

**Report on the Badlands/Parkland Lepidoptera Survey 2017  
by the Alberta Lepidopterists' Guild, under research permit #17-171**

Report to Alberta Tourism, Park and Recreation, Parks Division  
November 2017  
by Gregory R. Pohl

Gregory Pohl and other members of the Alberta Lepidopterists' Guild were granted a research permit (#17-171) for moth and butterfly (Lepidoptera) observation and collection in the Tolman - Rumsey area of central Alberta in the summer of 2017. This is our report of the species observed and collected in the area.

**Study Sites:**

The following sites were visited and sampled for Lepidoptera:

1. Rowley townsite (Figure 1).

51.760°N 112.786°W.

July 14-16, 2017.

Abandoned home sites and field margins; disturbed area along train tracks. Although not a protected area requiring a permit, this was our base of operations and camping area, it was convenient to observe and collect moths and butterflies here. Most of the species encountered here are expected to occur in nearby parks and natural areas. Collecting methods - daytime observation and netting; UV light traps; mercury vapour lights.

2. "North Rumsey": Township Road 589, vicinity of Rumsey Natural Area.

51.965°N 112.625°W.

July 15, 2017.

Rolling parkland with small sloughs. Although not technically within the Rumsey Natural Area, this site is very near and is comprised of similar habitat. The species seen here are all expected within the natural area. Collecting methods - daytime observation and netting.

3. "West Rumsey": Western edge of Rumsey Natural Area (Figure 2).

51.882°N 112.691°W.

July 15, 2017.

Rolling parkland and grassland. Collecting methods - daytime observation and netting.

4. "South Rumsey 1": Range Road 192, Southern edge of Rumsey Natural Area.

51.795°N 112.608°W.

July 14, 2017.

Rolling parkland and grassland. Collecting methods - UV light traps.

5. "South Rumsey 2": Range Road 193, Southern edge of Rumsey Natural Area (Figure 3).

51.798°N 112.633°W.

July 15, 2017.

Rolling parkland and grassland. Collecting methods - daytime observation and netting.

6. Red Deer River valley, east side of Tolman Bridge (Figure 4).

51.836°N 113.006°W.

July 16, 2017.

Parkland - badlands interface on south-facing slopes of the valley. This site lies just within the Tolman Badlands Heritage Rangeland Natural Area. Collecting methods - daytime observation and netting.

### **Results:**

A total of 60 species of Lepidoptera (14 micromoths, 15 butterflies, and 31 macromoths) were observed at these sites (Table 1). The weather was not ideal during our visit, and this was a very short sampling period, so this is only a small fraction of the species known and expected in the parkland region (Pohl et al. 2010). Nomenclature and species numbers are from Pohl et al. (2016). All collected specimens are deposited in the Natural Resources Canada, Northern Forestry Centre Research Collection, in Edmonton, AB.

Three notable records are detailed as follows:

P620835 *Eucosma ochroterminana* (Kearfott) (Tortricidae) (Figure 5)

This species was previously known in AB only from a few old specimens in the Strickland Entomological Collection at the University of Alberta, collected decades ago by K. Bowman. It is widely distributed east of AB, and is probably more widely distributed in AB. It is not considered to be of conservation concern.

P620971 *Pelochrista kingi* Wright (Tortricidae) (Figure 6)

This species was described only recently, by Wright (2008). The records of "*Eucosma*" *occipitana* (Zeller) by Bird (2012) from Tolman Bridge probably refer to this species. There are few verified records from AB, but it is probably widely distributed and is not of any conservation concern.

P770274 *Euphyes vestris* (Boisduval) (Hesperiidae)

This species was listed as "expected" in AB by Bird et al. (1995), and reported only from the Lloydminster area by Layberry et al. (1998). Since then it has moved west and has been encountered several times in east-central AB. It appears to be quite common now in the Tolman Bridge area.

**Table 1.** Lepidoptera species observed and collected by the Alberta Lepidopterists' Guild, in the Rowley - Rumsey area of Alberta in 2017. Nomenclature and Phylogenetic numbers follow Pohl et al. (2016). Localities are as numbered above. An "O" indicates an observation rather than a count of specimens collected.

P-No.	NAME	LOCALITY					
		1	2	3	4	5	6
<b>MICROMOTHS:</b>							
Hepialidae:							
110017	<i>Sthenopis purpurascens</i> (Packard)	1					
Plutellidae:							
360083	<i>Plutella xylostella</i> (Linnaeus)	2					
Cosmopterigidae:							
420401	<i>Limnaecia phragmitella</i> Stainton	2					
Coleophoridae:							
421647	<i>Coleophora trifolii</i> (Curtis)	2		2			1
Tortricidae:							
620180	<i>Phtheochroa fulviplicana</i> (Walsingham)	4					
620188	<i>Phtheochroa vitellinana</i> (Zeller)			1			
620364	<i>Clepsis peritana</i> (Clemens)	1					1
620629	<i>Celypha cespitana</i> (Hübner)					2	2
620799	<i>Eucosma pallidicostana</i> (Walsingham)	7					
620832	<i>Eucosma parmatana</i> (Clemens)	3					
620835	<i>Eucosma ochroterminana</i> (Kearfott)	1					
620971	<i>Pelochrista kingi</i> Wright	1				3	
621109	<i>Notocelia culminana</i> (Walsingham)	O					
621353	<i>Cydia flexiloqua</i> (Heinrich)	1					
<b>BUTTERFLIES:</b>							
Hesperiidae:							
770159	<i>Thymelicus lineola</i> (Ochsenheimer)		O			O	
770274	<i>Euphyes vestris</i> (Boisduval)						2
Pieridae:							
770340	<i>Colias philodice</i> Godart		2			O	1
770343	<i>Colias christina</i> Edwards					O	
770392	<i>Pieris rapae</i> (Linnaeus)	O	1				
Lycaenidae:							
770540	<i>Glaucopsyche lygdamus</i> (Doubleday)						1
770544	<i>Plebejus idas</i> (Linnaeus)					O	
Nymphalidae:							
770613	<i>Boloria bellona</i> (Fabricius)		1			O	
770625	<i>Speyeria cybele</i> (Fabricius)					O	
770626	<i>Speyeria aphrodite</i> (Fabricius)	O				O	
770593	<i>Limenitis arthemis</i> (Drury)					O	
770673	<i>Vanessa cardui</i> (Linnaeus)	O				O	
770677	<i>Aglais milberti</i> (Godart)					O	
770742	<i>Phyciodes cocyta</i> (Cramer)	O				O	
770770	<i>Cercyonis pegala</i> (Fabricius)	O				O	

