

LEPIDOPTERA OF EAST ARROWWOOD COULEE, ALBERTA, 1997-2008

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The present paper incorporates the information in previous reports along with that gathered in 2008. It also includes a number of redeterminations and additions to the information in the earlier reports.



East Arrowwood Coulee looking north, August 17, 1997

THE AREA

East Arrowwood Coulee occurs on the west side of the farm of Arthur and Dixie Bird, NE of the village of Arrowwood. The coulee runs north and joins the Bow River. The coordinates for the location are 50.75, 113.13. The elevation at the top of the coulee is 920 m and in the coulee bottom it is about 860 m. The west-facing coulee slope is fairly steep and is vegetated by short-growing grasses including *Bouteloua gracilis* and numerous forbs such as *Opuntia fragilis*. The coulee bottom has an open riverine forest

with *Populus balsamifera* and shrubs including willows, thorny buffalo-berry and saskatoon.

A number of sightings were made on July 24, 1997. The area was sampled with ultraviolet light traps on the nights of August 3, 2000; June 2, 2001; June 27, 2003; and April 11 and June 26 in 2004. In 2005, the area was studied on May 8 and on July 2 and 30. Collections were made on June 17 and July 29, in 2006. In 2007, collection were made on March 10, April 28, June 1 and September 2. The present report contains the results of work done in 2007 and in the previous years (Bird 2004, 2005, 2006, 2007).



East Arrowwood Coulee looking south, June 26, 2004



Art Bird beside moth trap in coulee bottom, 9 May 2005

BACKGROUND

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 Prairie; 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 University of Alberta Strickland Museum, the Northern Forest Research Centre in Edmonton, and, possibly, the Canadian National Collection in Ottawa.

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 are known.

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. East Arrowwood Coulee is in Bowman's Area 6 which also includes Calgary. 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 6.

TINEIDAE – Clothes Moths and others

399. *Tinea irrepta* Braun – 27A-VI-2003 3, 27B-VI-2003 1 and 30A-VII-2005 1.
 420. *Monopis rusticella* (Hbn.) – 1B-VI-2007 1.
 421. *Monopis spilotella* Tengström – 27B-VI-2003 1, 26-VI-2004 1, 30A-VII-2005 1 and 30B-VII-2005 1.

BUCCULATRICIDAE – Bucculatricid Moths

- Bucculatrix* sp. – 17A-VI-2006 1.

OECOPHORIDAE – Oecophorid Moths

878. *Agonopterix canadensis* (Bsk.) – 8B-V-2005 1.
 889. *Agonopterix argillacea* (Wlsm.) – 9B-IV-2008 1 and 9C-IV-2008 1.
 908. *Depressariodes ciniflonella* (Lienig & Zell.) – 17C-V-2008 2.
 910. *Martyrhilda fulva* (Wlsm.) – 27A-VI-2003 1, 17A-VI-2006 2, 27B-VII-2006 3 and 17C-VII-2006 1.
 922. *Depressaria pastinacella* (Dup.) (Parsnip Webworm Moth) – 29C-VII-2006 1.
 914. *Semioscopis inornata* Wlsm. – 9B-IV-2008 1 and 9C-IV-2008 1.
 918. *Depressaria atrostrigella* Clarke – 2A-IX-2007 1 and 17B-V-2008 1.
 987. *Ethmia monticola* (Wlsm.) – 27B-VI-2003 1.

ELACHISTIDAE – Elachistid Moths

- Elachista* sp. – 27-VI-2003 1 and 26-VI-2004 1.

SYMMOCIDAE – Symmocid Moths

1142.1. *Glyphidocera hurlberti* Adamski – 27A-VI-2003 1, 26-VI-2004, 2B-VII-2005 1, 30A-VII-2005 1 and 30B-VII-2005 2. This species was described by Adamski in 2000.

COLEOPHORIDAE – Casebearer Moths

1254-1389. *Coleophora* spp. – 27B-VI-2003 3, 26-VI-2004 1, 30A-VII-2005 2 and 30B-VII-2005 2, 29A-VII-2006 1, 29B-VII-2006 1, 1B-VI-2007 1 and 2A-IX-2007 1. The specimens are currently with Dr. J.-F. Landry who is doing a North American monograph of the group. Some of the specimens may be of species that remain to be described.

1316. *Coleophora rosacella* Clem. – 26-VI-2004 1.

1321. *Coleophora mcdunnoughiella* Oudejans – 27A-VI-2003 1.

1388. *Coleophora trifolii* (Curt.) (Large Clover Case-bearer) – 2-VI-2001 1 and 29C-VII-2006 1.

MOMPHIDAE – Momphid Moths

Mompha/Elachista. – 7-VI-2003 1.

COSMOPTERYGIDAE – Cosmopterygid Moths

1515. *Limnaecia phragmitella* Staint. – 3-VIII-2000 1 and 29C-VII-2006 1.

1615. *Walshia miscecolorella* (Cham.) – 27A-VI-2003 1, 27B-VI-2003 3, 30A-VI-2005 2, 29B-VII-2006 1, 2A-IX-2007 2 and 2B-IX-2007 2.

SCYTHRIDIDAE- Scythridid Moths

Species indet. – 17A-VI-2006 1.

GELECHIIDAE – Gelechiid Moths

1681-2311. Indet sp. – 2-VI-2001 1, 8A-V-2005 1, 8B-VI-2005 1, 30A-VII-2005 6, 30B-VII-2005 3, 17A-VI-2006 1, 29A-VII-2006 2, 29B-VII-2006 1 and 2A-IX-2007 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 described.

1734. *Aristotelia devexella* Braun – 30B-VII-2005 1, 17B-VI-2006 3 and 29A-VII-2006 1.

Aristotelia type B – 30A-VII-2005 1.

1771. *Evippe prunifoliella* Cham. – 2-VI-2001 1? Identified by Dr. Jean-François Landry.

1796. *Coleotechnites blastovora* (McLeod) – 27A-VI-2003 1, 17B-V-2008 1 and 17C-V-2008 1.
 1880. *Xenolechia velatella* (Bsk.) – 8A-V-2005 6, 8B-V-2006 4 and 17C-V-2008 1.
 1946. *Gelechia lynceella* Zell. – 23A-VI-2003 1 and 2B-VII-2005 1.
 2093. *Chionodes mediofuscella* (Clem.) – 8A-V-2005 1, 8B-V-2005 1, 30A-VII-2005 1, 1A-VI-2007 1 and 1B-VI-2007 1.
 2099. *Chionodes obscuruscella* (Cham.) – 30B-VII-2005 1.
 2111. *Chionodes psilopterus* (B. & Bsk.) – 30A-VII-2005 1 and 17C-VI-2006 1.
 2127. *Filatima abactella* (Clarke) – 2-VI-2001 1, 27B-VI-2003 1 and 8B-V-2005 1.
 2267. *Helcystogramma fernaldella* (Bsk.) – 17C-V-2008 1.
 2291. *Dichomeris levisella* Fyles – 17B-VI-2006 1.
 2303. *Dichomeris simplicella* Bsk. - 2B-IX-2007 1.

ALUCITIDAE – Many-plume Moths

2313. *Alucita montana* Barnes & Lindsay – 2A-IX-2007 2.

CARPOSINIDAE – Carposinid Moths

2318. *Bondia comonana* (Kft.) – 26-VI-2004 1.
 2319. *Bonia crescentella* (Wlsm.) – 17C-VI-2006 1.

EPERMENIIDAE – Epermeniid Moths

2334. *Ochromolopis ramapoella* (Kft.) – 17A-VI-2006 1, 17B-VI-2006 1, 17C-VI-2006 1, 1A-VI-2007 2, 1B-VI-2007 4 and 1C-VI-2007 5.

PLUTELLIDAE – Plutellid Moths

2366. *Plutella xylostella* (L.) (Diamondback Moth) – 3-VIII-2000 1, 27A-VI-2003 1, 8A-V-2005 1, 8B-V-2005 1, 30A-VII-2005 1,2, 30B-VII-2005 1, 29C-VII-2006 1, 2A-IX-2007 1, 2B-IX-2007 1 and 2C-IX-2007 1.
 2371. *Ypsolopha canariella* (Wlsm.) – 30B-VII-2005 1.
 2376. *Ypsolopha dentiferella* (Wlsm.) – 30B-VII-2005 1 and 29C-VII-2006 1.
 2380. *Ypsolopha falciferella* (Wlsm.) – 9B-IV-2008 1.

ARGYRESTHIIDAE – Argyresthiid Moths

2449. *Argyresthia conjugella* Zell. – 27B-VI-2003 1.

