

***LEPIDOPTERA OF THE LOWDEN SPRINGS CONSERVATION
AREA, ALBERTA, 2002-2009***

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The present paper incorporates the information in previous reports along with that gathered in 2009. It also includes a number of redeterminations and additions to the information in the earlier reports.



Native grasses, Prairie Crocus and Three-flowered Avens; Lowden Springs Conservation Area, looking ENE towards Lowden Lake, June 3, 2004.

THE AREA

The Lowden Springs Conservation Area is located on the northwest side of Lowden Lake, 17 km south of Stettler. It was officially dedicated 13 June 2003. It is jointly owned by the Alberta Conservation Association (ACA), Ducks Unlimited Canada (DU) and Nature Conservancy Canada. It comprises 121 acres of native grassland, 5 acres of aspen and 4 acres of alkaline wetlands. The coordinates in the center of the area

are 52.09N and 112.425W and the elevation there is 830 m. Historically, the land was part of the Randon Ranch and was grazed for pasture. Small upland portions were broken up many years ago and the native vegetation was destroyed, however, much of the area still has the original native vegetation as indicated by the presence of plants like Prairie Crocus (*Pulsatilla ludoviciana*) and Three-flowered Avens (*Geum triflorum*).



A stand of Silver Willow and Buckbrush in the middle of the Lowden Springs Natural Area, 4 June 2004

At the dedication, the writer was encouraged to carry out an inventory of the Lepidoptera of the area. He was especially interested in doing so as he was endeavoring to document the species found in natural areas in south-central Alberta and none of the other areas being researched had as much native grassland. The area was studied six times during 2002: June 13 and 20, July 2, 6 and 23; and August 23. On all occasions, 2 ultraviolet light traps were set up at dusk and removed the following morning. In 2003, the area was studied another six times: May 1 and 30, June 15, July 7, August 14 and September 5. In 2004, traps were set out on the nights of June 3, July 31 and August 11. In 2005, the area was studied on May 18, June 9, July 8 and August 5. In 2006, the area was sampled on the nights of May 15, June 28 and August 28. Unfortunately, due to various unforeseen time commitments, no research was done in the area in 2007. In 2008, collections were made on June 28. In 2009, the area was studied on May 24 and July 22.

The present report incorporates the information in the previous seven (Bird 2003, 2004, 2005, 2006, 2007, 2008, 2009) and includes a number of redeterminations to the information in the last report.

Because of the proximity of Lowden Lake, an abundance of water beetles, corixids and midges are on the wing during the summer. As many of them are attracted to ultraviolet (UV) light, the moth traps that were set out often had a large number of sticky beetles and/or midges. This made retrieving the moth catch difficult.

BACKGROUND

Provincial Parks and other areas where natural vegetation is protected are of great value as their flora and fauna are typical of what was in Alberta before widespread agricultural activities which resulted in the replacement of many native species by weedy species associated with cultivated grains and hay crops. As a result, many of Alberta's "rare and endangered" species are now found only, or mainly, in such protected areas.

The writer, now retired and living in Erskine, Alberta, has had a long-time interest in the natural flora and fauna of the province. In the spring of 2000, he commenced an examination of the moths of south-central Alberta, the purpose of which was to document the species present in various natural areas. He is a member of the Alberta Lepidopterist's Guild, the purpose of which is to encourage the study of Alberta's moths and butterflies.

There is still much to be learned about the distribution and status of lepidopteran (moth and butterfly) species in south-central Alberta. Baseline studies provide information that helps characterize those species associated with various ecoregions, in the present case a mixture of Prairie and Aspen Parkland; determine status designations (abundant, common, rare, endangered) of various species; and allow the examination of many other parameters, including phenology, dry vs. wet years, and outbreaks of various species such as forest tent caterpillars.

SPECIMEN DISPOSITION

All specimens collected by the writer presently reside in his collection but they will eventually be donated to the Strickland Museum at the University of Alberta (UASM), and, possibly some, to the Northern Forest Research Centre (NFRC) and the Canadian National Collection (CNC).

THE FOLLOWING CHECKLIST

The order and terminology, is that of R.W. Hodges (1983) except where recent changes in taxonomy have occurred. While most of the larger (macromoths) are relatively well known, the same cannot be said for many of the smaller (micromoths) ones. Identifications, especially of the latter, can be difficult or are at present impossible, until such time as revisionary studies are made. Also, genitalic dissection and examination is necessary for positive identification in some groups. For these reasons, some of the determinations found herein should be regarded as tentative. The scientific names of the species are followed by the day-month-year of the collection and the

number of individuals mounted; an “SR” indicates a sight record. Common names are mentioned in those cases where such names exist.

Kenneth Bowman’s (1951) list of the Lepidoptera of Alberta presents all species known at that time and gives the distribution of each according to 21 Areas. His areas 5, 8 and 10 essentially cover all of south-central Alberta, with the Lowden Springs Conservation Area being in Area 8. Most of Bowman’s records are from his Area 10, which includes Edmonton, so many of the species found in the following list are additions to his Area 8.

Pohl et al (2010) have put together an up-to-date annotated list of the Lepidoptera of Alberta. They include 2367 species, many more than those mentioned by Bowman (1951). The list incorporates recent changes in taxonomy of all groups according to various literature sources, including those listed for the Noctuoidea by Lafontaine & Schmidt (2010).

HEPIALIDAE – Ghost Moths

19. *Sthenopis purpurascens* (Pack.) (Large Ghost Moth) – 22A-VII-2009 1.
29. *Gazoryctra novigannus* (B. & Benj.) – 28-VIII-2006 1.

INCURVARIIDAE

184. *Lampronia aenescens* (Wlsm.) – 28-VI-2008 1.

TINEIDAE – Clothes Moths and others

334. *Amydria effrentella* Clem. – 23-VII-2002 1, 23-VIII-2002 1 and 8-VII-2005 2.
399. *Tinea irrepta* Braun – 20-VI-2002 3, 2-VII-2002 3, 14-VIII-2003 1, 11-VIII-2004 2, 9-VI-2005 1, 8-VII-2005 1, 28-VIII-2006 1 and 22C-VII-2009 1.
421. *Monopis spilotella* Tengström – 20-VI-2002 2 and 8-VII-2005 1.
Not in MONA. *Monopis laevigella* (D. & S.) – 20-VI-2002 1, 8-VII-2005 1 and 28-VI-2006 2.

OECOPHORIDAE – Oecophorid Moths

878. *Agonopterix canadensis* (Bsk.) – 31-VII-2004 1.
910. *Martyrhilda fulva* (Wlsm.) – 23-VIII-2002 10, 14-VIII-2003 2, 11-VIII-2004 5, 9-VI-2005 2, 8-VII-2005 1 and 5-VIII-2005 1.
918. *Depressaria atrostrigella* Clarke – 5-VIII-2005 1.

ELACHISTIDAE – Elachistid Moths

- Elachista* sp. – 6-VII-2002 1.

SYMMOCIDAE – Symmocid Moths

1138.31. *Glyphidocera hurlberti* Adamski – 13-VI-2002 1, 23-VII-2002 3, 31-VII-2004 1 and 8-VII-2005 1.

COLEOPHORIDAE – Casebearer Moths

1254-1389. *Coleophora* spp. – 31-VII-2004 1, 11-VIII-2004 1, 5-VIII-2005 1, 28-VI-2006 1, 28-VIII-2006 1, 28-VI-2008 2 and 22A-VII-2009 2. The above specimens are currently with Dr. J.-F. Landry who is doing a North American monograph of the group. Some of the JFL specimens may be of species that remain to be described.

1260. *Coleophora elaeagnisella* Kft. – 6-VII-2002 1 and 7-VII-2003 1.

1323. *Coleophora sparsipuncta* Heinr. – 31-VII-2004 1 and 11-VIII-2004 2.

1352. *Coleophora sparsipulvella* Cham. – 8-VII-2005 1.

1367. *Coleophora brunneipennis* Braun – 8-VII-2005 2.

1388. *Coleophora trifolii* (Curt.) (Large Clover Case-bearer) – 8-VII-2005 1, 28-VI-2006 3, 22A-VII-2009 1 and 22B-VII-2009 1.

