit of Wind Ridge at an altitude of 2170 meters.

I haven't seen a Coral hairstreak in the mountains previously but "Alberta Butterflies" states that they can be found in the southern mountain valleys below 1500 meters. There are no Saskatoons or chokecherries in the Wind Valley, to my knowledge, so I think this specimen was out of its usual range.



Finding any butterfly is a satisfying experience. Common and expected encounters provide photographic opportunities and reassurance, but unexpected encounters are the most thrilling and memorable. Raymond

# Boats and Bugs

Leah Jackson



This year was my second summer in southeastern Alberta, working at a vehicle inspection station on the side of the Trans-Canada Highway. My job entailed inspecting and decontaminating boats for aquatic invasive species such as zebra mussels. Although it was not the most glamorous summer job, it did have some interesting perks. Around the station were ditches full of cacti and a mix of native and invasive vegetation, regular visits from pronghorn, and two giant LED balloon lights, a.k.a GloBugs, used for night time inspections of boats. Arthropods, including spiders, beetles and especially moths, were found coating the GloBugs almost every night in great abundance. This spectacle of massive moth diversity on these lights became the most entertaining part of my summer.





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A combination of the boredom of working on the side of a highway, and my interest in Lepidoptera, inspired me to learn about the moths that were landing on the GloBugs. With the help of my professor, Dr. Felix Sperling, as well as countless ALG members, I spent the summer conducting a species richness survey for an undergraduate research project. In other words, I brought tons of vials to work every day, filled them up with moths, and then negotiated freezer space with my roommates when I got home.

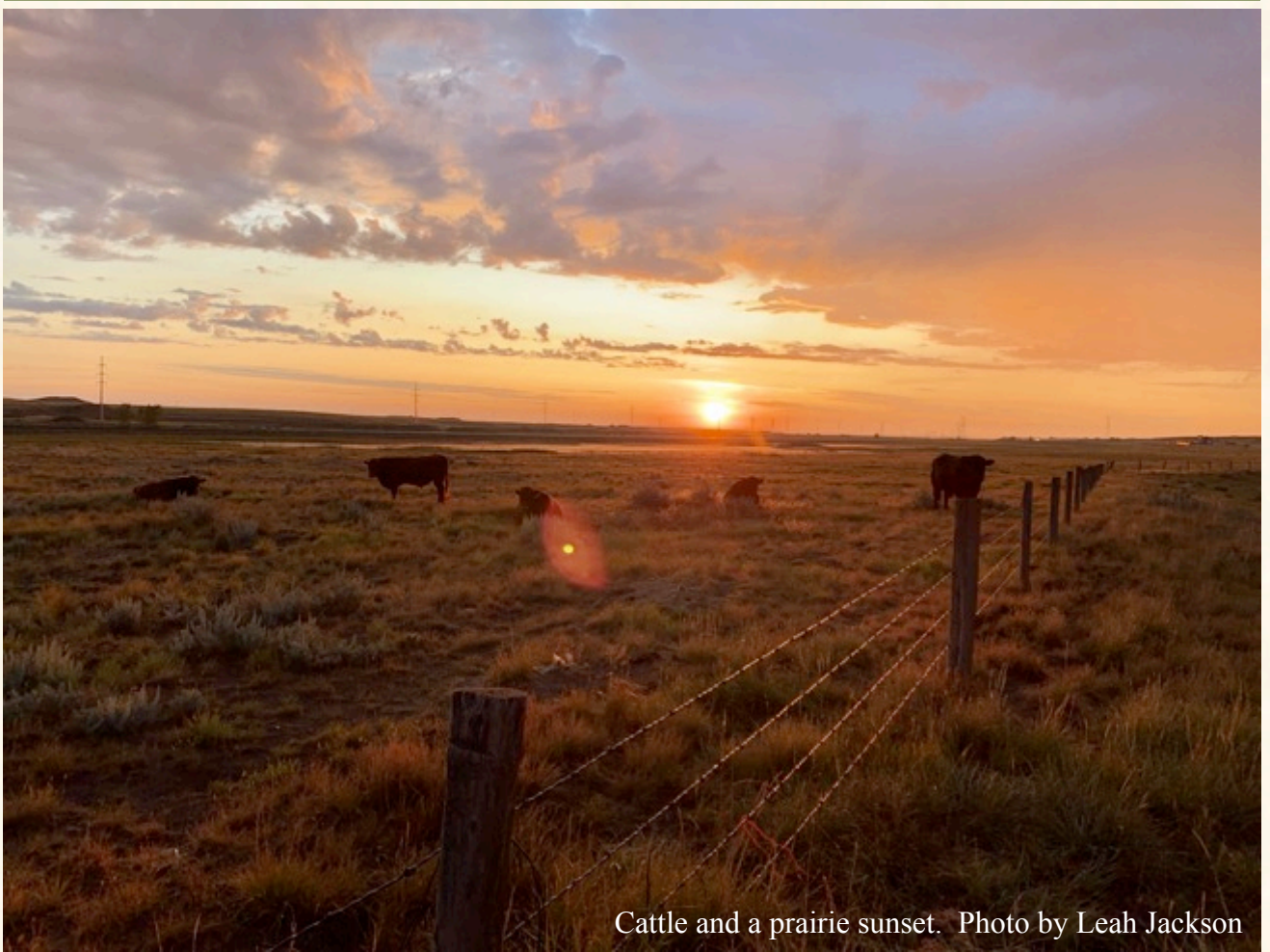
Most importantly, I became conscious of the enormous diversity of macro and micro moths in south-eastern Alberta. I initially expected to find roughly fifty different moth species at the station, but after collecting and identifying, I have so far found more than one hundred species. As a kid, I grew up trying to catch moths or any other flying creature with a net. Never did I think I could get the opportunity to indulge my child-like fondness for Lepidoptera through a research project.

