

SURVEY OF THE LEPIDOPTERA OF DINOSAUR PROVINCIAL PARK



Hemileuca hera (Harris) AB. 5 km w. Manyberries 10-viii-2008 leg. Anweiler
UASM99387 (G.G. Anweiler image)

Alberta Species at Risk Report 157

SURVEY OF THE LEPIDOPTERA OF DINOSAUR PROVINCIAL PARK

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Photo: Gary Anweiler

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EXECUTIVE SUMMARY

Alberta Lepidoptera Inventories are initiated by both the Alberta Government and members of the Alberta Lepidopterist Guild (ALG) who are working together to document all species found in Alberta's Parks and Protected Areas. Resulting species lists are used by personnel in resource management planning. This report summaries all species that are known from the park. A total of 17 families and 267 species were collected in Dinosaur Provincial Park including 3 that are provincially ranked as S1 and 13 as S2.

1.0 INTRODUCTION

This park was visited a number of times during the last two decades by several teams of lepidopterists. I was able to return to this area in 2004 on June 8th, and July 2nd, 3rd and more recently on August 20th & 21st, 2011. On all occasions as the ecological reserve was accessed from the south side; the same as in 2002 and I camped near the reserve entrance by a small spring fed pond. All collecting and light trapping occurred primarily around the main campground, within the research reserve or at the “Steveville campground” at the northwest park border along Red Deer River (Figure 1.).

Butterflies and skippers were not collected as intensely as were the moths and therefore their species numbers are somewhat lower. Further collecting of day fliers will likely reveal more species.

2.0 STUDY AREA

The Dinosaur Provincial Park (see figure 1) is located approximately 48 km to the northeast of Brooks and is approximately 80 km² in size.

The park is located in the Grassland - Dry Mixedgrass Natural Region and contains a wide variety of habitats ranging from riparian cottonwood woodlands to dry desert like badlands and grassland.

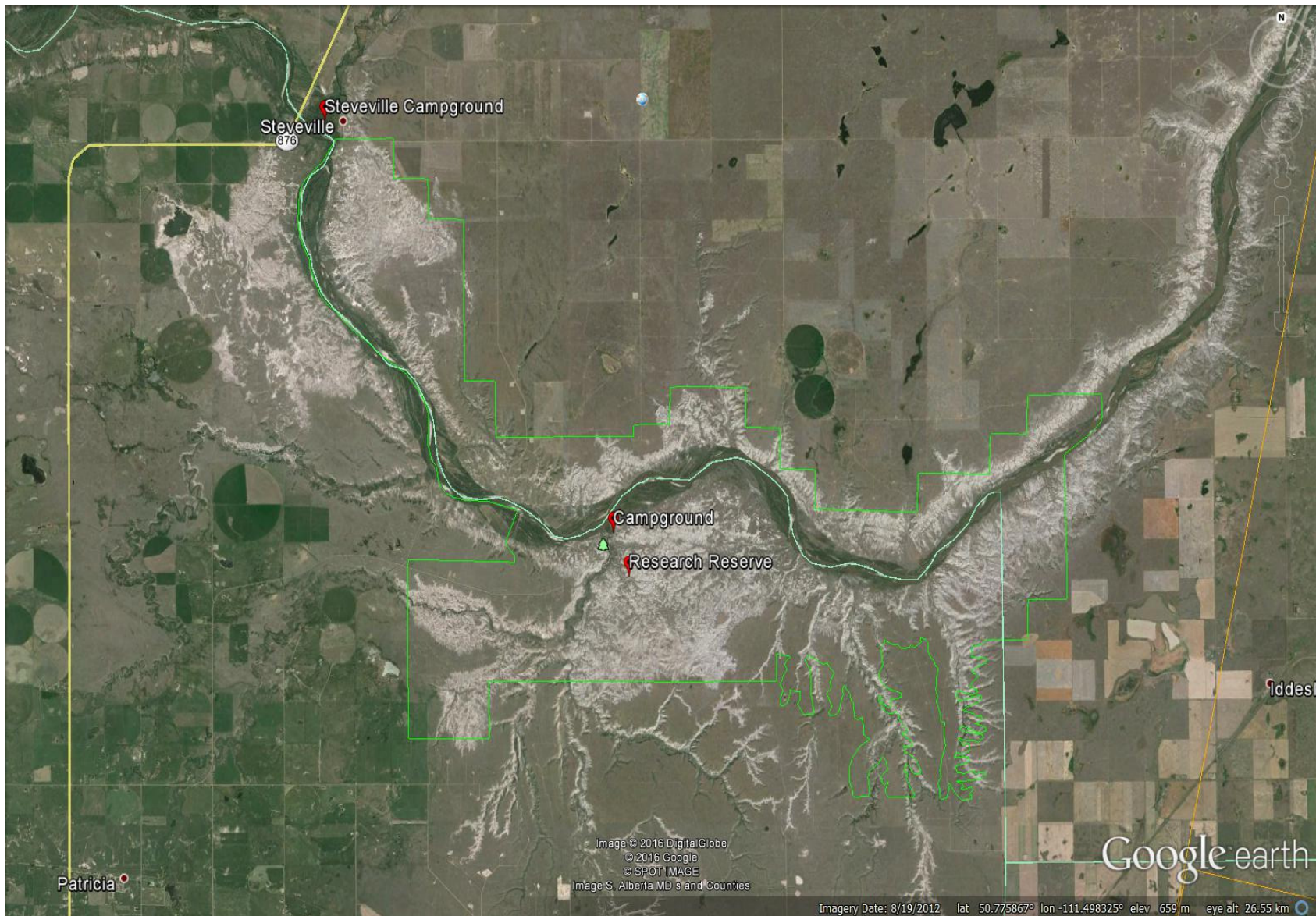


Figure 1. Map of Dinosaur Provincial Park

3.0 METHODS

Collecting methods ranged from night sampling using both UV light traps and the traditional MV sheet trap. Day collecting was conducted using hand nets and on a few occasions pheromone traps were deployed as well.

Species collected during this study were rated to highlight those that may be vulnerable provincially. I did not use the Alberta Parks Status Ranking (S-Ranking) system as many of the species listed are not ranked in the Alberta Conservation Information Management System (ACIMS) database. I instead used my own system to rate species (Table 1) based on population data gathered from either the University of Alberta's Strickland Virtual Museum, other similar websites or from technical reports and other publications. On occasion when available data was insufficient I used my personal expertise to determine the ranking. For example if a species only had two documented populations in Alberta but I had observed it in many other localities I would give it a higher rating.

However, these ratings can be loosely translated into S-ranks based on the following criteria. For a species rated as "Rare" these would be potential candidates for either an S1, S2 or S3 and for those rated as "Uncommon" as S3 or S3S4 ranks in Alberta. Those rated as "Common" would be potential candidates for an S4 and ratings of "Abundant" would be S5. Lastly, a rating of "SU" would be a species that require more information before a ranking can be completed and a "SNA" is for species that are not native to North America. For more details on my scarcity rating system used in Appendix 1 see below Table 1 that defines how each rating is determined.

Table 1. Scarcity Rating System

Scarcity	Definition
R	Rare species with less than 5 documented populations in Alberta.
U	Uncommon species with less than 20 documented populations in Alberta.
C	Common species with more than 20 documented populations in Alberta.
A	Abundant species with more than 50 documented populations in Alberta.

