ALBERTA LEPIDOPTERISTS' GUILD NEWSLETTER

SPRING 2018

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.

Orthosia hibisci (Noctuidae). "I found two females sitting on the outside of the Rexall Drugstore window, April 26, 2018, my first noctuids this year. Likely trying to obtain booster drugs to get them through the cool night." Gary Anweiler

Contents:

Announcing a Comprehensive Checklist of the Lepidoptera of Canada and Alaska

Greg Pohl

My co-authors and I are pleased to announce the publication of our new Lepidoptera checklist (Pohl et al. 2018), which has been in the works for many years. The book was written by myself and 11 co-authors, most of whom are ALG members: Jean-François Landry, Chris Schmidt, Don Lafontaine, Jim Troubridge, Doug Macaulay, Erik van Nieukerken, Jeremy deWaard, Jason Dombroskie, John Klymko, Vazrick Nazari, and Ken Stead. The main body of the book is a list of 5484 species reported from the region, as well as 19 interceptions, 52 species that probably occur here, and 318 species that have been historically reported in error. The status of all these species is listed in each province/territory/state, so this list effectively provides an update on the Lepidoptera of Alberta, listing 2505 confirmed records, 13 strays, 16 migrants, 10 species restricted to human environments, and 54 unconfirmed records, for a total of 2598 reported Alberta species. That's 110 new Alberta records since Pohl et al. (2010) and updates 2011 to 2017 (see previous issues of the ALG Newsletter). An additional 8 unestablished introductions, 1 interception, 117 probable records, and 225 erroneous records are also reported for Alberta. Many of the new Alberta records are based on DNA barcode data.

The list includes all subspecies and species synonyms for moths; for butterflies, only those subspecies and synonyms that have been used at some time in relation to Canada or Alaska are listed. In total over 16,000 names are listed, all of which are included in the index, so users will have no trouble locating species that have changed genera over the years. We also indicate which species are introduced or Holarctic in origin. Over 2000 of the listed species have accompanying notes on taxonomy, historical identification errors, and conservation importance. We also cite all the taxonomic works that are useful to identify Canadian species, so the list of almost 700 references covers virtually all the relevant taxonomic works on Canadian Lepidoptera. The list makes use of the new P3 species numbering system of Pohl et al. (2016), completely dispensing with the old "MONA" numbers (Hodges et al. 1983) which are woefully out of date. An introductory section gives an overview of previous works, and the state of knowledge in each province and territory, as well as Alaska.

The book grew out of inventory work that I began doing in the late 1990s, as part of forest biodiversity research. For several years I tabulated western Canadian records in collections and publications, and eventually teamed up with fellow ALGers Gary Anweiler, Chris Schmidt, and Norbert Kondla to publish an Alberta list in 2010. Around that time, I got involved in a British Columbia list, Doug Macaulay and I

started working on a list for Newfoundland and Labrador, and Rev. Ron Hooper and I started compiling a complete list for Saskatchewan. I realized that nobody else was crazy enough to attempt a checklist for all of Canada, so if there was ever going to be one, it would have to be me taking it on. Over several years, I spent my parental down-time at swimming pools and music lessons, extracting data records from historical lists and taxonomic publications. In my travels to conferences and meetings around Canada, I managed to visit most of the country's public insect collections, and many private ones as well, to extract specimen records. I gradually converted my co-authors over to the cause, and we incorporated DNA barcode data, scoured more collections, and checked determinations, to bring the project to fruition. A vast number of other researchers and naturalists, ancluding many ALGers, provided information, resources, and expertise to us, and I'm grateful to you all; the project would not have been possible without all those helping hands and minds.

Of course, once the book went to press, the new information did not stop coming in, so by the time it was actually published, it was slightly out of date. We hope to publish regular addenda to capture the new records, so please let me know of any new discoveries so that I can add them to the list.

A PDF version of the book is freely available for download, or you can buy a hardcover copy, here: https://books.pensoft.net/book/13218/annotated-checklist-of-the-moths-and-butterflies-lepidoptera-of-canada-and-alaska

References cited:

Hodges, R.W., Dominick, T., Davis, D.R., Ferguson, D.C., Franclemont, J.G., Munroe, E.G., & Powell, J.A. 1983. Check list of the Lepidoptera of America North of Mexico. E.W. Classey Ltd. and the Wedge Entomological Research Foundation, London, UK. 284 pp.

Pohl, G.R., Anweiler, G.G., Schmidt, B.C., & Kondla, N.G. 2010. An annotated list of the Lepidoptera of Alberta, Canada. ZooKeys 38: 1-549.

Pohl, G.R., Patterson, B., & Pelham, J.P. 2016. Annotated taxonomic checklist of the Lepidoptera of North America, north of Mexico. Working paper on ResearchGate.net. 766 pp. DOI: 10.13140/RG.2.1.2186.3287

Pohl, G.R., Landry, J.-F., Schmidt, B.C., Lafontaine, J.D., Troubridge, J.T., Macaulay, A.D., van Nieukerken, E.J., deWaard, J.R., Dombroskie, J.J., Klymko, J., Nazari, V., and Stead, K. 2018. Annotated checklist of the Moths and Butterflies of Canada and Alaska. PenSoft Series Faunistica #118. PenSoft Publishers, Sofia, Bulgaria. 580 pp.

Dillberry Lake Provincial Park

Doug Macaulay

If you haven't visited Dillberry Lake Provincial Park yet, it is "Lepidoptera-icious." The park is located along the Alberta-Saskatchewan border, in the Parkland Ecoregion, and is home to many Eastern Canadian species. The park has great amenities, and possesses some of the most unique habitats I've had a chance explore within three hours drive of Edmonton. Habitats range from sand dunes and aspen parklands to extensive areas of lush grassland. It is a truly natural oasis for nature lovers, especially those of us who are avid entomologists, not to mention the beautiful beach beside a crystal clear lake, where those who don't share the same entomological enthusiasm can frolic.

