Checklist of the LEPIDOPTERA OF BRITISH COLUMBIA, CANADA

Entomological Society of British Columbia Occasional Paper No. 3

GREGORY R. POHL, ROBERT A. CANNINGS, JEAN-FRANÇOIS LANDRY, DAVID G. HOLDEN AND GEOFFREY G. E. SCUDDER

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Cover photograph: Epimartyria bimaculella (Micropterigidae)

Epimartyria bimaculella Davis & Landry, 2012 is a tiny moth (forewing 4.6–5.3 mm long) in the family Micropterigidae, an ancient lineage that retains the ancestral use of functional mandibles. The species was chosen to represent British Columbia Lepidoptera on the cover of the Checklist for several reasons — it is rare and unusual, and in Canada is known only from British Columbia; it is a member of the first family in the list; it was collected by several early resident lepidopterists but only recently described by one of the authors of this list (Jean-François Landry: Davis and Landry 2012) and was photographed by another of the authors (David Holden).

Micropterigid adults are diurnal and feed on fern spores and flower pollen, which they crush with their mandibles. Larvae feed on liverworts. The specimen pictured on the cover flew and perched along a shaded seepage where leafy liverworts grew in a forest of Douglas-fir and Western Redcedar at Belcarra, near Vancouver. *Epimartyria bimaculella* lives from northwestern Washington into southern BC. Most of the BC specimens are from southwestern coastal forests, although a record from Glacier National Park in the Selkirk Mountains suggests the species also lives in the wet Columbia-region forests. Records are from April to August, with most in June.

Photograph details: by David Holden, Belcarra, BC, 24 May 2009.

Abstract

This list documents 2832 Lepidoptera species reported for the province of British Columbia, Canada. It is based on examination of the major public insect collections in the province and the Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario. Records from relevant literature sources and online databases have also been examined and reliable ones have been included. The entry for each species includes the scientific name, the author and year of publication of the original description, and occurrence status. Taxonomic, distributional and biological notes are provided for selected species, and 134 species are flagged as introduced from outside North America. An additional 27 species which probably occur in British Columbia are included in the list. A list of 322 species erroneously reported from British Columbia in previous works is provided. Introductory sections provide an overview of the order Lepidoptera, review the province's ecozones, and discuss the history of lepidopterology in British Columbia and its current state of knowledge. Each of the 70 families occurring in the province is briefly reviewed, along with information on its distinguishing features, general appearance and biology and diversity. An index of higher taxonomic names, genera, species, and common names is included.

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Part I: Introduction

This list compiles information about all Lepidoptera (butterflies and moths) species known or deemed likely to occur in the province of British Columbia (BC), Canada. We provide notes on biology, taxonomy, nomenclature, distribution, and pertinent literature for selected species. We also include a list of species that have been reported in error from BC, with details on their true identities when known.

This publication owes a huge debt to previous lepidopterists in BC, particularly to E. H. Blackmore and J. R. J. Llewellyn Jones, the early compilers of Lepidoptera species lists in BC. Far from being complete, our list is a further resolution of the incompletely known fauna. Undoubtedly, the present work contains errors and omissions, which we hope will be rectified by future workers.

General Overview of the Lepidoptera

The insect Order Lepidoptera contains the butterflies and moths. As adults, they are distinguished from other insects by the dense covering of overlapping scales on the head, body and appendages, including the two pairs of membranous wings. Wingspans range from about 3 mm to 280 mm. A few species have reduced, non-functional wings; these are usually females, but in some species both sexes are flightless. The scales are coloured and arranged in innumerable patterns, from subtle and cryptic to bright and showy.

Mouthparts are almost always the sucking type. A proboscis formed from the elongate, grooved galeae of the maxillae is usually present. This feeding tube is normally long and coiled under the head when not in use. The most primitive moths use mandibles for eating pollen and have not evolved a proboscis for sucking fluids. The wings are the most prominent lepidopteran attribute. They are usually covered on both the veins and membrane with two layers of minute, socketted, flattened setae (scales). These normally contain colour pigments, are finely ridged, and usually are hollow and microscopically perforated. Iridescent colours, caused by the refraction of light, are the result of scale structure. Many males have specialised scent scales that help spread pheromones produced by associated glands. Scent scales may be scattered among other scales or are concentrated in patches, tufts or wing folds.

Butterflies usually rest with their wings held together above the body; moths usually hold their wings outstretched against the substrate, overlapped and flat—roof-like—over the body, or rolled around the body.

Lepidopterous larvae are commonly called caterpillars. Usually cylindrical, they have a well-developed head, thorax and a 10-segmented abdomen. The top of the prothorax is usually sclerotised. Three pairs of five-segmented legs are attached to the thorax, and usually five pairs of prolegs (segments 3 to 6 and segment 10) are attached to the abdomen. Prolegs are short and fleshy, and their tips usually have tiny hooks (crochets). In some groups, the thoracic legs and/or prolegs may be reduced or lost.

Silk is spun from modified salivary glands that open under a caterpillar's mouth. The silk is used mainly to make cocoons or other shelters, and aids in transportation. Many larvae pupate in cocoons; others make none. Butterflies usually do not make cocoons; the naked pupa of a butterfly is often called a chrysalis.

About 157 000 species of living Lepidoptera have been described in 134 families (van Nieukerken et al. 2011). At the species level, this is about 17% of the world's known insect fauna. However, estimates suggest that there may be two or three times this number of species in the order. The Lepidoptera comprise the largest lineage of plant-eating organisms, rivalled only by the huge clade of phytophagous beetles. Angiosperm plants are the main hosts. The fossil record of Lepidoptera is sparse and is best represented by amber inclusions and leaf mines in fossil leaves. Although the first-known moth fossils are from the early Jurassic, 190 million years ago, the order largely diversified in the Cretaceous Period and early Tertiary, alongside flowering plants.

Contrary to the popular belief that butterflies and moths are two disparate groups in the Lepidoptera, butterflies represent a small branch emerging from the midst of the phylogenetic tree of all Lepidoptera. They are more closely related to some moths than many moths are to each other. Butterflies are simply a distinctive group of colourful, day-flying Lepidoptera that have been given a name in many languages. Moths, on the other hand, is the catch-all name for the remaining diverse group of "non-butterfly Lepidoptera".

Lepidoptera species use all parts of plants—roots, trunk, bark, branches, twigs, leaves, buds, flowers, fruits, seeds, galls and fallen material. Larvae feeding in concealed situations—wood borers, leaf and bark miners, casebearers, leaf tiers and leaf rollers—usually belong to more primitive families. Exposed feeders, especially those that feed by day, belong to more recent lineages.

Some caterpillars are carnivorous and eat egg masses of other Lepidoptera (some Pyralidae) or spiders (some Oecophoridae). Others kill ant larvae (some Lycaenidae) or scale insects (some Batrachedridae, Oecophoridae, Noctuidae). Still others (Epipyropidae) are ectoparasites on planthoppers and leafhoppers. Some groups—e.g., Tineidae—feed on material of animal origin such as wool and keratin. The family Pyralidae is especially diverse in its diet. In addition to plants and fresh and decaying plant material of all sorts, their foods range from the wax combs of bees to caterpillar spines and processed grains, from scale insects to sloth and bat dung. Among the Crambidae, several hundred species have aquatic larvae that feed on water plants.

Adults feed mainly on nectar and other liquid food such as fermenting tree sap, insect honeydew, and food-rich fluids in mud and dung. Adult moths in the Southeast Asian noctuid genus *Calyptra* have tearing hooks on the proboscis: they suck juice from thick-skinned fruit and blood from mammals. In some lepidopteran groups, adults do not feed.

The natural enemies of Lepidoptera are many and varied. Eggs are parasitised by wasps in the Chalcidoidea and Platygastroidea; larvae are killed by mites, spiders, wasps (especially Vespidae and Sphecidae) and vertebrates (mainly birds). Larvae and pupae are heavily parasitised by nematodes, hymenopterous parasitoids in the Chalcidoidea, Braconidae and Ichneumonidae, and by flies in the Tachinidae. Bacterial and viral diseases kill huge numbers of Lepidoptera. Adults are preyed on by predaceous plants, insects and spiders, birds, bats, and many other organisms.

To defend against these attacks, members of the order are masters of concealment and deception. Some larvae live in silken cases or webs, others roll or tie leaves and hide in them. Many adults and immatures are amazingly camouflaged as bark, lichen, leaves, and twigs. Some even mimic dangerous vertebrates, such as snakes, using eyespots and other markings. Adult sesiids, especially, can be convincing mimics of stinging wasps. Many larvae and adults sequester distasteful or poisonous chemicals to discourage vertebrate predation. Hundreds of diurnal species, distasteful or otherwise, gain some protection from predators by mimicking poisonous species or by exhibiting bright, warning colours. Most adult moths avoid bird predators by flying at night, but bats pose a serious problem for them. Many groups have tympanal organs that allow moths to hear bat sonar pulses and take evasive actions; some tiger moths emit counter pulses to confuse attacking bats.

The Lepidoptera is a major group of plant-eating organisms and thus is immensely economically important in agriculture, horticulture and forestry. Agricultural pests of grains and vegetables are numerous and include the armyworms and cutworms of the Noctuidae. The list of orchard-crop pests is headed by the tortricid *Cydia pomonella* (Linnaeus), the Codling Moth. Many forest defoliators also exist. Among the most damaging are *Choristoneura fumiferana* (Clemens) (Spruce Budworm) and its western relative *C. freemani* Razowski (Western Spruce Budworm), the geometrid *Lambdina fiscellaria lugubrosa* (Hulst) (Western Hemlock Looper), *Orgyia pseudotsugata* (McDunnough) (Douglas-fir Tussock Moth) and the tent caterpillars of the Lasiocampidae. Several introduced, cosmopolitan moths are serious pests of stored goods in households and warehouses; e.g., the clothes moths of the Tineidae and the meal moths of the Pyralidae.

Lepidoptera species are overwhelmingly herbivorous, but only a few have been used successfully in the biological control of weeds. An example is *Tyria jacobaeae* (Linnaeus), introduced into BC to control Tansy Ragwort.

Many moths and butterflies frequently visit flowers for nectar, and they are probably important pollinators. In some cases, the relationship is so specific that some plant species can be pollinated by only certain moth species; e.g., yucca species and yucca moths of the Prodoxidae.

Ecozones of British Columbia

The most useful summaries of British Columbia's environment are found in Meidinger and Pojar (1991), BC Ministry of Forests and Range (2013), Demarchi (1996), and Cannings and Cannings (2015). The following details are mostly taken from these publications.

Large and diverse, BC is exceptionally variable, physically and biologically. Covering almost 950 000 km², the province spans 11 degrees of latitude and 25 degrees of longitude. The province extends about 1300 km, from the southern tip of Vancouver Island to the northern boundary at 60° N. Along this latitude, the boundary with the Yukon and the Northwest Territories stretches almost 1100 km. Mountains and an island-studded coastline epitomise BC. The region is mostly cool, moist, forested, and mountainous.

Such generalities fail to capture the province's diversity. Wet and dry forests, grasslands, wetlands, scrub, and alpine tundra form complex habitat mosaics across the vast plateaus, valleys and plains. These lie between and among several northwest–southeast-trending mountain ranges. Climates range from semi-arid and Mediterranean to subarctic and alpine. The complex interaction of geology, physiography, climate and glaciations, along with subsequent colonisation by organisms and competition among them, has produced ecosystems that support a tremendous variety of life.

The Pacific Ocean and the mountains shape BC's climates. The ocean acts as a reservoir of heat and moisture. In winter, frontal systems from the North Pacific move eastwards. They encounter successive mountain barriers. These mountains determine the general distribution of precipitation and the balance between oceanic and continental air masses in the province's different regions. British Columbia's wettest climates occur along the coast, especially on the windward slopes of the mountains of Vancouver Island, Haida Gwaii and the mainland coast. As water-laden air climbs the mountains, it drops large quantities of rain and snow, but as the drier air descends over the eastern slopes, it warms by compression.

These high Coast Mountains produce a rain shadow that creates the province's driest climates in the bottoms of Southern Interior valleys, especially the Fraser, Thompson and Okanagan valleys. More moisture is released as the air continues its journey eastwards, ascending ranges such as the Skeena, Cassiar, Columbia and others before encountering the most massive of the BC mountain barriers, the Rocky Mountains.

The mountains also restrict the westward flow of cold continental Arctic air masses from east of the Rocky Mountains. Except in northeastern BC's Great Plains region, the province has a more moderate winter climate than most of western and central Canada. In summer, the prevailing westerlies weaken, and the climate is controlled by a strong high-pressure centre in the northeast Pacific that greatly reduces the frequency and intensity of Pacific storms.

There have been several major attempts to capture the essence of BC's physical and biological diversity through the identification and mapping of ecosystems, including Munro and Cowan's (1947) biotic-areas concept developed for birds, the detailed botanical biogeoclimatic zone concept (Meidinger and Pojar 1991), and Demarchi's (1996) ecoregion scheme. A useful summary of BC's geological and glacial history is given in Cannings et al. (2011). The wetlands of BC are classified by MacKenzie and Moran (2004). No distribution patterns of Lepidoptera have yet been correlated with the wetland associations defined in this classification, although this has been done for dragonflies (Cannings et al. 2008).

In this Checklist, we use the ecozone treatment for Canada that was published by the Ecological Stratification Working Group (1995). It is allied to the Demarchi scheme. The Ecological Stratification Working Group divides Canada into 15 separate terrestrial ecozones, which are discrete systems resulting from interplay of geologic, landform, soil, vegetation, climatic, water and human factors. There are five ecozones in BC (Fig. 1). They, and the biogeoclimatic zones that each contains, are described below.



Figure 1. Ecozones of British Columbia (adapted from Ecological Stratification Working Group 1995).

Pacific Maritime Ecozone

The Pacific Maritime Ecozone borders the Pacific Ocean. Two parallel mountain belts (the discontinuous St. Elias–Insular Mountains and the Coast–Cascade Mountains) and a central, mostly submerged coastal trough, form this ecozone. In the west, it includes the coastal islands; the eastern boundary lies along the height of land in the massive Coast Mountains. Covering more than 195 000 km², in BC, the Pacific Maritime Ecozone runs virtually the entire north–south length of the province, from southern Vancouver Island almost to the 60th parallel. To the north, a small piece of Yukon Territory is also included in the ecozone. The Coast Mountains, capped by glaciers at the highest elevations, dominate much of the landscape, rising steeply from the fiords and channels that indent the

coastline. Mount Waddington (4019 m) is the highest point in the ecozone and is the highest mountain completely within BC.

The main biogeoclimatic zone here is the **Coastal Western Hemlock** (CWH) zone, which occurs at low to middle elevations, up to 900 m on windward slopes in the south and mid-coast, and up to 300 m in the north, mostly west of the Coast Mountains. On average, this is the wettest biogeoclimatic zone in BC, and experiences cool summers and mild winters. Mean annual temperature in the zone is about 8° C, with a mean monthly temperature above 10° C for half the year, and a mean temperature of 0.2° C during the coldest month. Mean annual precipitation for the zone as a whole averages about 2230 mm, with less than 15% of the total falling as snow in the south, but up to 50% falling as snow in the north.

Characteristic features are the predominant Western Hemlock (*Tsuga heterophylla* (Raf.) Sarg.) and a sparse herb layer. The most common wetter maritime forests are dominated by mixtures of Western Hemlock, Western Redcedar (*Thuja plicata* Donn ex D. Don), Sitka Spruce (*Picea sitchensis* (Bong.) Carr.), and variable amounts of Yellow-cedar (*Chamaecyparis nootkatensis* (D. Don) Spach.) and Amabilis Fir (*Abies amabilis* (Douglas ex Loudon)), the latter two species being most abundant in wetter areas. This vegetation type features a well-developed shrub layer of ericaceous species, such as Red Huckleberry (*Vaccinium parvifolium* Sm.) and Salal (*Gaultheria shallon* Pursh). Bogs are abundant in much of the hypermaritime landscape, especially on the coastal lowlands.

The other lowland biogeoclimatic zone is the **Coastal Douglas-fir** (CDF) zone, limited to small regions of southeastern Vancouver Island, some islands in the Gulf of Georgia, and a narrow strip of the nearby mainland, where it lies mostly below 150 m elevation. The zone experiences warm, dry summers and mild, wet winters. The mean annual temperature ranges from 9.2 to 10.5° C. Mean annual precipitation varies from about 650 to 1250 mm; only about 5% of this falls as snow.

Most modern forests in the CDF have regenerated after logging, and old growth is rare. Douglas-fir is the most common tree species in upland forests. Western Redcedar, Grand Fir (*Abies grandis* (Douglas ex D. Don) Lindley), Arbutus (*Arbutus menziesii* Pursh), Garry Oak (*Quercus garry-ana* Douglas ex Hook.) and Red Alder (*Alnus rubra* Bong.) are common species. The tree-species composition of forest stands varies considerably

as a result of widespread human disturbance. The Garry Oak meadows and associated ecosystems contain many rare plant species; e.g., Deltoid Balsamroot (*Balsamorhiza deltoidea* Nutt.) and Golden Paintbrush (*Castilleja levisecta* Greenm.).

The subalpine elevations of the coastal mountains fall in the **Mountain Hemlock** (MH) zone, occurring all along the BC coast, from 900 to 1800 m in the south and from 400 to 1000 m in the north. The coastal subalpine climate is characterised by short, cool summers and long, cool, wet winters. Mean annual temperature varies from 0 to 5° C. Mean annual precipitation ranges from 1700 to 5000 mm, of which up to 70% comprises snow. The result is a long-lasting snowpack and a short growing season.

Mountain Hemlock (*Tsuga mertensiana* (Bong.) Carr.), Amabilis Fir and Yellow-cedar are the most common tree species. Lodgepole Pine (*Pinus contorta* Douglas ex Loudon) thrives on very dry sites and Subalpine Fir (*Abies lasiocarpa* (Hook.) Nutt.) and Whitebark Pine (*Pinus albicaulis* Engelm.) grow near timberline. Forests are largely confined to lower elevations in the zone. With increasing elevation, trees grow in patches, forming a mosaic with subalpine heath, meadow and fen vegetation. The predominance of ericaceous shrubs is characteristic of the zone.

The **Alpine Tundra** (AT) zone occurs on high mountains in the ecozone above about 2250 m in the south and above about 1000 m in the north. The AT has recently been split into three zones (MacKenzie 2006): the AT zone that occurs in the mountains of the Pacific Maritime Ecozone is now called the **Coastal Mountain–Heather Alpine** (CMA) zone. Low temperatures during the growing season and a very short frost-free period characterise the harsh alpine climate here. Mean annual temperature usually ranges from –4 to 0° C, and the average temperature remains below 0° C for seven to eleven months. Mean annual precipitation is 700 to 3000 mm; 70 to 80% of this falls as snow. Huge areas at the higher elevations comprise rock, snow and ice.

Although the CMA zone is, by definition, treeless, it supports stunted, shrub-like tree species such as Mountain Hemlock and Whitebark Pine at lower elevations. Important dwarf shrubs include mountain heathers (*Cassiope* spp. and *Phyllodoce* spp.). Herb meadows dominated by broad-leaved forbs are also common, especially at middle and lower elevations. They grow on sites with deep soils, in seepage areas, or along alpine streams. Few species of vascular plants have adapted to the extreme

conditions in the highest parts of the alpine zone, and those that have are mostly cushion- or mat-formers. Some mosses, liverworts and numerous lichens persist at the upper limits of vegetation.

Characteristic Lepidoptera species that are more or less restricted in Canada to the Pacific Maritime Ecozone include Sara's Orangetip (Anthocharis sara Lucas) and the underwing moth, Catocala aholibah Strecker, whose caterpillar eats the foliage of Garry Oak. Many other species that are monophagous on plants such as Garry Oak and Arbutus are restricted to the ecoregion. Xanthorhoe clarkeata Ferguson and Mompha nancyae Clarke are globally endemic to Haida Gwaii. Several species and subspecies are considered "species at risk" in the region, including Taylor's Checkerspot (Euphydryas editha taylori (W.H. Edwards)), Johnson's Hairstreak (Callophrys johnsoni (Skinner)), which feeds on mistletoe (Arceuthobium spp.) growing on Western Hemlock; and the Sand-verbena Moth (Copablepharon fuscum Troubridge & Crabo), which inhabits some coastal dune localities. The mild winters of the zone allow many species to fly in the coldest months of the year. The holarctic geometrid *Triphosa haesitata* (Guenée) appears on many mid-winter days in the region, and the introduced Operophtera brumata (Linnaeus) (Winter Moth)-a pest of many trees and shrubs, including Garry Oak and various tree fruits—is active in low temperatures.

The Pacific Maritime Ecozone has an unusually high number of alien Lepidoptera species, many of which were first introduced into North America in the region; e.g., the sphingid *Deilephila elpenor* (Linnaeus), the oecophorid *Oecophora bractella* (Linnaeus), and the tortricids *Acleris variegana* ([Denis & Schiffermüller]) and *Pandemis cerasana* (Hübner). Other species that were introduced first into eastern North America have colonised the West independently, from Eastern Asia, or secondarily, from eastern North America, through the Vancouver area (e.g., Noctua pronuba (Linnaeus)). Some have been purposefully introduced as biological control agents; e.g., *Tyria jacobaeae* (Linnaeus), a day-flying tiger moth that feeds on Tansy Ragwort (*Senecio jacobaeae* Linnaeus).

The Lepidoptera of the Pacific Maritime Ecozone have been studied since the early days of entomological activity on Vancouver Island and the adjacent mainland. Early publications include Taylor (1884), Danby (1894) and Harvey (1904). Most other published information is found in subsequent provincial lists and systematic or behavioural studies on specific genera or species (e.g., Blackmore 1927; Hardy 1959; R. Guppy 1956; C. Guppy 1998; Shepard 1977; Miskelly 2009), and much useful information on economically important species has been documented by the Canadian Forest Service (e.g., Duncan 2006), Agriculture and Agri-Food Canada, and other agencies. Beginning in the 1990s, considerable research for conservation purposes has occurred, at least in the southern coastal region (Shepard unpublished report A; COSEWIC 2000, 2003; Miskelly 2004).

Montane Cordillera

The Montane Cordillera Ecozone in BC stretches from the eastern slopes of the Coast and Cascade mountains eastwards to the Rocky Mountains, and from the USA border at 49° N northwards to about 57° N. It also includes the eastern slopes of the Rockies in Alberta and, altogether, covers an area of 473 000 km². It is the largest and most diverse ecozone in BC, with ecosystems ranging from alpine tundra and cold conifer forests to riparian woodland, dry sagebrush steppes, and arid grasslands. The Montane Cordillera Ecozone is mountainous around the edges, especially in the southeast quadrant. Its centre contains an extensive system of plateaus, about 300 km wide and 650 km long, lying at altitudes of 600 to 1200 m. The Fraser River and its major tributaries bisect the southern region; other large rivers, such as the Skeena, which flows west, and the tributaries of the Peace, which flow east, drain relatively smaller areas in the north.

The mountain systems along the eastern parts of the ecozone consist of ranges that trend north–south and are separated by large valleys. There are two main mountain units: the Cassiar–Columbia mountains, with the Rocky Mountain Trench immediately to their east; and the Rocky Mountains on the eastern boundary of the ecozone. The highest mountain elevations generally occur in the south, where summits can reach 3000 m. The highest point is Mt. Robson, at 3954 m. Between latitudes 54° N and 56° N, the mountains are less rugged, and the peaks usually are below 2000 m.

This complex topography produces large differences in temperature and precipitation. Much of the ecozone has an interior continental climate dominated by easterly moving air masses. These produce cool, wet winters and warm, dry summers. In the rain shadow of the Coast Mountains, the Interior Plateau has less than 300 mm mean annual precipitation in some areas. However, in the Selkirk Mountains, precipitation reaches 2500 to 3500 mm, and 1500 to 2500 mm falls in the Rocky Mountains. Most of interior BC is strongly influenced by both continental and maritime air masses, with the latter more prevalent in the south. The southern interior valleys thus experience warmer winter temperatures than those in the north. The valley bottoms are characterised by hot, dry summers and moderately cold winters with little snowfall. Summer temperatures above 30° C are common. In the South Okanagan, the mean July daily temperature is above 22° C.

The Montane Cordillera Ecozone is vast and variable, and contains 11 biogeoclimatic zones. The **Bunchgrass** (BG) biogeoclimatic zone is confined to lower elevations of the driest and hottest valleys of the southern parts of the ecozone. Bluebunch Wheatgrass (*Pseudoroegneria spicata* (Pursh) A. Löve) is the dominant bunchgrass on undisturbed sites. At lower elevations, Big Sagebrush (*Artemisia tridentata* Nutt.) is common, particularly in overgrazed areas.

The **Ponderosa Pine** (PP) biogeoclimatic zone is confined to a narrow band in the driest and warmest valleys. It usually borders the Bunchgrass Zone. Ponderosa Pine is the dominant tree, but Douglas-fir is common on cooler and moister sites. Where not overgrazed, the understorey includes abundant grasses such as Bluebunch Wheatgrass and Rough Fescue (*Festuca scabrella* Rydb.).

The **Interior Douglas-fir** (IDF) biogeoclimatic zone is the second warmest forest zone of the ecozone. Douglas-fir is the dominant tree. Fires have resulted in even-aged Lodgepole Pine stands at higher elevations in many areas. Ponderosa Pine is the common seral tree at lower elevations. Pinegrass (*Calamagrostis* spp.) dominates the understorey.

The **Engelmann Spruce–Subalpine Fir** (ESSF) biogeoclimatic zone occurs over most of the Montane Cordillera Ecozone's mountains. The climate is severe, with short, cool growing seasons and long, cold winters. At upper elevations, the forest is open parkland, with trees clumped and interspersed with meadow, heath and grassland. Engelmann Spruce (*Picea engelmannii* Parry ex Engelm.), Subalpine Fir and Lodgepole Pine are the dominant trees.

The adjacent Alpine Tundra zone is designated the **Boreal Altai Fescue Alpine** (BAFA) biogeoclimatic zone in the northern Rocky Mountains and along the lee side of the Coast Mountains as far south as the Chilcotin. Vegetation here consists primarily of dwarf willows, grasses, sedges and lichens. The **Interior Mountain-Heather Alpine** (IMA) biogeoclimatic zone occupies the Columbia Mountains, the southern Rocky Mountains, and the lee side of the southern Coast Mountains and Cascade Mountains, where it lies above 2500 m in the south and above 1800 m in the north. Vegetation is variable, depending on snow depth, with mountain heather (*Phyllodoce* spp.) typical in the snowier climates, and mountain avens (*Dryas* spp.) typical in the driest climates.

The **Sub-boreal Pine–Spruce** (SBPS) biogeoclimatic zone occurs mostly in the Chilcotin, the high plateau of the west–central region of the Montane Cordillera Ecozone, in the rain shadow of the Coast Mountains. Many even-aged Lodgepole Pine stands characterise the zone, the result of extensive fire history. Pinegrass and Kinnikinnick (*Arctostaphylos uva-ursi* (L.) Spreng.) are also common. These forests and those of the **Sub-boreal Spruce** (SBS) biogeoclimatic zone have been badly damaged by recent Mountain Pine Beetle outbreaks.

The SBS zone occurs in the central plateau, centred around Prince George. Although the climate is severe, winters here are shorter and the growing season longer than in the boreal zones. Hybrid Engelmann–White Spruce and Subalpine Fir are the dominant trees, although extensive stands of Lodgepole Pine grow in the drier parts of the zone.

The **Boreal White and Black Spruce** (BWBS) biogeoclimatic zone occupies the valleys in the extreme northern part of the ecozone; e.g., in the Omineca Mountains. Winters here are long and cold, and growing seasons are short, with the ground remaining frozen for much of the year. Where flat, the landscape is typically a mosaic of Black Spruce (*Picea mariana* (Mill.) Britton, Sterns & Poggenb.), White Spruce (*Picea glauca* (Moench) Voss) and Trembling Aspen (*Populus tremuloides* Michx.) stands.

The **Montane Spruce** (MS) biogeoclimatic zone occurs in the south–central interior of BC at middle elevations, and is most extensive on plateau areas. Winters are cold, and summers are moderately short and warm. Engelmann and hybrid spruce and varying amounts of Subalpine Fir are the characteristic tree species. Because of past wildfires, successional forests of Lodgepole Pine, Douglas-fir and Trembling Aspen are common.

In southeastern BC, the **Interior Cedar–Hemlock** (ICH) biogeoclimatic zone predominates at lower to middle elevations. This is often called the

Interior Wet Belt: winters are cool and wet, and summers are generally warm and dry. Western Hemlock and Western Redcedar are characteristic climax trees, but spruce (White–Engelmann hybrids) and Subalpine Fir are common. Western Larch (*Larix occidentalis* Nutt.), Douglas-fir and Western White Pine are common seral species in the central and southern portions of the zone, and usually occur on mesic and drier sites. The ICH zone also occurs in the farthest reaches of the northwestern part of the Montane Cordillera Ecozone, in the coastal-influenced, central-to-upper Skeena and Nass river drainages. The ESSF is the subalpine zone above the ICH.

The Lepidoptera of the Montane Cordillera in Canada are discussed in some detail by Lafontaine and Troubridge (2011). Characteristic species usually not found in other ecozones in BC include Danaus plexippus (Linnaeus), the Monarch; Papilio multicaudata Kirby, a large swallowtail typical of the southern valleys; Papilio machaon oregonia Edwards, a species of southern grasslands; and Papilio indra Reakirt, primarily a Great Basin montane swallowtail that reaches the northern limits of its range in Manning Provincial Park. Moths include Hypercompe permaculata (Packard), an aridland tiger moth of the Great Plains known in BC only in the Columbia Valley, and Acronicta cyanescens (Hampson), a noctuid that feeds on Ceanothus from BC, south to New Mexico. Most of the threatened and endangered species in the ecozone are Great Basin species that are associated with grasslands in the southern valleys, especially the Okanagan. Much of this habitat has been converted to agriculture or urban environments. Butterflies are better known than moths in this context. Guppy et al. (1994) listed 52 species and subspecies of conservation concern in BC; 17 of these occur in the Montane Cordillera Ecozone (Lafontaine and Troubridge 2011). Species most at risk are probably the Mormon Metalmark (Apodemia mormo (Felder & Felder)), Behr's Hairstreak (Satyrium behrii (Edwards)), the Sagebrush Sooty Hairstreak (Satyrium semiluna Klots), the Grey Copper (Lycaena dione (Scudder)), the Sonoran Skipper (Polites sonora (Scudder)) and the California Hairstreak (Satyrium californica (Edwards)).

The Montane Cordillera Ecozone is now home to many alien Lepidoptera. A significant number of these are agricultural pests—particularly those associated with fruit trees and grapes—that have been introduced into the ecozone, probably with host plants or their fruit. Examples of pests of apples include Codling Moth (*Cydia pomonella* (Linnaeus)) and Apple Clearwing Moth (*Synanthedon myopaeformis* (Borkhausen)).

A notable characteristic of the flora and fauna of the Montane Cordillera Ecozone is the presence of Boreal and Cordilleran species pairs. A Boreal species often ranges across the northern forests of the continent and south into the western mountains for varying distances, frequently meeting a closely related Montane Cordilleran species in central regions of the ecozone. Hybrids often occur where the species overlap. Some Lepidoptera species show this pattern, a result of post-glacial recolonisation of the west. Examples of Boreal–Cordilleran species pairs are the White Admiral (*Limenitis arthemis* (Drury)) and Lorquin's Admiral (*Limenitis lorquini* Boisduval), and the Canadian Tiger Swallowtail (*Papilio canadensis* Rothschild & Jordan) and Western Tiger Swallowtail (*Papilio rutulus* Lucas).

The highly diverse fauna of the ecozone has been well documented. Some of the earliest collectors and compilers include Danby and Green (1893), who worked in the Kootenay and Okanagan regions, among other places, and published an early BC list. Dyar and Cockle documented early material from the Kootenay region (Dyar 1904). Phair (1919) and McDunnough (1927a) collected extensively around Lillooet. Molliet (1947) collected in the North Thompson area, and Buckell in the Shuswap region (Buckell 1947). As in other parts of BC, much useful information on economically important species in the ecozone has been documented by Canadian Forest Service entomologists (e.g., Ross and Evans 1954, 1956a, 1956b, 1957a, 1957b, 1957c, 1958, 1959, 1961, Sugden 1964, 1966, 1968, 1970, and Sugden and Ross 1963). Other reports of studies in the Montane Cordillera include Threatful (1989) in Mount Revelstoke and Glacier national parks, Kondla (1999) in the Pend d'Oreille Valley, and Fischer et al. (unpublished report) in the Chilcotin.

Boreal Cordillera

The Boreal Cordillera Ecozone occupies northern BC from about 56° N northwards to the Yukon border and from the crest of the Coast Mountains eastwards to the eastern slopes of the Rocky Mountains. It also extends into the southern Yukon. In BC, the Skeena, Cassiar, Ominica, and northern Rocky mountains are included; these ranges are lower and less rugged than the Coast Mountains and the systems of southeastern BC. Most associated plateaus, such as the Stikine, show well-eroded, moderate relief. Basins, such as the Liard, have low-lying, gentle topography. Major rivers include the Stikine, Dease, and Ketchika; the latter flows north in the Rocky Mountain Trench.

Three main biogeoclimatic zones occur in the Boreal Cordillera Ecozone. At the lowest elevations, the **Boreal White and Black Spruce** (BWBS) zone

occupies the major river and lake valleys, from about 1000 to 1100 m. The majority of the zone lies above 600 m. Forests cover the better-drained sections of the BWBS zone, where mixed Trembling Aspen and White Spruce forests dominate. Relatively open pine-and-lichen forests occur on the driest sites, which are usually on rapidly drained outwash deposits. Mixed pine and Black Spruce stands are common on north-facing sites on moraines or lacustrine soils. Dense Black Spruce and moss communities develop on poorly drained sites. Grassland and scrub communities occur on steep, south-facing slopes above many of the major rivers. Forest fires occur frequently throughout the zone, maintaining most of the forests in various successional stages.

In the mid-elevation **Spruce–Willow–Birch** (SWB) biogeoclimatic zone, winters are long and cold, and summers are brief and cool. Mean annual temperature ranges from -0.7 to -0.3° C; average temperatures usually rise above 10° C for only one month a year. Mean annual precipitation is 460 to 700 mm, with 35 to 60% of this falling as snow. Moist Pacific air produces frequent summer storms; more stable air prevails in winter.

The SWB zone is the most northerly subalpine zone in BC. Here, it occupies the middle elevations of the northern Rocky Mountains, the Cassiar and northernmost Omineca and Skeena mountains, the part of the St. Elias Mountains that extends into the Haines Triangle, and much of the Stikine and Liard plateaus. Elevations of the SWB in northern BC range from 900 to 1700 m. It usually occurs in the subalpine above the BWBS zone over most of its range in northern BC, occupying a position comparable to that of the ESSF zone above the lower-elevation biogeoclimate zones farther south. In the far western edge of the ecozone—on the eastern slopes of the Coast Mountains—the SWB is replaced in some valleys by the **Sub-boreal Spruce** (SBS) zone, and subalpine slopes are in the ESSF zone.

The SWB zone is generally forested with White Spruce and variable amounts of pine and aspen in the valley bottoms and on lower slopes, with Subalpine Fir growing higher on the slopes. Upper elevations of the SWB—which form a scrub–parkland subzone—are dominated by fairly tall deciduous shrubs, mainly Scrub Birch (*Betula glandulosa* Michx.) and several willows. Subalpine grasslands are frequent but not extensive in this zone, especially on steep south-facing slopes: *Festuca altaica* Trin. is typical. The **Alpine Tundra** biogeoclimatic zone in the Boreal Cordillera Ecozone has been designated since 2006 as the **Boreal Altai Fescue** biogeoclimatic zone. It is extensive on the landscape above 1000 m elevation, and lies above treeline. It is characterised by dwarf willows (especially *Salix reticulata* L. and *S. polaris* Wahlenb.), grasses (especially *Festuca altaica*), sedges, and lichens.

Characteristic butterfly species more or less restricted in BC to the Boreal Cordillera Ecozone are mostly species of the alpine tundra. They include *Parnassius phoebus* (Fabricius), *Pieris angelika* Eitschberger, *Colias hecla* Lefèbvre, *Boloria polaris* (Boisduval), *Erebia rossii* (Curtis), and *E. pawloskii* Ménétriés. *Euchloe naina* Kozhantshikov, *Boloria natazhati* (Gibson), *Erebia mackinleyensis* Gunder, and *Oeneis philipi* Troubridge & Parshall are Beringian species; i.e., they occur mainly in unglaciated regions of the far northwest. *Parnassius eversmanni* Ménétriés and *Papilio machaon alaiska* Scudder are typically northern species with more widespread ranges; the former also lives in some areas of the northern Montane Cordillera Ecozone, and the latter also occurs east of the Rockies in BC. Little is known of the moth fauna in this region.

A few early naturalists made collections in the ecozone; e.g., E. M. Anderson brought back specimens to the Provincial Museum from a trip to Atlin in 1914 (Provincial Museum 1916). However, most records from the ecozone were documented after World War II, when roads such as the Alaska Highway opened up much of the North. At this time, the Northern Insect Survey (Canadian National Collection) made surveys across northern BC, from Atlin to Summit Lake and Fort Nelson (the last locality is in the Taiga Plains Ecozone). Lepidopterists such as C. Guppy, J. Shepard, N. Kondla, J. Troubridge and others have collected in the ecozone, looking especially for seldom-observed northern endemics and Beringian species at places such as Pink Mountain, Stone Mountain, Atlin, and the Haines Road.

Taiga Plains

The Taiga Plains Ecozone is a low-lying region centered on the Mackenzie River and its many tributaries. The Northwest Territories contains about 90% of the Taiga Plains Ecozone; relatively small sections lie in northeastern BC and northern Alberta. In BC, the ecozone is bounded by the Rocky Mountains to the west and the Boreal Plains Ecozone to the south. About 10% of BC lies east of the Rockies, and the Taiga Plains roughly comprises the northern half of this region. The ecozone is a northern extension of the interior plains that characterise the Prairie provinces. Its typically subdued relief includes broad lowlands and plateaus crossed by numerous rivers, particularly the Liard River and its large tributary, the Fort Nelson River. Extensive wetlands, especially peatlands, are common in the lowland areas. Differences in drainage, precipitation and fire history create complex mosaics of wetlands and forest types.

The subarctic climate is characterised by short, cool summers and long, cold winters. Mean annual temperature is -2.9 to 2° C. Although daily maximum temperatures can be high in mid-summer, monthly averages remain below 0° C for about half the year. Annual precipitation averages between 330 and 570 mm, with 35 to 55% falling as snow. The ground freezes deeply for much of the year, and discontinuous permafrost is common in the northeastern parts of the zone.

The Boreal White and Black Spruce (BWBS) zone is the sole biogeoclimatic zone in BC's Taiga Plains Ecozone. In northeastern BC, this lowland-to-montane zone ranges from about 230 to 1300 m. White Spruce, Trembling Aspen, Lodgepole Pine, Black Spruce, Balsam Poplar (Populus balsamifera L.), Tamarack (Larix laricina (Du Roi) K. Koch), Subalpine Fir and Common Paper Birch (Betula papyrifera Marshall) are the major tree species in forested areas. Forest fires occur frequently, maintaining most of the forests in various successional stages. The poorly drained lowlands are characterised by accumulations of peat that insulate frozen ground, resulting in lenses of permafrost. Black Spruce and occasionally Tamarack are the main trees on organic terrain. On better drained sites at higher elevations, mixed Trembling Aspen-White Spruce forests dominate. The most productive forests-White Spruce and Balsam Poplar-occur on rich alluvial sites, and Tamarack forms pure stands only in minerotrophic fens. Common plant species growing in these fens are Scrub Birch, Swamp Birch (Betula pumila L.), Leatherleaf (Chamaedaphne calyculata (L.) Moench), Sweet Gale (Myrica gale L.), and Labrador Tea (Ledum groenlandicum Oeder).

Butterflies characteristic of BC's Taiga Plans Ecozone are boreal or more widespread species that mainly occur east of the Rocky Mountains. Examples include *Callophrys niphon* (Hübner), whose larvae feed on pines, and *Phyciodes batesii* (Reakirt), a denizen of aspen woodland. *Plebejus optilete* (Knoch) feeds on *Vaccinium* and lives in peatlands at lower elevations; in the Boreal Cordillera, it is also found in higher-elevation meadows. *Papilio machaon* Linnaeus, the Old World Swallowtail,

is widespread in northern BC; it is a typical inhabitant of openings in the boreal forest of the Taiga Plains Ecozone.