4.0 RESULTS

A total of 17 families and 267 species were collected in DPP and area. Of these, 27 were butterflies, 234 were macro-moths and 6 were micro-moths (Appendix 1). Of those collected, 20 were ranked as 'rare' and 47 as 'uncommon' (Appendix 1). A total of 4 species discovered in the park are found nowhere else in Alberta.

5.0 DISCUSSION

5.1 Overview

The following is an annotated species list followed by a discussion of significant species' records that are of interest. For each species discussed, comments are included about relative abundance, range extensions, and any other relevant biological or behavioural information.

5.2 Species Accounts

Hesperiidae

- 1) *Erynnis persius fredricki*
- 2) *Pyrgus communis*
- 3) *Oarisma garita*
- 4) *Hesperia uncas*
- 5) *Hesperia nevada*
- 6) *Polites peckius*
- 7) *Anatrytone logan*

Papilionidae

- 8) *Papilio machaon dodi*

Pieridae

- 9) *Pontia o. occidentalis*
- 10) *Euchloe olympia*
- 11) *Colias p. philodice*
- 12) *Colias a. alexandra*

Lycaenidae

- 13) *Lycaena dione*
- 14) *Lycaena rubidus sirius*
- 15) *Lycaena helloides*
- 16) *Satyrium titus immaculosus*
- 17) *Strymon melinus*
- 18) *Lycaeides m. melissa*
- 19) *Aricia lupine*

Nymphalidae

- 20) *Boloria bellona*
- 21) *Phyciodes tharos orantain*

- 22) *Chlosyne gorgone carlota*

- 23) *Chlosyne acastus*

- 24) *Neominois ridingsii minimus*

- 25) *Oeneis uhleri varuna*

- 26) *Oeneis a. alberta*

- 27) *Danaus p. plexippus*

Crambidae

- 28) *Loxostege sticticalis*

- 29) *Pyrausta subsequalis plagalis*

- 30) *Pediasia trisecta*

- 31) *Melitara dentate*

Thyrididae

- 32) *Thyris maculata*

Pterophoridae

- 33) *Dejongia lobidactylus*

Drepanidae

- 34) *Habrosyne scripta*

- 35) *Pseudothyatira cymatophoroides*

Geometridae

- 36) *Protitame virginalis*

- 37) *Digrammia californiaria*

- 38) *Digrammia neptaria*

- 39) *Digrammia subminiata*

- 40) *Fernaldella fimetaria*

- 41) *Aspitates aberrata*

Geometridae Cont'd

- 42) *Euchlaena johnsonaria*
- 43) *Euchlaena madusaria*
- 44) *Ennomos magnaria*
- 45) *Plataea trilinearia*
- 46) *Tetracis formosa*
- 47) *Prochoerodes lineola*
- 48) *Synchlora aerata*
- 49) *Synchlora bistriaria*
- 50) *Scopula sentinaria*
- 51) *Perizoma custodiata*
- 52) *Horisme incana*
- 53) *Eupithecia misturata*

Lasiocampidae

- 54) *Phyllodesma americanum*
- 55) *Malacosoma californicum*

Saturniidae

- 56) *Hemileuca hera*
- 57) *Hyalophora gloveri*

Sphingidae

- 58) *Smerinthus cerisyi*
- 59) *Paonias exaecatus*
- 60) *Paonias myops*
- 61) *Pachysphinx occidentalis*
- 62) *Hemaris diffinis*
- 63) *Hyles lineata*

Notodontidae

- 64) *Pheosia rimosa*
- 65) *Gluphisia septentrionis*
- 66) *Furcula cinerea*
- 67) *Furcula modesta*
- 68) *Dasylophia anguina*

Erebidae

- 69) *Eilema bicolor*
- 70) *Crambidia casta*
- 71) *Hypoprepia miniata*
- 72) *Pyrrharctia isabella*
- 73) *Estigmene acraea*
- 74) *Hypercompe permaculata*
- 75) *Holarctia obliterated*
- 76) *Grammia williamsii*
- 77) *Grammia virgo*
- 78) *Cycnia oregonensis*
- 79) *Dasychira vagans*
- 80) *Idia lubricalis*
- 81) *Idia occidentalis*
- 82) *Idia immaculalis*
- 83) *Drasteria hudsonica heathi*
- 84) *Caenurgina crassiuscula*
- 85) *Caenurgina erechtea*
- 86) *Catocala relict*
- 87) *Catocala unijuga*
- 88) *Catocala parta*
- 89) *Catocala luciana*
- 90) *Catocala hermia*
- 91) *Catocala briseis*
- 92) *Catocala semirelict*
- 93) *Catocala meskei*
- 94) *Catocala concumbens*
- 95) *Catocala ultronia*

Noctuidae

- 96) *Trichoplusia ni*
- 97) *Pseudeva purpurigera*
- 98) *Autographa californica*
- 99) *Autographa ampla*
- 100) *Anagrapha falcifera*
- 101) *Syngrapha octoscripta*
- 102) *Ponometia semiflava*

Noctuidae Cont'd

103)	<i>Tarachidia tortricina fumata</i>	144)	<i>Sutyna privata</i>
104)	<i>Ponometia elegantula</i>	145)	<i>Brachylomia populi</i>
105)	<i>Tarache augustipennis</i>	146)	<i>Brachylomia algens</i>
106)	<i>Raphia frater</i>	147)	<i>Sympistis stabilis</i>
107)	<i>Acronicta innotata</i>	148)	<i>Sympistis dinalda</i>
108)	<i>Acronicta mansueta</i>	149)	<i>Sympistis chionanthi</i>
109)	<i>Acronicta impressa</i>	150)	<i>Sympistis regina</i>
110)	<i>Simyra insularis</i>	151)	<i>Sympistis poliochroa</i>
111)	<i>Apamea lignicolora</i>	152)	<i>Sympistis piffardi</i>
112)	<i>Apamea sordens finitima</i>	153)	<i>Sympistis pallidior</i>
113)	<i>Apamea scoparia</i>	154)	<i>Sympistis mackiei</i>
114)	<i>Apamea niveivenosa</i>	155)	<i>Cucullia dorsalis</i>
115)	<i>Apamea devastator</i>	156)	<i>Cucullia intermedia</i>
116)	<i>Apamea longula</i>	157)	<i>Cucullia postera</i>
117)	<i>Eremobina claudens</i>	158)	<i>Cucullia luna</i>
118)	<i>Platypolia mactata</i>	159)	<i>Anarta mutata</i>
119)	<i>Spartiniphaga includens</i>	160)	<i>Anarta farnhami</i>
120)	<i>Photedes inops</i>	161)	<i>Scotogramma submarina</i>
121)	<i>Hypocoena rufostrigata</i>	162)	<i>Scotogramma fervida</i>
122)	<i>Capsula subflava</i>	163)	<i>Sideridis fuscolutea</i>
123)	<i>Celaena reniformis</i>	164)	<i>Anarta decepta</i>
124)	<i>Amphipoea interoceanica</i>	165)	<i>Sideridis artesta</i>
125)	<i>Amphipoea americana</i>	166)	<i>Polia discalis</i>
126)	<i>Aseptis characta</i>	167)	<i>Polia purpurissata</i>
127)	<i>Enargia decolor</i>	168)	<i>Polia nugatis</i>
128)	<i>Enargia infumata</i>	169)	<i>Orthodes detracta</i>
129)	<i>Ipimorpha pleonectusa</i>	170)	<i>Melanchnra picta</i>
130)	<i>Amphipyra pyramidoides</i>	171)	<i>Lacanobia atlantica</i>
131)	<i>Amphipyra glabella</i>	172)	<i>Lacanobia radix</i>
132)	<i>Proxenus mendosa</i>	173)	<i>Spiramater grandis</i>
133)	<i>Caradrina meralis</i>	174)	<i>Spiramater lutra</i>
134)	<i>Caradrina montana</i>	175)	<i>Trichordestra lilacina</i>
135)	<i>Stiria rugifrons</i>	176)	<i>Lacinipolia meditata</i>
136)	<i>Acopa perpallida</i>	177)	<i>Lacinipolia lustralis</i>
137)	<i>Escaria homogena</i>	178)	<i>Lacinipolia anguina</i>
138)	<i>Afotella cylindrica</i>	179)	<i>Lacinipolia longiclava</i>
139)	<i>Eucirroedia pampina</i>	180)	<i>Lacinipolia pensilis</i>
140)	<i>Anathix puta</i>	181)	<i>Dargida procinctus</i>
141)	<i>Anathix aggressa</i>	182)	<i>Faronta diffusa</i>
142)	<i>Xanthia tatago</i>	183)	<i>Mythimna unipuncta</i>
143)	<i>Hillia iris</i>	184)	<i>Leucania insueta</i>
		185)	<i>Orthosia revicta</i>

