



ALBERTA LEPIDOPTERISTS' GUILD NEWSLETTER

FALL 2020

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.



Sesia tibiale, the American Hornet Moth or Cottonwood Crown Borer. July 24, 2020, Bridlewood, Calgary, Alberta. Robert Bercha.

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Baril Creek: Searching for the Mariposa Copper

Robert Bercha

www.insectsofalberta.com

In corresponding with Norbert Kondla back in July of this year, the topic of filling out some of the missing species in my personal collection came up. One such species was the Mariposa Copper, *Lycaena mariposa*. Norbert recommended a disturbed habitat area just north of Baril Creek. The site is a reasonably large area consisting of a manmade meadow with an old resource road leading off into the trees to the west. I do not believe either of us held out a lot of hope that there would be many butterflies there, as most of our individual collecting trips earlier in the year had found significantly reduced numbers of both, species and individuals. In fact, it was shaping up to be a relatively poor year for collecting in general (at least within easy driving distance of Calgary).



Looking north across the manmade meadow at the Baril Creek site. The Coyote Hills are to the left and the road cut associated with Highway 940 runs along the tree-line on the right of the photo. (Photo © R. Bercha)

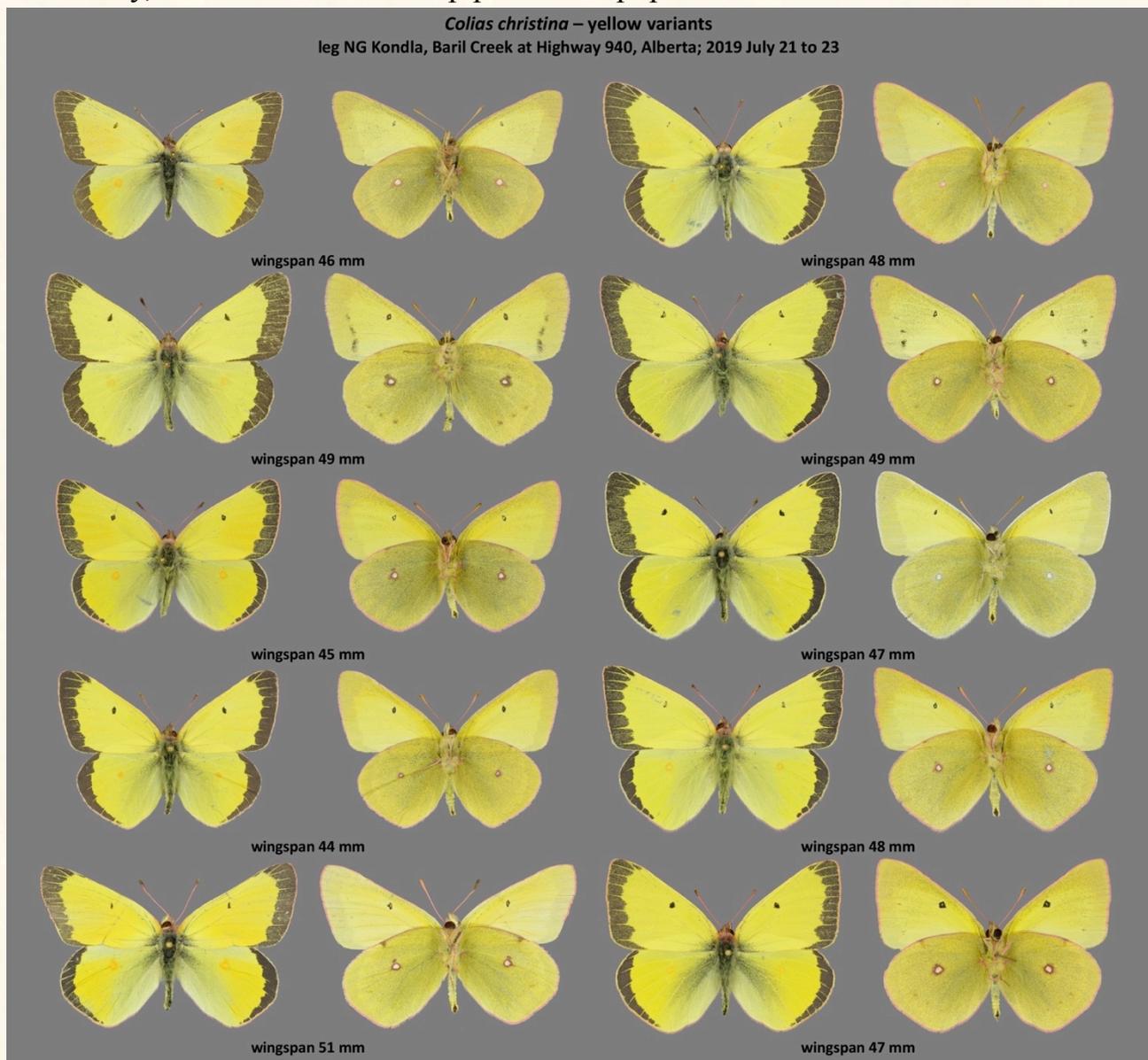
Baril Creek is the dividing line between the Sibbald (to the north) and Cataract Creek (to the south) Public Land Use Zones. The area is accessed from Calgary by following Highway 22X west to Highway 22 and then driving south to Longview. Next, turn west onto Highway 541 and follow the road along the Highwood River valley to the junction of Highway 541 and 940. Finally, turn south towards the

Coyote Hills and drive approximately 3km along Highway 940 to the site on the west side of the road (Google Map Coordinates: 50.360774, -114.638554). It is an easy 1.5 hour drive from Calgary on paved roads up until Highway 940, where the road becomes gravel.

Over time, Baril Creek has cut a deep valley along the southern edge of the Coyote Hills before crossing under Highway 940 as it flows down to the Highwood River. The manmade clearing is just to the north of the creek valley with the resource road running west along the southern side of the Coyote Hills just to the north of the creek. The habitat in the area consists of mixed spruce/pine/aspen forest with interspersed meadows. The manmade clearing and resource road make for easy walking with only minor inclines. The sides of the valley are steep and require a scramble in some places to get down to Baril Creek. Prior to my visit, Norbert surveyed the Baril Creek site on July 30th and reported that “the butterfly populations were poor with very limited numbers of bugs – but that Mariposa was there up in the trees.” Thus, it was with some optimism that I decided to head down to Baril Creek on August 1st to have a look for myself. Getting up that morning it looked like it was going to be a stellar day for a butterfly survey. The forecast predicted hot temperatures close to 30°C with no clouds. The hour and half drive down to Baril Creek proved to be uneventful and the site was easy to find just off the road.

Upon reaching Baril Creek at 12:15PM, I grabbed my gear out of the van and headed off to the west side of the road. After climbing up a 30-foot-high road cut, I had my first look at the manmade meadow. The area was roughly 1.1 hectares or about 2 football fields in size with the old resource road leading off into the trees on the western corner. The weather was perfect with blue skies, a few scattered clouds, no wind, and a temperature of 28°C. Although the vegetation in the meadow looked dry, there was still abundant floral resources including: Common Yarrow, Indian Paint Brush, White and Red Clover, Asters, Toadflax, Harebell, Meadow Buttercup and Alfalfa. Walking further to the west along the resource road into the trees, where the area was less dry, additional floral resources included: Goldenrod and Cinquefoil. The total amount of time I spent at Baril Creek that day was almost 2 hours. During that time, I surveyed the meadow, then walked up the resource road and checked out three clearings. Afterwards, I followed a branch of the road down a steep slope to Baril Creek before heading back to the meadow through the woods. It turned out to be a spectacular day for Lepidoptera, with an abundance of butterflies belonging to 12 different species. In part, I attributed the large number of butterflies to the high temperatures (average of 27°C) we had enjoyed for the five days prior to my visit – which provided ideal conditions for butterfly emergence. Most importantly, I encountered the Mariposa Copper in the manmade clearing and down in the creek valley. A few other observations of interest were that many of the

Colias christina were predominantly yellow (see Norbert's photos below). Secondly, white females made up part of the population.