Coleophora duplicis-8 group – 2-VIII-2000 1.

Coleophora JFL048 – 14-VIII-2003 1.

Coleophora JFL049 – 14-VIII-2003 2.

Coleophora JFL055 – 28-VIII-2006 1.

Coleophora JFL078 – 28-VI-2006 1.

Coleophora JFL080 – 15-VI-2003 1 and 9-VII-2005 1.

Coleophora JFL084 – 11-VIII-2004 1 and 5-VIII-2005 4.

Coleophora JFL087 – 8-VII-2005 1.

Coleophora JFL089 – 23-VII-2002 2.

Coleophora JFL092 – 23-VIII-2002 1.

GELECHIIDAE – Gelechiid Moths

1681-2311. Species unknown – 13-VI-2002 3, 20-VI-2002 3, 6-VII-2002 5, 23-VII-2002 9, 23-VIII-2002 2, 31-VII-2004 4, 11-VIII-2004 1, 9-VI-2005 2, 8-VII-2005 7, 5-VIII-2005 6, 15C-V-2006 1, 28-VI-2006 3, 28-VI-2008 1, 22A-VII-2009 3, 22B-VII-2009 2 and 22C-VII-2009 1. Little is known about many of the species in this family and it may be many years before some of these specimens are determined or even described.

1615. *Walshia miscecolorella* (Cham.) – 28-VI-2008 1.

1738. *Aristotelia fungivorella* (Clem.) – 31-VII-2004 1.

1880. *Xenolechia velatella* (Bsk.) – 15B-V-2006 1.

1902. *Lita variabilis* (Bsk.) – 23-VIII-2002 3, 14-VIII-2003 2.

Gnorimoschema indet. – 28-VIII-2006 7.

2000. *Gnorimoschema septentrionella* Fyles – 11-VIII-2004 1.

2008. *Gnorimoschema* nr *vastificum* Braun – 14-VIII-2003 1.

2093. *Chionodes mediofuscella* (Clem.) – 13-VI-2002 1, 11-VIII-2004 1 and 9-VI-2005 1.

2111. *Chionodes psilopterus* (B. & Bsk.) – 13-VI-2002 2, 20-VI-2002 2, 2-VII-2002 2, 6-VII-2002 1, 23-VII-2002 2, 23-VIII-2002 1, 7-VII-2003 2, 31-VII-2004 2, 11-VIII-2004 2, 9-VI-2005 1, 8-VII-2005 2, 28-VI-2006 1, 28-VI-2008 8, 22A0VII-2009 1 and 22B-VII-2009 1.
2127. *Filatima abactella* (Clarke) – 15-VI-2003 1.
2267. *Brachmia* (*Helcystogramma*) *fernaldella* (Bsk.) – 13-VI-2002 3, 15A-V-2006 1, 15B-V-2006 2 and 15C-V-2006 3.
2308. *Dichomeris purpureofusca* (Wlsm.) – 2-VII-2002 1.

ALUCITIDAE – Many-plume Moths

2313. *Alucita montana* Barnes & Lindsey (The Six Plume Moth) – 13-VI-2002 2, 20-VI-2002 1, 1-V-2003 1, 15-VI-2003 1, 14-VIII-2003 2. Bernard Landry and Jean-François Landry (2004) show that true *Alucita hexadactyla* does not occur in North America and that three different species occur in Alberta.

PLUTELLIDAE – Plutellid Moths

2366. *Plutella xylostella* (L.) (Diamondback Moth) – 14-VIII-2003 1, 9-VI-2005 1 and 5-VIII-2005 1.
2371. *Ypsolopha canariella* (Wlsm.) – 5-VIII-2005 1.
2376. *Ypsolopha dentiferella* (Wlsm.) – 23-VII-2002 1.

COSSIDAE – Carpenterworm Moths

2675. *Acosus centerensis* (Lint.) (Poplar Carpenterworm) – 8-VII-2005 1 and 22B-VII-2009 2.

TORTRICIDAE – Tortricid Moths

- Olethreutines* indet. – 31-VII-2005 4.
- 2706-2707. *Bactra furfurana* (Haw.) or *B. verutana* Zell. – 8-VII-2005 1 and 28-VI-2006 1.
2706. *Bactra furfurana* (Haw.) – 23-VIII-2002 1.
2707. *Bactra verutana* Zell. (Javelin Moth) – 6-VII-2002 1 and 8-VII-2005 1.
- 2743a. *Endothenia nubilana* (Clem.) – 23-VII-2002 2, 23-VIII-2002 1.
2765. *Apotomis deceptana* (Kft.) (Deceptive *Apotomis* Moth) – 13-VI-2002 1.
2766. *Apotomis dextrana* McD. (Green Aspen Leafroller) – 5-VIII-2005 1.
2770. *Orthotaenia undulana* (D. & S.) (Dusky Leafroller) – 8-VII-2005 1 and 28-VI-2008 9.
- 2774/2859. *Olethreutes* spp. – 23-VII-2002 2, 23-VIII-2002 1, 31-VII-2004 2, 5-VIII-2005 1, 28-VI-2008 1, 22A-VII-2009 1 and 22C-VII-2009 1. Many of the species in this genus are difficult to identify, require genitalic examination and/or are poorly known
2794. *Olethreutes quadrifidus* (Zell.) – 8-VII-2005 1.

2861. *Hedya ochroleucana* (Frölich) (Off-white Hedya Moth) – 28-VI-2006 3 and 22C-VII-2009 1.
2862. *Hedya nubiferana* (Haw.) – 13-VI-2002 1, 23-VIII-2002 1 and 31-VII-2004 1.
Phaneta sp. – 9-VII-2005 1.
2933. *Phaneta marmontana* (Kft.) – 28-VI-2006 4.
2937. *Phaneta parmatana* (Clem.) – 8-VII-2005 2.
2965. *Phaneta fertoriana* (Heinr.) – 28-VIII-2006 4.
2969. *Phaneta indagatricana* (Heinr.) – 14-VIII-2003 1, 31-VII-2004 6, 11-VIII-2004 1 and 5-VIII-2005 3.
2973. *Phaneta striatana* (Clem.) – 8-VII-2005 1 and 28-VI-2008 1.
2980. *Phaneta pallidicostana* (Wlsm.) – 23-VII-2002 1, 11-VIII-2004 2, 8-VII-2005 6, 28-VI-2006 9, 28-VI-2008 4, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
3014. *Eucosma ridingsana* (Rob.) (Riding's Eucosma Moth) – 27A-VI-2003 1, 11-VIII-2004 4, 5-VIII-2005 8 and 28-VIII-2006 1.
3031. *Eucosma serpentana* (Wlsm.) – 6-VII-2002 3, 23-VII-2002 4, 5-IX-2003 2, 31-VII-2004 1, 11-VIII-2004 4, 8-VII-2005 3, 5-VIII-2005 3 and 22C-VII-2009 1.
3035. *Eucosma morrisoni* (Wlsm.) – 8-VII-2005 1.
3037. *Eucosma agricolana* (Wlsm.) – 6-VII-2002 5, 23-VII-2002 1, 15-VI-2003 1, 7-VII-2003 2, 31-VII-2004 1, 9-VI-2005 4, 8-VII-2005 3 and 28-VI-2008 1.
3039. near *Eucosma barbara* Miller – 8-VII-2005 1.
3119. *Eucosma juncticiliana* (Wlsm.) – 31-VII-2004 1.
3142. *Eucosma cataclystana* (Wlk.) (Solidago Eucosma Moth) – 7-VII-2003 2, 8-VII-2005 2 and 22B-VII-2009 1.
- 3151a. *Pelochrista scintillana* (Clem.) – 8-VII-2005 1.
3205. *Epiblema resumptana* (Wlk.) – 13-VI-2002 1 and 8-VII-2005 1.
3211. *Notocelia culminana* (Wlsm.) – 31-VII-2004 1 and 11-VIII-2004 1.
3223. *Gypsonoma fasciolana* (Clem.) – 28-VI-2008 1.
3288. *Epinotia castaneana* (Wlsm.) – 28-VI-2006 1.
3379. *Ancylis diminutana* (Haw.) – 28-VIII-2006 1.
3502. *Croesia albicomana* (Clem.) – 31-VII-2004 1 and 28-VI-2006 1.
3548. *Acleris variana* (Fern.) (Blackheaded Budworm) – 5-IX-2003 1.
3595. *Pandemis canadana* Kft. (Green Aspen Leaf-tier) – 23-VII-2002 1, 31-VII-2004 1 and 22C-VII-2009 1.
3635. *Choristoneura rosaceana* (Harr.) (Oblique-banded Leafroller Moth) – 28-VI-2006 2, 22B-VII-2009 1 and 22C-VII-2009 1.
3637. *Choristoneura conflictana* (Wlk.) (Large Aspen Tortrix) – 8-VII-2005 1.
3661. *Archips cerasivorana* (Fitch) (Uglynest Caterpillar Moth) – 23-VII-2002 1.
3675. *Aphelia alleniana* (Fern.) – 8-VII-2005 2, 28-VI-2008 3 and 22C-VII-2009 1.
3682. *Clepsis persicana* (Fitch) (White-triangle Tortrix Moth) – 28-VI-2006 1, 28-VI-2008 2 and 22A-VII-2009 1.
3684. *Clepsis clemensiana* (Fern.) (Clemen's Clepsis Moth) – 6-VII-2002 1, 23-VII-2002 1, 23-VIII-2002 1, 31-VII-2004 3, 11-VIII-2004 2, 8-VII-2005 2, 5-VIII-2005 2, 28-VI-2006 2, 28-VI-2008 3, 22A-VII-2009 1 and 22B-VII-2009 1.
3688. *Ptycholoma peritana* (Clem.) (Garden Tortrix Moth) – 14-VIII-2003 1, 31-VII-2004 1, 11-VIII-2004 1, 5-VIII-2005 1 and 22B-VII-2009 1.

