



# ALBERTA LEPIDOPTERISTS' GUILD NEWSLETTER – FALL 2013

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 late fall.

## ALG Members in the News!

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In May, **Jan Scott** was recognised by the City of Medicine Hat with a 2013 Civic Recognition Award for her environmental work. She assists at the Police Point Park Interpretive Centre, helps veterinarians with injured birds, and has been researching insects and promoting their importance in the environment. Jan has become an expert resource person who happily shares her knowledge of moths and butterflies, and insects generally, with entomologists and naturalists all over North America. Congratulations, Jan!



On Nov. 11, **John Acorn** was awarded the Entomological Foundation Medal of Honor, by the Entomological Society of America. John is well known for his many nature books, as well as his television shows *The Nature Nut* and *Twits and Pishers*. Besides his writing, he is an active teacher and researcher at the University of Alberta. He was recognised for his many contributions to entomology and education. Congratulations, John!



*Congrats Jan & John!*

*Also, hearty congratulations to recent lep-related and ALG member graduate student thesis defences...*

**Heather Bird** Phylogenomics of the *Choristoneura fumiferana* species complex (Lepidoptera: Tortricidae)

**Jessica Kwon** Development of a pheromone-based attract and kill formulation with visual cues to target the diurnally active apple clearwing moth, *Synanthedon myopaeformis* (Borkhausen), (Lepidoptera: Sesiidae)

**Marla Schwarzfeld** Systematics and diversity of Ichneumonidae, with an emphasis on the taxonomically neglected genus *Ophion* Fabricius

# Dry Island Butterfly Count, 7 July 2013

## Charley Bird

**Location:** Dry Island Buffalo Jump Provincial Park, Red Deer River Valley, east of Huxley. At 10 AM, when the Count started at the Upper Viewpoint/Parking Lot, it was sunny and 22 C. Five species of butterflies were seen. We drove down to the picnic area at 10:35. It was sunny and up to 24 C, for the remainder of the Count. We had lunch at noon then split into groups and covered separate areas, ending at 4 PM. Wildflowers were in abundance. Mosquitoes were seldom a problem. Kilometers on foot estimated to be over 10. This was the fifteenth time this event has been held.

The participants (46, **pictured below**) were John Acorn, Elizabeth Bagdan, Kurt Bagdan, Ann Bird, Charley Bird (Compiler), Heather Bird, Jim Brohman, Lori Brohman, Candice Callum, Aaron Davidson, Fay Davidson, Carol Davies-Pedersen, Les Dobos, Gail Hughes, Alison Ireland, Cam Ireland, John Ireland, David Lawrie, Jeanine LeBlanc, Joy LeBlanc, Peter LeBlanc, Brian Leibel, Claudia Lipski, Dermot MacDougall, Iain MacDougall, Sandra MacDougall, Rhonda MacKay, Sara Munden (Park Ranger), Alyssa Nordstrom, Myrna Pearman, Chris Pfeifle, Vic Romanyshyn, Mary Roy, Beth Schnell, Tim Schowalter, Barb Smith, Lola Stewart, Brodie Vale, Brooklyn Vale, Dean Vale, Jayden Vale, Kenton Vale, Sheila Vale, Tracey Vale, Anna White and Ashley White. After lunch, because of the large number of participants, we divided up into three teams, one lead by John Acorn, one by David Lawrie and Vic Romanyshyn, and one by Charley Bird while a small group watched near the picnic tables. ...continued

Photo Charley Bird





## Dry Island Butterfly Count, 7 July 2013, *continued*

**Species observed** – The names and order follow that of G.R. Pohl et al., 2010, An annotated list of the Lepidoptera of Alberta, Canada (ZooKeys 38, 1-549, Special Issue).

*Epargyreus clarus* (*E. tityrus*) (Silver-spotted Skipper) – 2

*Pyrgus communis* (Checkered Skipper) – 3

*Oarisma garita* (Garita Skipper) – 49

*Polites themistocles* (Tawny-edged Skipper) – 5

*Polites mystic* (Long Dash Skipper) – 3

*Papilio machaon dodi* (Dod's Old World Swallowtail) – 27

*Papilio canadensis* (Canadian Tiger Swallowtail) – 2

*Pontia* (*Pieris*) *occidentalis* (Western Checkered White) – 5

*Glaucopsyche lygdamus* (Silvery Blue) – 16

*Plebejus* (*Lycaeides*) *melissa* (Melissa Blue) – 4

*Aricia* (*Plebejus*) *saepiolus* (Greenish Blue) – 6

*Icaricia shasta* (Shasta Blue) – 11

*Basilarchia arthemis* (White Admiral) – 11

*Speyeria cybele pseudocarpenteri* (Great Spangled Fritillary) – 1

*Speyeria aphrodite* (Aphrodite Fritillary) – 1

*Speyeria hesperis* (*atlantis lais*) (Northwestern Fritillary) – 23

*Speyeria* sp. – 1

*Nymphalis antiopa* (Mourning Cloak) – 1

*Polygonia progne* (Gray Comma) – 1

*Phyciodes batesii* (Tawny Crescent) – 7

*Phyciodes cocyta* (Northern Crescent) – 12

*Phyciodes* sp. – 5

*Coenonympha inornata benjamini* (Common Ringlet) - 37



*Glaucopsyche lygdamus*  
(above) and *Polites  
themistocles* (below).  
Photos Gary Anweiler

Left: Dermot  
MacDougall  
identifying a comma.  
Photo: Charley Bird



...continued

## Dry Island Butterfly Count, 7 July 2013, *continued*

Three dragonflies were observed: *Aeschna interrupta* (Variable Darner), *Ophiogomphus severus* (Pale Snaketail) and *Sympetrum internum* (Cherry-faced Meadowhawk). Two damselflies were noticed: *Enallagma boreale* (Boreal Bluet) and *Lestes disjunctus* (Common Spreadwing).

**General Comments:** An excellent turnout with 46 observers, exceeding that of the 42 who took part in 2012 and the highest number of participants ever for the count. Twenty-one species of skippers and butterflies and 128 individuals were seen. One species, *Polygonia progne*, netted by Dermot MacDougall, had not been seen on any of the previous counts. Many participants had nets. The Count being in a Provincial Park, was catch, identify and release. All agreed that this Park is one of the most beautiful in Alberta and all hoped that, with continued good management, it will remain so. Lots of scenery and flower photos were taken.

The flight times of butterflies often corresponds with the flowering times of various plants, therefore, notes were kept of the plants that were seen in flower. These included: *Achillea millefolium* (Yarrow), *Anemone canadensis* (Canada Anemone), *Campanula rotundifolia* (Harebell), *Eriogonum flavum* (Yellow Umbrella-plant), *Gaillardia aristata* (Brown-eyed Susan), *Galium boreale* (Northern Bedstraw), *Gutierrezia sarothrae* (Broomweed), *Hymenoxys richardsonii* (Colorado Rubber-plant), *Lilium philadelphicum* (Western Wood Lily), *Linum lewisii* (Wild Blue Flax), *Melilotus alba* (White Sweet-clover), *M. officinalis* (Yellow Sweet-clover), *Monarda fistulosa* (Wild Bergamot), *Opuntia fragilis* (Fragile Prickly-pear Cactus), *O. polyacantha* (Prickly-pear Cactus), *Penstemon gracilis* (Lilac-flowered Beardtongue), *Petalostemon purpureum* (Purple Prairie-clover), *Potentilla anserina* (Silverweed), *Potentilla arguta* (White Cinquefoil), *Psoralea esculenta* (Indian Bread-root),

...continued



Top: Brodie Vale with an *Oarisma garita*, and bottom: Heather Bird enjoying the weather as a soon to be defended Master's student! (see page 1).  
Photos Charley Bird



## Dry Island Butterfly Count, 7 July 2013, *continued*



... *Rosa acicularis* (Prickly Rose), *Sisyrinchium montanum* (Blue-eyed Grass), *Sphaeralcea coccinea* (Scarlet Mallow), *Stellaria longifolia* (Long-leaved Chickweed), *Symphoricarpos occidentalis* (Buckbrush), *Taraxacum officinale* (Common Dandelion), *Tragopogon dubius* (Goat's-beard) and *Vicia americana* (Wild Vetch).