COSSIDAE – Carpenterworm Moths

2676. *Acosus populi* (Wlk.) (Aspen Carpenterworm) – 30VIII-2000 1, 27B-VI-2003 1, 30B-VII-2005 2, 17C-VI-2006 1 and 29C-VII-2006 1.

TORTRICIDAE – Tortricid Moths

- 2743a. *Endothenia nubilana* (Clem.) – 3-VIII-2000 1.
 2765. *Apotomis deceptana* (Kft.) (Deceptive Apotomis Moth) – 29C-VII-2006 1.
 2766. *Apotomis dextrana* McD. (Green Aspen Leafroller Moth) – 30B-VII-2005 3.
 2770. *Orthotaenia undulana* (D. & S.) (Dusky Leafroller Moth) – 27B-VI-2003 1, 26-VI-2004 2, 2B-VII-2005 1 and 17A-VI-2006 1.
 2774/2859. *Olethreutes* spp. – 27A-VI-2003 1 and 27B-VI-2003 2, 17A-VI-2006 2, 17C-VI-2006 1 and 2B-IX-2007 2.
 2860. *Hedya separatana* (Kft.) (Pink-washed Leafroller Moth) – 27A-VI-2003 1?
Phaneta sp. – 29 B-VII-2006 1.
 2952. *Phaneta elongana* (Wlsm.) – 17B-VI-2006 1 and 29C-VII-2006 1.
 2965. *Phaneta fertoriana* (Heinr.) – 2-VI-2001 1.
 2969. *Phaneta indagatricana* (Heinr.) – 27A-VI-2003 1, 30A-VII-2005 1, 30A-VII-2005 6, 30B-VII-2005 2, 29A-VII-2006 5, 29C-VII-2006 1 and 1B-VI-2007 1.
 2980. *Phaneta pallidicostana* (Wlsm.) – 17C-VI-2006 1.
 2985. *Phaneta infimbriana* (Dyar) – 30A-VII-2005 1, 29B-VII-2006 1 and 29C-VII-2006 1.
 3014. *Eucosma ridingsana* (Rob.) (Riding’s *Eucosma* Moth) – 30A-VII-2005 14.
 3031. *Eucosma serpentana* (Wlsm.) – 27A-VI-2003 4, 27B-VI-2003 2, 26-VI-2004 2, 30A-VII-2005 6, 30B-VII-2005 4, 29A-VII-2006 5, 29B-VII-2006 3 and 29C-VII-2006 2.
 3032. *Eucosma ophionana* McD. – 30A-VII-2005 1.
 3037. *Eucosma agricolana* (Wlsm.) – 27A-VI-2003 4, 27B-VI-2003 3, 26-VI-2004 1, 30A-VII-2005 1, 30V-VII-2005 1 and 17B-VI-2006 1.
 3042. *Eucosma vagana* McD. – 26-VI-2004 1 and 30A-VII-2005 2.
 3049. *Eucosma serapicana* (Heinr.) – 26-VI-2004 2. “I’ve labeled several specimens *E. serapicana*. I’m not absolutely certain of this --- the forewing color is not a perfect match to the holotype, but the pattern and genitalia are right. The holotype appears to be a little unusual ... I’ve not seen any specimens that match it exactly in color.” [Dr. Don Wright in letter of 20 Jan 2009].
 3133. *Eucosma consobrinana* Heinr. – 27A-VI-2003 1.
 3142. *Eucosma cataclystana* (Wlk.) – 27B-VI-2003 1.
Pelochrista n. sp. ? – 2A-IX-2007 1. Dr. Don Wright is uncertain about what this is. He says it looks like either a *Eucosma* or a *Pelochrista*.
 3149. *Pelochrista argenteana* (Wlsm.) – 27A-VI-2003 3, 27B-VI-2003 8 and 26-VI-2004 2, 30A-VII-2005 1, 30B-VII-2005 1 and 29A-VII-2006 1.
 3156. *Pelochrista occipitana* (Zell.) – 2-VIII-2007 1.
 3211. *Notocelia culminana* (Wlsm.) – 30B-VII-2005 5, 29C-VII-2006 2 and 2C-IX-2007 1.
 3218/3222. *Sonia* n. sp. – 27-VI-2003 1. This is an undescribed species according to Dr. Don Wright.
 3248. *Pseudexentera oregonana* (Wlsm.) (Early Aspen Leaf Roller Moth) – 11-IV-2004 2 (30 SR), 28A-IV-2007 1, 17A-V-2008 1 and 17C-V-2008 1.
 3306. *Epinotia nisella* (Cl.) – 29C-VII-2006 1, 2A-IX-2007 1 and 2C-IX-2007 1.
 3310. *Epinotia transmissana* (Wlk.) (Walker’s *Epinotia* Moth) – 2A-IX-2007 1.
 3342. *Epinotia lomonana* (Kft.) – 2C-IX-2007 1.

3391. *Hystrichophora stygiana* (Dyar) – 30A-VII-2005 1.
 3394. *Hystrichophora asphodelana* (Kft.) – 26-VI-2004 2.
 3406. *Dichrorampha bittana* (Bsk.) – 17V-2008 2.
 3465. *Cydia flexiloqua* (Heinr.) – 30B-VII-2005 2 and 29C-VII-2006 1.
 3502. *Croesia albicomana* (Clem.) – 30B-VII-2005 1.
 3514. *Acleris cervinana* (Fern.) – 8B-V-2005 1.
 3525. *Acleris forbesana* (McD.) – 17C-V-2008 1.
 3553/3556. *Acleris bowmanana/ HUDSONIANA* complex – 9B-IV-2008 1.
 3568. *Eana argentana* (Cl.) – 27B-VI-2003 1, 2A-VII-2005 1 and 17A-VI-2006 1.
 3595. *Pandemis canadana* Kft. (Green Aspen Leaf-tier Moth) – 3-VIII-2000 2, 3-VIII-2006 1, 30B-VII-2005 11 and 29C-VII-2006 1.
 3625. *Argyrotaenia mariana* Fern. (Gray-banded Leafroller Moth) – 8B-V-2005 1 and 17C-V-2008 1.
 3635. *Choristoneura rosaceana* (Harr.) (Oblique-banded Leafroller Moth) – 30B-VII-2005 1 and 2A-IX-2007 1.
 3637. *Choristoneura conflictana* (Wlk.) (Large Aspen Tortrix) – 27B-VI-2003 1.
 3661. *Archips cerasivorana* (Fitch) (Ugly Nest Caterpillar Moth) – 29B-VII-2006 1.
 3672. *Syndemis afflictana* (Wlk.) (Gray Leafroller Moth or Black-and-Gray Banded Leafroller Moth) – 17B-V-2008 1.
 3675. *Aphelia alleniana* (Fern.) – 27A-VI-2003 1, 27B-VI-2003 1, 26-VI-2004 1, 2B-VII-2005 1 and 17C-VI-2006 1.
 3682. *Clepsis persicana* (Fitch) (White-angle Tortrix Moth) – 27B-VI-2003 1 and 2B-VII-2005 1 and 29B-VII-2006 1.
 3684. *Clepsis clemensiana* (Fern.) (Clemen's Clepsis Moth) – 30B-VII-2005 2 and 2C-IX-2007 1.
 3688. *Ptycholoma peritana* (Clem.) (Garden Tortrix Moth) – 26-VI-2004 1 and 2C-IX-2007 2.
 3680. *Ptycholoma virescana* (Clem.) – 29C-VII-2006 1.
 3706. *Sparganothis xanthoides* (Wlk.) (Mosaic Sparganothis Moth) – 29C-VII-2006 1.
 3712. *Sparganothis vocaridorsana* Kft. – 17C-VI-2006 1.
 3720. *Sparganothis reticulatana* (Clem.) (Reticulated Fruitworm Moth) – 29C-VII-2006 1.

COCHYLIDAE – Cochylid Moths

The members of this family are presently being revised by Dr. Eric Metzler and Dr. John Brown. The following specimens are presently with them.

3760. *Platphalonidia felix* (Wlsm.) – 26-VI-2004 1.
 3792. *Phtheochroa fulvuplicana* (Wlsm.) – 27B-VI-2003 2, 30-VII-2005 3 and 17B-VI-2006 1.
 3796. *Phtheochroa waracana* Kft. – 3-VIII-2000 1, 27B-VI-2003 1 and 30-VII-2005 1.