I want to thank everyone from the ALG for their help with this project, as it has been paramount to the species richness survey I conducted this summer.



Glover's Silkmoth, one of the most impressive catches at the GloBugs.

C. Raymond



Cattle and a prairie sunset. Photo by Leah Jackson

## Chasing *Papaipema aweme* Across the Prairie Provinces

### Kyle Johnson

Here are some highlights from last month's trip chasing *Papaipema aweme* (the Aweme Borer, a noctuid of conservation concern) across the prairie provinces. No luck finding it in Alberta, but there is still hope it occurs here - just probably not so widespread/common as it is farther east. Plenty of other interesting finds as well.

July 14 - brief stop in Kitscoty, AB, yielded a decent mix of butterflies, including a worn Garita Skipper (exciting for me, as they have apparently disappeared from the eastern limits of their range, including Minnesota).

July 15 - Medea Curteanu, Greg Pohl, and Ed Struzik joined me during the day at Clyde Fen, north of Edmonton. No luck with *P. aweme*, but habitat is nice, and easy to access. We did find a crambid moth which appears to be *Crambus lyonsellus*, which per the *Annotated checklist of the moths and butterflies (Lepidoptera) of Canada and Alaska* has not been reported west of Manitoba! Interesting, this moth was the most common species in the fen later that



afternoon and into dusk (some also taken at MV sheet). Given such abundance there might be unidentified specimens hiding in collections.



July 16 - Spent the day searching numerous fens near Hondo, AB for sign of *P. aweme* larvae. Lots of great habitat and abundance of the larval host (bogbean - *Menyanthes trifoliata*) but no sign of my quarry. There was a microlep which causes similar feeding damage to bogbean (leaves withered/slightly discolored) but only makes a very small burrow in the stem - it can be quite common which makes spotting *P. aweme* tricky. While hiking through the peatlands I found abundant Dorcas Coppers, a few Yukon Blues, a couple worn Giant Sulphurs, a couple very worn Jutta Arctics, and more *Crambus lyonsellus*. Ran an MV sheet at night atop a jack pine-aspen woodland knoll overlooking a large fire-scarred peatland complex. The moths made a decent show despite the full moon.



C. Raymond

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July 17 - Spent the day exploring just north of the boundary of Cold Lake Provincial Park. Northern Pearly-Eye were everywhere in the mesic aspen forest on the hike in - the second most common lep of the day (after Northern Pearl Crescent). Natureserve lists it as S2/S3 "imperiled" in Alberta. How common is this butterfly in the province? Definitely common/widespread north of Cold Lake! The fen turned out to be wetter than expected (thigh-deep in water in places) but still supported extensive bogbean, though perhaps not an ideal situation for *P. aweme* since plant crowns were mostly below water. The extreme wetness was favorable for two aquatic crambids - *Elophila icciusalis* and *Elophila ekthlipsis*. I found the latter last year near Hondo, which appears to be new for Alberta. Spent the night netting moths near Golden Ridge, SK.



*Elophila ekthlipsis* at Cold Lake

July 18 - Started the day exploring a large patterned fen north of Prince Albert, SK. Magnificent habitat for *P. aweme* (and very similar to MB/MN sites) but no luck. Did find *Crambus lyonsellus*, so another provincial record. A particularly large Cabbage White wandering through the fen seemed a bit out of place (fooled me at first for a slow flying Giant Sulphur female!). Spent the night at Deschambault Lake, SK, east of Creighton. Ran UV sheet (generator died, so no MV) but thankfully the clouds hid the moon for much of the night. The ghost moth *Sthenopsis purpurascens* was a welcome find, among many others.

July 19 - In order to put the negative *P. aweme* results in perspective, I returned to the Deschambault Lake site where I found abundant *P. aweme* adults in 2016. After reaching that light trap location, it only took me two minutes to find the