Charley Bird leads the Dry Island Butterfly Count, with the classic A. B. Klots "Field Guide to the Butterflies" in hand.  
Photo John Acorn

## The Alberta Butterfly Survey: An Update

John Acorn

A lot has happened in the last year, when it comes to our interest in Alberta butterflies. At our last annual meeting, we proposed that the ALG look into an "atlas" project, soliciting citizen science data and compiling maps and phenologies for the Alberta fauna. To this end, we put together an atlas symposium task force (myself, Felix Sperling, Greg Breed, Doug Macaulay, and Rob Hughes) and arranged

a symposium on the subject. We invited Max Larrivée and Katy Prudic, from the citizen science project eButterfly, to attend. We also had discussions with Alan Macnaughton, of Ottawa, who volunteered to help create an Alberta version of the software that underlies many of the other Canadian atlas projects.

By the end of Max and Katy's visit, however, it was clear that all of the things we were after were either already available on the eButterfly website, or would be soon. eButterfly provides a data entry portal (which is used by other atlas projects as well), and a mapping function that can show records from a particular time frame. Phenology (seasonal occurrence) graphs were under development, as was a system for identifying a standard grid of atlas squares. With this in mind, it seemed unwise to create a separate atlas, so we moved ahead with eButterfly as our means of achieving the goal. *continued...*



**alberta  
butterfly  
survey**

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## The Alberta Butterfly Survey, *continued*

...We named our effort the Alberta Butterfly Survey, and asked eButterfly to version their website for Alberta, with our new logo, information about ALG and our team, and all of the eButterfly functions set to an Alberta default (maps, displays of records, and so on). In the meantime, we encouraged local lepidopterists to submit records via the main eButterfly portal, which was at the time expanding to cover the United States as well as Canada.

Well into the summer, however, it was clear that the Alberta portal was not developing the way we envisioned. The eButterfly programmer (a very capable but overworked volunteer) was not able to provide us with our portal on such short notice, and I began to wonder if we were asking too much of eButterfly. In some ways, we were failing to launch, but in others we were succeeding quite admirably. Many naturalists, including many from outside the ALG ranks, were submitting Alberta records, and the total number of Alberta entries (each of which can represent multiple individual butterflies) stands at 2,308 at the moment I am typing this report.

The other day, I had a long conversation with Katy Prudic, and learned a few very valuable things about eButterfly, especially the fact that eButterfly is increasingly cooperating with eBird (a well-funded, very successful project out of Cornell University). The primary advice they received from the eBird people was simple: don't position yourself as a place where amateurs help scientists by gathering data for free. Instead, give back to the naturalists, by helping them keep track of their sightings, and by visualizing their own data in the most useful fashion for their own needs. eBird has also been asked in the past to version itself for particular groups and projects, but these portals have never been more attractive to contributors than the main portal itself. To me, the take home message is clear-- encourage participation in the main eButterfly project, and realize that local naturalists will contribute in proportion to how much they get back from the site itself. As eButterfly continues to learn from eBird, I hope that the result is successful for us all.



**Speaking of butterflies...**...a few favorite shots of 2013 from Gary Anweiler.  
Right: *Boloria bellona*, and left: *Everes amyntula*.



# Confirmation of the host of *Papilio machaon hudsonianus*?

Julian Dupuis

The *Papilio machaon* species group (the Old World swallowtail butterflies) contains some of the largest butterflies found in Alberta, and if I do say so myself, also some of the most magnificent. The group is diverse, with 6 North American species and over 20 subspecies and geographical/ecological races (Pelham 2008, Sperling 1990), and combined with frequent natural hybridization between its members (Sperling 1990) provides a rich foundation for research at many levels. Two species and three subspecies are found in Alberta: *P. zelicaon*, *P. machaon dodi*, *P. m. pikei*, and *P. m. hudsonianus*. *Papilio machaon hudsonianus*, named after the Hudson Bay Railway in northern Manitoba, is a widespread butterfly found from northern Alberta to northern Québec (Bird *et al.* 1995), but is sparsely distributed in this range and rarely collected. Little is known of its life history except that it is found in open areas along roads and bogs, and at open hilltops. There are no known reared records documenting its host plant, although oviposition has been observed on black snakeroot (*Sanicula marilandica*), and Gary Anweiler photographed a fifth instar caterpillar feeding on palmate-leaved coltsfoot (*Petasites palmatus*) in 1976 (Sperling 1987).

In the second week of July (2013), I set out to collect this enigmatic beast with the final goal of obtaining high quality DNA for my phylogenetic work on the species group. I was well prepared with my faithful steed (a 20 year old station wagon), field notes and maps made before I was born, and two eager field assistants, and embarked on a short, but hopefully fruitful collecting trip to northern Manitoba. When we arrived north of Thompson, MB everything was in perfect order, except that is, for the butterflies that I had spent the past 16 hours daydreaming about as I drove. Standing on an ideal hilltop poking out of the boreal forest, there were no swallowtails to be seen, and as my optimism wavered, the horse flies and mosquitoes sensed my despair and doubled their efforts to put an end to both my field assistants and myself through exsanguination. Based on the season's climate and the other butterflies flying, I would guess that I missed the adults by no more than a week; *Papilio machaon hudsonianus* are known to fly from May 31 to July 28 (Bird *et al.* 1995), and my timing was smack dab in the middle of that range. ...continued



My field assistants seeking shelter from the bloodthirsty flies of northern Manitoba; at least one of them is keeping her eyes open for butterflies. Photo taken on Mystery Mountain, North of Thompson—an apt name for the enigmatic butterflies residing there!  
Photo Julian Dupuis

## Confirmation of the host of *P. machaon hudsonianus*? continued

With my first collecting attempt thwarted, my thoughts turned to caterpillars, and I began searching every host plant I could find that is known in the species group. I searched familiar species such as cow parsnip (*Heracleum lanatum*), anything that looked vaguely umbellifer-like (common hosts of the species group), and every palmate-leaved coltsfoot I saw. For close to five hours I scoured the leaves in roadside ditches and forest openings for any sign of caterpillar or egg, the whole time battling horse flies the size of swallowtails while in the sun, and even bigger mosquitoes when in the shade. Then, just when I was ready to admit defeat, I spied a vaguely familiar looking bit of bird poop on the leaf of a palmate-leaved coltsfoot. After ensuring that I wasn't hallucinating due to blood loss, I confirmed that it was a tiny (3 mm long), likely day-old swallowtail caterpillar! With renewed energy and excitement from my find, and confirmation of the host plant, I spent several more hours searching the local coltsfoot, but found no additional caterpillars. And so with my sole specimen safely collected and prepared for the journey home, and to provide some respite from the buzzing of the assailing dipterans, we began our journey back to Edmonton.

Sadly, despite my best fatherly efforts, the single caterpillar from Manitoba only lasted a few days before losing its appetite and passing on as a second instar larva. With its passing went my chance to learn its identity, although I assume it to be my intended target, *P. m. hudsonianus*. As for the cause of death, perhaps there are unseen differences in the palmate-leaved coltsfoot found in the river valley of Edmonton as compared to those north of Thompson, or the stress of travel was too much for the little lep. Either way, although one presumed host of *P. m. hudsonianus* has been confirmed, I will have to wait until next summer for another chance to obtain specimens of this elusive swallowtail.