The landscapes and habitats are diverse and the park possesses a wide variety of grasses and forbs. There are wetlands that range from fish-bearing lakes to shallow ponds and sloughs inhabited by Common Loons, horsehair worms and Yellow Perch. There are a variety of dunes, including blowouts with exposed sand and vegetated linear dunes with droves of poison ivy vines. Then there are the very familiar aspen woodlands full of boreal shrubs and curious Franklin's Ground Squirrels. But my favourites are the lush grasslands full of unique wildflowers and grasses where many of the unique moths reside. And virtually all habitats are accessible by foot because of the park's wonderful network of hiking trails. Oh, and to keep things interesting, there are

occasional signs of Black Bear, so you never truly feel alone.

One of the biggest park perks is that it is as haven for moths and butterflies, with many species known only from this park and the neighboring dune habitats. To date the park list sits at 311species and is rapidly growing as new spots are discovered each year. Many of these species are unique, with approximately 15 that could be considered rare, and four that are new records for Alberta. Some example of these residents include the Pale Yellow Dune Moth (*Copablepharon grandis*), the Oak Beauty (*Phaeoura quernaria*), the Hologram Moth (*Diachrysia balluca*), the Praeclara Underwing (*Catocala praeclara*), the Steppe Tiger Moth (*Holarctia obliterata*), the Three-striped Owlet Moth (*Sympistis piffardi*) and the recently discovered Curve-lined Vaxi Moth (*Argyria auratella*) that is likely a new Alberta record.

Those interested in learning more about this park can checkout Alberta Parks website at https://www.albertaparks.ca/parks/central/dillberry-lake-pp/. I've also posted numerous photos of various lepidopterans and other interesting plants and animals on iNaturalist.org. And for anyone who is lucky enough to make a visit, I'm always curious to hear what you discover.

Song of the Western Azure

The heat of Spring came suddenly
upon an April's day,
and lost me in a sea of green
in frothy pollen spray.
I sat down by a flowering bush
beneath the sunlit beams,
to drink in all the warmth I could
and dream my Summer dreams.
I wished to find some fairy dust,
if only for a while.
I wished for Hope to seek me out
and bless me with Its smile.
Then Nature came on tiny wings,
if only all to brief -
a tiny Azure butterfly
alighted on a leaf.
The elfish creature touched my heart
so gently with its feet,
an Angel watching over me
while sipping nectar sweet.
This miracle that Nature brought
could only last so long,
and just like every precious thing,
the magic creature took to wing,
yet as it left I heard it sing -
its butterflying song...
© Annie Pang April 29, 2018

Song of the Cabbage White

Oh aren't I a glorious sight
to ride in on the breeze
and dazzle you with wings of white,
as pretty as you please?
I flutter here and flutter there,
just landing oh-so-brief
so I can feel the sunny warmth
while resting on a leaf.
The cold! It is my enemy -
for if I am too slow
the birds will make a make a meal of me -
Oh, what a way to go!
But soon, the cold, it will relent,
and more of us you'll see!
Our children, munching on your cabbage --
happy as can be.....
© Annie Pang April 20, 2018

Corrigendum Poeticum: I apologize for mixing up the photos that were intended to accompany the poems in the Fall 2017 Newsletter. As Annie Pang wrote to me, "The long poem was to go with Andrea's picture which was of the Peck's Skipper on the marigold whereas the Woodland Skipper with the two photos on *Helichrysum* (the strawflowers) were my photos and meant to go with the shorter poem." This time around, I'm pretty sure I got the right butterfly with each poem.

John Acorn, Editor

Updates to the ALG Website

Dave Lawrie

Dave Lawrie has volunteered to act as ALG's main website administrator. Updates have been made to the Wolley Dod Award pages, a new page created for the Checklist of AB Lepidoptera and links added both for identification and entomology supplies. If you have any suggestions or additions you'd like to see, you can email Dave at divadlawrie@gmail.com. ”

The Mourning Cloak

Gary Anweiler

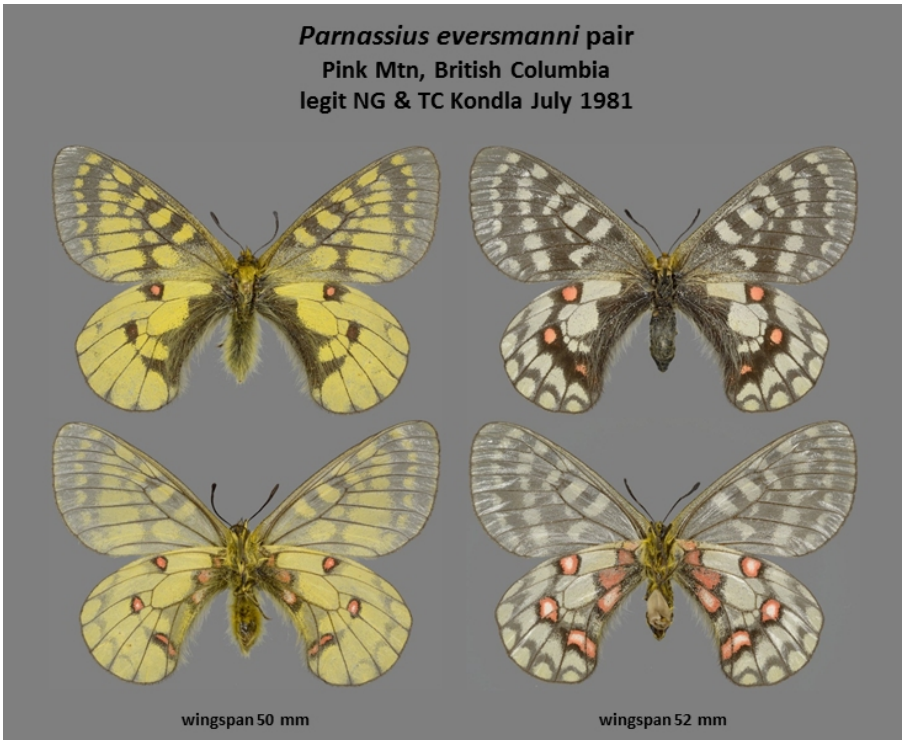
The Mourning Cloak is a big, bold, and beautiful nymphalid that starts showing up in early spring, gets commoner as the summer progresses, and then hibernates in the fall for the winter. In the process, it manages to drag its lifespan out to about 10 months, almost a record I would think. The Mourning Cloak (aka *Nymphalis antiopa*) is found throughout much of the northern Hemisphere, and in Britain is known as the Camberwell Beauty. The Latin name *antiopa* refers to Antiopa, wife of the king of Thebes. She must have been a looker, because this butterfly certainly is! Mourning Cloaks are usually illustrated showing the rich maroon dorsal surface, with a row of small blue spots inside a pale yellow terminal band. However, I think the ventral surface, which is designed to conceal, is even more beautiful, in the dense pattern of very fine, wiggly parallel lines covering all but the pale margin, the later erratic in form and further disguising its true identity as an edible butterfly.