I visited the locality a second time on September 4th and spent roughly 2 hours surveying the area. The weather that day was quite similar to the previous visit with clear blue skies and a high of 27°C. After spending some time in the manmade clearing, I walked west along the resource road for almost 2.5km. There were definite signs of cooler temperatures and the coming of fall with the aspen starting to turn yellow and the lush green in the forest floor turning brown. The floral resources at this time of year were also significantly reduced, with only a few Cinquefoil, Asters and Toadflax still flowering. As expected, due to it being later in the season, the butterfly numbers were significantly reduced with only 3 species of butterflies encountered (Table #1). Interestingly the Alfalfa Looper, *Autographa californica*, was out in significant numbers nectaring on the scarce floral resources.

In further discussions with Norbert, this area had a cornucopia of butterfly species present at different times of the year. Based on previous surveys he conducted from 2008 to 2010 and 2019, additional species encountered at this site included: *Chlosyne palla* (Northern Checkerspot), *Colias interior* (Pink-edged Sulphur), *Cupido amyntula* (Western-tailed Blue), *Erynnis persius* (Persius Duskywing), *Euphydryas anicia* (Anicia Checkerspot), *Icaricia icarioides* (Icarioides Blue), *Icaricia lupini* (Lupine Blue), *Lycaena dione* (Great Grey Copper), *Lycaena helloides* (Purplish Copper), *Phyciodes cocyta* (Northern Pearl Crescent), *Phyciodes pulchellus* (Field crescent), *Pontia occidentalis* (Western White), *Plebejus melissa* (Melissa Blue), *Polites mystic* (Long Dash Skipper), *Pterourus canadensis* (Canadian Tiger Swallowtail), *Speyeria aphrodite* (Aphrodite Fritillary), *Speyeria mormonia* (Mormon Fritillary) and *Speyeria zerene* (Zerene Fritillary). Including these species, and the ones that I encountered in 2020, a total of 30 species were found at this site. Definitely a locality worth a few more visits in 2021 to see what additional species may be found!

Acknowledgements: I would like to thank Norbert Kondla for reviewing this article and suggesting improvements, permission to use the image on the preceding page, and the use of data from his collection records. Thanks also to Patrick Bercha for his enthusiastic pursuit of heated-up *Colias* and his willingness to join his father on numerous trips to the back roads of Alberta. Lastly to my wife, Deborah, for her tolerance of my fascination with six legged critters.



Mariposa Copper, Lycaena mariposa. Photo © R. Bercha)

Table #1: Baril Creek Butterfly Survey (2020)

Species	Common Name	August 1st # Identified	September 4th # identified
<i>Boloria chariclea</i>	Purple Fritillary	5	
<i>Cercyonis oetus</i>	Dark Wood Nymph	5	
<i>Coenonympha inornata</i>	Inornate Ringlet	1	
<i>Colias christina</i>	Christina's Sulphur	5	1
<i>Colias philodice</i>	Common Sulphur	2	1
<i>Limenitis arthemis</i>	White Admiral	1	
<i>Lycaena mariposa</i>	Mariposa Copper	5	
<i>Pieris rapae</i>	Cabbage Butterfly	1	
<i>Plebejus idas</i>	Northern Blue	4	
<i>Plebejus saepiolus</i>	Greenish Blue	5	
<i>Speyeria hesperis</i>	Northwestern Fritillary	5	
<i>Thymelicus lineola</i>	European Skipper	1	1
Totals		40	3



Plebejus idas on Common Yarrow at Baril Creek (Photo © R. Bercha)

An Afternoon With Gold-Edged Gem Moths

Doug Macaulay

The Gold-edged Gem (*Schinia avemensis*) is one of the rarest moths in Canada and is restricted to active dune blowouts across the prairies. They are found in Manitoba, Saskatchewan as well as Alberta. Little is known about this species other than they are associated with active dunes and the native Prairie Sunflower growing along dune edges.

In early August, I had a chance to stop at the Pakowki Sandhills, in Southern Alberta, to check out an outbreak of Baby's Breath (*Gypsophila paniculata*) that escaped from a local cemetery and is invading the surrounding native grassland and sand hills. After observing this invader, I decided to take a walk through the nearby dunes to look for Gold-edged Gems. I had recently hunted for this species at Wainwright Dunes Ecological Reserve and Dillberry Lake Provincial Park. Having no luck up north, I was hopeful that I would have a chance to observe some in their native range and learn more about this species.

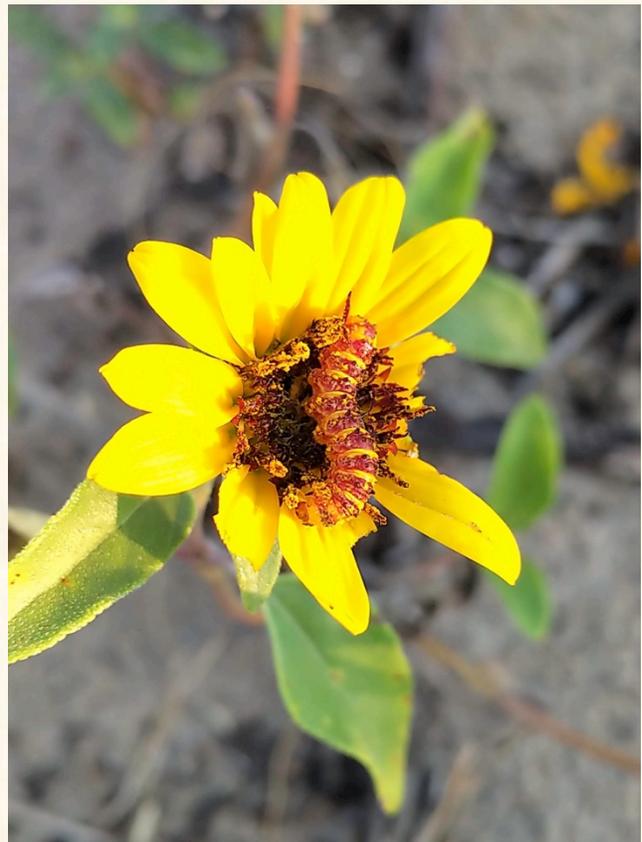


Above: *Schinia avemensis* adult.
Right: *Copablepharon viridisparsa*.

Sunflowers were in full bloom that afternoon along the edges of the dunes so I began to check flower blossoms, not really knowing what I was looking for. Then from a distance, I noticed a tiny black spot on one of the sunflower pedals. I slowly approached hoping to get a closer look and was pleasantly surprised to find a tiny little moth resting in the flower head. Sure enough, it was the 'skittle' sized Gold-edged gem. It didn't even move so I was virtually able to touch the little fellow with my Blackberry camera lens. What a beauty!



For the next hour or so, I walked through the dunes snapping photos of these tame little moths. It was an amazing experience. As I explored flower heads, I started to come across numerous mystery caterpillars in the sunflower heads, feeding on their flower pedals. These were unusual caterpillars as they varied in colouration from light green with small black spots and erect dorsal bumps to yellow and even calico. The smaller instars were pink with yellow stripes, including a few tiny ones that were yellow with thick black stripes. It turns out they were the larva of the Yellow Sunflower Moth (*Stiria rugifrons*). All were in the flower heads and feeding on pedals and parts of the flower heads. Super cool. A great day all in all.