Boreal Plains

The Boreal Plains Ecozone consists of low-lying valleys and plains stretching across the northern Great Plains from Manitoba to northeastern BC. It contains much of the huge boreal forests in western Canada. The Saskatchewan, Beaver, Athabasca, Slave and Peace river watersheds drain this region from west to east. In BC, the ecozone occupies the southern half of the region east of the Rocky Mountains, an area largely drained by the Peace River and its tributaries. The region's continental climate is determined by the Rocky Mountains to the west, which block moisture from the Pacific and leave the region vulnerable to Arctic air masses in the winter. General descriptions of climate and vegetation are similar to those of the adjacent Taiga Plains Ecozone (see above), although the BC part of the Boreal Plains Ecozone usually has milder temperatures. Mean annual temperature is about 0.5° C; mean summer temperature is 13° C, and mean winter temperature is -14° C. Mean annual precipitation ranges from 350 to 600 mm.

As in the Taiga Plains Ecozone, the **Boreal White and Black Spruce** (BWBS) zone is the sole biogeoclimatic zone in the BC section of the Boreal Plains Ecozone. In addition to the diverse boreal forest mosaic of the BWBS, with White Spruce and Trembling Aspen typically dominant, distinctive grassland and scrub communities occur in patchwork on steep, south-facing slopes above rivers, most notably the Peace River. Common shrubs include Prickly Rose (*Rosa acicularis* Lindl.), Wood's Rose (*Rosa woodsii* Lindl.), Saskatoon (*Amelanchier alnifolia* Nutt.) and Western Snowberry (*Symphoricarpos occidentalis* Hook.). Herbs and grasses include Pasture Sage (*Artemisia frigida* Willd.), Northern Wormwood (*Artemisia campestris* L.), Western Wheatgrass (*Pascopyrum smithii* (Rydb.) Á. Löve), Junegrass (*Koeleria macrantha* (Ledeb.) Schult.) and Needle-and-Thread Grass (*Hesperostipa comata* (Trin. & Rupr.) Barkworth).

In BC, several butterfly taxa are more or less restricted to the dry habitats of the Peace River Valley. *Papilio machaon pikei* Sperling flies on the dry grassland slopes along the Peace River near the Alberta boundary. Along the south-facing banks of the Peace River, *Satyrium liparops* (LeConte) feeds on *Amelanchier*, and *Hesperia assiniboia* (Lyman) feeds on grasses. *Phyciodes batesii* (Reakirt) is typical of Trembling Aspen woods and associated meadows, and *Oeneis alberta* Elwes flies in bunchgrass grasslands.

The main documentation of the Lepidoptera of the Boreal Plains Ecozone is by Kondla et al. (1994) and Shepard (unpublished report B), who focused on the fauna of the Peace River region.

History and Current State of Lepidoptera Research in British Columbia

The collection and study of BC Lepidoptera has a lengthy history. Hatch (1949) described the early years of entomological research in the Pacific Northwest. Guppy and Shepard (2001) described in detail the history of butterfly research. Short summaries of surveys and systematic studies are given in Cannings et al. (2001) and Cannings and Scudder (2001). We present a brief overview here.

The first known scientific worker on BC Lepidoptera was John Keast Lord, who collected specimens from 1858 to 1862 in his role as Naturalist on the British North American Boundary Commission. His specimens were sent to F. Walker, of the British Museum of Natural History, for description. Other travelers and explorers, including Samuel Scudder in the 1860s, George R. Crotch in the 1870s, and George M. Dawson in the 1880s, collected specimens, primarily butterflies, in the second half of the 1800s.

The first resident lepidopterist was Reverend George W. Taylor (1851– 1912), who settled on Vancouver Island in 1882. He collected and published on butterflies and moths and became the leading North American authority on geometrids. In 1887, he was appointed as Honorary Provincial Entomologist by the BC Department of Agriculture. Another important early collector was J. William Cockle, who moved to Kaslo in the 1890s and collected and published extensively.

By 1900, a number of amateur collectors had settled in the province, primarily on Vancouver Island and in the Lower Mainland. These collectors were very active, and some of them formed the Entomological Society of British Columbia (ESBC) in 1902.

In 1903, E. M. Anderson was hired as assistant curator of Natural History at the Provincial Museum of Natural History and Anthropology at Victoria. In 1904, he published the first comprehensive list of BC Lepidoptera (Anderson 1904), with 1128 species. The list was updated and corrected by members of the ESBC in 1906, to include 1061 species (ESBC 1906). Other significant collectors of this time included Ernest Henry Blackmore (1882–1929) of Victoria,

Abdiel William Hanham (1857–1944) and George O. Day (1854–1942) of Duncan, Lindsay Edgar Marmont (1860–1949) of Maillardville (Coquitlam), and Theodor Albert Moillet (1883–1935) of Vavenby. Blackmore, Marmont and Moillet were all avid microlepidoptera collectors.

In 1911, the first professional entomological laboratory was established by Canada's federal government at Agassiz, with Reginald Charles Treherne of the Dominion Entomological Service in charge. Within a few years, entomologists were also stationed at Vernon, where Edward Ronald Buckell (1889–1951) dealt with fruit crops and Ralph Hopping (1868–1941) studied forest insects. In 1919, the University of British Columbia began offering entomology courses; in 1924, George Johnson Spencer (1888–1966) joined the faculty as the university's first dedicated entomologist.

The early period of resident collectors culminated in the publication of a checklist of butterflies and macromoths by Blackmore (1927). By about 1930, many of the first generation of resident collectors had passed away or retired. The subsequent generation was smaller, although work continued in the laboratories and at the University of British Columbia. The most notable worker was James Rushton John Llewellyn Jones (1894-1956), who lived at Mill Bay. He collected extensively on southern Vancouver Island and exchanged specimens and information with many others. In 1951, he compiled and published the next checklist of BC butterflies and macromoths: it included 1585 species and subspecies (Llewellyn Jones 1951). He was active in the ESBC and willed his estate to the society as a permanent publication fund. Richard Guppy (1910-1980) of Wellington, and later Thetis Island, energetically collected on Vancouver Island during this period. George Hardy of the Provincial Museum carefully studied the butterflies and moths of southern Vancouver Island and published many papers on the larval stages and life histories of various species (e.g., Hardy 1957). A history of the entomological activities at the Provincial Museum (called the Royal BC Museum since 1986), including those of Hardy, Anderson and Blackmore, is documented in Cannings (2010).

The second half of the 20th century was a relatively quiet period for BC lepidopterology, although work continued at the University of British Columbia and at the government laboratories at Agassiz, Vernon and Victoria. The work of a small number of dedicated amateurs also continued. In 2001, Crispin Guppy and Jon Shepard published a comprehensive work on the butterflies of BC (Guppy and Shepard 2001). In 2007, Robert Cannings and Geoff Scudder compiled the first Lepidoptera list to include micromoths in more than a century (Cannings and Scudder 2007).

In the past decade, a small number of workers both professional and amateur have continued to collect and document the province's Lepidoptera. Aided by modern communications, collecting equipment and advances in DNA analysis, they are ushering in the next era of BC Lepidoptera research. The *E-Fauna BC* website (Klinkenberg 2013) contains excellent images of hundreds of BC moth and butterfly species, and is vetted by experts. A new website on Pacific Northwest macromoths recently became available online (Crabo et al. 2015): it provides a huge amount of information, including photographs, biological information and range maps for many macromoth species occurring in the province. As well, the websites of the Moth Photographers Group (2015), and the Biodiversity Institute of Ontario (Ratnasingham and Hebert 2007) contain records, photos and information about many species that occur in BC.

The list we publish here includes 2832 species in 70 families reported in BC (Table 1). Of these, 2761 species are considered "confirmed" in the province, and 71 remain "unconfirmed". The latter are species for which a plausible published record exists, but no vouchers can be found, or they are species represented by specimens in collections for which we have been unable to confirm identities. An additional 27 species are listed as likely to be found in BC; this is far from an exhaustive list of all the species that may yet be found, but it includes some of the likelier ones.

The number of confirmed records includes nine species that are regular migrants and 15 that are strays—none of which complete their life cycle in the province. The list also includes six species that persist in BC only indoors in human environments. Species that have been intercepted in BC in trade goods or luggage from abroad, with no evidence of a wild or breeding population, are not included in the list.

A total of 134 of the listed species are thought to be introduced from outside North America, and another 11 species are suspected introductions. These aliens represent between 4.7% and 5.1% of the known Lepidoptera fauna of the province.

The 2832 species reported here from BC represent 1.80% of the approximately 157 000 world species of Lepidoptera, 22.3% of the approximately

12 700 species known in North America north of Mexico, and 52.9% of the approximately 5350 species known from Canada (GRP, unpublished data). This total is greater than for any other province of Canada, although 2902 species are reported from Quebec (QC) and Labrador combined (Handfield et al. 1997; Handfield 2011), the vast majority of which certainly occur in QC. The fauna of ON may also rival that of BC, although a definitive list has not been published. Adjacent to BC, Alberta (AB) has 2465 reported species (Pohl 2014; Pohl et al. 2010, 2011, 2012, 2013). The Northwest Territories (NT) has 600 (GRP, unpublished data), and Yukon Territory (YT) has 518 (Lafontaine and Wood 1997). A total of 710 species were reported from Alaska (AK) by Ferris et al. (2012). Species lists are not available for the adjacent USA states of Washington (WA), Idaho (ID), and Montana (MT).

		North				
	World	America	BC			
				uncon-	total	
family:			confirmed	firmed	reported	expected
Micropterigidae	160	3	2		2	
Eriocraniidae	29	13	1		1	
Hepialidae	630	19	8		8	1
Acanthopteroctetidae	8	4	1		1	
Nepticulidae	850	107	12	2	14	
Opostegidae	200	10	2		2	
Prodoxidae	100	64	14		14	
Incurvariidae	50	5	2		2	
Heliozelidae	120	30	2		2	
Adelidae	300	18	6		6	
Tischeriidae	110	46	3		3	
Psychidae	1350	28	6	1	7	
Tineidae	2300	187	26	1	27	
Bucculatricidae	300	103	12		12	1
Gracillariidae	1850	302	54	4	58	
Yponomeutidae	360	34	14		14	
Ypsolophidae	160	39	11	2	13	
Plutellidae	150	16	6		6	
Glyphipterigidae	535	48	4		4	
Argyresthiidae	150	54	16	3	19	

Table 1. Diversity of Lepidoptera species in British Columbia by family. Worldwide numbers of species are modified from van Nieukerken et al. (2011); numbers of North American species are from Pohl (unpublished data).

		North				
	World	America	BC			
				uncon-	total	
tamily:			confirmed	tirmed	reported	expected
Lyonetiidae	200	15	8		8	
Praydidae	50	3	1		1	
Heliodinidae	70	31	1		1	
Bedelliidae	16	2	1		1	
Douglasiidae	29	9	2		2	
Autostichidae	650	24	3		3	
Oecophoridae	3400	40	12		12	
Depressariidae	2300	196	47		47	
Cosmopterigidae	1730	188	9		9	
Gelechiidae	4700	900	155	7	162	
Elachistidae	830	156	14	1	15	
Coleophoridae	1400	157	38		38	
Batrachedridae	90	25	2	1	3	
Scythrididae	670	44	6		6	
Blastobasidae	430	71	8	1	9	
Momphidae	60	46	11		11	
Pterolonchidae	30	4	1		1	
Lypusidae	150	1	1		1	
Alucitidae	200	3	2		2	
Pterophoridae	1300	157	52	2	54	
Copromorphidae	40	5	2		2	
Carposinidae	283	11	1		1	
Schreckensteiniidae	8	3	2		2	
Epermeniidae	126	12	3		3	
Urodidae	66	2	1		1	
Choreutidae	400	33	11		11	
Tortricidae	10400	1390	427	13	440	1
Cossidae	970	46	4		4	
Sesiidae	1400	133	21	5	26	
Limacodidae	1670	49	1		1	
Thyrididae	940	12	2		2	
Papilionidae	570	40	11		11	
Hesperiidae	4100	300	30		30	
Pieridae	1160	77	28		28	
Riodinidae	1500	29	1		1	
Lycaenidae	5200	160	43		43	3
		North				
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	World	America	BC			
				uncon-	total	
family:			confirmed	firmed	reported	expected
Nymphalidae	6150	225	74	1	75	4
Pyralidae	5900	679	127	5	132	
Crambidae	9650	850	129	2	131	
Drepanidae	660	21	11		11	
Lasiocampidae	1950	35	4		4	
Saturniidae	2350	74	7		7	
Sphingidae	1450	130	23	2	25	1
Uraniidae	700	10	1		1	
Geometridae	23000	1425	358	4	362	6
Notodontidae	3800	139	24	1	25	
Erebidae	24500	960	121	4	125	1
Euteliidae	520	18	1		1	
Nolidae	1700	40	7		7	
Noctuidae	11800	2525	710	9	719	9
(non-BC families)	6029	86	0		0	
Grand Total	157000	12721	2761	71	2832	27

The number of Lepidoptera species known from BC has more than doubled in the past 100 years (Table 2). However, the most active period of collecting was in the early part of the 1900s, and many "new" records are recently recognised species that are represented in older museum material. The previous list (Cannings and Scudder 2007) was based primarily on a list of CNC holdings, augmented by selected taxonomic and faunistic works. The list of butterflies and macromoths by Lafontaine and Troubridge (2011), although not published formally until 2011, was completed in 1998 and thus precedes Cannings and Scudder (2007) in its content. Our list is based on a thorough survey of taxonomic literature from the past 65 years, and on extensive inventory work in the UBC, RBCM, and CFS collections in the province, as well as at the CNC. Pohl and Cannings (2013) describe in more detail the process of compiling and preparing this list. To the best of the authors' knowledge, the records and information presented here was complete and accurate up to the end of June, 2015.

Although the current list of Lepidoptera includes 2832 species, the actual number of species that occur in BC is certainly much higher. The southern half of the province has been studied for more than 100 years, but many

species undoubtedly remain to be discovered there, particularly among the microlepidoptera. The northern regions of the province are poorly known for almost all moths. In particular, the Peace River region of northeastern BC is expected to yield many new provincial records of boreal species.

Lepidoptera group	ESBC (1906)*	Blackmore (1927)*	Llewellyn Jones (1951)*	Cannings and Scudder (2007)	current list
micromoths:					
Gelechiidae	15	-	_	81	162
Tortricidae	83	-	-	331	440
other groups	96	_	_	293	492
micromoths subtotal	194	-	-	705	1094
butterflies	135	229	250	190	188
macromoths:					
Pyralidae, Crambidae	86	-	-	191	263
Geometridae	215	379	425	340	362
Noctuidae (sensu lato)	465	745	825	806	852
other groups	53	81	85	67	73
macromoths subtotal	819	1205	1335	1404	1550
overall total	1148	1434	1585	2299	2832

Table 2. Numbers of species in historical lists and the current list of BC Lepidoptera.

*Note: Numbers in these columns include all names reported in the lists, including subspecies and varieties.

Format of the Checklist

Sources of Information

The list of species occurring in BC was obtained by compiling data from specimens and from published works. Specimen data were obtained from reliably identified specimens in the following public collections:

BIO - Biodiversity Institute of Ontario, University of Guelph, Guelph, ON

CNC – Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario

- NFRC Northern Forestry Centre Research Collection, Canadian Forest Service, Natural Resources Canada, Edmonton, Alberta
- NSPM Nova Scotia Provincial Museum, Halifax, NS

- PFC Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre Collection, Victoria, BC.
- RBCM Royal British Columbia Museum, Victoria, BC
- UASM University of Alberta, E. H. Strickland Entomological Museum, Edmonton, Alberta
- UBC University of British Columbia, Beaty Biodiversity Museum, Vancouver, BC.

Selected records have been extracted from other public and private collections, as noted. Identities of specimens in the CNC have been determined by CNC lepidopterists, as well as by visiting researchers. Identities of problematic specimens in other collections were confirmed primarily by GRP, although some specimens were sent to other experts. In cases where we have not been able to confirm questionable determinations, we have flagged the records as uncertain. We hope these uncertainties will be cleared up by future workers.

The list also incorporates extensive published records of Lepidoptera in BC. We have extracted records from previous provincial lists by ESBC (1906), Blackmore (1927), Llewellyn Jones (1951), Arnott (1960), Cannings and Scudder (2007), and Lafontaine and Troubridge (2011). Unfortunately, we could not locate a copy of the first published BC Lepidoptera list (Anderson 1904); however, the list by ESBC (1906) is an updated and corrected version of the records presented therein. Our data include records from significant publications of local scope, including Blackmore (1921, 1922a, 1923, 1924), Busck (1904), deWaard et al. (2009, 2010), Duncan (2006), Dyar (1904), Guppy and Shepard (2001), Pyle (2002), Ross (1956), and Taylor (1908a, 1908b), as well as the "Forest Insects of BC" series by Ross and Evans (1954, 1956a, 1956b, 1957a, 1957b, 1957c, 1958, 1959, 1961), Sugden (1964, 1966, 1968, 1970) and Sugden and Ross (1963). We have also extracted records from works of wider geographic scope, including Belton (1988), Powell and Opler (2009) and the "Forest Lepidoptera of Canada" series by McGugan (1958) and Prentice (1962, 1963, 1965). Additionally, we have drawn upon a large dataset of Canadian distribution records extracted from published taxonomic works that deal with North American moths (GRP, unpublished data). That dataset incorporates records from more than 1000 papers, including virtually all pertinent works published after 1950 and many from earlier. Records were also extracted from the Barcode of Life database of BIO (Ratnasingham and Hebert 2007); these were thoroughly vetted to remove unverified and uncertain records.

The Pacific Northwest Moths website (Crabo et al. 2015) was scanned for BC records of species not represented in Canadian collections. Although we do not generally include sources that are not supported by voucher material, we have extracted records from The Lepidopterists' Society Annual Season Summaries, 2002–2014 (Lepidopterists' Society 2015), as well as a few photo records from *E-Fauna BC* (Klinkenberg 2013).

Higher Taxonomy

The classification presented here follows the scheme of van Nieukerken et al. (2011) at the family level and above. For subfamilies, we follow Kristensen (1999), and for tribes, Hodges et al. (1983). Exceptions where newer works supercede the aforementioned are as follows:

- Arrangement of primitive superfamilies and families follows Regier et al. (2015).
- Classification of the Tineoidea follows Regier et al. (2014).
- Removal of the Douglasiidae from Gracillarioidea follows Kawahara et al. (2011);
- Classification of the Yponomeutoidea follows Sohn et al. (2013);
- Classification of the Gelechioidea families follows Heikkilä et al. (2014); subfamilies within Gelechioidea follows Karsholt et al. (2013). Classification of the Gelechiidae below the subfamily level follows Lee et al. (2009);
- Tribal arrangement of the Sesiidae follows Eichlin and Duckworth (1988);
- Classification of the Pterophoridae follows Gielis (2003);
- Classification of the Tortricidae follows Brown (2005);
- Tribal arrangement of the Thyrididae follows Whalley and Heppner (1995);
- Nomenclature of the butterflies follows Pelham (2008);
- Classification of the Crambidae follows Munroe et al. (1995);
- The higher classification of the Geometridae follows Young (2006) and Ferguson (2008), and;
- Classification of the Noctuoidea follows Lafontaine and Schmidt (2010, 2011, 2013).

Deviations from accepted nomenclature are detailed in the notes.

Family-Level Introductory Paragraphs

In the introductory paragraph for each family, we provide a brief summary of the defining features, general appearance and general biological information for the group. The common names of the family and other higher-level taxonomic groups are primarily from Heppner (1998).

We also provide a brief overview of the global and North American diversity of the group. Our use of the term "North America" applies to the portion of the continent north of Mexico; this corresponds roughly to the Nearctic faunal region and equates to the region as treated in most taxonomic works. This information on family diversity comes from Arnett (1993), Cannings and Scudder (2007), Kristensen (1999), and Scoble (1995), as well as from family-level works cited in the individual family treatments.

Species Entries

Species are listed in the order they were presented in the most recently published taxonomic work for the group in question, deferring to the order of Hodges et al. (1983) where no such revisions exist.

Each species entry comprises: a species number, occurrence status if other than "confirmed resident", genus, species, author, and year of description. Species introduced to North America are indicated with an "I" at the far right of the species entry. Notes on the species appear below the species entry, indented and in smaller type.

Species Number

All confirmed and unconfirmed species records are given whole numbers in the list. Species that probably occur in BC are given decimal numbers.

Occurrence Status

Species not considered confirmed residents of BC are indicated as follows:

- H (human-associated) Occurs in BC only indoors or in close association with humans, either as a pest or in culture. No established populations of the species exist outside of human situations. Species known only from interceptions on foreign goods and at ports of entry are excluded from the list.
- M (migrant) Regularly collected in the wild in BC, but the entire life cycle is not completed here. This category includes species that

naturally migrate regularly into BC, such as the Monarch (*Danaus plexippus* (Linnaeus)).

- P (probable occurrence) Not yet reported from BC, but the species likely occurs here, based on records from adjacent areas and suitable habitat being present in BC. These species are given a decimal number in the list.
- S (stray) Occasionally collected in the wild in BC, but with no evidence of established breeding populations in the wild, nor part of a regular migration.
- U (unconfirmed or uncertain) Records that are plausible, but voucher specimens either cannot be located or their identity has not been confirmed.

Scientific Name, Author and Date of Original Description

The valid or accepted scientific name of each species is presented in italics, followed by the author and date of the published description (the taxonomic authority). Throughout this list, we have distinguished taxonomic authorities from literature references as follows:

- For a taxonomic authority, the date of description is separated from the author's name by a comma and a space;
- For references to the literature, the year of publication is separated from the author name by a space alone, or the year is enclosed in parentheses if the author's name forms an integral part of the sentence structure.

In taxonomic authorities, parentheses (round brackets) around the author and date indicate that the species was described in a genus other than that in which it is currently placed. Square brackets around the author and/or date indicate attributed authorship and/or publication date that is different from that stated in the work itself.

Introduced Species

Species thought to be introduced to North America are indicated with an "I" at the far right of the species name; native North American species that have been introduced to BC are indicated with a lowercase "i".

Notes

These entries beneath species names include selected pertinent information on taxonomy, nomenclature, and status of the species in BC. If occurrence of the species in BC is uncertain, probable, or has been reported erroneously, the note presents those details. We also list the region of origin, if known, for introduced species.

The assignment and delimitation of subspecies is often uncertain and highly contentious, particularly for butterflies. Rather than passing judgment on the merits of such names, we simply list all the valid subspecific names that, as far as we know, have been applied to BC populations in published works.

Common names are given for a few conspicuous species with an accepted frequently used common name. Common names of moths come primarily from the official Canadian list of common names (Entomological Society of Canada Common Names Committee 2007). Following Pohl et al. (2010), common names of animals and plant species are capitalised to distinguish them from common names that refer collectively to several species; e.g., to distinguish the Diamondback Moth, *Plutella xylostella* (Linnaeus), from species of moths in the family Plutellidae, which are collectively referred to as "diamondback moths").

We have not listed the synonyms of BC Lepidoptera species. However, some commonly used or very recently used synonyms are mentioned in the notes under selected species. Most synonyms can be found in Poole (1995).

Excluded Taxa

The "Excluded Taxa" section lists 322 species that have been reported in a published source as occurring in BC, but are rejected herein because they are deemed by the authors to have not ever occurred naturally or to have not become established here. These species are not considered part of the BC fauna in any of the tables in the current list. Some of these records are based on errors or misidentifications, and many are due to changes in taxonomic status that resulted in valid species names that no longer apply to BC populations. Details of such reports and taxonomic changes are given in the text accompanying each species entry in the excluded species list.

Abbreviations Used in the List

Besides the abbreviations defined above in the section entitled "Occurrence Status", we use the standard two-letter postal abbreviation for the provinces of Canada and the states of the United States of America (USA). We also use the collection acronyms listed above, and the initials of the authors of this work.

Part II: The Checklist

Section 1: Micromoths

Superfamily Micropterigoidea

1. Family Micropterigidae (mandibulate moths)

Mandibulate moths are very small moths with large and functional mandibles that have well-developed articulation on the head capsule. Their wings are narrow and lanceolate, held roof-like over the body when at rest; the upper surface of the wings is often covered with iridescent scale patches. Adult moths are usually diurnal and are attracted to flowers and feed on pollen, which they crush with their mandibles. Larvae feed on moss and liverworts, and can occur in soil.

Worldwide, 160 species of micropterigids exist, as well as many undescribed species. Three species are known in North America; two occur in BC. The family was recently revised, and a new BC species described, by Davis and Landry (2012).

0001	Epimartyria auricrinella Walsingham, 1898
	This species is known in BC from a specimen in the NSPM, collected at Prince
	George BC by B. and G. Wright on 9 July 1984. A second specimen was collected
	in 2015 near 100 Mile house by DH.
0002	Epimartyria bimaculella Davis & Landry, 2012
	This species is illustrated on the cover of this publication.

Superfamily Eriocranioidea

2. Family Eriocraniidae (sparkling archaic sun moths)

Eriocraniid moths are very small, often with iridescent wings that are covered with long, hairlike scales, and are usually held like a tent over the body when at rest. This group can be distinguished from most other moths by its vestigial mandibles. Adults are diurnal, and most species fly early in the spring. Larvae are leaf-blotch miners.

Twenty-nine species of eriocraniids are known worldwide, 13 of which occur in North America. Only one species is known from BC. The family was revised by Davis (1978).

0003 *Eriocrania semipurpurella* (Stephens, 1834) BC populations are subspecies *pacifica* Davis.

Superfamily Hepialoidea

3. Family Hepialidae (ghost moths)

Ghost moths are medium-sized to very large and bronze or ash-grey, with wingspans in North American species ranging from 25 to 100 mm. Adult moths are fast flying, and are diurnal, crepuscular or nocturnal. Some species form mating swarms, called leks, with oscillatory flight. Eggs are small and are produced in abundance and broadcast over the ground by flying females. Larvae bore into stems or roots, or tunnel in the ground.

Worldwide, about 630 species of ghost moths are known. Of the 19 species that occur in North America, eight are reported from BC (another species is expected here). Nielsen et al. (2000) provided a global catalogue and bibliography.

0003.1	Р	<i>Gazoryctra hyperboreus</i> (Möschler, 1862) This species was reported in error from BC by ESBC (1906); an old specimen from Duncan in the RBCM has been redetermined as <i>G. matthewi</i> (Edwards). Although
		no BC records are currently known, this species is known from boreal habitat in
0004		Gazorvetra confusus (Edwards, [1885])
0005		Gazoryctra roseicaput (Neumögen & Dyar, 1893)
0006		Gazoryctra mathewi (Edwards, 1874)
0007		Gazoryctra novigannus (Barnes & Benjamin, [1926])
8000		Phymatopus behrensii (Stretch, 1872)
0009		Phymatopus californicus (Boisduval, 1868)
0010		Sthenopis argenteomaculatus (Harris, 1841)
		Confirmed records from Atlin, BC, exist of this otherwise eastern species.
0011		Sthenopis purpurascens (Packard, 1863)
		Includes <i>Gorgopis quadriguttatus</i> Grote, a recent synonym (Nielsen et al. 2000).

Superfamily Neopseustoidea

4. Family Acanthopteroctetidae

These are very small moths that resemble caddisflies, but may be brightly marked. They can be separated from most other moths by the vestigial mandibles, and from the Eriocraniidae by the absence of ocelli. Little is known of the biology of this group; one CA species is a leafminer on *Ceanothus* spp. (Rhamnaceae).

Eight species of acanthopteroctetids are known worldwide; four of these occur in North America. One species is known from BC. The family was revised by Davis (1978).

0012 Acanthopteroctetes aurulenta Davis, 1984 This species was discovered at Sparrow Grasslands in the Okanagan Valley recently by DH.

Superfamily Nepticuloidea

5. Family Nepticulidae (pygmy eye-cap moths)

Nepticulids are extremely small moths, with wingspans typically reaching 3 to 5 mm. The wings are slender and lanceolate, usually with predominantly dark coloration. The head has erect seta-like scales; the vertex is rough; the antennal scape is enlarged and covers the eye. Females have a short, non-piercing ovipositor. Nepticulid larvae are normally leafminers, but can occur in woody twigs, fruit or galls. Hosts are usually members of the Betulaceae, Fagaceae, Rhamnaceae, Rosaceae or Salicaceae. Most nepticulid species are highly host specific.

Worldwide, about 850 species have been described, with many more remaining to be discovered. So far, 107 species have been reported in North America; 14 of these are known in BC. The Canadian Nepticulidae were revised by Wilkinson and Scoble (1979), although some parts of their work have been superceded by newer works.

Subfamily Nepticulinae

Tribe Nepticulini

0013 Stigmella corylifoliella (Clemens, 1861)

0014 U Stigmella ostryaefoliella (Clemens, 1861) Reported from BC by Forbes (1923), but no voucher specimens are known in Canadian collections.

0015		<i>Stigmella macrocarpae</i> (Freeman, 1967) British Columbia records from Garry Oak are probably an undescribed species, but they are filed under this name (an eastern North American species that feeds on oaks) pending taxonomic clarification (E. van Nieukerken, personal commu- nication). This taxon was listed by Cannings and Scudder (2007) under the name
		<i>latifasciella</i> (Chambers), a synonym.
0016	U	Stigmella diffasciae (Braun, 1910)
		Reported from Victoria by Blackmore (1924), although no BC vouchers are known in Canadian collections.
0017		Stigmella rhoifoliella (Braun, 1912)
		Collected at Vaseux Lake, reared from poison ivy in 1988 by E. van Nieukerken (personal communication).
0018		Stigmella stigmaciella Wilkinson & Scoble, 1979
0019		Stigmella crataegifoliella (Clemens, 1861)
0020		Stigmella pomivorella (Packard, 1870)
0021		<i>Stigmella populetorum</i> (Frey & Boll, 1878)

0022 Stigmella alba Wilkinson & Scoble, 1979

Tribe Trifurculini

0023 *Ectoedemia canutus* Wilkinson & Scoble, 1979 This recent record for western North America was collected 29 April 2007 at Vancouver by J. deWaard.

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- 0024 Ectoedemia marmaropa (Braun, 1925)
- 0025 Ectoedemia canadensis (Braun, 1914)
- 0026 *Ectoedemia sericopeza* (Zeller, 1839) An introduced species collected in the Vancouver area in 2010 by DH.

6. Family Opostegidae (white eye-cap moths)

Opostegids are very small, with wingspans typically reaching 6 to 12 mm. The wings are slender, lanceolate and predominantly white. The head has erect seta-like scales; the vertex is rough; the antennal scape is enlarged and covers the eye. Larvae are leafminers.

Almost 200 species of Opostegidae are known worldwide, with many undescribed species expected to be found. Ten species are known from North America, two of which are known from BC. Davis and Stonis (2007) published a monograph of the New World fauna.

Subfamily Opostegoidinae

0027 Opostegoides scioterma (Meyrick, 1920)
Subfamily Oposteginae
0028 Pseudopostega cretea (Meyrick, 1920)

Superfamily Adeloidea

7. Family Prodoxidae (yucca moths and allies)

Prodoxids are small moths, with wingspans between 10 and 30 mm. Their head vestiture is usually rough, with dense seta-like scales. The adults are usually diurnal and often have white or golden wings. Females have an elongate, compressed ovipositor.

Larvae are endophagous, boring into fruit, leaves or shoots. None are case bearers. They overwinter as larvae, with the last-instar larvae in some cases diapausing for many years.

Worldwide, about 100 species of Prodoxidae exist, with most occurring in the Nearctic region. Sixty-four species have been recorded from North America, 14 of which have been reported from BC. The species of *Tegeticula* (not present in BC) are the well-known yucca moths, which have a well-studied interdependent relationship with yucca plants.

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Subfamily Lamproniinae

- 0029 *Lampronia oregonella* Walsingham, 1880
- 0030 Lampronia capitella (Clerck, 1759)
- 0031 Lampronia corticella (Linnaeus, 1758)
- 0032 Lampronia taylorella (Kearfott, 1907)
- 0033 Lampronia aenescens (Walsingham, 1888)
- 0034 Lampronia sublustris Braun, 1925

Subfamily Prodoxinae

- 0035 Greya punctiferella (Walsingham, 1888)
- 0036 *Greya piperella* (Busck, 1904)
- 0037 *Greya obscuromaculata* (Braun, 1921)
- 0038 Greya politella (Walsingham, 1888)
- 0039 Greya enchrysa Davis & Pellmyr, 1992
- 0040 Greya variabilis Davis & Pellmyr, 1992
- 0041 Greya variata (Braun, 1921)
- 0042 Greya subalba Braun, 1921

8. Family Incurvariidae (leafcutter moths)

Leafcutter moths are very small, with wingspans between 6 and 10 mm. Their forewings are usually iridescent. They have a scaled proboscis, and females have a piercing ovipositor. Larvae are leafminers in the early instar stages; later, they construct cases using silk and cut pieces of leaf, from which they skeletonize leaves. Approximately 50 species of leafcutter moths are known worldwide. Five species are known from North America, two of which occur in BC. The family has not been revised for many years, but one of the species that occurs in BC was treated by Pohl et al. (2015).

 Paraclemensia acerifoliella (Fitch, 1854) Historical records of this species in BC by Busck (1904) and others were long thought to be erroneous, but its' presence in BC was confirmed by Pohl et al. (2015).
 Phylloporia bistrigella (Haworth, 1828)

Known in BC from a single specimen collected at Revelstoke National Park, by BIO.

9. Family Heliozelidae (shield-bearer moths)

Heliozelids are extremely small moths, with wingspans usually under 8 mm. The head has a vertex that is typically smooth, with broad, laminate, iridescent scales directed downward over the smooth frons; the antennae are shorter than the wings, with the scape entirely covered by iridescent scales. The wings are held roof-like at rest. Females have an elongated, piercing ovipositor.

Adults are diurnal, and fly in sunshine near the host. All larvae except the last instar are leafminers. They construct a flat, oval case by cutting sections from the upper and lower epidermis of the mine, and join these together with silk, forming a lenticular-shaped case. The case gives these moths their common name. Hosts are usually woody trees or shrubs.

Worldwide, about 120 species are known, with 30 species reported from North America. Two species are recorded from BC.

- 0045 Antispila freemani Lafontaine, 1973
- 0046 Coptodisca arbutiella Busck, 1904

10. Family Adelidae (fairy moths)

Fairy moths are very small moths, with wingspans up to 14 mm. The antennae are usually much longer than the forewing, but are short in the genus *Cauchas*. Forewings are slender and often metallic with transverse white stripes. Females have a long, piercing ovipositor.

Males of many species swarm near host plants. Eggs are inserted singly into plant tissue. The first-instar larvae of adelids may mine leaves of the

host; later-instar larvae are case bearers and feed on the lower or fallen leaves of the host.

Worldwide, about 300 species of fairy moths are described. Of the 18 species recorded in North America, six occur in BC.

Subfamily Adelinae

0047	<i>Cauchas cockerelli</i> (Busck, 1915)
0048	Cauchas simpliciella (Walsingham, 1880)
0049	Nemophora bellela (Walker, 1863)
0050	Adela septentrionella Walsingham, 1880
0051	Adela trigrapha Zeller, 1876
0052	Adela purpurea Walker, 1863

Superfamily Tischerioidea

11. Family Tischeriidae (trumpet leafminer moths)

Most tischeriids are extremely small, with 5- to 9-mm wingspans. The head has a smooth frons; the vertex is somewhat rough with slender or broad scales that are directed forwards; the antennal scape has a prominent tuft of slender scales projecting over the eye. Forewings are lanceolate and generally unicoloured. Females have a short, non-piercing ovipositor. The larvae are leafminers, forming either trumpet-shaped or blotch mines in leaves of deciduous trees and shrubs.

There are about 110 known species of tischeriids worldwide; 46 species are reported from North America, three of which are recorded from BC. The North American species were revised by Braun (1972).

	0053	Astrotischeria	occidentalis	(Braun,	1972)
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0054 *Coptotriche malifoliella* (Clemens, 1860)

0055 Coptotriche splendida (Braun, 1972)

Superfamily Tineoidea

12. Family Psychidae (bagworm moths)

Bagworm moths are very small to small moths, with wingspans from 8 to 25 mm. Males are fully winged; some females are winged, but many are brachypterous, apterous or wormlike, with all body appendages vestigial or absent. Some species exist only as parthenogenetic females, and are best recognized by the larval cases.

Larvae of psychids are leaf or lichen feeders and form portable bags or cases made of pieces of twigs, leaves or other material, which they carry around with them as they feed. Bags or cases are usually open at both ends, the top opening being used for feeding and the lower for waste discharge. Pupation takes place within the larval bags or cases. Males leave the bag on emergence, departing from the lower end, but females spend all or most of their lives within. Males, if present, fertilise the female in the bag, through one end of the case.

Worldwide, 1350 species of psychids are known, with 85% occurring in the Old World. Of the 28 species known from North America, seven have been reported from BC. Davis (1964) revised the North American species.

Subfamily Naryciinae

0056Dahlica triquetrella (Hübner, 1812)I0057Dahlica lichenella (Linnaeus, 1761)IThis introduced species is known from the Vancouver area. Identification was
confirmed by P. Hättenschwiller.I

Subfamily Taleporiinae

0058 U Taleporia walshella (Clemens, 1862)

This species was reported from BC, based on material in PFC. That material could not be located by GRP in 2010, but there is no reason to doubt that this species occurs in BC: it is known from Jasper National Park in AB, very close to the BC border.

Subfamily Psychinae

0059 Psyche casta (Pallas, 1767)

This introduced Palaearctic species was collected recently in the Vancouver area by DH and by J. deWaard.

- 0060 Hyaloscotes fragmentella Edwards, 1877
- 0061 *Hyaloscotes pithopoera* (Dyar, 1923)

Subfamily Oiketicinae

0062 Apterona helicoidella (Vallot, 1827)

I

I

This European species was abundant around Osoyoos beginning in about 2002, but apparenty disappeared about 2008 (GGES, unpublished data). However, it was abundant near Merritt in 2009.

13. Family Tineidae (fungus moths and clothes moths)

Tineid moths are very small to medium sized, most with wingspans of 8 to 14 mm. The wings are usually dull and brownish in colour, and typically are moderately broad and generally subovate in shape. The head has erect piliform scales. Adults move with a characteristic scuttling run. Most tineid larvae are fungivorous, some feed on detritus, and a few are pests of stored

food products or fabrics, feeding on wool, fur and feathers. Many tineid larvae build portable cases, from which they feed.

Worldwide, about 2300 species of tineids occur; 187 are known from North America. Twenty-seven of these have been reported from BC. Little taxonomic work has been done on the family in the past 100 years, other than the higher-level taxonomic work of Regier et al. (2014).

Subfamily Acrolophinae

0063	Amydria curvistrigella Dietz, 1905
Subfamil	y Nemapogoninae
0064	<i>Triaxomera parasitella</i> (Hübner, 1796) I This introduced European species was discovered in North America on the Lower Mainland by DH in 2011.
0065	Nemapogon acapnopennella (Clemens, 1863)
0066	Nemapogon auropulvella (Chambers, 1873)
0067	Nemapogon cloacella (Haworth, 1828)IRecently discovered in North America by Landry et al. (2013).
0068	Nemapogon granella (Linnaeus, 1758) I The European Grain Moth, introduced from the Palaearctic (Lafontaine and Troubridge 2011).
0069	Nemapogon tylodes (Meyrick, 1919) Recent BC record collected near Hazelton by deWaard (2010).
0070	Nemapogon variatella (Clemens, 1859) Western Canadian material is probably a new species near <i>N. variatella</i> , but they are provisionally listed here.
Subfamil	y Tineinae
0071	Tinea columbariella Wocke, 1877
0072	<i>Tinea irrepta</i> Braun, 1926
0073	<i>Tinea niveocapitella</i> Chambers, 1875 Known in BC from a specimen in the UBC collection, collected at Saanichton on 1 June 1922 by J. G. Colville.
0074	Tinea pellionella (Linnaeus, 1758)IThis Palaearctic species is known as the Casemaking Clothes Moth.I
0075	Niditinea fuscella (Linnaeus, 1758)
0076	<i>Niditinea orleansella</i> (Chambers, 1873) Recent BC record collected near Hazelton by deWaard (2010).
0077	<i>Trichophaga tapetzella</i> (Linnaeus, 1758) I The Carpet Moth, introduced from the Palaearctic (Lafontaine and Troubridge 2011).
0078	Monopis crocicapitella (Clemens, 1859)
0079	Monopis laevigella ([Denis & Schiffermüller], 1775)
0080	Monopis weaverella (Clemens, 1859)

- 0081 Monopis dorsistrigella (Clemens, 1859)
- Collected recently in BC by DH.
- 0082 Monopis spilotella Tengström, 1848
- 0083 *Elatobia carbonella* (Dietz, 1905) British Columbia material in the CNC has been labelled with unpublished manuscript names by D. R. Davis.
- 0084 Elatobia montelliella (Schantz, 1951)
- 0085 *Tineola bisselliella* (Hummel, 1823) This Palaearctic species is known as the Webbing Clothes Moth.