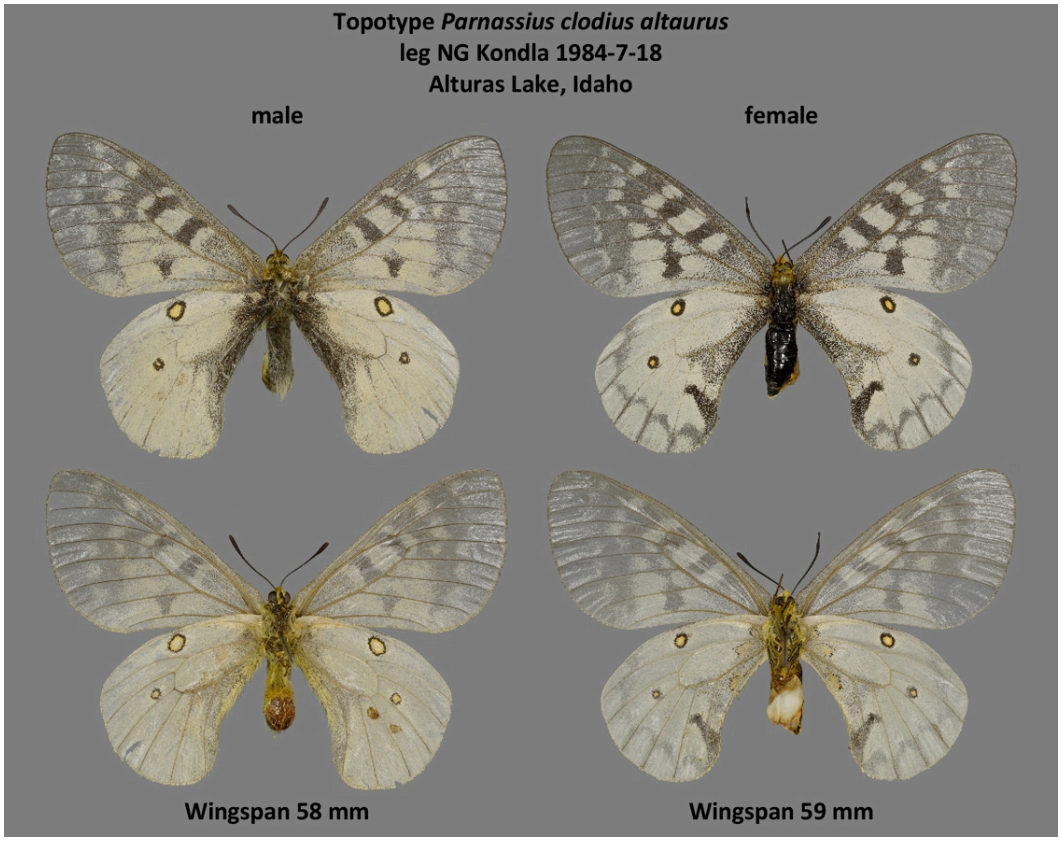
photo: N. Kondla

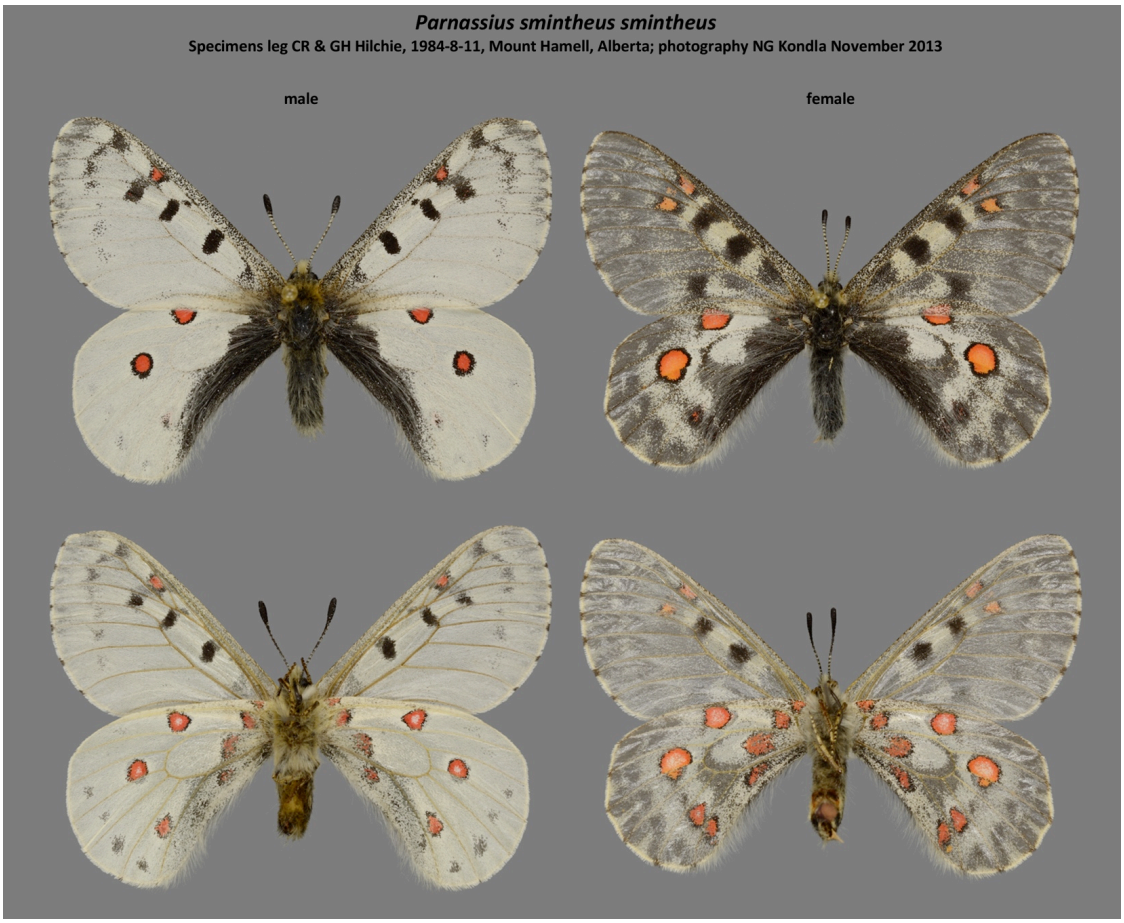
A Selection of Norbert Kondla's Papilionid Specimen Photos