Butterflies of the Ellis Bird Farm

Benny Acorn

The Ellis Bird Farm (EBF) is a non-profit organization located near the City of Lacombe, Alberta, and dedicated to the preservation and monitoring of birds and many other native animal species. As part of these conservation efforts, the EBF hosts an annual entomological event known as the Bug Jamboree, which features various educational activities by both employees and volunteers, as well as a butterfly count held on the bird farm property. Over the course of the 20 years that this event and count have been held, many members of the ALG (including Charley Bird, who started a Butterfly Count in association with the Jamboree), along with other local entomologists, have helped make this event possible. Another person of huge significance for the creation and management of this entomological event has been the recently retired biologist and site manager for the Ellis Bird Farm, Myrna Pearman. It was through her initiative and passion for nature (as well as her great wisdom and iron determination) that the event was organized and the data was gathered. Seeing as this is the 20th year since the inception of the Bug Jamboree event, as well as potentially the last year of data collection in this manner (we hope the Bug Jamboree will continue in Myrna's absence, but this is not a certainty), I have decided to summarize what has been learned from 20 years of Ellis Bird Farm Butterfly Counts.



I had the pleasure of spearheading some work on butterfly identification and monitoring during the summer of 2020 at the EBF, as I worked there as a summer student intern from early June to late July. Much of my job had me outdoors, and my trusty butterfly net was never far away, which allowed me to take careful accounting of which butterfly species were present at the EBF during the time that I worked there. I did not record the number of individuals of any given species of butterfly, but I was able to identify each species that I came across. My co-worker Shaye Hill compiled the 20 years of butterfly data from the EBF files, and I have added my information to the count data in lieu of a 2020 Bug Jamboree Butterfly Count. As with so many things, the count was made impossible by the Covid response restrictions.

When comparing this year's data to previous years', I found I was unable to relocate five species: Western White, Mormon Fritillary, Northwestern Fritillary, Compton Tortoiseshell, and Red-Disked Alpine. Two of these, Mormon Fritillary and Compton Tortoiseshell, are somewhat uncommon in the EBF region, and as such I likely did not encounter them due to their local rarity. Red-Disked Alpine and Western White typically occur earlier or later in the season than the period when I worked at the Bird Farm, so I was not able to account for them due to not being present at the same time. Oddly, I did not find any Northwestern Fritillaries, although I did add another fritillary species to the EBF list, the Aphrodite Fritillary.

Due to my presence earlier in the season than the Bug Jamboree was usually held, I was able to add an additional five butterfly species that had not been previously documented at the bird farm: Northern Azure, Western Tailed Blue, Monarch, Common Alpine, and Arctic Skipper. The Monarch was of particular note, and I got a brief but clear view of one flitting about the top branches of a lilac bush on June 23. Monarch sightings were few and far between in Alberta this year.

It was a very wet and rainy summer in the Lacombe region, and I observed that several butterfly species emerged later in the summer months than I would usually expect, so I believe that the rain resulted in a delayed season for many species. The Bug Jamboree Butterfly Count is usually held in mid August. However, some of the data collected in the early years of the event indicate that it may have been held much earlier. In 2001 the list includes early-season species such as Canadian Tiger Swallowtails and Red-disked Alpine, along with late season species such as Common Wood Nymph and Western White.

Although the differing dates on which the Bug Jamboree Butterfly Count has been held prevent us from making much use of this data to monitor the relative populations or health of any particular species, the general stability of the environment of the Ellis Bird Farm, combined with the data collected each year, seem to indicate that things are pretty stable in regards to the butterfly species

present there. It is likely that there are still a few species present at the Ellis Bird farm that are unaccounted for, but it does not seem that any species have disappeared from the area. I grew up going to the Bug Jamboree nearly every summer, going from an enthusiastic little kid to a still-enthusiastic but less-little adult volunteer, and finally an employee. As such, it is my hope that we will see this delightful event continue into the future under the management of the new EBF team, and with the participation of the ALG. They certainly have big shoes to fill!



Great Spangled Fritillary

Ellis Bird Farm Butterfly Records

Scientific Name	Common Name	2000	2001	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 B. Acorn 1st date seen
<i>Papilio canadensis</i>	Canadian Tiger Swallowtail	*																		June 2
<i>Pontia occidentalis</i>	Western White	*					2					6			2	1	1	2		-
<i>Pieris rapae</i>	Cabbage White	3		4	12		15	2	34	1	10	40	2	30	13	1	10	17	9	June 1
<i>Colias philodice</i>	Clouded Sulphur	*		5	1		5	5	16	2	4	2	1	9	4			8	19	June 1
<i>Celastrina lucia</i>	Northern Azure																			June 8
<i>Cupido amyntula</i>	Western Tailed Blue																			-
<i>Glaucopsyche lygdamus</i>	Silvery Blue			2																June 8
<i>Plebejus saepiolus</i>	Greenish Blue			3																June 1
<i>Boloria bellona</i>	Meadow Fritillary								1				1							June 3
<i>Speyeria cybele</i>	Great Spangled Fritillary	*							5				3		1					July 28
<i>Speyeria aphrodite</i>	Aphrodite Fritillary																			July 22
<i>Speyeria hesperis</i>	Northwestern Fritillary								1				1					1		-
<i>Speyeria mormonia</i>	Mormon Fritillary	1																		-
<i>Aglais milberti</i>	Milbert's Tortoiseshell	*		2	2			15		1				1						June 10
<i>Nymphalis antiopa</i>	Mourning Cloak	*					*					1								-
<i>Nymphalis vaualbum</i>	Compton Tortoiseshell													1						-
<i>Polygona faunus</i>	Green Comma									1										June 6
<i>Polygona satyrus</i>	Satyr Comma	*							1							1				-
<i>Vanessa atalanta</i>	Red Admiral	*					*					1				1				June 2
<i>Vanessa cardui</i>	Painted Lady	*			1		*					1								June 18
<i>Phyciodes cocyta</i>	Northern Crescent	7		4			*													1
<i>Limenitis arthemis</i>	White Admiral	*					*					1								June 27
<i>Danaus plexippus</i>	Monarch																			June 23
<i>Cercyonis pegala</i>	Common Wood Nymph	*		5	2		9	7	17	4	5	2	2	4	6			3		5
<i>Coenonympha californica</i>	Ringlet	17		24				4	5	3	11		1	1	5					June 15
<i>Erebia discoidalis</i>	Red-Disked Alpine	*																		-
<i>Erebia epipsodea</i>	Common Alpine																			June 11
<i>Carterocephalus palaemon</i>	Arctic Skipper																			June 1
<i>Oarisma garita</i>	Garita Skipper	2		1																July 4
<i>Polites mystic</i>	Long Dash Skipper	3		3																July 3
<i>Polites themistocles</i>	Tawny-edged Skipper			3																June 26
<i>Thymelicus lineola</i>	European Skipper			1	1		25	6	34	8	10	5	11	66	25	6	5	4	21	July 15

* not counted, but observed

Caterpillars	Painted Lady	Greater Fritillary	Lesser Fritillary	Common Wood Nymph	Red Admiral	Milbert's Tortoiseshell
					6	
						1
						2
						1
						1
						1



