

2012 update to the Checklist of the Lepidoptera of Alberta

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Introduction:

An annotated list of the Lepidoptera of Alberta was published by Pohl et al. (2010) and the first update was published a year after (Pohl et al. 2011). This is the second installment in what will likely be an annual update to the list. Here we add 40 new species, remove five species from the AB list, and correct several errors that have been brought to our attention. The AB list now stands at 2430 reported species. If you are aware of further errors or additions to the AB Lepidoptera list, please contact the lead author (greg.pohl@nrcan-nrcan.gc.ca). We hope that the number of errors discovered will diminish in coming years, but there is no indication that the number of new AB discoveries will decrease any time soon.

Many records of Gnorimoschemini (Gelechiidae) species in western Canada were reported by Nazari and Landry (2012) in a report that was prepared with support from ALG in the form of a research bursary. We summarize the new AB records below. As well, several other new discoveries detailed below were presented by contributors in the previous issue of the Alberta Lepidopterists' Guild Newsletter (Anweiler et al. 2011). We reiterate those records here and add species numbers to place them in the correct sequence in the Alberta list.

Errata and taxonomic changes to the AB list:

229.1 *Coleophora quadruplex* McDunnough, 1940. This species should have been placed at #213.2 when it was added to the AB list by Pohl et al. (2011).

325.1 *Aroga unifasciella* (Busck, 1903). This species should have been placed at #325.01 when it was added to the AB list by Pohl et al. (2011); 325.1 is already occupied by *Gnorimoschema clavatum* Povolný.

330.01 *Gnorimoschema herbichii* (Nowicki, 1864). Move to #330.02. Besides the Jasper specimen reported by Pohl et al. (2011), an old Edmonton specimen collected by Bowman was identified by Nazari and Landry (2012).

331.02. *Gnorimoschema obscurior* Povolny, 1998. This species, added to the AB list by Pohl et al. (2011), is moved to #330.07. It is now known from several sites in the AB grasslands (Nazari & Landry 2012).

341 *Scrobipalpa obsoletella* (von Röslerstamm, 1841). Remove from the AB list (see E10.1 below).

345 *Scrobipalpopsis petrella* (Busck, 1915). Remove from the AB list (see E10.2 below).

519.1 *Sparganothis senecionana* (Walsingham, 1879). This species should have been placed at #521.1 when it was added to the AB list by Pohl et al. (2011).

521.1 *Sparganothis flavibasana* (Fernald, 1882). This species, added to the AB list by Pohl et al. (2011), is moved to #521.2.

Hydrelia lucata (Guenée, 1852), collected by GRP near Sherwood Park on 10 July 2010 (GR Pohl personal collection). This marks a western range extension from SK for this species.



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583 *Hedya separatana* (Kearfott, 1907). This species was incorrectly placed in the genus *Metendothenia*. Placement in *Hedya* follows Brown (2005).

667 *Eucosma galenapunctana* Kearfott, 1905. The date of description was incorrectly given as 1908.

689 *Eucosma pulveratana* (Walsingham, 1884). Remove from the AB list (see E22.1 below).

691 *Eucosma suadana* Heinrich, 1923. Remove from the AB list (see E22.2 below).

702 *Epiblema obfusca* (Dyar, 1903). The date of description was incorrectly given as 1888.

777 *Cydia multilineana* (Kearfott, 1907). The date of description was incorrectly given as 1908.

825 *Hellinsia kellicottii* (Fish, 1881). The status of this species in AB should be changed from R to U, and the following note added:

This species was reported from AB by Bowman (1951) as *Hellinsia lacteodactylus kellicottii*. AB material in the Canadian National Collection has been filed under the name *H. lacteodactylus* (Chambers). The identity of specimens in the University of Alberta Strickland Museum are probably referable to *H. lacteodactylus* as well; no confirmed AB specimens of *H. kellicottii* are known.

1315.2 *Hydrelia inornata* (Hulst, 1896). Remove from the AB list (see E80.1 below).

1436 *Digrammia rippertaria* (Duponchel, 1830). The note incorrectly stated that *D. hebetata* (Hulst) is a synonym of *D. rippertaria*. The note should read as follows:

Prior to Ferguson (2008), this species was incorrectly identified as *D. hebetata* (Hulst), a more southerly species that does not occur as far north as AB.

2060 *Anarta montanica* (McDunnough, 1930). The correct name for this species is now *A. inconcinna* (Smith, [1888]). As pointed out in the Appendix (entry #A34) of Pohl et al. (2010), the taxon *montanica* was raised to species status and placed in the genus *Anarta* by Mustelin (2006). More recently, Lafontaine & Schmidt (2011) synonymized it with *A. inconcinna*. The species' position remains at #2060 in the list.