*Papilio machaon hudsonianus* (?) in the flesh, along with frass and feeding damage on palmate-leaved coltsfoot (*Petisites palmatus*).  
Photo Julian Dupuis

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- Pelham, J. (2008) Catalogue of the butterflies of the United States and Canada. *J. Res. Lep.*, **40**, xiv-658.
- Sperling, F.A.H. (1987) Evolution of the *Papilio machaon* species group in western Canada (Lepidoptera: Papilionidae). *Quaest. Ent.*, **23**, 198-315.
- Sperling, F.A.H. (1990) Natural hybrids of *Papilio* (Insecta: Lepidoptera): poor taxonomy or interesting evolutionary problem? *Can. J. Zool.*, **68**, 1790-1799.



# The Cabbage Crash of 2013

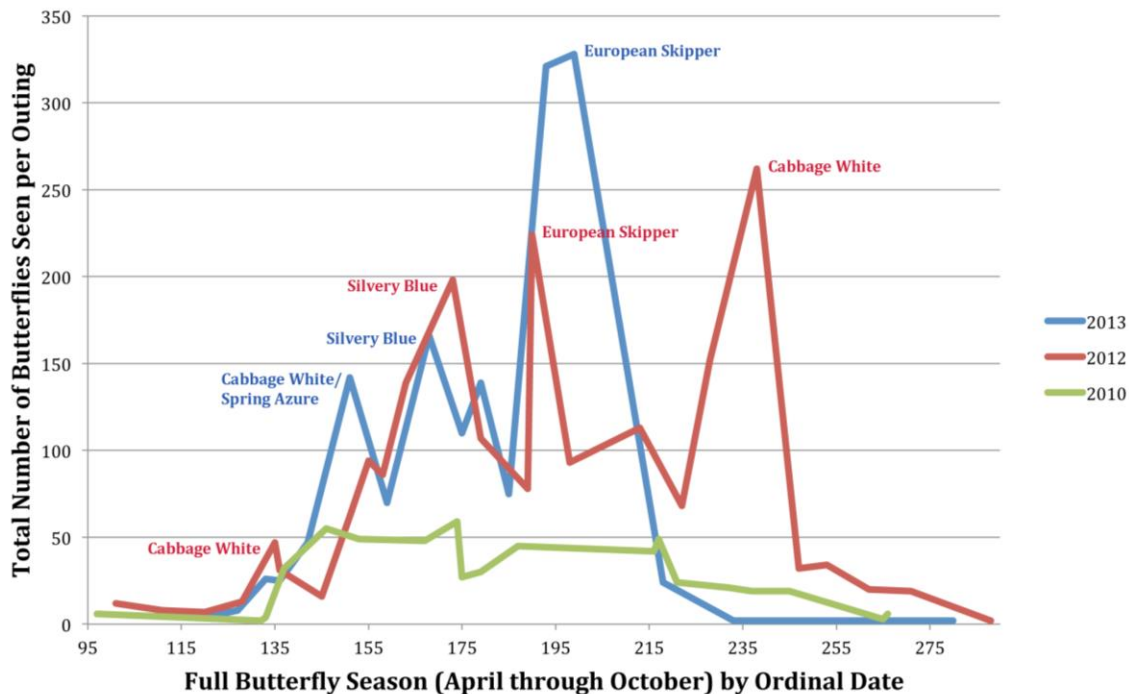
John Acorn

As many of you know, friends and I do a regular Pollard Count in the river valley of Edmonton (from Government House Park to just past the mouth of McKinnon Ravine), walking a standard route once every week or so, counting all the butterflies we can see or identify. This year, I was assisted by Christianne McDonald, Uli Schlaegel, Steve Andersen, Greg Breed, Nadia Contant, and by my family: Dena, Jesse, and Benny. Some day, I will get around to thoroughly summarizing my data, but for the moment I want to share a graph with you, of overall butterfly numbers for this year, last year, and for 2010 (another year for which I have data for the entire season).

Notice first that both 2012 and 2013 produced many more butterflies than did 2010. In 2010 things were warm but very dry, and overall butterfly numbers were low. Last year (2012) was a record-breaker, for both overall numbers and for species diversity (see my article in last fall's ALG News).

## McKinnon Ravine Pollard Counts, Edmonton

*Figure 1.  
McKinnon  
Ravine,  
Edmonton,  
Pollard Count  
totals for 2010,  
2012, and 2013,  
with the species  
contributing to  
major peaks in  
2012 and 2013  
indicated in the  
same colour as  
the graph for  
their year.*

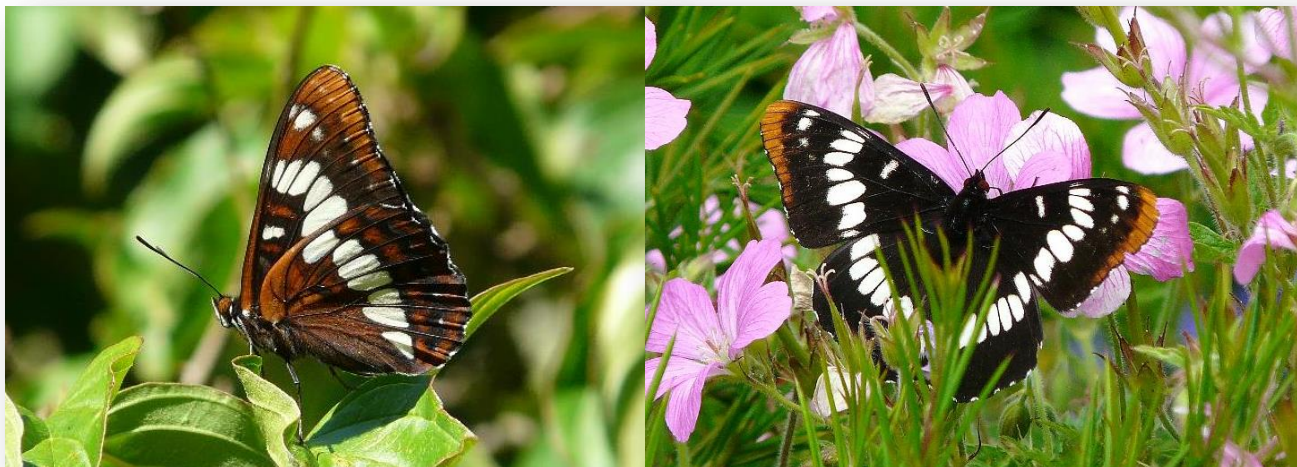


Notice that the 2012 graph has four prominent peaks—the first is small, made up largely of Cabbage Whites, the second is larger, consisting mostly of Silvery Blues, the third is also large, of European Skippers, and the third represents last years impressive showing of Cabbage Whites. This past season, 2013, looks a lot like 2012 to begin with, but with an early peak made up largely of Cabbage Whites and a remarkable abundance of Spring Azures. Silvery Blues contributed heavily to the next peak, followed by an equally impressive emergence of European Skippers. After that, however, things slow down considerably, and the late season Cabbage Whites failed to materialize, and few other butterflies persisted into the fall. *continued...*