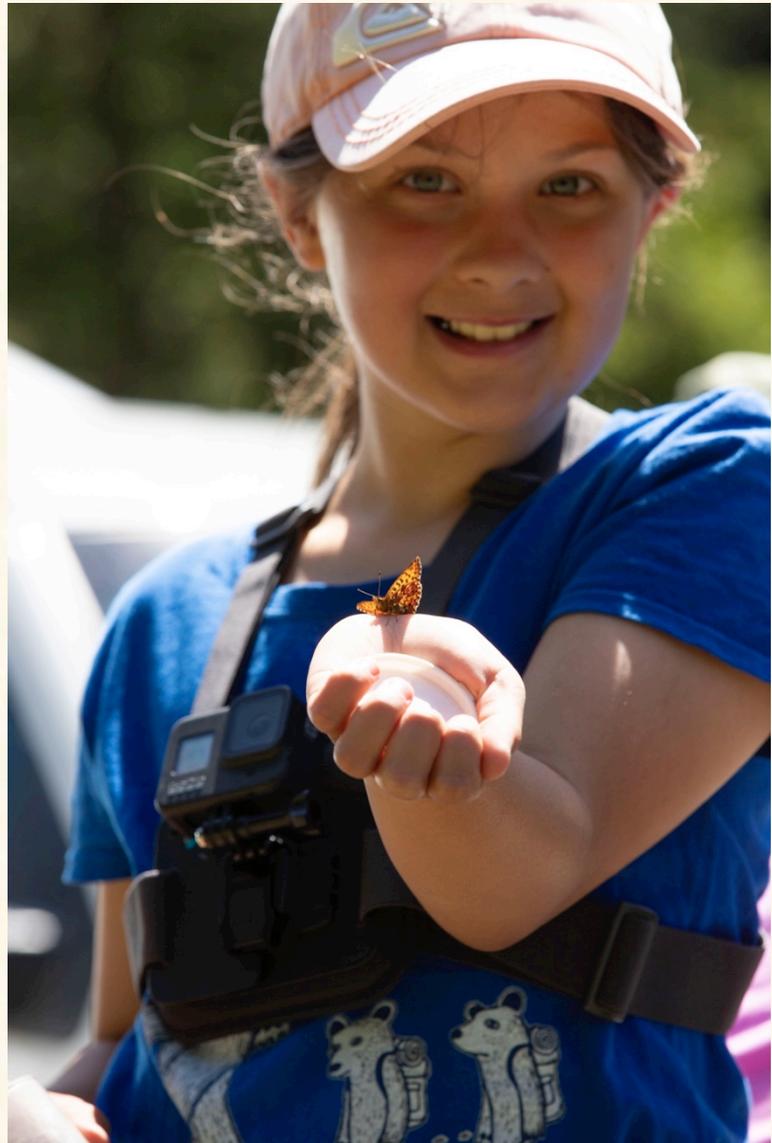
Myrna Pearman, EBF Biologist and Site Manager

Butterfly Count 2020– Whitehorse Creek

Scott Sunderwald

Whitehorse Creek July 26, 2020 11:00-13:30 25 °C Volunteers: 27

Western White *	
Christina Sulphur	17
Pink Edged Sulphur	2
Meads Sulphur *	
Silvery Blue	5
Northern Blue	10
Greenish Blue	19
Western Tailed Blue *	
‘Rustic’ Arctic Blue	20
Blue sp. *	
Mariposa Copper	6
Bog Fritillary	3
Arctic Fritillary	17
Freija Fritillary *	
Mormon Fritillary	4
Mourning Cloak *	
Edith’s Checkerspot *	
Anicia Checkerspot	3
Crescent sp.*	
Common Alpine	13
Chryxus Arctic	2
Dreamy Duskywing *	
Duskywing sp. *	
Arctic Skipper	14
Skipper sp. *	
Total	135



* Indicates a butterfly that was caught in 2019 but not in 2020

Butterfly Count 2020– Cardinal Divide

Scott Sunderwald

Cardinal Divide July 26, 2020 14:00-16:30 18 °C Volunteers: 10

Pink Edged Sulphur *	
Silvery Blue *	
Greenish Blue	2
Northern Blue	27
‘Rustic’ Arctic Blue *	
Blue sp. *	
Bog Fritillary	5
Arctic Fritillary	4
Freija Fritillary *	
Anicia Checkerspot *	
White-veined Arctic *	
Grizzled Skipper **	2
Arctic Skipper	2
Total	42

* Indicates a butterfly that was caught in 2019 but not in 2020

** Indicates a new butterfly not yet seen in this location



Due to COVID-19, we had to be a bit more restrictive than usual with our participation, but we still managed to have 27 people attend, including Alberta Parks, Junior Forest Rangers, keen families, members of the Whisky-jack Club, and the Friends of Switzer Park. We practiced social distancing and disinfected all nets and vials just to be sure. It was a hot day in the alpine reaching 25 Celsius. We captured and released close to 200 butterflies. Of greatest interest were the rarely found Grizzled Skipper and the Chryxus Arctic. All butterflies are entered on e-Butterfly. The wildflowers were in full bloom. Best Regards from the Alberta Northern Rockies.

Miquelon Lake Butterfly Count, July 5, 2020

Kayleen Sandrowski and Bruce Christensen

The Miquelon Lake Butterfly Count was a great success this year. In the morning we had 14 observers walking along the Grebe Pond Trail. In the afternoon, there were 9 observers walking along the Holdsworth Trail, along some access roads, and finally through the parking lot back to the visitor centre. The plant communities along these trails are those commonly found in aspen forests in the Beaverhills region. Each session was 2 hours long. Here are the results :

1 Arctic Skipper
1 Western Tailed Blue
2 Northern Crescents
1 Hobomok Skipper
4 Canadian Tiger Swallowtails
6 White Admirals
1 Greenish Blue
1 Northern Cloudywing
1 Silvery Blue
1 Blue sp.
1 Common Ringlet
1 Milbert's Tortoiseshell

Moths of note included:

Pyrausta sp.

Ctenucha virginica



We identified 12 butterfly species, and made an iNaturalist project for the count, available at: <https://www.inaturalist.org/projects/miquelon-lake-pp-butterfly-count-july>. The count was coordinated by Kayleen, an Interpreter at Miquelon Lake Provincial Park, and Bruce helped with identifications.



The 21st Annual Dry Island Buffalo Jump Provincial Park Butterfly Count, July 5, 2020

John Acorn and Dave Lawrie

This popular annual event was very nearly cancelled this year, what with Covid restrictions, closure of the washed-out park road, and a serious stroke for Charley Bird, the long-standing coordinator of the count. Fortunately, however, the Buffalo Lake Nature Club executive were willing to proceed (with the support of the ALG, Alberta Parks, and the Ellis Bird Farm), and although we had to limit the number of participants, follow Covid “distancing” guidelines, and discourage anyone for whom the road closure might be an impediment, we did manage to “continue the legacy of Dr. Charles Bird, PhD,” as the email notice so aptly read.



We began as usual, at 10:00 in the upper parking lot, with mostly sunny skies, 15° C, and winds at a brisk Beaufort 4 (lower in the valley, of course). A few butterflies were already on the wing, despite the borderline temperature. We worked our way along the prairie rim before descending, where in one place the washed-out road was cut by a gully more than half a metre deep. It had been a rainy, cool summer so far, and on count day the sky was a paler blue than usual, with brightly edged cumulus clouds that were ominously wet-looking and grey in their centers. We spread out through the hills and badlands as we counted, surveying a variety of habitats along the way. Tim Showalter walked what he remembered as Charley’s original count route, while the rest of us wandered at will. By 12:30 it was looking

like clouds would put an early end to the count, but sunny conditions returned as we ascended back up top, by 2:30, with 50% cloud, 20° C and winds at a Beaufort 3.

There was no group photo this year, and the anthill we traditionally do battle with will thank us. We have chosen a few candid shots to illustrate this report instead. Participants included Benjamin Acorn (EBF), John Acorn (ALG), Emma Dunlop (AB Parks), Meagan Lacoste (AB Parks), David Lawrie (ALG), Steve Lemal (BLNC), Sean Liew (ALG), Karin Lindquist (BLNC), Claudia Lipski (BLNC/EBF), Brian Orr (AB Parks), Marie Payne (BLNC), Cynthia Pohl (BLNC), Vic Romanyshyn (ALG), Tim Schowalter (BLNC), and Brittany Wingert (ALG).

The following species of butterflies were recorded. Because of a number of well-supported genus-level changes appearing in the scientific literature over the past year, scientific names follow those used on the website butterfliesofamerica.com (while English names remain stable and familiar). Notably, among the freshly emerged Old World Swallowtails, one was a dark “Nitra” morph individual—a rare colour form for the subspecies *P. m. dodi*.