HESPERIIDAE – Skippers

3966. *Pyrgus communis* (Grt.) (Common Checkered Skipper) – 2-VI-2001 1.
 4018. *Hesperia uncas* Edw. (Uncas Skipper) – 24-VII-1997 SR and 2-VI-2001 1.

PAPILIONIDAE – Swallowtails

4165a. *Papilio machaon dodi* McD. (Dod's Old World Swallowtail) – 17-V-2008 1.

PIERIDAE – Whites and Sulfurs

4194. *Pontia occidentalis* (Reak.) (Western Checkered White) – 2-VI-2001 1 and 9A-IV-2008 2.

4197. *Pieris rapae* (L.) (Cabbage White) – 24-VII-1997 SR and 17A-V-2008 1.

4209. *Colias philodice* Godt. (Clouded Sulphur) – 24-VII-1997 SR

LYCAENIDAE – Blues and Coppers

4375. *Lycaeides melissa* (Edw.) (Melissa Blue) – 2-VI-2001 1.

NYMPHALIDAE – Fritillaries

4432. *Nymphalis antiopa* (L.) (Mourning Cloak) – 11-IV-2004 3 SR.

4482. *Phyciodes batesii* (Reak.) (Tawny Crescent) – 2-VI-2001 1.

SATYRIDAE – Browns and Alpines

4583b. *Coenonympha inornata benjamini* McD. (Common Ringlet) – 24-VII-1997 SR.

4587. *Cercyonis pegala* (F.) (Meadow Brown) – 24-VII-1997 SR.

PYRALIDAE – Pyralid or Snout Moths

4716. *Scoparia biplagiata* (Wlk.) (Double-striped Scoparia Moth) – 30B-VII-2005 1.

4826. *Mimoschinia rufofascialis* (Steph.) – 27A-VI-2003 6 and 27B-VI-2003 2.

4950. *Fumibotys fumalis* (Gn.) (Mint Root Borer Moth) – 27B-VI-2003 3.

4951. *Perispasta caeculialis* Zell. (Titian Peale's Pyralid Moth) – 27B-VI-2003 1.

4957. *Mutuuraia mysippusalis* (Wlk.) – 27B-VI-2003 1.

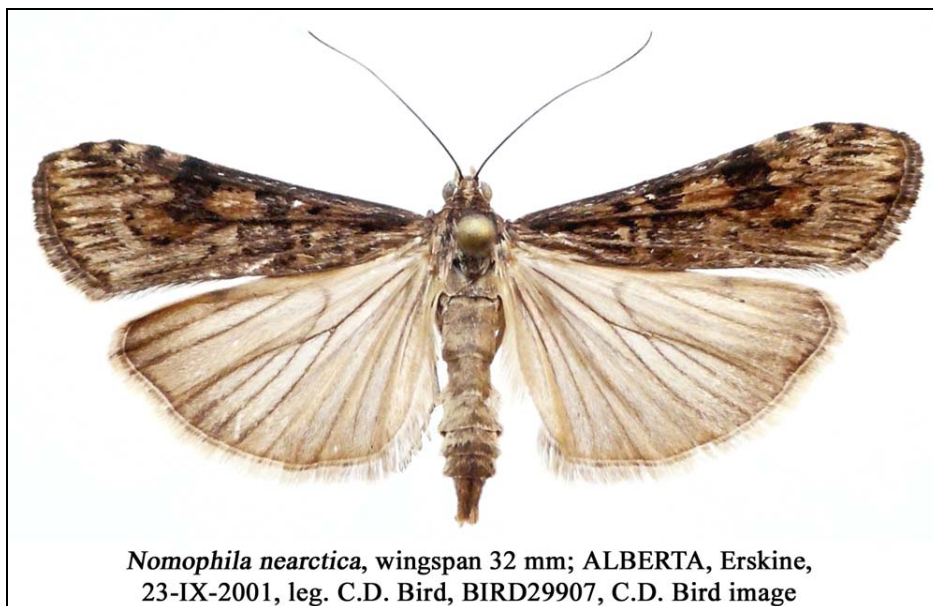


Loxostege sticticalis, wingspan 27 mm; ALBERTA, Erskine, 3-VI-2005, BIRD21518, C.D. Bird image



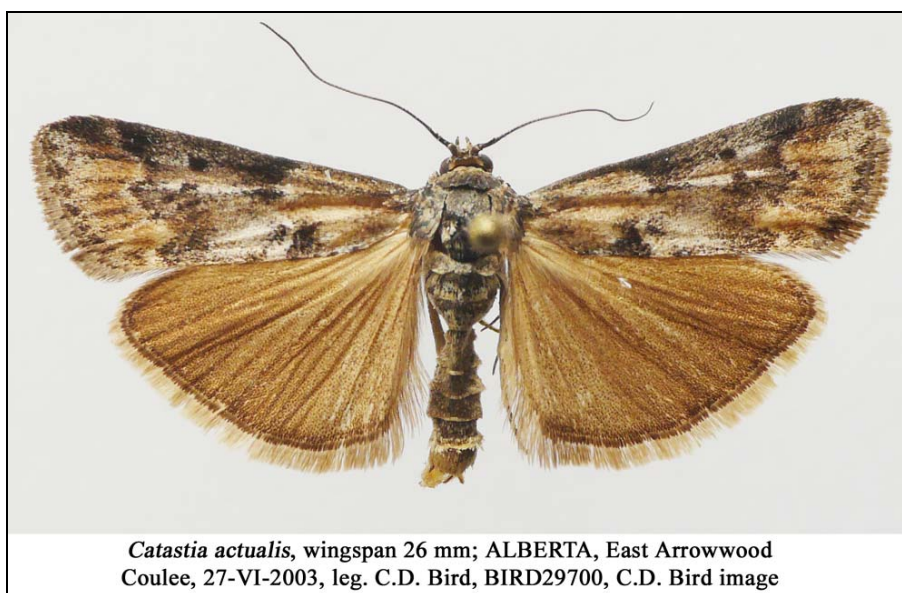
Loxostege cereralis, wingspan 27 mm; ALBERTA, Dry Island Buffalo Jump Provincial Park, 21-VI-2005, BIRD21545, C.D. Bird image

5004. *Loxostege sticticalis* (L.) (Beet Webworm) – 26-VI-2004 1, 30A-VII-2005 2, 1A-VI-2007 2, 1B-VI-2007 1, 1C-VI-2007 1, 2A-IX-2007 1 and 2B-IX-2007 1.
 5017. *Loxostege cereralis* (Zell.) (Alfalfa Webworm Moth) – 30A-VII-2005 1.
 5032. *Pyrausta nicalis* (Grt.) – 29C-BII-2006 1.
 5135. *Mecyna submedialis* (Grt.) (Orange-toned Mecyna Moth) – 27B-VI-2003 1, 30A-VII-2005 4 and 29C-VII-2006 1.
 5137. *Mecyna mustelinalis* (Pack.) – 26-VI-2004 1.



5156. *Nomophila nearctica* Mun. (Lucerne Moth or Celery Stalkworm) – 3-VIII-2000 1, 29B-VII-2006 1, 2A-IX-2007 1 and 2C-IX-2007 1.
 5316. *Donacaula melinella* (Clem.) (Delightful Donacaula Moth) – 29B-VII-2006 1. This specimen has been sent for study to Edda Martinez at the Mississippi Entomological Museum as she is monographing the North American species of the genus.
 5339. *Crambus pascuellus* (L.) (Grass-veneer Moth) – 27B-VI-2003 1.
 5343a. *Crambus perlellus innotatellus* Wlk. – 30B-VII-2005 1, 29A-VII-2006 2, 29B-VII-2006 1 and 29C-VII-2006 1.
 5354. *Crambus ainliellus* Klots – 2C-IX-2007 2.
 5391. *Chrysoteuchia topiaria* (Zell.) (Cranberry Girdler or Topiary Grass-veneer Moth) – 27A-VI-2003 3, 27B-VI-2003 2 and 26-VI-2004 2.
 5399. *Agriphila ruricolella* (Zell.) (Lesser Vagabond Sod Webworm) – 30A-VII-2005 1 and 30B-VII-2005 2, 29A-VII-2006 2, 29B-VII-2006 1 and 29C-VII-2006 1.
 5403. *Agriphila vulgivagella* (Clem.) (Vagabond Crambus Moth) – 2A-IX-2007 1, 2B-IX-2007 2, 2C-IX-2007 1 and 17C-V-2008 1.
 5404. *Agriphila attenuata* Grote – 2C-IX-2007 1.
Pediasia spp. – 30B-VII-2005 1 and 2B-IX-2007 1. These could be either *Pediasia aridella edmontella*, *P. luteolellus* or an undescribed species.
 5413. *Pediasia trisecta* (Wlk.) (Sod Webworm Moth) – 29A-VII-2006 1, 29B-VII-2006 1, 29C-VIII-2006 1, 2A-IX-2007 1, 2B-IX-2007 1 and 2C-IX-2007 1.