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Subfamily Scardiinae

- 0086 Morophagoides burkerella (Busck, [1904])
- 0087 Scardia anatomella (Grote, 1881)
- 0088 Amorophaga cryptophori (Clarke, 1940)

Subfamily unassigned

0089 U *Homosetia costisignella* (Clemens, 1863) Uncertain record from deWaard et al. (2009).

Superfamily Gracillarioidea

14. Family Bucculatricidae

These are extremely small to very small moths, with wingspans of 4 to 11 mm. The head is usually elongate, with the vertex usually large and bearing an erect tuft of piliform scales. Most species have larvae in which the first two instars are leafminers, and the third instar emerges to feed externally on leaves. The fourth-instar larva constructs a flattened moult-ing cocoon under the leaf used by the third instar. The fifth-instar larva, before pupation, constructs a silken, longitudinally ribbed cocoon, which is typical for the family.

Worldwide, about 300 species of bucculatricids exist, most of which occur in the Nearctic. One genus, *Bucculatrix*, with 103 species, is known from North America; 12 species are recorded from BC, and another is expected here. Braun (1963) revised the North American species.

- 0090 Bucculatrix eurotiella Walsingham, 1907
- 0091 Bucculatrix divisa Braun, 1925
- 0092 Bucculatrix salutatoria Braun, 1925
- 0093 Bucculatrix arnicella Braun, 1925
- 0094 Bucculatrix tridenticola Braun, 1963
- 0095 Bucculatrix seorsa Braun, 1963
- 0096 Bucculatrix angustisquamella Braun, 1925
- 0097 Bucculatrix columbiana Braun, 1963

- 0098 Bucculatrix zophopasta Braun, 1963
- 0099 Bucculatrix canadensisella Chambers, 1875
- 0100 Bucculatrix ainsliella Murtfeldt, 1905
- 0101 Bucculatrix pomifoliella Clemens, 1860
- 0101.1 P *Bucculatrix frigida* Deschka, 1992 This species was described from Jasper, and likely occurs in adjacent BC.

15. Family Gracillariidae (leafblotch miner moths)

Gracillariids are extremely small to small moths, with wingspans of 4 to 21 mm. The head is usually smooth scaled; the antennae are filiform and are about as long as the forewings. The wings are slender to lanceolate, with a broad fringe; the cilia are longer than the width of the hind wing; the forewings are often brightly coloured.

Larvae are leaf, bark or fruit miners, with a hypermetamorphosis. Larvae typically form blotch mines on leaves, hence the common name. Early larval instars are flattened sap feeders, while later instars feed on leaf parenchyma. Most are strongly host specific. Pupation takes place in the mines.

Worldwide, about 1850 species of gracillariids are known; 302 species are known from North America, and 58 species have been reported from BC. There are no comprehensive taxonomic works on the group, but De Prins and De Prins (2005) published a world species catalogue.

Subfamily Gracillariinae

- 0102 *Caloptilia acerifoliella* (Chambers, 1875)
- 0103 Caloptilia agrifoliella Opler, 1971
- 0104 *Caloptilia alnicolella* (Chambers, 1875)
- 0105 Caloptilia alnivorella (Chambers, 1875)
- 0106 *Caloptilia burgessiella* (Zeller, 1873)
- 0107 U Caloptilia coroniella (Clemens, 1864)
 - This species is known in BC only from some old specimens in the PFC collection that were reared from *Populus tremuloides* and determined as *"Caloptilia nr. coroniella"*. The host plant is correct, and there is no reason to doubt the record, as the species is known from adjacent AB. However, the determination requires confirmation.
- 0108 *Caloptilia invariabilis* (Braun, 1927)
- 0109 *Caloptilia melanocarpae* (Braun, 1925)
- 0110 Caloptilia murtfeldtella (Busck, 1904)
- 0111 *Caloptilia pulchella* (Chambers, 1875)
- 0112 *Caloptilia rhoifoliella* (Chambers, 1876)

0113 Caloptilia sanguinella (Beutenmüller, 1888) 0114 Caloptilia serotinella (Ely, 1910) 0115 *Caloptilia stigmatella* (Fabricius, 1781) 0116 Caloptilia strictella (Walker, 1864) Caloptilia suberinella (Tengström, 1848) 0117 Recently discovered in North America by Landry et al. (2013). 0118 Gracillaria syringella (Fabricius, 1794) This species, known as the Lilac Leaf Miner, was introduced from Europe. It was first found in North America in ON in 1923 and in WA in 1927. 0119 *Micrurapteryx salicifoliella* (Chambers, 1872) 0120 U Parectopa albicostella Braun, 1925 This taxon is probably conspecific with *P. occulta* Braun, but it is listed separately pending taxonomic work. 0121 Parectopa occulta Braun, 1922 0122 Callisto denticulella (Thunberg, 1794) 0123 Parornix alta (Braun, 1925) Parornix arbutifoliella (Dietz, 1907) 0124 0125 Parornix betulae (Stainton, 1854) Recently discovered in North America by Landry et al. (2013). 0126 Parornix conspicuella (Dietz, 1907) 0127 Parornix spiraeifoliella (Braun, 1918) 0128 Acrocercops astericola (Frey & Boll, 1873) Recent BC record collected near Hazelton and Sicamous by deWaard (2010). 0129 Acrocercops pnosmodiella (Busck, 1902) Marmara arbutiella Busck, [1904] 0130 0131 Marmara oregonensis Fitzgerald, 1975 Subfamily Lithocolletinae 0132 Protolithocolletis lathvri Braun, 1929 Recent BC record collected near Hazelton by deWaard (2010). Phyllonorycter alnicolella (Walsingham, 1889) 0133 U Identity of specimens in the PFC collection requires confirmation. *Phyllonorycter apicinigrella* (Braun, 1908) 0134 0135 Phyllonorycter apparella (Herrich-Schäffer, 1855) This species has often been misidentified as *P. salicifoliella* (Chambers) (Davis and Deschka 2001). 0136 Phyllonorycter arbutusella (Braun, 1908) 0137 Phyllonorycter basistrigella (Clemens, 1859) 0138 *Phyllonorycter blancardella* (Fabricius, 1781) I 0139 Phyllonorycter elmaella Doganlar & Mutuura, 1980 Phyllonorycter erugatus Davis & Deschka, 2001 0140 Phyllonorycter fitchella (Clemens, 1860) 0141

0142	U	<i>Phyllonorycter fragilella</i> (Frey & Boll, 1878) This species was reported from BC by Blackmore (1924), and is represented in
		the UBC collection by an old voucher specimen. However, its identity requires
01/13		Phyllonoryctor incanolla (Walsingham, 1889)
0143		Phyllonorycter Incarlella (Walsingham, 1999)
0144		
0145		PhyllonoryCter maestingella (Muller, 1/64) I: Recently discovered in North America by Landry et al. (2013)
0146		Phyllonorvcter martiella (Braun, 1908)
0147		Phyllonorycter mespilella (Hübner, [1805])
0148		Phyllonorycter nipigon (Freeman, 1970)
		This species has often been misidentified as <i>P. salicifoliella</i> (Chambers) (Davis and Deschka 2001).
0149		Phyllonorycter salicifoliella (Chambers, 1875)
		Most records of this species on Populus are misidentified P. apparella (Herrich-
		Schäfter), <i>P. nipigon</i> (Freeman), and perhaps other species (Davis and Deschka 2001). British Columbia specimene require verification
0150		Phyllonorycter scudderella (Frey & Boll 1873)
0151		Macrosaccus robiniella (Clemens, 1859)
0152		Cameraria agrifoliella (Braun, 1908)
0.02		Recent BC record collected near Hazelton by deWaard (2010).
0153		Cameraria gaultheriella (Walsingham, 1889)
0154		Cameraria guttifinitella (Clemens, 1859)
		Collected at Vaseux Lake, reared from poison ivy in 1988 by E. van Nieukerken (unpublished data).
0155		Cameraria hamadryadella (Clemens, 1859)
0156		Cameraria lobatiella Opler & Davis, 1981
0157		Cameraria nemoris (Walsingham, 1889)
		Collected recently by DH on Hornby Island.
0158		Cameraria pentekes Opler & Davis, 1981
Subfa	mil	y Phyllocnistinae
0159		Phyllocnistis populiella Chambers, 1875

Superfamily Yponomeutoidea

16. Family Yponomeutidae (ermine moths and allies)

Yponomeutids are small moths, with rather narrow, often brightly coloured wings. Wingspans range from 5 to 30 mm. No morphological characters unequivocally define this family. Larvae have diverse feeding habits, including as leafminers and leaf tiers.

As currently delimited, the family Yponomeutidae contains about 360 named species worldwide; 34 species are known in North America. The group, as well as the superfamily Yponomeutoidea, was redefined recently,

following molecular analyses by Sohn et al. (2013). Fourteen species are recorded in BC; many of these have been introduced.

Subfamily Yponomeutinae

Tribe Yponomeutini

0160	Ocnerostoma piniariella Zeller, 1847	I
	The European Needle Miner. This species was introduced from Europe, an first found in North America in NY in 1882 and in BC in 1922.	d was
0161	Swammerdamia caesiella (Hübner, 1796)]?
	Origin of this species is uncertain: it may have been introduced from Eurasi	a.
0162	Swammerdamia pyrella (Villers, 1789)	I
0163	Swammerdamia beirnei Doganlar, 1979	
0164	Paraswammerdamia lutarea (Haworth, 1828)	I
0165	Paraswammerdamia albicapitella (Scharfenberg, 1805)	I
	Introduced from Europe; first found in North America in BC in 2006, buildentified until 2013 (Landry et al. 2013).	ut not
0166	Paraswammerdamia nebulella (Goeze, 1783)	I
0167	Yponomeuta cagnagella (Hübner, 1813)	I
0168	Yponomeuta padella (Linnaeus, 1758)	I
	The Ermine Moth; introduced from Europe.	
0169	Yponomeuta malinellus Zeller, 1838	I
0170	Zelleria haimbachi Busck, 1915	
0171	Zelleria pyri Clarke, 1942	
	A recent collection in BC by DH and L. Humble, reared from ash (Fraxinus	sp.).
0172	Euhyponomeutoides gracilariella (Busck, 1904)	

Subfamily Saridoscelinae

0173 *Eucalantica polita* (Walsingham, 1881)

17. Family Ypsolophidae (sickle-winged moths)

Ypsolophids are small moths, with no metallic markings and, in some *Ypsolopha* species, the wings are hooked at the tip. *Ypsolopha* larvae live in open webs on the leaves of plants.

The family Ypsolophidae is a small family with about 160 known species, primarily from the temperate Northern Hemisphere; 39 species live in North America. Thirteen species have been reported from BC.

Subfamily Ypsolophinae

- 0174 Euceratia castella Walsingham, 1881
- 0175 Euceratia securella Walsingham, 1881
- 0176 *Ypsolopha canariella* (Walsingham, 1881)

- 0177 *Ypsolopha cervella* (Walsingham, 1881)
- 0178 *Ypsolopha dentella* (Fabricius, 1775)
- 0179 *Ypsolopha dentiferella* (Walsingham, 1881)
- 0180 *Ypsolopha dorsimaculella* (Kearfott, 1907)
- 0181 *Ypsolopha falciferella* (Walsingham, 1881)
- 0182 Ypsolopha rubrella (Dyar, 1902)
- 0183 *Ypsolopha senex* (Walsingham, 1889)
- 0184 U *Ypsolopha schwarziella* (Busck, 1903) Reported from BC by Blackmore (1923), and represented by old specimens in the UBC collection; however, the determination requires verification. It is otherwise unknown in Canada.

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- 0185 U *Ypsolopha sublucella* (Walsingham, 1881) Reported from BC by ESBC (1906), but no vouchers are known. The species is otherwise unknown in Canada.
- 0186 *Ypsolopha walsinghamiella* (Busck, 1903)

18. Family Plutellidae (diamondback moths)

Plutellid moths have wingspans of about 10 to 50 mm (under 30 mm in our fauna); the forewings are often brightly patterned, but normally are not metallic. Larvae are solitary leaf-rollers or live in loose webs and skeletonise leaves; most pupate in a characteristic, open-mesh cocoon. Adult moths hold their antennae forward when at rest. *Plutella*, a cosmopolitan genus with more than 40 species, feeds largely on plants of the mustard family; the Diamondback Moth, *P. xylostella* (Linnaeus), is a worldwide pest and one of the few micro-moths that migrates long distances.

The family Plutellidae is worldwide but small, with about 150 known species. Sixteen species occur in North America, six of which are recorded in BC. The genus *Plutella* was split into several genera by Baraniak (2007), but that classification has not been widely adopted and we do not follow it here.

0187	Plutella armoraciae Busck, 1912	
	This species is known in BC from several old records in the CNC. As well, it h recently been collected and barcoded from Kelowna and Merritt by DH.	as
0188	Plutella vanella Walsingham, 1881	
0189	Plutella xylostella (Linnaeus, 1758)	I
	The Diamondback Moth, an important pest of canola and other crucifers. Mo individuals found in Canada arrive each spring on winds from the south, but son likely overwinter, particularly in warmer regions.	ost ne
0190	Plutella porrectella (Linnaeus, 1758)	I
0191	Rhigognostis interrupta (Walsingham, 1881)	
0192	Rhigognostis poulella (Busck, 1904)	

19. Family Glyphipterigidae (sedge moths)

Sedge moths have wingspans ranging from 4 to 30 mm, but most are very small, with wingspans of about 10 mm. The adults are frequently strikingly marked, usually with transverse bands or lines, and often with metallic marks. The forewing is often rather square tipped or even concave, and is broader than the hind wing. Larvae bore in stems and leaves, mainly in monocots such as grasses, rushes, sedges and arums.

The family Glyphipterigidae contains about 535 described species, and the worldwide genus Glyphipterix contains about two-thirds of them. In North America, 48 species are known, four of which have been recorded from BC. North American members of the family were revised by Heppner (1985).

Subfamily Glyphipteriginae

- Clyphipterix bifasciata (Walsingham, 1881) 0193
- *Glyphipterix haworthana* (Stephens, 1834) 0194
- Glyphipterix sistes Heppner, 1985 0195
- Diploschizia impigritella (Clemens, 1863) 0196

20. Family Argyresthiidae (needleminer moths)

Argyresthiid moths are extremely small to very small, with narrow, usually golden wings that span about 5 to 15 mm. The group is defined by details of the genitalia. The larvae are bud, fruit, leaf and twig miners. This family has often been placed as a subfamily within the Yponomeutidae.

The family Argyresthiidae includes about 150 species worldwide, all in the genus Argyresthia. There are 54 species known in North America, 19 of which have been reported from BC.

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- 0197 Argyresthia abies Freeman, 1972 0198 Argyresthia columbia Freeman, 1972 0199 Argyresthia conjugella Zeller, 1839 The Apple Fruit Moth, introduced from Europe in 1897 (Covell 1984). 0200 Argyresthia cupressella Walsingham, 1890 The Cypress Tip Moth. Originally from CA, this species has spread northwards to BC in recent years. 0201 Argyresthia flexilis Freeman, 1960 0202 Argyresthia freyella Walsingham, 1890
- 0203 Argyresthia goedartella (Linnaeus, 1758)
- Argyresthia laricella Kearfott, 1908 0204

0205 U Argyresthia mesocausta Meyrick, 1913 Reported from BC by Blackmore (1924). There are old voucher specimens in the UBC collection, but their identity requires verification; this species is otherwise unknown in Canada.

- 0206 Argyresthia monochromella Busck, 1921
- 0207 Argyresthia oreasella Clemens, 1860

0208	U	Argyresthia pallidella Braun, 1918
		Represented in BC by old voucher specimens in the UBC collection, but their
		identity requires verification, as this species is otherwise unknown in Canada.
0209	U	Argyresthia pedmontella Chambers, 1877
		Reported from BC by Blackmore (1924), and represented by old voucher specimens
		in the UBC collection. However, their identity requires verification, as this species
		is otherwise unknown in Canada.
0210		Argyresthia picea Freeman, 1972
0211		Argyresthia pruniella (Clerck, 1759)
0212		Argyresthia pseudotsuga Freeman, 1972
0213		Argyresthia pygmaeella (Hübner, [1813])
0214		Argvresthia guadristrigella Zeller, 1873

- 0214 Argyresthia quadristrigella Zeller, 1873 Reported from BC by Blackmore (1924), and represented by old voucher specimens in the UBC collection.
- 0215 Argyresthia tsuga Freeman, 1972

21. Family Lyonetiidae

Lyonetiids are extremely small moths, usually with wingspans of 5 to 10 mm. The face is smooth scaled, and the base of the antenna forms an eye cap. The wings are very narrow, with reduced venation. The larvae are leaf, and occasionally twig, miners, almost always in dicot families.

The family Lyonetiidae is cosmopolitan and consists of about 200 described species. There are 15 named species in North America; eight of these are recorded from BC. The group requires taxonomic work.

Subfamily Lyonetiinae

- 0216 Lyonetia candida Braun, 1916
- 0217 Lyonetia saliciella Busck, 1904
- 0218 Lyonetia prunifoliella (Hübner, 1796)
- 0219 Lyonetia pulverulentella Zeller, 1839

Subfamily Cemiostominae

- 0220 Paraleucoptera albella (Chambers, 1871)
- 0221 Leucoptera laburnella (Stainton, 1851)
- 0222 Leucoptera pachystimella Busck, 1904
- 0223 Leucoptera spartifoliella (Hübner, [1813])

22. Family Praydidae

Praydids are very small moths, with approximately 10- to 15-mm wingspans that are relatively broad and variously marked. This group was recently split from the Yponomeutidae, and are defined by details of the male and female genitalia.

The family Praydidae contains about 50 species worldwide, mostly in the Old World. Three species are known from North America, one of which has been recently collected in BC.

0224 Prays fraxinella (Bjerkander, 1784)

I

23. Family Heliodinidae

Heliodinids are very small moths, with metallic markings on the forewings and a wingspan of about 8 to 15 mm. The head is completely covered in smooth scales; males often have thickened antennae. Larvae of most species are leafminers or stem and fruit borers.

About 70 species of heliodinids are known worldwide. There are 31 species known from North America, one of which occurs in BC.

0225 *Aetole extraneella* (Walsingham, 1881)

24. Family Bedelliidae

The Bedelliidae are very small grey moths, with elongate wings spanning 10 mm or less. They are defined by several wing and larval characteristics. The larvae mine the leaves of plants in the families Poaceae, Liliaceae, Urticaceae and Convolvulaceae. Young larvae make a linear mine, and later instars create blotch mines.

The family Bedelliidae contains 16 species, all in the genus *Bedellia*, in all regions except the Neotropical. Only two species occur in North America; one of these occurs in BC.

0226 Bedellia somnulentella (Zeller, 1847)

I

Superfamily unassigned 25. Family Douglasiidae

Douglasiidae are very small moths, with wingspans of 8 to 12 mm. The forewings are bicoloured, and hind wings are narrow. These moths have

short, drooping palps, and the head is covered with a smooth layer of scales. Larvae are stem borers and flower-petiole miners of Rosaceae and other plants.

Twenty-nine species of Douglasiidae are known worldwide—all but one from the Holarctic. Nine species are known from North America, two of which are recorded from BC. Gaedike (1990) revised the Nearctic species (in German); the descriptions and genitalia illustrations therein are inadequate to make reliable determinations.

0227	<i>Tinagma obscurofasciella</i> (Chambers, 1881)
0228	<i>Tinagma giganteum</i> Braun, 1921

Superfamily Gelechioidea 26. Family Autostichidae

Autostichids are very small to small moths, with wingspans of 10 to 20 mm and relatively broad wings. The adults superficially resemble oecophorids or gelechiids, and are not easily distinguished from other gelechioid groups. As currently defined (Heikkilä et al. 2014), the Autostichidae comprise a diverse group of several subfamilies that had previously been placed in their own families or in the Elachistidae, Oecophoridae and Blastobasidae. Larvae of species in this family are poorly known, but most Glyphidocerinae are saprophagous.

As presently defined, approximately 650 species of autostichids are known worldwide; 24 are known from North America, and three occur in BC.

Subfamily Oegoconiinae

0229 *Oegoconia novimundi* (Busck, 1915) North American populations have often been reported under the name *O. quadripuncta* (Haworth), a Palaearctic species (Landry et al. 2013).

Subfamily Symmocinae

0230 Gerdana caritella Busck, 1908

Subfamily Glyphidocerinae

0231 *Glyphidocera septentrionella* Busck, 1904 Described from Kaslo, BC by Dyar (1904).

27. Family Oecophoridae

Most Oecophorids are small to medium-sized, broad-winged moths with long, upcurved palps. Most characters are extremely variable, and many

groups have recently been moved to other families in the Gelechioidea, including the speciose group Depressariidae now treated as a separate family (Heikkilä et al. 2014).

Larvae of many oecophorid species feed on fungi and detritus in leaf litter and bark; some tie leaves or make cases from twigs or bits of leaves. Some have become pests of stored food and household goods.

The family Oecophoridae is distributed nearly worldwide, with approximately 3400 described species. The family is especially well represented in Australia and South America. Forty species are known from North America; 12 of these have been reported from BC. Most species currently placed in the family were treated in revisions by Clarke (1941) and Hodges (1974).

Subfamily Oecophorinae

0232	Decantha boreasella (Chambers, 1873)	
	Listed by Cannings and Scudder (2007) as D. borkhausenii (Zeller), a Palaearctic	2
	name.	
0233	Decantha tistra Hodges, 1974	
	Known in BC from three specimens in the UASM.	
0234	Decantha stonda Hodges, 1974	
0235	Batia lunaris (Haworth, 1828)	I
	Introduced from Europe to western North America (Hodges 1974).	
0236	Brymblia quadrimaculella (Chambers, 1875)	
0237	Denisia haydenella (Chambers, 1877)	
0238	Polix coloradella (Walsingham, 1888)	
0239	Hofmannophila pseudospretella (Stainton, 1849)	I
	The Brown House Moth, introduced from Europe.	
0240	Endrosis sarcitrella (Linnaeus, 1758)	I
	The White-shouldered House Moth, introduced from Europe.	
0241	<i>Eido trimaculella</i> (Fitch, 1856)	
0242	Oecophora bractella (Linnaeus, 1758)	I
	Introduced from Europe, discovered recently in the BC Lower Mainland by DH.	
Subfam	ily Plauratinga	

Subfamily Pleurotinae

28. Family Depressariidae (flat moths)

Flat moths are small moths, with wingspans of about 10 to 25 mm and upturned palps. The group is united by abdominal and pupal features. The wings are broad; the hind wings are often broadly fringed, and the head

⁰²⁴³ Pleurota albastrigulella (Kearfott, 1907)

is usually smooth scaled. Some recent classifications place this group as a subfamily of the Elachistidae.

Larvae of Depressariinae are leaf tiers, stem borers and seed feeders of many plant families. Species of Ethmiinae mainly feed beneath light webbing on Boraginaceae and Hydrophyllaceae.

The Depressariidae are distributed worldwide, with about 2300 described species. There are 196 species known in North America; 47 of these have been reported from BC. The Depressariinae were revised by Hodges (1974); the Ethmiinae were revised by Powell (1973), and most Stenomatinae were revised by Duckworth (1964).

Subfamily Depressariinae

- 0244 Agonopterix gelidella (Busck, 1908)
- 0245 Agonopterix conterminella (Zeller, 1839)
- Recently discovered in North America by Landry et al. (2013).
- 0246 Agonopterix nubiferella (Walsingham, 1881)
- 0247 Agonopterix oregonensis Clarke, 1941
- 0248 Agonopterix clarkei (Keifer, 1936)
- 0249 Agonopterix fusciterminella Clarke, 1941
- 0250 Agonopterix sabulella (Walsingham, 1881)
- 0251 Agonopterix alstroemeriana (Clerck, 1759)
- 0252 Agonopterix rosaciliella (Busck, 1904)
- 0253 Agonopterix canadensis (Busck, 1902)
- 0254 Agonopterix arnicella (Walsingham, 1881)
- 0255 Agonopterix flavicomella (Engel, 1907) Clarke's (1941) record is not mentioned by Hodges (1974), who considers A. *flavicomella* to be an eastern species ranging only as far west as MB. However, it was reported from BC by Cannings and Scudder (2007) based on a specimen from BC in the CNC.

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- 0256 Agonopterix thelmae Clarke, 1941
- 0257 Agonopterix argillacea (Walsingham, 1881)
- 0258 Agonopterix antennariella Clarke, 1941
- 0259 Agonopterix nervosa (Haworth, 1811) I Introduced from Europe to southern Vancouver Island between 1915 and 1920; it was redescribed from Victoria, under the synonyms Agonopterix blackmori Busck and Depressaria dryadoxena Meyrick.
- 0260 Agonopterix posticella (Walsingham, 1881)
- 0261 *Agonopterix arenella* ([Denis & Schiffermüller], 1775) I Introduced from Europe, first collected in North America is southern ON in 2005.
- 0262 Depressariodes canella (Busck, 1904)

- 0263 Depressariodes umbraticostella (Walsingham, 1881)
- 0264 Depressariodes sordidella (Clarke, 1941)
- 0265 Depressariodes nivalis (Braun, 1921)
- 0266 Depressariodes ciniflonella (Lienig & Zeller, 1846)
- 0267 Depressariodes fulva (Walsingham, 1882)
- 0268 Bibarrambla allenella (Walsingham, 1882)
- 0269 Semioscopis packardella (Clemens, 1863)
- 0270 Semioscopis merriccella Dyar, 1902
- 0271 Semioscopis inornata Walsingham, 1882
- 0272 Semioscopis megamicrella Dyar, 1902
- 0273 Semioscopis aurorella Dyar, 1902
- 0274 Semioscopis mcdunnoughi Clarke, 1941 Until recently, this species was known globally only from the type from Bellingham, WA, and two specimens from Coquitlam, BC, all collected before 1941. However, E. Avis collected four specimens at Port Alberni, BC, in 2011.
- 0275 Depressaria artemisiae Nickerl, 1864
- 0276 Depressaria pastinacella (Duponchel, 1838) I This species is known as the Parsnip Webworm. It was introduced from Europe and first detected in North America in ON in 1869, and in Victoria, BC, in 1927. By 1938, it was a pest of parsnip seed in Armstrong, BC. Larvae feed on seed heads of a variety of native umbellifers, such as *Heracleum lanatum* Mischaux and species of *Angelica*.

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- 0277 Depressaria daucella ([Denis & Schiffermüller], 1775)
- 0278 Depressaria alienella Busck, 1904
- 0279 Depressaria artemisiella McDunnough, 1927
- 0280 Depressaria togata Walsingham, 1889
- 0281 Depressaria angustati Clarke, 1941
- 0282 *Nites atrocapitella* (McDunnough, 1944)
- 0283 Nites betulella (Busck, 1902)

Subfamily Ethmiinae

- 0284 *Pyramidobela quinquecristata* (Braun, 1921)
- 0285 Ethmia coquillettella Busck, 1907

In Powell (1973), the BC records are not illustrated on the map, but they are mentioned in the text (Oliver; Keremeos).

- 0286 Ethmia albistrigella (Walsingham, 1880)
- 0287 *Ethmia monticola* (Walsingham, 1880)
- 0288 Ethmia marmorea (Walsingham, 1888)

Subfamily Stenomatinae

0289 Antaeotricha manzanitae Keifer, 1937

Subfamily unassigned

0290 *Carcina quercana* (Fabricius, 1775) I Introduced from Europe to Victoria, BC, in 1920 (Blackmore 1921; Hodges 1974).

29. Family Cosmopterigidae (cosmet moths)

Cosmopterigid moths are very small to small moths, with 8- to 20-mm wingspans and smooth-scaled heads. The forewing is narrow and often pointed. The larvae feed in mines in leaves or bark, bore in stems, roots and seeds, make galls, scavenge dead organic matter, or parasitise homopterans.

The family Cosmopterigidae is distributed worldwide and contains almost 1730 described species; 188 species are recorded for North America. The family is mainly southern in the Nearctic. Only nine species have been reported from BC. The family was revised by Hodges (1978).

Subfamily Chrysopeleiinae

0291		Walshia miscecolorella (Chambers, 1875)	
0292		Sorhagenia nimbosa (Braun, 1915)	
Subfa	mily	y Cosmopteriginae	
0293		Cosmopterix molybdina Hodges, 1962)
		Introduced? Collected recently in BC by DH.	
0294		Cosmopterix montisella Chambers, 1875	
		Known in BC from two specimens collected at Langford by the CFS Forest Insec amd Disease Survey and deposited at PFC.	t
0295		Cosmopterix abdita (Hodges, 1962)	
0296		Cosmopterix fernaldella Walsingham, 1882	
0297	S	Eteobalea intermediella (Riedl, 1966)	
		Released in BC for biocontrol; it may not be established.	
0298	S	Eteobalea serratella (Treitschke, 1833)	
		Released in BC for biocontrol; it may not be established.	
0299		Limnaecia phragmitella Stainton, 1851	

30. Family Gelechiidae

Gelechiid moths, in North America at least, are very small to small moths, with wingspans of 6 to 25 mm, and are usually brown or grey. The forewing is often narrowly rounded or pointed at the apex, and the hind wing usually has a prolonged tip and a concave margin behind.

Gelechiid larvae roll or mine leaves, bore in stems and roots, produce galls, or feed on seed heads or dried seeds in more than 80 plant families. Some are economically important pests.

The family Gelechiidae is cosmopolitan and diverse, with about 4700 described species. About 900 species are known in North America; 162

of these have been reported in BC. Significant taxonomic works have been published on the Dichomeridinae (Hodges 1986) and on the genus *Chionodes* (Hodges 1999b). The family is generally poorly known, and many species await discovery and description. A checklist of North American species was published by Lee et al. (2009). The higher-level taxonomy of the group has been the subject of several recent studies; the scheme employed here follows Karsholt et al. (2013) and Heikkilä et al. (2014).

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Subfamily Anacampsinae

Tribe Chelariini

0300 Anarsia lineatella Zeller, 1839 Introduced from Asia.

Tribe Anacampsini

- 0301 *Battaristis concinnusella* (Chambers, 1877) This species name has often been misspelled as "concinusella".
- 0302 Battaristis nigratomella (Clemens, 1863)
- 0303 Anacampsis conclusella (Walker, 1864)
- 0304 Anacampsis fragariella Busck, 1904
- 0305 Anacampsis innocuella (Zeller, 1873)
- 0306 Anacampsis niveopulvella (Chambers, 1875)

Subfamily Dichomeridinae

- 0307 *Helcystogramma fernaldella* (Busck, 1903)
- 0308 Helcystogramma casca (Braun, 1925)
- 0309 Helcystogramma badia (Braun, 1921)
- 0310 Helcystogramma melanocarpa (Meyrick, 1929)
- 0311 Dichomeris ligulella Hübner, 1818
- 0312 *Dichomeris marginella* (Fabricius, 1781) I Introduced from Palaearctic; first found in North America in NY in 1910 and in BC near Victoria in 1934.
- 0313 Dichomeris stipendiaria (Braun, 1925)
- 0314 Dichomeris bilobella (Zeller, 1873)
- 0315 U Dichomeris purpureofusca (Walsingham, 1882) Uncertain BC record in Hodges (1986).
- 0316 U Dichomeris simpliciella (Busck, 1904) Uncertain BC record in Hodges (1986), but there is no reason to doubt that the species occurs here: it was described from Pullman, WA.
- 0317 Dichomeris gnoma Hodges, 1986
- 0318 Dichomeris levisella (Fyles, 1904)
- 0319 Dichomeris leuconotella (Busck, 1904)
- 0320 Dichomeris offula Hodges, 1986

Subfamily Apatetrinae

Tribe Apatetrini		
0321		Chrysoesthia drurella (Fabricius, 1775)
0322		Chrysoesthia lingulacella (Clemens, 1860)
Tribe I	Pex	icopiini
0323		Sitotroga cerealella (Olivier, 1789)
Subfai	mily	y Anomologinae
0324		Metzneria lappella (Linnaeus, 1758)
0325		Metzneria paucipunctella Zeller, 1839
		European species released for biocontrol of knapweed (<i>Centaurea</i> spp.) (Weeden et al. 2002). This species may not be established.
0326		Isophrictis trimaculella (Chambers, 1874)
0327		Monochroa fragariae (Busck, 1919)
0328		Monochroa harrisonella (Busck, 1904)
0329		Monochroa placidella (Zeller, 1874)
0330		Enchrysa dissectella Zeller, 1873
0331		Aristotelia devexella Braun, 1925
0332		Aristotelia fungivorella (Clemens, 1864)
0333		Aristotelia isopelta Meyrick, 1929
		Reported by Cannings and Scudder (2007) under the name <i>A. nigrobasiella</i> Clarke, now a synonym.
0334		Aristotelia roseosuffusella (Clemens, 1860)
0335		Aristotelia rubidella (Clemens, 1860)
0336		Bryotropha plantariella (Tengström, 1848)
0337		Bryotropha gemella Rutten & Karsholt, 2004
		This widespread and common species was first collected in BC near Hazelton by deWaard (2010).
0338		Bryotropha similis (Stainton, 1854)
0339		Bryotropha hodgesi Rutten & Karsholt, 2004
Subfai	mily	y Gelechiinae
Tribe I	Liti	ni
0340		Agnippe prunifoliella (Chambers, 1873)
0341		Recurvaria nanella ([Denis & Schiffermüller], 1775)
		Introduced from Europe; first found in North America in the 1700s (Gillespie and Gillespie 1982).
0342	U	Coleotechnites apicitripunctella (Clemens, 1860)
02.42		Uncertain BC record by Duncan (2006).
0343		Coleotechnites atrupictella (Dietz, 1900)
0344		Coleotechnites blastovora (McLeod, 1962)

- 0345 *Coleotechnites canusella* (Freeman, 1957)
- 0346 U Coleotechnites coniferella (Kearfott, 1907) Uncertain record by deWaard et al. (2009).

0347		Coleotechnites florae (Freeman, 1960)
		Recent BC record collected near Hazelton by deWaard (2010).
0348		Coleotechnites gibsonella (Kearfott, 1907)
0349		Coleotechnites granti (Freeman, 1965)
0350		Coleotechnites huntella (Keifer, 1936)
0351	U	Coleotechnites macleodi (Freeman, 1965)
		Uncertain record by Duncan (2006).
0352		Coleotechnites occidentis (Freeman, 1965)
0353		Coleotechnites piceaella (Kearfott, 1903)
0354		Coleotechnites pinella (Busck, 1906)
0355		Coleotechnites quercivorella (Chambers, 1872)
0356		Coleotechnites starki (Freeman, 1957)
0357		Coleotechnites thujaella (Kearfott, 1903)
0358		Exoteleia dodecella (Linnaeus, 1758)
		Known as the Pine Bud Moth, this species was introduced from Europe. It was first
0359		Evoteleia pinifoliella (Chambers 1880)
0360		Telphusa longifasciella (Clemens, 1863)
0361		Telphusa iongilasciella (Cierrieris, 1005) Telphusa sedulitella (Busck, 1910)
0362		Neotelphusa praefixa (Braun, 1921)
0363		Xenolechia velatella (Busck: 1907)
0364		Carpatolechia belangerella (Chambers, 1875)
0365		Carpatolechia potatella (Hühner 1813)
Tribe (ام:	
0366	30	Athrips rancidella (Herrich-Schäffer 1854)
0367		Prolita sexpunctella (Eabricius 1794)
0368		Prolita variabilis (Busck 1903)
0369		Prolita recens (Hodges, 1966)
0370		Prolita princeps (Busck 1910)
0371		Rifseria fuscotaeniaella (Chambers, 1878)
0372		Gelechia dromicella Busck 1910
0372		Recent BC record collected near Hazelton by deWaard (2010).
0373		Gelechia lynceella Zeller, 1873
0374		Gelechia mandella Busck, 1904
0375		Gelechia monella Busck, 1904
0376		Gelechia panella Busck, 1903
0377		Gelechia ribesella Chambers, 1875
0378		Gelechia sabinella Zeller, 1839
0379		Gelechia versutella Zeller, 1873
0380		Chionodes abitus Hodges, 1999
0381		Chionodes abella (Busck, 1903)

0382 Chionodes sabinianae Powell, 1959 0383 Chionodes periculella (Busck, 1910) Chionodes salicella Sattler, 1967 0384 0385 Chionodes obscurusella (Chambers, 1872) 0386 Chionodes acerella Sattler, 1967 0387 Chionodes metoecus Hodges, 1999 Chionodes occidentella (Chambers, 1875) 0388 0389 Chionodes mediofuscella (Clemens, 1863) Chionodes terminimaculella (Kearfott, 1908) 0390 0391 Chionodes trichostola (Meyrick, 1923) 0392 Chionodes restio Hodges, 1999 Chionodes pinax Hodges, 1999 0393 0394 Chionodes pseudofondella (Busck, 1908) 0395 Chionodes petalumensis Clarke, 1947 0396 Chionodes lugubrella (Fabricius, 1794) 0397 Chionodes ceanothiella (Busck, 1904) Chionodes chlorocephala (Meyrick, 1932) 0398 0399 Chionodes retiniella (Barnes & Busck, 1920) 0400 Chionodes grandis Clarke, 1947 Chionodes dolo Hodges, 1999 0401 Chionodes praeclarella (Herrich-Schäffer, 1854) 0402 0403 Chionodes psiloptera (Barnes & Busck, 1920) 0404 Chionodes agriodes (Meyrick, 1927) Chionodes occlusa (Braun, 1925) 0405 Chionodes boreas Hodges, 1999 0406 Chionodes viduella (Fabricius, 1794) 0407 0408 Chionodes continuella (Zeller, 1839) Chionodes sattleri Hodges, 1999 0409 0410 Chionodes fictor Hodges, 1999 Recent BC record collected near Hazelton by deWaard (2010). 0411 Chionodes histon Hodges, 1999 0412 Chionodes lictor Hodges, 1999 0413 Chionodes praecia Hodges, 1999 0414 Chionodes nigrobarbata (Braun, 1925) 0415 Chionodes praetor Hodges, 1999 0416 Chionodes braunella (Keifer, 1931) 0417 Chionodes permacta (Braun, 1925) Filatima abactella (Clarke, 1932) 0418 Filatima albicostella Clarke, 1942 0419 0420 Filatima aulaea (Clarke, 1932)

- 0421 *Filatima demissae* (Keifer, 1931)
- 0422 Filatima epulatrix Hodges, 1969
- 0423 Filatima vaccinii Clarke, 1947
- 0424 Filatima xanthuris (Meyrick, 1927)
- 0425 Aroga websteri Clarke, 1942

Tribe Gnorimoschemini

- 0426 Gnorimoschema albangulatum Braun, 1926
- 0427 Gnorimoschema assimile Povolný, 2003
- 0428 Gnorimoschema bacchariselloides Povolný & Powell, 2001
- 0429 Gnorimoschema brachiatum Povolný, 1998
- 0430 Gnorimoschema contrarium Braun, 1921
- 0431 Gnorimoschema dudiella Busck, 1903
- 0432 Gnorimoschema foliatum Povolný, 2003
- 0433 Gnorimoschema gallaeasterella (Kellicott, 1878)
- 0434 Gnorimoschema gallaesolidaginis (Riley, 1869)
- 0435 Gnorimoschema lateritium Povolný, 2003
- 0436 Gnorimoschema ligulatum Povolný, 1998
- 0437 Gnorimoschema nanulum Povolný, 1998
- 0438 *Gnorimoschema octomaculella* (Chambers, 1875)
- 0439 *Gnorimoschema pedmontella* (Chambers, 1877)
- 0440 Gnorimoschema septentrionella Fyles, 1911
- 0441 Gnorimoschema sheperdiae Priest, 2014
- 0442 Gnorimoschema signatum Povolný, 2003
- 0443 Gnorimoschema subterraneum Busck, 1911
- 0444 U *Gnorimoschema triocellella* (Chambers, 1877) Historical records of this species in western Canada are uncertain.
- 0445 *Phthorimaea operculella* (Zeller, 1873) I This pest, known as the Potato Tuberworm, was introduced from Australia and found in CA by 1856. It was a minor problem in coastal BC in the 1950s and 1960s, but subsequently has not been reported in the province.
- 0446 Scrobipalpula henshawiella (Busck, 1903)
- 0447 Scrobipalpula lutescella (Clarke, 1934)
- 0448 Scrobipalpula manierreorum Priest, 2014
- 0449 Scrobipalpula psilella (Herrich-Schäffer, 1853)
- 0450 Scrobipalpula radiatella (Busck, 1904)
- 0451 Scrobipalpa atriplicella (von Röslerstamm, 1839)
- 0452 Scrobipalpa macromaculata (Braun, 1925)
- 0453 *Caryocolum cassella* (Walker, 1864)
- 0454 *Caryocolum marmorea* (Haworth, 1828)
- 0455 *Caryocolum nearcticum* Huemer, 1988
- 0456 *Caryocolum proxima* (Haworth, 1828)

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- 0457 U Caryocolum pullatella (Tengström, 1848) Reported by deWaard (2010) from near Hazelton; determination is uncertain.
 0458 Scrobipalpopsis arnicella (Clarke, 1942)
- 0459 Scrobipalpopsis interposita Povolný & Powell, 2001
- 0460 Scrobipalpopsis petrella (Busck, 1915)
- 0461 Scrobipalpopsis tetradymiella (Busck, 1903)

31. Family Elachistidae (grass moths)

Elachistids are extremely small to small moths, with wingspans of about 6 to 15 mm and upturned palps. The group is united by abdominal and pupal features. The wings are narrow; the hind wings are often broadly fringed, and the head is usually smooth scaled.