Common Checkered Skipper (<i>Burnsius communis</i>)	5
Afranius (?) Duskywing (<i>Erynnis afranius</i>)	1
Garita Skipper (<i>Oarisma garita</i>)	10
European Skipper (<i>Thymelicus lineola</i>)	6
Tawny-edged Skipper (<i>Polites themistocles</i>)	2
Old World Swallowtail (<i>Papilio machaon</i>)	20
Canadian Tiger Swallowtail (<i>Papilio canadensis</i>)	1
Clouded Sulphur (<i>Colias philodice</i>)	23
Western White (<i>Pontia occidentalis</i>)	5
Western Tailed Blue (<i>Cupido amyntula</i>)	2
Silvery Blue (<i>Glaucopsyche lygdamus</i>)	16
Melissa Blue (<i>Plebejus melissa</i>)	10
Lupine Blue (<i>Plebejus lupini</i>)	1
Greenish Blue (<i>Plebejus saepiolus</i>)	7
Shasta Blue (<i>Icaricia shasta</i>)	7
White Admiral (<i>Liminitis arthemis</i>)	9
Great Spangled Fritillary (<i>Speyeria cybele</i>)	1
Northwestern Fritillary (<i>Speyeria hesperis</i>)	8
Tawny Crescent (<i>Phyciodes batesii</i>)	7
Northern Crescent (<i>Phyciodes cocyta</i>)	13
Unidentified crescent (<i>Phyciodes</i> sp.)	4
Sagebrush Checkerspot (<i>Chlosyne acastus</i>)	1
Ringlet (<i>Coenonympha californica</i>)	31
Common Alpine (<i>Erebia epipsodea</i>)	2



Brittany Wingert, photo by Sean Liew



Sean Liew, with Benny Acorn in background, photo by Brittany Wingert

Bob Brown was unable to join us, but he did visit the park two days earlier, and sent along his notes. Bob descended into the park for 1.5 hours, and found 14 species. Notably, he had high numbers of Tawny Crescents (c. 45) and Greenish Blues (30), showing what a difference a few days can make to such a count.

Overall, we had a rather low total of 23 species, a relatively early season fauna, and relatively low numbers seen, even given the low number of participants. There were still some Common Alpines on the wing, but it was apparently too early for hairstreaks, or Common Wood Nymphs. All the Clouded Sulphurs we netted were worn. Despite a decent year for migrants (especially Red Admirals), we found none.

Odonates were typical of those seen in other years: Northern Bluet (*Enallagma annexum*), Pale Snaketail (*Ophiogomphus severus*), Variable Darner (*Aeshna interrupta*), Cherry-faced Meadowhawk (*Sympetrum internum*), and Variegated Meadowhawk (*Sympetrum corruptum*).

Tim asked the birders among us to watch for both Cliff Swallows and Northern Rough-winged Swallows, both of which were thought to have recently declined or disappeared in the park. Happily, we did see a few Northern Rough-winged Swallows, along with either Violet Green or Tree Swallows, but no Cliff Swallows were encountered, suggesting that the local colony has petered out, at least for the time being.

Karin Lindquist provided a plant list from the day, and since previous reports have included notes on plants in bloom, we are including Karin's full plant list here, arranged by flower colour.

Interestingly, at the end of the day, Claudia asked Tim what else had changed over the years that he has been visiting this area, and he replied that, at least in the core area, there is now vastly more vegetation than there was in the 1960s—especially grasses and trees. Indeed, it was looking very lush today, and Tim's comment generated some interesting discussion, along with discussion of how visitor use has increased at the park, and the need for a better, erosion-proof road. At 3:00, there were more than 40 vehicles in the upper parking lot, despite the road closure, and many of us remembered when this place was virtually unknown.

We all agreed that the count was not the same without Charley Bird, and we hope that he will continue to recover, and join us in future years. At the end of last year's count, Charley approached Dave and John, asking for help with the count duties in future, and we gladly promised to do so, with the expectation that Charley would still be involved. This is still our hope, along with the hope that the count continues well into the future, no matter who is involved. Charley has managed this event not only as a data-gathering exercise, but also as a matter of community building, cooperation among naturalist groups and Alberta Parks, and promotion of the beauty and fascination of butterflies, and natural history in general.

Dry Island Buffalo Jump Provincial Park Botany Checklist from the 2020 Butterfly Count

White Flowers

Common Name	Scientific Name
Prairie Onion	<i>Allium textile</i>
Bastard Toadflax	<i>Comandra umbellata</i>
Canada Anemone	<i>Anemone canadensis</i>
Penny Cress (Stinkweed)	<i>Thlaspi arvense</i>
White Cinquefoil	<i>Drymocallis arguta</i>
Saskatoon	<i>Amelanchier alnifolia</i>
Timber Milkvetch	<i>Astragalus miser</i>
Cream-coloured Vetchling/Yellow Peavine	<i>Lathyrus ochroleucus</i>
White Sweet Clover	<i>Melilotus albus</i>
Western Canada Violet	<i>Viola canadensis</i> var. <i>rugulosa</i>
Red Osier Dogwood	<i>Cornus canadensis</i>
Northern Bedstraw	<i>Galium circaezans</i>
Common Yarrow	<i>Achillea multifolium</i>
Everlasting (Pussytoes)	<i>Antennaria</i> spp.
Wild Strawberry	<i>Fragaria virginiana</i>
Wild Gooseberry	<i>Ribes oxycanthoides</i>
Choke Cherry	<i>Prunus virginiana</i>
Creeping White Prairie Aster	<i>Symphotrichum falcatum</i>

Yellow Flowers

Common Name	Scientific Name
Yellow Avens	<i>Geum aleppicum</i>
Shrubby Cinquefoil	<i>Dasiphora fruticosa</i>
Yellow Flax	<i>Linum rigidum</i>
Prickly Pear Cactus	<i>Opuntia polyacantha</i>
Heart-leaved Alexander	<i>Zizia aptera</i>
Late Yellow Locoweed	<i>Oxytropis</i>
Yellow Sweet Clover	<i>Melilotus officinalis</i>
Fringed Loosestrife	<i>Lysimachia ciliata</i>
Wolfwillow	<i>Elaeagnus commutata</i>
Goat's Beard	<i>Tragopogon dubius</i>
Colorado Rubberweed	<i>Hymenoxys richardsonii</i>
Prairie Groundsel	<i>Packera plattensis</i>
Missouri Goldenrod	<i>Solidago missouriensis</i>
Yellow Umbrellaplant	<i>Erigonium flavum</i>
Canadian Buffaloberry	<i>Shepherdia canadensis</i>
Tall Hedge Mustard	<i>Sisymbrium loeselii</i>

Orange, Red or Pink Flowers

Common Name	Scientific Name
Scarlet Mallow	<i>Sphaeralcea coccinea</i>
Western Wood Lily	<i>Lilium philadelphicum</i>
Wild Mustard	<i>Sinapsis arvensis</i>
Alumroot/Coralroot	<i>Heuchera richardsonii</i>
Prairie Rose	<i>Rosa arkansana</i>
Western Snowberry/Buckbrush	<i>Symphoricarpos occidentalis</i>
Three-flowered Avens/Old	<i>Geum triflorum</i>

Man's Whiskers	
Alsike Clover	<i>Triflora</i>
Scarlet Guara/Scarlet Butterflyweed	<i>Oenothera suffrutescens</i>
Bergamont (Horsemint)	<i>Monarda fistulosa</i>
Gaillardia/Brown-eyed Susan/Blanketflower	<i>Gaillardia aristata</i>