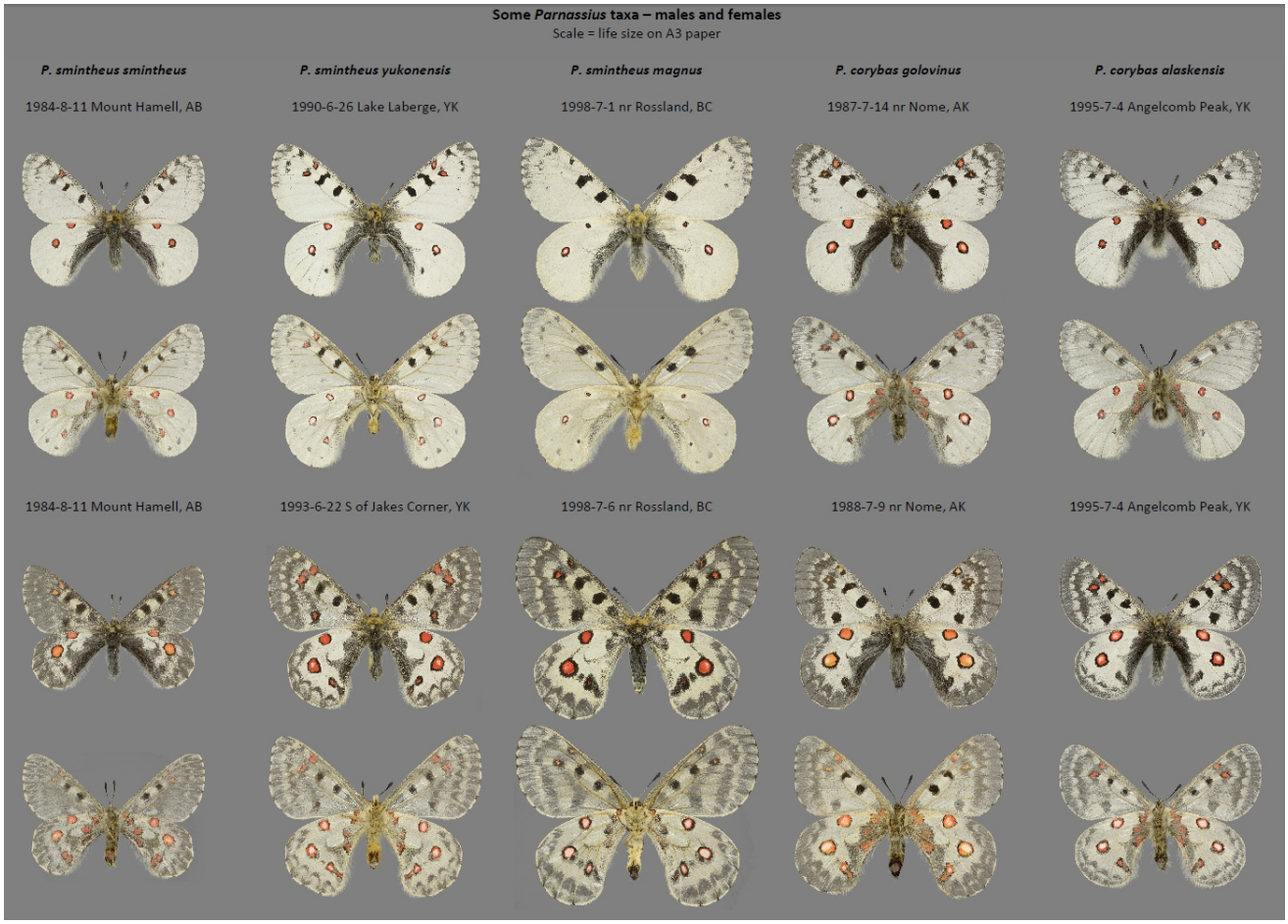
Many ALG members are excellent photographers, and many have accumulated impressive collections of field photographs, of both butterflies and moths. For specimen photographs, however, Norbert Kondla's work at the flickr site: https://www.flickr.com/photos/118126948@N03/ really stands out (and his live butterfly photos are excellent as well). Norbert has given me permission, "re. the next ALG newsletter... to raid my flickr images for any space fillers you may want." I consider this a fine opportunity to share some of Norbert's images, since collectively they constitute a guide to the fauna of Western Canada and beyond. Norbert's taxonomy is, in many instances, different from that of the mainstream, which may cause some confusion at first. I'm sure Norbert would agree that the species concepts he uses are best thought of as opinions, and as alternative hypotheses, subject to testing. Indeed, with molecular techniques revolutionizing taxonomy, it is best to remain open minded about the species and subspecies that exist among the butterflies, some of which have been confirmed by the use of DNA sequencing, and some of which have not. In any event, I am grateful to Norbert for allowing me to share these images, and I do hope we can continue in this regard in future Newsletters.