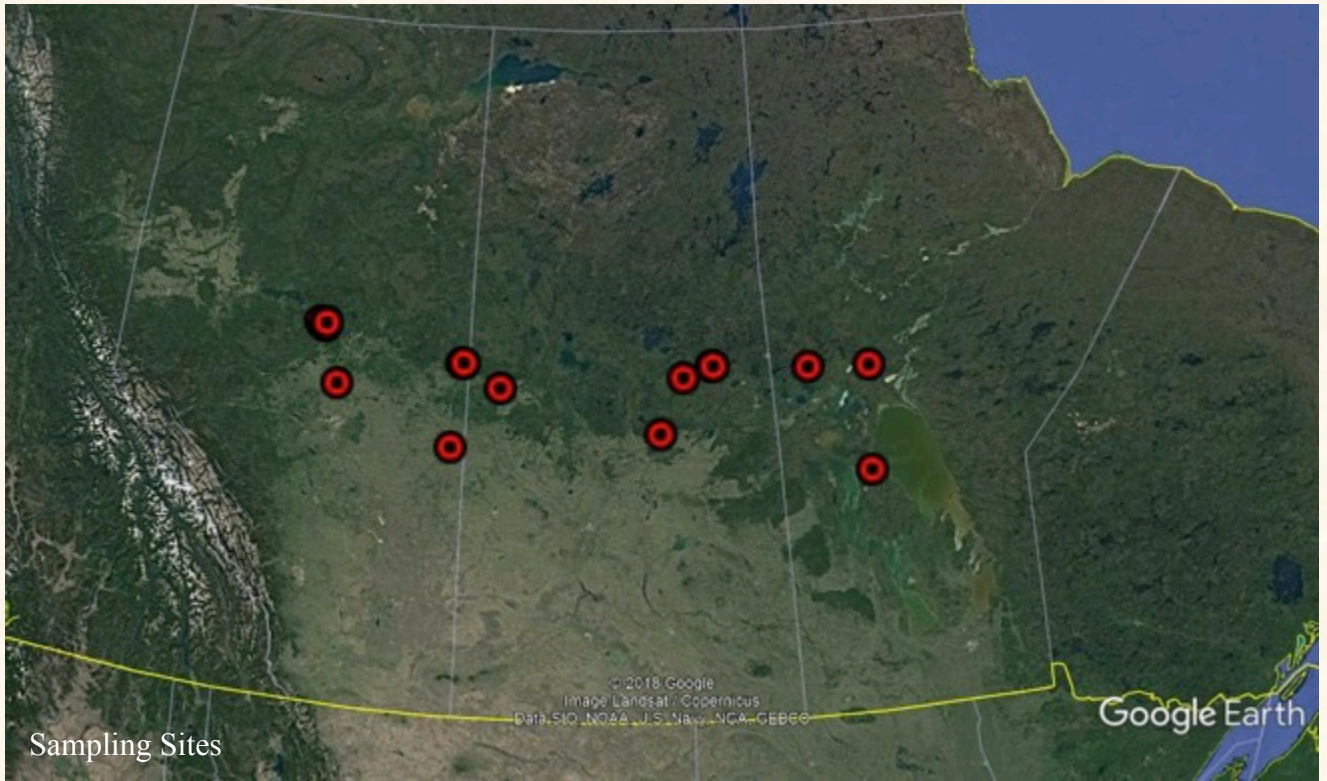


first larval sign! I found sign of over a dozen in short order, and collected six larvae as vouchers. Afterwards I searched a different fen pocket 3.7 km to the west, and likewise found 2 larvae within minutes of reaching prime habitat. So perhaps my lack of luck farther west was due to the moth's absence in the region? Later that evening I crossed into Manitoba, then tried two more sites between Cranberry Portage and Wabowden. The first was only 15km east of where I caught an adult in 2016, so should have been an easy find. But much to my surprise I could not find a single larvae at either site that evening - perplexing!



July 20 - My final stop was near Katimik Lake in central Manitoba, where Steve Bransky and I found numerous *P. aweme* adults in 2017. After the previous evening's failures in sites which I felt should have had the moth, it was time to put things back into perspective again. Over 2 hours and 3.2km of hiking in the fen failed to yield a single larva - perplexing!

So the negatives in western SK/eastern AB are now a bit shrouded in doubt. Based on Katimik Lake (and one MN site) larval distribution in some of the large sites can be spotty, making large populations hard to detect. But the ease of finding larvae in northern Minnesota (and elsewhere) makes me think that such common/widespread occurrence in fens does not continue west to Alberta. If present in the province, it is probably very localized and won't be easy to find. But that's no reason to stop looking... C. Raymond



*Papaipema aweme* at Deschambault Lake C. Raymond





Bogbean with abundant frass ejected by *Papaipema aweme*



The Aweme Gods frown upon further discoveries of *Papaipema aweme* this trip

C. Raymond





Red Admiral, *Vanessa atalanta*, on black oil sunflower. Seen occasionally on sunny days in September, nectaring on sunflower, marigold, and lobelia. *Rob Hughes.*



C. Raymond

The 2019 migration of painted in Alberta was, let's say, moderate. *John Acorn*



# A Canadian Tiger Swallowtail Caterpillar on Birch

## Felix Sperling and Andrew Sperling



Photo: Andrew J. Sperling. (including fingers!) 26 August 2019, ~ 50 km SW Slave Lake, Alberta

This Canadian tiger swallowtail larva, probably a 4th instar, was photographed on 26 August 2019 about 50 km southwest of Slave Lake, Alberta, and appears to have been feeding on white birch (*Betula papyrifera*) in a cut block with numerous 8-9 year old birch trees. *Papilio canadensis* larvae are listed as feeding on trembling aspen, willow and domestic crabapple in Alberta by Bird et al. 1995. Across Canada, Layberry et al. 1998 record them on willow, cherry, poplar and ash leaves. But records of larvae on birch are scarce. The BAMONA site does list birch as a larval food for *Papilio canadensis* from the northern US states.

BAMONA: <https://web.archive.org/web/20080917174103/http://www.butterfliesandmoths.org/species?l=1374>

CBIF for Layberry et al.: <https://www.cbif.gc.ca/eng/species-bank/butterflies-of-canada/canadian-tiger-swallowtail/?id=1370403265567>

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# 7 July 2019 Dry Island Butterfly Count

Charles Bird, Compiler



Location: Dry Island Buffalo Jump Provincial Park, Red Deer River valley, east of Huxley.