Blue or Purple Flowers

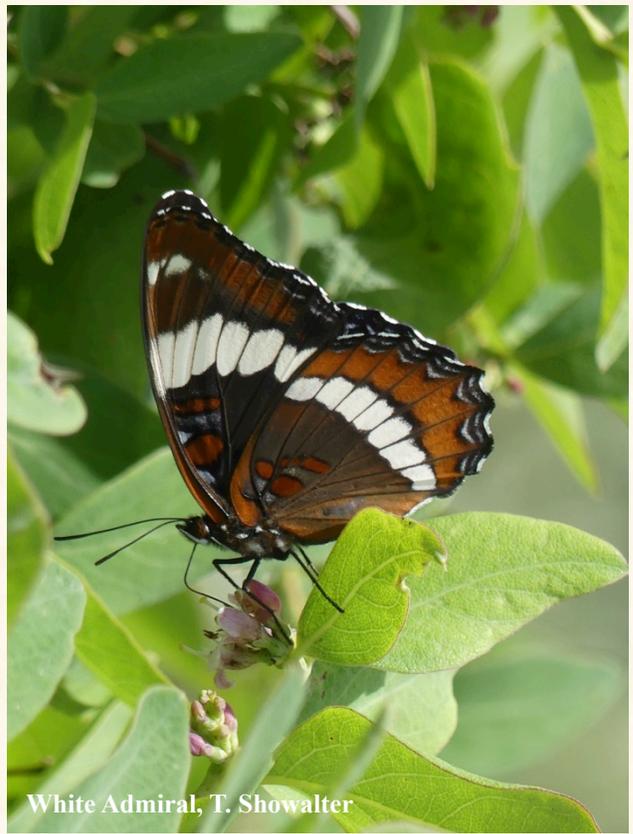
Common Name	Scientific Name
Wild Blue Flax	<i>Linum lewisii</i>
Blue-eyed Grass	<i>Sisyrinchium montanum</i>
Wild/American Vetch	<i>Vicia americana</i>
Purple Prairie Clover	<i>Dalea purpurea</i>
Buffalobean/Golden Bean	<i>Thermopsis rhombifolia</i>
Alfalfa	<i>Medicago sativa</i>
Northern Hedysarum	<i>Hedysarum boreale</i>
American Hedysarum	<i>Hedysarum alpinum</i>
Groundplum Milkvetch	<i>Astragalus crassicaerpus</i>
Prairie Milkvetch	<i>Astragalus laxmannii</i>
Harebell	<i>Campanula rotundifolia</i>
Giant Hyssop	<i>Agastache foeniculum</i>
Smooth Blue Beardtongue	<i>Penstemon nitidus</i>
Lilac Beardtongue	<i>Penstemon gracilis</i>
Slender Beardtongue	<i>Penstemon procerus</i>
Narrow-leaved Collomia/Slender Phlox	<i>Collomia linearis</i>

Green Flowers/Grasses & Grass-like

Common Name	Scientific Name
Seaside Arrowgrass	<i>Triglochin maritima</i>
Sagebrush	<i>Artemisia cana</i>
Narrow-leaved Sage	<i>Artemisia longifolia</i>
Pasture Sage	<i>Artemisia frigida</i>
Prairie Sage	<i>Artemisia ludoviciana</i>
Linear-leaved Sagewort/ Dragon Wormwood	<i>Artemisia dracunculus</i>
Plains Rough Fescue	<i>Festuca hallii</i>
Smooth Brome	<i>Bromus inermis</i>
Western Wheatgrass	<i>Pascopyrum smithii</i>
Needle & Thread Grass	<i>Hesperostipa comata</i>
Green Needle Grass	<i>Stipa viridula</i>
Kentucky Bluegrass	<i>Poa pratensis</i>
Nuttall's Alkali Grass	<i>Puccinella nuttalliana</i>
Baltic Rush	<i>Juncus Balticus</i>
Foxtail Barley	<i>Hordeum jubatum</i>
Tufted Hairgrass	<i>Deschampsia cespitosa</i>
Junegrass	<i>Koeleria macrantha</i>
Quackgrass	<i>Agropyron repens</i>



Shasta Blue, B. Brown



White Admiral, T. Showalter



Least Chipmunk, T. Showalter



Garita Skipper, B. Brown



J. Acorn & *P. machaon*, M. Lacoste



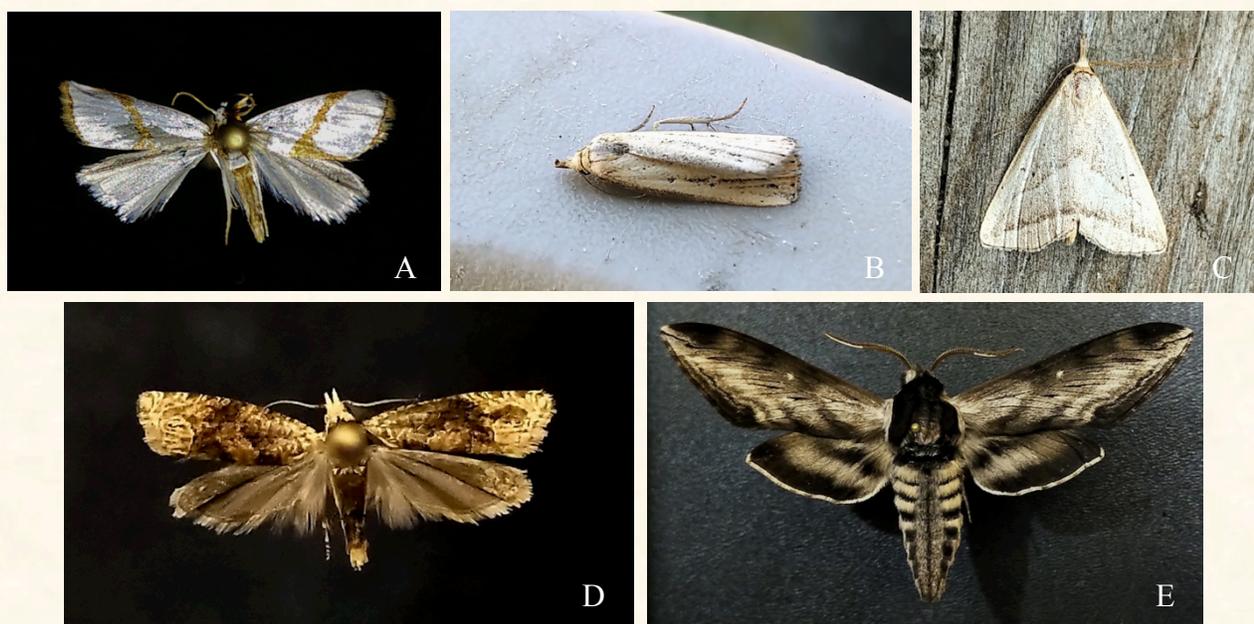
M. Lacoste, J. Acorn

Wolley-Dod Discovery Award 2020

There were seven nominations for this year's Wolley Dod Discovery Award. The first five all represent range extensions, into Alberta from Saskatchewan, and all were reported by Doug Macaulay from Dillberry Lake. Shown below, they are: A) Curve-lined Argyria Moth (*Argyria auratella*), B) Bronzy Owlet (*Macrochilo orcipheralis*), C) Slant-lined Owlet (*Macrochilo absorptalis*), D) Pale-headed Eucosma Moth (*Eucosma ochrocephala*), and E) Apple Sphinx (*Sphinx gordius*), the latter with records from 2013 and 2018. Loney Dickson was another strong nominee, for his discovery of a Pointed Sallow (*Epiglaea apiata*), a range extension from Ontario, found in his yard near Ardrossan in September of 2020. Finally, Jan Scott and Sandi Robertson were jointly nominated for the discovery of a scavenger moth (*Holocera gigantella*) in one of Alberta's two native yucca patches in extreme southern Alberta. This was the winner, so congratulations to Jan and Sandi.

Since the yucca plants are of conservation concern, the moths will be of interest as well, either as a new candidate for conservation concern, or as a pest of an existing "vulnerable" species. Will they spread to cultivated yuccas in south-eastern Alberta? Will the species undergo a "boom and bust" cycle? Why is it not a pest of yuccas where it occurs in the USA? Both Jan and Sandi provided their perspectives on this moth, its discovery, and its likely origins. These accounts make fascinating reading, and I'm sure that ALG members will follow the development of this story with great interest.