2166.1 "*Orthodes*" *delecta* (Barnes & McDunnough, 1916). The valid name for this taxon is now "*Orthodes*" *noverca* (Grote, 1878). After this species was added to the AB list by Pohl et al. (2011), Lafontaine & Schmidt (2011) synonymized *delecta* with "*Orthodes*" *noverca*.

2170 *Neleucania bicolorata* (Grote, 1881). The valid name for this taxon is now *N. praegracilis* (Grote, 1877); it was synonymized by Lafontaine & Schmidt (2011).

2210 *Euxoa perexcellens* (Grote, 1875). The specific epithet was misspelled in the note, as "*perexcellans*" (it was spelled correctly in the body of the list).

Additions to the AB list:

10.05 *Ectoedemia canutus* Wilkinson & Scoble, 1979. Reported from AB by van Nieukerken et al. (2012) (in Supplement 3; an associated file listing specimens examined). The specimen was collected 20 June 2000, by GRP, near Sherwood Park. It is deposited at the Netherlands Centre for Biodiversity Naturalis, Leiden, Netherlands, and is listed and illustrated in BoLD as #RMNH.INS.23723 (Ratnasingham & Hebert 2007).

10.07 *Ectoedemia marmaropa* (Braun, 1925). This species was tentatively reported from AB by van Nieukerken & Berggren (2012), on the basis of some distinctive vacated leaf mines from *Rosa* spp., collected at Saskatchewan River Crossing in Banff National Park, on 1 July 1994 by M Ahola and L Kaila. The plant specimens are deposited in the Helsinki Museum.

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155.5 *Depressaria whitmani* Clarke, 1941. This species was discovered among undetermined material from several localities in southern AB, and identified by CDB and GRP in 2011. It was previously known only from the type locality of Snake River, Whitman Co., WA; see Anweiler et al. (2011) for details.

214.5 *Coleophora cervinella* McDunnough, 1946. This species was collected in AB by CDB at the Buffalo Lake Conservation Area on 15 July 2001. A second specimen collected by CDB at the former Lloyd Lohr farm SE of Erskine on 2 August 2000 could not be identified with certainty. The determinations were made recently by JFL. The species was described from Parrsboro NS; no other verified Canadian records are known.

227.5 *Mompha sturnipennella* (Treitschke, 1833). Specimens collected near Sherwood Park on 24 April 2001, and Banff on 3 June 2006 by GRP were identified recently via DNA barcoding. This is a Holarctic species that is likely more widespread in western Canada; the synonym *M. nodicolella* Fuchs was described from Dawson City YT.

323.5 *Filatima vaccinii* Clarke, 1947. A specimen collected by CDB at Buffalo Lake Conservation Area, on 30 August 2004, was recently identified by JFL. No published Canadian records of this species are known, but there are several specimens from western Canada in the Barcode of Life database (Ratnasingham & Hebert 2007).

325.05 *Gnorimoschema alaskense* Povolný, 1967. Reported from AB by Nazari & Landry (2012) based on several specimens in the boreal, grassland, and cordilleran ecozones. This species was raised from synonymy with *G. valesiella* (Staudinger) by Huemer & Karsholt (2010).

325.06 *Gnorimoschema albangulatum* Braun, 1926. Reported from AB by Nazari & Landry (2012) based on several specimens from the Rocky Mountains as well as one from Dunvegan.

325.07 *Gnorimoschema bacchariselloides* Powell & Povolný, 2001. Reported from AB by Nazari & Landry (2012) based on specimens from Lost River Valley near Onefour, Pakowki dunes, and Lethbridge.

325.08 *Gnorimoschema brachiatum* Povolný, 1998. Reported as probable for AB by Nazari & Landry (2012); this species is known from YT, SK, and WA and likely occurs in AB.

325.1 *Gnorimoschema clavatum* Povolný, 1998. Reported as probable for AB by Pohl et al. (2010); an AB specimen from Pakowki dunes, collected by JJ Dombroskie on 16 August 2006, was identified and reported by Nazari & Landry (2012).

325.15 *Gnorimoschema compsomorpha* Meyrick, 1929. Reported from AB by Nazari & Landry (2012) based on a specimen from Bindloss, collected by JJ Dombroskie and B Proshek on 23 July 2008.

330.01 *Gnorimoschema gibsoniella* Busck, 1915. Reported from AB by Nazari & Landry (2012) based on specimens collected by CDB from several parkland localities. This represents a range extension from MB.

330.03 *Gnorimoschema intermedium* Povolný, 2003. Reported from AB by Nazari & Landry (2012) based on several specimens from the Rocky Mountains.

330.04 *Gnorimoschema jocelynae* Miller, 2000. Reported from AB by Nazari & Landry (2012) from several localities ranging from Elk Island National Park south to Sandy Point. This represents a range extension from ND.