This was the 20<sup>th</sup> annual Butterfly Count in the Park. Folks gathered at the Upper Viewpoint/Parking Lot at 10 AM. Again, it was overcast up there and few butterflies were seen. After introductions and a short talk, we drove down to the picnic area. We had light overcast followed by scattered cloud and sun. The temperature ranged from 18-24 C. We roamed around the picnic area, then had lunch at noon. Following lunch, we had short talks by John Acorn, David Lawrie, Vic Romanyshyn, Tim Schowalter, Dragomir Vujnovic, Diane Pachal and Charley Bird. After that, we had the traditional group photograph (taken by Dragomir Vujnovic). Then we divided up into four teams, one lead by John Acorn, one by David Lawrie, one by Tim Schowalter and by Charley Bird; each group checked out a different area – John uphill, David to the Dry Island, Tim to the east and Charley to the west. We were lucky to have two sunny breaks as the butterflies started flying whenever that happened. Wildflowers put on a good show. As usual, tiger lilies were everyone's favorites. Mosquitoes were seldom a problem. Kilometers on foot estimated to be over 10. This count has been held annually since 1999.

The participants (51) were Benny Acorn, John Acorn, Elizabeth Bagdan, Tjarda Barratt, Charles Bird, Stephen Brennan, Amanda Brown, Matt Brown, Robert Brown, Shannon Brown, Bruce Christensen, Ben Carrol, Marc DeCnodder, Simone DeCnodder, Sophie Eyo, Shaye Hill, Allison Ireland, John Ireland, Tanner Kerchen, Wayne Kinsella, David Lawrie, Kristina Lipka, Kyla Lipka, Nolan Lipka, Teila Lipka, Claudia Lipski, Birthe McLean, Stacey McLean, Tara McLean, Dorothy Murray, Sandy Murray, Chris Olsen, Sharon Olsen, Brian Orr, Dianne Pachal, Chantal Payne, Chester Payne, Marie Payne, Thomasina Payne, Myrna Pearman, Chris Pfeifle, Colleen Raymond, Gerald Romanchuk, Vic Romanyshyn, Tim Schowalter, Bob Schreiber, Tracy Scott, Felix Sperling, Alex Steinhubl, Gabriel Steinhubl, Briana V., Brenda Van Der Bussele, Dragomir Vujnovic and Lucas Wessner.





SPECIES OBSERVED – Twenty-nine were seen, excellent, but two less than last year. Four of these, *Carterocephalus palaemon mandan*, *Erynnis icelus*, *E. persius* and *Oeneis uhleri* are the first ever for the Count. The sighting of *Oeneis uhleri* is also the first record for the Park. The names and order follow that of G.R. Pohl et al., 1020, An Annotated List of the Lepidoptera of Alberta, Canada (ZooKeys 38, 10549, Special Issue)

*Epargyreus clarus* (Silverspotted Skipper) – 1  
*Pyrgus communis* (Checkered Skipper) – 4  
 \**Erynnis icelus* (Dreamy Duskywing) - 1  
 \**Erynnis persius* (Persius Duskywing) – 1  
 \**Carterocephalus mandan* (Arctic or Mandan Skipper) - 1  
*Oarisma garita* (Garita Skipper) – 42  
*Polites mystic* (Long Dash Skipper) - 1  
*Papilio machaon dodi* (Dod's Old World Swallowtail) - 21  
*Papilio glaucus canadensis* (Canadian Tiger Swallowtail) - 6  
*Colias philodice* (Clouded Sulphur) – 4  
*Pieris rapae* (Cabbage Butterfly) - 4  
*Pieris (Pontia) occidentalis* (Western Checkered White) - 5  
*Satyrrium liparops* (Striped Hairstreak) – 3

C. Raymond



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*Cupido (Everes) amyntula* (Western Tailed Blue) – 11  
*Glaucopsyche lygdamus couperi* (Silvery Blue) – 13  
*Plebejus (Lycaeides) melissa* (Melissa Blue) - 9  
*Aricia (Plebejus) saepiolus* (Greenish Blue) – 12  
*Aricia shasta* (Shasta Blue) – 11  
*Aglais (Nymphalis) milberti* (Milbert's Tortoiseshell) – 1  
*Limenitis arthemis rubrofasciata* (White Admiral) – 12  
*Boloria bellona* (Meadow Fritillary) - 1  
*Speyeria hesperis* (Northwestern Fritillary) – 21  
*Speyeria callippe* (Callippe Fritillary) - 1  
*Vanessa cardui* (Painted Lady ) – 26  
*Phyciodes batesii* (Tawny Crescent) - 3  
*Phyciodes cocyta* (Northern Pearl Crescent) – 12  
*Phyciodes cocyta or batesii* (Crescents) - 1  
*Coenonympha tullia inornata* (Common Ringlet) – 64  
*Erebia epipsodea* (Common Alpine) – 15  
\**Oeneis uhleri* (Uhler's Arctic) – 1

John Acorn, once again, kept track of the odonates. Three dragonflies were observed: *Sympetrum corruptum* (Variegated Meadowhawk), *Aeshna interrupta* (Variable Darner) and *Ophiogomphus severus* (Pale Snaketail). One damselfly was seen – *Enallagma annexum* (Northern Bluet).

General comments: We had the largest ever turnout with 53 observers (49 last year and 47 the year before that. Twenty nine species of skippers and butterflies were seen and 309 individuals (last year there were 31 species and 415 individuals). We had four new species, *Erynnis icelus*, *E. persius*, *Carterocephalus mandan* and *Oeneis uhleri*. The four species are usually found earlier in the year.