3693. *Xenotemna pallorana* (Rob.) – 23-VII-2002 1.
 3695. *Sparganothis sulfureana* (Clem.) (*Sparganothis* Fruitworm Moth) – 5-VIII-2005 1, 22A-VII-2009 1 and 22B-VII-2009 1.
 3706. *Sparganothis xanthoides* (Wlk.) (*Mosaic Sparganothis* Moth) – 23-VII-2002 5, 5-VIII-2005 1, 22A-VII-2009 1 and 22C-VII-2009 1.
 3711. *Sparganothis unifasciana* (Clem.) (*One-lined Sparganothis* Moth) – 8-VII-2005 2.
 3712. *Sparganothis vocaridorsana* Kft. – 2-VII-2002 1, 6-VII-2002 1, 15-VI-2003 1, 9-VI-2005 1 and 28-VI-2008 2.
 3720. *Sparganothis reticulatana* (Clem.) (*Reticulated Fruitworm Moth*) – 31-VII-2004 1.



Sparganothis directana, both images from the Moth Photographers Group web site.

3722. *Sparganothis directana* (Wlk.) – 23-VII-2002 4 and 22C-VII-2009 1. New to Alberta.

COCHYLIDAE – Cochylid Moths

Razowski (1997) has a paper on Canadian Cochylids, but they still remain difficult to identify with certainty. The family is now being revised by Dr. Eric Metzler and Dr John Brown. Some of the following specimens are now being examined by them.

3755. *Aethes smeathmanniana* (F.) (*Smeathmann's Aethes* Moth) – 9-VI-2005 1, 8-VII-2005 1, 28-VI-2006 3 and 28-VI-2008 1.
 3758. *Aethes rutilana* (Hbn.) – 8-VII-2005 1.
 3760-3763. *Platphaloniodia* prob. *lavana* Raz. – 20-VI-2002 1.
Phtheochroa sp. – 6-VII-2002 2.
 3787. *Phtheochroa* (*Corolella*) *vitellinana* (Zell.) – 22A-VII-2009 1.
 3792. *Phtheochroa* (*Hysterosia*) *fulviplicana* (Wlsm.) – 22A-VII-2009 1.
 3833.31. *Aethes monera* ? – 8-VII-2005 2.

PAPILIONIDAE – Swallowtail Family

- 4176a. *Papilio glaucus canadensis* R. & J. (*Tiger Swallowtail*) – 13-VI-2002 2 SR.

PIERIDAE – White and Sulphur Butterflies

4209. *Colias philodice* Godt. (*Clouded Sulphur*) – 13-VI-2002 3 SR.

LYCAENIDAE – Blues and Hairstreaks

4384d. *Plebejus rusticus rusticus* (Edw.) (Arctic Blue) – 13-VI-2002 1.

NYMPHALIDAE - Fritillaries

4465b. *Boloria bellona jenistai* (D. Stallings & Turner) (Meadow Fritillary) – 13-VI-2002 2 SR.

4583b. *Coenonympha inornata benjamini* McD. (Ringlet) – 13-VI-2002 1.

SATYRIDAE - Arctics

4608. *Oeneis alberta* Elwes (Alberta Arctic) – 13-VI-2002 1.

LIMACODIDAE – Slug Moths

4652. *Tortricidia testacea* Pack. – 9-VI-2005 1.

PYRALIDAE – Pyralid or Snout Moths

4703. *Gesneria centuriella* (D. & S.) – 8-VII-2005 1.

4716. *Scoparia biplagiata* Wlk. (Double-striped Scoparia Moth) – 20-VI-2002 1 and 5-VIII-2005 1.

4773. *Petrophila kearfottalis* (B. & McD.) – 14-VIII-2003 1 and 22B-VII-2009 1.

4987. *Sitochroa chortalis* (Grt.) – 13-VI-2002 1, 6-VII-2002 2, 15-VI-2003 1, 8-VII-2005 1 and 28-VI-2006 1.

5004. *Loxostege sticticalis* (L.) (Beet Webworm) – 13-VI-2002 4, 20-VI-2002 1, 23-VII-2002 1, 30-V-2003 1, 14-VIII-2003 3, 5-IX-2003 2 SR, 3-VI-2004 1 (2 SR), 31-VII-2004 1, 9-VI-2005 1, 28-VI-2006 2, 28-VIII-2006 2, 28-VI-2008 2, 22A-VII-2009 1 and 22C-VII-2009 1.

5017. *Loxostege cereralis* (Zell.) (Alfalfa Webworm Moth) – 23-VII-2002 1 and 8-VII-2005 1.

5034. *Pyrausta signatalis* (Wlk.) (Raspberry Pyrausta Moth) – 8-VII-2005 1.

5068. *Pyrausta unifascialis* (Pack.) (Pussytoes Pyrausta Moth) – 20-VII-2002 4, 8-VII-2005 2, 28-VI-2006 3 and 28-VI-2008 4.

5074. *Pyrausta fodinalis* (Led.) – 9-VI-2005 1, 8-VII-2005 1 and 22B-VII-2009 1.

5135. *Mecyna submedialis* (Grt.) (Orange-toned Mecyna Moth) – 6-VII-2002 4, 23-VII-2002 2, 23-VIII-2002 1, 31-VII-2004 1, 11-VIII-2004 1, 8-VII-2005 2, 5-VIII-2005 2, 28-VI-2006 1 and 22B-VII-2009 1.

5156. *Nomophila nearctica* Mun. (Celery Stalkworm or Lucerne Moth) – 14-VIII-2003 1, 5-VIII-2005 1 and 28-VIII-2006 1.

5299. *Acentria ephemerella* (Denis & Schiffermüller) (*A. nivea*) (Water Veneer Moth) – 23-VII-2002 1 and 22A-VII-2009 1. Reported as new to Alberta in Pohl et al (2005).