5417. *Pediasia dorsipunctella* (Kft.) – 30A-VII-2005 1, 30B-VII-2005 2 and 29B-VII-2006 1.
5455. *Euchromius californicalis* (Pack.) (California Grass-veneer Moth) – 2B-IX-2007 2.
5510. *Pyralis farinalis* L. (Meal Moth) – 26-VI-2004 1. Found in a house.
5585. *Jocara trabis* (Grt.) (Jocara Moth) – 30A-VII-2005 1.
5719. *Myelopsis minutularia* (Hulst) (*M. coniellea* (Rag.)) – 29C-VII-2006 1.
5751. *Pima* prob. *fulvirugella* (Rag.) (incl. *P. vividella* McD.) – 26-VI-2004 1. Close to *P. boisduvaliella* (Guenée). Though there are some general features that help to separate the two, examination of the female genitalia is necessary to positively tell them apart (Neunzig 2003). Neunzig (2003) states that *P. boisduvaliella* is a European species that feeds on introduced legume crops.



5764. *Catastia actualis* (Hulst) – 27A-VI-2003 1 and 27B-VI-2003 1.
5787. *Meroptera pravella* (Grt.) (Lesser Aspen Webworm Moth) – 17C-VI-2006 1.
5792. *Nephoterix* (*Sciota*) *fernaldella* (Rag.) – 27A-VI-2003 1. This could be a new species of *Sciota* according to Dr. H. Neunzig. He advised the collecting of additional specimens, especially of females.
5829. *Pyla fusca* (Haw.) (Speckled Black Pyla Moth) – 2A-IX-2007 1.
5843. *Dioryctria reniculelloides* Muttura & Mun. (Spruce Coneworm Moth) – 30A-VII-2005 1.
5918. *Hulstia undulatella* (Clem.) (Sugarbeet Crown Borer Moth) – 3-VIII-2003 1, 2A-IX-2007 2 and 2B-IX-2007 1.
5946. *Phycitoides mucidellum* (Rag.) – 2A-IX-2007 1 and 2C-IX-2007 1.
5968. *Zophodia grossulariella* (Hbn.) (*Z. convolutella*) (Gooseberry Fruitworm Moth) – 8A-V-2005 1, 17B-V-2008 1 and 17C-V-2008 2.
6007. *Vitula seratilineella* Rag. – 29C-VII-2006 1 and 2C-IX-2007 1.
6053. *Peoria approximella* (Wlk.) (Carmine Snout Moth) – 30A-VII-2005 3.

PTEROPHORIDAE – Plume Moths

5092-6234. Species indet. – 26-VI-2004 1 and 29-VII-2006 1. These specimens are being studied by Doug Macaulay.

6107. *Gillmeria pallidactyla* (Haw.) – 17-VI-2006 1.

6185. *Oidaematophorus brucei* (Fern.) – 26-VI-2004 1.

THYATIRIDAE – Thyatirid Moths

6235. *Habrosyne scripta* (Gosse) (The Scribe or The Lettered Habrosyne) – 17C-V-2008 1.

6248. *Ceranemota albertae* Clarke (Alberta Lutestring) – 2C-IX-2007 2.

DREPANIDAE – Hooktips

6252. *Drepana bilineata* (Pack.) (Two-lined Hooktip) – 30B-VII-2005 1, 1B-VI-2007 1 and 1C-VI-2007 1.

GEOMETRIDAE – Inchworm or Geometrid Moths

6272. *Eumacaria latiferrugata* (Wlk.) (Brown-bordered Geometer) – 27B-VI-2003 1 and 1A-VI-2007 1.

6279. *Macaria (Itame) occiduaria* (Pack.) (Western Sulphur) – 26-VI-2004 2, 30A-VII-2005 1, 30B-VII-2005 4 and 29B-VII-2006 1.

6304. *Macaria (Itame) bitactata* (Wlk.) – 3-VIII-2000 1, 30B-VII-2005 4 and 2C-IX-2007 1.

6373. *Digrammia (Semiothisa) denticulata* Grt. (Striped Granite) – 27B-VI-2003 2, 30A-VII-2005 1, 30B-VII-2005 1 and 1B-VI-2007 1.

6380. *Digrammia (Semiothisa) californiaria* (Pack.) – 27A-VI-2003 1 and 1A-VI-2007 1.

6396. *Digrammia (Semiothisa) neptaria* (Gn.) – 2-VI-2001 2, 27B-VI-2003 2, 29C-VII-2006 1 and 17C-V-2008 1.

6431. *Hesperumia sulphuraria* Pack. – 30B-VII-2005 1.

6597. *Ectropis crepuscularia* (D. & S.) – 8B-V-2005 1.

6640. *Biston betularia* (L.) (Salt-and-Pepper Moth) – 1C-VI-2007 1.

6651. *Lycia ursaria* (Wlk.) (The Bear or Stout Spanworm Moth) – 28A-IV-2007 2, 28B-IV-2007 1 and 17C-V-2008 1.

6677. *Cabera erythemaria* Gn. (Yellow-dusted Cream Moth) – 27B-VI-2003 1 and 29C-VII-2006 1.

6678. *Cabera variolaria* Gn. (Pink-striped Willow Spanworm) – 27B-VI-2003 1 and 2B-VII-2005 1.

6715. *Aspitates aberratus* (Hy. Edw.) – 27B-VI-2003 2, 26-VI-2004 1, 17A-VI-2006 1, 17B-VI-2006 1, 17C-VI-2006 1, 1A-VI-2007 1, 1B-VI-2007 1 and 1C-VI-2007 1.

6729. *Euchlaena johnsonaria* (Fitch) (Johnson's Euchlaena) – 27A-VI-2003 1, 27B-VI-2003 1.

6734. *Euchlaena marginaria* (Minot) (Ochre Euchlaena) – 27B-VI-2003 1.

6737. *Euchlaena tigrinaria* (Gn.) (Mottled Euchlaena or Variable Thorn) – 27B-VI-2003 1.

6743. *Xanthotype sospeta* (Drury) – 2B-VII-2005 1.

6753. *Pero honestaria* (Wlk.) (Honest Pero) – 27B-VI-2003 1.
 6755. *Pero morrisonaria* (Hy. Edw.) (Lesser Umber or Morrison's Pero) – 27B-VI-2003 1 and 1B-VI-2007 1.
 6796. *Campaea perlata* (Gn.) (Pale Beauty) – 27B-VI-2003 2.
 6797. *Ennomos magnaria* Gn. (Maple Spanworm) - 2C-IX-2007 2.
 6798. *Ennomos subsignaria* (Hbn.) – 27B-VI-2003 2.
 6817/6818. *Selenia alciphearia* or *kentaria* – 8A-V-2005 1.
 6820. *Metanema determinata* Wlk. (Dark Metanema) – 1A-VI-2007 1.
 6822. *Metarranthis duaria* (Gn.) – 8B-V-2005 8 and 1A-VI-2007 1.
 6836. *Anagoga occiduaria* (Wlk.) (American Barred Umber) – 2-VI-2001 1.
 6837. *Probole alienaria* H.-S. – 27B-VI-1002 2, 8B-V-2005 1 and 17C-VI-2006 1.
 6838. *Probole amicaria* (H.-S.) (Friendly Probole) – 27B-VI-2003 1 and 26-VI-2004 1.
 6860. *Neoterpes trianguliferata* (Pack.) – 27B-VI-2003 1.
 6912. *Sicya macularia* (Harr.) (Pink-bordered Yellow) – 29B-VII-2006 1, 29C-VII-2006 1 and 2C-IX-2007 1.
 6964. *Tetracis cachexiata* Gn. (White Slant-line) – 1B-VI-2007 1.
 6982. *Prochoerhodes transversata* (Drury) (Large Maple Spanworm) – 2B-IX-2007 1 and 2C-IX-2007 1.
 7164. *Scopula junctaria* (Wlk.) (Simple Wave) – 27B-VI-2003 1 and 2B-VII-2005 1.