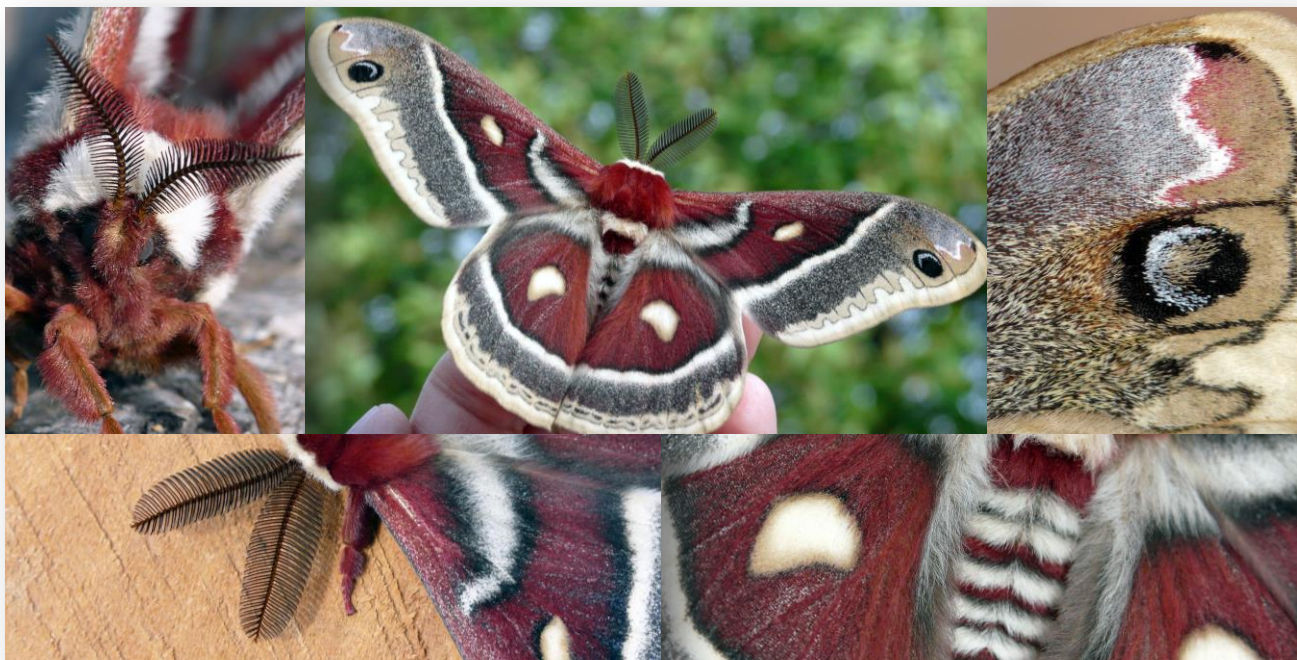
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## The Cabbage Crash of 2013, *continued*

There was some discussion of the Cabbage Crash on the ALG listserve, but without any real resolution. Did parasites or pathogens build up, and cause the late season pierids to crash in 2013? This seems to be the most popular explanation among the people I have spoken to, but of course we have no direct evidence. Notice, however, that compared to 2010, 2012 was indeed a bumper year for the Cabbage White, and the difference between the late season of 2010 and 2013 is not really all that pronounced. In any event, I look forward with great curiosity to what the spring of 2014 will bring, and I encourage other Alberta lepidopterists to consider a Pollard Count of their own. With or without the Cabbage Crash of 2013, this past season was another Big Year for butterflies in Edmonton.



**Lovely Leps.** Above: *Limenitis lorquini* (Lorquin's admiral) by Annie Pang, and below: *Hyalophora columbia gloveri*, (Glover's silkmoth) by Andrea Jackson.







## Ellis Bird Farm Bug Jamboree, 10 August 2013

Charley Bird

For many years, Myrna Pearman has organized an event called the Bug Jamboree at the Ellis Bird Farm, located southeast of Lacombe. Authorities in various entomological areas are invited to attend and to setup displays in their various areas of interest such as bumblebees, wasps, beetles and other insects. There are also garden tours to look at garden insects, the ever-popular pond dipping station at the pier, and crafts for the children such as constructing and taking home their own bumblebee box.

Charley Bird has had a Lepidoptera display every year since at least 2004 and Ted Pike had one in some of the early years. John Acorn introduces the event with a selection of “Acorn – the Nature Nut” songs and often takes part in the Butterfly Counts. Large numbers of youngsters, accompanied by their parents and/or grandparents attend. There is nothing more thrilling than having “bug-eyed” children with oodles of questions come up to look at your display of books and specimens. The purpose of the event is to introduce children to the wonderful world of entomology. The event starts at 1 PM and is followed by a Butterfly Count that runs for a half hour or a little longer and starts around 3 PM. Most children had, or were loaned, nets and followed “catch and release” protocol. ...continued

Above: Future lepidopterists on the hunt, and Right: Kenton (left) and Brodie (right) Vale with nets and a butterfly in hand. Photos Charley Bird



## Ellis Bird Farm Bug Jamboree, 10 August 2013, *continued*

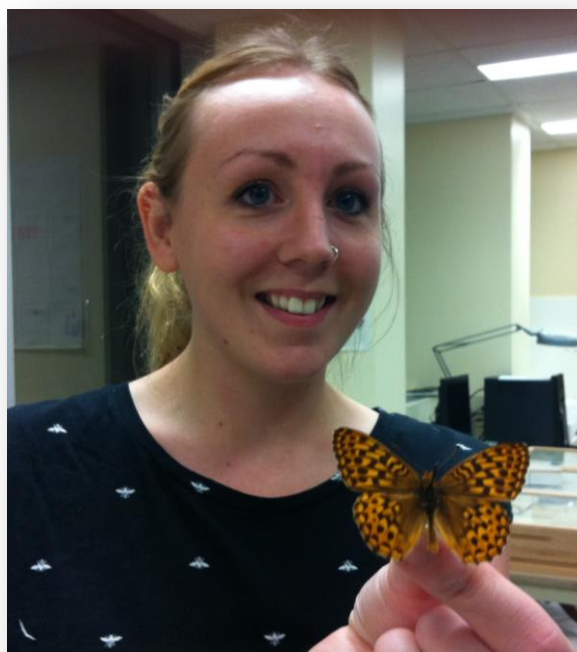
The participants in this year's Butterfly count were: Michele Bieganeck, Charley Bird (Leader), Benny Acorn, John Acorn (Co-leader), Gareth Kawchuk, Risa Kawchuk (Photographer), Daegan Kovacs, Abby Nelson, Anthony Silva, Keith Silva, Leanne Silva, Rebecca Silva, Tracy Vale, Brooklyn Vale, Brodie Vale, Jayden Vale, Keaton Vale, Sheila Vale, Lily ?, Shalynn Westervelt (Recorder), Daria Ziegler-Allen and Neal Ziegler-Allen.

The butterflies encountered in this year's count were: European Skipper 11 (first appeared in 2004, numbers have remained more or less steady for 6 years); Clouded Sulphur 1, Cabbage White 2 (numbers way down, 20 were observed in 2012), Meadow Fritillary 1, Northwestern Fritillary 1, Great Spangled Fritillary 3, Inornate Ringlet 1 and Meadow Brown or Wood Nymph 2.

### Student Spotlight: Lepidopterous student research

**Erin Campbell (Biology 499 research student; Supervisors Felix Sperling & Jocelyn Hall) Species delimitation of *Speyeria*.**

My project focuses on species delimitation of Albertan *Speyeria*, with particular emphasis on the *S. hesperis*/*S. atlantis* species complex, sexual dimorphism in *S. cybele*, and the treatment of *S. aphrodite* as a species group within the genus. Thanks to a large collection of frozen specimens in the Sperling lab, which comprises the majority of the species groups present in Alberta, I will characterize 92 specimens using genotyping-by-sequencing methods. I hope to uncover useful genetic characters that will aid in the appropriate classification of *Speyeria*, and to examine the genetic clusters to find some reliable morphological characters that will facilitate the identification of species in Alberta. Thanks to Felix Sperling, Julian Dupuis, Christianne McDonald, and Jasmine Janes for their collection efforts this past summer and in years prior.