- Donacaula sp. – 22A-VII-2009 2 and 22B-VII-2009 1. Edda Martinez at the Mississippi Entomological Museum is monographing the North American species of this genus. These and the following two specimens have been sent to her for study.
5316. *Donacaula melinella* (Clem.) (Delightful Donacaula Moth) – 8-VII-2005 1 and 28-VI-2006 6.
- 5343a. *Crambus perlellus innotatellus* Wlk. – 33-VII-2002 3, 31-VII-2004 1, 11-VIII-2004 2, 8-VII-2005 1, 5-VIII-2005 1, 22A-VII-2009 1 and 22C-VII-2009 1.
- 5345a. *Crambus whitmerellus browni* Klots – 2-VII-2002 1, 7-VII-2003 3, 8-VII-2005 1, 28-VI-2008 3, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
5354. *Crambus ainliellus* Klots – 28-VIII-2006 2.
5379. *Neodactria luteolella* Clem. (Mottled Grass-veneer Moth) – 8-VII-2005 3, 28-VI-2006 2, 28-VI-2008 2, 22A-VII-2009 1 and 22C-VII-2009 1.
5391. *Chrysoteuchia topiaria* (Zell.) (Cranberry Girdler or topiary Grass-veneer Moth) – 6-VII-2002 8, 5-IX-2003 3, 8-VII-2005 4, 28-VI-2006 1, 28-VIII-2006 2 and 28-VI-2008 5, 22A-VII-2009 1 and 22B-VII-2009 1.
5397. *Agriphila ruricolella* (Zell.) (Lesser Vagabond Sod Webworm Moth) – 23-VIII-2002 1, 31-VII-2004 4, 11-VIII-2004 1, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
5403. *Agriphila vulgivagella* (Clem.) (Vagabond Crambus Moth) – 5-IX-2003 1 and 28-VIII-2006 8.
5404. *Agriphila attenuata* (Grote) – 5-IX-2003 1 and 28-VIII-2006 2. Not previously known from Alberta.
- 5410-5419. *Pediasia* spp. – 6-VII-2002 1, 23-VII-2002 7, 23-VIII-2002 1, 7-VII-2003 2, 8-VII-2005 3 and 5-VIII-2005 7. These could be *Pediasia aridella edmontella*, *Pediasia laciniella*, or even an undescribed species.
5413. *Pediasia trisecta* (Wlk.) (Sod Webworm Moth) – 23-VIII-2002 3, 14-VIII-2003 2, 11-VIII-2004 5 and 28-VIII-2006 1.
5414. *Pediasia laciniella* (Grt.) – 22A-VII-2009 2, 22B-VII-2009 1 and 22C-VII-2009 1.
5415. *Pediasia ericella* (B. & McD.) – 7-VII-2003 1.
5417. *Pediasia dorsipunctella* (Kft.) – 6-VII-2002 1, 23-VII-2002 1, 23-VII-2002 2, 7-VII-2003 3, 31-VII-2004 2, 11-VIII-2004 5, 8-VII-2005 1 and 5-VIII-2005 1.
- 5441a. *Thaumatopsis fernaldella nortella* Kft. – 6-VII-2002 1, 23-VIII-2002 1, 7-VII-2003 1, 31-VII-2004 1, 11-VIII-2004 1, 22B-VII-2009 1 and 22C-VII-2009 1.
5655. *Acrobasis tricolorella* Grt. (Tricolored Acrobasis Moth) – 28-VI-2006 1.
5751. *Pima fulvirugella* Rag. – 22A-VII-2009 1 and 22C-VII-2009 1.
5758. *Interjectio niviella* (Hulst) – 22C-VII-2009 1.
5792. *Nephoterix fernaldi* (Rag.) – 23-VII-2002 1.
5812. *Telethuisia ovalis* (Pack.) – 22B-VII-2009 1 and 22C-VII-2009 1.
5886. *Lipographis fenestrella* (Pack.) – 23-VIII-2002 3, 14-VIII-2003 6 and 5-VIII-2005 3. First determined by Brian Scholtens, who has retained one specimen. Reported as new to Alberta in Pohl et al. (2005).
5918. *Hulstia undulatella* (Clem.) (Sugarbeet Crownborer Moth) – 23-VII-2002 1, 28-VI-2006 1, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
5946. *Phycitoides mucidella* (Rag.) – 23-VII-2002 1.
5968. *Zophodia grossulariella* (Hbn.) (Gooseberry Fruitworm) – 1-V-2003 1.

PTEROPHORIDAE – Plume Moths

Pterophoridae indet. - 9-VI-2005 2, 8-VII-2005 4, 5-VIII-2005 1 and 28-VI-2006 6.

These are presently being examined by Doug Macaulay.

6107. *Gillmeria pallidactyla* (Haw.) – 9-VI-2005 1, 8-VII-2005 21 and 28-VI-2008 3.

6149. *Stenoptilia coloradensis* Fern. – 28-VI-2008 1.

6166. *Oidaematophorus mathewianus* (Zell.) (Matthew's Plume Moth) – 9-VI-2005 1, 5-VIII-2005 1 and 22C-VII-2009 1.

6205. *Hellinsia pectodactylus* (Staudinger) – 22C-VII-2009 1.

THYATIRIDAE – Thyatirid and Lutestring Moths

6240. *Euthyatira pudens* (Gn.) (Dogwood Thyatira) – 15C-V-2006 1.

6248. *Ceranemota albertae* Clarke (Alberta Lutestring) – 28-VIII-2006 1.

GEOMETRIDAE – Inchworm or Geometrid Moths

6279. *Macaria (Itame) occiduaria* (Pack.) (Western Sulphur) – 7-VII-2003 1, 11-VIII-2004 2, 8-VII-2005 1 and 5-VIII-2005 1.

6283. *Macaria (Itame) sulphurea* (Pack.) (Spotted Sulphur) – 22C-VII-2009 1.

6290. *Macaria (Itame) loricaria* (Evers.) (False Bruce Spanworm Moth) – 6-VII-2002 1.

6304. *Macaria bitactata* (Wlk.) – 11-VIII-2004 1 and 5-VIII-2005 1.

6373. *Digrammia (Semiothisa) denticulata* Grt. (Striped Granite) – 20-VI-2002 1, 31-VII-2004 1, 28-VI-2008 1 and 22C-VII-2009 1.

6396. *Digrammia (Semiothisa) neptaria* (Gn.) – 3-VI-2004 1 and 28-VI-2006 1.

6397. *Digrammia (Semiothisa) mellistrigata* (Grt.) – 31-VII-2004 1 and 8-VII-2005 1.

6651. *Lycia ursaria* (Wlk.) (The Bear or the Stout Spanworm) – 1-V-2003 1.

6677. *Cabera erythemaria* Gn. (Yellow-dusted Cream Moth) – 9-VI-2005 1, 28-VI-2006 1 and 28-VI-2008 1.

6678. *Cabera variolaria* Gn. (Pale-striped Willow Spanworm) – 8-VII-2005 1, 28-VI-2006 1 and 22A-VII-2009 1.

6715. *Aspitates aberratus* (Hy. Edw.) – 13-VI-2002 3, 20-VI-2002 2, 15-VI-2003 1, 3-VI-2004 2, 9-VI-2005 1, 8-VII-2005 2, 28-VI-2006 1 and 28-VI-2008 2.

6726. *Euchlaena obtusaria* (Hbn.) (Obtuse *Euchlaena*) – 6-VII-2002 1 and 28-VI-2006 1.

6729. *Euchlaena johnsonaria* (Fitch) (Johnson's *Euchlaena*) – 23-VII-2002 1 and 8-VII-2005 2.

6737. *Euchlaena tigrinaria* (Gn.) (Mottled *Euchlaena* or Variable Thorn) – 28-VI-2006 1.

6743. *Xanthotype sospeta* (Drury) (Crocus Geometer) – 28-VI-2006 1.

6755. *Pero morrisonaria* (Hy. Edw.) (Lesser Umber or Morrison's *Pero*) – 15-VI-2003 1.

6822. *Metarranthis duaria* (Gn.) (Ruddy *Metarranthis*) – 28-VI-2008 1.

6912. *Sicya macularia* (Harr.) (Pink-bordered Yellow) – 22A-VII-2009 1.

6954. *Synaxis jubararia* (Hulst) (October Thorn) – 5-IX-2003 1.

6963. *Tetracis crocallata* Gn. (Yellow Slant-line) – 8-VII-2005 1.

6982. *Prochoerhodes transversata* (Drury) (Large Maple Spanworm) – 14-VIII-2003 1.

7018. *Nemoria unitaria* (Pack.) (Single-lined Emerald) – 22A-VII-2009 1.