Noctuidae Cont'd

- 186) *Orthosia segregata*
187) *Orthosia hibisci*
188) *Crocigrapha normani*
189) *Egira rubrica*
190) *Nephelodes minians*
191) *Protorthodes eureka*
192) *Protorthodes incincta*
193) *Agrotis orthogonia*
194) *Agrotis robustior*
195) *Agrotis venerabilis*
196) *Agrotis stigmosa*
197) *Feltia herilis*
198) *Euxoa divergens*
199) *Euxoa messoria*
200) *Euxoa tristicula*
201) *Euxoa pestula*
202) *Euxoa adumbrata*
203) *Euxoa auxiliaris*
204) *Euxoa mimallonis*
205) *Euxoa intrita*
206) *Euxoa declarata*
207) *Euxoa spumata*
208) *Euxoa pallipennis*
209) *Euxoa nevada*
210) *Euxoa aequalis acornis*
211) *Euxoa comosa ontario*
212) *Euxoa basalis*
213) *Euxoa ochrogaster*
214) *Euxoa plagigera*
215) *Euxoa albipennis*
216) *Euxoa catenula*
217) *Euxoa siccata*
218) *Euxoa medialis*
219) *Euxoa obeliscoides*
220) *Euxoa furtivus*
221) *Euxoa laetificans*
222) *Euxoa quadridentata*
223) *Euxoa oblongistigma*
224) *Euxoa detersa*
225) *Euxoa citricolor*
226) *Euxoa teleboa*
227) *Euxoa difformis*
228) *Euxoa dodii*
229) *Euxoa servitus*
230) *Euxoa munis*
231) *Euxoa taura*
232) *Euxoa perolivalis*
233) *Euxoa ridingsiana*
234) *Euxoa flavicollis*
235) *Euxoa maimes*
236) *Euxoa perpolita*
237) *Protogygia postera*
238) *Protogygia enalaga*
239) *Anicla exuberans*
240) *Anicla tepperi*
241) *Peridroma saucia*
242) *Actebia balanitis*
243) *Spaelotis clandestina*
244) *Graphiphora augur*
245) *Eurois occulta*
246) *Eurois astricta*
247) *Xestia normanianus*
248) *Agnorisma bugrai*
249) *Setagrotis radiola*
250) *Noctua pronuba*
251) *Protolampra rufipectus*
252) *Abagrotis trigona*
253) *Abagrotis orbis*
254) *Abagrotis alternata*
255) *Abagrotis hermina*
256) *Abagrotis variata*
257) *Abagrotis scopeops*
258) *Abagrotis discoidalis*
259) *Abagrotis nanalis*
260) *Abagrotis placida*
261) *Abagrotis cupida*
262) *Parabagrotis exsertistigma*
263) *Pronoctua peabodyae*
264) *Eutricopis nexilis*
265) *Schinia acutilinea*
266) *Schinia meadi*
267) *Schinia cumatilis*

5.3 Species of Significance

Nevada Skipper (*Hesperia nevada*) – Is a relatively widespread but uncommon species that is documented from several localities in the foothills, mountains and grasslands of Alberta. Localities for this species include Waterton Lakes National Park, Crowsnest Pass, Lloydminster, Hillcrest, Calgary, Fort McLeod, High River, Heisler, Furman, Brooks (35km NE), Drumheller, Rumsey, Dorothy, Wintering Hills, Frank, Del Bonita



and Dinosaur Provincial Park. The DPP specimen was found on July 12, 2000 by Dave Laurie. Known hosts for this species are bunch grasses including Sheep Fescue (*Festuca ovina*), Western Needlegrass (*Stipa occidentalis*), Squirrel tail (*Sitanion*), , june grass (*Koeleria*) according to Bird et al. (1995) and Layberry et al. (1998).

Figure 2. *Hesperia Nevada* (photo by John T. Fowler, *Butterflies of Canada, CBIF*)

Delaware Skipper (*Anatrytone logan lagus*) – is another widespread but uncommon species that is known from several prairie localities in Alberta. The localities include Pendant d'Oreille, Dry Island Buffalo Jump Provincial, Empress, Pawkowki Lake dunes, Lost River valley, Lethbridge, Taber, Taber PP, Bow Island, Ronalane, Medicine Hat,



Milk River, Drumheller, Pinhorn Grazing Reserve and Dinosaur Provincial Park. The DPP specimen was found on July 7, 2007 by Charley Bird. The larval hosts are grasses including woolly beardgrass (*Erianthus* sp.), panic grass (*Panicum* spp.) big bluestem (*Andropogon gerardii*) and little bluestem (*Schizachyrium* spp.) according to Bird et al. (1995) and Layberry et al. (1998).

Figure 3. *Anatrytone logan* (photo by John T. Fowler, *Butterflies of Canada, CBIF*)

Alexandra's Sulphur (*Colias a. alexandra*) – is a uncommon species that is known from several localities in Alberta. The localities include Coalspur, Jasper, Banff, Olds, Calgary, Dogpound, Flat Creek, Moose Mountain, Empress, Lost River, Red Deer, Plateau Mountain, Cypress Hills PP, Burdett, Patricia, Pakowki Lake dunes, Breed Creek, Regal Creek, Cat Creek, Laggan, Moberly Creek, Prospect Mountain, Ram River Falls, Nordegg, St. Marys Dam, Lloydminster, Standard, Magrath, VanCleve Coulee,



Figure 4. *Colias a. alexandra* (photo by Gary Anweiler, University of Alberta Strickland Museum)

Winterring Hills, Fort Whoop Up, Lower Milk River, Police Coulee, Taber PP and Dinosaur Provincial Park. The DPP specimens were found on May 23, 1987 by Dave Laurie and on May 13, 1980 by Norbert Kondla. Hosts include milk-vetch (*Astragalus* spp., Lathyrus, Oxytropis and Thermopsis which are all legumes (Fabaceae) according to Bird et al. (1995) and Layberry et al. (1998) and Guppy & Shepard (2001).