 7166. *Scopula frigidaria* Mösch. (Frigid Wave) – 2C-IX-2007 1.
 7169. *Scopula inductata* Gn. (Soft-lined Wave) – 17A-VI-2006 1, 29A-VII-2006 1, 29B-VII-2006 1, 2A-IX-2007 1 and 2C-IX-2007 1.
 7172. *Scopula sentinaria* (Gey.) – 2-VI-2001 1.
 7182. *Dysstroma citrata* (L.) (Dark Marbled Carpet) – 2B0-IX-2007 1 and 2C-IX-2007 1.
 7199. *Eulithis propulsata* (Wlk.) (Barred Yellow or Currant Eulithis) – 2B-VII-2005 1.
 7207. *Eulithis xyliana* (Hulst) (The Phoenix) – 30A-VII-2005 1 and 29C-VII-2006 1.
 7329. *Anticlea vasiliata* Gn. (Variable Carpet) – 8A-V-2005 1.
 7368. *Xanthorhoe labradorensis* (Pack.) – 26-VI-2004 1.
 7394. *Epirrhoe alternata* (Müller) (White-banded Toothed Carpet) – 17B-VI-2006 1.
 7408. *Zenophleps alpinata* Cass. (Wood-colored Carpet) – 2B-IX-2007 2 and 2C-IX-2007 3.
 7445. *Horisme intestinata* (Gn.) (Brown Bark Carpet) – 27B-VI-2003 1 and 26-VI-2004 2.
 7446. *Horisme incana* Swett – 17C-VI-2006 1, 1A-VI-2007 1 and 1B-VI-2007 2.
Eupithecia spp. – 2A-IX-2007 1 and 2C-IX-2007 1.
 7476. *Eupithecia misturata* (Hulst) (Insignificant Pug) – 8-V-2005 1.
 7487. *Eupithecia subfuscata* (Haw.) (Grey Pug) – 27-VI-2003 1.

LASIOCAMPIDAE – Tent Caterpillar or Lappet Moths

7687. *Phyllodesma americana* (Harr.) (Lappet Moth) – 8B-V-2005 1, 28B-IV-2007 1 and 17C-V-2008 1.
 7702. *Malacosoma californicum* (Pack.) (Western Tent Caterpillar) – 29A-VII-2006 1 and 29C-VII-2006 1.

SATURNIDAE – Giant Silkworm Moths

7757. *Antheraea polyphemus* (Cram.) (Polyphemus Moth) – 2-VI-2001 1.

SPHINGIDAE – Sphinx Moths

7803. *Sphinx vashti* Stkr. (Vashti or Snowberry Sphinx) – 2-VI-2001 1, 27A-VI-2003 1, 27B-VI-2003 1, 26-VI-2004 1, 1A-VI-2007 2 and 1C-VI-2007 1.

7821. *Sphinx jamaicensis* (Drury) (Twin Spotted Sphinx) – 2-VI-2001 1, 27B-VI-2003 1, 26-VI-2004 1, 2B-VII-2005 1 and 17C-VI-2006 1.

7822. *Smerinthus cerisyi* Kby. (One-eyed Sphinx) – 2-VI-2001 1 and 27B-VI-2003 1.

7825. *Paonias myops* (J. E. Smith) (Small-eyed Sphinx) – 27A-VI-2003 1, 27B-VI-2003 1, 26-VI-2004 1, 1A-VI-2007 1, 1B-VI-2007 1 and 1C-VI-2007 1.

7893. *Hyles gallii* (Rottemburg) (Galium Sphinx or Bedstraw Hawkmoth) – 27A-VI-2003 1, 2A-VII-2005 1, 1A-VI-2007 1 and 1C-VI-2007 1.

NOTODONTIDAE – Prominent Moths

7901. *Clostera apicalis* (Wlk.) (Common Chocolate-tip or Red-marked Tentmaker) – 27B-VI-2003 1.

7922. *Pheosia rimosa* Pack. (Black-rimmed Prominent) – 8B-V-2005 1.

7928. *Notodonta simplaria* Graef (Simple Prominent) – 17C-VI-2006 1. Now regarded as synonymous with the Old World *Notodonta torva* (Hübner).

7931. *Gluphisia septentrionis* Wlk. (Small Pebble or Common Gluphisia) – 27A-VI-2003 1.

8007. *Schizura unicornis* (J. E. Smith) (Variegated Prominent or Unicorn Caterpillar Moth) – 27B-VI-2003 1.

ARCTIIDAE – Tiger Moths and others

8051. *Crambidia casta* (Pack.) (Pearly-winged Lichen Moth) – 28A-VIII-2005 2, 29A-VII-2006 1 and 2A-IX-2007 1.

8137. *Spilosoma virginica* (F.) (Virginian Tiger Moth, Red-marked Tentmaker or Yellow Woollybear) – 27B-VI-2003 1 and 29B-VII-2006 1.

8144. *Hypercompe permaculata* (Pack.) (Many-spotted Tiger Moth) – 3-VIII-2000 1, 2-VI-2001 1, 2A-VII-2005 1 and 30A-VII-2005 1.

8157. *Phragmatobia lineata* Newm. & Donahue – 17B-V-2008 1. Previously known in Alberta only from “head of Pine Creek”, SW of Calgary, where it was collected by F.H. Wolley-Dod.

8186. *Grammia williamsii* (Dodge) (William’s Tiger Moth) – 27A-VI-2003 1, 27B-VI-2003 2, 26-VI-2004 1 and 17B-VI-2006 1.

8197. *Grammia virgo* (L.) (Virgin Tiger Moth) – 26-VI-2004 1.

8131. *Estigmene acraea* (Drury) (Salt Marsh Moth) – 1B-VI-2007 1.

8158. *Phragmatobia assimilans* Wlk. (Large Ruby Tiger Moth) – 1A-VI-2007 1.

8214. *Lophocampa maculata* (Harr.) (Spotted Tiger Moth) – 26-VI-2004 1, 17A-VI-2006 1 and 1B-VI-2007 1.

LYMANTRIIDAE – Tussock Moths

8294. *Dasychira vagans* (B. & McD.) (Variable Tussock Moth) – 26-VI-2004 1, 30A-VII-2005 1 and 30A-VII-2006 1.

NOCTUIDAE – Owlet or Noctuid Moths

8322. *Idia americalis* (Gn.) (American Snout Moth) – 27B-VI-2003 2, 29B-VII-2006 1 and 2C-IX-2007 1.
8348. *Zanclognatha pedipilalis* (Gn.) (Grayish Zanclognatha) – 27B-VI-2003 1.
8370. *Bleptina caradrinalis* Gn. (Bent-winged Owlet or Variable Snout Moth) – 27-VI-2003 1.
8461. *Hypena humuli* Harr. (Hop Vine Snout Moth) – 8A-V-2005 2, 8B-V-2005 1 and 17C-V-2008 1.
8631. *Synedoida petricola* Athabasca (Neum.) (Little Arches) – 17-V-2008 2.
8632. *Drasteria hudsonica* (G. & R.) (Northern Arches) – 8A-V-2005 2 and 8B-V-2005 1.
8697. *Zale minerea* (Gn.) (Colorful Zale) – 1C-VI-2007 1.
8738. *Caenurgina crassiuscula* (Haw.) (Clover Looper Moth) – 2-VIII-2000 1, 30A-VII-2005 1, 30B-VII-2005 1, 29B-VII-2006 1, 1A-VI-2007 1, 1B-VI-2007 1 and 1C-VI-2007 1.
8739. *Caenurgina erechtea* (Cram.) (Forage Looper Moth) – 29A-VII-2006 2, 29C-VII-2006 1 and 2B-IX-2007 1.
8803. *Catocala relictata* Wlk. (White Underwing) – 2A-IX-2007 2 and 2B-IX-2007 1.
8805. *Catocala unijuga* Wlk. (Once-married Underwing) – 2A-IX-2007 2.
8812. *Catocala hermia* Hy. Edw. (Hermia Underwing) – 2A-IX-2007 2.
8817. *Catocala briseis* Edw. (Ribbed Underwing or Briseis Underwing) – 2A-IX-2007 1.
8821. *Catocala semirelictata* Grt. (Semirelict Underwing) – 29B-VII-2006 1 and 29C-VII-2006 1.
8822. *Catocala meskei* Grt. – 2A-IX-2007 1.
8914. *Autographa californica* (Speyer) (Alfalfa Looper) – 3-VIII-2000 2, 17A-VI-2006 1, 2C-IX-2007 3 and 17B-V-2008 1.
8923. *Autographa ampla* (Wlk.) (Broken-banded Y or Large Looper Moth) – 27A-VI-2003 1.
8924. *Anagrapha falcifera* (Kby) (Celery Looper) – 27B-VI-2003 1, 2B-IX-2007 1 and 2C-IX-2007 2.
8950. *Plusia putnami* Grt. (Putnam's Looper Moth) – 17B-VI-2006 1.
8990. *Nola cilicoides* (Grt.) (Blurry-patched Nola) – 30A-VII-2005 1 and 30B-VII-2005 1.
9048. *Lithacodia albidula* (Gn.) (Common Midget) – 29B-VII-2006 1.
9053. *Pseudostrotia carneola* (Gn.) (Pink-barred Lithacodia) – 27B-VI-2003 1, 1A-VI-2007 1 and 17B-V-2008 1.
9101. *Tarachidia tortricina* (Zell.) (Olive-shaded Bird-dropping Moth) – 27A-VI-2003 1.
9111. *Theresea flavicosta* (Sm.) (*Theresea angustipennis*) (Narrow-winged Midget or Olive-shaded Bird Dropping Moth) – 2-VI-2001 2, 27A-VI-2003 1, 27B-VI-2003 1, 26-VI-2004 1, 30A-VII-2005 3 and 2A-IX-2007 1.