Larvae of Elachistinae are leafminers, mostly of monocots such as grasses, sedges and rushes. Larvae of Agonoxeninae are borers or miners on a variety of plant families.

The Elachistidae are distributed worldwide, with about 830 described species. There are 156 species known in North America; 15 of these have been reported from BC. Most North American species of the subfamily Elachistinae have been revised recently by Kaila (1995a, 1995b, 1996, 1997, 1999a, 1999b).

Subfamily Elachistinae

0462		Perittia cygnodiella (Busck, 1921)
0463		Annettenia eremonoma (Braun, 1948)
0464		Elachista subalbidella Schläger, 1847
0465		Elachista aurocristata Braun, 1921
0466		Elachista hololeuca Braun, 1948
0467		Elachista lamina Braun, 1948
0468		Elachista apina Kaila, 1997
0469		Elachista epimicta Braun, 1948
0470	U	Elachista dagnirella Kaila, 1999
		This species was reported from across western North America by Powell and Opler (2009), from YT and AK to WA, SD and CA. British Columbia was not specifically mentioned, but it almost certainly occurs there.
0471		Elachista morwenella Kaila, 1999
0472		Elachista cana Braun, 1920

0473 Elachista amrodella Kaila, 1999
Subfamily Agonoxeninae

Tribe Blastodacnini

0474 Chrysoclista cambiella (Busck, 1915)
0475 Chrysoclista villella (Busck, 1904)
0476 Chrysoclista linneella (Clerck, 1759)

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32. Family Coleophoridae (casebearer moths)

Coleophorid moths are very small to small moths that usually have narrow, strongly pointed wings that span less than 20 mm. Most species have pale yellow, golden, or metallic-green forewings.

Most coleophorid larvae are leafminers in the first instar, then build cases out of silk, excrement, pieces of leaves or other plant parts. These cases are usually cryptic and resemble bits of rolled leaf, buds, seeds, twigs, thorns or bird droppings. Many larvae feed between the upper and lower surfaces of leaves without fully exiting their cases; others feed on seeds or flowers.

The family Coleophoridae ranges worldwide and contains about 1400 species. In North America, the family has 157 described species, all in the genus *Coleophora*. The group is poorly known, and probably hundreds more species await description. Thirty-eight species have been reported in BC. Baldizzone et al. (2006) published a world catalogue of the family.

0477	Coleophora multipulvella Chambers, 1878
	This species has historically been referred to as <i>C. malivorella</i> Riley, a synonym (Baldizzone et al. 2006)
0478	Coleophora sacramenta Heinrich, 1914
0479	Coleophora elaeagnisella Kearfott, 1908
0480	Coleophora rosaefoliella Clemens, 1864
0481	Coleophora vancouverensis McDunnough, 1944
0482	Coleophora annulicola Braun, 1925
0483	Coleophora wyethiae Walsingham, 1882
0484	Coleophora pruniella Clemens, 1861
0485	Coleophora cretaticostella Clemens, 1860
0486	Coleophora rupestrella McDunnough, 1955
	Known in BC from a single specimen in the PFC collection, collected at Langford and determined by D. Wright.
0487	Coleophora accordella Walsingham, 1882
0488	Coleophora kearfottella Barnes & Busck, 1920
0489	Coleophora cornella Walsingham, 1882

0490	Coleophora alnifoliae Barasch, 1934
	Recent BC record collected near Hazelton by deWaard (2010).
0491	Coleophora glaucella Walsingham, 1882
	Recent BC record collected near Hazelton by deWaard (2010).
0492	Coleophora spinella (Schrank, 1802)
0493	Coleophora serratella (Linnaeus, 1761)
	Introduced from Europe; first found in North America in ON in 1885.
0494	Coleophora irroratella Walsingham, 1882
0495	Coleophora laricella (Hübner, [1817])
	Known as the Larch Casebearer, this species was introduced from Europe. It was
0.407	first detected in North America in MA in 1886; it was recorded in BC in 1966.
0496	Coleophora rosaevorella McDunnough, 1946
049/	Coleophora acutipennella Walsingham, 1882
0498	Coleophora seminella McDunnough, 1946
0499	Coleophora simulans McDunnough, 1961
0500	Coleophora duplicis Braun, 1921
0501	Coleophora intermediella McDunnough, 1940
0502	Coleophora sparsipulvella Chambers, 1875
	Recent BC record collected near Hazelton by deWaard (2010).
0503	Coleophora atriplicis Meyrick, 1928
	Recently discovered in North America by Landry et al. (2013).
0504	Coleophora sparsiatomella McDunnough, 1941
0505	Coleophora cratipennella Clemens, 1864
0506	Coleophora brunneipennis Braun, 1921
0507	Coleophora bidentella McDunnough, 1941
0508	Coleophora glaucicolella Wood, 1892
0509	Coleophora maritella McDunnough, 1941
0510	Coleophora mayrella (Hübner, [1813])
	Introduced from Europe in 1897 (Covell 1984).
0511	Coleophora trifolii (Curtis, 1832)
0512	Coleophora deauratella Lienig & Zeller, 1846
	This introduced species was collected recently in the Vancouver area by both DH and J. deWaard.
0513	Coleophora klimeschiella Toll, 1952
	Recent BC record from the Sicamous area by deWaard (2010).
0514	Coleophora granulatella Zeller, 1849
	Recently discovered in North America by Landry et al. (2013).

33. Family Batrachedridae

Previously placed in the Coleophoridae, batrachedrids are very small moths; in Canada, they are mostly grey–brown, with narrow wings spanning 7 to17 mm.

Batrachedrid larvae feed on a wide variety of plant material, from fern sporangia to *Juncus* seeds. Some prey on scale insects. Canadian species live on aspen catkins and as inquilines in the galls of *Pontania* sawfly larvae on willow leaves.

A small but worldwide family, the Batrachedridae has about 90 named species, with 25 species known from North America. Three species are recorded in BC. The New World species were revised by Hodges (1966).

0515		Batrachedra praeangusta (Haworth, 1828)
0516	U	Batrachedra striolata Zeller, 1875
		The recent BC record collected near Hazelton by deWaard (2010) is based on an
		uncertain DNA barcode determination.
0517		Batrachedra curvilineella (Chambers, 1872)
		This species was erroneously listed by Hodges (1983) in both Batrachedra and the
		elachistid genus <i>Blastodacna</i> .

34. Family Scythrididae (teardrop moths)

Scythridids are defined mainly by characters of the larva and the adult genitalia. North American species are generally very small and are teardrop shaped, with dark, narrow wings spanning 10 to 18 mm. Larvae feed externally on buds, flowerheads and leaves, or mine inside leaves. Many scythridids, especially northern and montane species, fly in the daytime.

There are about 670 species of scythridids known around the world. In North America, the family is poorly known, with 44 described species, but the true diversity is probably much higher. Six species have been reported from BC. Landry (1991) revised the known North American fauna.

- 0518 Scythris eboracensis (Zeller, 1855)
- 0519 Scythris inspersella (Hübner, [1817])
- 0520 Scythris noricella Zeller, 1843
- 0521 Scythris immaculatella Chambers, 1875
- 0522 Scythris trivinctella (Zeller, 1873)
- 0523 Landryia impositella (Zeller, 1855)

35. Family Blastobasidae

Blastobasids are very small to small narrow-winged moths, with 8- to 15mm wingspans and upturned palps. They are defined by obscure wing and larval characteristics. The wings of most species are grey with black marks. Larvae of most species are scavengers; a few feed on living plants or are opportunistic predators.

The family Blastobasidae comprises about 430 described species and is particularly diverse in the New World. A total of 71 species are known from North America; nine species have been reported from BC. The family requires taxonomic work. The last comprehensive work was by Dietz (1910); Adamski and Hodges (1996) published a nomenclature review and a checklist for the North American species.

Subfamily Holcocerinae

0524		Asaphocrita aphidiella (Walsingham, 1907)
0525		Asaphocrita irenica (Walsingham, 1907)
0526		Holcocera chalcofrontella Clemens, 1863
0527		Holcocera concolor Adamski & Maier, 2003
0528		Holcocera immaculella McDunnough, 1930
Subfa	mil	y Blastobasinae
0529	U	<i>Blastobasis glandulella</i> (Riley, 1871) British Columbia record is based on material in the PFC collection that is not identified with certainty.
0530		Hypatopa simplicella (Dietz, 1910)
0531		Hypatopa titanella McDunnough, 1961
		This taxon may be conspecific with the European H. binotella Thunberg.
0532		Pigritia murtfeldtella (Chambers, 1874)

36. Family Momphidae

This group of very small to small moths is defined by characters of the genitalia. They are narrow-winged, with wingspans of 6 to 18 mm. Many species have black wings with transverse white marks. The larvae eat buds, seeds and flowers, or are stem borers or gall makers. Many species feed on the plant family Onagraceae.

There are 60 described species of Momphidae worldwide, mostly in the genus *Mompha*. Forty-six species are known from North America, 11 of which have been recorded from BC.

 Mompha circumscriptella (Zeller, 1873)
 Mompha conturbatella (Hübner, [1819]) This Old World name is provisionally applied to specimens from western Canada, pending taxonomic review.
 Mompha deceptella (Braun, 1921)

0536	Mompha eloisella (Clemens, 1860)
0537	Mompha idaei (Zeller, 1839)
	This species is often referred to as <i>M. tricristatella</i> (Chambers), a synonym.
0538	Mompha murtfeldtella (Chambers, 1875)
	Reported from BC by Blackmore (1924) and known in BC from specimens in the UBC collection.
0539	Mompha raschkiella (Zeller, 1839)
	This holarctic or possibly introduced species was discovered recently in North America (Pohl et al. 2010). It is known in BC from a specimen photographed by S. Gilmore at Lantzville, on 18 June 2013 (Klinkenberg 2013). Its identity was confirmed by GRP.
0540	Mompha sturnipennella (Treitschke, 1833)
0541	Mompha sexstrigella (Braun, 1921)
	Recent BC record near Hazelton by deWaard (2010).
0542	Mompha nancyae Clarke, 1990
	This species is endemic to Haida Gwaii.
0543	Mompha unifasciella (Chambers, 1876)

37. Family Pterolonchidae

This small group of very small moths has recently been split from the Coleophoridae (Hodges 1999a). It is defined primarily by obscure structural details and wing venation.

About 30 species of Pterolonchidae are known worldwide. Four pterolonchids are known from North America, one of which has been introduced to BC.

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Subfamily Pterolonchinae

0544 *Pterolonche inspersa* Staudinger, 1859 Introduced from Europe for biocontrol of knapweed (*Centaurea* spp.).

38. Family Lypusidae

As a family, lypusid moths are difficult to recognise without dissection of the genitalia and other structures. The wings are rather broad and rounded, and the ocelli, when present, are far from the eyes. Unlike in some related families, the tops of the abdominal segments of adults lack spiny setae. In larvae, the hind tibia and tarsus are swollen. Larvae feed on a range of plant families, from Betulaceae to Rosaceae and Ericaceae.

The family Lypusidae is a Palaearctic group that has recently been given family status, containing about 150 species. In older literature, the Chimabachinae was usually placed within the Oecophoridae, and the Lypusinae were associated with the Tineoidea. One species has been introduced to North America, in BC's Lower Mainland. It was treated by Hodges (1974).

Subfamily Chimabachinae

0545 *Cheimophila salicella* (Hübner, 1796) I This pest is known as the Blueberry Leafroller. It was introduced from Europe to the BC Lower Mainland in 1955; in North America, it remains restricted to that region (Hodges 1974).

Superfamily Alucitoidea 39. Family Alucitidae (many-plumed moths)

Alucitids are very small moths that have characteristic, deeply divided wing membranes: the forewing has six narrow, scale-edged feather-like lobes, and the hind wings may be six- or seven-plumed. A few tropical species have wings that are only partly or hardly divided.

Alucitid larvae are concealed feeders: they bore in flowers, buds, shoots and fruits, or make galls. Host plants include Caprifoliaceae, Rubiaceae and Asteraceae. The larvae of all three North American species feed on members of the honeysuckle family (Caprifoliaceae). Adults are nocturnal or crepuscular, and often hibernate in sheds and basements.

Over 200 species of Alucitidae are known worldwide, but only three species are known in North America. Two of these have been recorded from BC. For many years, all North American *Alucita* were considered to be *A*. *hexadactyla* Linnaeus, but three species were recognised by Landry and Landry (2004) in their revision of North American species. Gielis (2003) published a world catalogue of Alucitoidea.

- 0546 *Alucita montana* Barnes & Lindsey, 1921 Referred to in older literature as *A. hexadactyla* Linnaeus or *A. huebneri* Wallengren; both are Old World species that do not occur in North America (Landry and Landry 2004).
- 0547 Alucita adriendenisi Landry & Landry, 2004

Superfamily Pterophoroidea

40. Family Pterophoridae (tee moths; plume moths)

Tee Moths are slender, usually brown or grey moths with long, narrow wings. The forewing is normally notched into two to four lobes (two in our fauna), the hind wing into three more deeply cut, feather-like plumes. Most BC species are small, with wingspans of about 12 to 30 mm. The wings

are rolled and held outstretched horizontally at rest, forming a T-shape with the body.

Pterophorid larvae are usually leaf rollers or borers in plant stems, buds and roots. Many are specific to particular plants, mostly herbaceous dicots, but some feed on woody species.

The family Pterophoridae occurs worldwide, with over 1300 described species; 157 species are recorded in North America. Fifty-four species have been reported from BC. The family was revised by Barnes and Lindsey (1921), but is in need of modern work. Gielis (2003) published a checklist of the world Pterophoroidea.

Subfamily Pterophorinae

Tribe Platyptiliini

- 0548 *Platyptilia tesseradactyla* (Linnaeus, 1761)
- 0549 Platyptilia carduidactylus (Riley, 1869)
- 0550 Platyptilia percnodactylus (Walsingham, 1880)
- 0551 Platyptilia comstocki Lange, 1939
- 0552 Platyptilia ardua McDunnough, 1927
- 0553 Platyptilia albicans (Fish, 1881)
- 0554 *Gillmeria pallidactyla* (Haworth, 1811)
- 0555 *Gillmeria albertae* (Barnes & Lindsey, 1921)
- 0556 U Anstenoptilia marmarodactyla (Dyar, 1902) Report of BC material by Blackmore (1924) is questionable. British Columbia vouchers in the UBC collection and the AAFC collection in Lethbridge, AB, require verification.
- 0557 Stenoptilodes antirrhina (Lange, 1939)
- 0558 Stenoptilia mengeli Fernald, 1898
- 0559 Stenoptilia exclamationis (Walsingham, 1880)
- 0560 Stenoptilia coloradensis Fernald, 1898
- 0561 Stenoptilia columbia McDunnough, 1927
- 0562 Paraplatyptilia edwardsii (Fish, 1881)
- 0563 *Paraplatyptilia albiciliatus* (Walsingham, 1880)
- 0564 *Paraplatyptilia albidus* (Walsingham, 1880)
- 0565 *Paraplatyptilia shastae* (Walsingham, 1880) The record by ESBC (1906) was declared erroneous by Blackmore (1921): it referred to *Oidaematophorus cineraceus* Fish. However, Blackmore (1923) and McDunnough (1927b) later reported *P. shastae* from BC.
- 0566 *Paraplatyptilia nana* (McDunnough, 1927)
- 0567 *Paraplatyptilia albidorsellus* (Walsingham, 1880)

0568 *Paraplatyptilia fragilis* (Walsingham, 1880) This species was listed by ESBC (1906) and Blackmore (1923), based on material of *P. shastae* (Walsingham) and *P. albidus* (Walsingham), which Barnes and Lindsey (1921) considered to be synonyms of *P. fragilis* at that time. However, the species was confirmed from BC by Cannings and Scudder (2007) and Powell and Opler (2009), and is supported by vouchers in the CNC and UBC.

- 0569 *Paraplatyptilia maea* (Barnes & Lindsey, 1921)
- 0570 *Amblyptilia pica* (Walsingham, 1880)

Tribe Oxyptilini

- 0571 *Geina tenuidactylus* (Fitch, 1854)
- 0572 U Capperia ningoris (Walsingham, 1880) No vouchers are known to support historical records of this species from BC; they may refer to *C. evansi* (McDunnough).
- 0573 Capperia evansi (McDunnough, 1923)
- 0574 Oxyptilus delawaricus Zeller, 1873
- 0575 *Dejongia lobidactylus* (Fitch, 1854) The ESBC (1906) record of this species was declared erroneous by Blackmore (1921), who stated that the specimens are actually *O. delawaricus* Zeller. However, it was confirmed from BC by Landry (1987), and BC vouchers exist in the CNC.
- 0576 *Trichoptilus pygmaeus* Walsingham, 1880

Tribe Oidaematophorini

- 0577 *Hellinsia gratiosus* (Fish, 1881)
- 0578 Hellinsia fieldi (Wright, 1921)
- 0579 *Hellinsia phoebus* (Barnes & Lindsey, 1921)
- 0580 Hellinsia helianthi (Walsingham, 1880)
- 0581 *Hellinsia homodactylus* (Walker, 1864)
- 0582 *Hellinsia pectodactylus* (Staudinger, 1859)
- 0583 Hellinsia kellicottii (Fish, 1881)
- 0584 *Hellinsia lacteodactylus* (Chambers, 1873)
- 0585 *Hellinsia costatus* (Barnes & Lindsey, 1921)
- 0586 *Hellinsia corvus* (Barnes & Lindsey, 1921)
- 0587 *Hellinsia inconditus* (Walsingham, 1880)
- 0588 *Oidaematophorus occidentalis* Walsingham, 1880
- 0589 Oidaematophorus balsamorrhizae McDunnough, 1939
- 0590 Oidaematophorus downesi McDunnough, 1927
- 0591 *Oidaematophorus mathewianus* (Zeller, 1874)
- 0592 *Oidaematophorus eupatorii* (Fernald, 1891) The ESBC (1906) record was declared erroneous by Blackmore (1921), who stated that BC specimens are actually *O. guttatus* Walsingham and/or *O. mathewianus* (Zeller). However, there is a BC specimen of *O. eupatorii* in the CNC.
- 0593 Oidaematophorus phaceliae McDunnough, 1938
- 0594 Oidaematophorus grisescens Walsingham, 1880
- 0595 Oidaematophorus cineraceus Fish, 1881

- Oidaematophorus rileyi (Fernald, 1898)
 Oidaematophorus castor Barnes & Lindsey, 1921
 Oidaematophorus brucei (Fernald, 1898)
 The ESBC (1906) record (repeated by Barnes and Lindsey 1921) was declared erroneous by Blackmore (1921), who stated that BC specimens are actually *O. mathewanus* (Zeller). However, there are BC specimens of *O. brucei* in the CNC.
 Emmelina monodactyla (Linnaeus, 1758)
 Adaina montanus (Walsingham, 1880)
- 0601 Adaina cinerascens (Walsingham, 1880)

Superfamily Carposinoidea 41. Family Copromorphidae

The Copromorphidae is a small, weakly defined family whose present make-up may not stand up to future taxonomic study. Most species are small, with wingspans from 12 to 20 mm. They have more-or-less rounded wing tips and are coloured for camouflage. The larvae tunnel in fruit, leaf veins, twigs or flower inflorescences, or feed between joined leaves.

Copromorphids are represented by about 40 species, and occur in all regions except the Palaearctic. The family is mainly Asian and Australian. Five species are known in North America; two occur in BC.

- 0602 Lotisma trigonana (Walsingham, 1879)
- 0603 Ellabella editha Busck, 1925

42. Family Carposinidae (fruitworm moths)

Carposinids are very small to small moths with broad, lanceolate wings; wingspans in North American species range from 10 to 20 mm. Males frequently have raised scale tufts on the forewings. Larvae are modified for living inside plants. They bore in leaf and flower buds, shoots, fruits, living bark, galls and tree wounds.

The family Carposinidae contains 283 named species, mostly in Asia and the Australo–Pacific region. Eleven species are recorded in North America; one of these occurs in BC.

0604 Bondia crescentella (Walsingham, 1882)

Superfamily Schreckensteinioidea

43. Family Schreckensteiniidae (bristle-legged moths)

Schreckensteiniids are very small, narrow-winged moths, with wingspans usually of 8 to 12 mm. They are characterised by stiff spines on the upper margin of the hind tibiae. Larvae are external feeders on various plants; pupation takes place in a mesh cocoon.

The family Schreckensteiniidae contains only eight species. Three species are known in North America, two of which are recorded from BC.

0605 *Schreckensteinia felicella* (Walsingham, 1880) 0606 *Schreckensteinia festaliella* Hübner, [1819]

Superfamily Epermenioidea

44. Family Epermeniidae (fringe-tufted moths)

Epermeniids are very small to small moths, with narrow, fringed wings spanning 6 to 20 mm. The forewings usually have one or more tufts of erect scales on the trailing margin. Known larvae begin life as concealed feeders, but feed externally in later instars.

Worldwide, 126 species occur in all regions; 12 are known from North America. Three species are recorded from BC. These moths are rarely encountered and poorly known. The North American members of the family were revised by Gaedike (1977), in German.

0607	Epermenia albapunctella Busck, 1908
0608	Epermenia cicutaella Kearfott, 1903
0609	Ochromolopis ramapoella (Kearfott, 1903)

Superfamily Urodoidea

45. Family Urodidae (false burnet moths)

Urodids are small to medium-sized moths, with wings spanning about 15 to 40 mm. The front margin of the male hind wing has a pencil of hairs; the antennae of males are lamellate. The few known larvae of the Urodidae feed on broadleaved trees.

This small family consists of 66 described species, most of which are Neotropical. Two species live in North America; one occurs in BC.

0610 Wockia asperipunctella (Bruand, 1852)

Superfamily Choreutoidea 46. Family Choreutidae (metalmark moths)

The Choreutidae are extremely small to small moths, with wingspans of 5 to 20 mm. The wings are usually broad, frequently with metallic markings or contrasting patterns. The species now placed in the Choreutidae had been placed in various other families, and often had been incorrectly associated with the Glyphipterigidae.

Choreutids fly during the day or at dusk. They often swarm over host plants or perch on flowers; many have a characteristically jerky walk. The larvae are mainly leaf webbers or skeletonisers, but a few species bore in flower inflorescences. Pupae are encased in a lace-like, often double, cocoon in folded leaves.

About 400 species of Choreutidae are known worldwide. There are 33 species in North America; 11 species are known in BC.

Subfamily Choreutinae

0611	Anthophila alpinella (Busck, 1904)
0612	Prochoreutis inflatella (Clemens, 1863)
0613	Prochoreutis pernivalis (Braun, 1921)
0614	Caloreas multimarginata (Braun, 1925)
0615	Caloreas leucobasis (Dyar, 1900)
	Older determinations likely refer to undescribed species, but are retained under this name as a 'placeholder'; CNC material was labelled with unpublished manuscript names by J. B. Heppner in the 1990s.
0616	Tebenna balsamorrhizella (Busck, 1904)
0617	Tebenna piperella (Busck, 1904)
0618	Tebenna onustana (Walker, 1864)
0619	Choreutis pariana (Clerck, 1759)
	Introduced from Eurasia. First found in North America in NY in 1917 and in BC in 1937 (Doganlar and Bierne 1981).
0620	Choreutis diana (Hübner, [1822])
0(01	Change the last line and (Decare 1002)

0621 Choreutis betuliperda (Dyar, 1902)

Superfamily Tortricoidea

47. Family Tortricidae (bell moths and leafroller moths)

Tortricids are very small to medium-sized moths. Their wingspans range from about 7 to 35 mm, rarely to 60 mm. The forewings are broad and usually square tipped, giving the adult a characteristic bell or shield shape when the wings are folded tent-like at rest. The moths are usually cryptically

coloured—tan, brown or grey, and striped, spotted or marbled— but some have shiny, metallic markings.

Tortricid larvae feed upon a vast array of plant families. Many species are leafrollers, but larvae of many species have other habits: as leaftiers, as feeders in buds, flowers, shoots and seeds, and as borers in plant parts. Leafrolling larvae often pupate in silk-tied shelters on the food plant; many boring larvae pupate in the ground. Most adults are nocturnal, but there are several brightly coloured day-flying groups. The Tortricidae contains many agricultural and forest pests.

The family Tortricidae is a large group with about 10 400 named species. In North America, about 1390 species are described, with 440 reported in BC (and one more species listed as "expected"), making it the second-largest family of Lepidoptera in the province. The subfamily Olethreutinae has historically been given separate family status. The Subtribe Cochylina, here placed in the Tortricinae, has also historically been considered a family (Cochylidae). Despite the importance of many tortricid species as pests, many groups within the family are not well known. Some major published works cover the Tortricini (Razowski 1966), Archipini (Freeman 1958), Sparganothini and Atteriini (Powell and Brown 2012), and most of the Olethreutinae (Heinrich 1923, 1926). Brown (2005) recently published a world catalogue. Recently, Gilligan et al. (2014) redefined the large genera *Phaneta* and *Eucosma*, and moved several species from *Eucosma* to the new genus *Eucopina*. Wright and Gilligan (2015) reviewed the North American species of *Eucosma*.

Subfamily Tortricinae

Tribe Tortricini

0622	Acleris forsskaleana (Linnaeus, 1758)	I
0623	Acleris albicomana (Clemens, 1865)	
0624	Acleris curvalana (Kearfott, 1907)	
0625	Acleris holmiana (Linnaeus, 1758)	I
	Introduced from Eurasia; first found in North America in BC in 1977.	
0626	Acleris comariana (Zeller, 1846)	I
	The Strawberry Tortrix was introduced from Europe and first detected in Nort	h
	America in BC in 1972 (Gillespie and Gillespie 1982).	
0627	Acleris caliginosana (Walker, 1863)	
0628	Acleris ptychogrammos (Zeller, 1875)	
0629	Acleris nivisellana (Walsingham, 1879)	

0630 Acleris rhombana ([Denis & Schiffermüller], 1775)

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- 0631 Acleris cervinana (Fernald, 1882)
- 0632 Acleris subnivana (Walker, 1863)
- 0633 Acleris braunana (McDunnough, 1934)
- 0634 Acleris fuscana (Barnes & Busck, 1920)
- 0635 Acleris semiannula (Robinson, 1869)
- 0636 Acleris implexana (Walker, 1863)
- 0637 Acleris cornana (McDunnough, 1933)
- 0638 Acleris forbesana (McDunnough, 1934)
- 0639 Acleris schalleriana (Linnaeus, 1761)
- 0640 Acleris okanagana (McDunnough, 1940)
- 0641 Acleris oxycoccana (Packard, 1869)
- 0642 *Acleris variegana* ([Denis & Schiffermüller], 1775) I Introduced from Eurasia; first detected in North America in Victoria in 1922 (Blackmore 1923).
- 0643 Acleris hastiana (Linnaeus, 1758)
- 0644 Acleris fragariana Kearfott, 1904
- 0645 Acleris celiana (Robinson, 1869)
- 0646 Acleris arcticana (Guenée, 1845)
- 0647 Acleris robinsoniana (Forbes, 1923)
- 0648 Acleris britannia Kearfott, 1904
- 0649 Acleris logiana (Clerck, 1759)
 - Subspecies placidana (Robinson) has been reported from BC (Obraztsov 1963).
- 0650 Acleris senescens (Zeller, 1874)
- 0651 Acleris maculidorsana (Clemens, 1864)
- 0652 Acleris minuta (Robinson, 1869)
- 0653 Acleris paracinderella Powell, 1964
- 0654 Acleris gloveranus (Walsingham, 1879)
- Western Black-headed Budworm.
- 0655 *Acleris variana* (Fernald, 1886) Eastern Black-headed Budworm. Report of this species from western BC by Blackmore (1921) refers to *A. gloveranus* (Walsingham), but *A. variana* occurs in BC's Peace River region.
- 0656 Acleris maccana (Treitschke, 1835)
- 0657 Acleris inana (Robinson, 1869)
- 0658 Acleris scabrana ([Denis & Schiffermüller], 1775)
- 0659 Acleris bowmanana (McDunnough, 1934)
- 0660 Acleris aenigmana Powell, 1964
- 0661 Acleris nigrolinea (Robinson, 1869)
- 0662 Acleris maximana (Barnes & Busck, 1920)

0663 Acleris effractana (Hübner, 1822)

Listed by Cannings and Scudder (2007) as *A. emargana* (Fabricius), an Old World species. North American specimens have recently been recognised as distinct (Karsholt et al. 2005).

0664 Acleris foliana (Walsingham, 1879)

0665 Acleris hudsoniana (Walker, 1863)

Tribe Cnephasiini

- 0666 *Cnephasia longana* (Haworth, 1811) I Known as the Omnivorous Leaftier, this species was introduced from Europe; it was first found in North America in OR in 1929.
- 0667 Cnephasia stephensiana (Doubleday, 1849)

I

- 0668 Eana argentana (Clerck, 1759)
- 0669 U Eana georgiella (Hulst, 1887) Identity of Canadian material identified as this species is uncertain.
- 0670 U Eana osseana (Scopoli, 1763)

Most material previously identified as this species in western Canada has been redetermined as *E. idahoensis* Obraztsov, although true *E. osseana* is known from the Rocky Mountains in AB and probably also occurs in BC (J. J. Dombroskie, personal communication). The subspecies *niveosana* (Packard) has been reported from BC.

- 0671 Eana idahoensis Obraztsov, 1963
- 0672 Decodes fragariana (Busck, 1919)
- 0673 Decodes horariana (Walsingham, 1879) Powell (1980) claimed this species is restricted to WA–OR, and that northern Rocky Mountain specimens are *D. macdunnoughi* Powell. However, the relationship and boundaries between the two species in western Canada remain uncertain.
- 0674 Decodes macdunnoughi Powell, 1980

Tribe Euliini

Subtribe Cochylina

0675		Phthoochron nograph (Walsingham 1879)
00/5		Thureochioa aegrafia (Waisinghaffi, 1079)
0676		Phtheochroa aureoalbida (Walsingham, 1895)
0677		Phtheochroa baracana (Busck, 1907)
		Reported from BC by J. J. Dombroskie (personal communication).
0678		Phtheochroa canariana (Barnes & Busck, 1920)
		Reported from BC by J. J. Dombroskie (personal communication).
0679		Phtheochroa cartwrightana (Kearfott, 1907)
0680		Phtheochroa fulviplicana (Walsingham, 1879)
		Records by Razowski (1997) include P. canariana (Barnes & Busck), treated therein
		as a synonym.
0681		Phtheochroa riscana (Kearfott, 1907)
0682	U	Phtheochroa villana (Busck, 1907)
0683		Phtheochroa vitellinana (Zeller, 1875)
0684		Phtheochroa vulneratana (Zetterstedt, 1839)
0685		Phtheochroa waracana (Kearfott, 1907)

0686 Henricus contrastana (Kearfott, 1907)

0687	Henricus fuscodorsana (Kearfott, 1904)
0688	Henricus infernalis (Heinrich, 1920)
	Listed by Cannings and Scudder (2007) under the name H. brevipalpata
	McDunnough, a synonym.
0689	Platphalonia lavana (Busck, 1907)
0690	Agapeta zoegana (Linnaeus, 1767)
	et al. 2002).
0691	Aethes biscana (Kearfott, 1907)
0(0)	Reported from BC by J. J. Dombroskie (personal communication).
0692	Actives deutschiana (Zetterstedt, 1040)
0693	Aethes monera Razowski, 1986
0694	Aethes promptana (Robinson, 1869)
	A. razowskii Sabourin & Miller, two BC specimens barcode consistently with true
0605	A. promptana. Aothog razowskii Sabowin & Millor 2002
0095	Acthes rutilana (Llübnar, 1919)
0696	Actives rutilana (Hubber, 1818)
0697	Aetnes smeathmanniana (Fabricius, 1781)
0698	Thyraylia bunteana (Robinson, 1869)
0699	Thyraylia nana (Haworth, 1811)
0/00	Cochylis atricapitana (Stephens, 1852)
	Carcamo 2011)
0701	Cochylis dubitana (Hübner, 1799)
0702	Cochylis hoffmanana (Kearfott, 1907)
0, 01	Recently collected in BC by DH.
0703	"Cochylis" voxcana (Kearfott, 1907)
Subtribe	Euliina
0704	Eulia ministrana (Linnaeus, 1758)
0705	Anopina ednana (Kearfott, 1907)
0706	Anopina arizonana (Walsingham, 1884)
0707	Apotomops wellingtoniana (Kearfott, 1907)
Tribe Arc	chipini
0708	Pandemis cerasana (Hübner, 1786)
	Introduced from Eurasia; first found in North America in BC in 1964.
0709	Pandemis heparana ([Denis & Schiffermüller], 1775)
	Introduced from Eurasia; first found in North America in BC in 1978.
0710	Pandemis lamprosana (Robinson, 1869)
0711	Pandemis limitata (Robinson, 1869)
0712	Pandemis canadana Kearfott, 1905
0713	Pandemis pyrusana Kearfott, 1907
0714	Pandemis coniferana Mutuura, 1978

- 0715 U Argyrotaenia velutinana (Walker, 1863)
- 0716 U Argyrotaenia pinatubana (Kearfott, 1905)
- 0717 Argyrotaenia tabulana Freeman, 1944
- 0718 Argyrotaenia gogana (Kearfott, 1907)
- 0719 Argyrotaenia occultana Freeman, 1942
- 0720 Argyrotaenia provana (Kearfott, 1907)
- 0721 H Argyrotaenia franciscana (Walsingham, 1879) I The Orange Tortrix. This species was introduced from Europe; in BC, it occurs only in greenhouses (Freeman 1958). It has often been referred to as *A. citrana* (Fernald) but that is now treated as a subspecies of *A. franciscana*.
- 0722 Argyrotaenia dorsalana (Dyar, 1903)
- 0723 U Choristoneura fractivittana (Clemens, 1865)
- 0724 *Choristoneura zapulata* (Robinson, 1869)
- 0725 Choristoneura rosaceana (Harris, 1841)
- 0726 Choristoneura albaniana (Walker, 1863)
- 0727 Choristoneura conflictana (Walker, 1863)
- 0728 *Choristoneura fumiferana* (Clemens, 1865) This species is known as the Eastern Spruce Budworm; it is a serious pest of conifers east of the Rocky Mountains.
- 0729 *Choristoneura freemani* Razowski, 2008 This species, the Western Spruce Budworm, has historically been known as *C. occidentalis* Freeman, but a taxonomic rearrangement has rendered that name an unavailable homonym. That has not been universally accepted, but it is the valid name following the International Code of Zoological Nomenclature (Razowski 2008, Gilligan and Brown 2014).
- 0730 *Choristoneura biennis* Freeman, 1967 The Two-year-cycle Budworm.
- 0731 Choristoneura orae Freeman, 1967
- 0732 *Choristoneura pinus* Freeman, 1953 The Jack Pine Budworm.
- 0733 Choristoneura lambertiana (Busck, 1915)
- 0734 Archips packardiana (Fernald, 1886)
- 0735 Archips striana Fernald, 1905
- 0736 *Archips alberta* (McDunnough, 1923)
- 0737 U Archips dissitana (Grote, 1879) Recently collected in BC near Hazelton, by deWaard (2010), but the record requires verification.
- 0738 Archips tsuganus (Powell, 1962)
- 0739 S Archips oporana (Linnaeus, 1758) I This species was introduced from Eurasia. It may not be established; a few specimens have been collected at Vancouver, BC, and Font Hill, ON (Freeman 1958). The identity of FIDS specimens collected at Hope, BC, in 1959 in the PFC requires verification.

0740	Archips rosana (Linnaeus, 1758)
	The European Leafroller. Introduced from Europe.
0741	Archips podana (Scopoli, 1763)
	Introduced from Europe in 1897 (Covell 1984).
0742	Archips argyrospila (Walker, 1863)
0742	Subspecies columbiana (McDunnough), type locality Salmon Arm, occurs in BC.
0745	Archips desgraph (McDuppough 1022)
0744	Archips eleagnana (McDunnough, 1923)
0745	Archips negundana (Dyar, 1902)
0/46 U	Recently collected in BC near Sicamous by deWaard (2010). This species is other-
	wise not known from western North America, and the record requires confirmation.
0/4/	Archips cerasivorana (Fitch, 1856)
0748	Archips tervidana (Clemens, 1860)
0749	Archips purpurana (Clemens, 1865)
0750	Syndemis afflictana (Walker, 1863)
0751	Lozotaenia rindgei Obraztsov, 1962
0752	Aphelia alleniana (Fernald, 1882)
0753	Aphelia koebelei Obraztsov, 1959
0754	Dichelia histrionana (Frölich, 1828)
0755	Clepsis fucana (Walsingham, 1879)
0756	Clepsis spectrana (Treitschke, 1830)
0757	Clepsis persicana (Fitch, 1856)
	Subspecies <i>forbesi</i> Obraztsov (described from Wellington, BC) occurs in southern BC.
0758	Clepsis consimilana (Hübner, 1822)
	Introduced from Europe in 1897 (Covell 1984).
0759	<i>Clepsis clemensiana</i> (Fernald, 1879)
0760	Clepsis moeschleriana (Wocke, 1862)
0760.1 P	Clepsis melaleucana (Walker, 1863)
	No BC records are known for this species, but it almost certainly occurs in BC's Peace River region.
0761	Clepsis peritana (Clemens, 1860)
	The Garden Tortrix.
0762	Clepsis penetralis Razowski, 1979
	A specimen was collected on 19 August 2011 from Port Alberni, BC, by L. Avis, and was identified via DNA barcoding. This species was described from UT and was recently found in the Rocky Mountains of AB (Pohl et al. 2011), so this represents
0763	a western large extension for the species.
0764	Ditula angustiorana (Haworth 1811)
0/04	Introduced from Europe. First found in North America in BC in 1924 (Gillespie
0765	Xenotemna pallorana (Robinson, 1869)

Tribe Sparganothini

- 0766 Amorbia cuneana (Walsingham, 1879)
- 0767 Amorbia humerosana Clemens, 1860
- 0768 *Sparganothis sulfureana* (Clemens, 1860) This otherwise eastern species may occur naturally in BC's Peace River region. However, it has appeared recently in the Lower Mainland, where it feeds on commercial blueberry crops.
- 0769 Sparganothis unifasciana (Clemens, 1864) Reported from BC by J. J. Dombroskie (personal communication).
- 0770 Sparganothis violaceana (Robinson, 1869)
- 0771 Sparganothis xanthoides (Walker, 1863)
- 0772 Sparganothis senecionana (Walsingham, 1879)
- 0773 Sparganothis tunicana (Walsingham, 1879)
- 0774 Sparganothis vocaridorsana Kearfott, 1905
- 0775 Sparganothis striata (Walsingham, 1884)
- 0776 *Cenopis reticulatana* (Clemens, 1860) Reported from the Vancouver area by Powell and Brown (2012).
- 0777 Platynota idaeusalis (Walker, 1859)
- 0778 H *Platynota stultana* Walsingham, 1884 i The Omnivorous Leafroller. This species is native to Mexico, but has been introduced to CA and the eastern USA. It has been reported in BC, but appears to occur here only in greenhouses.

Subfamily Olethreutinae

Tribe Olethreutini

- 0779 Endothenia hebesana (Walker, 1863)
- 0780 Endothenia nubilana (Clemens, 1865)
- 0781 Taniva albolineana (Kearfott, 1907)
- 0782 Bactra lancealana (Hübner, [1799])
- 0783 *Bactra furfurana* (Haworth, 1811)
- 0784 Bactra verutana Zeller, 1875
- 0785 Episimus argutanus (Clemens, 1860)
- 0786 Paralobesia piceana (Freeman, 1941)
- 0787 *Lobesiodes euphorbiana* (Freyer, 1842) Introduced to BC for biocontrol of Leafy Spurge.
- 0788 Apotomis funerea (Meyrick, 1920)
- 0789 Apotomis removana (Kearfott, 1907)
- 0790 Apotomis apateticana (McDunnough, 1922)
- 0791 Apotomis tertiana (McDunnough, 1922)
- 0792 Apotomis bifida (McDunnough, 1938)

Collected recently in BC near Hazelton by deWaard (2010).