Gorgone Checkerspot (*Chlosyne gorgone carlota*) is a uncommon species that is known from several localities in the prairie and parkland regions of Alberta. The localities include Dunvegan PP, Green Island (nr. Fairview), Peace River, Drumheller, Tulliby Lake, Lacombe, Gleichen, Lloydminster, Veteran, Edmonton, Red Deer, Calgary,



Figure 5. *Chlosyne gorgone carlota* (photo by author)

Cypress Hills PP, Fish Creek PP, Fort Macleod, and Dinosaur Provincial Park. The DPP specimen was found on May 23, 1987 by Dave Laurie. Hosts include sunflower (*Helianthus* spp.), Black-eyed Susan (*Rudbeckia hirta*) and asters including *Aster lanceolatus* and *A. novae-angliae*) according to Bird et al. (1995) and Layberry et al. (1998).

Ridings' Satyr (*Neominois ridingsii minimus*) - is an uncommon species that is known from a few localities in Alberta. The localities include Fort Macleod, Pincher Creek, Drumheller, Empress, Dorothy, Lethbridge, Calgary, Medicine Hat, Brooks, Finnegan, Plateau Mountain, Rumsey, Van Cleve Coulee, Police Coulee, Midland PP, Elkwater,



Rumsey, Pendant d'Oreille, Rosebud, Standard, Sage Creek, Cutbank Creek, Head-Smashed-In Buffalo Jump PP, Maycroft, Wintering Hills, Taber PP and Dinosaur Provincial Park. The DPP specimen was found in 1980 by Norbert Kondla. Hosts include grasses such as Blue Grama Grass (*Bouteloa gracilis*) according to Bird et al. (1995) and Layberry et al. (1998).

Figure 6. *Neominois ridingsii minimus* (photo by Gary Anweiler, University of Alberta Strickland Museum)

Thistle Pyraustra Moth (*Pyrausta subsequalis plagalis*) is a rare species that is known from only five localities in Alberta. The other two localities are Lloydminster, Bindloss, Arrowwood Coulee and the Lost River valley. The lone specimen was collected in DPP on August 14, 2001 in a UV trap. Larva are suspected to feed on mint (Charley Bird, UASM)



Figure 7. *Pyrausta subsequalis plagalis* (photo by Charles Bird, University of Alberta Strickland Museum)



Spotted Thyris Moth (*Thyris maculata*) is a rare species that is known from only three localities in Alberta. The other two localities are Dinosaur Provincial Park and Medicine Hat. The lone specimen was collected in a Sessidae pheromone trap on June 18th, 2012. The larvae of this species are suspected to feed on *Clematis* and *Houstonia* species (Covell 2005) with Western Clematis (*Clematis ligusticifolia*) the likely host that may exist in the park. I suspect this diurnal micromoth is quite common in the park but is often overlooked due to its tiny size of 12 millimeters.

Figure 8. *Thyris maculata* Ashley Bradford, Moth Photographers Group.

Green Broomweed Looper Moth (*Fernaldella fimetaria*) is a rare species that is known from only three other localities in Alberta. The other localities are Writing-on- Stone



Provincial Park, the Lost River Valley west of Onefour and Medicine Hat. The lone DPP specimen was collected on July 12, 2012 in a UV light trap by David Laurie. According to Ferguson (2008), the larvae of this species feed on Broomweed (*Gutierrezia sarothrae*) that is likely found in the badland and shrub land regions of the park.

Figure 9. *Narraga fimetaria* (photo by G. Anweiler, University of Alberta Strickland Museum)

Beautiful Slant-line Moth (*Tetracis formosa*) is a very rare species known from only two localities in Canada. The lone Alberta DPP record was collected on September 8th, 2000 in a UV light trap by G. Anweiler and B. Schmidt. It is also known from Lillooet, B.C. The host is Rubber Rabbitbrush (*Ericameria*



nauseosa).according to Powell and Opler (2009).

Figure 10. *Tetracis formosa* (photo by Jim Troubridge, Canadian National Collection, CBIF)

Sagebrush Sheepmoth (*Hemileuca hera*) – is a rare moth known from two localities in Alberta. It is known from the Manyberries area and Dinosaur PP. The lone specimen was collected July 1989 by R. Lasehasin and has not been observed in the area since. This species is diurnal and tends to fly in late summer starting in late August. The host of this moth is likely *Artemisia*



cana that is the only sagebrush species found in Alberta.

Figure 11. *Hemileuca hera* (photo by G. Anweiler, University of Alberta Strickland Museum)

Black-marked Grey Hooded Owlet Moth (*Cucullia dorsalis*) is a rare Canadian moth and is only known from two localities in Alberta. It is known from the Toleman Bridge, area and Dinosaur PP. Four specimens were collected May 21, 2000 by G. Anweiler, B. Schmidt and D. Lawrie at UV and MV light traps. The host of this moth is Asters (Asteraceae).



Figure 12. *Cucullia dorsalis* (photo, Canadian National Collection, CBIF)

Darkened Claywing Moth (*Sideridis fuscolutea*) is a rare moth and is only known from three localities in Alberta. It is known from the Lethbridge, Jenner Bridge and Dinosaur PP. Three specimens were collected in 1999, one on June 11 and the others on June 13 by G. Anweiler in UV light traps. Its biology is unknown though this species tends to be restricted to dry sagebrush steppe habitats in Canada.



Figure 13. *Sideridis fuscolutea* (photo by G. Anweiler, University of Alberta Strickland Museum)

Queen Sallow Moth (*Sympistis regina*) is an uncommon moth known from five localities in Alberta. It is found in the South Saskatchewan River Valley at the Old Bindloss Ferry Crossing, the Pinhorn Grazing Reserve, Writing-On-Stone Provincial Park, Red Deer River Valley near Empress and Dinosaur PP. The lone DPP specimen was collected on August 20, 1996 by Gary Anweiler in a UV trap in the riparian region of the park. Its biology is unknown though it is suspected to feed on (*Penstemon* spp.) in the Scrophulariaceae family.



Figure 14. *Sympistis regina* (photo by Jim Vargo, Moth Photographers Group)

Deviated Moth (*Anarta decepta*) is a uncommon moth that is only known from two



localities in Alberta. It is known from Lost River Valley near Onefour, Pinhorn Grazing Reserve, Taber Municipal Park, Writing-on-Stone PP and Dinosaur PP. Three specimens were collected in 1999, one on June 11 and the others on June 13 by G. Anweiler in UV light traps. This species to be restricted to dry grasslands and sagebrush steppe habitats in western Canada. Its host is unknown.

Figure 15. *Anarta decepta* (photo by G. Anweiler, University of Alberta Strickland Museum)

Joyful Quaker Moth (*Protorthodes eureka*) is a rare moth and the Dinosaur PP population represents the only documented Canadian population. It can be locally



common in the park as numerous specimens were discovered on August 14, 2001, September 5, 2002, September 7, 2002, by Gary Anweiler and Jim Troubridge in UV light traps. Its biology is unknown though this species tends to be restricted to the dry sagebrush prairie (Lafontaine et al. 2014).