9193. *Raphia frater* Grt. (The Brother) – 27B-VI-2003 1.
9195. *Raphia coloradensis* Put.-Cr. – 2-VI-2001 1, 27B-VI-2003 1, 1C-VI-2007 1 and 17C-V-2008 1.
9209. *Acronicta radcliffei* (Harr.) (Radcliff's Dagger Moth) – 17C-V-2008 1. Seldom collected in Alberta.
9228. *Acronicta furcifera* Gn. (The Forked Dagger Moth) – 8A-V-2005 1, 1A-VI-2007 1 and 1B-VI-2007 2.
9257. *Acronicta impleta* Wlk. (Yellow-haired Dagger Moth) – 1B-VI-2007 1, 1C-VI-2007 1 and 17C-V-2008 1.
9258. *Acronicta sperata* Grt. (Sperata Dagger Moth) – 8B-V-2005 1, 1B-VI-2007 1 and 1C-VI-2007 1.
9261. *Acronicta impressa* Wlk.) (Willow Dagger Moth) – 1C-VI-2007 2.
9280. *Simyra henrici* (Grt.) (Henry's Marsh Moth) – 1A-VI-2007 1.
9348. *Apamea amputatrix* (Fitch) (Northern Quaker or Dusky Sallow) – 2B-VII-2005 1 and 29B-VII-2006 1.
9351. *Apamea alia* (Gn.) (Dewy Quaker) – 17B-VI-2006 3 and 17C-VII-2006 2.
9353. *Apamea inordinata* (Morr.) (Montana Quaker) – 27A-VI-2003 1.
9359. *Apamea commoda* (Wlk.) (Southern Quaker) – 27A-VI-2003 1, 26-VI-2004 2, 17A-VI-2006 1 and 17B-VI-2006 2.
9364. *Apamea sordens* (finitima) Gn. (Bordered Apamea) – 27B-VI-2003 1, 26-VI-2004 1, 17B-VI-2006 1, 1A-VI-2007 1 and 1C-VI-2007 1.
9365. *Apamea scoparia* Mikkola, Mustelin & Laf. (*Agroperina lateritia*) (Red-Winged Quaker) – 27A-VI-2003 2, 27B-VI-2003 1, 26-VI-2004 2 and 17C-VI-2006 1.
- 9367a. *Apamea cogitata* (Sm.) (Ruby Quaker) – 30B-VIII-2005 1.
9369. *Apamea inficita* (Wlk.) – 30A-VII-2005 1, 30B-VIII-2005 1, 29A-VII-2006 1, 29B-VII-2006 1 and 29C-VII-2006 1.
9382. *Apamea devastator* (Brace) (Glassy Cutworm Moth or Destructive Quaker) – 3-VIII-2000 2, 30A-VII-2005 3 and 30B-VII-2005 1, 17C-VI-2006 1, 29A-VII-2006 1 and 29B-VI-2006 1.
9391. *Luperina passer* (Gn.) (Dock Rustic) – 30B-VII-2005 1.
9417. *Oligia egens* (Wlk.) (Neomogen's Quaker) – 30B-VII-2005 1, 29C-VII-2006 1 and 2C-IX-2007 1.
9440. *Chortodes rufostrigata* (Pack.) (Brown-streaked Rustic) – 27B-VI-2003 1 and 30A-VII-2005 1.
9450. *Archanara subflava* (Grt.) (Subflava Sedge Borer) – 2C-IX-2007 1.
9453. *Celaena reniformis* (Grt.) (Kidney-spotted Rustic) – 3-VIII-2000 1.
9457. *Amphipoea americana* (Speyer) (American Ear Moth) – 29C-VII-2006 1 and 2C-IX-2007 1.
9472. *Papaipema harrisii* (Grt.) (Cow Parsnip Borer Moth) – 2C-IX-2007 1.
9515. *Hydraecia perobliqua* Hamp. (Oblique Rustic) – 30B-VII-2005 1 and 2C-IX-2007 1.
9647. *Proxenus miranda* (Grt.) (Glistening Rustic) – 2-VI-2001 4, 26-VI-2004 2 and 2C-IX-2007 1.
9649. *Proxenus mendosa* McD. – 30A-VII-2005 1.
9654. *Platyperigea meralis* (Morr.) – 30B-VII-2005 1.
9656. *Platyperigea montana* (Bremer) (Civil Rustic) – 3-VIII-2000 2, 2-VI-2001 1, 27A-VI-2003 1, 26-VI-2004 1, 30B-VII-2005 1, 2B-IX-2007 1 and 2C-IX-2007 1.

9873. *Xylena nupera* (Lint.) (American Swordgrass Moth) – 8A-V-2005 2 and 8B-V-2005 2.
9874. *Xylena curvimacula* (Morr.) (Dot-and-Dash Swordgrass Moth) – 9C-IV-2008 1.
9876. *Xylena cineritia* (Grt.) (Western Swordgrass Moth) – 8A-V-2005 3, 8B-V-2005 1, 9B-IV-2008 1 and 9C-IV-2008 1.
9917. *Lithophane fagina* Morr. (Beech Pinion) – 8A-V-2005 1, 28A-IV-2007 1 and 9B-IV-2008 1.
9935. *Eupsilia tristigmata* (Grt.) (Three-spotted Sallow) – 10-III-2007 2 and 9D-IV-2008 1.
9952. *Eucirroedia pampina* (Gn.) (Scalloped Sallow) – 2B-IX-2007 1 and 2C-IX-2007 1.
- Mniotype* sp. – 17C-VI-2006 1.
9993. *Brachylomia populi* (Stkr.) (Cloaked Peasant) – 2C-IX-2007 2.
10035. *Noctua pronuba* (B. & McD.) (Large Yellow Underwing) – 29A-VII-2006 1, 2A-IX-2007 2, 2B-IX-2007 1 and 2C-IX-2007 2.
10067. *Adita chionanthi* (J.E. Smith) (Fringed Tree Sallow) – 30B-VII-2005 1.
10143. *Oncocnemis mackiei* (B. & Benj.) (Mackie's Beauty) – 2C-IX-2007 2.
10194. *Cucullia intermedia* Speyer (Goldenrod Cutworm Moth) – 27A-VI-2003 1, 1B-VI-2007 1 and 1C-VI-2007 1.
10224. *Discestra mutata* (Dod) (The Changeling) – 27A-VI-2003 1 and 1C-VI-2007 1.
- 10228c. *Discestra oregonica montanica* McD. – 2-VI-2001 1.
10232. *Discestra farnhami* (Grt.) (Farnham's Discestra) – 2-VI-2001 1, 1A-VI-2007 1, 1B-VI-2007 2 and 1C-VI-2007 2.
10233. *Discestra crotchi* (Grt.) – 8B-V-2005 2.
10238. *Scotogramma submarina* (Grt.) – 27A-VI-2003 1.
10265. *Sideridis rosea* (Harv.) (Rosy Penman or The Rosywing) – 2-VI-2001 1, 1A-VI-2007 1 and 1B-VI-2007 1.
10271. *Mamestra configurata* (Wlk.) (Bertha Armyworm) – 26-VI-2004 1, 17A-VI-2006 1, 17B-VI-2006 1 and 17C-VI-2006 2.
10273. *Polia discalis* (Grt.) (Large Gray Polia) – 2B-VII-2005 2 and 17C-VI-2006 2.
10280. *Polia purpurissata* (Grt.) (Purple Arches) – 30B-VII-2005 1, 29B-VII-2006 1 and 29C-VII-2006 1.
10288. *Polia detracta* (Wlk.) (Dingy or Disparaged Arches) – 2-VI-2001 1, 27B-VI-2003 1 and 26-VI-2004 1.
10289. *Polia goodelli* (Grt.) (Goodell's Arches) – 27B-VI-2003 1.
10290. *Orthodes (Polia) obscura* (Sm.) (Obscure Arches) – 1A-VI-2007 1, 1B-VI-2007 1, 1C-VI-2007 1 and 17A-V-2008 1.
10293. *Melanchra picta* (Harr.) (Painted Arches) – 1B-VI-2007 1.
10297. *Lacanobia atlantica* (Grt.) (Atlantic Arches) – 2-VI-2001 1.
10298. *Lacanobia radix* (Wlk.) (Garden Arches) – 2-VI-2001 1, 27A-VI-2003 1, 1A-VI-2007 1, 1B-VI-2007 2 and 1C-VI-2007 1.
10299. *Lacanobia subjuncta* (G. & R.) (Harnessed Arches) – 1B-VI-2007 1.
10300. *Spirameter grandis* (Gn.) (Pale-banded Arches) – 2-VI-2001 1, 27B-VI-2003 2 and 26-VI-2004 1.
10303. *Trichordestra tacoma* (Stkr.) (Tacoma Arches) – 1A-VI-2006 1, 1B-VI-2007 1 and 1C-VI-2007 1.
10370. *Lacinipolia lustralis* (Grt.) (Lustrous Arches) – 2-VI-2001 1, 27B-VI-2003 1 and 26-VI-2004 2.