The sighting of 26 *Vanessa cardui* (Painted Lady) butterflies was of interest as we had an influx of this species from the south this year. It had been seen on only two previous counts (8 in 2005 and one in 2017). The warmer, upper slopes were notably more productive than the lower areas. As this was a Provincial Park, we once again practiced catch, identify and release.

Once again, wildflowers put on a wonderful show. Elizabeth Bagdan kept track of the species in bloom; Dodecatheon, wild onion, Canada Anemone, Yarrow, alsike clover, red osier dogwood, chickweed, cream-colored vetchling, goat's-beard, wild sarsaparilla, wild mustard, yellow flax, alumroot, yellow sweet clover, fringed loosestrife, black medick, groundsel, owl's clover, umbrella-plant, arnica, brown-eyed susan, heart-leaved alexanders, false dandelion, prickly-pear cactus, tiger lily,



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scarlet mallow, three-flowered avens, buckbrush, wild rose, blue flax, blue vetch, harebell, beard's-tongue, bergamot, blue-eyed grass and prairie coneflower.

The large number of species found in the park to date indicates that it may be one of the more biodiverse areas in Alberta. This provides strong support for the setting aside of the area as a Provincial Park where it receives special protection from agricultural and other commercial activities.

NOTE: This has been the twentieth year that the writer has organized and compiled the Dry Island Counts. Should they continue, John Acorn and David Lawrie have agreed to assume these roles. Special thanks are extended to them, and others, for their able and generous help in the past.



Wood Lily, C. Raymond



*Papilio machaon*, G. Romanchuk

C. Raymond







# The ALG Medicine Hat Adventure

David D. Lawrie



This year's ALG Adventure took members to Medicine Hat, on June 14-16, where we visited with local resident and longtime ALG member Janet Scott. Around 15 of us camped at the Gas City Campground both nights, and explored the area to the west of the campground, and Ajax coulee, for butterflies. Some of the group made a trip to the Cypress Hills on Saturday. Moth lights were run on Friday night at Gas City and Saturday night at Police Point Park. We had a special dinner in honour of Jan and all she has done for Lepis in Alberta at a local Chinese restaurant before we headed out to Police Point.

The weather was a mix of sun and cloud with generally cool daytime temperatures (~ 20 C or so) and as a result, while we did find butterflies, numbers were generally low: 18 species were found in total. In general, 2019 was a cool and wet summer across Alberta and butterfly numbers were low.

The area to the west of the Gas City Campground consists of open prairie with small coulees running N to the South Saskatchewan River. The coulees have some



poplar trees and many shrubs such as silver berry and choke cherry. The campground itself is planted with poplar, aspen and other trees. Ajax Coulee is part of Kin Coulee Park and is a small valley with a paved walking trail along its bottom. It is quite wooded with a variety of native and introduced tree species. There are some drier and more prairie-like south-facing slopes and smaller trails. Russian olive trees were in bloom at the time and attracted several fritillaries and Painted Ladies. Both sites had very similar species lists and the differences likely reflect more sampling time at Gas City than at Ajax. The most interesting find at Gas City, and for the whole trip, was the find by Gerry Hilchie of a single *Euphilotes ancilla* just to the south of the campground. I've never found *Euphilotes* in Alberta. This trip was the first time I had seen *Papilio multicaudatus* in Alberta and Vic caught a perfect male at Ajax coulee.



*Paonias myops* and *Ponometia semiflava* (photos by G. Romanchuk)



Likewise, night temperatures were cool and we did get moths at the lights, but again fairly low numbers. A complete list of the moths found may be coming in the next Newsletter. In the meantime, some pictures are attached of the more interesting finds. We had a notable experience with the small eyed sphinx and a robin. I'd caught the moth at the MV sheet on Friday night and kept it live for folks to photograph on Saturday morning. As we were doing so, a robin became interested in what we were doing and watched us for a bit. It then flew in and picked the moth off the tree trunk where we'd been photographing it, to the complete astonishment of the group standing only a few feet from it. Silly humans! Moths are for eating!

Overall, it was a great trip & I highly recommend the Gas City Campground. A special thanks to Jan for her help with organizing and local knowledge.



Family	Species	Gas City	Ajax Coulee
<i>Hesperiidae</i> Skippers	<i>Epargyreus clarus</i> Silver Spotted Skipper	1	several
	<i>Erynnis afranius</i> Afranius Duskywing	1	0
	<i>Pyrgus communis</i> Common Checkered Skipper	lots	several
	<i>Amblyscirtes vialis</i> Roadside Skipper	1	0
<i>Papilionidae</i> Swallowtails and Apollos	<i>Papilio multicaudatus</i> Two Tailed Swallowtail	several	several
<i>Pieridae</i> Whites and Sulphurs	<i>Colias alexandra</i> Alexandra Sulphur	several	2-3
	<i>Pieris rapae</i> Cabbage White	0	A few
	<i>Pontia occidentalis</i> Western Checkered White	several	several
<i>Lycaenidae</i> Coppers, Hairstreaks and Blues	<i>Euphilotes ancilla</i> Square Spotted Blue	1	0
	<i>Glaucopsyche lygdamus</i> Silvery Blue	lots	lots
	<i>Lycaeides melissa</i> Melissa Blue	several	A few
	<i>Plebejus saepiolus</i> Greenish Blue	1	0
<i>Nymphalidae</i> Brushfoots	<i>Speyeria edwardsii</i> Edward's Fritillary	2-3	5-6
	<i>Speyeria callippe</i> Callippe Fritillary	several	several
	<i>Vanessa cardui</i> Painted Lady	several	several
	<i>Aglais milberti</i> Milbert's Tortiseshell	1	0
	<i>Chlosyne acastus</i> Acastus Checkerspot	1	0
<i>Satyrinae</i> Satyrs and Arctics	<i>Coenonympha inornata</i> Common Ringlet	several	A few
<b>Species Total:</b>		<b>18</b>	<b>12</b>