Above: Erin with a *Speyeria hesperis*  
(photo Pasan Lebunasin Arachchige)

Below: *Speyeria cybele* (photo Gary Anweiler)



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## Student Spotlight, *continued*

### **Bryan Brunet (Ph.D. Supervisor, Felix Sperling) Genomic Analysis of Hybridization in the Spruce Budworm, *Choristoneura fumiferana*, Species Complex.**

My research focuses on the genetic interaction of two of the most economically important forest pests in Canada, *Choristoneura fumiferana* (the “Spruce Budworm”) and *C. occidentalis* (the “Western Spruce Budworm”). These two species are common in Alberta, the former ranging throughout most of Alberta’s boreal forest in the north, and the latter in the montane forests of the Rocky Mountain foothills in Alberta’s southwest. Recent work by Dr. Lisa Lumley (former Ph.D of F. Sperling), using various molecular techniques to investigate the phylogenetic relationships of spruce budworms throughout North America, suggested that hybridization between these two species, among others in the complex, is likely occurring within the province. My specific interests are in determining the extent to which these two species hybridize in nature. To investigate the hybridization of these two species, I conducted pheromone trap sampling at 22 locations ranging from Edmonton to Bull River, BC from 2009-10, and obtained additional samples from Merrit, BC. I then extracted the DNA from 276 moths from these collections and through new, high-throughput sequencing technologies, was able to characterize the genetic variation at over 1500 regions throughout the spruce budworm genome. This allowed me to conduct a fine-scaled analysis of the population structure between these two species. Surprisingly, the genetic structuring of these species is very pronounced, and there appears to be very little hybridization going on between these two species. The “Spruce Budworm” was the predominant species sampled at locations east of the mountains, whereas all locations sampled in the foothills between Hinton and Coleman and further west were *C. occidentalis*. Only two individuals were found to have near 50% ancestry to each species indicating the presence of hybrids, and these occurred in locations near Nordegg, Alberta. Perhaps even more surprising, is the fact that there appears to be very little genetic distinction, if any, between *C. occidentalis* and a third species, *C. biennis* (the “Two-Year Spruce Budworm”), that is typically found at higher elevations in areas north of the range of *C. occidentalis* and has an obligatory two-year cycle. These results lead us to question the validity of the *C. biennis* as a species, and suggest that this species may instead be a northern race of *C. occidentalis*. I am now investigating rates of geneflow between these budworm species/races and characterizing the genetic traits that are putatively driving the speciation of these species. Identifying these traits will benefit our understanding of the speciation and management of spruce budworms.



Bryan doing double duty: Setting up light and pheromone traps near Bellevue Mountain, Waterton Lakes National Park, and also honeymooning with his wife, Staci, in 2012.  
Photo: Staci Brunet

# Peace Region Forest Tent Caterpillar Outbreak: Is the End Near?

Caroline Whitehouse

The Peace region has entered another forest tent caterpillar (FTC) outbreak cycle and the summer of 2013 was the second year of the outbreak. This summer saw hordes of furry caterpillars feeding on almost every species of deciduous tree, and the leafless landscape looked more like fall than summer. The caterpillars could be found crawling on all outdoor surfaces, including houses, fences and dogs. Some deplore the caterpillars and consider the furry masses to be something out of a horror movie with calls for disaster relief funds. Many Peace region folk were inventive and devised various methods to repel the hungry caterpillars, including Vaseline around entrance ways, machine grease around water troughs, and marigolds placed near valued sitting spots.

Alas, the good people of the Peace region may feel relief from the outbreak this coming summer. Many caterpillars were unable to reach maturity, and of the individuals that were able to attain a large size, few successfully pupated and even fewer adults were observed flying later in the season. The lack of success this past summer can likely be attributed to a few factors. First, the sheer number of offspring likely experienced inadequate nutrition due to intense feeding competition and the need to feed on trees other than their preferred host, trembling aspen. Second, the early part of the 2013 summer was cool and wet – far from optimal conditions for larval growth. Finally, there were many reports of flies in the proximity of FTC, and the discovery of fly maggots in cocoons indicate that parasitoids, such as *Sarcophaga aldrichi* and *Leschenaultia exul*, are contributing to the demise of FTC in the Peace region.



From top to bottom: The swarm passing through a back yard in Peace River (photo Julian Dupuis), upclose and personal with feeding FTC (photo Ian Manning), and the state of Peace River's river valley foliage in mid-summer (photo Caroline Whitehouse)



# 2013 Update to the Checklist of the Lepidoptera of Alberta

Greg Pohl, Gary Anweiler, Charley Bird, Jean-François Landry,  
Doug Macaulay, Ian Maton, Vazrick Nazari, and Janet Scott

**Introduction:** This is the third annual update to the “Annotated list of the Lepidoptera of Alberta, Canada” (Pohl et al. 2010). The previous updates are published in the Alberta Lepidopterists' Guild Newsletter (Pohl et al. 2011, 2012). Once again a number of new species were discovered and described in the province, and the revised list now stands at 2461 reported species. We detail several significant finds and range extensions of AB species already on the list, and add several species to the Excluded Species list. We also report some errors discovered in the 2010 document, and detail the ramifications of recent taxonomic changes published elsewhere. If you are aware of further additions or deletions to the AB Lepidoptera list, please contact the lead author at gpohl[at]nrcan.gc.ca.

## Additions to the Annotated list of the Lepidoptera of Alberta:

### ***Coleophoridae:***

198.5 *Coleophora asterophagella* McDunnough, 1944). A male specimen in the Canadian National Collection (CNC) collected from The Palisades, Jasper National Park, 27 Jun 2006, by Chris Schmidt & GG Anweiler was confirmed via barcoding.

200.3 *Coleophora gaylussaciella* Heinrich, 1915. A specimen in the CNC collected 3 km north of Nevis, 11 July 2003, by CD Bird was confirmed via barcoding.

200.5 *Coleophora cornivorella* McDunnough, 1945. Three specimens in the CNC collected near Sherwood Park, (two on 26 June 2000, and one on 29 June 2000), by GR Pohl have been confirmed via barcoding.

207.5 *Coleophora bistrigella* Chambers, 1875. A specimen in the CNC collected at the Pakowki Lake dunes, 16 Aug 2006, by Jason Dombroskie has been confirmed via barcoding.

### ***Gelechiidae:***

264.5 *Sinoe chambersi* Lee, 2012. This species was described in a paper published last year by Lee & Brown (2012). Among the paratypes are AB specimens from Touchwood Lake (misspelled "Torchwood" in the paper), Buck Lake, Dunvegan, Edmonton, and Wagner Bog. Collection dates in AB range from 28 April to 31 May. This uncommon species occurs across North America from MS to CA in the south, and AB to QC in the north.

268.5 ***Carpatolechia notatella* (pictured)** (Hübner, [1813]). Two specimens in the CNC collected near Sherwood Park, on 16 Jun 2007 and 3 Jun 2008 by GR Pohl have been confirmed via barcoding.

346.5 *Sophronia primella* Busck, 1907. Known from AB (and Canada) from a single specimen in the CNC, collected at Lethbridge on 21 May 1938 by GS Walley. It was determined by RW Hodges.

*Carpatolechia notatella*  
(Gelechiidae) Photo Greg Pohl



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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

### **Choreutidae:**

PHOTO 400.5 *Choreutis pariana* (pictured) (Clerck, 1759). This species was recognised in AB by GG Anweiler, based on a specimen that he collected on a daisy flower in his yard in Edmonton on 23 September 2013. However, an older specimen has since been discovered in the CFS Northern Forestry Research Collection, collected 18 August 2004 by DA Macaulay. Known as the Apple and Thorn Skeletonizer, this fruit crop pest was introduced to North America. It was first found in NY in 1917, and then in Canada in BC in 1937 (Doganlar & Bierne 1981).