7058. *Synchlora aerata* (F.) (Wavy-lined Emerald) – 8-VII-2005 1.
 7166. *Scopula frigidaria* Mösch. (Frigid Wave) – 8-VII-2005 3.
 7169. *Scopula inductata* (Gn.) (Soft-lined Wave) – 6-VII-2002 1, 23-VII-2002 2, 31-VII-2004 2, 28-VI-2006 2, 28-VIII-2006 1, 28-VI-2008 2, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
 7201. *Eulithis testata* (L.) (Chevron Moth) – 5-VIII-2005 1.
 7254. *Hydriomena ruberata* (Freyer) – 13-VI-2002 1.
 7257. *Hydriomena furcata* (Thunb.) (Common Highflyer) – 31-VII-2004 1.
 7394. *Epirrhoe alternata* (Müller) (White-banded Toothed Carpet) – 22C-VII-2009 1.
 7396. *Epirrhoe sperryi* Herbulot (Small Argent & Sable) – 13-VI-2002 1.
 7483. *Eupithecia regina* Tayl. – 6-VII-2002 1.
 7594. *Eupithecia anticaria* Wlk. – 20-VI-2002 2, 2-VII-2002 1.

LASIOCAMPIDAE – Tent Caterpillar and Lappet Moths

7698. *Malacosoma disstria* Hbn. (Forest Tent Caterpillar) – 8-VII-2005 1.
 7702. *Malacosoma californicum* (Pack.) (Western Tent Caterpillar) – 31-VII-2004 1 and 28-VI-2006 1.

SATURNIIDAE – Giant Silkworm Moths

7757. *Antheraea polyphemus* (Cram.) (Polyphemus Moth) – 13-VI-2002 1, 15-VI-2003 1.
 7769. *Hyalophora gloveri* (Stkr.) (Glover's Silk-moth) – 8-V-2005 1, 15B-V-2006 1 and 15C-V-2006 1.

SPHINGIDAE – Sphinx Moths

7803. *Sphinx vashti* Stkr. (Vashti or Snowberry Sphinx) – 13-VI-2002 1, 20-VI-2002 1 SR, 15-VI-2003 1, 30-V-2003 1, 3-VI-2004 4 SR, 9-VI-2005 2, 28-VI-2008 2 and 22B-VII-2009 1.
 7821. *Smerinthus jamaicensis* (Drury) (Twin Spotted Sphinx) – 13-VI-2002 1, 20-VI-2002 5 SR, 2-VII-2002 3 SR, 6-VII-2002 2 SR, 3-VI-2004 1 SR, 28-VI-2008 1, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
 7822. *Smerinthus cerisyi* Kby. (One-eyed Sphinx) – 13-VI-2002 1, 20-VI-2002 2 SR, 2-VII-2002 1 SR, 6-VII-2002 1 SR, 7-VII-2003 1 SR, 3-VI-2004 1 SR, 9-VI-2005 1, 28-VI-2008 1, 22A-VII-2009 1 and 22B-VII-2009 1.
 7824. *Paonias excaecatus* (J.E. Smith) (Blinded Sphinx) – 28-VI-2008 1.
 7828. *Pachysphinx modesta* (Harr.) (Great Poplar Sphinx) – 20-VI-2002 1 SR.
 7893. *Hyles gallii* (Rottemburg) (Galium Sphinx) – 15-VI-2003 1 and 9-VI-2005 1.

NOTODONTIDAE – Prominent Moths

7895. *Clostera albosigma* Fitch (Sigmoid Prominent) – 5-VIII-2005 1.
 7901. *Clostera apicalis* (Wlk.) (Common Chocolate-tip or Red-marked Tentmaker) – 13-VI-2002 1 and 24-V-2009 1.

7928. *Notodonta simplaria* Graef (Simple Prominent) – 11-VIII-2004 1 and 18-V-2005 1.
Now regarded as synonymous with the Old World *Notodonta torva* (Hübner).
7931. *Gluphisia septentrionis* Wlk. (Small Pebble or Common Gluphisia) – 13-VI-2002 1, 20-VI-2002 1, 9-VI-2005 1 and 28-VI-2006 1.
7939. *Furcula occidentalis* (Lint.) (Willow Kitten) – 2-VII-2002 1 and 8-VII-2005 1.
7941. *Furcula modesta* (Huds.) (Modest Kitten) – 28-VI-2008 1.

ARCTIIDAE – Tiger Moths and others

8051. *Crambidia casta* (Pack.) (Pearly-winged Lichen Moth) – 23-VIII-2002 1, 14-VIII-2003 2 and 28-VIII-2006 1.
8089. *Hypoprepia miniata* (Kby.) (Scarlet-winged Lichen Moth) – 23-VII-2002 1, 22A-VII-2009 1 and 22B-VII-2009 1.
8123. *Holomelina ferruginosa* (Wlk.) (Rusty Holomelina) – 8-VII-2005 1 and 28-VI-2006 1.
8129. *Pyrrharctia isabella* (J. E. Smith) (Isabella Tiger Moth or Banded Woollybear Moth) – 20-VI-2002 1 and 22B-VII-2009 1.
8131. *Estigmene acraea* (Drury) (Saltmarsh Tiger Moth) – 13-VI-2002 5 and 28-VI-2008 1.
8137. *Spilosoma virginica* (F.) (Virginian Tiger Moth or Yellow Woollybear Moth) – 6-VII-2002 1 and 28-VI-2008 1.
8156. *Phragmatobia fuliginosa* (L.) – 15C-V-2006 2.
8158. *Phragmatobia assimilans* (Wlk.) (Large Ruby Tiger Moth) – 20-VI-2002 1 and 24-V-2009 1.
8162. *Platarctia parthenos* (Harr.) (St. Lawrence Tiger Moth) – 20-VI-2002 2 SR and 28-VI-2008 1.
8175. *Grammia virguncula* (W. Kby.) (Little Virgin Moth) – 23-VII-2002 3, 8-VII-2005 3, 28-VI-2006 1, 28-VI-2008 3, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
8186. *Grammia williamsii* (Dodge) (William's Tiger Moth) – 2-VII-2002 1, 7-VII-2003 2, 28-VI-2006 1 and 28-VI-2008 1.
8196. *Grammia parthenice* (W. Kirby) (Parthenice Tiger Moth) – 23-VII-2002 2, 23-VIII-2002 1, 31-VII-2004 1, 8-VII-2005 1, 5-VIII-2005 1, 22A-VII-2009 1, 22B-VII-2009 1, and 22C-VII-2009 1.
8197. *Grammia virgo* (L.) (Virgin Tiger Moth) – 8-VII-2005 1, 28-VI-2006 1, 28-VI-2008 1, 22B-VII-2009 1 and 22C-VII-2009 1.
8267. *Cisseps fulvicollis* (Hbn.) (Yellow-collared Scape Moth) – 8-VII-2005 1, 22A-VII-2009 1 and 22B-VII-2009 1.

LYMANTRIIDAE – Tussock Moths

8294. *Dasychira vagans* (Variable Tussock Moth) – 2-VII-2002 1, 8-VII-2005 1 and 28-VI-2006 1.