Greg Pohl



# ALG Curation Party, University of Alberta

November 2, 2019







# Alberta Butterfly Roundup: 2019 Update

John Acorn

As many of you know, the Alberta Butterfly Roundup began in 2015, and it's purpose is to relocate, and confirm the existence of, all of the species of butterflies known from Alberta. We have done very well over the past four seasons, but I'll admit that I owe you an update. As we get down to the true rarities, confirmation is becoming increasingly difficult, and infrequent. The following list includes all of the species that we still need to find, so please use it to guide your adventures in the 2020 season. Some of these species are localized, some are rare wanderers that only occasionally stray into Alberta, and some are occasional migrants, for which we will need a big migration year. Good luck, and do report any finds (or finds that we have missed) to me, or to ALG in general.

## Species Still to be Confirmed:

Clodius Parnassian (*Parnassius clodius*): July, Waterton back country

Pale Swallowtail (*Papilio eurymedon*): July, southwest dry montane forests

Canadian Sulphur (*Colias canadensis*): June, northern Rockies and northern boreal forest

Pelidne Sulphur (*Colias pelidne*): July, subalpine shrubby and forested areas

Southern Dogface (*Zerene cessionia*), August, one record from near Didsbury

Pine White (*Neophasia menapia*): September, dry subalpine pine forests

Edith's Copper (*Lycaena editha*), July, mountain meadows

Lilac-bordered Copper (*Lycaena nivalis*): August, southwest corner, meadows

Half-moon Hairstreak (*Satyrium semiluna*): July, Waterton area, near buckwheat

Sylvan Hairstreak (*Satyrium sylvinus*): July, southwest corner, near streams

Hedgerow Hairstreak (*Satyrium saepium*): August, southwest, dry slopes with *Ceanothus* (soap bush) plants

Juniper Hairstreak (*Mitoura gryneus*): June, southwest corner, near junipers

Moss' Elfin (*Calliphrys mossii*): May, southwest corner

Echo Azure (*Celastrina echo*): May, southwest corner

Lupine Blue (*Plebejus lupini*): June, southern grasslands

Dingy Fritillary (*Boloria improba*): July, northern Rockies, alpine areas with willows

American Lady (*Vanessa virginiensis*): occasional migrant

West Coast Lady (*Vanessa annabella*): occasional migrant

California Tortoiseshell (*Nymphalis californica*): occasional migrant



Question Mark (*Polygonia interrogationis*): occasional migrant  
Oreas Anglewing (*Polygonia oreas*): October, southwest corner  
Eyed Brown (*Lethe eurydice*): July, sedge meadows, eastern parklands  
Strecker's Giant Skipper (*Megathymus streckeri*), June, Milk River valley,  
with yuccas  
Small Checkered Skipper (*Pyrgus scriptura*): July, extreme southeast  
Oslar's Roadside Skipper (*Amblyscirtes oslari*): May, Milk River drainage

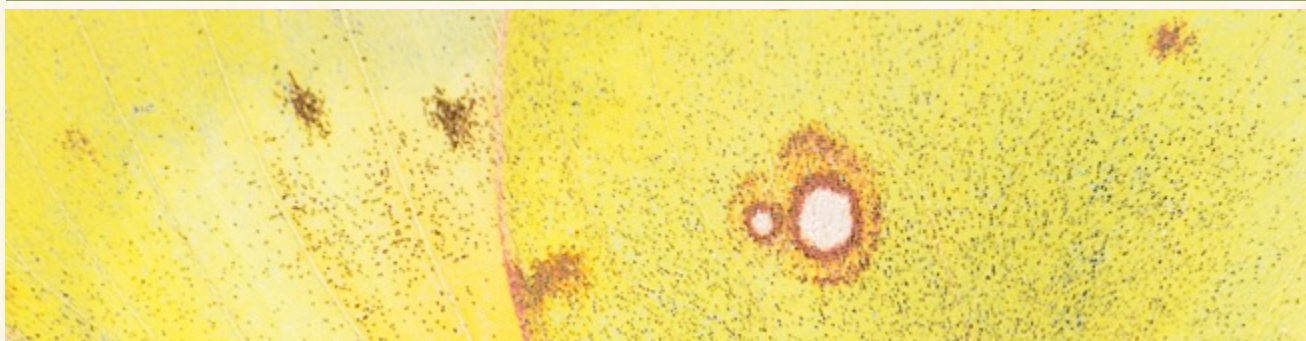


Norbert Kondla



John Acorn





## Lemon Flappers on the Move in 2019

John Acorn

“What are those beautiful yellow butterflies?” asked Oksana Vernygora, a paleontology graduate student, working at Dinosaur Provincial Park.