Located Dinosaur PP.

Figure 16. *Protorthodes eureka* (photo by Jim Vargo, Moth Photographers Group)

Citrus-colored Cutworm Moth (*Euxoa citricolor*) is a rare moth and is only known from two localities in Alberta. It is known from the Old Bindloss Ferry Crossing and



Dinosaur PP. Specimens were collected in UV light traps during survey work conducted by both Gary Anweiler and Jim Troubridge starting on September 8th, 2000 and in August 14, 2001 at Dinosaur PP in a UV light traps. Its biology is unknown though this species tends to be restricted to the eroded badlands of Alberta's Red Deer and South Saskatchewan River valleys.

Figure 17. *Euxoa citricolor* (photo by G. Anweiler, University of Alberta Strickland Museum)

Badland Cutworm Moth (*Euxoa dodi*) is a rare moth known from three localities in



Alberta. It is found in Dinosaur Provincial Park, Lethbridge and Writing-On-Stone Provincial Park. It is a common species in the park and a large series of this species was collected on August 14th, 2001 by Gary Anweiler and Jim Troubridge and a lone specimen by Chris Schmidt and Gary Anweiler on September 8th, 2000 in a UV light traps. Nothing is known of this species biology other than it prefers the dry grasslands of the badlands that are common in the park.

Figure 18. *Euxoa dodi* (photo by Jim Troubridge, Canadian National Collection)

Barren Cutworm Moth (*Euxoa taura*): A rare moth and a significant discovery from the park. There are five recorded populations of this species in Alberta including the one found at Dinosaur PP. There are two populations from the Grassland Natural Region, Twin River Heritage Rangeland Natural Area and at the Lost River coulee (near Onefour)



and three localities from the Peace River Parkland Subregion, one from Dunvegan PP, Peace River Wildland Park and Elk Island Municipal Park (21 km S of Whitelaw). The lone specimen was collected in the DPP research reserve on August 14, 2001 in a UV light trap by Gary Anweiler and Jim Troubridge. This moth prefers dry open areas such as what is found in the southern badlands of Dinosaur PP. The larval biology of this species is unknown.

Figure 19. *Euxoa taura* (photo by Jim Troubridge, Canadian National Collection)

Great Basin Dart Moth (*Protophygia postera*) - is a rare moth known from three localities in Canada. There is an old record from Swift current, Saskatchewan, Lethbridge



and then several records from Dinosaur PP. The first records was made on August 8, 1991 and August 19, 1996 by Gary Anweiler followed by a June 13, 1999 record from the old Steeveville campground, then another record by Dave Laurie May 20, 2000 and then the remaining records from a trip made on August 14, 2001, by Gary Anweiler, Jim Troubridge and author. Its biology is unknown though this species appears to be restricted to the dry badland regions of the park.

Figure 20. *Protophygia postera* (photo by Jim Troubridge, Canadian National Collection)

White-streaked Dart Moth (*Setagrotis radiola*) is a rare moth known from three localities in Alberta. It is found at two locations along the South Saskatchewan River, the first is at the old ferry crossing 15 km south of Bindloss and the other from Sandy Point Park. The DPP records are from a survey trip made on August 14, 2001, by Gary Anweiler, Jim Troubridge and author. Its biology is unknown though this species appears to be restricted to the dry badland regions of the park.



It is found at two locations along the South Saskatchewan River, the first is at the old ferry crossing 15 km south of Bindloss and the other from Sandy Point Park. The DPP records are from a survey trip made on August 14, 2001, by Gary Anweiler, Jim Troubridge and author. Its biology is unknown though this species appears to be restricted to the dry badland regions of the park.

Figure 21. *Setagrotis radiola* (photo by Jim Troubridge, Canadian National Collection)

Variegated Dart Moth (*Abagrotis variata*) is a rare moth known from three localities in Alberta. It is found in Olds, Writing-On-Stone Provincial Park and Dinosaur Provincial Park. The lone specimen was collected in the research reserve on August 14, 2001 in a UV light trap by Gary Anweiler and Jim Troubridge. It is a hardwood generalist that has been recorded feeding on willows, cherries, and serviceberry.



It is found in Olds, Writing-On-Stone Provincial Park and Dinosaur Provincial Park. The lone specimen was collected in the research reserve on August 14, 2001 in a UV light trap by Gary Anweiler and Jim Troubridge. It is a hardwood generalist that has been recorded feeding on willows, cherries, and serviceberry.

Figure 22. *Abagrotis variata* (photo by Gary Anweiler, University of Alberta Strickland Museum)

Violaceous Brown Dart Moth (*Abagrotis scopeops*) is a rare moth only known from known from Dinosaur Provincial Park. The lone specimen was collected in the research reserve on September 4th, 2001 in a UV light trap by Gary Anweiler and Jim Troubridge. Nothing is known its biology but based on other Canadian records it is likely restricted to dry prairie habitats in Alberta.



Figure 23. *Abagrotis scopeops* (photo by Gary Anweiler, University of Alberta Strickland)

Greasewood Dart Moth (*Abagrotis discoidalis*) is a rare moth known from three localities in Alberta. It is found in Writing-On-Stone Provincial Park, Pakowki Lake dunes and Dinosaur Provincial Park. The lone specimen was collected in the research reserve on August 14, 2001 in a UV light trap by Gary Anweiler and Jim Troubridge. The larval host is greasewood (*Sarcobatus vermiculatus*) (Lafontaine 1998) that is likely found in the park.



Figure 24. *Abagrotis discoidalis* (photo by Gary Anweiler, University of Alberta Strickland Museum)

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7.0 APPENDICES

APPENDIX 1. DINOSAUR PROVINCIAL PARK SPECIES LIST

(last updated January 12th, 2016)