NOCTUIDAE – Owlet or Noctuid Moths

8362. *Phalaenostola metonalis* (Wlk.) (Pale *Phalaenostola* or Tufted Snout) – 23-VII-2002 1, 8-VII-2005 2 and 22C-VII-2009 1.
8555. *Scoliopteryx libatrix* (L.) (The Herald) – 13-VI-2002 1.
8738. *Caenurgina crassiuscula* (Haw.) (Clover Looper Moth) – 13-VI-2002 4, 23-VII-2002 2, 15-VI-2003 1, 22B-VII-2009 1 and 22C-VII-2009 1.
8739. *Caenurgina erechtea* (Cram.) (Forage Looper Moth) – 31-VII-2004 2 and 28-VIII-2006 1.
8896. *Diachrysia aeroides* (Grt.) (Dark-spotted Looper Moth) – 23-VII-2002 1 and 8-VII-2005 1.
8912. *Autographa mappa* (G. & R.) (Wavy Chestnut Y) – 28-VI-2008 1.
8914. *Autographa californica* (Speyer) – 7-VII-2003 2 SR.
8923. *Autographa ampla* (Wlk.) (Broken-banded Y Large Looper Moth) – 28-VI-2006 1.
8924. *Anagrapha falcifera* (Kby.) (Celery Looper) – 13-VI-2002 1, 15-VI-2003 1, 5-IX-2003 1, 9-VI-2005 1 and 28-VI-2008 1.
8950. *Plusia putnami* Grt. (Putnam's Looper Moth) – 8-VII-2005 1, 28-VI-2006 1 and 28-VI-2008 1.
8953. *Plusia venusta* Wlk. (White-streaked Looper Moth) – 23-VII-2002 1, 28-VI-2006 1, 22A-VII-2009 1 and 22C-VII-2009 1.
8990. *Nola cilicoides* (Grt.) (Bluffy-patched Nola) – 23-VII-2002 1, 22B-VII-2009 1 and 22C-VII-2009 1.
9048. *Lithacodia albidula* (Gn.) (Common Midget) – 20-VI-2002 1, 22B-VII-2009 1 and 22C-VII-2009 1.
9101. *Tarachidia tortricina* (Zell.) (Olive-shaded Bird-dropping Moth) – 13-VI-2002 1, 6-VII-2002 1, 28-VI-2006 1 and 28-VI-2008 2.
9112. *Thersea flavicosta* (Sm.) (Narrow-winged Midget) – 3-VI-2004 1.
9193. *Raphia frater* Grt. (The Brother) – 13-VI-2002 1.
9280. *Simyra henrici* (Grt.) (Henry's Marsh Moth) – 15-VI-2003 1 and 28-VI-2008 2.
9348. *Apamea amputatrix* (Fitch) (Northern Quaker or Dusky Sallow) – 8-VII-2005 1.
9359. *Apamea commoda* (Wlk.) (Southern Quaker) – 2-VII-2002 2, 6-VII-2002 1, 23-VII-2002 1, 7-VII-2003 1, 28-VI-2008 2, and 22B-VII-2009 1.
9364. *Apamea sordens* (Hufn.) (was *A. finitima* Gn.) (Bordered *Apamea*) – 13-VI-2002 1, 20-VI-2002 1 and 9-VI-2005 1 and 28-VI-2006 1.
9365. *Apamea scoparia* (Hufn.) (was *Agroperina lateritia* (Hufn.)) (Red-winged Quaker) – 8-VII-2005 1 and 28-VI-2008 1.
- 9367a. *Apamea cogitata* (Sm.) (was *Agroperina dubitans cogitata* (Sm.)) (Ruby Quaker) – 8-VII-2005 1 and 22B-VII-2009 1.
9369. *Apamea inficita* (Wlk.) (Inficita Quaker) – 23-VII-2002 2, 11-VIII-2004 1, 5-VIII-2005 1 and 22A-VII-2009 1.
9374. *Apamea niveivenosa* (Grt.) (White-veined Quaker) – 11-VIII-2004 1 and 22A-VII-2009 1.
9382. *Apamea devastator* (Brace) (was *Crymodes devastator*) (Glassy Cutworm Moth) – 23-VIII-2002 1, 7-VII-2003 1, 5-IX-2003 1, 3-VII-2004 1, 11-VIII-2004 3, 8-VII-2005 1, 5-VIII-2005 1, 22A-VII-2009 1 and 22C-VII-2009 1.
9391. *Luperina passer* (Gn.) (Dock Rustic) – 11-VIII-2004 1.
- 9412.1. *Oligia subjuncta* (Sm.) (was *O. laevigata*) (Short-cloaked Quaker) – 8-VII-2005 1.
9417. *Oligia egens* (Wlk.) (Neomogen's Quaker) – 23-VIII-2002 1 and 5-VIII-2005 1.

9431. *Parastichtis suspecta* (Hbn.) (Mottled Quaker) – 23-VIII-2002 1.
9434. *Spartiniphaga includens* (Wlk.) (Silver-C Borer) – 28-VIII-2006 1.
9440. *Chortodes rufostrigata* (Pack.) (Brown-streaked Rustic) – 23-VII-2002 1, 23-VIII-2002 1.
9450. *Archanara subflava* (Grt.) (Subflava Sedge Borer) – 28-VIII-2006 1.
9453. *Celaena reniformis* (Grt.) (Kidney-spotted Rustic) – 14-VIII-2003 1.
9525. *Bellura obliqua* (Wlk.) (Cattail Borer Moth) – 13-VI-2002 1, 3-VI-2004 1 (5 SR).
9550. *Enargia infumata* (Grt.) (Lesser Angle-striped Sallow) – 8-VII-2005 1.
9647. *Proxenus miranda* (Grt.) (Glistening Rustic) – 20-VI-2002 1 and 28-VI-2008 2.
9656. *Platyperigea montana* (Bremer) (was *P. extima*) (Civil Rustic) – 6-VII-2002 1 SR, 23-VII-2002 4 SR, 14-VIII-2003 1, 5-IX-2003 5 and 5-IX-2005 5 SR.
9832. *Escarria homogena* McD. – 23-VII-2002 1, 15-VI-2003 1, 8-VII-2005 1 and 5-VIII-2005 2. A seldom encountered species. Gary Anweiler comments “We have records from Lethbridge and the Wainwright Ecological Reserve”.
9881. *Homoglaea hircina* Morr. (Goat Sallow) – 1-V-2003 1.
9884. *Litholomia napaea* (Morr.) (Dark Grey Peasant) – 1-V-2003 1.
9913. *Lithophane georgii* Grt. (Large Grey Pinion) – 5-IX-2003 1.
9935. *Eupsilia tristigmata* (Grt.) (Three-spotted Sallow) – 1-V-2003 1.
9962. *Anathix puta* (G. & R.) – 14-VIII-2003 1, 31-VII-2004 1 and 11-VIII-2004 1.
9998. *Brachylomia algens* (Grt.) (Willow Peasant) – 28-VIII-2006 2.
10028. *Pleromelloida obliquata* (Sm.) (Oblique Rover) – 1-V-2003 1.
10062. *Homohadena stabilis* Sm. (Brown Sallow) – 14-VIII-2004 1, 21-VII-2004 1, 11-VIII-2004 1 and 5-VIII-2005 1.
10194. *Cucullia intermedia* Speyer (Goldenrod Cutworm Moth or Intermediate Falconer) – 13-VI-2002 3, 18-V-2005 1, 9-VI-2005 1, 8-VII-2005 1, 15C-V-2006 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10223. *Discestra trifolii* (Hufn.) (Clover Cutworm or The Nutmeg) – 15-VI-2003 3, 14-VIII-2003 1, 3-VI-2004 1, 28-VIII-2006 1 and 22B-VII-2009 1.
10232. *Discestra farnhami* (Grt.) (Farnham’s Discestra) – 13-VI-2002 2, 20-VI-2002 1, 14-VI-2003 2, 3-VI-2004 2, 18-V-2005 2 and 19-VI-2005 2.
10233. *Discestra crotchi* (Grt.) – 30-V-2003 1.
10265. *Sideridis rosea* (Harv.) (Rosy Penman) – 13-VI-2002 2, 20-VI-2002 1 and 9-VI-2005 1 and 28-VI-2008 1.
10271. *Mamestra configurata* (Wlk.) (Bertha Armyworm) – 28-VI-2006 1.
10273. *Polia discalis* (Grt.) (Large Gray Polia) – 28-VI-2006 1.
10276. *Polia imbrifera* (Gn.) (Cloudy Arches) – 7-VII-2003 1, 8-VII-2005 1, 28-VI-2006 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10280. *Polia purpurissata* (Grt.) (Purple Arches) – 23-VII-2002 1, 31-VII-2004 1, 11-VIII-2004 3, 5-VIII-2005 1 and 22C-VII-2009 1.
10288. *Polia detracta* (Wlk.) (Disparaged Arches) – 20-VI-2002 3, 9-VI-2005 1 and 24-V-2009 1.
10289. *Polia goodelli* (Grt.) (Goodell’s Arches) – 28-VI-2008 1.
10297. *Lacanobia atlantica* (Grt.) (Atlanta Arches) – 13-VI-2002 4, 20-VI-2002 3, 2-VII-2002 2, 12B-VII-2003 1, 3-VI-2004 1, 9-VI-2005 1, 28-VI-2006 1, 28-VI-2008 1, 22A-VII-2009 1 and 22B-VII-2009 1.
10296. *Lacanobia nevadae* (Grt.) (Nevada Arches) – 22A-VII-2009 1.