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330.05 *Gnorimoschema ligulatum* Povolný, 1998. Reported from AB by Nazari & Landry (2012) based on a specimen collected in Waterton Lakes National Park by JJ Dombroskie et al. on 15 August 2006. The Waterton specimen is the second specimen known globally; the holotype is from Carcross YT.

330.06 *Gnorimoschema nanulum* Povolný, 1998. Reported from AB by Nazari & Landry (2012) based on specimens from Kleskun Hills near Grande Prairie, Cypress Hills, and Nordegg.

330.08 *Gnorimoschema octomaculella* (Chambers, 1875). Reported by Nazari & Landry (2012) as "probable" for AB. This species is widespread in western NA but has yet to be collected in AB.

330.09 *Gnorimoschema pedmontella* Chambers, 1877. Reported from AB by Nazari & Landry (2012) based on a specimen from Kootenay Plains, collected by M Schwarzfeld on 7 July 2007.

331.05 *Gnorimoschema rotundatum* Povolný, 1998. Reported from AB by Nazari & Landry (2012) based on specimens from Buffalo (collected by JJ Dombroskie on 16 August 2006) and Edmonton (collected by K Bowman on 3 September 1945).

331.06 *Gnorimoschema salinaris* Busck, 1911. Reported from AB by Nazari & Landry (2012) based on specimens collected by CDB from several parkland localities in southern AB, as well as a specimen from Peace River Wildland Park.

331.07 *Gnorimoschema saphirinella* (Chambers, 1875). Reported from AB by Nazari & Landry (2012) based on several specimens collected at Nordegg by JH McDunnough.

332.05 *Gnorimoschema signatum* Povolný, 2003. Reported from AB by Nazari & Landry (2012) based on a specimen from Dunvegan, collected by JFL on 18 July 2003.

332.5 *Gnorimoschema subterraneum* Busck, 1911. Reported from AB by Nazari & Landry (2012) based on specimens collected by CDB from several parkland localities.

333.1 *Gnorimoschema tunicatum* Povolný, 1998. This rare species was reported from AB by Nazari & Landry (2012) based on a specimen collected by JFL at Sandy Point on 3 July 1985.

334.5 *Tuta insularis* Povolný, 2003. Reported from AB by Nazari & Landry (2012) based on a specimen from Kleskun Hills near Grande Prairie, collected by JFL on 20 July 2003. This species was listed by Lee et al. (2009) in *Scrobipalpuloides*, but was placed in the genus *Tuta* by Huemer & Karsholt (2010).

343.5 *Scrobipalopsis arnicella* (Clarke, 1942). Reported from AB by Nazari & Landry (2012) based on a specimen from Cypress Hills, collected by JFL on 13 July 1984.

444.1 *Phtheochroa riscana* (Kearfott, 1907). As reported by Anweiler et al. (2011), a female likely referable to this species was collected at Bindloss on 23 July 2008, by JJ Dombroskie and B Proshek, and tentatively identified by J Brown. The species is hereby listed as uncertain for AB, because females cannot be identified with certainty. The species is known from eastern Canada, QC, ON, and BC, but this is the first report of it from the Prairie Provinces.

461.1 *Cochylis arthuri* Dang, 1984. As reported by Anweiler et al. (2011), a specimen of this species was collected in Edmonton on 25 July 2010 by JJ Dombroskie. It was determined by C Tebby, and confirmed by J Brown. This species is also known in SK and MB, and is an occasional pest of sunflower (Dang 1984).

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461.2 *Cochylis caulocatax* Razowski, 1984. A specimen of this distinctive species was collected in the Cypress Hills of AB on 6 August 2008 by JJ Dombroskie; the determination was confirmed by J Brown. This species was described from Venezuela, and has since been found in KY, TX, MS, and FL. This major range extension to AB was reported by Anweiler et al. (2011), who erroneously referred to it as "*C. caulocatax arthuri*".

558.1 *Olethreutes diallacta* (Meyrick, 1932). A specimen collected on 19 July 2003 near Dunvegan by GRP was identified recently by JJ Dombroskie via dissection. This species is otherwise not known west of QC and NY.

690.1 *Eucosma lafontainei* Wright, 2012. A specimen collected by CDB at Dry Island Buffalo Jump Provincial Park, on 12 July 2003, was included by Wright (2012) in the type series. Systematic placement of this species was not clearly indicated therein; we place it provisionally after *E. biquadrana* (Walsingham).

691.1 *Eucosma seamansi* Wright, 2011. This species was described from Lethbridge by Wright (2011) and named after the collector, Howard L. (Hod) Seamans (1891-1974) who had a lengthy career in entomology at the Agriculture Canada research station in Lethbridge. Prior to the description of *E. seamansi*, this material was previously treated as *E. pulveratana* (Walsingham) and *E. suadana* Heinrich, neither of which occurs in AB (see additions to the Erroneous list, below).