Daisy-loving *Choreutis pariana* (Choreutidae) collected in Edmonton in September, 2013.

Photo Gary Anweiler

### **Tortricidae:**

453.5 *Agapeta zoegana* (Linnaeus, 1767). A specimen of this European biocontrol agent was collected by GR Pohl and Colin Deneka on 4 August 2012, at the Crandell Campground in Waterton Lakes National Park. This species was successfully brought to North America for biocontrol of knapweed (*Centaurea* spp.) (Weeden et al. 2003). It was released and became established in BC, and it is now quite common in the BC interior. According to Bourchier et al. (2002), 25 insects were released at an unreported locality in AB in 1989, but the species apparently failed to establish (that report was overlooked by Pohl et al. 2010). According to Rosemarie De Clerck-Floate (pers. comm.) that AB release was likely at Waterton. The 2012 specimen could represent previously undiscovered survival from that AB introduction, or it may be due to a range expansion from the successful populations in adjacent BC.

467.5 *Eana idahoensis* Obraztsov, 1963. According to JJ Dombroskie (unpublished data), most western Canadian material that was previously identified as *E. osseana* (Scopoli) is in fact this species. True *E. osseana* is known in AB only from Kakwa Wildland Park.

503.5 *Lozotaenia rindgei* Obraztsov, 1962. Although unpublished historical reports of this species in AB were actually misidentified *L. hesperia* Powell (Pohl et al. 2010), a specimen in the CNC from Lake Louise is correctly identified as *L. rindgei*.

518.5 *Sparganothis boweri* Powell & Brown, 2012. This species was recently recognised and described as distinct from *S. xanthoides* (Walker). Powell & Brown (2012) report the species in AB from Nordegg to Onefour, and east to NS and south to CO.

521.1 *Sparganothis senecionana* (Walsingham, 1879). This species was reported from AB with no details provided, by Powell & Opler (2009). Because no voucher specimens were known to us at that time, it was listed as "unconfirmed" for AB by Pohl et al. (2011). Powell & Brown (2012) include a locality from the Waterton area on their range map for this species, so we now accept it as confirmed for the province. They report it from southeastern BC and southwestern AB south to AZ and Baja California.

521.5 *Sparganothis umbrana* Barnes & Busck, 1920. Powell & Brown (2012) report this species from the Onefour area of southern AB, south to CO and east to NF. ...continued



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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

638.5 *Eucosma cinereolineana* (Heinrich, 1923). This species was reported from AB (and Canada) by Wright (2013), based on two specimens in the CNC, collected at Onefour on 22 May 1982 by J-F Landry. Like all other "*Phaneta*" in North America, this species was moved from *Phaneta* to *Eucosma* by Gilligan et al. (2013).

646.5 *Eucosma pallidarcis* (Heinrich, 1923). Known in AB from a single specimen from Onefour, collected 12 July 1984 at blacklight by J-F Landry (determined via dissection by DJ Wright, slide TOR1750; CNC). The species is also known from BC and MB.

648.5 *Eucosma salmicolorana* (Heinrich, 1923). Known from AB from a specimen in the CNC collected at Onefour at blacklight by J-F Landry on 3 August 1983 (determined via dissection by DJ Wright). As well, CD Bird collected a specimen near Nevis on 16 July 2003 that he identified as likely this species, but that has not been confirmed via dissection.

699.5 *Pelochrista metariana* (Heinrich, 1923). Known in AB from a specimen in the CNC collected at Sandy Point by J-F Landry in 1985.

### ***Pyralidae:***

880.5 *Pima occidentalis* Heinrich, 1956. Neunzig (2003) did not report any Canadian specimens of this western species when he raised it from synonymy with *P. albiplagiata* (Packard). However, there are numerous western Canadian specimens in the CNC, including material from Onefour and Manyberries.

### ***Crambidae:***

1044.5 *Udea turmalis* (Grote, 1881). This species is known in AB from a specimen in the CNC collected at Lake Louise on 20 July 1950 by DF Hardwick. It is a cordilleran species known also from BC and MT, south to NM and AZ (Munroe 1966).

1050.5 *Palpita quadristigmalis* (Guenée, 1854). A specimen of this species was taken in Medicine Hat by J Scott, on 27 August 2012; it was one of several individuals she saw there. This is a remarkable range extension; this very distinctive species is otherwise known only as far west as ON in Canada, and as far north as CO in the western USA.

1050.7 *Palpita magniferalis* (Walker, 1861). Known as the Ash Leafroller, a specimen of this species was collected in Medicine Hat by J Scott, on 13 May 2012. It was previously known across eastern Canada, only as far west as SK.

### ***Geometridae:***

1315.1 *Orthonama centrostrigaria* (Wollaston, 1858) – A lone specimen of this "expected" species was collected at an MV sheet on June 24, 2012 at Writing On Stone Provincial Park by DA Macaulay and family. The tattered specimen was collected in the campground area alongside a cottonwood poplar grove. The moth was previously known from both BC and SK.

1490.1 *Pero mizon* Rindge, 1955. A series of this "expected" species was collected in Waterton Lakes National Park on July 26 2012 by DA Macaulay at an MV sheet trap near the townsite. This species was previously known from BC.

1531.5 *Sabulodes edwardsata* (Hulst, 1886). A specimen of this western species was taken at the Crandell Campground in Waterton Lakes National Park by Ted Pike. It was collected in 2011, but just recently identified. It was previously known from adjacent BC.

### ***Saturniidae:***

1542.1 *Actias luna* (Linnaeus, 1758). As reported in the Fall 2012 ALG News (Pohl & Buck 2012), Luna moths were spectacularly discovered in the Fort McMurray area.

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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

...At least three different individual moths were observed and photographed by at least 5 different people in 2012. This represents a range extension from Big River SK, the previous western limit of known distribution. More recently, this past summer a specimen was seen on 25 June 2013, near Fort McKay by Julia Burger, confirming ongoing survival of the population in the area.

### **Notodontidae:**

1591.1 *Schizura concinna* (Smith, 1797) – This "expected" species was collected at Wainwright Dunes Ecological Reserve on June 29, 2013 by DA Macaulay and family. It was previously known from both SK and BC, and is a common fruit pest elsewhere in Canada (Belton 1988). The lone specimen was collected in a UV trap amongst sand dunes and aspen bluffs.

### **Erebidae:**

1603.1 *Orgyia pseudotsugata* (pictured) (McDunnough, 1921). Reported as "probable" for AB by Pohl et al. (2010), a specimen was photographed in Calgary in September 2012 by Ian Maton. The identity was confirmed from the photograph by BC Schmidt.

1678.1 *Hypena scabra* (pictured) (Fabricius, 1798). This species was reported from AB by Troubridge & Lafontaine (2003), but was listed as "probable" for AB by Pohl et al. (2010) because no confirmed records could be located west of SK. In 2012, Bruce Christensen collected the first confirmed AB specimen, at Fawcett.

1686.1 *Tathorhynchus exsiccata* (pictured, next page) (Lederer, 1855). A specimen of this species was taken in Medicine Hat on 27 July 2012, by J Scott. It was previously listed as "probable" for AB but known only as far west as SK.

1689 *Bulia deducta* (Morrison, 1875). This species was listed as "unconfirmed" for AB by Pohl et al. (2010). It had been reported on early AB lists by Dod (1915) and Bowman (1919, 1951), but no vouchers could be located. An old AB specimen of this species has now been found in the CNC. It was collected by FH Wolley Dod on 8 July 1909, on his homestead near Calgary, at the head of Pine Creek. The label further reads "coolie north of buildings, treacle [moth bait]".