10298. *Lacanobia radix* (Wlk.) (Garden Arches) – 3-VI-2004 1 and 9-VI-2005 1.
10305. *Trichordestra dodii* (Sm.) (Dod's Arches) – 13-VI-2002 2, 20-VI-2002 1, 2-VII-2002 1, 6-VII-2002 1.
10307. *Trichordestra lilacina* (Harv.) (Lilac Arches) – 2-VII-2002 2, 7-VII-2003 1, 31-VII-2004 1 and 8-VII-2005 2.
10308. *Trichordestra liquida* (Grt.) (Liquid Arches) – 13-VI-2002 4, 20-VI-2002 4, 23-VII-2002 1, 15-VI-2003 1, 3-VI-2004 1, 9-VI-2005 3 and 28-VI-2008 2.
10368. *Lacinipolia meditata* (Grt.) (The Thinker or Pink-backed Cutworm Moth) – 31-VII-2004 4, 11-VIII-2004 1.
10370. *Lacinipolia lustralis* (Grt.) (Lustrous Arches) – 28-VI-2008 1.
10394. *Lacinipolia vicina* (Grt.) (Small Gray Arches) – 23-VII-2002 1 and 28-VI-2006 1.
10397. *Lacinipolia renigera* (Steph.) (Kidney-spotted Arches or Bristly Cutworm Moth) – 23-VIII-2002 1, 31-VII-2004 1, 11-VIII-2004 1, 8-VII-2005 1, 28-VI-2008 2, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10405. *Lacinipolia lorea* (Gn.) (Bridled Arches) – 2-VII-2002 2, 28-VI-2008 2 and 22C-VII-2009 1.
10406. *Lacinipolia olivacea* (Morr.) (Olive Arches) – 22A-VII-2009 1.
10431. *Faronta diffusa* (Wlk.) (Cloudy Wainscot or Wheat-head Armyworm Moth) – 9-VI-2005 2, 8-VII-2005 1, 28-VI-2006 1 and 28-VI-2008 1.
10436. *Aletia oxygala* (Grt.) (Lesser Wainscot) – 23-VII-2002 1, 31-VII-2004 1, 11-VIII-2004 2, 28-VI-2006 1, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10442. *Leucania anteoclara* Sm. – 22B-VII-2009 1 and 22C-VII-2009 1.
10447. *Leucania commoides* Gn. (Comma Wainscot) – 31-VII-2004 1, 11-VIII-2004 1, 8-VII-2005 1, 5-VIII-2005 1 and 22A-VII-2009 1.
10449. *Leucania insueta* Gn. (Heterodox Wainscot) – 20-VI-2002 2, 15-VI-2003 1, 7-VII-2003 1, 9-VI-2005 2 and 28-VI-2008 2.
10471. *Stetchia plusiaeformis* Hy. Edw. (Grey Spectacles) – 1-V-2003 1.
10493. *Orthosia segregata* (Sm.) (Segregate Penman) – 1-V-2003 3.
10493. *Orthosia segregata* f. *negussa* Sm. – 1-V-2003 4.
10513. *Egira dolosa* (Grt.) (Greater Black-letter Dart) – 1-V-2003 1.
10524. *Nephelodes minians* Gn. (Shaded Umber or Bronzed Cutworm Moth) – 23-VIII-2002 1, 14-VIII-2003 2, 11-VIII-2004 1, 5-VIII-2005 1 and 28-VIII-2006 1.
10563. *Protorthodes oviduca* (Gn.) (Ruddy Quaker) – 13-VI-2002 2, 15-VI-2003 1, 3-VI-2004 1 (12 SR) and 24-V-2009 1.
10641. *Agrotis vetusta* Wlk. (Old Man Dart) – 22C-VII-2009 1.
10651. *Agrotis venerabilis* Wlk. (Venerable Dart) – 20-VI-2002 1, 23-VIII-2002 2, 7-VII-2003 1, 5-IX-2003 1 and 28-VIII-2006 2.
10652. *Agrotis vancouverensis* Grt. (Vancouver Dart) – 13-VI-2002 2, 20-VI-2002 2, 2-VII-2002 1, 6-VII-2002 1, 9-VI-2005 1 and 28-VI-2008 2.
10670. *Feltia jaculifera* (Gn.) (Dingy Cutworm Moth) – 23-VII-2002 3, 23-VIII-2002 1, 14-VIII-2003 2, 31-VII-2004 1, 11-VIII-2004 1, 5-VIII-2005 1, 28-VIII-2006 1, 22A-VII-2009 1, 22B-VII-2009 1, and 22C-VII-2009 1.
10676. *Feltia herilis* (Grt.) (Master's Dart) – 23-VII-2002 1, 23-VIII-2002 1.
- 10701.2. *Euxoa auxiliaris* (Grt.) (Auxiliary Dart) – 23-VIII-2002 1, 5-IX-2003 1.
10702. *Euxoa divergens* (Wlk.) (Divergent Dart) – 23-VIII-2002 1, 7-VII-2003 1, 8-VII-2005 1, 28-VI-2006 1, 28-VI-2008 2 and 22A-VII-2009 1.

10715. *Euxoa scandens* (Riley) (Climbing Dart or White Cutworm Moth) – 22C-VII-2009 1.
10723. *Euxoa tristicula* (Morr.) (Early Cutworm) – 15-VI-2003 1, 31-VII-2004 1, 9-VI-2005 1, 5-VII-2005 1 and 28-VI-2008 1, 22A-VII-2009 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10749. *Euxoa intrita* (Morr.) (Tippling Dart) – 23-VIII-2002 1.
10798. *Euxoa basalis* (Grt.) (Pale-based Dart) – 11-VIII-2004 1.
10801. *Euxoa ochrogaster* (Gn.) (Red-backed Cutworm Moth) – 23-VII-2002 1, 23-VIII-2002 1, 15-IX-2003 1.
10805. *Euxoa tessellata* (Harr.) (Tessellate Dart or Striped Cutworm Moth) – 22B-VII-2009 1.
10830. *Euxoa quadridentata* (Grt. & Rob.) (Four-toothed Dart) – 15-IX-2003 1.
- 10852/4. *Euxoa auripennis* Laf. or *servita* (Sm.) (Servita Dart) – 23-VII-2002 2, 23-VIII-2002 3, 31-VII-2004 2, 11-VIII-2004 2.
10852. *Euxoa auripennis* Laf. – 5-VIII-2005 1.
10861. *Euxoa ridingsiana* (Grt.) (Riding's Dart) – 23-VIII-2002 1, 14-VIII-2003 4, 31-VII-2004 1, 11-VIII-2004 1.
10864. *Euxoa flavicollis* (Sm.) – 31-VII-2004 1 and 11-VIII-2004 1.
10910. *Anicla* (*Euagrotis*) *tepperi* (Sm.) (Black-girdled Dart) – 2-VII-2002 4, 6-VII-2002 1, 23-VII-2002 2, 5-IX-2003 1, 8-VII-2005 2, 28-VI-2006 1, 28-VI-2008 1 and 22B-VII-2009 1.
10915. *Peridroma saucia* (Hbn.) (Variegated Cutworm Moth) – 14-VIII-2003 1.
10926. *Spaelotis clandestina* (Harr.) (Clandestine Dart) – 23-VII-2002 1, 23-VIII-2002 1, 5-IX-2003 1.
10930. *Eurois astricta* Morr. (Great Brown Dart) – 11-VIII-2004 1.
10942. *Xestia c-nigrum* (Franc.) (Black-letter Dart) – 28-VI-2006 1, 22B-VII-2009 1 and 22C-VII-2009 1.
10944. *Xestia smithii* (Snell) (Smith's or Spotted Clay Dart) – 11-VIII-2004 1.
10951. *Pseudohermonassa tenuicula* (Morr.) (Hair-pin Dart) – 31-VII-2004 1, 22A-VII-2009 1 and 22C-VII-2009 1.
10954. *Agnorisma bugrai* (Koçak) (was *Xestia collaris*) (Collared Dart) – 23-VIII-2002 1, 14-VIII-2003 1 and 11-VIII-2004 1, 5-VIII-2005 1 and 28-VIII-2006 1.
10992. *Paradiarsia littoralis* (Pack.) (Labrador Dart) – 20-VI-2002 2, 2-VII-2002 1, 7-VII-2003 1, 8-VII-2005 1, 28-VI-2006 1, 28-VI-2008 3, 22B-VII-2009 1 and 22C-VII-2009 1.
11004. *Protolampra rufipectus* (Morr.) (Red-breasted Dart) – 5-VIII-2005 1.
11008. *Eueretagrotis perattenta* (Grt.) – 11-VIII-2004 1.
11012. *Cryptocala acadensis* (Bethune) (Catocaline Dart) – 22B-VII-2009 1.
11072. *Heliothis phloxiphagus* Grt. & Rob. (Spotted Buff Gem or Spotted Straw) – 6-VII-2002 1.
11077. *Heliothis ononis* (F.) (Flax Bollworm) – 22B-VII-2009 1.
11175. *Schinia meadi* (Grt.) (Mead's Flower Moth) – 23-VII-2002 3.