“We call those Lemon Flappers,” responded a mischievous colleague, and another colloquial name was coined.

Personally, I like it.

Lemon Flappers, aka *Colias philodice*, or clouded sulphurs, were indeed extremely visible this summer, especially around the end of July and the beginning of August. Their close relatives the orange sulphurs (*C. eurytheme*) may also have been involved.

Gary Anweiler counted one sulphur per minute, flying past him one afternoon in Edmonton (plus a monarch, *Danaus plexippus*, as a bonus). And at Gull Lake, on July 29, I counted 73 sulphurs in about an hour, all headed west. On July 31, I got a call from a CBC news reporter in Calgary, and did a brief interview in response to what was apparently a rather spectacular migration of sulphurs through the Calgary area, impressive enough to catch the eye of curious citizens who then turned to the CBC for an explanation. The migration was somewhat less apparent in southeastern Alberta, and I was in the Brooks/Cypress Hills/Milk River region (with my son Benny, James Glasier, Melissa Baron, and Oksana) from July 20-26, where the only real movement of sulphurs we witnessed was on the upper plateau of the Cypress Hills, on July 23, where the sulphurs were generally headed north, at about the same sulphur-per-minute rate Gary and I had observed in the aspen parkland. By the first week in August, once I was committed to recording such things, very little directional movements were apparent (although I did see 20 sulphurs going west at Gull Lake on August 5), and the number of sulphurs in Edmonton had decreased.

For me, two things about this migration were striking. First, it strikes me that lepidopterists in Alberta generally underestimate sulphurs as migratory butterflies. We think of monarchs, painted ladies (*Vanessa cardui*), and variegated fritillaries (*Euptoietia claudia*) as more typical migrants, since we know that these butterflies do not overwinter in Alberta. The fact that migrant sulphurs mix with local sulphurs



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obscures the migration phenomenon. In the UK, the migratory nature of sulphurs has been well understood for a very long time (e.g., Williams 1951) and we should take their good example to heart. The same argument likely applies to the occasional mass movements of other pierids, including cabbage and western whites (*Pieris rapae* and *Pontia occidentalis*), if not other species.

Second, this year's sulphur migration almost went unrecorded. At the annual general meeting of the ALG, during a particularly lengthy discussion of administrivia, Gary Anweiler amused us all with a few of his signature interventions. First, he sighed deeply, and asked, "does anyone remember when we used to talk about butterflies?" We laughed, and went back to discussing insurance requirements. Then, Gary interrupted again, with "did anyone else notice the huge migration of *Colias* this summer?" Humbled by having completely forgotten, that was the moment when I realized that someone should write this up for the newsletter.

#### Literature Cited:

Williams, C. B.. 1951. Seasonal changes in flight direction of migrant butterflies in the British Isles. *Journal of Animal Ecology*. 20: 180-190.