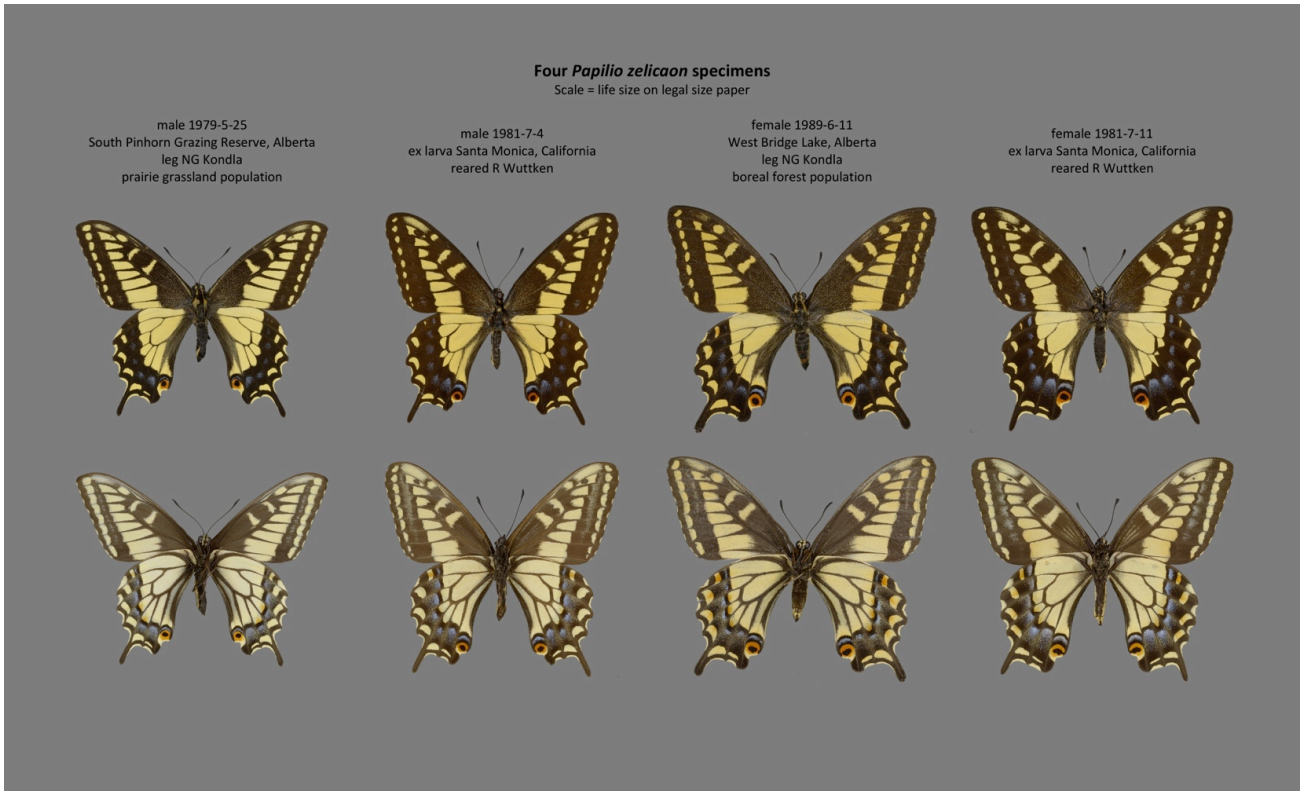
John Acorn, Editor

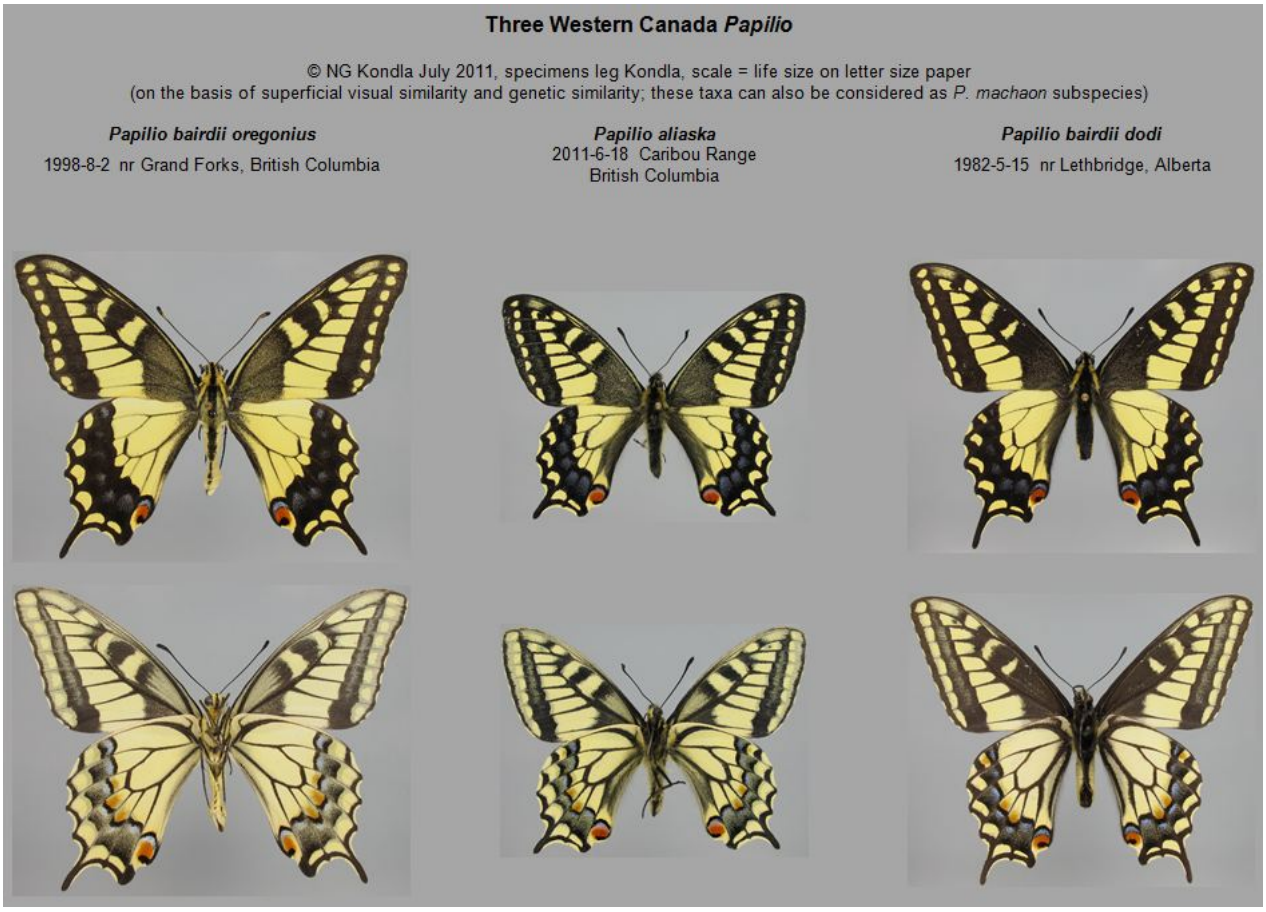


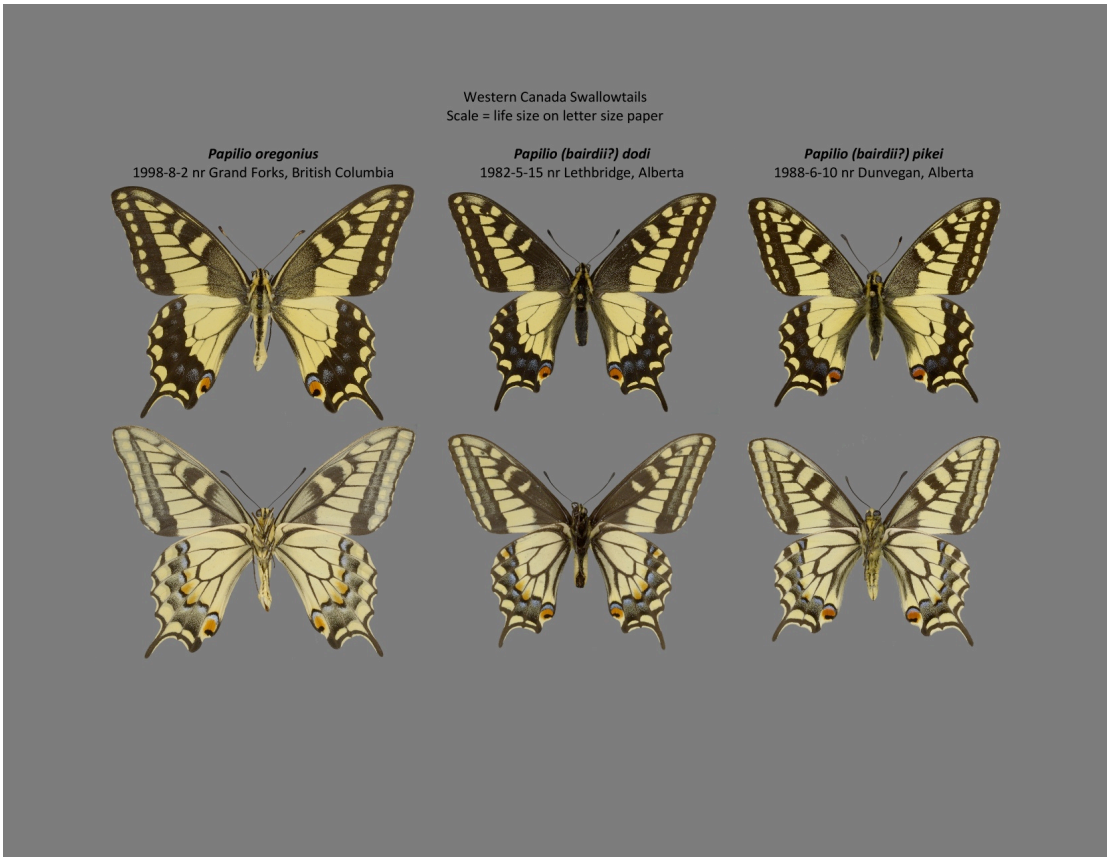

Topotype *Parnassius clodius altaurus*
leg NG Kondla 1984-7-18
Alturas Lake, Idaho
male
female
Wingspan 58 mm
Wingspan 59 mm


Parnassius smintheus smintheus
Specimens leg CR & GH Hilchie, 1984-8-11, Mount Hamell, Alberta; photography NG Kondla November 2013
male
female


Some Parnassius taxa – males and females
Scale = life size on A3 paper
P. smintheus smintheus
1984-8-11 Mount Hamell, AB
P. smintheus yukonensis
1990-6-26 Lake Laberge, YK
P. smintheus magnus
1998-7-1 nr Rossland, BC
P. corybas golovinus
1987-7-14 nr Nome, AK
P. corybas alaskensis
1995-7-4 Angelcomb Peak, YK
1984-8-11 Mount Hamell, AB
1993-6-22 S of Jakes Corner, YK
1998-7-6 nr Rossland, BC
1988-7-9 nr Nome, AK
1995-7-4 Angelcomb Peak, YK