DISCUSSION

An analysis of the data from the present study of the moths encountered in twelve major study areas in south-central Alberta, reveals that the present area (LS) is most similar (52.41%) to that of the Big Knife area (BK), and least similar (23.04%) to the mixed woods of the East Poplar Creek quarter NW of Winfield (EP). Some prairie elements are present at BK while none occur at EP. The mixed wood communities of EP have many different food plants from those found in LS.

SUMMARY

The report based on 2002 (Bird 2003) research had 130 species, Bird (2004) brought the total to 165, Bird (2005) brought the total up to 196, Bird (2006) raised the total to 247 species; that for 2007 brought the total up to 273 species; while 280 were listed in the 2008 report. The present report lists 302 species. If all species in the undetermined categories were named, the actual total would be over 350. With further study and names on all of the undetermined specimens, the total would probably be close to 500 species of moths. To put things into perspective, Pohl et al (2010) document 2367 species of Lepidoptera for Alberta.

It was especially encouraging to have one first for Alberta (*Sparganothis directana*) plus several discoveries of seldom encountered species, such as *Xenotemna pallorana*, *Nephopterix fernaldi*, *Lipographis fenestrella*, *Escaria homogena*, *Heliothis phloxiphagus* and *Schinia meadi*. The list of species would have been considerably greater if the area had additional habitats such as woods or a riverine community but, at the same time, it is quite interesting to be able to discover the moths characteristic of an area with this kind of native prairie.

Of the 14 areas involved in the present study, nine species of moths were found only in the native prairie of the Lowden Springs Natural Area - *Coleophora duplicis*-8 group, *Coleophora* JFL048, *Coleophora* JFL087, *Eucosma* nr *barbara* Miller, *Epiblema resumptana* (Wlk.), *Xenotemna pallorana* (Rob.), *Sparganothis directana* (Wlk.), *Escaria homogena* McD., and *Heliothis phloxiphagus* G. & R.

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USEFUL ONLINE INFORMATION SOURCES ON MOTHS

Information on, and illustrations of, many of our Alberta moths can be found at the Entomology Collection Search site of the E.H. Strickland Entomological Museum of

the Department of Biological Sciences at the University of Alberta:
<http://www.entomology.ualberta.ca/>.

Illustrations of Alberta macromoths can be found at a site put together by D. Lafontaine and J. Troubridge called “The Moths of Canada”:
http://www.cbif.gc.ca/spp_pages/misc_moths/phps/mothindex_e.php.

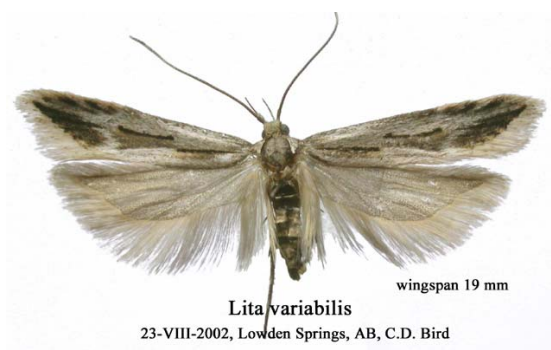
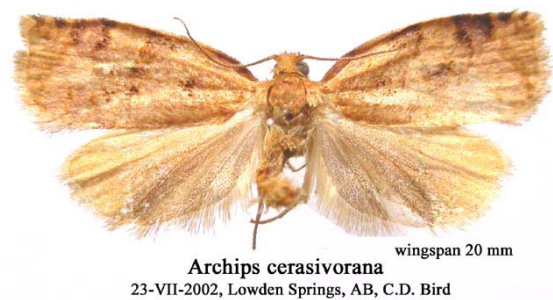
Illustrations on many of the western American macromoths can also be found on a site put together by The Moth Photographers Group:
<http://www.origins.tv/MothPhotographersGroup/WestPlates.htm>.

D. Lynn Scott has a web site with natural photos of over 400 species of moths that she has found in Ottawa, Ontario (<http://acleris.com/dls/mothindex.html>). As many of the species also occur in Alberta, these images can be quite helpful

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Plate 1. Some Moths of the Lowden Springs Natural Area.



APPENDIX
Collection dates, sites and other details

- 13 June 2002 – Diurnal, native prairie, 52.09, 112.425, 830 m. The Lowden Springs Conservation Area was dedicated on this day.
- 20 June 2002 – native prairie, UV, 52.09, 112.425, 830 m.
- 2 July 2002 – native prairie, UV, 52.09, 112.425, 830 m.
- 6 July 2002 – UV, native prairie, 52.09, 112.425, 830 m.
- 23 July 2002 – UV, native prairie, 52.09, 112.425, 830 m. Lots of little black beetles and corixids in the traps.
- 23 August 2002 – UV, native prairie, 52.09, 112.425, 830 m.
- 1 May 2003 – UV, native prairie, 52.154, 112,712, 825 m.
- 30 May 2003 – UV, native prairie, 52.154, 112,712, 825 m. Lots of mosquitoes.
- 15 June 2003 – UV, native prairie, 52.154, 112,712, 825 m. Large numbers of midges in the traps.
- 7 July 2003 – UV, native prairie, 52.154, 112,712, 825 m.
- 14 August 2003 – UV, native prairie, 52.154, 112,712, 825 m.
- 5 September 2003 – UV, native prairie, 52.154, 112,712, 825 m.
- 3 June 2004 – UV, native prairie, 52.154, 112,712, 825 m.
- 31 July 2004 – UV, native prairie, 52.154, 112,712, 825 m.
- 11 August 2004 – UV, native prairie, 52.154, 112,712, 825 m. Lots of mosquitoes. Most of Lowden Lake dry.
- 18 May 2005 – UV, native prairie, 52.154, 112,712, 825 m. Lots of mosquitoes.
- 9 June 2005 – UV, native prairie, 52.154, 112,712, 825 m. Quite a few midges.
- 8 July 2005 – UV, native prairie, 52.154, 112,712, 825 m. Lots of mosquitoes and midges.
- 5 August 2005 – UV, native prairie, 52.154, 112,712, 825 m. Lots of midges and corixids.
- 15A May 2006 – Crepuscular, silverwillow/buckbrush, 52.154, 112,712, 825 m.
- 15B May 2006 – UV, silverwillow/buckbrush, 52.154 (52.15419), 112.712 (112.71183), 838. Lots of sticky midges.
- 15C May 2006 – UV, native prairie/Pulsatilla ludoviciana, 52.153 (52.15346), 112.7111 (112.71123), 855 m. Lots of sticky midges.
- 28 June 2006 – UV, native prairie, 52.154, 112.712, 840 m. Lots of sticky, little aquatic beetles.
- 28 August 2006 – UV, native prairie, 52.154, 112.712, 825 m. Lots of mosquitoes and midges.
- 28 June 2008 - UV, native prairie, 52.154, 112.712, 825 m.
- 24 May 2009 – UV, native prairie and near silverwillow/buckbrush, 52.152, 112.706, 825 m.
- 22A July 2009 – UV, native prairie, 52.154, 112.711, 831 m.
- 22B July 2009 – UV, native prairie, 52.154, 112.711, 827 m.
- 22C July 2009 – UV, native prairie near Symphoricarpos albus, 52.154, 112.712, 839 m.