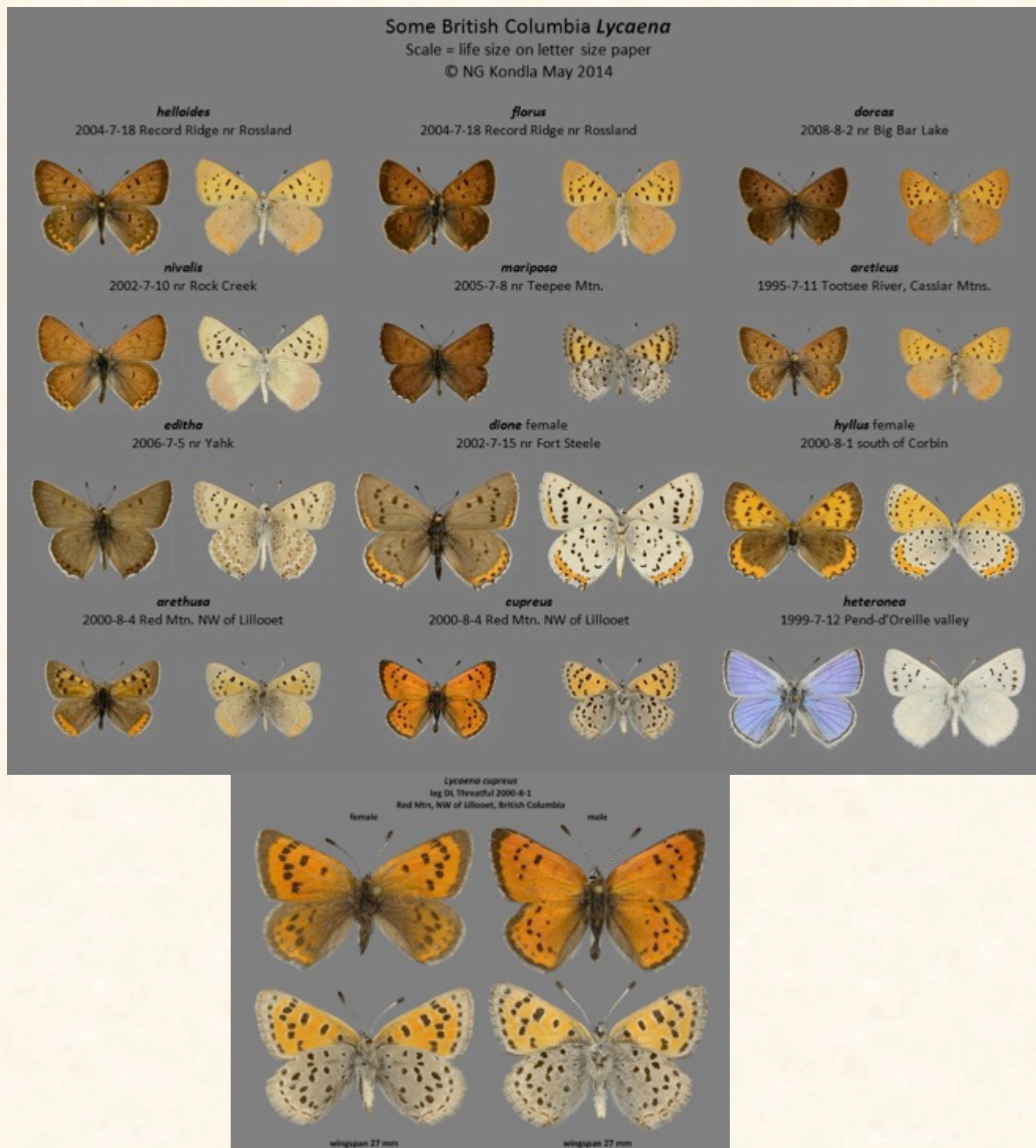




# A Selection of Norbert Kondla's Copper Photographs

Continuing a project begun in 2017, I am borrowing here from Norbert Kondla's work at the flickr site: <https://www.flickr.com/photos/118126948@N03/> with a selection from his album, "coppers." Norbert has given me permission, and I consider this a fine opportunity to share some of Norbert's images.

John Acorn, Editor





*Lycaena dione*  
leg NG Kondla, in Alberta

female 2015-7-2  
Highway 36, south of Red Deer River

male 2015-7-3  
east of Finnegan



wingspan 36 mm

wingspan 31.5 mm

*Lycaena dorcas*  
specimens leg DL Threatful 2008-8-3&4 nr Big Bar Lake, NW of Clinton, British Columbia

females

males



wingspan 27.5 mm

wingspan 25 mm

wingspan 26 mm

wingspan 25 mm



wingspan 26.5 mm

wingspan 27.5 mm

wingspan 24 mm

wingspan 25.5 mm



Four Coppers  
© NG Kondla February 2012

*Lycaena helloides* – summer form  
1979-8-2  
nr Standard, Alberta  
NG Kondla

*Lycaena helloides* – spring form  
1980-6-9  
Pinhorn Grazing Reserve, Alberta  
NG Kondla

*Lycaena dorcas*  
2005-7-12  
Km 250 Dempster Hwy, Yukon  
J Beck

*Lycaena florus*  
2006-7-7  
Chief Mountain road  
Waterton Lakes National Park, Alberta  
NG Kondla (under permit)



Note: These taxa have also been placed in a more narrowly circumscribed genus concept under the name *Epidemia*.

*Lycaena helloides*  
leg NG Kondla in Alberta

female 2019-9-3  
Hwy 561 at Range Road 161A, ESE of Hussar

male 2016-5-17  
Battle River at Hwy 854



wingspan 32 mm

wingspan 28 mm



*Lycaena heteronea* - British Columbia  
specimens leg NG Kondla

male 1999-7-12  
Pend-d'Oreille valley



female 2003-6-15  
nr White Lake



female 2001-7-27  
nr Rossland



wingspan 32.5 mm

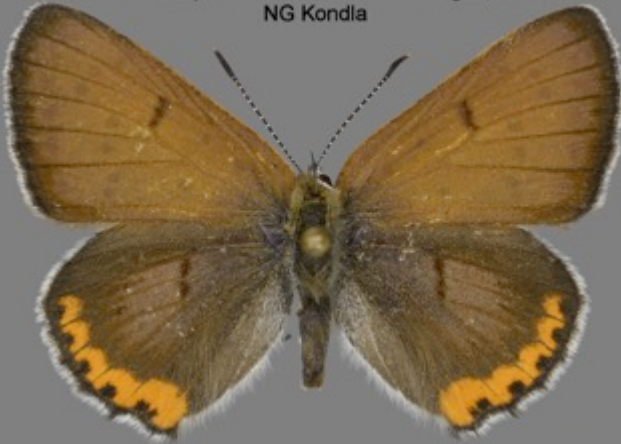


wingspan 34 mm



wingspan 34 mm

male *Lycaena hyllus*  
2015-7-3 Bullpound Creek, east of Finnegan, Alberta  
NG Kondla



female *Lycaena mariposa*  
2005-7-18 Mud-Paradise Forest Service Road  
nr Teepee Mtn, Coast Mtns, British Columbia  
DL Threatful



wingspan 31.5 mm



wingspan 27 mm



*Lycaena nivalis* – British Columbia  
specimens leg NG Kondla

male  
2002-7-10 nr Bridesville



wingspan 29.5 mm

female  
2003-6-27 Anarchist Mountain



wingspan 31 mm



*Lycaena phlaeas arethusa* or *Lycaena arethusa*  
leg NG Kondla, 2000-7-26, Hailstone Pass, Alberta

female

male



wingspan 29 mm

wingspan 26.5 mm



male *Lycaena rubida*  
1977-7-8 South Saskatchewan River at Highway 41, Alberta  
NG Kondla



wingspan 32.5 mm

female *Lycaena rubida*  
1979-8-17 east of Pakowki Lake, Alberta  
NG Kondla



wingspan 34 mm