- 0793 Apotomis capreana (Hübner, [1817])
- 0794 Apotomis deceptana (Kearfott, 1905)

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- 0795 Apotomis frigidana (Packard, 1867)
- 0796 Apotomis spinulana (McDunnough, 1938)
- 0797 Apotomis infida (Heinrich, 1926)
- 0798 *Pseudosciaphila duplex* (Walsingham, 1905)
- 0799 Orthotaenia undulana ([Denis & Schiffermüller], 1775)
- 0800 Olethreutes olivaceana (Fernald, 1882)
- 0801 *Olethreutes punctanum* (Walsingham, 1903)
- 0802 Olethreutes quadrifidum (Zeller, 1875)
- 0803 Olethreutes baccatana (McDunnough, 1942)
- 0804 *Olethreutes permundana* (Clemens, 1860)
- 0805 *Olethreutes appendiceum* (Zeller, 1875)
- 0806 Olethreutes fasciatana (Clemens, 1860)
- 0807 Olethreutes albiciliana (Fernald, 1882)
- 0808 Olethreutes siderana Treitschke, 1834
 - Subspecies chalybeana (Walsingham) has been reported from BC.
- 0809 *Olethreutes galaxana* Kearfott, 1907 The nominate subspecies and subspecies *glitranana* Kearfott have been reported from BC.
- 0810 Olethreutes astrologana (Zeller, 1875)
- 0811 U Olethreutes coruscana (Clemens, 1860) Most historical records under this name in western Canada refer to O. metallicana (Hübner). True O. coruscana is known only as far west as SK, but it may also occur in AB and BC (Miller 1985).
- 0812 *Olethreutes metallicana* (Hübner, 1796)
- 0813 Olethreutes nordeggana (McDunnough, 1922)
- 0814 Olethreutes heinrichana (McDunnough, 1927)
- 0815 Olethreutes minaki (McDunnough, 1929)
- 0816 Olethreutes deprecatorius Heinrich, 1926
- 0817 *Olethreutes carolana* (McDunnough, 1922)
- 0818 *Olethreutes polluxana* (McDunnough, 1922)
- 0819 Olethreutes glaciana (Möschler, 1860)
- 0820 Olethreutes bipartitana (Clemens, 1860)
- 0821 *Olethreutes trinitana* (McDunnough, 1931)
- 0822 Olethreutes schulziana (Fabricius, 1777)
- 0823 Olethreutes turfosana (Herrich-Schäffer, 1851)
- 0824 Olethreutes septentrionana (Curtis, 1831)
- 0825 *Olethreutes mengelana* (Fernald, 1894)
- 0826 Olethreutes costimaculana (Fernald, 1882)
- 0827 *Olethreutes buckellana* (McDunnough, 1922) The nominate subspecies occurs in BC.
- 0828 Celypha cespitana (Hübner, [1817])

- 0829 Argyroploce dalecarliana (Guenée, 1845)
- 0830 Hedya separatana (Kearfott, 1907)
- 0831 Hedya ochroleucana (Frölich, 1828)
- 0832 *Hedya nubiferana* (Haworth, 1811) Introduced from Europe; first found in North America in NS in 1913 and in BC in 1914.

Tribe Enarmoniini

- 0833 Ancylis nubeculana (Clemens, 1860)
- 0834 Ancylis subaequana (Zeller, 1875) Subspecies kincaidiana (Fernald) has been reported from BC.
- 0835 Ancylis discigerana (Walker, 1863)
- 0836 Ancylis metamelana (Walker, 1863)
- 0837 Ancylis tenebrica (Heinrich, 1929)
- 0838 Ancylis semiovana (Zeller, 1875)
- 0839 Ancylis columbiana (McDunnough, 1955)
- 0840 Ancylis simuloides (McDunnough, 1955)
- 0841 Ancylis laciniana (Zeller, 1875)
- 0842 Ancylis burgessiana (Zeller, 1875)
- 0843 Ancylis mira Heinrich, 1929
- 0844 Ancylis comptana (Frölich, 1828) Introduced from Eurasia?
- 0845 Ancylis apicana (Walker, 1866)
- 0846 U Ancylis muricana (Walsingham, 1879) This species was reported from BC by ESBC (1906) as subspecies *cornifoliana* Riley, but no vouchers are known. This species is otherwise unknown in western Canada.

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- 0847 *Ancylis diminutana* (Haworth, 1811) Reported by ESBC (1906) and other early authors under the names "diminuatana Kearfott", a misspelling or unjustified redescription, and "biarcuana (Stephens)", a synonym of the similar Palaearctic *A. geminana* (Donovan) (see Heinrich 1923).
- 0848 Ancylis unguicella (Linnaeus, 1758)
- 0849 Ancylis pacificana (Walsingham, 1879)
- 0850 Ancylis mediofasciana (Clemens, 1864)
- 0851 Ancylis tineana (Hübner, [1799])
- 0852 *Hystrichophora paradisiae* Heinrich, 1923
- 0853 *Hystrichophora stygiana* (Dyar, 1903)
- The subspecies californiae Heinrich has been reported from BC.
- 0854 *Hystrichophora asphodelana* (Kearfott, 1907)
- 0855 Enarmonia formosana (Scopoli, 1763)

Tribe Eucosmini

- 0856 *Rhyacionia buoliana* ([Denis & Schiffermüller], 1775) I Introduced from Europe. Found in North America in NY in 1913 and in BC in 1938.
- 0857 Rhyacionia pasadenana (Kearfott, 1907)

0858	Rhyacionia zozana (Kearfott, 1907)
0859	Rhyacionia busckana Heinrich, 1923
0860	Rhyacionia subcervinana (Walsingham, 1879)
0861	Retinia albicapitana (Busck, 1914)
0862	Retinia metallica (Busck, 1914)
0863	Retinia burkeana (Kearfott, 1907)
	Collected recently in BC by DH; determined by E. Lagasa.
0864	Retinia picicolana (Dyar, 1906)
0865	Barbara colfaxiana (Kearfott, 1907)
	Subspecies <i>coloradensis</i> (Heinrich) and <i>taxifoliella</i> (Busck) have been reported from BC. Blackmore (1924) reported it as subspecies <i>siskiyouana</i> (Kearfott), now recognised as a valid species in the genus <i>Eucopina</i> .
0866	Barbara mappana Freeman, 1941
0867	Spilonota ocellana ([Denis & Schiffermüller], 1775)
	Introduced from Eurasia; first found in North America in MA in 1841.
0868	Eucosma awemeana (Kearfott, 1907)
0869	Eucosma indeterminana (McDunnough, 1925)
0870	Eucosma umbrastriana (Kearfott, 1907)
0871	Eucosma altana (McDunnough, 1927)
0872	Eucosma corculana (Zeller, 1874)
0873	Eucosma verna (Miller, 1971)
0874	Eucosma formosana (Clemens, 1860)
0875	Eucosma marmontana (Kearfott, 1907)
0876	Eucosma oregonensis (Heinrich, 1923)
0877	Eucosma parmatana (Clemens, 1860)
0878	Eucosma modernana (McDunnough, 1925)
0879	Eucosma fasciculatana (McDunnough, 1938)
0880	Eucosma latens (Heinrich, 1929)
0881	Eucosma columbiana (Walsingham, 1879)
0882	Eucosma apacheana (Walsingham, 1884)
0883	Eucosma influana (Heinrich, 1923)
0884	Eucosma lapidana (Walsingham, 1879)
0885	Eucosma elongana (Walsingham, 1879)
0886	Eucosma rupestrana (McDunnough, 1925)
0887	Eucosma transversa (Walsingham, 1895)
8880	Eucosma tarandana (Möschler, 1874)
0889	Eucosma nepotinana (Heinrich, 1923)
0890	Eucosma complicana (McDunnough, 1925)
	This species is known only from the holotype, collected at Osoyoos on 19 May 1923 by C. B. Garrett.

- 0891 *Eucosma misturana* (Heinrich, 1923) Heinrich's (1923) report of this species from "White Pass AK" is actually from BC.
- 0892 Eucosma fertoriana (Heinrich, 1923)
- 0893 Eucosma crassana (McDunnough, 1938)
- 0894 Eucosma alatana (McDunnough, 1938)
- 0895 Eucosma indagatricana (Heinrich, 1923)
- 0896 Eucosma dorsiatomana (Kearfott, 1905)
- 0897 Eucosma striatana (Clemens, 1860)
- 0898 *Eucosma occidentalis* (Heinrich, 1923) Raised from a subspecies of *E. striatana* (Clemens) to full species status by Wright and Gilligan (2015).
- 0899 Eucosma implicata (Heinrich, 1931)
- 0900 Eucosma pallidarcis (Heinrich, 1923)
- 0901 Eucosma pallidicostana (Walsingham, 1879)
- 0902 Eucosma perangustana (Walsingham, 1879)
- 0903 Eucosma kiscana (Kearfott, 1905)
- 0904 *Eucosma artemisiana* (Walsingham, 1879) No BC vouchers are known for this species, reported from BC by ESBC (1906), but it occurs in WA. There is no reason to doubt that it occurs in BC.
- 0905 Eucosma infimbriana (Dyar, 1904)
- 0906 Eucosma octopunctana (Walsingham, 1895)
- 0907 Eucosma youngi (McDunnough, 1925)
- 0908 Eucosma setonana (McDunnough, 1927)
- 0909 Eucosma montanana (Walsingham, 1884)
- 0910 Eucosma griseocapitana (Walsingham, 1879)
- 0911 Pelochrista crambitana (Walsingham, 1879)
- 0912 Pelochrista canariana (Kearfott, 1907)
- 0913 Pelochrista ridingsana (Robinson, 1869)
- 0914 Pelochrista caniceps (Walsingham, 1884)
- 0915 Pelochrista optimana (Dyar, 1893)
- 0916 Pelochrista ragonoti (Walsingham, 1895)
- 0917 Pelochrista serpentana (Walsingham, 1895)
- 0918 Pelochrista morrisoni (Walsingham, 1884)
- 0919 Pelochrista agricolana (Walsingham, 1879)
- 0920 Pelochrista smithiana (Walsingham, 1895)
- 0921 Pelochrista watertonana McDunnough, 1925
- 0922 Pelochrista louisana (McDunnough, 1944)
- 0923 Pelochrista subflavana (Walsingham, 1879)
- 0924 Pelochrista lolana (Kearfott, 1907)
- 0925 Pelochrista dodana (Kearfott, 1907)
- 0926 Pelochrista biplagata (Walsingham, 1895)

Pelochrista nandana (Kearfott, 1907) 0927 0928 Pelochrista dorsisignatana (Clemens, 1860) Pelochrista juncticiliana (Walsingham, 1879) 0929 Pelochrista derelicta (Heinrich, 1929) 0930 Pelochrista excusabilis (Heinrich, 1923) 0931 0932 Pelochrista hohana (Kearfott, 1907) 0933 Pelochrista biguadrana (Walsingham, 1879) 0934 Pelochrista cataclystiana (Walker, 1863) Pelochrista conspiciendana (Heinrich, 1923) 0935 Pelochrista argenteana (Walsingham, 1895) 0936 Pelochrista scintillana (Clemens, 1865) 0937 Pelochrista mediostriata (Walsingham, 1895) 0938 Pelochrista kingi Wright, 2008 0939 This species was reported as Eucosma occipitana (Zeller) by Cannings and Scudder (2007), prior to the description of *P. kingi* as a distinct species. Pelochrista rorana (Kearfott, 1907) 0940 0941 Pelochrista metariana (Heinrich, 1923) 0942 Pelochrista comatulana (Zeller, 1875) 0943 Pelochrista medullana (Staudinger, 1879) I Introduced from biocontrol of knapweed. 0944 Eucopina sonomana (Kearfott, 1907) 0945 Eucopina bobana (Kearfott, 1907) 0946 Eucopina ponderosa (Powell, 1968) 0947 Eucopina rescissoriana (Heinrich, 1920) 0948 Eucopina siskiyouana (Kearfott, 1907) 0949 Epiblema hirsutana (Walsingham, 1879) *Epiblema radicana* (Walsingham, 1879) 0950 U No specimens are known to support the BC record by Blackmore (1924; as E. gratuitana Heinrich, a synonym), but the species is known from WA and likely occurs in BC as well. Epiblema periculosana Heinrich, 1923 0951 0952 Epiblema brightonana (Kearfott, 1907) 0953 Epiblema resumptana (Walker, 1863) 0954 Notocelia rosaecolana (Doubleday, 1850) I Recent collection in BC by DH. Notocelia cynosbatella (Linnaeus, 1758) 0955 Introduced from Europe; first found in North America in BC in 1978. 0956 Notocelia purpurissatana (Heinrich, 1923) 0957 Notocelia illotana (Walsingham, 1879) 0958 Notocelia culminana (Walsingham, 1879) 0959 Gypsonoma fasciolana (Clemens, 1864)

- 0960 *Gypsonoma haimbachiana* (Kearfott, 1907)
- 0961 *Gypsonoma substitutionis* Heinrich, 1923
- 0962 *Gypsonoma salicicolana* (Clemens, 1864)
- 0963 *Gypsonoma adjuncta* Heinrich, 1924
- 0964 *Gypsonoma aceriana* (Duponchel, 1842) I This introduced species was collected in BC recently by DH; determined by E. Lagasa.
- 0965 Proteoteras aesculana Riley, 1881
- 0966 Proteoteras willingana (Kearfott, 1904)
- 0967 Proteoteras arizonae Kearfott, 1907
- 0968 U Proteoteras obnigrana Heinrich, 1923
- 0969 Zeiraphera pacifica Freeman, 1966
- 0970 Zeiraphera canadensis Mutuura & Freeman, [1967] The Spruce Bud Moth. Prior to its description in 1967, this species was referred to under the Palaearctic name Z. ratzeburgiana (Saxesen).
- 0971 Zeiraphera improbana (Walker, 1863)
- 0972 Zeiraphera fortunana (Kearfott, 1907)
- 0973 Zeiraphera unfortunana Ferris & Kruse, 2008 The authority for the name unfortunana is often cited as "Powell (1983)", but Powell (in Hodges et al. 1983) proposed the name without a description, making it a nomen nudum. The species Z. unfortunana was formally described by Ferris and Kruse (2008).
- 0974 Zeiraphera hesperiana Mutuura & Freeman, [1967]
- 0975 Zeiraphera vancouverana McDunnough, 1925
- 0976 *Pseudexentera oregonana* (Walsingham, 1879)
- 0977 Pseudexentera maracana (Kearfott, 1907)
- 0978 Rhopobota naevana (Hübner, [1817])
- 0979 Epinotia radicana (Heinrich, 1923)
- 0980 *Epinotia trigonella* (Linnaeus, 1758) Also listed by Cannings and Scudder (2007) under the name *indecorana* Zetterstedt, a recent synonym.
- 0981 Epinotia solandriana (Linnaeus, 1758)
- 0982 Epinotia pulsatillana (Dyar, 1903)
- 0983 Epinotia castaneana (Walsingham, 1895)
- 0984 Epinotia johnsonana (Kearfott, 1907)
- 0985 Epinotia madderana (Kearfott, 1907)
- 0986 Epinotia albicapitana (Kearfott, 1907)
- 0987 *Epinotia hopkinsana* (Kearfott, 1907) Subspecies *cupressi* Heinrich has been reported from BC.
- 0988 Epinotia subviridis Heinrich, 1929
- 0989 Epinotia subplicana (Walsingham, 1879)
- 0990 Epinotia rectiplicana (Walsingham, 1879)

0991	Epinotia solicitana (Walker, 1863)
0992	Epinotia nisella (Clerck, 1759)
0993	Epinotia cinereana (Haworth, 1811)
	This species was previously known as <i>E. criddleana</i> (Kearfott), which was recently synonymised by Mutanen et al. (2012) and shown to be Holarctic.
0994	Epinotia albangulana (Walsingham, 1879)
0995	Epinotia transmissana (Walker, 1863)
	Early reports of this species in BC refer to <i>E. digitana</i> Heinrich (Blackmore 1924).
0996	Epinotia momonana (Kearfott, 1907)
	Recently collected in BC near Hazelton by deWaard (2010).
0997	Epinotia terracoctana (Walsingham, 1879)
0998	Epinotia miscana (Kearfott, 1907)
0999	Epinotia silvertoniensis Heinrich, 1923
1000	Epinotia digitana Heinrich, 1923
1001	Epinotia nigralbana (Walsingham, 1879)
1002	Epinotia sagittana McDunnough, 1925
1003	Epinotia emarginana (Walsingham, 1879)
1004	Epinotia columbia (Kearfott, 1904)
	Listed by Cannings and Scudder (2007) and many others as <i>E. crenana</i> (Hübner), an Old World species. North American specimens have recently been recognised as distinct (Brown 2005).
1005	Epinotia bigemina Heinrich, 1923
1006	Epinotia arctostaphylana (Kearfott, 1904)
1007	Epinotia normanana Kearfott, 1907
1008	Epinotia nanana (Treitschke, 1835)
	This species was introduced from Europe and first recorded in North America in MA in 1907. It was present in BC before 1965 (Gillespie and Gillespie 1982).
1009	Epinotia tsugana Freeman, 1967
1010	Epinotia meritana Heinrich, 1923
1011	Epinotia lomonana (Kearfott, 1907)
1012	<i>Epinotia medioplagata</i> (Walsingham, 1895)
1013	<i>Epinotia cruciana</i> (Linnaeus, 1761)
1014	Epinotia plumbolineana Kearfott, 1907
1015	Epinotia vagana Heinrich, 1923
1016	Epinotia seorsa Heinrich, 1924
1017	Epinotia kasloana McDunnough, 1925
1018	Epinotia signiferana Heinrich, 1923
1019	Epinotia lindana (Fernald, 1892)
1020	Epinotia trossulana (Walsingham, 1879)
1021	Epinotia biangulana (Walsingham, 1879)
1022	Epinotia salicicolana Kuznetsov, 1968 I?

Introduced from Eurasia?

1023 *Catastega timidella* Clemens, 1861 i? Probably introduced to BC from eastern North America, according to Brown (1986).

Tribe Grapholitini

- 1024 Dichrorampha simulana (Clemens, 1860)
- 1025 Dichrorampha vancouverana McDunnough, 1935
- 1026 Dichrorampha radicicolana Walsingham, 1879
- 1027 Dichrorampha piperana (Busck, 1900)
- 1028 Dichrorampha sedatana (Busck, 1906)
- 1029 Pammene felicitana Heinrich, 1923
- 1030 Pammene perstructana (Walker, 1863) Reported from BC by J. J. Dombroskie (personal communication).
- 1031 *Grapholita libertina* Heinrich, 1926
- 1032 Grapholita packardi Zeller, 1875
- 1033 U Grapholita prunivora (Walsh, 1868) Reported from BC by Belton (1988), but no vouchers are known.
- 1034 Grapholita caeruleana Walsingham, 1879
- 1035 *Grapholita vitrana* Walsingham, 1879 Reported from BC by J. J. Dombroskie (personal communication).
- 1036 Grapholita conversana Walsingham, 1879
- 1037 Grapholita imitativa Heinrich, 1926
- 1038 Grapholita lunatana Walsingham, 1879
- 1039 Grapholita edwardsiana (Kearfott, 1907)
- 1040 Grapholita lana (Kearfott, 1907)
- 1041 *Cydia coniferana* (Ratzeburg, 1840) I Introduced from Europe to eastern North America; this species reached BC from WA after 2000.
- 1042 Cydia bracteatana (Fernald, 1880)
- 1043 Cydia laricana (Busck, 1916)
- 1044 *Cydia rana* (Forbes, 1924)
- 1045 *Cydia inopiosa* (Heinrich, 1926)
- 1046 *Cydia confusana* (McDunnough, 1935)
- 1047 *Cydia obnisa* (Heinrich, 1926)
- 1048 *Cydia youngana* (Kearfott, 1907) North American populations have recently been recognised as a distinct species, separate from the Palaearctic *C. strobilella* (Linnaeus).
- 1049 *Cydia populana* (Busck, 1916)
- 1050 *Cydia flexiloqua* (Heinrich, 1926)

1051 *Cydia nigricana* (Fabricius, 1794) I Known as the Pea Moth, this species was introduced from Europe. It was first found in North America in eastern Canada in 1893 and in BC in 1933. It was responsible for the elimination of the dried-pea and pea-seed industry in BC. This species was also listed by Cannings and Scudder (2007) under the name *C. rusticella* (Clerck), a recent synonym.

- 1052 *Cydia pseudotsugae* (Evans, 1969)
- 1053 *Cydia prosperana* (Kearfott, 1907)
- 1054 *Cydia lautiuscula* (Heinrich, 1926)
- 1055 *Cydia americana* (Walsingham, 1879)
- 1056 *Cydia toreuta* (Grote, 1873)
- 1057 Cydia piperana Kearfott, 1907
- 1058 *Cydia miscitata* (Heinrich, 1926)
- 1059 *Cydia pomonella* (Linnaeus, 1758) I This species, known as the Codling Moth, was introduced from Europe very early, perhaps in the 1600s. It was first reported in BC in 1900. The larva is the proverbial "worm in the apple": it damages apples by feeding in the core and tunneling out when fully grown. It is a serious pest in the fruit-growing regions of BC.
- 1060 *Cydia latiferreana* (Walsingham, 1879)

Subfamily Chlidanotinae

Tribe Hilarographini

1061 *Thaumatographa youngiella* (Busck, 1922) Reared in BC recently by DH, from the bark of Douglas-fir.

Superfamily Cossoidea

48. Family Cossidae (carpenterworm moths; goat moths)

Most Cossidae are medium-sized to large heavy-bodied moths; their wingspans range from about 10 to 240 mm (usually from 25 to 100 mm in North American species). The forewings usually are long and narrow, and the abdomen extends beyond the hind wing. The antennae are usually bipectinate in males and thread-like in females. There is no proboscis.

Cossid larvae are woodborers or, in a few cases, tunnel in the soil and feed externally on roots. Many are smelly, a characteristic that has given the family one of its English names: goat moths. The larvae of some species may take up to four years to mature. Many species can seriously damage trees.

The family Cossidae contains about 970 described species throughout the world. Forty-six species are recorded in North America; four occur in BC.

Subfamily Hypoptinae

1062 *Givira cornelia* (Neumögen & Dyar, 1893)

Subfamily Cossinae

1063	Acossus centerensis (Lintner, 1877)
1064	Acossus populi (Walker, 1856)
	Subspecies orc (Strecker) has been reported from BC.
1065	Prionoxystus robiniae (Peck, 1818)

49. Family Sesiidae (clearwing moths)

Clearwing moths are mostly medium-sized moths of striking wasp-like appearance. The wingspan in North American species ranges from about 13 to 70 mm. The body is stout, elongate, and frequently marked and banded with white, yellow, orange or red. The scales often are iridescent. The wings are long and narrow, with wasp-like proportions, and have extensive areas, at least on the hind wing, that lack scales.

Clearwing moths are diurnal, swift-flying, usually brightly coloured insects that often mimic stinging Hymenoptera. Some species visit flowers and feed on nectar, but others do not eat. The pale, unpatterned larvae bore in roots, trunks and branches of trees, or in the stems and roots of herbaceous plants.

The Sesiidae consists of about 1400 named species worldwide; in North America, 133 species are recorded. Twenty-six species have been reported from BC. The family was revised by Eichlin and Duckworth (1988).

Subfamily Tinthiinae

Tribe Tinthiini

1066 U Zenodoxus sidalceae Engelhardt, 1946 Uncertain BC record in Eichlin and Duckworth (1988), but there is no reason to doubt this species occurs in BC: it was described from Pullman, WA.

Tribe Pennisetiini

1067 *Pennisetia marginatum* (Harris, 1839)

Subfamily Sesiinae

Tribe Paranthrenini

- 1068 *Paranthrene robiniae* (Edwards, 1880)
- 1069 U *Paranthrene tabaniformis* (Rottemburg, 1775) Uncertain BC record in Eichlin and Duckworth (1988). That record may be based on an AB specimen (also determination unconfirmed) in the RBCM. This is an eastern species that is not thought to reach BC, but it was recently confirmed to occur in central AB (Pohl et al. 2011). It may occur in BC's Peace River region.
- 1070 Albuna pyramidalis (Walker, 1856)

Tribe Sesiini

moc	503		
1071		Sesia tibiale (Harris, 1839)	
1072		Sesia spartani Eichlin & Taft, 1988	
Tribe	Syn	anthedonini	
1073		Synanthedon scitula (Harris, 1839)	
1074		Synanthedon tipuliformis (Clerck, 1759) I?	,
		Probably introduced from Europe.	
1075		Synanthedon bolteri (Edwards, 1883)	
1076		Synanthedon canadensis Duckworth & Eichlin, 1973	
1077		Synanthedon culiciformis (Linnaeus, 1758)	
1078		Synanthedon saxifragae (Edwards, 1881)	
1079		Synanthedon albicornis (Edwards, 1881)	
1080		Synanthedon bibionipennis (Boisduval, 1869) I?	,
		Introduced from Eurasia?	
1081	U	Synanthedon chrysidipennis (Boisduval, 1869)	
		Reported from BC by Eichlin and Duckworth (1988), but no confirmed BC vouch-	•
1000		ers are known.	
1002		Synantinedon melimiperinis (Boisduval, 1656)	
1083		Synantheoon polygoni (Edwards, 1881)	
1084		Synanthedon resplendens (Edwards, 1881)	
1085		Synanthedon exitiosa (Say, 1823)	
1000		The Peach Tree Borer.	
1000		Synantheoon novaroensis (Edwards, 1881)	
108/		Synanthedon sequolae (Edwards, 1881)	
1088		Synanthedon myopaeformis (Borkhausen, 1/89)	I
1000		Introduced from Europe to BC; first discovered in the Cawston area in 2005.	
1009		Comparis synngae (Falmender 1001)	
1090	U	Carmenta gillae (EdWards, 1881) Penerted from PC by Eichlin and Duckworth (1988), but no confirmed PC youch	
		ers are known.	
1091	U	Penstemonia clarkei Engelhardt, 1946	
		Reported from BC by Powell and Opler (2009), but no confirmed BC vouchers are known.	;

Superfamily Zygaenoidea

50. Family Limacodidae (slug caterpillar moths)

Limacodid adults are small to medium-sized moths. They are mostly richly coloured in browns, and marked with green, silver or other colours. The body is stout, and the wings are broadly rounded.

Most limacodids are nocturnal and have fast and erratic flight. Larvae feed on diverse trees, shrubs and grasses; some are pests. The larvae are short

and sluglike, smooth or spiny; many bear stinging hairs or spines that make contact with them painful. Abdominal prolegs are highly reduced; specialised suckers and semifluid silk help the insect cling to foliage.

The family Limacodidae contains about 1670 described species worldwide, but is most diverse in the tropics. There are 49 named species in North America, one of which occurs in BC.

Subfamily Limacodinae

1092 *Tortricidia testacea* Packard, 1864 Subspecies *crypta* Dyar has been reported from BC.

Superfamily Thyridoidea

51. Family Thyrididae (window-winged moths)

Thyridid moths are small to rather large, with wingspans of 12 to 72 mm. North American species usually are small and dark. The wings are often patterned in reticulated rows of spots, frequently with translucent patches.

The larvae burrow in twigs and stems, or feed in rolled or tied leaves of diverse host plants. Adults rest distinctively with the front of the body strongly raised and wings outstretched or swept back. Many mimic dead leaves, but some day-flying Afrotropical species have metallic warning colours.

The family Thyrididae consists of about 940 described species; most are from tropical and subtropical lowland forests. Twelve species are recorded in North America; two occur in BC.

Subfamily Thyridinae

1093 *Thyris maculata* Harris, 18391094 *Pseudothyris sepulchralis* (Guérin-Méneville, 1832)

Section 2: Butterflies

The butterflies are well known and have been treated in detail in other works, including Guppy and Shepard (2001) for BC species, Pyle (2002) for the Pacific Northwest, including southern BC, and by Layberry et al. (1998) for all of Canada. Pelham (2008) provides a full taxonomic catalogue of North American species. Our main goal here is to list the names of BC species; the aforementioned works should be consulted for more detailed information.

Superfamily Papilionoidea

52. Family Papilionidae (swallowtails and apollos)

Papilionids are large butterflies with hairless eyes, short antennae and three fully developed pairs of legs. British Columbia species range from about 40 to 105 mm in wingspan and include some of the province's largest Lepidoptera. All BC species are yellow or white, with black markings. All BC members of the subfamily Papilioninae (swallowtails) have tails on the hind wings, whereas those in the subfamily Parnassiinae (apollos) do not—characteristics that do not hold for the world fauna of the family.

Larvae of papilionids eat a variety of food plants. Some species feed on poisonous plants and sequester the chemicals for protection against predators. This has resulted in brilliant warning colours and elaborate mimicry by non-poisonous butterfly species. Swallowtails are strong fliers, and males of some species often search out mates by hilltopping, a mating strategy where individuals fly uphill until they meet in concentrations at the height of land.

The family Papilionidae contains about 570 species worldwide. Most swallowtails are tropical, and are especially diverse in the Old World. Most apollos live in Eurasian temperate regions. About 40 papilionid species occur in North America; 11 of these occur in BC.

Subfamily Parnassiinae

Tribe Parnassiini

1095	Parnassius eversmanni Ménétriés, [1850]
	Subspecies thor Edwards occurs in BC.
1096	Parnassius clodius Ménétriés, 1855
	Subspecies altaurus Dyar, claudianus Stichel, and pseudogallatinus Bryk occur
	in BC.
1097	Parnassius phoebus (Fabricius, 1793)
	Subspecies apricatus Stichel occurs in BC.
1098	Parnassius smintheus Doubleday, 1847
	Subspecies <i>magnus</i> Wright, <i>olympiana</i> Burdick, <i>smintheus</i> Doubleday, and <i>yu-konensis</i> Eisner occur in BC. Llewellyn Jones (1951) also reported subspecies <i>sayii</i> Edwards from BC.

Subfamily Papilioninae

Tribe Papilionini

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53. Family Hesperiidae (skippers)

Skippers get their English name from their characteristic rapid and darting flight. They are small to medium-sized butterflies, with BC specimens having wingspans of 20 to 50 mm. Most have dull brown, grey or orange colours and, with their stout muscular bodies and short wings, resemble moths. The head is broad, and the antennae are usually clubbed or hooked at the tip.

Hesperiid larvae live in silk-lined nests that they construct on the food plant by cutting and folding leaves or by binding several leaves together. Some species build a cover of leaf bits or debris and carry this around while they feed. A few bore into plant tissue. They feed on a variety of flowering plants. A few species, especially in the tropics, may be economically important: some eat the leaves of rice, sugarcane, palms and bananas.

The family Hesperiidae contains over 4100 species worldwide. There are almost 300 species in North America; 30 of these occur in BC. The BC species are placed in three subfamilies, following Pelham (2008) and Warren et al. (2008). The Pyrginae (Spread-wing Skippers) hold their wings out flat. Most BC species are mottled black, grey or brown, and some are checkered with white. The larvae feed on dicotyledonous plants. The Subfamily Hesperiinae, called the Grass Skippers because many of their larvae feed on grasses, are sometimes termed "branded skippers": the

males are marked with a dark patch of scent scales on the forewing. At rest, they hold the forewings almost vertically and the hind wings horizontally. The Heteropterinae were included in the Hesperiinae in historical works.

Subfamily Pyrginae

Tribe Eudamini

1106	Epargyreus clarus (Cramer, 1775)
	Subspecies californicus MacNeil and clarus (Cramer) occur in BC.
1107	Thorybes pylades (Scudder, 1870)
	The nominate subspecies occurs in BC.

Tribe Carcharodini

1108 *Pholisora catullus* (Fabricius, 1793)

Tribe Erynnini

- 1109 *Erynnis icelus* (Scudder & Burgess, 1870)
- 1110 Erynnis propertius (Scudder & Burgess, 1870)
- 1111 Erynnis pacuvius (Lintner, 1878) Subspecies callidus (Grippell) and Iilius (Dva
- Subspecies *callidus* (Grinnell) and *lilius* (Dyar) occur in BC.
- 1112 Erynnis afranius (Lintner, 1878)
- 1113 *Erynnis persius* (Scudder, 1863) Subspecies *fredericki* Freeman occurs in BC.

Tribe Pyrgini

- 1114 *Pyrgus centaureae* (Rambur, [1842]) Subspecies *freija* (Warren) and *loki* Evans occur in BC.
- 1115 *Pyrgus ruralis* (Boisduval, 1852) The nominate subspecies occurs in BC.
- 1116 *Pyrgus communis* (Grote, 1872) The nominate subspecies occurs in BC.

Subfamily Heteropterinae

- 1117 *Carterocephalus palaemon* (Pallas, 1771) Subspecies *magnus* (Mattoon & Tilden) and *skada* (Edwards) occur in BC.
- 1118 *Carterocephalus mandan* (Edwards, 1863) Pohl et al. (2010) raised *C. mandan* to full species status; it was previously treated as a subspecies of the Holarctic *C. palaemon* (Pallas).

Subfamily Hesperiinae

Tribe Thymelicini

- 1119 Oarisma garita (Reakirt, 1866)
- 1120 *Thymelicus lineola* (Ochsenheimer, 1808) I The European Skipper. This species was introduced from Europe; it was first found in ON in 1910 and in BC in 1960. The nominate subspecies occurs in BC.

Tribe Moncini

1121 Amblyscirtes vialis (Edwards, 1862)

Tribe Hesperiini

- 1122 Hesperia juba (Scudder, 1874)
- 1123 Hesperia manitoba (Scudder, 1874) Referred to in most works as *H. comma manitoba;* however, Pohl et al. (2010) raised *H. manitoba* to full species status, distinct from the European/Beringian *H. comma* (Linnaeus).
- 1124 *Hesperia assiniboia* (Lyman, 1892) Treated as a subspecies of *H. comma* (Linnaeus) by Guppy and Shepard (2001)
- 1125 *Hesperia colorado* (Scudder, 1874) Reported by Guppy and Shepard (2001) as subspecies *harpalus* (Edwards) and *oregonia* (Edwards) within the concept of the species *H. comma* (Linnaeus); these taxa are now considered to be subspecies of *H. colorado*. Llewellyn Jones (1951) and Pyle (2002) also report subspecies *idaho* (Edwards) from BC.
- 1126 *Hesperia nevada* (Scudder, 1874) The nominate subspecies occurs in BC.
- 1127 *Polites peckius* (Kirby, 1837)
- 1128 *Polites sabuleti* (Boisduval, 1852)

The nominate subspecies occurs in BC. Pyle (2002) also reports subspecies *alka-liensis* Austin from BC.

- 1129 *Polites draco* (Edwards, 1871)
- 1130 *Polites themistocles* (Latreille, [1824]) Subspecies *themistocles* (Latreille) and *turneri* Freeman occur in BC.
- 1131 *Polites mystic* (Edwards, 1863) The nominate subspecies occurs in BC.
- 1132 *Polites sonora* (Scudder, 1872) Sonora Skipper. Subspecies *siris* (Edwards) and *sonora* (Scudder) occur in BC. This species is listed federally as "special concern" (COSEWIC 2011) and provincially as "S1S2" (critically imperiled–imperiled) (BC Ministry of Environment 2012).
- 1133 *Atalopedes campestris* (Boisduval, 1852) The nominate subspecies occurs in BC.
- 1134 *Ochlodes sylvanoides* (Boisduval, 1852) The nominate subspecies occurs in BC.
- 1135 *Euphyes vestris* (Boisduval, 1852) The Dun Skipper. Subspecies *metacomet* (Harris) and *vestris* (Boisduval) occur in BC. This species is federally and provincially listed as "threatened" in BC (COSEWIC 2011; BC Ministry of Environment 2012).

54. Family Pieridae (whites, marbles, and sulphurs)

Pierids are mostly medium-sized butterflies (30- to 60-mm wingspans in BC species), and are generally white, yellow, orange or greenish, and marked in black and frequently other colours. Males and females are often strikingly different in appearance. The larvae are cylindrical, striped and covered in fine, short hair. Most BC whites (subfamily Pierinae) and marbles (subfamily Anthocharinae) feed on cruciferous plants (Family Brassicaceae), whereas most sulphurs (subfamily Coliadinae) feed on legumes (Family Fabaceae). A couple of species are economically important. The introduced European *Pieris rapae* (Linnaeus) (Cabbage White) now occurs all over the world where cabbage, broccoli, mustards and other crucifers are cultivated.

The family Pieridae contains about 1160 named species; 77 species are recorded in North America. British Columbia has 28 species, and is the centre of diversity in North America for the sulphur genus *Colias*, with 13 species in the province.

Subfamily Coliadinae

1136	Colias philodice Godart, 1819
	Subspecies <i>eriphyle</i> Edwards, <i>philodice</i> Godart, and <i>vitabunda</i> Hovanitz have been reported from BC.
1137	Colias eurytheme Boisduval, 1852
1138	Colias occidentalis Scudder, 1862
	Subspecies <i>chrysomelas</i> Edwards and <i>occidentalis</i> Scudder have been reported from BC.
1139	Colias christina Edwards, 1863
	The nominate subspecies occurs in BC.
1140	<i>Colias alexandra</i> Edwards, 1863
	Subspecies <i>columbiensis</i> Ferris and <i>pseudocolumbiensis</i> Guppy & Shepard occur in BC. Llewellyn Jones (1951) also reported subspecies <i>edwardsii</i> Edwards from BC.
1141	Colias elis Strecker, 1885
	Previously treated as a subspecies of <i>C. meadii</i> Edwards, but raised to full species status by Pohl et al. (2010).
1142	<i>Colias hecla</i> Lefebvre, 1836
	The nominate subspecies occurs in BC.
1143	Colias canadensis Ferris, 1982
1144	Colias nastes Boisduval, [1834]
	Subspecies aliaska Bang-Haas and streckeri Grum-Grshimailo occur in BC.
1145	<i>Colias gigantea</i> Strecker, 1900
	Subspecies <i>gigantea</i> Strecker, <i>harroweri</i> Klots, and <i>mayi</i> Chermock & Chermock have been reported from BC.
1146	Colias pelidne Boisduval & LeConte, [1830]
	Subspecies <i>skinneri</i> Barnes occurs in BC. Guppy and Shepard (2001) also used the name <i>mira</i> Verity as a subspecies; it is currently considered a synonym (Pelham 2008).
1147	Colias interior Scudder, 1862
1148	Colias palaeno Linnaeus, 1761
	Subspecies <i>chippewa</i> Edwards occurs in BC. That taxon was treated as a full species by Guppy and Shepard (2001).

Subfamily Anthocharinae

- 1149 Anthocharis sara Lucas, 1852 Subspecies alaskensis Gunder and flora Wright occur in BC.
- 1150 Anthocharis stella Edwards, 1879

Treated by many workers as a subspecies of *A. sara* Lucas, but recognised as distinct by Layberry et al. (1998) and Guppy and Shepard (2001). Pelham (2008) continued to treat *A. stella* as a subspecies of *A. sara* without providing justification.

- 1151 *Euchloe ausonides* (Lucas, 1852) Subspecies *ausonides* (Lucas), *insulanus* Guppy & Shepard, *mayi* Chermock & Chermock, *ogilvia* Back, and *transmontana* Austin & Emmel have been reported from BC. The Vancouver Island subspecies *insulanus* is considered extinct in Canada, and is listed as such by COSEWIC (2011) and the BC Ministry of Environment (2012).
- 1152 Euchloe naina Kozhantchikov, 1923
- 1153 *Euchloe creusa* (Doubleday, 1847)
- 1154 *Euchloe lotta* (Beutenmüller, 1898) Reported as a subspecies of *E. hyantis* (Edwards) by Llewellyn Jones (1951) and Cannings and Scudder (2007), but now treated as a distinct species.

Subfamily Pierinae

Tribe Pierini

Subtribe Aporiina

1155 *Neophasia menapia* (Felder & Felder, 1859) Subspecies *menapia* (Felder & Felder) and *tau* (Scudder) have been reported from BC.

Subtribe Pierina

- 1156 *Pieris angelika* Eitschberger, 1981
- 1157 Pieris marginalis Scudder, 1861

Subspecies *guppyi* Eitschberger, *marginalis* Scudder, *pseudobryoniae* Fruhsdorfer, *reicheli* Eitschberger, *tremblayi* Eitschberger, and *venosa* Scudder have been reported from BC.

- Pieris oleracea Harris, 1829
 The nominate subspecies occurs in BC. Early reports refer to this species as *P. napi* (Linnaeus), an Old World name.
- 1159 *Pieris rapae* (Linnaeus, 1758) I The Cabbage Butterfly. Introduced, and first found in North America in QC in 1860. The nominate subspecies occurs in BC.
- 1160 Pontia beckerii (Edwards, 1871)
- 1161 *Pontia protodice* (Boisduval & LeConte, [1830])
- 1162 *Pontia occidentalis* (Reakirt, 1866) Subspecies *nelsoni* Edwards and *occidentalis* (Reakirt) occur in BC.
- 1163 *Pontia sisymbrii* (Boisduval, 1852) Subspecies *beringiensis* Guppy & Kondla and *flavitincta* (Comstock) occur in BC.
55. Family Riodinidae (metalmarks)

The metalmarks are closely related to the Lycaenidae and have historically been included as a subfamily therein. They are small to medium-sized; North American species seldom have wingspans over 50 mm. Most are coloured in browns, orange and black, and sometimes are checkered in white. Some species have metallic, coloured marks on the wings; these give the family its English name.