#	Scarcity	S-Rank	MONA#	Family	Species
1	C	S4	3961.00	Hesperiidae	Erynnis persius fredricki Free.
2	C	S4	3966.00	Hesperiidae	Pyrgus communis
3	A	S4	4007.00	Hesperiidae	Oarisma garita
4	C	S3	4018.00	Hesperiidae	Hesperia uncas
5	U	S2S3	4035.00	Hesperiidae	Hesperia nevada
6	C	S4	4036.00	Hesperiidae	Polites peckius (Kby.)
7	U	S2	4051.00	Hesperiidae	Anatrytone logan (Edwards)
8	C	S4	4166.00	Papilionidae	Papilio machaon dodi McD.
9	A	S5	4194.00	Pieridae	Pontia occidentalis occidentalis
10	C	S4	4202.00	Pieridae	Euchloe olympia
11	A	S5	4209.00	Pieridae	Colias philodice philodice God.
12	U	S2S3	4211.00	Pieridae	Colias alexandra alexandra Edw.
13	C	S3	4253.10	Lycaenidae	Lycaena dione (Scud.)
14	U	S3	4257.00	Lycaenidae	Lycaena rubidus sirius (W.H. Edw.)
15	C	S4	4262.00	Lycaenidae	Lycaena helloides (Bdv.)
16	C	S4	4280.10	Lycaenidae	Satyrrium titus immaculosus (Comstock)
17	C	S3	4336.00	Lycaenidae	Strymon melinus Hbn.
18	A	S5	4375.00	Lycaenidae	Lycaeides melissa melissa (Edw.)
19	U	SU?	4380.00	Lycaenidae	Aricia lupini
20	C	S4	4465.00	Nymphalidae	Boloria bellona (Fab.)
21	C	S4	4481.00	Nymphalidae	Phyciodes tharos orantain Scott.
22	U	S2S3	4489.00	Nymphalidae	Chlosyne gorgone carlota (Reak.)
23	U	S3	4493.00	Nymphalidae	Chlosyne acastus (Edw.)
24	U	S2	4603.00	Nymphalidae	Neominois ridingsii minimus
25	C	S4	4607.00	Nymphalidae	Oeneis uhleri varuna (Edw.)
26	C	S4	4608.00	Nymphalidae	Oeneis a. alberta
27	U	S3?	4614.00	Nymphalidae	Danaus plexippus plexippus (L.)
28	C	S4	5004.00	Crambidae	Loxostege sticticalis (Linnaeus)
29	R	S2	5060.00	Crambidae	Pyrausta subsequalis plagalis Haimbach
30	A	S5	5413.00	Crambidae	Pediasia trisecta (Wlk.)
31	C	S4	5971.00	Pyralidae	Melitara dentata (Grt.)
32	R	S2	6076.00	Thyrididae	Thyris maculata Harris
33	U	S3	6102.00	Pterophoridae	Dejongia lobidactylus
34	C	S4	6235.00	Drepanidae	Habrosyne scripta (Gosse)
35	C	S4	6237.00	Drepanidae	Pseudothyatira cymatophoroides (Gn.)
36	C	S4	6270.00	Geometridae	Protitame virginalis
37	C	S4	6380.00	Geometridae	Digrammia californiaria (Pack.)
38	C	S4	6396.00	Geometridae	Digrammia neptaria (Gn.)
39	C	S4	6399.00	Geometridae	Digrammia subminiata Pack.
40	R	S2	6420.00	Geometridae	Fernaldella fimetaria
41	C	S4	6715.00	Geometridae	Aspitates aberrata
42	C	S4	6729.00	Geometridae	Euchlaena johnsonaria (Fitch)
43	C	S4	6731.00	Geometridae	Euchlaena madusaria (Wlk.)
44	C	S4	6797.00	Geometridae	Ennomos magnaria Gn.
45	U	S4	6926.00	Geometridae	Plataea trilinearia
46	R	S1	6958.00	Geometridae	Tetracis formosa (Hulst)
47	C	S4	6982.00	Geometridae	Prochoerodes lineola
48	C	S4	7058.00	Geometridae	Synchlora aerata

49	C	S3S4	7065.00	Geometridae	<i>Synchlora bistrifaria</i> (Packard)
50	C	S4	7172.00	Geometridae	<i>Scopula sentinaria</i> (Gey.)
51	C	S4	7328.00	Geometridae	<i>Perizoma custodiata</i>
52	C	S4	7446.00	Geometridae	<i>Horisme incana</i> Swett.
53	U	S3	7476.00	Geometridae	<i>Eupithecia misturata</i>
54	A	S4	7687.00	Lasiocampidae	<i>Phyllodesma americanum</i> (Harr.)
55	C	S4	7702.00	Lasiocampidae	<i>Malacosoma californicum</i> (Pack.)
56	R	S1S2	7741.00	Saturniidae	<i>Hemileuca hera</i>
57	C	S4	7769.00	Saturniidae	<i>Hyalophora gloveri</i>
58	C	S4	7822.00	Sphingidae	<i>Smerinthus cerisyi</i> Kby.
59	C	S4	7824.00	Sphingidae	<i>Paonias exaecatus</i> (J.E. Sm.)
60	C	S4	7825.00	Sphingidae	<i>Paonias myops</i> (J.E. Sm.)
61	C	S4	7829.00	Sphingidae	<i>Pachysphinx occidentalis</i> (Hy. Edw.)
62	C	S4	7855.00	Sphingidae	<i>Hemaris diffinis</i> (Bdv.)
63	C	S4	7894.00	Sphingidae	<i>Hyles lineata</i> (Fabr.)
64	C	S4	7922.00	Notodontidae	<i>Pheosia rimosa</i> Pack.
65	C	S4	7931.00	Notodontidae	<i>Gluphisia septentrionis</i> Wlk.
66	C	S4	7937.00	Notodontidae	<i>Furcula cinerea</i> (Wlk.)
67	C	S4	7949.00	Notodontidae	<i>Furcula modesta</i>
68	U	S3	7957.00	Notodontidae	<i>Dasylophia anguina</i>
69	C	S4	8043.00	Erebidae	<i>Eilema bicolor</i> (Grote)
70	A	S5	8051.00	Erebidae	<i>Crambidia casta</i> (Pack.)
71	C	S4	8089.00	Erebidae	<i>Hypoprepia miniata</i> (Kby.)
72	C	S4	8129.00	Erebidae	<i>Pyrrharctia isabella</i> (Sm.)
73	C	S4	8131.00	Erebidae	<i>Estigmene acrea</i> (Drury)
74	C	S4	8144.00	Erebidae	<i>Hypercompe permaculata</i> (Packard)
75	C	S4	8174.00	Erebidae	<i>Holarctia obliterata</i> (Stretch)
76	A	S5	8186.00	Erebidae	<i>Grammia williamsii</i> (Dodge)
77	C	S4	8197.00	Erebidae	<i>Grammia virgo</i> (L.)
78	C	S4	8231.00	Erebidae	<i>Cycnia oregonensis</i>
79	A	S5	8294.00	Erebidae	<i>Dasychira vagans</i> (B.; McD.)
80	U	S3	8334.00	Erebidae	<i>Idia lubricalis</i>
81	C	S4	8334.10	Erebidae	<i>Idia occidentalis</i> (Sm.)
82	U	S3	8337.00	Erebidae	<i>Idia immaculalis</i>
83	C	S4	8632.00	Erebidae	<i>Drasteria hudsonica heathi</i>
84	A	S5	8738.00	Erebidae	<i>Caenurgina crassiuscula</i> (Haw.)
85	C	S4	8739.00	Erebidae	<i>Caenurgina erechtea</i> (Cram.)
86	C	S4	8803.00	Erebidae	<i>Catocala relictata</i> Wlk.
87	C	S4	8805.00	Erebidae	<i>Catocala unijuga</i> Wlk.
88	C	S4	8806.00	Erebidae	<i>Catocala parta</i>
89	U	S3	8808.00	Erebidae	<i>Catocala luciana</i> Stkr.
90	C	S4	8812.00	Erebidae	<i>Catocala hermia</i> Hy. Edw.
91	C	S4	8817.00	Erebidae	<i>Catocala briseis</i> Edw.
92	C	S4	8821.00	Erebidae	<i>Catocala semirelictata</i> Grt.
93	U	S3S4	8822.00	Erebidae	<i>Catocala meskei</i>
94	R	S3?	8833.00	Erebidae	<i>Catocala concumbens</i> Wlk.
95	R	S3	8857.00	Erebidae	<i>Catocala ultronia</i> (Hbn.)
96	A	S5	8887.00	Noctuidae	<i>Trichoplusia ni</i> (Hbn.)
97	C	S4	8899.00	Noctuidae	<i>Pseudeva purpurigera</i> (Wlk.)
98	A	S5	8914.00	Noctuidae	<i>Autographa californica</i>
99	C	S4	8923.00	Noctuidae	<i>Autographa ampla</i> (Wlk.)
100	A	S5	8924.00	Noctuidae	<i>Anagrapha falcifera</i> (Kby.)
101	C	S4	8926.00	Noctuidae	<i>Syngrapha octoscripta</i> (Grt.)
102	C	S4	9085.00	Noctuidae	<i>Ponometia semiflava</i> (Gn.)
103	C	S4	9101.00	Noctuidae	<i>Tarachidia tortricina fumata</i> (Sm.)