784.5 *Cydia pomonella* (Linnaeus, 1758). This serious introduced pest of apples, commonly known as the Codling Moth, became established in 2011 in the town of Taber (D Holden & S Meers, pers. comm.). It was introduced to NA very early after European colonization, reaching ON by 1635. It was previously known in Canada from apple-growing regions in BC, ON, and QC.

871.1 *Sosipatra rileyella* (Ragonot, 1887). An individual of this species was collected at the Pakowki Lake dunes on 11 July 2009 by GG Anweiler, and identified by CDB and GRP. The species is otherwise known only from southwestern USA. It was thought to be restricted to feeding on debris of Agavaceae (Powell & Opler 2009), but the AB site is some distance from *Yucca glauca* Nutt. (Agavaceae) habitat, which suggests that the species may be able to utilize other foods. See Anweiler et al. (2011) for details.

907.2 *Dioryctria auranticella* (Grote, 1883). Two specimens of this species were collected at Medicine Hat on 4 August 2011 by J Scott. Both were dissected by GRP; one, a male, was confirmed as *D. auranticella*; the second, a female, could not be identified with certainty. This species was previously known from BC, WA, ID, MT, and SD (Mutuura & Munroe 1972).

907.3 *Dioryctria rossi* Munroe, 1959. A female specimen of this species was collected along with specimens of the previous species, at Medicine Hat on 4 August 2011 by J Scott. It was dissected and confirmed by GRP. This species was previously known only from BC (Mutuura & Munroe 1972).

1315.2 *Hydrelia lucata* (Guenée, 1852). A specimen that appears to be this species was collected recently near Sherwood Park, on 10 July 2010, by GRP. The species is herein considered "unconfirmed" in AB. Another *Hydrelia* species, *H. inornata* (Hulst) had been reported as "probable" on the AB list, on the basis of specimens in the CFS Edmonton collection from central SK and MB (also reported by Prentice 1963). However it appears that all these western Canadian specimens are referable to *H. lucata*, so that is where they

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are tentatively placed pending further taxonomic work (*H. inornata* is placed on the Erroneous list, see #E80.1 below).

1721.1 *Nola minna* Butler, 1881. As reported by Anweiler et al. (2011), a specimen of this species was collected from the Beavermines Lake area on 20 June 2011, by C Jaeger and JJ Dombroskie. This species was previously known from BC and NT.

1826.5 *Calophasia lunula* (Hufnagel, 1766). This Palaearctic species was introduced to AB in 1991 to control Dalmatian Toadflax (*Linaria dalmatica* (L.) Mill.; Scrophulariaceae) (DeClerck-Floate & Carcamo 2011). However, it appears that this moth species has not become established in the province, so it is treated herein as a stray.

Nevadopalpa new sp., new genus and species for Canada. This is a male from a series collected at light in Sandy Point Campground in Southern Alberta by JF Landry in 1985 (CNC).



Additions to the Erroneous list:

E10.1 *Scrobipalpa obsoletella* (von Röslerstamm, 1841). This species was reported in error from AB by Bowman (1951) and Pohl et al. (2010; listed as #341) based on a single specimen from Edmonton in the UASM. That specimen was redetermined as *Gnorimoschema septentrionella* Fyles by Nazari & Landry (2012).

E10.2 *Scrobipalpopsis petrella* (Busck, 1915). This species was reported in error from AB by Bowman (1951) and Pohl et al. (2010; listed as #345,) based on a single specimen from Nordegg in the UASM. That specimen was re-examined by Nazari & Landry (2012); they declared the ID doubtful, probably not a *Gnorimoschemine*.

E22.1 *Eucosma pulverulenta* (Walsingham, 1884). This species was reported in error from AB by Bowman (1951) and Pohl et al. (2010; listed as #689 as an unconfirmed record). These records are referable to the recently described species *E. seamansi* Wright, see #691.1 above. *Eucosma pulverulenta* does not occur in Canada.

E22.2 *Eucosma suadana* Heinrich, 1923. This species was reported in error from AB by Bowman (1951) and Pohl et al. (2010; listed as #691). These records are referable to the recently described species *E. seamansi* Wright, see #691.1 above. *Eucosma suadana* does not occur in Canada.

E80.1 *Hydrelia inornata* (Hulst, 1896). This species was included on the AB list as "probable", at #1315.2. However, western Canadian material, including a recently collected AB specimen, is now thought to be *H. lucata* (Guenée), see #1315.2 above.

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Agonochaetia conspersa (Braun 1921) collected from Banff in 1922 (CBD Garrett; CNC). A rare gelechiid known from a handful of specimens, all collected in historical times. Fresh specimens for DNA work are wanted!