Riodinid butterflies often rest with their wings spread flat or held angled at 45 degrees. Many species, especially neotropical ones, typically land on the undersides of leaves. Many species have mutualistic relationships with ants.

About 1500 described species of metalmarks occur worldwide, but about 90% of these live in the New World tropics. There are 29 species in North America; one species occurs in BC.

Subfamily Riodininae

Tribe Emesiini

1164

Apodemia mormo (Felder & Felder, 1859)

The Mormon Metalmark. The nominate subspecies occurs in BC. This species is restricted in BC to the South Okanagan and Similkameen valleys, and is listed federally and provincially as "endangered" (COSEWIC 2011; BC Ministry of Environment 2012).

56. Family Lycaenidae (gossamer-wings; coppers, hairstreaks and blues)

Lycaenid butterflies are usually small to medium-sized, with wingspans of about 20 to 50 mm. They are often brightly coloured, frequently in iridescent blues, greens, and coppery tones. Many have small, hair-like tails on the hind wings. The forelegs of male adults are reduced in length (the tarsal segments are fused) and lack claws, but the forelegs of females have a normal structure and are fully functional. The larvae are oval, flattened and grub-like; many have glands that produce sweet liquids.

Many lycaenid larvae are symbiotic with ants, which protect them from predators in exchange for the honeydew from their abdominal glands. Most species have four larval stages, one less than other butterflies. They feed on many groups of dicotyledonous plants, often eating only the buds, flowers and seeds. Some are carnivorous; e.g, the eastern North American *Feniseca tarquinius* (Fabricius) eats woolly aphids.

The family contains about 5200 named species worldwide. There are about 160 North American species; 43 of these occur in BC, and another three species are likely to be found in the province.

The subfamily Lycaeninae (coppers) contains 10 species in BC, all in the genus *Lycaena*. The larvae feed on plants in the family Polygonaceae. The subfamily Theclinae (hairstreaks) is largely tropical, but is well represented in BC with 18 species. Fifteen species of subfamily Polyommatinae (blues) occur in BC.

Subfamily Lycaeninae

Tribe Lycaenini

- 1165 *Lycaena phlaeas* (Linnaeus, 1761) Subspecies *arethusa* (Dod) occurs in BC.
- 1166 *Lycaena cupreus* (Edwards, 1870) Subspecies *snowi* (Edwards) occurs in BC. Guppy and Shepard (2001) also used the name *henryae* (Cadbury), now considered a synonym (Pelham 2008).
- 1167 *Lycaena dione* (Scudder, 1868)
- 1168 Lycaena editha (Mead, 1878)

Recent collection in BC by B. C. Schmidt (Kondla 2007).

- 1169 *Lycaena heteronea* Boisduval, 1852 Subspecies *gravenotata* Klots and *heteronea* Boisduval have been reported from BC.
- 1170 Lycaena hyllus (Cramer, 1775)
- 1171 Lycaena dorcas Kirby, 1837

Subspecies *arcticus* (Ferris), *dorcas* Kirby, and *florus* (Edwards) have been reported from BC. The latter was treated as a full species distinct from *L. dorcas* by Kondla and Guppy (2002), but was retained as a subspecies by Pelham (2008).

- 1172 *Lycaena helloides* (Boisduval, 1852)
- 1173 *Lycaena nivalis* (Boisduval, 1869) Subspecies *browni* Dos Passos occurs in BC.
- 1174 *Lycaena mariposa* (Reakirt, 1866) Subspecies *charlottensis* (Holland), *mariposa* (Reakirt), and *penroseae* Field have been reported from BC.

Subfamily Theclinae

Tribe Eumaeini

Subtribe Eumaeina

1175 Satyrium semiluna Klots, 1930

Half-moon Hairstreak. Reported from BC by Llewellyn Jones (1951) and Guppy and Shepard (2001) as a subspecies of *S. fuliginosa* (Edwards); *S. semiluna* is now recognised as a full species. It is protected federally and provincially as "endangered".

1176	Satyrium behrii (Edwards, 1870)
	Behr's Hairstreak. Subspecies columbia (McDunnough) has been reported from
	BC. This species is restricted to the shrinking Antelope-brush steppe of the South
	Okanagan. It is federally protected by COSEWIC (2011) as "threatened" and is
	ranked provincially as "S1" (critically imperiled) by the BC Ministry of Environment
	(2012).
1177	Satyrium californica (Edwards, 1862)
	The nominate subspecies occurs in BC.
1178	Satyrium sylvinus (Boisduval, 1852)
	Subspecies nootka Fisher and putnami (Edwards) have been reported from BC.
1179	Satyrium titus (Fabricius, 1793)
	Subspecies immaculosus (Comstock) and titus (Fabricius) occur in BC.
1180	Satyrium liparops (LeConte, 1833)
	Subspecies <i>aliparops</i> Michener & Dos Passos and <i>fletcheri</i> Michener & Dos Passos have been reported from BC
1181	Satyrium saenium (Boisduval, 1852)
	The nominate subspecies occurs in BC. Guppy and Shepard (2001) and Pyle (2002)
	referred to BC populations as subspecies <i>okanagana</i> (McDunnough), which is now
	considered a synonym (Pelham (2008).
1182	Callophrys affinis (Edwards, 1862)
	Subspecies washingtonia Clench occurs in BC.
1183	Callophrys sheridanii (Carpenter, 1877)
	This species was misidentified by Llewellyn Jones (1951) as C. dumetorum
	(Boisduval). Subspecies neoperplexa Barnes & Benjamin and newcomeri Clench
	have been reported from BC.
1184	Callophrys gryneus (Hübner, [1819])
	Subspecies nelsoni (Boisduval), plicataria (Johnson), rosneri (Johnson), and siva
	(Edwards) have been reported from BC. Both <i>nelsoni</i> and <i>rosneri</i> have been treated
	have also been used as subspecies for C grypeus recently (e.g. by Layberry et al
	1998): both names are currently considered synonyms (Pelham 2008).
1185	Callophrys spinetorum (Hewitson, 1867)
1105	The nominate subspecies occurs in BC.
1186	Callophrys johnsoni (Skinner, 1904)
	Iohnson's Hairstreak. This species occurs only on the south coast of BC and is
	considered "endangered" (COSEWIC 2011; BC Ministry of Environment 2012).
1187	Callophrys augustinus (Westwood, 1852)
	Subspecies <i>augustinus</i> (Westwood) and <i>iroides</i> (Boisduval) have been reported
	from BC. The latter is treated as a full species, distinct from <i>C. augustinus</i> , by Guppy
	and Shepard (2001); it is considered a subspecies by Pelham (2008).
1188	Callophrys mossii (Edwards, 1881)
	Subspecies mossii (Edwards) and schryveri (Cross) have been reported from BC.
1189	Callophrys polios (Cook & Watson, 1907)
	Subspecies obscura (Ferris & Fisher) and polios (Cook & Watson) have been re-
	ported from BC.
1190	Callophrys niphon (Hübner, [1819])
	Subspecies <i>clarki</i> (Freeman) has been reported from BC.

- 1191 *Callophrys eryphon* (Boisduval, 1852) Subspecies *eryphon* (Boisduval) and *sheltonensis* (Chermock & Frechin) have been reported from BC.
- 1192 Strymon melinus Hübner, 1818 Subspecies atrofasciata McDunnough and setonia McDunnough occur in BC.

Subfamily Polyommatinae

Tribe Polyommatini

- 1193 *Cupido comyntas* (Godart, [1824]) The nominate subspecies occurs in BC.
 1194 *Cupido amyntula* (Boisduval, 1852)
 - Subspecies *albrighti* (Clench) and *amyntula* (Boisduval) have been reported from BC.
- 1195 *Celastrina lucia* (Kirby, 1837) Reported under the name *C. ladon* (Cramer) by Layberry et al. (1998) under a previous taxonomic arrangement. The nominate subspecies occurs in BC.
- 1196 *Celastrina echo* (Edwards, 1864) Reported under the name *C. ladon* (Cramer) by Layberry et al. (1998); *C. echo* is now considered to be a distinct species. Subspecies *echo* (Edwards) and *nigrescens* (Fletcher) occur in BC.
- 1197 *Euphilotes glaucon* (Edwards, 1871) Treated by Layberry et al. (1998) and Guppy and Shepard (2001) as a subspecies of *E. battoides* (Behr), *Euphilotes glaucon* is now considered to be a distinct species. The nominate subspecies and subspecies *oregonensis* (Barnes & McDunnough) have been reported from BC.
- 1197.1 P *Euphilotes columbiae* (Mattoni, 1955) This species is known from the Okanogan Valley of WA, very close to the BC border: it may also occur in BC (Guppy and Shepard 2001). It was treated by Guppy and Shepard (2001) as a subspecies of *E. ancilla* (Barnes & McDunnough).
- 1197.2 P Euphilotes ancilla (Barnes & McDunnough, 1918) This species is known from MT, very close to the BC border: it may also occur in BC (Guppy and Shepard 2001). The nominate subspecies occurs in the area.
- 1198 *Glaucopsyche piasus* (Boisduval, 1852) Subspecies *toxeuma* Brown and *sagittera* (Felder & Felder) have been reported from BC.
- 1199 *Glaucopsyche lygdamus* (Doubleday, 1842) Subspecies *columbia* (Skinner), *couperi* Grote, and *oro* (Scudder) have been reported from BC.
- 1200 *Plebejus idas* (Linnaeus, 1761) Subspecies *alaskensis* (Chermock), *atrapraetextus* (Field), *ferniensis* (Chermock), and *scudderi* (Edwards) have been reported from BC.
- 1201 *Plebejus anna* (Edwards, 1861) Subspecies *anna* (Edwards), *ricei* (Cross), and *vancouverensis* (Guppy & Shepard) have been reported from BC. This taxon was treated as a subspecies of *P. idas* (Linnaeus) by many, including Layberry et al. (1998).
- 1202 *Plebejus melissa* (Edwards, 1873) The nominate subspecies occurs in BC.

1203		Plebejus saepiolus (Boisduval, 1852)
		Subspecies aehaja (Behr), amica (Edwards), insulanus Blackmore, and rufescens
		(Boisduval) have been reported from BC. The Vancouver Island subspecies insula-
		nus is federally listed as "endangered" by COSEWIC (2011); it is provincially listed
		as "SH" ("historical") by the BC Ministry of Environment (2012).
1204		Plebejus icarioides (Boisduval, 1852)
		Subspecies blackmorei (Barnes & McDunnough), montis (Blackmore), and pem-
		bina (Edwards) occur in BC.
1204.1	Р	Plebejus shasta (Edwards, 1862)
		This species is known from the Crowsnest Pass area of AB, very close to the BC
		border: it may also occur in BC (Guppy and Shepard 2001). The subspecies min-
		nehaha (Scudder) occurs in the area.
1205		Plebejus lupini (Boisduval, 1869)
		Layberry et al. (1998) and Guppy and Shepard (2001) treated this taxon (as sub-
		species lutzi Dos Passos) as part of P. acmon (Westwood), now considered to be
		a separate species that does not occur in BC.
1206		Plebejus optilete (Knoch, 1781)
		Subspecies yukona (Holland) occurs in BC.
1207		Plebejus glandon (de Prunner, 1798)
		Subspecies megalo (McDunnough) and rustica (Edwards) have been reported from
		BC. This species has often been referred to as "P. aquilo Boisduval", an invalid
		name (Pelham 2008). Many workers have treated megalo as a full species, with
		subspecies lacustris (Freeman) and bryanti (Leussler).

57. Family Nymphalidae (brush-footed butterflies)

Most North American brush-footed butterflies are medium-sized to large (with 40- to 70-mm wingspans), and many are orange or brown with dark markings. However, size and colour vary greatly. Both sexes have forelegs reduced in length and covered in long brush-like hairs, thus the common name of the group. These legs are useless for walking or perching, but are used as sense organs. The face is broad, the eyes are not indented adjacent to the antennae, and the antennae usually have prominent clubs. The larvae commonly have branched spines; the pupae are often strongly angled, bear thorn-like projections and lack a silk girdle.

Many nymphalids are strong fliers, and some species are migratory and number among the most cosmopolitan of insects (*Vanessa, Danaus*). Others, such as members of the subfamily Melitaeinae, fly only short distances and live in small, local colonies.

The Nymphalidae is the largest family of butterflies, with about 6150 species worldwide. North America has about 225 species; 75 species have been reported from BC, and another four species are likely to be found in the province. The family, as now defined, is composed of several

subfamilies, some of which have long been treated as separate families (e.g., Danaidae, Satyridae and Heliconiidae). The subfamily Danainae (milkweed butterflies) contains one species in BC, the famous Monarch. The subfamily Limenitidinae (admirals) has three species in the province. The subfamily Heliconiinae (fritillaries) are typically orange, with black markings on the upper surface. The subfamily Nymphalinae (anglewings and relatives) contains 26 BC species; all four *Vanessa* species represented are migratory and lack permanent, year-round populations in the province. The subfamily Satyrinae (satyrs) contains 23 species in the province, all of which feed on grasses and sedges.

Subfamily Danainae Tribe Danaini

Subtribe Danaina

1208 M Danaus plexippus (Linnaeus, 1758)

The Monarch. The nominate subspecies occurs in BC. This species migrates as far north as southern BC, and flies south in late summer to winter on the CA coast. The conservation status of this species federally and provincially is "special concern" (COSEWIC 2011; BC Ministry of Environment 2012).

Subfamily Limenitidinae Tribe Limenitidini Subtribe Limenitidina

1209 *Limenitis arthemis* (Drury, 1773) The White Admiral. Subspecies *rubrofasciata* (Barnes & McDunnough) occurs in BC.

1210 *Limenitis lorquini* Boisduval, 1852 Lorquin's Admiral. Subspecies *burrisonii* Maynard and *ilgae* Guppy occur in BC. Guppy and Shepard (2001) also described *itelkae* as a BC subspecies, but it is now considered a synonym (Pelham 2008).

1211 *Limenitis archippus* (Cramer, 1776) The Viceroy. Subspecies *archippus* (Cramer) and *idaho* Austin have been reported in BC, but the species has been extirpated, apparently by pesticide spraying to control Codling Moths (*Cydia pomonella* (Linnaeus)). The last report of a Viceroy in BC was from Lillooet in 1930 (Guppy and Shepard 2001).

Subfamily Heliconiinae

Tribe Argynnini

Subtribe Euptoietina

1212 M Euptoieta claudia (Cramer, 1776)

Subtribe Boloriina

1213	Boloria alaskensis (Holland, 1900)
	Treated by many workers, including Layberry et al. (1998) and Cannings and
	Scudder (2007), as a subspecies of B. napaea (Hoffmansegg), an Old World
	species. North American material is now considered to be a distinct species. The
	ESBC (1906) report of "Brenthis andersonii Dyar" and Blackmore's (1927) listing
	of "Brenthis euphrosyne andersoni Dyar" likely refer to this species. The nominate
1014	subspecies occurs in BC.
1214	Boloria eunomia (Esper, 1800)
1015	Subspecies <i>dawsoni</i> (Barnes & McDunnough), <i>nichollae</i> (Barnes & Benjamin), and <i>triclaris</i> (Hübner) have been reported from BC.
1215	Boloria myrina (Cramer, 1/7)
	This species was historically treated as a subspecies of <i>B. selene</i> ([Denis & Schiffermüller]) under a holarctic concept of that species, but was raised to full species status by Pohl et al. (2010), with <i>B. selene</i> considered to be restricted to Eurasia. Subspecies <i>atrocostalis</i> (Huard) and <i>tollandensis</i> (Barnes & Benjamin) have been reported from BC.
1216	Boloria bellona (Fabricius, 1775)
	Subspecies jenistae Stallings & Turner and toddi (Holland) occur in BC.
1217	<i>Boloria frigga</i> (Thunberg, 1791)
	Subspecies saga (Staudinger) occurs in BC.
1218	Boloria improba (Butler, 1877)
	The nominate subspecies occurs in BC.
1219	Boloria epithore (Edwards, 1864)
	Subspecies <i>chermocki</i> Perkins & Perkins and <i>sigridae</i> (Shepard) occur in BC. Layberry et al. (1998) used the name <i>uslui</i> Koçak, which was not mentioned in Pelham (2008)
1220	Boloria polaris (Boisduval 1828)
1220	The nominate subspecies occurs in BC
1221	Boloria alberta (Edwards, 1890)
1222	Boloria astarte (Doubleday, 1847)
1222	Subspecies <i>astarte</i> (Doubleday) and <i>distincta</i> (Gibson) occur in BC. The Old World name <i>B. tritonia</i> (Boeber) has sometimes been applied to this species (e.g., by Guppy and Shepard 2001).
1223	<i>Boloria freija</i> (Thunberg, 1791)
	The nominate subspecies and subspecies <i>tarquinis</i> (Curtis) have been reported from BC.
1224	Boloria natazhati (Gibson, 1920)
	Subspecies nabokovi Stallings & Turner occurs in BC.
1225	Boloria chariclea (Schneider, 1794)
	Subspecies butleri (Edwards), grandis (Barnes & McDunnough), and rainieri (Barnes
	& McDunnough) have been reported from BC.
Subtribe	Argynnina
1226	Speyeria cybele (Fabricius, 1775)
	Subspecies pseudocarpenteri (Chermock & Chermock) occurs in BC.

1227 Speyeria leto (Behr, 1862)

Treated historically as a subspecies of *C. cybele* (Fabricius), this taxon was raised to full species status by Pohl et al. (2010), in accordance with works prior to Dos Passos and Grey (1947).

1228 Speyeria aphrodite (Fabricius, 1787) Subspecies columbia (Edwards), manitoba (Chermock & Chermock), and whitehousei (Gunder) occur in BC.

1228.1 P Speyeria edwardsii (Reakirt, 1866) This species is known from the foothills of AB, within 50 km of the BC border: it may also occur in BC (Guppy and Shepard 2001).

1229 U Speyeria coronis (Behr, 1864)

This species was reported by Llewellyn Jones (1951) under the name *S. snyderi* (Skinner), now considered to be a subspecies of *S. coronis*. His record was based on a single specimen from Vernon, which cannot be located and is flagged therein as rare or doubtful. This species is known from central WA, very close to the BC border (Guppy and Shepard 2001), so it likely also occurs in BC. Blackmore's (1927) report of "*Dryas halcyone picta* McDunnough" probably refers to *S. zerene* (Boisduval), of which *halcyone* (Edwards) is a subspecies (*picta* is now considered a subspecies of *S. coronis*).

1230 Speyeria zerene (Boisduval, 1852)

Subspecies *behrensii* (Edwards), *bremnerii* (Edwards), *picta* (McDunnough), and *platina* (Skinner) have been reported from BC. The name *garretti* (Gunder) was also used as a subspecies name by Guppy and Shepard (2001), but that name is now considered a synonym (Pelham 2008).

1231 Speyeria callippe (Boisduval, 1852) Subspecies chilcotinensis Guppy & Shepard and semivirida (McDunnough) occur in BC. Subspecies nevadensis (Edwards) was reported from BC by Llewellyn Jones (1951).

1231.1 P Speyeria egleis (Behr, 1862)

This species is known from MT and WA, very close to the BC border: it may occur in BC also (Guppy and Shepard 2001). The subspecies *macdunnoughi* (Gunder) occurs in the area.

- 1232 *Speyeria atlantis* (Edwards, 1862) Subspecies *hollandi* (Chermock & Chermock) occurs in BC.
- 1233 *Speyeria hesperis* (Edwards, 1864) Subspecies *beani* (Barnes & Benjamin), *brico* (Kondla et al.), *electa* (Edwards), and *helena* Dos Passos have been reported from BC.
- 1234 *Speyeria hydaspe* (Boisduval, 1869) Subspecies *rhodope* (Edwards) occurs in BC. The names *minor* (McDunnough) and *sakuntala* (Skinner) have also been applied as subspecies of *S. hydaspe* in BC by Guppy and Shepard (2001), but those names are currently considered synonyms (Pelham 2008).
- 1235 Speyeria mormonia (Boisduval, 1869) Subspecies bischoffii (Edwards), erinna (Edwards), eurynome (Edwards), opis (Edwards), and washingtonia (Barnes & McDunnough) have been reported from BC.

Subfamily Nymphalinae

Tribe Nymphalini

- 1236 M Vanessa virginiensis (Drury, 1773)
- 1237 M Vanessa cardui (Linnaeus, 1758) The Painted Lady.
- 1238 M Vanessa annabella (Field, 1971) This species was historically treated as V. caryae (Hübner), an Old World name.
- 1239 M Vanessa atalanta (Linnaeus, 1758) The Red Admiral. Subspecies *rubria* (Fruhsdorfer) occurs in BC.
- 1240 *Aglais milberti* (Godart, 1819) Subspecies *milberti* (Godart) and *subpallida* (Cockerell) occur in BC.
- 1241 Nymphalis j-album (Boisduval & LeConte, 1833) This species has been treated by many workers, including Cannings and Scudder (2007) and Layberry et al. (1998), under the name "*N. vaualbum* ([Denis & Schiffermüller])", a nomen nudum, or as *N. l-album* (Esper), a Palaearctic species. *Nymphalis j-album* was recognised as distinct from the Eurasian *N. l-album* by Pohl et al. (2010). Subspecies *watsoni* (Hall) occurs in BC.
- 1242 *Nymphalis californica* (Boisduval, 1852)
- 1243 Nymphalis antiopa (Linnaeus, 1758) The Mourning Cloak. The nominate subspecies occurs in BC.
- 1244 *Polygonia satyrus* (Edwards, 1869) Subspecies *neomarsyas* Dos Passos has been reported from BC.
- 1245 *Polygonia progne* (Cramer, 1776)
- 1246 *Polygonia oreas* (Edwards, 1869) Subspecies *silenus* (Edwards) and *threatfuli* Guppy & Shepard have been reported from BC.
- 1247 *Polygonia gracilis* (Grote & Robinson, 1867) Subspecies *gracilis* (Grote & Robinson) and *zephyrus* (Edwards) occur in BC. Guppy and Shepard (2001) treated *zephyrus* as a full species.
- 1248 *Polygonia faunus* (Edwards, 1862) Subspecies *hylas* (Edwards) and *rusticus* (Edwards) have been reported from BC.

Tribe Melitaeini

Subtribe Euphydryina

- 1249 Euphydryas gillettii (Barnes, 1897)
- 1250 Euphydryas editha (Boisduval, 1852)
- Edith's Checkerspot. Subspecies *beani* (Skinner), *colonia* (Wright), *nubigena* (Behr), and *taylori* (Edwards) have been reported from BC. The latter is listed federally and provincially as "endangered" (COSEWIC 2011; BC Ministry of Environment 2012).
- 1251 *Euphydryas colon* (Edwards, 1881) Inclusion of this name in the BC fauna follows Pelham (2008), who considers *paradoxa* McDunnough to be subspecies of *E. colon*, and *perdiccas* (Edwards) to be a synonym. Those taxa were considered by previous workers, including Layberry et al. (1998) and Guppy and Shepard (2001), to be subspecies of *E. chalcedona* (Doubleday).

1252 *Euphydryas anicia* (Doubleday, [1847]) Subspecies *anicia* (Doubleday), *helvia* (Scudder), *hopfingeri* Gunder, and *howlandi* Stallings & Turner have been reported from BC. *Euphydryas anicia* and subspecies *helvia* were treated as subspecies of *E. chalcedona* (Doubleday) by Layberry et al. (1998).

1252.1 P *Chlosyne gorgone* (Hübner, 1810) This species is known from the foothills of AB, within 50 km of the BC border: it may occur in BC also (Guppy and Shepard 2001). The subspecies *carlotta* (Reakirt) occurs in the area.

- 1253 Chlosyne hoffmanni (Behr, 1863) Subspecies manchada (Bauer) occurs in BC.
- 1254 *Chlosyne palla* (Boisduval, 1852) Subspecies *calydon* (Strecker) occurs in BC.
- 1255 *Chlosyne damoetas* (Skinner, 1902) The nominate subspecies occurs in BC. This taxon was treated as a subspecies of *C. whitneyi* (Behr) by Guppy and Shepard (2001).

Subtribe Phyciodina

- 1256 *Phyciodes pallida* (Edwards, 1864) Subspecies *barnesi* Skinner occurs in BC.
- 1257 *Phyciodes mylitta* (Edwards, 1861) The nominate subspecies occurs in BC.
- 1258 *Phyciodes cocyta* (Cramer, [1777]) Subspecies *cocyta* (Cramer), *pascoensis* Wright, and *selenis* (Kirby) have been reported from BC. Guppy and Shepard (2001) included this taxon within a broader concept of *P. tharos* (Drury).
- 1259 *Phyciodes batesii* (Reakirt, 1865) Subspecies *lakota* Scott occurs in BC.
- 1260 *Phyciodes pulchella* (Boisduval, 1852)

Treated by many workers, including Layberry et al. (1998), Guppy and Shepard (2001) and Cannings and Scudder (2007), under the name "*P. pratensis* (Behr)", now considered a synonym (Pelham 2008). Subspecies *owimba* Scott has been reported from BC.

Subfamily Satyrinae Tribe Satyrini

Subtribe Coenonymphina

- 1261 Coenonympha tullia (Müller, 1764)
 - Contrary to Pohl et al. (2010), we revert to the holarctic concept of this species, rather than using the name *C. inornata* Edwards, 1861, for North American populations. Although North American populations are genetically distinct from European populations (Kodandaramaiah and Wahlberg 2009), the taxonomy is far from settled. The subspecies *ampelos* Edwards, *benjamini* McDunnough, *columbiana* McDunnough, *insulanus* McDunnough, *kodiak* Edwards, and *yukonensis* Holland have been reported from BC, and more than one of these may prove to be separate species. The latter was treated as a full species by Guppy and Shepard (2001). Kondla (2007) reported *C. sweadneri* Chermock & Chermock from southeastern BC and provides an argument for its treatment as a separate species; Pelham (2008) considers it to be a synonym of *C. tullia*.

Subtribe Maniolina

- 1262 Cercyonis pegala (Fabricius, 1775) Subspecies alope (Fabricius), ariane (Boisduval), boopis (Begr), incana (Edwards), ino Hall, and nephele (Kirby) have been reported from BC. 1263 Cercyonis sthenele (Boisduval, 1852) Subspecies paulus (Edwards) and sineocellata Austin & Emmel occur in BC. The subspecies silvestris (Edwards) was reported from BC in error by Layberry et al. (1998), prior to the description of sineocellata. 1264 Cercyonis oetus (Boisduval, 1869) Subspecies charon (Edwards) and phocus (Edwards) have been reported from BC. Subtribe Erebiina Erebia vidleri Elwes, 1898 1265 1266 Erebia rossii (Curtis, 1835) The nominate subspecies occurs in BC. 1267 Erebia mancinus Doubleday & Hewitson, 1849 Erebia magdalena Strecker, 1880 1268 Subspecies hilchie Kemal & Koçak occurs in BC. The name hilchie is a replacement name for saxicola Hilchie, a junior homonym. The latter was used by Layberry et al. (1998) and Guppy and Shepard (2001). 1269 Erebia mackinleyensis Gunder, 1932 1270
- 1270 *Erebia epipsodea* Butler, 1868 Subspecies *epipsodea* Butler, *remingtoni* Ehrlich, and *sineocellata* Skinner have been reported from BC. Pyle (2002) used the name *hopfingeri* Ehrlich as a subspecies for some BC populations, but that name is now considered a synonym (Pelham 2008).
- 1271 *Erebia discoidalis* (Kirby, 1837) The nominate subspecies occurs in BC. Layberry et al. (1998) used the name *mcdunnoughi* Dos Passos as a subspecies for BC populations, but that name is now considered a synonym (Pelham 2008).
- 1272 Erebia pawloskii Ménétriés, 1859 Subspecies alaskensis Holland and canadensis Warren have been reported from BC. The Palaearctic name *E. theano* (Tauscher) has also been used for BC populations, based on a previous taxonomic arrangement, e.g., by Layberry et al. (1998). True *E. theano* is restricted to the Old World.
- 1272.1 P Neominois ridingsii (Edwards, 1865)
 This species is known from the foothills of AB, within 50 km of the BC border: it may occur in BC also (Guppy and Shepard 2001). The subspecies minimus Austin occurs in the area.

 1272
- 1273 Oeneis philipi Troubridge & Parshall, 1988 Treated by Layberry et al. (1998) and Cannings and Scudder (2007) as O. rosovi Kurentzov, an Old World species. North American populations are O. philipi.
- 1274 *Oeneis polixenes* (Fabricius, 1775) Subspecies *beringianus* Kurentzov occurs in BC. Guppy and Shepard (2001) used the name *luteus* Troubridge & Parshall as a subspecies name for BC populations, but that name is currently considered a synonym (Pelham 2008).

1275	<i>Oeneis jutta</i> (Hübner, [1806])
	Subspecies alaskensis Holland, chermocki Wyatt, reducta McDunnough, and
	ridingiana Chermock & Chermock have been reported from BC. For consis-
	tency, we follow Pelham's (2008) interpretation of <i>O. jutta</i> as a holarctic species.
	However, Pohl et al. (2010) explain why use of the name O. balderi (Geyer) is a
	superior taxonomic concept for northern North American populations, as a species distinct from Ω_{ijj} initia
1276	Oeneis melissa (Fabricius, 1775)
	Subspecies atlinensis Guppy & Shepard and beanii Elwes occur in BC. Layberry
	et al. (1998) also reported subspecies gibsoni Holland from BC, prior to the de-
	scription of <i>atlinensis</i> .
1277	Oeneis bore (Schneider, 1792)
	Subspecies edwardsi Dos Passos, hanburyi Watkins, mckinleyensis Dos Passos, and
	taygete Geyer have been reported from BC.
1278	<i>Oeneis chryxus</i> (Doubleday & Hewitson, 1849)
	Subspecies caryi Dyar and chryxus (Doubleday & Hewitson) occur in BC.
1279	Oeneis alberta Elwes, 1893
	The nominate subspecies occurs in BC.
1280	Oeneis nevadensis (Felder & Felder, 1866)
	Subspecies gigas Butler and nevadensis (Felder & Felder) occur in BC.
1281	Oeneis macounii (Edwards, 1885)
1282	Oeneis uhleri (Reakirt, 1866)
	Subspecies varuna (Edwards) occurs in BC.

Section 3: Macromoths

Superfamily Pyraloidea 58. *Family Pyralida*e

Pyralids are mostly small to medium-sized moths, with wingspans ranging from about 10 to 55 mm. They are defined by the unique arrangement of their tympanal organs, which are on the ventral part of the abdomen base and include a narrow opening that faces forward towards the thorax.

The family has some of the most diverse feeding habits among Lepidoptera. Many pyralids are leaf rollers, but some bore in buds, shoots, stems, cones, fruits, galls or under bark. Several species are serious pests of stored food products. A few species live as inquilines in galls and the nests of Hymenoptera. Still others have predatory larvae that hunt down Homoptera. Some tropical species live in sloth fur and eat algae off the fur; others are specialists in sloth dung.

The family Pyralidae is a large group of cosmopolitan moths. There are about 5900 described species; 679 are found in North America and 132

are reported from BC. The subfamily Phycitinae is fairly well known, with significant revisions published by Heinrich (1956) and Neunzig (1986, 1990, 1997, 2003). The other subfamilies are generally poorly known and require taxonomic work.

Subfamily Chrysauginae

- 1283 Acallis gripalis (Hulst, 1886)
- 1284 Arta statalis Grote, 1875
- 1285 Arta epicoenalis Ragonot, 1891

Subfamily Galleriinae

Tribe Galleriini

1286	Galleria mellonella (Linnaeus, 1758)	I
	Greater Wax Moth. Introduced from Europe.	
1287	Achroia grisella (Fabricius, 1794)	I

Introduced from Europe in 1897 (Covell 1984).

Tribe Tirathabini

- 1288 Paralipsa gularis (Zeller, 1877)
- 1289 H *Corcyra cephalonica* (Stainton, 1866) I This species was introduced to North America from the West Indies. It was collected from a honeybee hive in Victoria in 1994, but may not be established in the province.

Tribe Cacotherapini

1290 *Cacotherapia leucocope* (Dyar, 1917)

Subfamily Pyralinae

Tribe Pyralini

- 1291 Pyralis farinalis Linnaeus, 1758 I This species, known as the Meal Moth, was introduced from the Palaearctic (Lafontaine and Troubridge 2011).
 1202 Aglassa cacamisa (Dyar, 1012)
- 1292 Aglossa cacamica (Dyar, 1913)
- 1293 Aglossa pinguinalis (Linnaeus, 1758) I This introduced species is known from a few localities in BC, including Kamloops (J. deWaard, personal communication), Quamichan (RBCM material), Port Alberni and Williams Lake (L. Avis, personal communication).

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- 1294 Aglossa caprealis (Hübner, [1809])
- 1295 Hypsopygia costalis (Fabricius, 1775)
- 1296 Dolichomia thymetusalis (Walker, 1859)
- 1297 Pseudasopia cohortalis (Grote, 1878)

Subfamily Epipaschiinae

- 1298 Macalla zelleri (Grote, 1876)
- 1299 Toripalpus trabalis Grote, 1881
- 1300 Pococera aplastella (Hulst, 1888)
- 1301 *Pococera asperatella* (Clemens, 1860)

1302 Pococera expandens (Walker, 1863) 1303 Pococera provoella (Barnes & Benjamin, 1924) 1304 Pococera thoracicella (Barnes & Benjamin, 1924) Subfamily Phycitinae Tribe Phycitini 1305 Acrobasis vaccinii Riley, 1884 i 1306 U Acrobasis indigenella (Zeller, 1848) Uncertain BC record reported in Neunzig (1986). 1307 Acrobasis tricolorella Grote, 1878 1308 Acrobasis rubrifasciella Packard, 1873 1309 Acrobasis betulella Hulst, 1890 1310 Trachycera suavella (Zincken, 1818) I This species was introduced from Europe. However, the synonym T. supposita (Heinrich) was described from BC. 1311 Cuniberta subtinctella (Ragonot, 1887) 1312 Myelopsis minutularia (Hulst, 1887) 1313 Myelopsis subtetricella (Ragonot, 1889) 1314 Myelopsis alatella (Hulst, 1887) 1315 Apomyelois bistriatella (Hulst, 1887) 1316 Euzophera semifuneralis (Walker, 1863) Euzophera habrella Neunzig, 1990 1317 1318 Euzophera vinnulella Neunzig, 1990 1319 Eulogia ochrifrontella (Zeller, 1876) Ephestiodes gilvescentella Ragonot, 1887 1320 1321 Ephestiodes erythrella Ragonot, 1887 Ephestiodes griseus Neunzig, 1990 1322 Recently collected from BC's Lower Mainland by DH; the identity was confirmed by E. LaGasa. 1323 Vitula edmandsii (Packard, 1864) 1324 Vitula serratilineella Ragonot, 1887 1325 Vitula broweri (Heinrich, 1956) Recent BC record collected near Sicamous by deWaard (2010). 1326 Vitula setonella (McDunnough, 1927) 1327 Plodia interpunctella (Hübner, [1813]) I The Indian Meal Moth. This cosmopolitan pest of stored food products originates in temperate regions of the New World, but has been introduced to BC and elsewhere. 1328 H Ephestia elutella (Hübner, 1796) I Introduced from the Old World tropics (Lafontaine and Troubridge 2011). However, the synonym E. amarella Dyar was described from Kaslo, BC. 1329 H Ephestia kuehniella Zeller, 1879 The Mediterranean Flour Moth. Introduced from the southern USA, it occurs only in association with humans in BC.

- 1330 H *Cadra cautella* (Walker, 1863) Introduced from the tropics (Lafontaine and Troubridge 2011).
- 1331 Bandera binotella (Zeller, 1872)
- 1332 Bandera virginella Dyar, 1908
- 1333 Eurythmia angulella Ely, 1910
- 1334 Eurythmia spaldingella Dyar, 1905
- 1335 Pima fosterella Hulst, 1888
- 1336 *Pima boisduvaliella* (Guenée, 1845)
- 1337 Pima occidentalis Heinrich, 1956
- 1338 *Pima fulvirugella* (Ragonot, 1887) Listed by Cannings and Scudder (2007) under the name *P. vividella* (McDunnough), a recent synonym.

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- 1339 Pima albocostalialis (Hulst, 1886)
- 1340 Interjectio columbiella (McDunnough, 1935)
- 1341 Interjectio denticulella (Ragonot, 1887)
- 1342 Ambesa laetella Grote, 1880
- 1343 Ambesa walsinghami (Ragonot, 1887)
- 1344 Catastia actualis (Hulst, 1886)
- 1345 Oreana unicolorella (Hulst, 1887)
- 1346 U *Psorosina hammondi* (Riley, 1872) This species was reported as an occasional pest of apple in BC by Belton (1988); no BC vouchers are known, and it is otherwise thought to be restricted to eastern and central North America. It may have occurred here, or the record may refer to another apple pest, perhaps *Choreutis pariana* (Clerck).
- 1347 Ortholepis pasadamia (Dyar, 1917)
- 1348 U Polopeustis arctiella (Gibson, 1920) Known in BC from a single female specimen in the UBC collection from Chilcotin, collected 25 April 1920 by E. R. Buckell. The identification is tentative; therefore, the species is listed as unconfirmed in BC.
- 1349 *Meroptera pravella* (Grote, 1878)
- 1350 Meroptera abditiva Heinrich, 1956
- 1351 Sciota basilaris (Zeller, 1872)
- 1352 Sciota levigatella (Hulst, 1892)
- 1353 Sciota yuconella (Dyar, 1925)

A specimen in the PFC collection from Quesnel River, BC, that had been identified as *S. termitalis* (Hulst) was redetermined as *S. yuconella* by GRP. This is the only known specimen outside of the type locality at Ft. Yukon, AK.

- 1354 Sciota fraudifera (Heinrich, 1956)
- 1355 Sciota fernaldi (Ragonot, 1887)
- 1356 Tulsa umbripennis (Hulst, 1895)

- 1357 *Tulsa oregonella* (Barnes & McDunnough, 1918) A specimen of this species in the PFC, collected in flight at Errington, BC, by D. Evans on 15 May 1973, is the only known record outside the type locality of Crater Lake, OR. The identity was confirmed by GRP.
- 1358 *Telethusia ovalis* (Packard, 1873)
- 1359 Phobus brucei (Hulst, 1895)
- 1360 Phobus funerellus (Dyar, 1905)
- 1361 *Phobus incertus* Heinrich, 1956
- 1362 Pyla fasciolalis (Hulst, 1886)
- 1363 Pyla impostor Heinrich, 1956
- 1364 *Pyla aequivoca* Heinrich, 1956
- 1365 Pyla insinuatrix Heinrich, 1956
- 1366 *Pyla aenigmatica* Heinrich, 1956
- 1367 Pyla criddlella Dyar, 1907
- 1368 *Pyla fusca* (Haworth, 1828)
- 1369 Pyla hypochalciella (Ragonot, 1887)
- 1370 Pyla hanhamella Dyar, 1904
- 1371 *Pyla scintillans* (Grote, 1881)
- 1372 Pyla serrata Neunzig, 2003
- 1373 Pyla rainierella Dyar, 1904

Reported by Blackmore (1921, 1923) from Mt. Cheam and Lillooet. A voucher specimen in the UBC from Mt. Cheam was dissected and largely fits the description of *P. rainierella*. However, that specimen and the published figures of *P. rainierella* are at the edge of the range of variation in the highly variable sister species, *P. scintillans* (Grote), as illustrated in Heinrich (1956) and Neunzig (2003). These taxa may represent one variable species; further taxonomic and genetic work would shed light on the relationship between them. *Pyla rainierella* was thought by Heinrich (1956) and Neunzig (2003) to be restricted to Mt. Rainier, WA.