This coming season, keep an eye out for these and other unusual leps, and remember to submit any possible nominations for next year's Wolley-Dod Award.



Unknown Larvae on Yucca Plants

Jan Scott

In November 2019, Sandi Robertson, a wildlife biologist with Alberta Environment and Parks, contacted me. She had been monitoring the *Yucca glauca* plants at the Pinhorn Provincial Grazing Reserve, one of only two areas where the yucca plant grows naturally in Alberta. On August 29, 2019, when she visited the site, she discovered that the plants were covered in frass, with the seed pods destroyed. She saw one unfamiliar larva, which she photographed, and she cut off some stems with seedpods to take to her office. Larvae emerged from the pods and pupated about mid September in folded paper in a container on her desk.

Sandi was concerned by the fact that these unknown larvae were eating all the seeds in the pods and that there would be no seeds for the yucca moth larvae (Prodoxidae) or for new plants. She was hoping I could identify the unfamiliar larvae, and sent me the photo she had taken. I had never seen this larva before and sent the photos to Albertaleps, Jason Dombroskie, Bugguide and a few people I have come to know through the Moth Photographers Group. Nobody could ID it, although Jean-Francois Landry thought it looked like a member of the scavenger moth family, Blastobasidae. I spent months going through sites on my computer and nothing looked right.



Sandi gave me the pupae she had and also some stems with pods she had put in the deep freezer. When I opened the pods from the freezer, they were mush. I put the pupae in a well-ventilated container and misted them so they would not dry out. In late May, I moved them to the kitchen so I could watch for moths to emerge. By the beginning of August, however, I thought they must be dead, but I still misted them.

On August 31, 2020 Sandi was at the Pinhorn to collect more stems and pods. When she started cutting the stems and disturbing the plants larvae began appearing, and by the time she got to my place quite a few had emerged from the 49 seed pods.

They continued coming out of the pods until the next day. Almost immediately after emerging they began pupating, in a white, silky cocoon. After about a week, and for about 10 days, more larvae began emerging until I had over 200 larvae. There were also 10 yucca moth larvae which emerged and were released onto my own yucca plants and other yucca plants in the city.

I have four large jars, about 14 inches high, in which I put stems with larvae. With the arrival of the new larvae, I went to get the screen from the jar holding the last year's pupae. To my surprise, in those few days four moths had emerged and died. One had a wing open and from a photo I took both Jason Dombroskie at Cornell University, and Jim Vargo from the Moth Photographers' Group identified the species as *Holocera gigantella*, a species of scavenger moth which is known to feed on yucca plants. I sent Felix Sperling three caterpillars, which could be used for DNA testing.



I watched the larvae as they emerged from the stems. Each one dropped by a strand of silk to the bottom of the jar. There are stems in the jars, and plenty of room for the larvae to pupate on, but I noticed they were going to the bottoms of the stems and pupating in clumps. I mentioned to Sandi that maybe they were doing this in their natural habitat. On September 29 & 30, 2020, Sandi and a coworker returned to the Pinhorn Reserve. They found cocoons near the base of the yucca plants, in clumps. They spent two afternoons collecting well over 200 cocoons from the plants. Sometimes there were many stuck together and it was difficult to tell how many cocoons there were. These cocoons were destroyed.

On October 1, 2020, a moth emerged from this year's pupae. Since then, over 15 moths have emerged. I am sending some to Greg Pohl to dissect and spread. He will give some to the Strickland Museum for me. Jean-Francois Landry also offered to dissect one. On October 23, three smaller moths emerged. I thought maybe they were some actual yucca moths I had missed. I sent Greg Pohl a photo and they were identified as *Sosipatra rileyella*. There were also ladybug larvae on the plants that pupated and emerged. I was able to release them before the weather turned cold. These caterpillars have been a challenge-- frustrating, messy but also very interesting.

Discovery of a Novel Invasive Moth Species at the Soapwood Site in the Pinhorn Grazing Reserve

Sandi Robertson

On August 29, 2019 during a routine visit to monitor the soapweed (*Yucca glauca*) population at the Pinhorn site, I noticed that the seed pods looked infected with something. They were covered with a brown powder/crumblily like material. The majority of the seed pods had the condition. I thought it was maybe a fungus. I took photos and collected seed pods for analysis.



I distributed the photos to people familiar with Alberta's soapweed population. They all advised me that they had never seen anything like it on the soapweed plants before. I had never seen it before, and I monitor the site one or two times a year. Additionally, Cathy Linowski (Medicine Hat College) has been monitoring the site every September since 2009, and Cathy has never seen anything like this before either.

In my office, caterpillars emerged from the pods, about 20 yucca moths (which I returned to the site) and a high numbers of unidentified larvae. I gave the unidentified larvae to Jan Scott for identification and rearing. However, no adults emerged, likely due to poor storage conditions that I keep them in before delivering them to Jan. No-one was able to identify the larvae from the pictures that Jan posted. So, no answers in 2019.

I conducted a follow up site visit a year later, on August 31, 2020, to monitor the plants. I was hoping to see healthy plants, but the infestation was again prominent; 75% (107/142) of plants were infected. 49 pods were collected and immediately delivered to Jan Scott for rearing and identification (approx. 200 of the

unidentified larvae emerged from the 49 pods and only 7 yucca moth caterpillars). It appears that the novel species is outcompeting the yucca moth caterpillars and destroying the entirety of the seeds in infected pods and therefore the productivity of the plant.

I visited other soapweed populations (Onefour and the Etzikom Windmill Museum) and thankfully found no evidence of *Holocera gigantella*.

How *Holocera gigantella* arrived at the Pinhorn soapweed site will probably remain a mystery. My theory is that someone traveled to the US (Arizona, or California), dug up a yucca plant to bring home to Alberta. Then, in the same vehicle, they went to the Pinhorn soapweed site to dig up a soapweed plant to put in their garden (3 plants were poached in 2018 or 2019; this has occurred many times over the years, lots of people know about the yucca site), and unknowingly released the novel moth/caterpillar. It is too much of a coincidence that plants were poached and this critter appeared around the same time. The biology of the yucca associated moths does not make sense that one/some would fly all the way to Alberta; it is highly unlikely.



No viable soapweed seeds remained in many of the pods I examined.



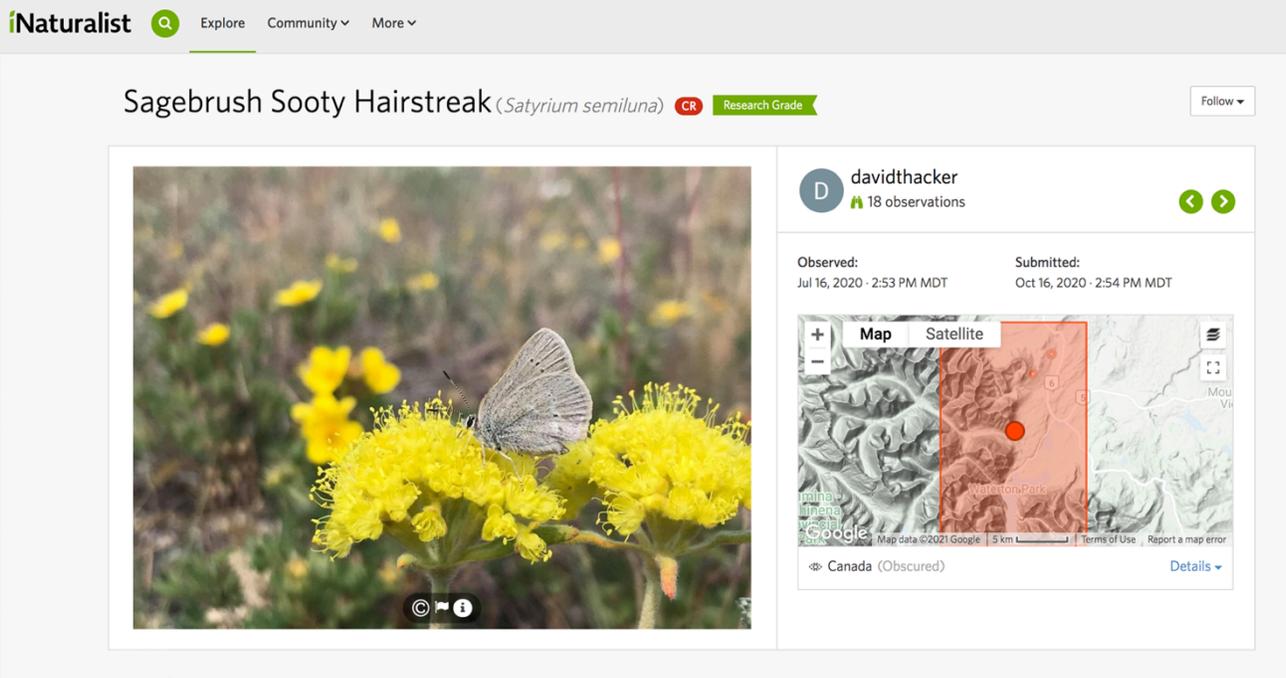
No viable soapweed seeds remained in many of the pods I examined.