10372. *Lacinipolia anguina* (Grt.) (Snaky Arches) – 2-VI-2001 2 and 1B-VI-2007 1.
10397. *Lacinipolia renigera* (Steph.) (Kidney-spotted Arched or Bristly Cutworm) – 2B-VII-2005 1, 30A-VII-2005 1, 29B-VII-2006 1 and 29C-VII-2006 1.
10405. *Lacinipolia lorea* (Gn.) (Bridled Arches) – 27B-VI-2003 1 and 17B-VI-2006 1.
10431. *Faronta diffusa* (Wlk.) (Cloudy Wainscot or Wheat-head Armyworm Moth) – 27A-VI-2003 2 and 1B-VI-2007 1.
10436. *Aletia oxygala* (Grt.) (Lesser Wainscot) – 27B-VI-2003 1, 2A-VII-2005 1, 2B-VII-2005 1, 30A-VII-2005 1, 17B-VI-2006 1 and 29A-VII-2006 1.
10446. *Leucania multilinea* Wlk. (Many-lined Wainscot) – 29B-VII-2006 1.
10447. *Leucania commoides* Gn. (Comma Wainscot) – 3-VIII-2000 2, 17B-VI-2006 1, 29A-VII-2006 1, 29C-VII-2006 1 and 2C-IX-2007 1.
10449. *Leucania insueta* Gn. (Heterodox Wainscot) – 2-VI-2001 1, 26-VI-2004 1, 17A-VI-2006 1, 17C-VI-2006 1.
10471. *Stretchia plusiaeformis* Hy. Edw. (Gray Spectacles) – 8A-V-2005 1, 8B-V-2005 2, 9B-IV-2008 1, 9C-IV-2008 1 and 9D-IV-2008 1.
10490. *Orthosia revicta* (Morr.) (Subdued Quaker) – 8A-V-2005 1, 8B-V-2005 3, 28A-IV-2007 1 and 17C-V-2008 1.
10493. *Orthosia segregata* Sm. (Segregate Penman) – 8A-V-2005 2, 8B-V-2005 2, 28A-IV-2007 3, 17B-V-2008 1 and 17C-V-2008 1.
10493. *Orthosia segregata* f. *negussa* Sm. – 8A-V-2005 5, 8B-V-2005 1 and 28A-IV-2007 4.
10495. *Orthosia hibisci* (Gn.) (Variable Penman or Speckled Green Fruitworm Moth) – 8B-V-2005 1, 28A-IV-2007 3, 28B-IV-2007 1, 9C-IV-2008 3, 9B-IV-2008 1 and 17C-V-2008 1.
10501. *Crocigrapha normani* (Grt.) (Norman's Quaker) – 8A-V-2005 1 and 8B-V-2005 12.
10513. *Egira dolosa* (Grt.) (Grieving Woodling or Greater Black Letter Dart) – 27A-VI-2003 1 and 17C-V-2008 1.
10524. *Nephelodes minians* Gn. (Shaded Umber, Brown Cutworm Moth or Bronzed Cutworm Moth) – 29B-VII-2006 1, 2B-IX-2007 1 and 2C-IX-2007 1.
10563. *Protorthodes oviduca* (Gn.) (Ruddy Quaker) – 2-VI-2001 2, 27A-VI-2003 1, 8A-V-2005 2, 17C-V-2006 1 and 1B-VI-2007 1.
10651. *Agrotis venerabilis* Wlk. (Venerable Dart) – 2B-IX-2007 1 and 2C-IX-2007 1.
10652. *Agrotis vancouverensis* Grt. (Vancouver Dart) – 2-VI-2001 5, 27A-VI-2003 2, 27B-VI-2003 1, 26-VI-2004 2, 2A-VII-2005 1, 2B-VII-2005 1, 17A-VI-2006 1 and 17C-VI-2006 1.
10660. *Agrotis obliqua* (Sm.) (Oblique Dart) – 1A-VI-2007 1 and 1B-VI-2007 1.
10663. *Agrotis ipsilon* (Hufn.) (Ipsilon Dart) - 27A-VI-2003 1.
10670. *Feltia jaculifera* (Gn.) (Dingy Cutworm Moth) – 3-VIII-2000 2, 30A-VII-2005 3, 2B-IX-2007 1 and 2C-IX-2007 2.
10676. *Feltia herilis* (Grt.) (Master's Dart) – 30B-VII-2005 2, 29B-VII-2006 2 and 29C-VII-2006 2.
- 10701.2. *Euxoa auxiliaris* (Grt.) (Auxiliary Dart) – 27A-VI-2003 3, 27B-VI-2003 2 and 2C-IX-2007 2.
10702. *Euxoa divergens* (Wlk.) (Divergent Dart) – 2-VI-2001 4, 27A-VI-2003 2, 27B-VI-2003 1, 26-VI-2004 1, 2A-VII-2005 1, 2B-VII-2005 1 and 1B-VI-2007 1.

10723. *Euxoa tristicula* (Morr.) (Early Cutworm or Three-marked Dart) – 27B-VI-2003 1, 2B-VII-2005 1, 30A-VII-2005 2 and 30B-VII-2005 1.
10728. *Euxoa pestula* Sm. – 27A-VI-2003 1 and 27B-VI-2003 1.
10755. *Euxoa declarata* (Wlk.) (Clear Dart) – 3-VIII-2000 1.
10798. *Euxoa basalis* (Grt.) (Pale-based Dart) – 29B-VII-2006 1 and 2C-IX-2007 1.
10801. *Euxoa ochrogaster* (Gn.) (Red-backed Cutworm Moth) – 3-VIII-2000 2, 30A-VII-2005 1 and 2C-IX-2007 1.
10805. *Euxoa tessellata* (Harr.) (Tessellate Dart) – 30A-VII-2005 1.
10813. *Euxoa medialis* (Sm.) (Median-banded Dart) – 10-X-2004 1.
10910. *Anicla tepperi* (Sm.) (*Euagrotis tepperi*) (Black-girdled Dart) – 27A-VI-2003 3, 27B-VI-2003 1, 26-VI-2004 2 and 17B-VI-2006 1.
10917. *Diarsia rubifera* (Grt.) (Rubifera Dart) – 27B-VI-2003 1.
10923. *Actebia balanitis* (Grt.) (Bracketed Dart or Acorn Dart) – 27A-VI-2003 3, 27B-VI-2003 1 and 2B-VII-2005 1.
10924. *Actebia fennica* (Tauscher) (Finland Dart or Dark Army Cutworm) – 2C-IX-2007 1.
10926. *Spaelotis clandestina* (Harr.) (Clandestine Dart) – 27A-VI-2003 1, 27B-VI-2003 2, 26-VI-2004 1, 2B-VII-2005 1, 30B-VII-2005 1, 2B-IX-2007 1 and 2C-IX-2007 1.
- 10927.1. *Spaelotis bicava* Laf. – 2-VI-2001 1 and 2B-VII-2005 1.
10928. *Graphiphora augur* (Grt.) (Soothsayer Dart) – 30B-VII-2005 1.
10929. *Eurois occulta* (L.) (Great Gray Dart) – 27B-VI-2003 1, 17B-VI-2006 1, 29C-VII-2006 1, 2B-IX-2007 1 and 2C-IX-2007 2.
10942. *Xestia c-nigrum* (L.) (Black-letter Dart) – 27B-VI-2003 1.
10944. *Xestia smithii* (Snellen) (Smith's Dart or Spotted Clay Dart) – 3-VIII-2000 2 and 2B-VII-2005 2, 30B-VII-2005 1, 29A-VII-2006 1, 29B-VII-2006 1, 29C-VII-2006 1 and 2C-IX-2007 1.
10951. *Pseudohemonassa tenuicula* (Morr.) (*Xestia tenuicula*) (Hair-pin Dart) – 30B-VII-2005 2.
10954. *Agnorisma bugrai* (Koçak) (*Xestia collaris*) (Collared Dart) – 2C-IX-2007 2.
10992. *Paradiarsia littoralis* (Pack.) (Labrador Dart) – 2-VI-2001 1, 27A-VI-2003 1, 27B-VI-2003 1, 26-VI-2004 2, 2A-VII-2005 1, 2B-VII-2005 1, 17B-VI-2006 1 and 17C-VI-2006 1.
11004. *Protolampra rufipectus* (Morr.) (Red-breasted Dart) – 3-VIII-2000 1 and 30B-VII-2005 1, 29B-VII-2006 1 and 29C-VII-2006 2.
11012. *Cryptocala acadensis* (Bethune) (Catocaline Dart) – 30B-VII-2005 1 and 29C-VII-2006 1.
11029. *Abagrotis alternata* (Grt.) – 30B-VII-2005 1 and 29C-VII-2006 1.
11041. *Abagrotis placida* (Grt.) group (Placida Dart) – 30A-VII-2005 1 and 2B-IX-2007 1.
11047. *Parabagrotis exertistigma* (Morr.) – 2C-IX-2007 1.
11192. *Schinia cumatilis* (Grt.) (Silver-banded Gem) – 30A-VII-2005 7.