...continued



Above: *Orgyia pseudotsugata*  
(photo: Ian Manton),  
Below: *Hypena scabra*  
(photo Bruce Christensen)





## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*



*Tathorhynchus exsiccata* fresh off the spreading board! Photo Jan Scott

### **Noctuidae:**

1758.5 *Syngrapha celsa* (Edwards, 1881). A specimen of this cordilleran species was documented recently in the CNC, from Saskatchewan Crossing in Banff National Park. The species is known throughout the Pacific Northwest from BC to CA, and east to NM (Lafontaine & Poole 1991).

1788.05 *Acronicta mansueta* (Smith, 1897). AB records of the species *A. falcata* (Grote) have been corrected recently to *A. mansueta* by GG Anweiler. The latter is an addition to the AB list.

1801.5 *Agriopodes geminata* (Smith, 1903). This species was collected at Wainwright Dunes on June 28, 2013 by DA Macaulay and family. Its identity was confirmed by GG Anweiler, extending the western range limits of this species from central SK.

1909.5 *Phlogophora iris* Guenée, 1852. This species was collected recently on June 28 2013 at an MV sheet trap in AB by DA Macaulay and family. The lone specimen was found in the Wainwright Dunes Ecological Reserve. It was previously known in eastern Canada, only as far west as SK.

2039.5 *Ufeus hulstii* Smith, 1908. AB records previously identified as *U. plicatus* Grote, have been redetermined as *U. hulstii* (Lafontaine & Walsh 2013). It occurs in western North America from AK to Mexico.

### **Other significant AB records:**

#### **Sesiidae:**

369 *Paranthrene tabaniformis* (Rottemburg). Second confirmed record and locality for AB. GG Anweiler collected four specimens in a pheromone trap southeast of Sherwood Park, between 20 and 27 June 2012.

#### **Hesperiidae:**

1086 *Euphyes vestris* (Boisduval, 1852). This species was previously known as a stray in AB based on a specimen collected by CD Bird near Erskine in 1999. A second AB specimen was collected by Mary Roy on 3 August 2013 at Sittingstone Lake, near Bashaw. Like *Poanes hobomok* (Harris), this species appears to be expanding its range westward (Pohl et al. 2010).

#### **Nymphalidae:**

1193 *Polygonia interrogationis* (pictured, next page) (Fabricius). Long known in AB from a single stray specimen collected many years ago near Lloydminster, several specimens turned up in 2012, which was a banner year generally for migrating and stray butterflies. A specimen was photographed in Calgary on 1 July 2012 by Ian Maton.

...continued

## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

*Polygonia interrogationis*???

...Why yes, it is a question mark, photographed in Calgary.

Photo Ian Manton

...Later, four specimens turned up in Jan Scott's bait trap in Medicine Hat, one each on 15 and 17 August 2012, and two on 21 August. Additionally, a dead specimen was found on a sidewalk near the University of Alberta campus in Edmonton by Collin Cupido on 14 August 2012. That specimen may have been road kill that originated elsewhere, but it was very fresh and likely came from AB.

### **Sphingidae:**

1567 *Proserpinus flavofasciata* (pictured)

(Walker). A specimen of this rarely-collected species was taken at the Devonian Botanical Gardens, near Devon on 4 June 2013, by John Acorn. Several wandering larvae were also found near Half Moon Lake (20 km southeast of Edmonton) at about the same time, one of which was identified by GGA and Chris Schmidt from a submitted image.

### **Noctuidae:**

1734 *Megalographa biloba* (Stephens). New early record for this rarely collected species; Ian Maton photographed one in Calgary on 26 June 2012.

1766 *Deltote bellicula* (Hübner). Range extension from central AB to the Fort McMurray area, photographed in 2012 by Jeremy Gatten. This represents a northern range extension for this bog species; it is probably more widely distributed in the north.

1815 *Amphipyra pyramidoides* Guenée. A specimen collected in Edmonton on 18 October 2013 by GG Anweiler is a significant range extension; this species is otherwise known in AB only from the south, about as far north as Dinosaur Provincial Park.

### **Additions to the Excluded Taxa List:**

#### **Crambidae:**

E40.5 *Anania coronata* (Hufnagel, 1797). North American material reported under this name is now recognised as a distinct species, *A. tertialis* (Guenée) (Yang et al. 2012). True *A. coronata* is restricted to the Old World. ...continued

*Proserpinus flavofasciata* is usually quite rare in Alberta. This individual was captured at the Devonian Botanical Gardens by John and Gary.  
Photo John Acorn





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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

### **Geometridae:**

E77.5 *Eupithecia helena* Taylor, 1906. This species was accidentally listed for AB in the Lepidopterists' Society 2008 Season Summary (Tuttle 2009). A new AB record for "*Macaria helena* (Cassino)" was submitted, and this was erroneously changed in Tuttle (2009) to "*Eupithecia helena*" rather than to "*Speranza helena*", the correct species name.

E89.5 *Digrammia hebetata* (Hulst, 1881). Historical reports of this species from Canada, including reports by Bowman (1951) and McGuffin (1972), represent a previous taxonomic concept. These records actually refer to *D. rippertaria* (Duponchel). True *D. hebetata* occurs only in southwestern USA (Ferguson 2008).

E92.5 *Iridopsis emasculatum* (Dyar, 1904). The report of this species from AB by Bowman (1951) is incorrect. Those records actually refer to *I. larvaria* (Guenée). *Iridopsis emasculatum* is a strictly western species that does not occur as far east as AB.

E99.5 *Speranza coloradensis* (Hulst, 1896). This species was accidentally listed for AB in the Lepidopterists' Society 2006 Season Summary (Tuttle 2007). A new AB record for "*Eupithecia coloradensis* (Hulst)" was submitted, and this was erroneously changed in Tuttle (2007) to "*Macaria coloradensis*" (now placed in the genus *Speranza*).

E101.5 *Speranza sulphurea* (Packard, 1873). This species has been reported in error in early AB lists from Dod (1906) to Bowman (1951), as well as by McGuffin (1972) and Troubridge & Lafontaine (2003), based on a previous taxonomic concept. Western material is actually *S. amboflava* (Ferguson), which was described as a race of *S. sulphurea* but later elevated to species level by Ferguson (1983).

### **Noctuidae:**

E117.5 *Allagrapha aerea* (Hübner, [1803]). This species was reported by Forbes (1954) from "Nova Scotia and southern Canada to the Gulf Strip, west to Alberta and New Mexico". In their revision of the subfamily, Lafontaine & Poole (1991) report this species only from eastern North America, as far north as southern ON and QC, and with records only as far northwest as NE, SD and southern MN. The species is easily confused with *Diachrysia aereoides* (Grote), which does occur across southern Canada. In the absence of any vouchers, it is assumed that Forbes' western records are actually that species.

E120.5 *Acrionicta falcula* (Grote, 1877). This species (#1788) is hereby moved from the AB list to the Excluded Species list. AB specimens previously identified as this species, have been redetermined as *A. mansueta* (Smith). True *A. falcula* occurs only as far west as MB (GG Anweiler, unpublished data).

E129.5 *Sympistis nigrita* (Boisduval, 1840). Lafontaine & Schmidt (2013) recognised *S. zetterstedtii* (Staudinger) as a full species, distinct from *S. nigrita*. Thus the latter is rendered strictly Palaearctic, and is hereby added to the Excluded Species list.

E156.05 *Lithophane antennata* (Walker, 1858). This eastern pest of apple was reported by Belton (1988) from AB as follows: "A large population increase was reported in ALTA in the early 1980s and apple was attacked." It must have been confused with *L. georgii* Grote (a similar pest of fruit crops that does occur in western Canada), or "ALTA" was reported in error. *Lithophane antennata* has never been found west of MB.