- 1374 Pyla aeneoviridella Ragonot, 1887
- 1375 Dioryctria abietivorella (Grote, 1878)
- 1376 *Dioryctria reniculelloides* Mutuura & Munroe, 1973 The Spruce Coneworm. Prior to its description in 1973, this species was known in North America under the Old World name *D. abietella* ([Denis & Schiffermüller]).
- 1377 Dioryctria pseudotsugella Munroe, 1959
- 1378 Dioryctria auranticella (Grote, 1883)
- 1379 Dioryctria rossi Munroe, 1959
- 1380 Dioryctria ponderosae Dyar, 1914
- 1381 Dioryctria okanaganella Mutuura, Munroe & Ross, 1969
- 1382 Dioryctria pentictonella Mutuura, Munroe & Ross, 1969
- 1383 Dioryctria vancouverella Mutuura, Munroe & Ross, 1969

1384 U Dioryctria zimmermani (Grote, 1877) Neunzig (2003) reported this species only from eastern North America, and reports from BC by Ross and Evans (1957a), Munroe (1959), and Prentice (1965) were thought to refer to D. cambiicola (Dyar). However, confirmed material reared from Jack Pine is now known from as far west as AB. The species may well occur in northeastern BC. 1385 Dioryctria cambiicola (Dyar, 1914)

- 1386 Dioryctria banksiella Mutuura, Munroe & Ross, 1969
- 1387 Dioryctria tumicolella Mutuura, Munroe & Ross, 1969
- 1388 Dioryctria contortella Mutuura, Munroe & Ross, 1969
- Dioryctria monticolella Mutuura, Munroe & Ross, 1969 1389
- 1390 Sarata nigrifasciella Ragonot, 1887
- 1391 Sarata edwardsialis (Hulst, 1886)
- 1392 Sarata pullatella (Ragonot, 1887)
- Macrorrhinia dryadella (Hulst, 1892) 1393
- 1394 Promylea lunigerella Ragonot, 1887
- 1395 Dasypyga alternosquamella Ragonot, 1887
- 1396 Etiella zinckenella (Treitschke, 1832) This species was introduced from the Palaearctic; it was present in North America by 1917.
- 1397 Eumysia maidella (Dyar, 1905)
- 1398 Staudingeria albipenella (Hulst, 1887)
- Hulstia undulatella (Clemens, 1860) 1399
- 1400 Honora mellinella Grote, 1878
- 1401 Honora subsciurella Ragonot, 1887
- Honora montinatatella (Hulst, 1887) 1402
 - The identity of voucher specimens in the UBC collection was confirmed via dissection by GRP.
- 1403 Honora perdubiella (Dyar, 1905) Known from a single female specimen in the UBC collection, from Mt. McLean, 7500 feet, collected 13 August 1921 by A. W. Hanham. The identity was confirmed via dissection by GRP.
- 1404 Zophodia grossulariella (Hübner, [1809])
- 1405 Melitara dentata (Grote, 1876)
- 1406 Rhagea packardella (Ragonot, 1887)
- 1407 Homoeosoma electella (Hulst, 1887)
- Homoeosoma phaeoboreas Goodson & Neunzig, 1993 1408 U Reported as an uncertain record in BC by Neunzig (1997).
- 1409Homoeosoma oslarellum Dyar, 1905
- Homoeosoma albescentella Ragonot, 1887 1410
- Homoeosoma impressale Hulst, 1886 1411
- 1412 Phycitodes mucidella (Ragonot, 1887)

Tribe Anerastiini

1413	Ragonotia dotalis (Hulst, 1886)
1414	Coenochroa californiella Ragonot, 1887

59. Family Crambidae (snout moths and grass moths)

Crambids are very small to large moths, with wingspans ranging from about 10 to 100 mm, but seldom exceeding 30 mm in BC species. They were historically placed within the Pyralidae. Like pyralids, they have tympanal chambers on the abdomen; however, they can be separated from pyralids by details of the tympanal opening.

Larvae of most crambid species are borers or concealed feeders of plants. Many species feed on primitive plants such as mosses, rushes and grasses. Several species are pests of cereal crops or turf grass. Many species in the subfamily Pyraustinae (e.g., species in the genera *Pyrausta, Loxostege*, and *Achyra*) are defoliating pests of pasture and field crops; others are borers in stems and fruits of various crops. Larvae of the subfamily Acentropinae are almost all aquatic as immatures: some feed on vascular plants in standing water, and others live in rapid streams under webs on rocks and feed on algae there. These larvae are either air breathers living in air-filled cases, or lack functional spiracles and take in dissolved oxygen through tracheal gills.

The family Crambidae is distributed around the world and contains about 9650 described species. About 850 species are known in North America, 131 of which are reported from BC. The arrangement of subfamilies, tribes and genera presented here follows Munroe et al. (1995). Several major subgroups of crambids have been revised by Munroe (1972a, 1972b, 1973, 1976a, 1976b), but other groups are poorly known.

Subfamily Scopariinae

1415	Gesneria centuriella ([Denis & Schiffermüller], 1775)
	The subspecies beringiella Munroe and caecalis (Walker) have been reported
	from BC.
1416	Cosipara tricoloralis (Dyar, 1904)
1417	Scoparia palloralis Dyar, 1906
1418	Scoparia biplagialis Walker, 1866
	Subspecies <i>fernaldalis</i> Dyar and <i>pacificalis</i> Dyar occur in BC; both were described from BC.

1419 U Scoparia basalis Walker, 1866 Western records are unconfirmed; they may refer to S. biplagialis Walker.

- 1420 Eudonia rectilinea (Zeller, 1874)
- 1421 Eudonia commortalis (Dyar, 1921)
- 1422 Eudonia expallidalis (Dyar, 1906)
- 1423 Eudonia torniplagalis (Dyar, 1904)
- 1424 Eudonia albertalis (Dyar, 1929)
- 1425 Eudonia vivida Munroe, 1972
- Recent BC record collected near Hazelton by deWaard (2010).
- 1426 Eudonia spaldingalis (Barnes & McDunnough, 1912)
- 1427 Eudonia spenceri Munroe, 1972
- 1428 Eudonia leucophthalma (Dyar, 1929)
- 1429 Eudonia echo (Dyar, 1929)
- 1430 *Eudonia alpina* (Curtis, 1850) This species has historically been referred to under the name *E. lugubralis* (Walker), now considered a synonym.

Subfamily Crambinae

Tribe Haimbachiini

1431 Occidentalia comptulatalis (Hulst, 1886)

Tribe Crambini

- 1432 Euchromius californicalis (Packard, 1873)
- 1433 Catoptria trichostomus (Christoph, 1858)
- 1434 *Catoptria maculalis* (Zetterstedt, 1840)
- 1435 Catoptria latiradiellus (Walker, 1863)
- 1436 *Catoptria oregonica* (Grote, 1880)
- 1437 *Chrysoteuchia topiarius* (Zeller, 1866) Subspecies *vachellellus* (Kearfott) has been reported from BC.
- 1438 *Crambus pascuella* (Linnaeus, 1758)
- The subspecies *floridus* Zeller is applicable to BC populations.
- 1439 Crambus hamella (Thunberg, 1794)
- 1440 *Crambus alienellus* (Zincken, 1817) Subspecies *labradoriensis* Christoph and *dissectus* Grote have been reported from BC.
- 1441 *Crambus bidens* Zeller, 1872
- 1442 Crambus perlella (Scopoli, 1763)
- 1443 Crambus unistriatellus Packard, 1867
- 1444 Crambus whitmerellus Klots, 1942
- The subspecies browni Klots is applicable to BC populations.
- 1445 Crambus tutillus McDunnough, 1921
- 1446 Crambus cockleellus Kearfott, 1908
- 1447 Crambus ainsliellus Klots, 1942
- 1448 Crambus praefectellus (Zincken, 1821)
- 1449 Crambus leachellus (Zincken, 1818)

- 1450 Crambus cypridalis Hulst, 1886
- 1451 Crambus occidentalis Grote, 1880
- 1452 Raphiptera argillaceellus (Packard, 1867)
- 1453 Agriphila straminella ([Denis & Schiffermüller], 1775)
- 1454 Agriphila plumbifimbriellus (Dyar, 1904)
- 1455 Agriphila ruricolellus (Zeller, 1863)
- 1456 Agriphila vulgivagellus (Clemens, 1860)
- 1457 Agriphila attenuatus (Grote, 1880)
- 1458 Neodactria luteolellus (Clemens, 1860)
- 1459 Neodactria caliginosellus (Clemens, 1860)
- 1460 Neodactria murellus (Dyar, 1904)
- 1461 *Pediasia aridella* (Thunberg, 1788) Subspecies *edmontellus* (McDunnough) has been reported from BC.
- 1462 *Pediasia truncatellus* (Zetterstedt, 1840)
- 1463 *Pediasia browerellus* (Klots, 1942)
- 1464 *Pediasia trisecta* (Walker, 1856)
- 1465 *Pediasia dorsipunctellus* (Kearfott, 1908)
- 1466 Tehama bonifatella (Hulst, 1887)
- 1467 *Thaumatopsis pexellus* (Zeller, 1863) Subspecies *coloradella* Kearfott has been reported from BC.
- 1468 Thaumatopsis repandus (Grote, 1880)

Subfamily Schoenobiinae

1469 *Donacaula melinellus* (Clemens, 1860) Subspecies *albicostellus* (Fernald) has been reported from BC.

Subfamily Acentropinae

Tribe Nymphulini

- 1470 *Elophila icciusalis* (Walker, 1859)
- 1471 Elophila obliteralis (Walker, 1859)
- 1472 Elophila occidentalis (Lange, 1956)
- 1473 Parapoynx maculalis (Clemens, 1860)
- 1474 Parapoynx allionealis Walker, 1859

Tribe Argyractini

- 1475 Petrophila kearfottalis (Barnes & McDunnough, 1917)
- 1476 *Petrophila confusalis* (Walker, 1866)
- 1477 Eoparargyractis floridalis Lange, 1956

Subfamily Odontiinae

Tribe Odontiini

- 1478 *Microtheoris ophionalis* (Walker, 1859) The subspecies *occidentalis* Munroe (type locality: BC) is applicable to BC populations.
- 1479 Anatralata versicolor (Warren, 1892)

Tribe Eurrhypini

1480 *Mimoschinia rufofascialis* (Stephens, 1834) Subspecies *novalis* (Grote) and *nuchalis* (Grote) have been reported from BC.

Subfamily Evergestinae

- 1481 *Evergestis pallidata* (Hufnagel, 1767) Introduced from Eurasia?
- 1482 Evergestis simulatilis (Grote, 1880)
- 1483 *Evergestis vinctalis* Barnes & McDunnough, 1914 The subspecies *muricoloralis* Munroe (type locality: BC) is applicable to BC populations.

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- 1484 *Evergestis obscuralis* Barnes & McDunnough, 1914 Subspecies *palousalis* Munroe occurs in BC.
- 1485 *Evergestis funalis* (Grote, 1878) Subspecies *columbialis* Munroe and *insulalis* Barnes & McDunnough occur in BC; both were described from BC.
- 1486 Evergestis subterminalis Barnes & McDunnough, 1914
- 1487 Prorasea simalis Grote, 1878
- 1488 Prorasea praeia (Dyar, 1917)
- 1489 Orenaia trivialis Barnes & McDunnough, 1914
- 1490 Orenaia pallidivittalis Munroe, 1956

Subfamily Glaphyriinae

- 1491 Stegea salutalis (Hulst, 1886)
- 1492 Dicymolomia metalliferalis (Packard, 1873)
- 1493 Chalcoela iphitalis (Walker, 1859)

Subfamily Pyraustinae

Tribe Pyraustini

- 1494 Saucrobotys fumoferalis (Hulst, 1886)
- 1495 *Saucrobotys futilalis* (Lederer, 1863) Subspecies *inconcinnalis* (Lederer) has been reported from BC.
- 1496 Ostrinia penitalis (Grote, 1876)
- 1497 U Ostrinia marginalis (Walker, 1866) Munroe (1976b) reported this species from across Canada and north to Dawson, YT, but BC was not specifically mentioned and no BC vouchers are known.
- 1498 Fumibotys fumalis (Guenée, 1854)
- 1499 Perispasta caeculalis Zeller, 1875
- 1500 *Eurrhypara hortulata* (Linnaeus, 1758) I Introduced from Eurasia; it was first found in NS in 1907 and in BC in 1977 (Gillespie and Gillespie 1982).
- 1501 *Anania tertialis* (Guenée, 1854) This species has historically been referred to under the name *coronata tertialis*. It has recently been shown to be a distinct species from *A. coronata* (Hufnagel), which is restricted to the Palaearctic (Yang et al. 2012).
- 1502 Anania mysippusalis (Walker, 1859)

- 1503 Anania funebris (Ström, 1768)
- Subspecies glomeralis (Walker) has been reported from BC.
- 1504 Sitochroa chortalis (Grote, 1873)
- 1505 *Loxostege sticticalis* (Linnaeus, 1761)
- 1506 *Loxostege anartalis* (Grote, 1877)
- Subspecies *albertalis* Barnes & McDunnough occurs in BC.
- 1507 *Loxostege thrallophilalis* (Hulst, 1886)
- 1508 *Loxostege sierralis* Munroe, 1976 The nominal subspecies (type locality BC) and subspecies *internationalis* Munroe occur in BC.
- 1509 Loxostege commixtalis (Walker, 1866)
- 1510 Loxostege cereralis (Zeller, 1872)
- 1511 Pyrausta nicalis (Grote, 1878)
- 1512 Pyrausta signatalis (Walker, 1866)
- 1513 *Pyrausta californicalis* (Packard, 1873)
- 1514 Pyrausta orphisalis Walker, 1859
- 1515 Pyrausta tuolumnalis Barnes & McDunnough, 1918
- 1516 *Pyrausta subsequalis* (Guenée, 1854) Subspecies *plagalis* Haimbach occurs in BC.
- 1517 Pyrausta borealis Packard, 1867
- 1518 *Pyrausta perrubralis* (Packard, 1873) Subspecies *saanichalis* Munroe, described from Vancouver Island, is applicable to at least some BC populations.
- 1519 Pyrausta semirubralis (Packard, 1873)
- 1520 *Pyrausta unifascialis* (Packard, 1873)
- 1521 *Pyrausta fodinalis* (Lederer, 1863)
 - Subspecies *septentrionicola* Munroe occurs in BC.
- 1522 *Pyrausta socialis* (Grote, 1877)

Tribe Spilomelini

- 1523 *Diastictis ventralis* (Grote & Robinson, 1867) Subspecies *seamansi* Munroe occurs in BC.
- 1524 Herpetogramma pertextalis (Lederer, 1863)
- 1525 Herpetogramma thestealis (Walker, 1859)
- 1526 Choristostigma plumbosignalis (Fernald, 1888)
- 1527 Choristostigma disputalis (Barnes & McDunnough, 1917)
- 1528 Udea rubigalis (Guenée, 1854)
- 1529 Udea profundalis (Packard, 1873)
- 1530 Udea washingtonalis (Grote, 1882)
- Subspecies hollandi Munroe was described from BC.
- 1531 Udea inquinatalis (Zeller, 1846)
- 1532 Udea nordeggensis (McDunnough, 1930)
- 1533 Udea saxifragae (McDunnough, 1935)

- 1534 Udea derasa Munroe, 1966
- 1535 Udea livida Munroe, 1966
- 1536 Udea turmalis (Grote, 1881)
- 1537 Udea itysalis (Walker, 1859)

British Columbia populations have been referred to as subspecies *kodiakensis* Munroe and *tillialis* (Dyar), the latter described from BC (Munroe 1966).

- 1538 Udea abstrusa Munroe, 1966
- 1539 Udea radiosalis (Möschler, 1883)
- 1540 *Desmia funeralis* (Hübner, 1796)
- 1541 Desmia maculalis Westwood, 1831
- 1542 Palpita magniferalis (Walker, 1861)
- 1543 *Diacme adipaloides* (Grote & Robinson, 1867) This species has historically been misidentified in western Canada as *D. elealis* (Walker).
- 1544 Mecyna mustelinalis (Packard, 1873)
- 1545 Nomophila nearctica Munroe, 1973

Superfamily Drepanoidea

60. Family Drepanidae (lutestring moths and hooktip moths)

Drepanids are medium-sized moths, ranging in size from about 35 to 45 mm. In North America, this group includes two superficially dissimilar subfamilies that have been treated as separate families in the past; they and a third Asian subfamily are united, based on the unique structure of the tympanum. In the subfamily Drepaninae, the adults resemble geometrids. In many species, forewing tips are sickle-shaped, thus the name "hooktips". In the Thyatirinae, adult moths resemble noctuids.

Most drepanid larvae feed on the foliage of trees or shrubs. Some are gregarious when young. The larvae of many drepanids have abdomens that taper to a point; many larvae rest with the head and tail raised.

The family Drepanidae contains about 660 described species. Twenty-one species are known in North America; BC has 11 species.

Subfamily Thyatirinae

Tribe Habrosynini

- 1546 Habrosyne scripta (Gosse, 1840) Subspecies chatfieldii Grote has been reported from BC.
 1547 Pseudothyatira cymatophoroides (Guenée, 1852)
 Tribe Macrothyatirini
- 1548 *Euthyatira pudens* (Guenée, 1852)

1549 *Euthyatira semicircularis* (Grote, 1881) Subspecies *griseor* (Barnes & McDunnough) has been reported from BC.

Tribe Ceranemotini

- 1550 *Ceranemota improvisa* (Edwards, 1873)
- 1551 Ceranemota fasciata (Barnes & McDunnough, 1910)
- 1552 Ceranemota albertae Clarke, 1938

Subfamily Drepaninae

Tribe Drepanini

- 1553 Drepana arcuata Walker, 1855 Subspecies siculifer Packard has been reported from BC.
 1554 Drepana bilineata (Packard, 1864)
- 1555 Eudeilinia herminiata (Guenée, [1858])

Tribe Oretini

1556 Oreta rosea (Walker, 1855)

Superfamily Lasiocampoidea

61. Family Lasiocampidae (tent caterpillars and lappet moths)

Lasiocampids are medium-sized to very large (25 to 120 mm), stout-bodied, hairy moths. British Columbia species are at the lower end of the size range, with wingspans ranging from about 25 to 35 mm; they are also predominantly brown, yellow or grey. The mouthparts are nonfunctional, the eyes are often hairy, and the antennae are somewhat feathery, especially in males. Tent caterpillar (*Malacosoma*) larvae are hairy and often colourful, with stripes and spots of white, blue, orange and other colours. Lappet moth larvae (*Tolype, Phyllodesma*) are softly hairy and have a small lobe or lappet on either side of each segment.

Lasiocampid larvae feed mostly on deciduous trees and shrubs. The tent caterpillars live in silken colonies and often cause severe defoliation during cyclical outbreaks.

The family Lasiocampidae is practically cosmopolitan, but is best represented in the tropics; it includes about 1950 species worldwide. In North America, 35 species are known; four of these occur in BC. The family in North America was revised by Franclemont (1973).

Subfamily Lasiocampinae

Tribe Gastropachini

1557 *Phyllodesma americana* (Harris, 1841)

Tribe Lasiocampini

 1558 Malacosoma disstria Hübner, 1820 The Forest Tent Caterpillar. This species is a destructive pest of *Populus* trees in the boreal forest.
 1559 Malacosoma californica (Packard, 1864)

The Western Tent Caterpillar. Subspecies *pluvialis* (Dyar) occurs in BC.

Subfamily Macromphaliinae

1560 *Tolype dayi* Blackmore, 1921 Crabo et al. (2015) treat *T. dayi* as a synonym of *T. distincta* French, and list records in the Pacific Northwest, including BC, under the latter name.

Superfamily Bombycoidea

62. Family Saturniidae (giant silk moths)

Giant silk moths are medium-sized to very large moths, with wingspans of about 30 to 280 mm. British Columbia species have wingspans ranging from about 60 mm (small *Hemileuca* specimens) to 140 mm (large *Antheraea*). The body is heavy and covered in hair-like scales. The mouthparts are reduced and non-functional. Larvae often have tubercles or spines on the body; the pupae usually are enclosed in silken cocoons, often incorporating leaves.

Adults are usually nocturnal, although some Saturniinae and many Hemileucinae fly in the daytime. The larvae are frequently polyphagous; some species eat dozens of plant genera. Most are solitary, but Hemileucinae larvae are gregarious, feeding in tight clusters. Hemileucinae larvae also bear tubercles with poisonous spines. Although the main commercial production of silk comes from *Bombyx mori* (Linnaeus) in the family Bombycidae, some silk is commercially produced by saturniid species.

The family Saturniidae is cosmopolitan and is absent from only the most northerly and southerly regions. It is best represented in the tropics, especially in the New World. There are about 2350 species worldwide, with 74 species recorded for North America. Seven species are recorded from BC. North American saturniids were treated in detail by Ferguson (1971, 1972) and Tuskes et al. (1996).

Subfamily Hemileucinae

Tribe Hemileucini

1561 S Coloradia pandora Blake, 1863 Reported by Blackmore (1927) and Llewellyn Jones (1951) under the name C. lindseyi Barnes & Benjamin, now considered a subspecies of C. pandora. The record is based on one specimen from Victoria, BC, "probably accidentally introduced". That is likely the case, although presumably naturally occurring strays have been collected on the west coast as far north as WA (L. G. Crabo, personal communication). 1562 Hemileuca eglanterina (Boisduval, 1852) The nominal subspecies occurs in BC; however Dyar (1904) and Llewellyn Jones (1951) erroneously reported subspecies shastaensis (Grote) from BC. Hemileuca nuttalli (Strecker, 1875) 1563 1564 Hemileuca hera (Harris, 1841) The nominate subspecies occurs in BC. **Subfamily Saturniinae** Tribe Saturniini Antheraea polyphemus (Cramer, 1776) 1565 The Polyphemus Moth. Tribe Attacini 1566 Hyalophora gloveri (Strecker, 1872) Glover's Silk Moth. Tuskes et al. (1996) treated H. gloveri as a subspecies of H. columbia (Smith), but western populations were reinstated as a full species by Pohl et al. (2010). 1567 Hyalophora euryalus (Boisduval, 1855) Populations in southeastern BC exhibit some gloveri (Strecker) traits that are indicative of past hybridisation (Tuskes et al. 1996) and have been historically referred to under the name kasloensis (Cockerell).

63. Family Sphingidae (sphinx moths; hornworms)

Sphinx moths are medium-sized to large (30 to 180 mm), heavy-bodied moths with long, narrow forewings and relatively small hind wings; in BC species, wingspans range from about 40 to 140 mm. Most larvae lack obvious hairs and usually have a spine or button-like process near the end of the body, thus giving them the name hornworms. Most species pupate in the soil or in leaf litter; the sheath of the developing proboscis is sometimes separate from the rest of the body, resembling the handle of a jug.

Sphinx moths fly strongly with rapidly beating wings; many can hover like hummingbirds, and feed on flower nectar by probing tubular blooms with the proboscis. Larvae of some species damage commercial crops. Larvae often rear up when disturbed and, in this position, have reminded some imaginative people of the Sphinx of Egypt. About 1450 species of Sphingidae are known worldwide. North America has approximately 130 species; 25 species are reported from BC, and one more is expected to be found. Hodges (1971) and Tuttle (2007) covered the North American Sphingidae; Kitching and Cadiou (2000) provided a complete world catalogue.

Subfamily Sphinginae

Tribe Acherontiini

1568 S Agrius cingulata (Fabricius, 1775)

Tribe Sphingini

1569	Manduca quinquemaculata (Haworth, 1803)
1570	Sphinx chersis (Hübner, 1823)
1571	Sphinx vashti Strecker, 1878

- 1572 Sphinx perelegans Edwards, 1874
- 1573 Sphinx poecila Stephens, 1828
- 1574 Sphinx luscitiosa Clemens, 1859
- 1575 Sphinx drupiferarum Smith, 1797
- 1576 U Lapara bombycoides Walker, 1856 Reported from BC by Smith (1994), but no BC voucher specimens are known. The species was not reported from BC by Tuttle (2007), but it could occur in the boreal forests of northeastern BC.

Subfamily Smerinthinae

Tribe Smerinthini

- 1577 Smerinthus jamaicensis (Drury, 1773)
- 1578 Smerinthus cerisyi Kirby, 1837
- 1579 *Smerinthus ophthalmica* Boisduval, 1855 This name was raised from synonymy with *S. cerisyi* Kirby by Pohl et al. (2010). It

occurs across southern BC and west of the Coast Ranges, north to AK.

- 1580 Paonias excaecata (Smith, 1797)
- 1581 Paonias myops (Smith, 1797)
- 1582 Pachysphinx modesta (Harris, 1839)

Subfamily Macroglossinae

Tribe Dilophonotini

- 1583 *Hemaris thysbe* (Fabricius, 1775)
- 1584 *Hemaris diffinis* (Boisduval, 1836) Historical BC records under this name are actually *H. thetis* (Boisduval) (Schmidt 2009); however, true *H. diffinis* was recently discovered in the Peace River region of northeastern BC by J. H. Shepard.

1585 *Hemaris thetis* (Boisduval, 1855) This species was listed by Cannings and Scudder (2007) and Tuttle (2007) as *H. senta* (Strecker), a recent synonym (Schmidt 2009).

Tribe Macroglossini

1585.1 P *Proserpinus lucidus* (Boisduval, 1852) This species is reported as "probable" for BC by Tuttle (2007).
1586 *Proserpinus clarkiae* (Boisduval, 1852)
1587 *Proserpinus flavofasciata* (Walker, 1856)
1588 U *Darapsa choerilus* (Cramer, [1780])

1588 U Darapsa choerilus (Cramer, [1780]) Listed as uncertain for BC by Tuttle (2007). The only known BC record is from Ucluelet; it is likely mislabelled. However, this species probably occurs in BC's Peace River region.

- 1589 S *Hyles euphorbiae* (Linnaeus, 1758) I This species was introduced to BC for biological control of *Euphorbia* beginning in 1966 (Harris and Alex 1971); it has not yet become established in the province, but it is expected to do so via dispersal from populations in AB.
- 1590 Hyles gallii (Rottemburg, 1775)
- 1591 M Hyles lineata (Fabricius, 1775)
- 1592 *Deilephila elpenor* (Linnaeus, 1758) I Introduced from Europe to BC; known only from the Lower Mainland (Pitt Meadows, Maple Ridge, Langley). According to F. A. H. Sperling (personal communication), this species was intentionally released by a sphingid collector near Vancouver before 1995.

Superfamily Geometroidea

64. Family Uraniidae (swallowtail moths)

Uraniids are small to large, usually slender-bodied moths. North American species have wingspans of 15 to 20 mm. Some tropical species are brilliantly iridescent and tailed like papilionid butterflies, but most are cryptically coloured. The family is defined by characters of the abdominal tympanum and wing venation. Some species, including the BC species, have notched hind wings.

Larvae of Epipleminae, including the North American species, are social when young, making webs that they abandon as they mature. Adults hold their wings outspread or rolled, often with the forewings and hind wings widely separated.

The family Uraniidae consists of about 700 described species, mostly in the tropics. Ten species are known in North America, one of which occurs in BC.

Subfamily Epipleminae

1593 Callizzia amorata Packard, 1876

65. Family Geometridae (inchworm moths; loopers)

Geometrid moths are small to very large (with wingspans of about 10 to 50 mm in BC, but up to more than 100 mm elsewhere), and typically slender bodied, with broad, delicate wings. In our fauna, colours are usually subdued, with browns, greys, whites and rusts predominating; some are green, yellow, or black and white. Delicate transverse lines or bands may cross both pairs of wings. In some species, the females have short wings or are wingless; wing loss is more common in the Geometridae than in any other lepidopteran family. Adult geometrids are mostly nocturnal, and many are attracted to lights. When resting, they typically hold the cryptically coloured wings outspread, but some species fold their wings tightly over the abdomen. Some species are diurnal; some of these are brightly coloured.

Most larvae have lost the front three of the usual five pairs of prolegs, but some species have retained more than two pairs (with some prolegs reduced). The loss of prolegs results in the looping habit of the moving larva; the name "Geometridae" is derived from this "earth-measuring" motion.

Characteristically, many geometrid larvae are beautifully camouflaged and, when disturbed, may stand erect on the prolegs, strikingly resembling a little twig. The larvae usually are externally feeding defoliators, although some attack fruits, dead leaves and stored food products; a few are carnivorous. Many are serious pests, especially of fruit-bearing shrubs and trees and of ornamental and forest trees. Adults of some *Scopula* species in Southeast Asia imbibe blood from wounds in mammals, or sip sweat and tears.

The family Geometridae is huge, containing about 23 000 species globally. About 1425 species are described in North America; 362 species have been reported from BC, and a further six species are expected to be found, making the family the third-most diverse group of moths in the province. Most Canadian species of geometrids were treated by McGuffin (1967, 1972, 1977, 1981, 1987, 1988) and Bolte (1990), but many genera in the subfamily Larentiinae remain poorly known. Other significant North American works are by Ferguson (1985, 2008). A global catalogue of the Geometridae was published by Scoble (1999).

Subfamily Larentiinae

Tribe Cidariini 1594 *Dysstroma citrata* (Linnaeus, 1761)

1595		Dysstroma sobria Swett, 1917
1596		Dysstroma suspectata (Möschler, 1874)
		This species is known in BC from a single specimen from Kootenay Park, verified
		via DNA barcode (B. C. Schmidt, personal communication).
1597		<i>Dysstroma ochrofuscaria</i> Ferguson, 1983
1597.1	Р	Dysstroma infuscata (Tengström, 1869)
		This species is known from YT and AB, and likely occurs in BC also.
1598		Dysstroma truncata (Hufnagel, 1767)
1500		Subspecies <i>transversata</i> (Kellicott) has been reported from BC.
1599		Dysstroma pseudimmanata (Heydemann, 1929)
1(00		Historical reports of <i>D. walkerata</i> (Pearsall) refer to this species (Pohl et al. 2010).
1600		Dysstroma nersillata (Guenee, [1858])
		from BC.
1601		Dysstroma formosa (Hulst, 1896)
		Subspecies occidentata (Taylor) has been reported from BC.
1602		Dysstroma colvillei Blackmore, 1926
1603		Dysstroma brunneata (Packard, 1867)
		Subspecies ethela (Hulst) has been reported from BC.
1604		Dysstroma mancipata (Guenée, [1858])
		Subspecies decorata (Taylor) has been reported from BC.
1605		Eulithis propulsata (Walker, 1862)
1606		Eulithis testata (Linnaeus, 1761)
1607		Eulithis destinata (Möschler, 1860)
		Subspecies harveyata (Taylor) has been reported from BC.
1608		<i>Eulithis flavibrunneata</i> (McDunnough, 1943)
1609	U	Eulithis explanata (Walker, 1862)
		The record from BC by Forbes (1948) probably refers to <i>E. xylina</i> (Hulst), as no BC
		vouchers are known and this species has otherwise not been reported from BC.
		inadequately studied Peace River region.
1610		Eulithis xvlina (Hulst, 1896)
		Subspecies <i>speciosa</i> (Hulst) has been reported from BC.
1611		Eurhinosea flavaria Packard, 1873
1612		Antepirrhoe semiatrata (Hulst, 1881)
1613		Antepirrhoe fasciata (Barnes & McDunnough, 1918)
1614		Antepirrhoe atrifasciata (Hulst, 1888)
1615		Ecliptopera silaceata ([Denis & Schiffermüller], 1775)
		Subspecies <i>albolineata</i> (Packard) has been reported from BC.
1616		Colostygia circumvallaria (Taylor, 1906)
		This species has been reported from BC by various authors, including Cannings
		and Scudder (2007), as <i>C. turbata</i> Hübner, a Palaearctic species.
1617		Plemyria georgii Hulst, 1896
		Subspecies <i>benesignata</i> (Barnes & McDunnough) has been reported from BC.

1618	Thera juniperata (Linnaeus, 1758)	I
1619	Thera otisi (Dyar, 1904)	
1620	Ceratodalia gueneata Packard, 1876	
1621	Lampropteryx suffumata ([Denis & Schiffermüller], 1775)	
	A holarctic species, newly discovered in North America by deWaard et al. (2008)	
Tribe Hy	driomenini	
1622	Hydriomena tuolumne Barnes & McDunnough, 1917	
1600	Known in BC from specimens in the RBCM from Wellington and Thetis Island.	
1623	Hydriomena exculpata Barnes & McDunnough, 191/	
1624	Hydriomena expurgata Barnes & McDunnough, 1918	
1625	Subspecies <i>nicolensis</i> McDunnougn occurs in BC.	
1025	Subspecies <i>quaesitata</i> Barnes & McDunnough has been reported from BC	
1626	Hvdriomena perfracta Swett, 1910	
1627	Hydriomena marinata Barnes & McDunnough, 1917	
	Subspecies exasperata Barnes & McDunnough and marinata Barnes & McDunnough	ı
	have been reported from BC.	
1628	Hydriomena edenata Swett, 1909	
1(20	Subspecies grandis Barnes & McDunnough has been reported from BC.	
1629	Hydriomena divisaria (Walker, 1000)	
1630	Hydriomena renunciala (VValker, 1862) Subspecies columbiata Taulor and pernigrata Barnes & McDuppough have beer	
	reported from BC.	1
1631	Hydriomena albimontanata McDunnough, 1939	
1632	Hydriomena nevadae Barnes & McDunnough, 1917	
1633	Hydriomena californiata (Packard, 1871)	
1634	Hydriomena crokeri Swett, 1910	
1635	Hydriomena ruberata (Freyer, [1831])	
1636	Hydriomena macdunnoughi Swett, 1918	
1637	Hydriomena furcata (Thunberg, 1784)	
	The nominate subspecies occurs in BC.	
1638	Hydriomena quinquefasciata (Packard, 1871)	
1639	Hydriomena albifasciata (Packard, 1874)	
16.40	Subspecies <i>reflata</i> Grote and <i>victoria</i> Barnes & McDunnough occur in BC.	
1640	Hydriomena speciosata (Packard, 18/4)	
1641	Hydriomena morosata Barnes & McDunnough, 191/	
1642	Hydriomena nubilofasciata (Packard, 18/1)	
1643	Hydriomena manzanita Taylor, 1906	
1644	Triphosa haesitata (Guenée, [1858])	
1645	Coryphista meadii (Packard, 1874)	
1616	The nominate subspecies has been reported from BC.	
1040	Subspecies <i>bluff</i> (Bryk) occurs in BC.	

- 1647 Rheumaptera hastata (Linnaeus, 1758)
 - Subspecies gothicata (Guenée) has been reported from BC.
- 1648 Rheumaptera subhastata (Nolcken, 1870)
- Subspecies confusa (McDunnough) has been reported from BC.
- 1649 Entephria kidluitata (Munroe, 1951)
- 1650 Entephria multivagata (Hulst, 1881)
- 1651 Entephria takuata Taylor, 1908
- 1652 Entephria lagganata Taylor, 1908
- 1653 *Mesoleuca ruficillata* (Guenée, [1858])
- 1654 *Mesoleuca gratulata* (Walker, 1862) Subspecies *latialbata* Barnes & McDunnough has been reported from BC.
- 1655 *Spargania magnoliata* Guenée, [1858] Subspecies *pernotata* (Hulst) has been reported from BC.
- 1656 Spargania luctuata ([Denis & Schiffermüller], 1775)
- Subspecies obductata (Möschler) has been reported from BC.
- 1657 Perizoma basaliata (Walker, 1862)
- 1658 Perizoma grandis (Hulst, 1896)
- 1659 Perizoma curvilinea (Hulst, 1896)
- 1660 Perizoma costiguttata (Hulst, 1896)
- 1661 Perizoma custodiata (Guenée, [1858])
- 1662 Anticlea vasiliata Guenée, [1858]
- 1663 Anticlea multiferata (Walker, 1863)

Tribe Stamnodini

- 1664 Stamnodes blackmorei Swett, 1915
- 1665 *Stamnodes topazata* (Strecker, 1899)
- Subspecies albida Barnes & McDunnough has been reported from BC.
- 1666 Stamnodes marmorata (Packard, 1871)
- 1667 Stamnoctenis morrisata (Hulst, 1887)
- 1668 Stamnoctenis pearsalli (Swett, 1914)

Tribe Xanthorhoini

- 1669 *Xanthorhoe labradorensis* (Packard, 1867) This species was referred to in early reports under the Palaearctic name *X. designata* (Hufnagel).
- 1670 Xanthorhoe packardata McDunnough, 1945
- 1671 *Xanthorhoe abrasaria* (Herrich-Schäffer, [1855]) Subspecies *aquilonaria* Cassino & Swett (type locality Atlin BC) and *congregata* (Walker) have been reported from BC.
- 1672 Xanthorhoe iduata (Guenée, [1858])
- 1673 Xanthorhoe macdunnoughi Swett, 1918

1673.1	Р	Xanthorhoe ramaria Swett & Cassino, 1920
		Historical records of this species from BC are erroneous; populations west of the Rocky Mountains are now <i>X. delectaria</i> Cassino & Swett, which was until recently treated as a subspecies of <i>X. ramaria</i> (Pohl et al. 2010). However, <i>X. ramaria</i> is known from the boreal forests of AB, and likely occurs in BC's Peace River region
		(B. C. Schmidt, personal communication).
1674		Xanthorhoe delectaria Cassino & Swett, 1920
		This taxon, described from Atlin, BC, was historically treated as a subspecies of <i>X. ramaria</i> Swett & Cassino, but was raised to species status by Pohl et al. (2010).
1675		Xanthorhoe lagganata Swett & Cassino, 1920
		This species was previously reported from BC under the name <i>X. incursata</i> (Hübner), a Palaearctic species. All North American material is <i>X. lagganata</i> Swett (Pohl et al. 2010).
1676		Xanthorhoe baffinensis McDunnough, 1939
1677		Xanthorhoe algidata (Möschler, 1874)
		Reported by Cannings and Scudder (2007) under the name <i>X. dodata</i> Swett & Cassino, which was synonymized with <i>X. algidata</i> by Pohl et al. (2010).
1678		Xanthorhoe pontiaria Taylor, 1906
1679		Xanthorhoe fossaria Taylor, 1906
		Subspecies <i>atlinensis</i> Swett and <i>blackmorei</i> Swett were both described from BC material.
1680		Xanthorhoe decoloraria (Esper, [1806])
		Until recently this species was known in North America by the name <i>X. munitata</i> (Hübner), but that taxon was recently synonymised with <i>decoloraria</i> (Esper) (Scoble 1999). Subspecies <i>convalaria</i> (Guenée) has been reported from BC.
1681		Xanthorhoe alticolata Barnes & McDunnough, 1916
1682		Xanthorhoe defensaria (Guenée, [1858])
1683		Xanthorhoe ferrugata (Clerck, 1759)
		The nominate subspecies has been reported from BC.
1684		Xanthorhoe clarkeata Ferguson, 1987
1685		Xanthorhoe borealis Hulst, 1896
1686		Xanthorhoe lacustrata (Guenée, [1858])
1687		Epirrhoe alternata (Müller, 1764)
1688		Epirrhoe plebeculata (Guenée, [1858])
		Subspecies vivida Barnes & McDunnough has been reported in BC.
1689		Epirrhoe sperryi Herbulot, 1951
		This species was historically reported from BC under the name <i>E. tristata</i> (Linnaeus), a Palaearctic species.
1690		Euphyia intermediata (Guenée, [1858])
		Reported by Llewellyn Jones (1951) as <i>E. unangulata</i> (Haworth), an Old World name.
1691		Enchoria lacteata (Packard, 1876)
1692	U	Zenophleps lignicolorata (Packard, 1874)
		Canadian populations traditionally treated as <i>Z. lignicolorata</i> may be <i>Z. alpinata</i> Cassino (Pohl et al. 2010). British Columbia populations have been referred to as subspecies <i>victoria</i> Taylor.

- 1693 Zenophleps alpinata Cassino, 1927
- 1694 *Psychophora phocata* (Möschler, 1862)
- 1695 *Psychophora suttoni* Heinrich, 1942 A recent BC record by B. C. Schmidt at Pink Mountain is provisionally listed here; this actually represents a new species near *P. suttoni* that awaits a formal description.
- 1696 *Costaconvexa centrostrigaria* (Wollaston, 1858)

Tribe Asthenini

- 1697 Hydrelia albifera (Walker, 1866)
- 1698 Hydrelia brunneifasciata (Packard, 1876)
- 1699 Venusia cambrica Curtis, 1839
- 1700 *Venusia duodecemlineata* (Packard, 1873) This species is known in BC (and Canada) from one specimen in the PFC, identified via DNA barcode (deWaard et al. 2011).
- 1701 Venusia obsoleta (Swett, 1916)
- 1702 Venusia pearsalli (Dyar, 1906)
- 1703 *Trichodezia albovittata* (Guenée, [1858]) Subspecies *tenuifasciata* Barnes & McDunnough has been reported in BC.
- 1704 S *Minoa murinata* (Scopoli, 1763) Introduced to control Leafy Spurge in 1994; it may not be established in the province (McClay et al. 1995).