104	C	S4	9109.00	Noctuidae	Ponometia elegantula (Harvey)
105	C	S4	9111.00	Noctuidae	Tarache augustipennis (Grt.)
106	C	S4	9193.00	Noctuidae	Raphia frater Grt.
107	C	S4	9207.00	Noctuidae	Acronicta innotata Gn.
108	U	S3	9218.00	Noctuidae	Acronicta mansueta Sm.
109	C	S4	9261.00	Noctuidae	Acronicta impressa
110	C	S4	9280.00	Noctuidae	Simyra insularis
111	C	S4	9333.00	Noctuidae	Apamea lignicolora (Gn.)
112	C	S4	9364.00	Noctuidae	Apamea sordens finitima (Gn.)
113	C	S4	9365.00	Noctuidae	Apamea scoparia Mik., Must. & Laf.
114	C	S4	9374.00	Noctuidae	Apamea niveivenosa
115	C	S4	9382.00	Noctuidae	Apamea devastator (Brace)
116	C	S4	9383.00	Noctuidae	Apamea longula (Grt.)
117	C	S4	9396.00	Noctuidae	Eremobina claudens (Wlk.)
118	C	S4	9419.00	Noctuidae	Platypolia mactata (Gn.)
119	C	S4	9434.00	Noctuidae	Spartiniphaga includens
120	U	S3S4	9435.00	Noctuidae	Photedes inops (Grt.)
121	C	S4	9440.00	Noctuidae	Hypocoena rufostrigata
122	C	S4	9450.00	Noctuidae	Capsula subflava (Grt.)
123	C	S4	9453.00	Noctuidae	Celaena reniformis
124	C	S4	9456.00	Noctuidae	Amphipoea interoceanica
125	C	S4	9457.00	Noctuidae	Amphipoea americana (Speyer)
126	C	S4	9543.00	Noctuidae	Aseptis characta (Grt.)
127	A	S5	9549.00	Noctuidae	Enargia decolor (Wlk.)
128	A	S5	9550.00	Noctuidae	Enargia infumata (Grt.)
129	C	S4	9555.00	Noctuidae	Ipimorpha pleonectusa Grt.
130	C	S4	9638.00	Noctuidae	Amphipyra pyramidoides
131	U	S3	9640.00	Noctuidae	Amphipyra glabella
132	C	S4	9649.00	Noctuidae	Proxenus mendosa
133	U	S3	9654.00	Noctuidae	Caradrina meralis
134	A	S5	9656.00	Noctuidae	Caradrina montana (Bremer)
135	U	S3S4	9785.00	Noctuidae	Stiria rugifrons Grt.
136	U	S3	9826.00	Noctuidae	Acopa perpallida
137	C	S4	9832.00	Noctuidae	Escaria homogena McD.
138	U	S3	9841.00	Noctuidae	Afetella cylindrica (Grt.)
139	C	S4	9952.00	Noctuidae	Eucirroedia pampina
140	C	S4	9962.00	Noctuidae	Anathix puta Grote & Robinson
141	C	S4	9963.00	Noctuidae	Anathix aggressa
142	C	S4	9965.00	Noctuidae	Xanthia tatago Lafontaine and Mikkola
143	C	S4	9967.00	Noctuidae	Hillia iris
144	C	S4	9989.00	Noctuidae	Sutyna privata
145	C	S4	9993.00	Noctuidae	Brachylomia populi (Stkr.)
146	C	S4	9998.00	Noctuidae	Brachylomia algens (Grt.)
147	C	S4	10062.00	Noctuidae	Sympistis stabilis Sm.
148	C	S4	10066.10	Noctuidae	Sympistis dinalda (Smith)
149	C	S4	10067.00	Noctuidae	Sympistis chionanthi (Sm.)
150	R	S2	10073.00	Noctuidae	Sympistis regina
151	U	S3	10094.40	Noctuidae	Sympistis poliochroa
152	U	S3S4	10123.00	Noctuidae	Sympistis piffardi (Wlk.)
153	C	S4	10130.20	Noctuidae	Sympistis pallidior Barnes
154	C	S4	10143.00	Noctuidae	Sympistis mackiei
155	R	S2	10190.20	Noctuidae	Cucullia dorsalis
156	C	S4	10194.00	Noctuidae	Cucullia intermedia Speyer
157	C	S4	10198.00	Noctuidae	Cucullia postera
158	C	S4	10205.00	Noctuidae	Cucullia luna Morr.

159	C	S4	10224.00	Noctuidae	Anarta mutata
160	C	S4	10232.00	Noctuidae	Anarta farnhami (Grt.)
161	C	S4	10238.00	Noctuidae	Scotogramma submarina
162	U	S3	10239.00	Noctuidae	Scotogramma fervida B. & McD
163	R	S2S3	10256.00	Noctuidae	Sideridis fuscolutea
164	U	S3	10259.00	Noctuidae	Anarta decepta (Grote)
165	C	S4	10263.00	Noctuidae	Sideridis artesta (Sm.)
166	C	S4	10273.00	Noctuidae	Polia discalis
167	C	S4	10280.00	Noctuidae	Polia purpurissata (Grt.)
168	C	S4	10281.00	Noctuidae	Polia nugatis
169	C	S4	10288.00	Noctuidae	Orthodes detracta (Wlk.)
170	C	S4	10293.00	Noctuidae	Melanchra picta (Harr.)
171	C	S4	10297.00	Noctuidae	Lacanobia atlantica (Grt.)
172	C	S4	10298.00	Noctuidae	Lacanobia radix (Wlk.)
173	U	S3S4	10300.00	Noctuidae	Spiramater grandis (Gn.)
174	C	S4	10301.00	Noctuidae	Spiramater lutra (Gn.)
175	C	S4	10307.00	Noctuidae	Trichordestra lilacina (Harvey)
176	C	S4	10368.00	Noctuidae	Lacinipolia meditata
177	C	S4	10370.00	Noctuidae	Lacinipolia lustralis (Grt.)
178	C	S4	10372.00	Noctuidae	Lacinipolia anguina
179	C	S4	10374.00	Noctuidae	Lacinipolia longiclava
180	U	S3	10395.00	Noctuidae	Lacinipolia pensilis
181	C	S4	10428.00	Noctuidae	Dargida procinctus
182	C	S4	10431.00	Noctuidae	Faronta diffusa (Wlk.)
183	A	S5	10438.00	Noctuidae	Mythimna unipuncta (Haw.)
184	C	S4	10449.00	Noctuidae	Leucania insueta Gn.
185	C	S4	10490.00	Noctuidae	Orthosia revicta (Morr.)
186	C	S4	10493.00	Noctuidae	Orthosia segregata (Sm.)
187	A	S5	10495.00	Noctuidae	Orthosia hibisci
188	U	S3	10501.00	Noctuidae	Crocigrapha normani (Grt.)
189	C	S4	10514.00	Noctuidae	Egira rubrica (Harv.)
190	C	S4	10524.00	Noctuidae	Nephelodes minians Gn.
191	R	S1	10549.00	Noctuidae	Protorthodes eureka
192	C	S4	10552.00	Noctuidae	Protorthodes incincta (Morr.)
193	C	S4	10645.00	Noctuidae	Agrotis orthogonia Morr.
194	C	S4	10650.00	Noctuidae	Agrotis robustior (Sm.)
195	C	S4	10651.00	Noctuidae	Agrotis venerabilis Wlk.
196	U	S3	10658.00	Noctuidae	Agrotis stigmosa
197	C	S4	10676.00	Noctuidae	Feltia herilis (Grt.)
198	C	S4	10702.00	Noctuidae	Euxoa divergens (Wlk.)
199	C	S4	10705.00	Noctuidae	Euxoa messoria (Harr.)
200	C	S4	10723.00	Noctuidae	Euxoa tristicula (Morr.)
201	C	S4	10728.00	Noctuidae	Euxoa pestula
202	C	S4	10730.00	Noctuidae	Euxoa adumbrata
203	A	S5	10731.00	Noctuidae	Euxoa auxiliaris (Grt.)
204	C	S4	10738.00	Noctuidae	Euxoa mimallonis (Grt.)
205	C	S4	10749.00	Noctuidae	Euxoa intrita (Morr.)
206	C	S4	10755.00	Noctuidae	Euxoa declarata (Wlk.)
207	U	S3	10763.00	Noctuidae	Euxoa spumata McDunnough
208	C	S4	10765.00	Noctuidae	Euxoa pallipennis
209	U	S3	10769.00	Noctuidae	Euxoa nevada (Sm.)
210	C	S4	10776.00	Noctuidae	Euxoa aequalis acornis
211	C	S4	10780.00	Noctuidae	Euxoa comosa ontario (Sm.)
212	C	S4	10798.00	Noctuidae	Euxoa basalis (Grt.)
213	A	S5	10801.00	Noctuidae	Euxoa ochrogaster (Gn.)