E166.5 *Ufeus plicatus* Grote, 1873. This species (#2039) is hereby moved from the AB list to the Excluded Species list. AB records previously identified as *U. plicatus* have been redetermined as *U. hulstii* Smith (Lafontaine & Walsh 2013). *Ufeus plicatus* is a rare species of eastern North America, known only as far west as NE.

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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

### Errata:

p. 105, #499 *Archips purpurana* (Clemens, 1865). The common name of this species was erroneously listed as the Omnivorous Leafroller; that was incorrect, that name applies to *Platynota stultana* Walsingham.

p. 200, #1299 *Xanthorhoe delectaria* Cassino & Swett, 1920. Year of publication corrected from 1922.

p. 383, note for #1436 *Digrammia rippertaria* (Duponchel, 1830). In the original note on this species, the taxon *D. hebetata* (Hulst) was mentioned as a synonym of this species. That is not correct. The note should read: "Canadian material was previously known under the name *Semiothisa* (= *Digrammia*) *hebetata* (Hulst), but that species is restricted to swUSA. Ferguson (2008) clarified the divisions between these species."

p. 383, note for #1453 *Iridopsis larvaria* (Guenée, [1858]). In the original note on this species, the taxon *I. emasculatum* (Dyar) was mentioned as a synonym of this species, following McGuffin (1977). That is no longer correct. The note should read: "The report by Bowman (1951) of *I. emasculatum* in AB is referable to *I. larvaria* as well; *I. emasculatum* is a closely related western species that does not occur in AB."

### Significant taxonomic changes:

#### **Tortricidae:**

Several species have been moved from *Platphalonidia* to *Platphalonia* by Metzler & Albu (2013). This includes the AB species #449 *Platphalonia alberta* (Razowski), #450 *Platphalonia dangi* (Razowski); and #453 *Platphalonia lavana* (Busck).

The genus *Archepandemis* (including #500 *A. borealis* (Freeman) and #501 *A. coniferana* Mutuura) has been synonymized with *Pandemis* by Dombroskie & Sperling (2013).

Several Sparganothini species have been moved from *Sparganothis* to *Cenopsis* following revival of the latter genus by Powell & Brown (2012). The AB species affected are #522 *Cenopsis reticulatana* (Clemens) and #522.1 *Cenopsis directana* (Walker).

All North American members of the genus *Phaneta* have been transferred to *Eucosma* by Gilligan et al. (2013). This affects all species from #615 to #654. As well, several *Eucosma* species were placed in a separate genus *Eucopina* by Gilligan et al. (2013). This affects the AB species #673 *Eucopina rescissoriana* (Heinrich).

The taxon *Epinotia criddleana* (Kearfott) was synonymized by Mutanen et al. (2012) as part of the recently reinstated Holarctic species *E. cinereana* (Haworth, 1811). *E. cinereana* was previously thought to be a European synonym of *E. nisella* (Clerck).

#### **Crambidae:**

North American material previously recognised as #1013 *Anania coronata* (Hufnagel), has been recognised to comprise three cryptic species, none of which are true *A. coronata* (Yang et al. 2012). The latter is restricted to the Palearctic and was added to the Excluded Species list above. All AB material is now known as *A. tertialis* (Guenée, 1854). The other recently recognised Nearctic species, *A. plectilis* (Grote & Robinson) and *A. tennesseensis* Yang, do not occur in AB.

#### **Erebidae:**

Lafontaine & Schmidt (2013) made several changes to the higher taxonomy within Erebidae. Species #1683 *Mycterophora inexplicata* (Walker) is now placed in the tribe Boletobiini, in subfamily Boletobiinae.

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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

...The subfamily Phytometrinae (including species #1684 *Spargaloma sexpunctata* Grote) is now considered a tribe Phytometrini in the subfamily Boletobiinae. The tribe Toxocampini (including #1686 *Lygephila victoria* (Grote) and #1686.1 *Tathorhynchus exsiccata* (Lederer)) is raised to subfamily status, preceding Erebiniae. The tribe Ophiusiini (including all species in the genus *Zale*, #1701.1 to 1704) is synonymized with Omopterini.

The AB species previously known as #1662 *Zanclognatha litalba* (Smith), and the species *Z. bryanti* Barnes (not in AB) were relegated to subspecies of *Z. jacchusalis* (Walker, 1859) by Lafontaine & Schmidt (2013).

The species previously known in AB as #1663 *Chytolita petrealis* (Grote) was synonymized by Crabo et al. (2013) to *Chytolita morbidalis* (Guenée, 1854).

### **Noctuidae:**

Lafontaine & Schmidt (2013) corrected the subfamily Dilobinae (including #1778 *Raphia frater* Grote) to Raphiinae. They also elevated #1863 *Sympistis nigrita zetterstedtii* (Staudinger, 1857) to full species status. Thus *S. zetterstedtii* becomes the North American species, and *S. nigrita* is rendered strictly Palaearctic and is added to the Excluded Species list above.

Lafontaine & Schmidt (2013) also transferred #1880 *Schinia nuchalis* and the Palaearctic *S. scutosa* (#E134), to the genus *Protoschinia*.

Crabo et al. (2013) synonymized #1967 *Hydraecia pallescens* Smith with *H. medialis* (Smith, 1892).

### **Acknowledgements:**

Collin Cupido and Dave Lawrie provided information on the Edmonton *Polygonia interrogationis* record. Rosemarie De Clerck-Floate and Rob Bouchier provided information on *Agapeta zoegana*. Chris Schmidt, Don Lafontaine, and Jason Dombroskie confirmed identifications. John Acorn, Julia Burger, Bruce Christensen, Colin Deneka, Jason Dombroskie, Jeremy Gatten, Sangmi Lee, Ted Pike, Mary Roy provided specimen records and information.

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## 2013 Update to the Checklist of the Lepidoptera of Alberta, *continued*

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Some more favorite lep photos from 2013. Clockwise from top: a Lycaenid makes a lepidopterous lunch for a crab spider (Gary Anweiler), *Pieris oleracea* (Gary Anweiler), *Papilio canadensis* nectaring (Annie Pang), and *Lycaena helloides* & *Xylena curvimaculata* (Gary Anweiler).





## Last, but not least... The 2013 Alberta Butterfly Big Year Contest Winners!

Greg Pohl, Doug Macaulay, and Rob Hughes



This past summer, ALG and eButterfly hosted the first ever Alberta Butterfly Big Year (BBY) contest, to see who could record the most species. The rules were simple: observe, photograph, and/or collect wild butterflies in Alberta, report your observations to the eButterfly website, and then submit your species list to us (the BBY committee made up of Rob Hughes, Doug Macaulay, and Greg Pohl). **And the winner of the 2013 contest is Dave Lawrie, of Edmonton, with an impressive 43 species.** And hot on his heels was Colleen Raymond who comes in second with 41 species.



Dave wins a commissioned piece of original butterfly art from local artist Charity Dakin - she'll create a custom work based on Dave's subject matter suggestions (see Charity's art at <http://charitydakin.fineartstudioonline.com/>). As a runner-up, Colleen will also receive a prize, kindly supplied by our president John Acorn.

Unfortunately, we didn't receive very many entries. Maybe it was because many of you figured you didn't have enough records to have much of a chance of winning. However, this is not true at all. For example, one member while pushing a stroller and corralling a five year old managed to record 34 species randomly during a series of hikes and camping trips over the summer.

Despite the low number of entries, eButterfly received an impressive 1063 Alberta records this past summer, almost twice as many as last year, so it seems the contest has motivated Albertans to contribute their observations. And we bet many of them would have given Dave and Colleen some pretty tough competition.



Photos submitted by Dave Lawrie and Colleen Raymond. Clockwise from top left: *Strymon melinus* and *Boloria chariclea* (Dave), *Enodia anthedon*, *Polygonia satyrus*, and *Lycaena dione* (Colleen).