**Table 1, continued.**

P-No.	NAME	LOCALITY					
		1	2	3	4	5	6
<b>MACROMOTHS:</b>							
Crambidae:							
800753	<i>Petrophila kearfottalis</i> (Barnes & McDunnough)	1					
800786	<i>Occidentalia comptulatalis</i> (Hulst)	3					
800902	<i>Pediasia ericellus</i> (Barnes & McDunnough)	1					
800904	<i>Pediasia dorsipunctellus</i> (Kearfott)					4	
800918	<i>Agriphila ruricolellus</i> (Zeller)						2
800926	<i>Chrysoteuchia topiarius</i> (Zeller)	1				0	1
800931	<i>Crambus perlella</i> (Scopoli)	0					
800945	<i>Crambus leachellus</i> (Zincken)					1	
801356	<i>Mecyna submedialis</i> (Grote)	1	1	1			3
801511	<i>Pyrausta nicalis</i> (Grote)	0					
Lasiocampidae:							
870014	<i>Malacosoma disstria</i> Hübner	0					
Sphingidae:							
890112	<i>Sphinx vashti</i> Strecker	0			0		
890140	<i>Smerinthus jamaicensis</i> (Drury)				0		
890145	<i>Paonias myops</i> (Smith)				0		
890216	<i>Hyles gallii</i> (Rottemburg)	0					
Geometridae:							
911352	<i>Sicya macularia</i> (Harris)	0					
Notodontidae:							
930003	<i>Clostera albosigma</i> Fitch	0					
Erebidae:							
930246	<i>Apantesis parthenice</i> (Kirby)	1			0		
930290	<i>Arctia caja</i> (Linnaeus)				0		
930373	<i>Lophocampa maculata</i> Harris	0					
930440	<i>Cisseps fulvicollis</i> (Hübner)	0					
930923	<i>Caenurgina crassiuscula</i> (Haworth)	1	1				1
Nolidae:							
931149	<i>Baileya ophthalmica</i> (Guenée)	0					
Noctuidae:							
931236	<i>Plusia putnami</i> Grote	0					
931291	<i>Protodeltote albidula</i> (Guenée)	1					
932234	<i>Elaphria alapallida</i> Pogue & Sullivan	1					
932392	<i>Neoligia subjuncta</i> (Smith)	1					
932947	<i>Leucania commoides</i> Guenée	3					
933044	<i>Lacinipolia renigera</i> (Stephens)	1					
933553	<i>Cryptocala acadensis</i> (Bethune)	3					
933588	<i>Xestia c-nigrum</i> (Linnaeus)	0					
<b>TOTAL:</b>		<b>42</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>17</b>	<b>10</b>



Figure 1. Mercury Vapour light collecting at Rowley.



Figure 2. "west Rumsey" site.



Figure 3. "south Rumsey 2" site.



Figure 4. Tolman badlands site.



Figure 5. P620835 *Eucosma ochroterminana* (Kearfott) (Tortricidae).



Figure 6. P620971 *Pelochrista kingi* Wright (Tortricidae).

**References cited:**

- Bird, C.D. 2012. Lepidoptera of the Tolman Bridge Area, Alberta, 2000-2011. Report prepared for Alberta Parks and Protected Areas, Edmonton, AB. 38 pp. DOI: [http://www.albertaparks.ca/media/3796426/Lepidoptera\\_Dry%20Island%20Buffalo%20Jump%20PP\\_Tolman%20Bridge\\_Report%202000-2011.pdf](http://www.albertaparks.ca/media/3796426/Lepidoptera_Dry%20Island%20Buffalo%20Jump%20PP_Tolman%20Bridge_Report%202000-2011.pdf)
- Bird, C.D., Hilchie, G.J., Kondla, N.G., Pike, E.M., & Sperling, F.A.H. 1995. Alberta Butterflies. The Provincial Museum of Alberta, Edmonton, AB. 349 pp.
- Layberry, R.A., Hall, P.W., & Lafontaine, J.D. 1998. The butterflies of Canada. NRC Research Press, Canada Institute for Scientific and Technical Information, in association with University of Toronto Press, Toronto, ON. 280 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. DOI: <http://pensoftonline.net/zookeys/index.php/journal/article/view/383>

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

Wright, D.J. 2008. Nearctic Eucosmini (Tortricidae) associated with *Pelochrista occipitana* (Zeller) and *Eucosma biquadrana* (Walsingham): two new synonymies and four new species. *Journal of the Lepidopterists' Society* 62: 216-231.