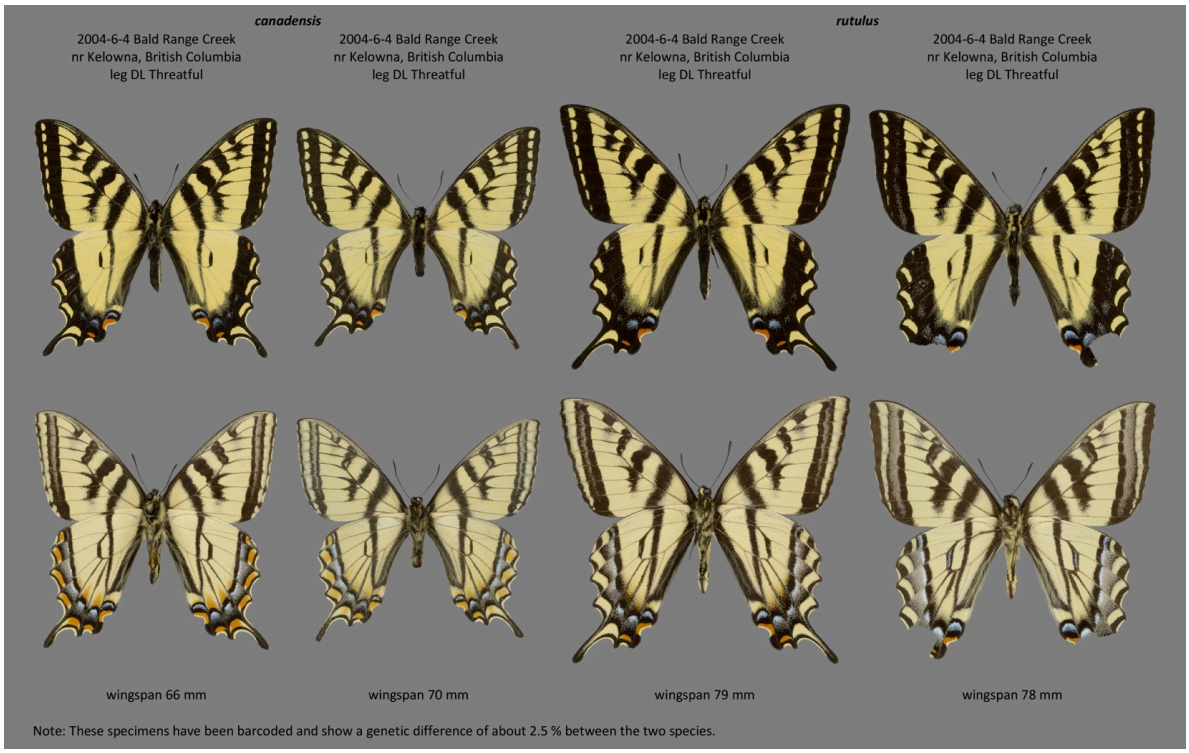

Four Papilio zelicaon specimens
Scale = life size on legal size paper
male 1979-5-25
South Pinhorn Grazing Reserve, Alberta
leg NG Kondla
prairie grassland population
male 1981-7-4
ex larva Santa Monica, California
reared R Wuttken
female 1989-6-11
West Bridge Lake, Alberta
leg NG Kondla
boreal forest population
female 1981-7-11
ex larva Santa Monica, California
reared R Wuttken


Three Western Canada Papilio
© NG Kondla July 2011, specimens leg Kondla, scale = life size on letter size paper
(on the basis of superficial visual similarity and genetic similarity; these taxa can also be considered as P. machaon subspecies)
Papilio bairdii oregonius
1998-8-2 nr Grand Forks, British Columbia
Papilio aliaska
2011-6-18 Caribou Range
British Columbia
Papilio bairdii dodi
1982-5-15 nr Lethbridge, Alberta

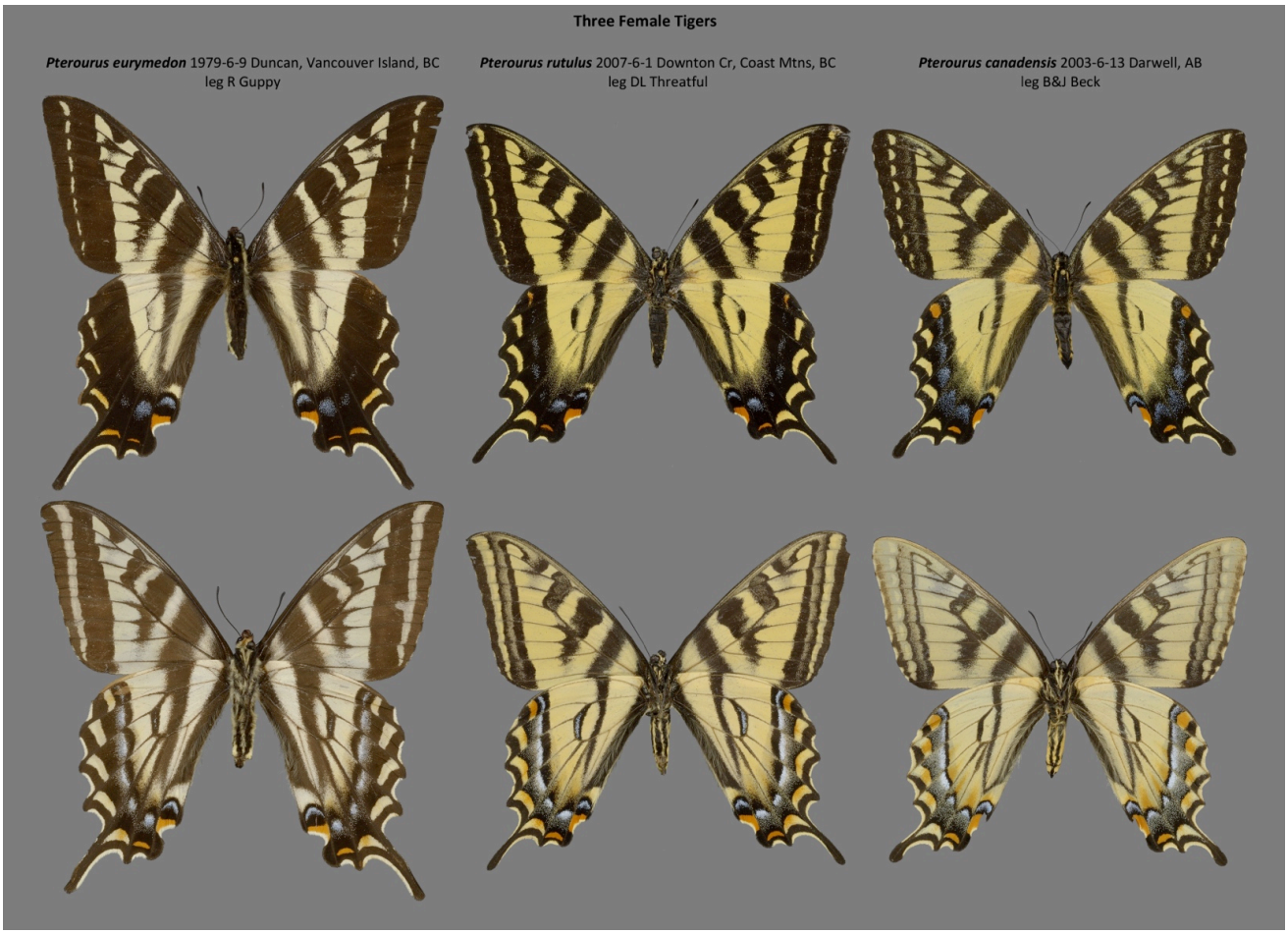

Western Canada Swallowtails
Scale = life size on letter size paper
Papilio oregonius
1998-8-2 nr Grand Forks, British Columbia
Papilio (bairdii?) dodi
1982-5-15 nr Lethbridge, Alberta
Papilio (bairdii?) pikei
1988-6-10 nr Dunvegan, Alberta