DISCUSSION

An analysis of the data from the present study of the moths encountered in the twelve major study areas, reveals that the present area (EA) is most similar to AH (39.89%), TB (39.00%), DI (38.73%) and BL (38.70%). EA was least similar to LF (26.93%) and EP (27.57%). The coulee habitats in EA are quite different from those in the other study areas and many different food plants are present. Also more species reach their northern limits in EA.

SUMMARY

The list in the report for 2003 contained 144 species, Bird (2005) brought the total up to 165, Bird (2006) raised it to 239, Bird (2007) had 283 species, Bird (2008) had 324 and 353 are listed in the present one. An additional 20 or 30 species could be added if it were possible to identify to species all specimens in the undetermined groups. It has been especially encouraging to encounter southern species, such as *Ethmia monticola*, *Pelochrista argenteana*, *P. occipitana*, *Mimoschinia rufofascialis*, *Hystrichophora asphodelana*, *Neoterpes trianguliferata*, *Ennomos subsignaria* and *Raphia coloradensis*. Some specimens appear to be of undescribed species. It has also been exciting to encounter rare species like *Phragmatobia lineata* and *Acronicta radcliffei*. Further study is definitely recommended. It should bring the overall total to close to 500 species.

Of the 12 major areas involved in the present study, fifteen species of moths were found only at East Arrowwood Coulee - *Ethmia monticola*, *Coleophora mcdunnoughiella*, *Evippe prunifoliella* ?, *Eucosma serapicana*, *Pelochrista n. sp. 3*, *Pelochrista occipitana*, *Sonia n. sp.*, *Pero honestaria*, *Ennomos subsignaria*, *Neoterpes trianguliferata*, *Phragmatobia lineata*, *Raphia coloradensis*, *Cucullia speyeri*, *Abagrotis alternata* and *Parabagrotis exertistigma*. Peak numbers of moths occur during June, July and August but various species fly only in the spring and fall. It is therefore important to collect at times of the year when previous collections have not been made.

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USEFUL ONLINE INFORMATION SOURCES ON MOTHS

Information on 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

USEFUL BOOKS ON MOTHS

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APPENDIX

Collection dates, sites and other details
East Arrowwood Coulee, 3 km NE of Arrowwood

- 24 July 1997 – diurnal, W-facing coulee slope, 50.750, 113.130, 860 m.
- 2 June 2001 – 2 UV traps and some diurnals, W-facing coulee slope, 50.75, 113.13, abt 900 m,
- 27A June 2003 – UV, upper edge of W-facing coulee slope, 50.75037, 113.12813, 915 m.
- 27B June 2003 – UV, *Populus balsamifera* woods along creek, 50.75128, 113.13015, 862 m.
- 11 April 2004 – diurnal, W-facing coulee slope and coulee bottom, 50.75, 113.13, 860-900.
- 26D June 2004 – diurnal and porch light, 50.75, 113.13, 860-915 m.
- 26U June 2004 – UV, W-facing coulee slope, 50.750, 113.128, 915 m.
- 26L June 2004 – UV, *Populus balsamifera* woods along creek, 50.751, 113.130, 862 m.
- 8A May 2005 – UV, W-facing coulee slope beside seeping spring, 50.757, 113.129, 887 m.
- 8B May 2005 – UV, wooded coulee bottom, 50.759, 113.130, 870 m.
- 2A July 2005 – UV, W-facing coulee slope beside seeping spring, 50.757, 113.129, 887 m.
- 2B July 2005 – UV, wooded coulee bottom, 50.759, 113.130, 870 m.
- 30A July 2005 – UV, W-facing coulee slope, 50.750, 113.128, 900 m.
- 30B July 2005 – UV, *Populus balsamifera* woods along creek, 50.751, 113.130, 860 m.
- 17A June 2006 – UV, W-facing coulee slope, 50.757, 113.129, 889 m.
- 17B June 2006 – UV, W-facing coulee slope, 50.757, 113.128, 898 m.
- 17C June 2006 – UV, W-facing coulee slope above *Populus balsamifera*, 50.758, 113.127, 899 m.
- 29A July 2006 – UV, W-facing coulee slope, 50.74912, 113.12818, 905 m.
- 29B July 2006 – UV, coulee bottom near *Solidago* and *Shepherdia argentea*, 50.74814, 113.12946, 887 m.
- 29C July 2006 – coulee bottom with *Populus balsamifera*, 50.75147, 113.13020, 886 m.
- 10 March 2007 – UV, coulee bottom with *Populus balsamifera*, 50.751, 113.130, 886 m.
- 28A April 2007 – UV, W-facing coulee slope near *Shepherdia argentea* and *Prunus virginiana*, 50.757, 113.129, 887 m.
- 28B April 2007 – UV, coulee bottom with *Populus balsamifera*, 50.759, 113.130, 870 m.
- 1A June 2007 – UV, W-facing coulee slope, 50.757, 113.129, 889 m.
- 1B June 2007 – UV, W-facing coulee slope, 50.757, 113.128, 898 m.
- 1C June 2007 – UV, W-facing coulee slope above *Populus balsamifera*, 50.758, 113.127, 887 m.
- 2A September 2007 – UV, W-facing coulee slope above *Populus balsamifera*, 50.758, 113.127, 887 m.

- 2B September 2007 – UV, W-facing coulee slope near *Shepherdia argentea*, 50.757, 113.128, 898 m.
- 2C September 2007 – UV, coulee bottom with *Populus balsamifera*, 50.759, 113.130, 870 m.
- 9A April 2008 – Diurnal, W-facing coulee slope, 50.750, 113.128, 915 m.
- 9B April 2008 – UV, coulee bottom with *Populus balsamifera*, 50.759, 113.130, 870 m.
- 9C April 2008 – UV, coulee bottom with *Populus balsamifera*, 50.759, 113.130, 870 m.
- 9D April 2008 – UV, W-facing coulee slope beside seeping spring and *Prunus virginiana*, 50.757, 113.129, 887 m.
- 17 May 2008 – Diurnal, W-facing coulee slope, 50.757, 113.128, 890 m.
- 17A May 2008 – UV, W-facing coulee slope, 50.759, 113.128, 905 m.
- 17B May 2008 – UV, coulee bottom near *Shepherdia argentea*, 50.758, 113.130, 887 m.
- 17C May 2008 – coulee bottom with *Populus balsamifera*, 50.752, 113.130, 886 m.
- 6 Nov 2008 – Inside farm house, 50.751, 113.127, 912 m.