Historic photograph of Colonel E. H. Strickland, the first professional entomologist in Alberta, examining yucca insects.

Another Species for the Butterfly Roundup

A report appeared on iNaturalist, of a Halfmoon Hairstreak (aka Sagebrush Sooty Hairstreak) from Waterton National Park, thereby confirming this species for our Alberta Butterfly Roundup. See the last issue of the ALG Newsletter for other species still left to be relocated.



The screenshot shows an iNaturalist observation page for the Sagebrush Sooty Hairstreak (*Satyrium semiluna*). The observation is by user davidthacker, who has 18 other observations. It was observed on July 16, 2020, at 2:53 PM MDT and submitted on October 16, 2020, at 2:54 PM MDT. The observation includes a photograph of a butterfly on a yellow flower and a map showing the location in Waterton Park, Alberta, Canada. The map is labeled "Canada (Obscured)" and includes a "Details" link.

Additional Noteworthy Sightings



Gail Kozun-Brucker photographed both larval and adult *Proserpinus flavofasciata* (Yellow-banded Day Sphinx) at her home near Devon.



Black witch moth (*Ascalapha odorata*), photographed north of Lacombe, near the Nursery golf course, in mid August, by Bonny Leenstra.



Another, photographed in northeast Calgary on July 30, 2020, by Jessica Taylor.



Here's another intriguing although worn hairstreak, photographed at the western edge of Killo Ridge (the westernmost ridge of the Vicky Ridge complex in Kananaskis Country) on a Sulphur Buckwheat head by Peter Sherrington, near where Peter has conducted his now-famous eagle migration monitoring (<https://eaglewatch.ca/>). Thanks to Peter Allen for sending this along to the newsletter. The photo was identified as a Western Green Hairstreak (*Callophrys affinis*), a species that has not been confirmed in Alberta, however it might also be a Sheridan's Hairstreak (*C. sheridanii*), a known Alberta species, so further documentation at this site is certainly warranted.



Thicket Hairstreak (*Callophrys spinetorum*)

Observer: Jody Allair, Phoebe Allair

Location: Cave and Basin Hot Springs, Banff National Park

Date and Time: June 19, 2020 at 1:50 pm

On Friday June 19th at approximately 1:50 pm, while walking the paved trail that runs west from the Cave and Basin Visitor Centre, my daughter and I stumbled upon our lifer Thicket Hairstreak. But as with many things natural history-related, that wasn't exactly how it happened.

We were just returning from a mid-afternoon stroll along the paved trail that leads to Sundance Canyon. It was fairly quiet bird and butterfly-wise (eBird Canada Checklist: <https://ebird.org/canada/checklist/S70618434>) but the weather was outstanding - sunny, very windy and quite warm. As we were just getting back to the visitor centre adjacent to the parking lot I noticed a small, orangey-brown butterfly flit by us close to the ground. My first instinct was that it was a Brown Elfin - a butterfly that I have seen many times before in Ontario. Luckily for us the butterfly

landed close by and I was able to get good looks and some nice photos using my iPhone. Immediately I realized that this was not a Brown Elfin at all as it had tails! I quickly discerned that this was a Hairstreak but one that I had never seen before. And let's be honest with ourselves here - isn't this the best part of being a naturalist? Seeing something that you know is different and having no idea what it is? A few clicks on the iPhone later I realized we were looking at our lifer Thicket Hairstreak!

I uploaded the record to iNaturalist (<https://inaturalist.ca/observations/50335914>) shortly after and noticed it was the only record on iNaturalist for the province so I figured it was quite rare or very localized. I passed the observation along to John Acorn for confirmation. I have now read about other records in the mountains/ foothills west of Calgary but as far as I can tell this may be the first record for Banff National Park.

-- Jody Allair



Glover's Silk Moth (*Hyalophora gloveri*)

Observer: Elaine Secord

Location: Royal Tyrrell Museum of Palaeontology, Drumheller

Date: May 26, 2020

This large and seemingly freshly-hatched silkworm moth was slowly fanning its wings on the pavement in a high-traffic area between the staff parking lot and back door at the Royal Tyrrell Museum one morning before 9 a.m. Concerned for its safety, I carefully moved it to a nearby flowerbed. Because most of my limited mothing experience has been in Ontario, it struck me as similar to a Cecropia Moth. I later discovered it was my first Columbia Silk Moth. I learned of additional sightings in Drumheller that week via posts to a local Facebook group by other members of the community. -- Elaine Secord



Bob Brown photographed these Garita Skippers (*Oarisma garita*) at his usual south-facing hillside in Edmonton (see ALG Newsletter Fall 2019), on June 24, 2020, showing that this species still persists despite the large population of European Skippers (*Thymelicus lineola*) in the area.

A Selection of Norbert Kondla's Hairstreak 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, "elfins and hairstreaks." Norbert has given me permission, and I consider this a fine opportunity to share some of Norbert's images.

John Acorn, Editor

color variation in Brown Elfin
Deciduphagus augustinus aka genus *Incisalia* or *Callophrys*
north of Rocky Mountain House, Alberta; May 2017



Hoary Elfin
species *polios*, genus options *Deciduphagus*, *Incisalia*, *Callophrys*
2018-5-13 near Rocky Mountain House, Alberta

female



male



female *Incisalia* (aka *Callophrys*) *eryphon*
1978-5-17 Kootenay Plains, Alberta
NG Kondla



wingspan 27.5 mm

male *Satyrium sylvinum*
2000-8-1 Middle Kootenay Pass, Alberta
leg. NG Kondla



wingspan 31 mm

Satyrium titus - males
specimens leg NG Kondla, McKinnon Flats, Bow R. SE of Calgary, Alberta

2020-8-5



2020-7-25



2020-7-25



wingspan 27 mm

wingspan 28 mm

wingspan 26 mm

academicum
Steveville Bridge, AB



californicum
Anarchist Mtn., BC



Satyrium titus – Alberta
specimens leg NG Kondla

male 2000-7-28 nr Standard



female 1984-7-22 nr Frank



wingspan 26.5 mm



wingspan 29 mm

Brown Elfin – *Deciduphagus augustinus*
other genus hypotheses: *Callophrys*, *Incisalia*
specimens leg NG Kondla, 2010-4-20, Eyrie Gap area, Highwood River, SW of Longview, Alberta

female



wingspan 27 mm

male



wingspan 26 mm

Incisalia niphon

alternative genus hypothesis: *Callophrys*
specimens leg NG Kondla in Alberta

female

1991-5-11, nr Vega



wingspan 28 mm

male

1978-5-27, nr Redwater



wingspan 27 mm