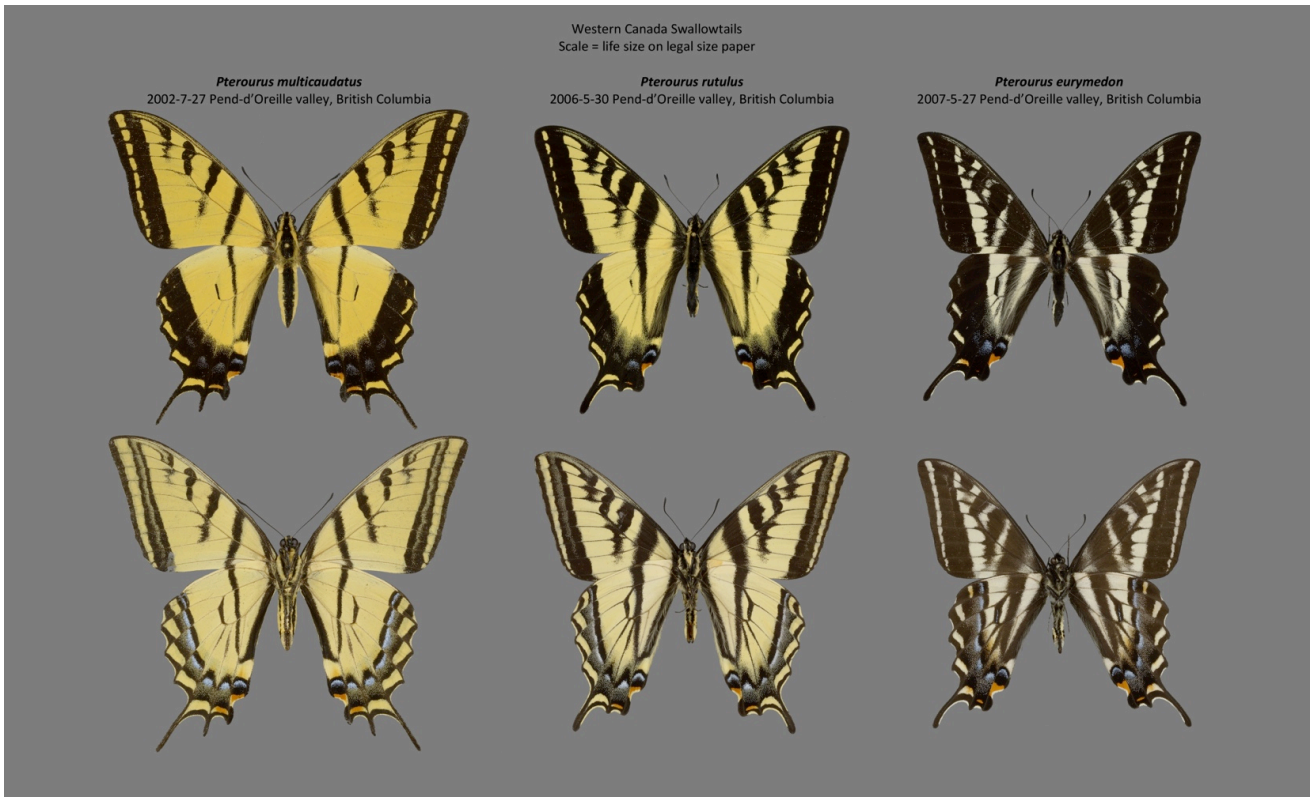

female *Papilio (machaon) dodi*
2016-6-20 Battle River at SR 854, Alberta
NG Kondla
wingspan 77 mm


male *Papilio (machaon) aliaska*
1979-7-4 Tombstone cpgrd, Ogilvie Mtns, Yukon
NG Kondla
wingspan 62.5 mm


canadensis
2004-6-4 Bald Range Creek
nr Kelowna, British Columbia
leg DL Threatful
2004-6-4 Bald Range Creek
nr Kelowna, British Columbia
leg DL Threatful
rutulus
2004-6-4 Bald Range Creek
nr Kelowna, British Columbia
leg DL Threatful
2004-6-4 Bald Range Creek
nr Kelowna, British Columbia
leg DL Threatful
wingspan 66 mm
wingspan 70 mm
wingspan 79 mm
wingspan 78 mm
Note: These specimens have been barcoded and show a genetic difference of about 2.5 % between the two species.


Western Canada Swallowtails
Scale = life size on legal size paper
Papilio aliaska
1990-7-3 Keno Hill, Yukon
Papilio aliaska hudsonianus
1974-7-3 nr Cochrane, Ontario
Papilio zelicaon
1979-5-25 lower Milk River, Alberta
Pterourus canadensis
2009-6-23 nr Bragg Creek, Alberta


Three Female Tigers
Pterourus eurymedon 1979-6-9 Duncan, Vancouver Island, BC
leg R Guppy
Pterourus rutulus 2007-6-1 Downton Cr, Coast Mtns, BC
leg DL Threatful
Pterourus canadensis 2003-6-13 Darwell, AB
leg B&J Beck


Western Canada Swallowtails
Scale = life size on legal size paper
Pterourus multicaudatus
2002-7-27 Pend-d'Oreille valley, British Columbia
Pterourus rutulus
2006-5-30 Pend-d'Oreille valley, British Columbia
Pterourus eurymedon
2007-5-27 Pend-d'Oreille valley, British Columbia