214	C	S4	10804.00	Noctuidae	<i>Euxoa plagigera</i>
215	C	S4	10807.00	Noctuidae	<i>Euxoa albipennis</i> (Gn.)
216	U	S3	10809.00	Noctuidae	<i>Euxoa catenula</i>
217	U	S3	10811.00	Noctuidae	<i>Euxoa siccata</i>
218	U	S3	10813.00	Noctuidae	<i>Euxoa medialis</i>
219	C	S4	10817.00	Noctuidae	<i>Euxoa obeliscoides</i> (Gn.)
220	U	S3?	10826.10	Noctuidae	<i>Euxoa furtivus</i> (Sm.)
221	U	S3	10829.00	Noctuidae	<i>Euxoa laetificans</i> (Sm.)
222	C	S4	10830.00	Noctuidae	<i>Euxoa quadridentata</i> (Grt. & Rob.)
223	C	S4	10834.00	Noctuidae	<i>Euxoa oblongistigma</i>
224	C	S4	10838.00	Noctuidae	<i>Euxoa detersa</i> (Wlk.)
225	R	S2	10841.00	Noctuidae	<i>Euxoa citricolor</i> (Grt.)
226	U	S3	10843.00	Noctuidae	<i>Euxoa teleboa</i> (Sm.)
227	U	S3	10845.00	Noctuidae	<i>Euxoa difformis</i>
228	R	S2	10849.00	Noctuidae	<i>Euxoa dodi</i> (McD.)
229	C	S4	10854.00	Noctuidae	<i>Euxoa servitus</i> (Sm.)
230	C	S4	10855.00	Noctuidae	<i>Euxoa munis</i> (Grt.)
231	R	S2S3	10857.00	Noctuidae	<i>Euxoa taura</i>
232	C	S4	10860.00	Noctuidae	<i>Euxoa perolivalis</i> (Sm.)
233	C	S4	10861.00	Noctuidae	<i>Euxoa ridingsiana</i>
234	C	S4	10864.00	Noctuidae	<i>Euxoa flavicollis</i> Sm.
235	C	S4	10864.10	Noctuidae	<i>Euxoa maimis</i>
236	C	S4	10865.00	Noctuidae	<i>Euxoa perpolita</i> (Morr.)
237	R	S2	10892.10	Noctuidae	<i>Protogygia postera</i>
238	U	S3	10893.00	Noctuidae	<i>Protogygia enalaga</i> McD.
239	U	S3	10905.00	Noctuidae	<i>Anicla exuberans</i>
240	C	S4	10910.00	Noctuidae	<i>Anicla tepperi</i> (Sm.)
241	C	S4	10915.00	Noctuidae	<i>Peridroma saucia</i>
242	C	S4	10923.00	Noctuidae	<i>Actebia balanitis</i>
243	C	S4	10926.00	Noctuidae	<i>Spaelotis clandestina</i> (Harr.)
244	C	S4	10928.00	Noctuidae	<i>Graphiphora augur</i> (F.)
245	A	S5	10929.00	Noctuidae	<i>Eurois occulta</i> (L.)
246	A	S5	10930.00	Noctuidae	<i>Eurois astricta</i>
247	C	S4	10943.00	Noctuidae	<i>Xestia normanianus</i>
248	C	S4	10954.00	Noctuidae	<i>Agnorisma bugrai</i> (Kocak)
249	R	S2	10976.00	Noctuidae	<i>Setagrotis radiola</i> (Hamp.)
250	C	S4	11003.10	Noctuidae	<i>Noctua pronuba</i>
251	C	S4	11004.00	Noctuidae	<i>Protolampra rufipectus</i> (Morr.)
252	U	S3	11018.00	Noctuidae	<i>Abagrotis trigona</i>
253	C	S4	11027.00	Noctuidae	<i>Abagrotis orbis</i>
254	U	S3	11029.00	Noctuidae	<i>Abagrotis alternata</i>
255	C	S4	11030.10	Noctuidae	<i>Abagrotis hermina</i>
256	R	S2	11032.00	Noctuidae	<i>Abagrotis variata</i>
257	R	S1	11033.00	Noctuidae	<i>Abagrotis scopeops</i>
258	R	S2	11035.00	Noctuidae	<i>Abagrotis discoidalis</i>
259	U	S3S4	11038.00	Noctuidae	<i>Abagrotis nanalis</i>
260	C	S4	11041.00	Noctuidae	<i>Abagrotis placida</i> (Grt.)
261	U	S3S4	11043.00	Noctuidae	<i>Abagrotis cupida</i>
262	C	S4	11047.00	Noctuidae	<i>Parabagrotis exsertistigma</i> (Morr.)
263	R	SU	11050.10	Noctuidae	<i>Pronoctua peabodyae</i>
264	C	S4	11062.00	Noctuidae	<i>Eutricopis nexilis</i>
265	C	S4	11150.10	Noctuidae	<i>Schinia acutilinea</i>
266	C	S4	11175.00	Noctuidae	<i>Schinia meadi</i>
267	C	S4	11192.00	Noctuidae	<i>Schinia cumatilis</i> (Grt.)