Tribe Operophterini

- 1705 *Epirrita autumnata* (Borkhausen, 1794) Subspecies *henshawi* (Swett) and *omissa* (Harrison) have been reported from BC.
- 1706 *Epirrita undulata* (Harrison, 1942)
- 1707 *Epirrita pulchraria* (Taylor, 1907)
- 1708 *Operophtera brumata* (Linnaeus, 1758) I Known as the Winter Moth, this alien species was first reported in North America in NS in 1949, but it may have been already present for more than 30 years by that time (Gillespie and Gillespie 1982). It was first found in BC in 1976.
- 1709 Operophtera bruceata (Hulst, 1886)
- 1710 Operophtera danbyi (Hulst, 1896)

Tribe Eudulini

1711 Eubaphe mendica (Walker, 1854)

Tribe Eupitheciini

- 1712 Horisme intestinata (Guenée, [1858])
- 1713 Horisme incana Swett, 1918
- Subspecies columbia McDunnough has been reported from BC.
- 1714 Eupithecia palpata Packard, 1873
- 1715 Eupithecia ornata (Hulst, 1896)
- 1716 Eupithecia columbiata (Dyar, 1904)
- 1717 Eupithecia maestosa (Hulst, 1896)

1718	<i>Eupithecia pusillata</i> ([Denis & Schiffermüller], 1775)
	This is a Palaearctic species that was first collected in BC at Port Moody in 1976
	and in North Vancouver in 1986. It is likely established on ornamental juniper in
	BC's Lower Mainland. Previous reports of this species in North America refer to
	<i>sillata</i> (deWaard et al. 2010).
1719	Eupithecia interruptofasciata Packard, 1873
	Historically, this species was variously reported from BC as a subspecies under the Palaearctic names <i>E. sobrinata</i> (Hübner) and <i>E. pusillata</i> ([Denis & Schiffermüller]).
1720	Eupithecia longipalpata Packard, 1876
1721	Eupithecia placidata Taylor, 1908
1722	Eupithecia unicolor (Hulst, 1896)
1723	Eupithecia pseudotsugata MacKay, 1951
1724	Eupithecia misturata (Hulst, 1896)
1725	Eupithecia pygmaeata (Hübner, [1799])
	Subspecies obumbrata Taylor occurs in BC.
1726	Eupithecia bryanti Taylor, 1906
1727	Eupithecia regina Taylor, 1906
1728	Eupithecia borealis (Hulst, 1898)
1729	Eupithecia subfuscata (Haworth, 1809)
1730	Eupithecia tripunctaria Herrich-Schäffer, 1852
1731	Eupithecia harrisonata MacKay, 1951
1732	Eupithecia casloata (Dyar, 1904)
1733	Eupithecia rotundopuncta Packard, 1871
1734	Eupithecia intricata (Zetterstedt, [1839])
	Subspecies taylorata Swett occurs in BC.
1735	Eupithecia satyrata (Hübner, [1813])
1706	Subspecies <i>dodata</i> Taylor occurs in BC.
1/36	Eupithecia nimbicolor (Hulst, 1896)
1737	Eupíthecia cretaceata (Packard, 1874)
1738	Eupíthecia behrensata Packard, 1876
1739	Eupithecia sharronata Bolte, 1990
1740	Eupithecia gelidata Möschler, 1860
1741	Eupithecia multistrigata (Hulst, 1896)
1742	Eupithecia perfusca (Hulst, 1898)
	Llewellyn Jones (1951) reported this species from BC under the Palaearctic name <i>E. innotata</i> (Hufnagel).
1743	Eupithecia annulata (Hulst, 1896)
1744	Eupithecia olivacea Taylor, 1906
1745	Eupithecia lachrymosa (Hulst, 1900)
1746	Eupithecia lafontaineata Bolte, 1990
1747	Eupithecia lariciata (Freyer, 1841)

- 1748 Eupithecia niphadophilata (Dyar, 1904)
- 1749 Eupithecia subcolorata (Hulst, 1898)
- 1750 Eupithecia assimilata Doubleday, 1856
- 1751 Eupithecia tenuata Hulst, 1880
- 1752 Eupithecia agnesata Taylor, 1908
- 1753 Eupithecia niveifascia (Hulst, 1898)
- 1754 Eupithecia johnstoni McDunnough, 1946

Known in BC from a single specimen from Okanagan Falls, in the RBCM.

- 1755 Eupithecia albicapitata Packard, 1876
- 1756 Eupithecia mutata Pearsall, 1908
- 1757 Eupithecia columbrata McDunnough, 1940
- 1758 Eupithecia spermaphaga (Dyar, 1917)
- 1759 Eupithecia gilvipennata Cassino & Swett, 1922
- 1760 Eupithecia absinthiata (Clerck, 1759)
- 1761 Eupithecia anticaria Walker, 1862
- 1762 Eupithecia graefii (Hulst, 1896)
- 1763 *Eupithecia nevadata* Packard, 1871 The nominate subspecies occurs in BC.
- 1764 Eupithecia ravocostaliata Packard, 1876
- 1765 Prorella leucata (Hulst, 1896)
- 1766 Prorella mellisa (Grossbeck, 1908)
- 1767 *Pasiphila rectangulata* (Linnaeus, 1758) I Introduced from Europe, this species was first detected in North America in NS in 1970 (Ferguson and Mello 1996).

Tribe Lobophorini

- 1768 *Carsia sororiata* (Hübner, [1813]) Subspecies *alpinata* Packard, *columbiata* McDunnough, and *thaxteri* Swett have been reported from BC.
- 1769 *Aplocera plagiata* (Linnaeus, 1758) I Introduced from Europe in 1967 to control St. John's Wort (Gillespie and Gillespie 1982), this species has subsequently become established in the southern Interior (deWaard 2010).
- 1770 Acasis viridata (Packard, 1873)
- 1771 Cladara limitaria (Walker, 1860)

Subspecies nigroangulata (Strecker) has been reported from BC.

- 1772 Cladara atroliturata (Walker, [1863])
- 1773 Lobophora nivigerata Walker, 1862
- 1774 *Lobophora montanata* Packard, 1874 Lafontaine and Troubridge (2011) correctly reported this species from BC. They also erroneously report in their Appendix 3 that BC records represent a misidentification, and that the species is known only from the southern Rockies.
- 1775 Lobophora simsata Swett, 1920
- 1776 Lobophora magnoliatoidata (Dyar, 1904)
1777 Lobophora canavestita (Pearsall, 1906)

Subfamily Sterrhinae

Tribe Sterrhini

- 1778 *Idaea demissaria* (Hübner, [1831]) Subspecies *columbia* (McDunnough) has been reported from BC.
- 1779 Idaea rotundopennata (Packard, 1876)
- 1780 Idaea dimidiata (Hufnagel, 1767)

Tribe Cosymbiini

- 1781 Cyclophora dataria (Hulst, 1887)
- 1782 Cyclophora pendulinaria (Guenée, [1858])

Tribe Timandrini

1783 *Haematopis grataria* (Fabricius, 1798)

Tribe Scopulini

- 1783.1 P Scopula limboundata (Haworth, 1809)
 - This species has not been found in BC, but it likely occurs in the boreal forest of BC's Peace River region.
- 1784 Scopula ancellata (Hulst, 1887)
- 1785 Scopula fuscata (Hulst, 1887)
- 1786 *Scopula junctaria* (Walker, 1861) The nominate subspecies has been reported from BC.
- 1787 *Scopula quinquelinearia* (Packard, 1871) This taxon was historically treated as a subspecies of *S. junctaria* (Walker), but was raised to species status by Pohl et al. (2010).
- 1788 Scopula frigidaria (Möschler, 1860)
- 1789 Scopula siccata McDunnough, 1939
- 1790 Scopula cajanderi (Herz, 1903)
- 1791 *Scopula inductata* (Guenée, [1858]) Reported from BC by Shepard (unpublished report B); it is known from several specimens in the CNC and RBCM (deWaard 2010).
- 1792 Scopula luteolata (Hulst, 1880)
- 1793 Scopula sideraria (Guenée, [1858])
- 1794 Scopula sentinaria (Geyer, 1837)
- 1795 *Leptostales rubromarginaria* (Packard, 1871)
- 1796 U *Leptostales ferruminaria* (Zeller, 1872) Reported from BC by Shepard (unpublished report B); vouchers have not been confirmed, but this rare moth is known from the Peace River parkland of adjacent AB: it likely occurs in BC.

Subfamily Geometrinae

Tribe Nemoriini

- 1797 Chlorosea nevadaria Packard, 1873
- 1798 *Chlorosea banksaria* Sperry, 1944 The nominate subspecies has been reported from BC.

- 1799 Nemoria unitaria (Packard, 1873)
- 1800 Nemoria darwiniata (Dyar, 1904) The nominate subspecies occurs in BC.
- 1801 Nemoria glaucomarginaria (Barnes & McDunnough, 1917)
- 1802 *Dichorda rectaria* (Grote, 1877) Reported from BC by deWaard (2010) based on three specimens in the Smithsonian Institution. Ferguson (1985) listed this species as "uncertain" in BC, as subspecies *cockerelli* Sperry.

Tribe Synchlorini

- 1803 *Synchlora aerata* (Fabricius, 1798) Subspecies *liquoraria* Guenée occurs in BC.
- 1804 *Synchlora bistriaria* (Packard, 1876) Lafontaine and Troubridge (2011) mistakenly reported that western Canadian records of this species are erroneous. It is known across western Canada.

Tribe Hemitheini

- 1805 Chlorochlamys triangularis Prout, 1912
- 1806 Hemithea aestivaria (Hübner, [1799]) I Introduced from Eurasia; this species was first found in North America in BC in 1978 (Gillespie and Gillespie 1982).
 1907 Marchae in a character (Mallerry [1962])
- 1807 *Mesothea incertata* (Walker, [1863]) The nominate subspecies and subspecies *viridipennata* (Hulst) have been reported in BC.

Subfamily Archiearinae

1808 Archiearis infans (Möschler, 1862) Subspecies oregonensis (Swett) occurs in BC.

1809 Leucobrephos brephoides (Walker, 1857)

Subfamily Ennominae

Tribe Alsophilini

1810 Alsophila pometaria (Harris, 1841)

Tribe Cassymini

- 1811 Nematocampa resistaria (Herrich-Schäffer, [1856])
- 1812 Protitame virginalis (Hulst, 1900)

1813 *Protitame subalbaria* (Packard, 1873) Listed by Cannings and Scudder (2007) under the name *P. matilda* (Dyar), a recent synonym.

Tribe Macariini

- 1814 *Eumacaria madopata* (Guenée, [1858]) Listed by Cannings and Scudder (2007) under the name *E. latiferrugata* (Walker), a synonym that was overlooked prior to Ferguson (2008).
- 1815 Speranza brunneata (Thunberg, 1784)
- 1816 Speranza amboflava (Ferguson, 1953)

The BC record in Ferguson (2008) is listed as uncertain, but this species certainly occurs in BC and is supported by vouchers in the CNC. It was historically reported under the name *S. suppurea* (Packard).

- 1817 Speranza boreata Ferguson, 2008
- 1818 Speranza exauspicata (Walker, 1861)
- 1819 Speranza bitactata (Walker, 1862)
- 1820 Speranza decorata (Hulst, 1896)
- 1821 Speranza colata (Grote, 1881)
- Subspecies correllatum (Hulst) occurs in BC.
- 1822 Speranza occiduaria (Packard, 1874) Listed by Cannings and Scudder (2007) under the name andersoni (Swett) (type locality: Atlin, BC), a recent synonym (Pohl et al. 2010).
- 1823 Speranza simplex (Dyar, 1907)
- 1824 Speranza lorquinaria (Guenée, [1858])
- 1825 Speranza loricaria (Eversmann, 1837)
- 1826 Speranza plumosata (Barnes & McDunnough, 1917)
- 1827 Speranza quadrilinearia (Packard, 1873)
- 1828 Epelis truncataria (Walker, 1862)
- 1829 *Macaria notata* (Linnaeus, 1758) Listed by Cannings and Scudder (2007) and others under the name *M. ulsterata* (Pearsall), a recent synonym. The nominate subspecies occurs in BC.
- 1830 *Macaria aemulataria* Walker, 1861 Listed by Cannings and Scudder (2007) under the name *M. perplexata* (Pearsall), a recent synonym.
- 1831 *Macaria masquerata* Ferguson, 2008 Previously considered to be conspecific with *M. bicolorata* (Fabricius), this species was recently described by Ferguson (2008).
- 1832 *Macaria adonis* Barnes & McDunnough, 1918
- 1833 *Macaria sexmaculata* Packard, 1867 Subspecies *incolorata* Dyar occurs in BC.
- 1834 *Macaria signaria* (Hübner, [1809]) Includes *unipunctaria* (Wright), *marmorata* (Ferguson), and *submarmorata* Walker, all recent synonyms since Ferguson (2008).
- 1835 Digrammia californiaria (Packard, 1871)
- 1836 Digrammia sexpunctata (Bates, 1886) This species was reported by Llewellyn Jones (1951), but no BC vouchers could be located by Ferguson (2008), who reported it only from the adjacent northwestern USA, as far north as Boise, ID. Recent collections from southern BC by J. deWaard and B. C. Schmidt have been confirmed as this species (B. C. Schmidt, personal communication).
 1827
- 1837 Digrammia delectata (Hulst, 1887)
- 1838 *Digrammia ubiquitata* Ferguson, 2008 Prior to Ferguson (2008), this species was often confused with *D. denticulata* (Grote) and *D. sexpunctata* (Bates) in collections.
- 1839 Digrammia denticulata (Grote, 1883)
- 1840 Digrammia nubiculata (Packard, 1876)
- 1841 *Digrammia curvata* (Grote, 1880)

that species in the Excluded Taxa list. 1844 Digrammia muscariata (Guenée, [1858]) Also listed by Cannings and Scudder (2007) as D. respersata (Hulst), which is now considered to be a subspecies of D. muscariata. British Columbia material previously identified as "D. respersata" is a mix of two taxa: Garry Oak feeders from Vancouver Island are D. muscariata subspecies teucaria (Strecker), but material from the southern mainland have been redetermined as D. extenuata Ferguson, which was not described until 2008 (B. C. Schmidt, personal communication). Digrammia extenuata Ferguson, 2008 1845 1846 Digrammia rippertaria (Duponchel, 1830) Reported by many workers, including Llewellyn Jones (1951) and Ross and Evans (1958), as D. hebetata (Hulst) under a previous taxonomic arrangement. Digrammia decorata (Grossbeck, 1907) 1847 1848 Digrammia subminiata (Packard, 1873) 1849 Digrammia neptaria (Guenée, [1858]) 1850 Digrammia irrorata (Packard, 1876) Subspecies venosata (McDunnough) occurs in BC. Tribe Boarmiini Dasyfidonia avuncularia (Guenée, [1858]) 1851 1852 Orthofidonia tinctaria (Walker, 1860) All BC Orthofidonia were erroneously reported by Cannings and Scudder (2007) as O. exornata (Walker); see note in the Excluded Taxa list. 1853 Hesperumia sulphuraria Packard, 1873 1854 Hesperumia latipennis (Hulst, 1896) 1855 Neoalcis californiaria (Packard, 1871) 1856 Glena nigricaria (Barnes & McDunnough, 1913) 1857 Stenoporpia pulmonaria (Grote, 1881) Subspecies albescens (Hulst) and satisfacta (Barnes & McDunnough) have been reported from BC. 1858 Stenoporpia separataria (Grote, 1883) Stenoporpia excelsaria (Strecker, 1899) 1859 1860 Aethalura intertexta (Walker, 1860) Subspecies fumata (Barnes & McDunnough) has been reported from BC. 1861 Iridopsis clivinaria (Guenée, [1858]) Subspecies profanata (Barnes & McDunnough) has been reported from BC. 1862 Iridopsis larvaria (Guenée, [1858]) 1863 Iridopsis emasculatum (Dyar, 1904) This species was described from Kaslo, BC, as a variety of I. humaria (Guenée); it is now recognised as a distinct species (Scoble 1999). 1864 Anavitrinella pampinaria (Guenée, [1858]) Anavitrinella addendaria (Grossbeck, 1908) 1865 136

Digrammia triviata (Barnes & McDunnough, 1917)

Doubtfully distinct from D. continuata (Walker) (Ferguson 2008); see note under

Digrammia setonana (McDunnough, 1927)

1842

1843

- 1866 *Gnophos macguffini* Smiles, 1978
- 1867 *Ectropis crepuscularia* ([Denis & Schiffermüller], 1775)
- 1868 *Protoboarmia porcelaria* (Guenée, [1858]) Subspecies *indicataria* (Walker) has been reported from BC.

Tribe Melanolophiini

- 1869 Melanolophia imitata (Walker, 1860)
- 1870 Eufidonia convergaria (Walker, 1860)
- 1871 Eufidonia discospilata (Walker, 1862)

Tribe Bistonini

- 1872 Biston betularia (Linnaeus, 1758)
 Subspecies cagnataria (Guenée) has been reported from BC.
- 1873 Lycia ursaria (Walker, 1860)
- 1874 *Lycia rachelae* (Hulst, 1896)
- 1875 *Hypagyrtis unipunctata* (Haworth, 1809)
- 1876 *Hypagyrtis piniata* (Packard, 1870)
- 1877 *Phigalia plumogeraria* (Hulst, 1888)
- 1878 *Erannis tiliaria* (Harris, 1841) Historical records of this species in BC refer to *E. vancouverensis* Hulst, long considered a subspecies of *E. tiliaria*. However, *E. tiliaria* was long suspected to occur in BC's Peace River region, and was recently confirmed there, in the Fort St. John area (L. Avis, personal communication).
- 1879 Erannis vancouverensis Hulst, 1896

Tribe Baptini

1880 *Lomographa semiclarata* (Walker, 1866)

Tribe Caberini

- 1881 Sericosema juturnaria (Guenée, [1858])
- 1882 Sericosema wilsonensis Cassino & Swett, 1922
- 1883 *Cabera exanthemata* (Scopoli, 1763) Subspecies *bryantaria* (Taylor) occurs in BC.
- 1884 Cabera erythemaria Guenée, [1858]
- 1885 Cabera variolaria Guenée, [1858]
- 1886 Cabera borealis (Hulst, 1896)
- 1887 *Eudrepanulatrix rectifascia* (Hulst, 1896)
- The nominate subspecies has been reported from BC.
- 1888 Drepanulatrix unicalcararia (Guenée, [1858])
- 1889 Drepanulatrix quadraria (Grote, 1882)
- 1890 Drepanulatrix foeminaria (Guenée, [1858])
- 1891 Drepanulatrix carnearia (Hulst, 1888)
 - Subspecies columbiaria McDunnough has been reported from BC.
- 1892 Drepanulatrix falcataria (Packard, 1873)
- 1893 Drepanulatrix secundaria Barnes & McDunnough, 1916

- 1894 *Drepanulatrix monicaria* (Guenée, [1858]) Records of this species in BC and AK by Rindge (1949) were missed by McGuffin (1981) and many subsequent Canadian workers.
- 1895 Apodrepanulatrix litaria (Hulst, 1887)
- 1896 Ixala desperaria (Hulst, 1887)

Tribe Angeronini

- 1897 *Aspitates aberrata* (Edwards, 1884)
- 1897.1 P Aspitates orciferaria (Walker, [1863])

Dyar's (1904) report of a specimen from Kaslo, BC, (repeated by ESBC 1906) is assumed to be erroneous; the species is otherwise known from AK, YT and NT (McGuffin 1981). However, it could possibly be found in the northern part of the province.

- 1897.2 P Aspitates taylori (Butler, 1893) This species is known from YT and northern AB, where it occurs in open Black Spruce bogs. It is likely to be found in BC's Peace River region.
- 1898 Euchlaena johnsonaria (Fitch, 1869)
- 1899 *Euchlaena mollisaria* (Hulst, 1886) Genetic barcode data suggests this may be merely a form of *E. johnsonaria* (Fitch), as it was historically treated, but we continue to list it pending formal synonymy.
- 1900 *Euchlaena madusaria* (Walker, 1860) Subspecies *ochrearia* McDunnough has been reported in BC.
- 1901 Euchlaena marginaria (Minot, 1869)
- 1902 *Euchlaena tigrinaria* (Guenée, [1858]) Subspecies *sirenaria* (Strecker) occurs in BC.
- 1903 Xanthotype urticaria Swett, 1918
- 1904 Xanthotype sospeta (Drury, 1773)

Tribe Azelinini

- 1905 Pero honestaria (Walker, 1860)
- 1906 Pero morrisonaria (Edwards, 1881)
- 1907 Pero mizon Rindge, 1955
- 1908 Pero behrensaria (Packard, 1871)
- 1909 Pero occidentalis (Hulst, 1896)

Tribe Nacophorini

- 1910 Phaeoura mexicanaria (Grote, 1883)
- 1911 Gabriola dyari Taylor, 1904

Tribe Campaeini

1912 Campaea perlata (Guenée, [1858])

Tribe Ennomini

- 1913 Ennomos magnaria Guenée, [1858]
- 1914 Ennomos alniaria (Linnaeus, 1758)

I

Tribe Epirranthini

1914.1 P Spodolepis substriataria Hulst, 1896

Known records in BC from as far north and east as Prince George all are *S. danbyi* (Hulst), raised from its previous status as a subspecies of *S. substriataria* by Pohl et al. (2010). However, *S. substriataria* likely does occur in the boreal forest habitat of BC's Peace River region.

1915 *Spodolepis danbyi* (Hulst, 1898) Historically treated as a subspecies of *S. substriataria* Hulst, but raised to species status by Pohl et al. (2010).

Tribe Lithinini

- 1916 *Philedia punctomacularia* (Hulst, 1888)
- 1917 Thallophaga taylorata (Hulst, 1896)
- 1918 Thallophaga hyperborea (Hulst, 1900)

Tribe Anagogini

- 1919 Selenia alciphearia Walker, 1860
- 1920 Selenia kentaria (Grote & Robinson, 1867)
- 1921 Metanema inatomaria Guenée, [1858]
- 1922 Metanema determinata Walker, 1866
- 1923 Metarranthis duaria (Guenée, [1858])
- 1924 Probole alienaria Herrich-Schäffer, [1855]
- 1925 *Probole amicaria* (Herrich-Schäffer, [1855]) North American material historically assigned to this species may in fact be part of a variable species, *P. alienaria* Herrich-Schäffer. However, *P. amicaria* is retained separately herein, pending further analysis.
- 1926 *Plagodis phlogosaria* (Guenée, [1858]) Subspecies *approximaria* Dyar and *iris* Rupert have been reported from BC.
- 1927 *Plagodis pulveraria* (Linnaeus, 1758) Subspecies *occiduaria* (Walker) occurs in BC and the rest of North America; it has historically been treated as a species distinct from a Palaearctic concept of *P. pulveraria*.

Tribe Ourapterygini

- 1928 Neoterpes trianguliferata (Packard, 1871)
 - The nominate subspecies has been reported from BC.
- 1929 Caripeta divisata Walker, [1863]
- 1930 *Caripeta aequaliaria* Grote, 1883 Included here is a new species near *C. aequaliaria*, flagged via DNA barcoding and not yet described (deWaard 2010).
- 1931 Caripeta angustiorata Walker, [1863]
- 1932 Meris suffusaria McDunnough, 1940
- 1933 Besma quercivoraria (Guenée, [1858])
- 1934 Lambdina fiscellaria (Guenée, [1858])

Known as the Hemlock Looper, this species is a serious forest pest in BC. The nominate subspecies and subspecies *lugubrosa* (Hulst) (Western Hemlock Looper) and *somniaria* (Hulst) (Western Oak Looper) occur in the province.

1935 Nepytia umbrosaria (Packard, 1873) Subspecies nigrovenaria (Packard) occurs in BC.

- 1937 Nepytia phantasmaria (Strecker, 1899)
- 1938 Nepytia freemani Munroe, 1963
- 1939 Sicya crocearia Packard, 1873
- 1940 Sicya macularia (Harris, 1850)
- 1941 *Plataea trilinearia* (Packard, 1873)
- 1942 *Tetracis crocallata* Guenée, [1858]
- 1943 *Tetracis cachexiata* Guenée, [1858]
- 1944 *Tetracis cervinaria* (Packard, 1871)
- 1945 Tetracis pallulata Hulst, 1887
- 1946 *Tetracis jubararia* Hulst, 1886 The nominate subspecies occurs in BC.
- 1947 *Tetracis formosa* (Hulst, 1896)
- 1948 Tetracis pallidata Ferris, 2010
- 1949 Prochoerodes amplicineraria (Pearsall, 1906)
- 1950 *Prochoerodes forficaria* (Guenée, [1858]) Subspecies *catenulata* Grote and *combinata* McDunnough have been reported from BC.
- 1951 *Prochoerodes lineola* (Goeze, 1781) Reported from BC's Peace River region by Shepard (unpublished report B) under the name *P. transversata* (Drury), a recent synonym.
- 1952 Sabulodes edwardsata (Hulst, 1886)
- 1953 Enypia venata (Grote, 1883)
- 1954 Enypia griseata Grossbeck, 1908
- 1955 Enypia packardata Taylor, 1906

Superfamily Noctuoidea

66. Family Notodontidae (prominents)

Notodontid moths are mostly robust and medium-sized, with wingspans reaching about 25 to 60 mm in BC species. Their colouration is brown, grey, olive or yellow, and spotted or streaked with darker or lighter tones. Many are strongly hairy and often bear backwards-projecting tufts on the hind margins of the forewings that protrude when the wings are folded. These, along with the large tubercles and processes on the backs of many larvae, give the family its scientific name, which means "back tooth". The common name, "prominents" also refers to these projections.

¹⁹³⁶ U Nepytia canosaria (Walker, [1863]) Early reports of this species from BC are confused with *N. freemani* Munroe, which was not described until 1963. Reports of this species in BC remain unconfirmed as vouchers are not known; it is known from the boreal forest of AB and could occur in northeastern BC.

Most notodontids feed on the foliage of trees and shrubs. Many adults and larvae are cryptic in form, pattern and posture: twig, bark, lichen and deadleaf mimics are found throughout the family. Some larvae produce defensive secretions when disturbed, and others flaunt warning colours of red or yellow, sometimes raising the front and rear of the body or extruding long tails. Some larvae are gregarious when young, but become solitary as they mature.

Approximately 3800 notodontid species are known from all world regions except the Pacific islands and New Zealand. The Neotropical fauna is especially diverse. There are 139 species known in North America; 25 of these have been reported in BC. Despite the prominence of this group, there are no recent taxonomic works on the North American fauna.

Subfamily Pygaerinae

- 1956 Clostera albosigma Fitch, 1856
- 1957 Clostera strigosa (Grote, 1882)
- 1958 Clostera brucei (Edwards, 1885)
- 1959 Clostera apicalis (Walker, 1855)

Subfamily Notodontinae

Tribe Notodontini

- 1960 *Pheosia rimosa* Packard, 1864 True *P. rimosa* occurs in BC only in the Peace River region; specimens from elsewhere in BC are a new species that has been referred to as *P. portlandia* Edwards (e.g., by Cannings and Scudder 2007), but is in fact a new species awaiting description (B. C. Schmidt, personal communication).
- 1961 Odontosia elegans (Strecker, 1885)
- 1962 Notodonta scitipennis Walker, 1862
- 1963 Notodonta pacifica Behr, 1892
- 1964 *Notodonta torva* (Hübner, 1803) Subspecies *simplaria* Graef occurs in BC and the rest of North America; it was synonymised with the otherwise Palaearctic *N. torva*, a recently designated but often-overlooked synonym (Schintlmeister [1984]).

Tribe Dicranurini

- 1965 *Gluphisia septentrionis* Walker, 1855 Subspecies *quinquelinea* Dyar has been reported from BC.
- 1966 Gluphisia avimacula Hudson, 1891
- 1967 U *Gluphisia lintneri* (Grote, 1877) Reported from BC by ESBC (1906) and Blackmore (1927), but not in more recent lists. These earlier records are probably based on misidentifications of *G. severa* Edwards. However, a specimen collected at Quesnel by C. S Guppy on 15 April 1994 has been tentatively identified as this species. It is known from the boreal forest of AB adjacent to BC, and is expected in BC's Peace River region.
- 1968 *Gluphisia severa* Edwards, 1886

- 1969 Furcula cinerea (Walker, 1865)
 - Subspecies paradoxa (Dyar) has been reported from BC.
- 1970 *Furcula occidentalis* (Lintner, 1878) Subspecies *gigans* (McDunnough) has been reported from BC.
- 1971 Furcula scolopendrina (Boisduval, 1869)
- 1972 Furcula modesta (Hudson, 1891)
- 1973 Cerura scitiscripta Walker, 1865

Subfamily Phalerinae

- 1974 *Datana ministra* (Drury, 1773) Subspecies *californica* Dyar has been reported from BC.
- 1975 Nadata gibbosa (Smith, 1797)

Subfamily Heterocampinae

- 1976 Schizura ipomoeae Doubleday, 1841
- 1977 Schizura unicornis (Smith, 1797) Subspecies conspecta (Edwards) occurs in BC. Crabo et al. (2015) treat conspecta as a full species.
- 1978 Schizura concinna (Smith, 1797)
- 1979 Oligocentria semirufescens (Walker, 1865)
- 1980 Oligocentria pallida (Strecker, 1899)

67. Family Erebidae (tussock moths, tiger moths, underwings and relatives)

The Noctuidae sensu lato has been split recently into several families, with the "Nolinae" and "Euteliinae" becoming full families, the "quadrifine noctuids" becoming the Erebidae, and the "trifine noctuids" remaining as the true Noctuidae (Zahiri et al. 2011). As well, the "Arctiidae" (tiger moths) and "Lymantriidae" (tussock moths) have been relegated to subfamily rank within the Erebidae. This classification scheme better reflects our understanding of the evolutionary relationships among these groups, but will no doubt cause confusion in the short term. As a result of this rearrangement, the Erebidae are a large and diverse assemblage of moths with few consistent external features. The family is defined mainly by the state of vein M2 in the forewing, which lies in the lower part of the discal cell, so that the cubital vein appears to have four branches. The erebids range in size from very small to very large; BC species cover the entire range, with wings spanning 10 to 160 mm. Most are medium-sized moths, with 20- to 50-mm wingspans. Most species have forewings coloured in dull grey-and-brown patterns, but many Arctiinae are brightly coloured to warn potential predators of the poisonous chemicals they sequester from their food plants.

Most erebid larvae feed on living plants, but a few—including most members of the Herminiinae, Hypenodinae and Boletobinae—feed on dead leaves, fungi, lichens, dried fruit, or dung. Some erebids are serious forest and agricultural pests, particularly among the tussock moths (subfamily Lymantriinae). Most erebid adults feed on nectar or sap; a few (Scoliopteryginae) have mouthparts modified for piercing fruit. Some adult tiger-moth species produce clicking sounds with their tymbal organs when they detect bats nearby, warning the bats of the moths' distastefulness. Some species can make sounds that subvert the bats' echolocation system and confuse the bats as to the moths' locations.

The Erebidae are the most speciose Lepidoptera family in the world, with more than 24 500 described species. In North America, about 960 species are known; 125 have been recorded from BC, and another is listed as "expected". The only comprehensive revision of an erebid group is by Ferguson (1978) for the Lymantriinae, but many species are covered and illustrated in field guides and other popular works. A checklist (and errata) of valid North American species and recent taxonomic changes appears in Lafontaine and Schmidt (2010, 2011, 2013); a more complete catalogue of the Arctiinae, including all synonyms, was published by Schmidt and Opler (2008). Most Erebidae as currently defined are included in the world catalogue of the Noctuidae by Poole (1989).

Subfamily Lymantriinae Tribe Lymantriini

Subtribe Lymantriina

1981 S Lymantria dispar (Linnaeus, 1758)

This European pest species known as the Gypsy Moth was first brought to North America to MA in 1869 for experimental silk production; it escaped and has been a major pest of hardwood forests ever since. It was first found in BC in 1911. It is currently considered by the CFIA to be extirpated from the province, although it is occasionally intercepted at ports of entry. Females of the European strain cannot fly, but females of the Asian strain are capable of flight.

Subtribe Orgyiina

- 1982 *Gynaephora rossii* (Curtis, 1835) Recent provincial record by B. C. Schmidt.
- 1983 *Dasychira vagans* (Barnes & McDunnough, 1913) Subspecies *grisea* (Barnes & McDunnough) occurs in BC.
- 1984 U Dasychira plagiata (Walker, 1865) According to B. C. Schmidt (personal communication), BC records are probably misidentified *D. grisefacta* (Dyar). Confirmed *D. plagiata* is known only as far west as central AB; putative BC material requires confirmation.

 1985 Dasychira grisefacta (Dyar, 1911) Subspecies ella Bryk (type locality: Duncan, BC) and grisefacta (Dyar) occur in BC.
 1986 Orgyia antiqua (Linnaeus, 1758) Subspecies badia Edwards (type locality: Victoria, BC) and perhaps nova Fitch occur in BC.
 1987 Orgyia pseudotsugata (McDunnough, 1921) The Douglas-fir Tussock Moth. The nominate subspecies and subspecies morosa Ferguson occur in BC.

Tribe Leucomini

Subtribe Leucomina

1988 *Leucoma salicis* (Linnaeus, 1758) I The Satin Moth. This species was introduced from Eurasia, and was first found in Canada at New Westminster, BC, by Blackmore (1921).

Subfamily Arctiinae

Tribe Lithosiini

Subtribe Cisthenina

- 1989 *Hypoprepia miniata* (Kirby, 1837)
- 1990 Bruceia pulverina Neumögen, 1893
- 1991 Clemensia albata Packard, 1864

Subtribe Lithosiina

- 1992 Eilema bicolor (Grote, 1864)
- 1993 Crambidia casta (Packard, 1869)

Tribe Arctiini

Subtribe Arctiina

- 1994 *Holoarctia sordida* (McDunnough, 1921)
- 1995 Neoarctia beanii (Neumögen, 1891)
- 1996 Neoarctia brucei (Edwards, 1888)
- 1997 Holarctia obliterata (Stretch, 1885)
- 1998 Grammia doris (Boisduval, 1869)
- 1999 *Grammia virgo* (Linnaeus, 1758)
- 2000 *Grammia parthenice* (Kirby, 1837)
- 2001 Grammia virguncula (Kirby, 1837)
- 2002 *Grammia speciosa* (Möschler, 1864)
- 2003 Grammia quenseli (Paykull, 1793)
- 2004 *Grammia margo* Schmidt, 2009 Reported until recently under the name *G. celia* (Saunders), a synonym of *G. figurata* (Drury).
- 2005 *Grammia nevadensis* (Grote & Robinson, 1866) The nominate subspecies, and subspecies *geneura* (Stretch) and *superba* (Stretch) have been reported from BC.
- 2006 *Grammia williamsii* (Dodge, 1871) Subspecies *tooele* (Barnes & McDunnough) has been reported from BC.

- 2007 *Grammia elongata* (Stretch, 1885)
- 2008 *Grammia ornata* (Packard, 1864)
- 2009 *Grammia complicata* (Walker, 1865)
- 2010 *Parasemia plantaginis* (Linnaeus, 1758)
- 2011 Pararctia yarrowii (Stretch, 1873)
- 2012 *Platarctia parthenos* (Harris, 1850)
- 2013 *Platyprepia virginalis* (Boisduval, 1852)
- 2014 Arctia caja (Linnaeus, 1758) Subspecies *americana* Harris, *utahensis* (Edwards), and *waroi* Barnes & Benjamin have been reported from BC.
- 2015 Arctia opulenta (Edwards, 1881)
- 2016 U Virbia aurantiaca (Hübner, [1831]) British Columbia material is probably a new species near V. aurantiaca; it is listed here provisionally, pending taxonomic work (B. C. Schmidt, personal communication).
- 2017 Virbia ferruginosa (Walker, 1854)

Subtribe Spilosomina

- 2018 Spilosoma congrua Walker, 1855
- 2019 *Spilosoma vagans* (Boisduval, 1852) Subspecies *kasloa* (Dyar) occurs in BC.
- 2020 Spilosoma pteridis Edwards, 1874
- 2021 *Spilosoma danbyi* (Neumögen & Dyar, 1893) This species is likely a synonym of *S. pteridis* Edwards, but this has not been formalised.
- 2022 *Spilosoma virginica* (Fabricius, 1798)
- 2023 Estigmene acrea (Drury, 1773)
- 2024 Hyphantria cunea (Drury, 1773)
- 2025 *Hypercompe permaculata* (Packard, 1872)
- 2026 *Phragmatobia fuliginosa* (Linnaeus, 1758) Subspecies *rubricosa* (Harris) has been reported from BC.
- 2027 *Phragmatobia assimilans* Walker, 1855
- 2028 *Pyrrharctia isabella* (Smith, 1797)
- 2029 *Leptarctia californiae* (Walker, 1855)

Subtribe Callimorphina

- 2030 *Dodia albertae* Dyar, 1901
- 2031 *Tyria jacobaeae* (Linnaeus, 1758)

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Introduced and established for biocontrol of Tansy Ragwort.

Subtribe Pericopina

2032 Gnophaela vermiculata (Grote, 1864) Reported by Dyar (1904) and other early workers as a subspecies of *G. latipennis* (Boisduval).

Subtribe Phaegopterina

- 2033 Lophocampa roseata (Walker, 1866)
- 2034 Lophocampa argentata (Packard, 1864)
- Subspecies subalpina (French) has been reported from BC.
- 2035 Lophocampa maculata Harris, 1841
- 2036 Cycnia tenera Hübner, 1818
- 2037 *Cycnia oregonensis* (Stretch, [1874]) The nominate subspecies occurs in BC.

Subtribe Ctenuchina

- 2038 Ctenucha virginica (Esper, 1794)
- 2039 Cisseps fulvicollis (Hübner, [1818])

Subfamily Herminiinae

- 2040 Idia americalis (Guenée, 1854)
- 2041 Idia aemula Hübner, 1814
- 2042 *Idia concisa* auct., not Walker, 1860 This name is applied here merely as a placeholder for a new species near *I. aemula* Hübner that has been referred to in early literature as *I. concisa*.
- 2043 U *Idia suffusalis* (Smith, 1899) This species was reported from BC by Crabo et al. (2015), but those records have not been verified; this species is otherwise unknown from Canada, but it has been reported from northwestern USA.
- 2044 Idia lubricalis (Geyer, 1832)
- 2045 Idia occidentalis (Smith, 1884)
- 2046 Zanclognatha jacchusalis (Walker, 1859)

This species was known as *Z. lutalba* (Smith) until very recently; *lutalba* is now treated as the eastern subspecies of *Z. jacchusalis*. Subspecies *bryanti* Barnes occurs in BC (Lafontaine and Schmidt 2013) and was listed as a full species by Cannings and Scudder (2007).

- 2047 Chytolita morbidalis (Guenée, 1854)
- Includes C. petrealis Grote, a recent synonym (Crabo et al. 2013)
- 2048 Phalaenostola metonalis (Walker, 1859)
- 2049 *Phalaenostola hanhami* (Smith, 1899) This species is known in BC from a specimen in the CNC collected at Agassiz by J. Troubridge.
- 2050 Tetanolita palligera (Smith, 1884)
- 2051 Bleptina caradrinalis Guenée, 1854
- 2052 Palthis angulalis (Hübner, 1796)

Subfamily Hypeninae

- 2053 Hypena bijugalis Walker, 1859
- 2054 Hypena palparia Walker, 1861
- 2055 Hypena abalienalis Walker, 1859
- 2056 Hypena atomaria (Smith, 1903)
- 2057 Hypena edictalis Walker, 1859

2058 Hypena humuli Harris, 1841

2059 Hypena californica Behr, 1870

2060 Hypena decorata Smith, 1884

Subfamily Rivulinae

2061 Rivula propinqualis Guenée, 1854

Subfamily Scoliopteryginae

Tribe Scoliopterygini

2062 Scoliopteryx libatrix (Linnaeus, 1758)

Subfamily Scolecocampinae

2063 *Phobolosia anfracta* (Edwards, 1881)

Subfamily Hypenodinae

2064 U Hypenodes caducus (Dyar, 1907)

The recent BC record of this species, collected near Hazelton by deWaard (2010), is probably a new species near *H. caducus*. It is listed here pending formal description of the new species.

- 2065 Hypenodes fractilinea (Smith, 1908) A recent BC record, collected at Port Coquitlam by DH and confirmed via DNA barcoding.
 2066 Hypenodes sombrus Ferguson, 1954
- 2066 *Hypenodes sombrus* Ferguson, 1954 A recent BC record collected near Hazelton by deWaard (2010).

Subfamily Boletobinae

Tribe Boletobiini

 2067 Mycterophora inexplicata (Walker, [1863]) Recently discovered in BC independently by D. Nicholson, J. Shepard, and E. Avis.
 2068 Mycterophora longipalpata Hulst, 1896

Tribe Phytometrini

- 2069 *Hemeroplanis historialis* (Grote, 1882) A specimen from the Central Kootenay district of southeastern BC was reported by Crabo et al. (2015); it requires verification.
- 2070 Spargaloma sexpunctata Grote, 1873

Subfamily Toxocampinae

2071 Lygephila victoria (Grote, 1874)

Subfamily Erebinae

Tribe Thermesiini

2072 S Ascalapha odorata (Linnaeus, 1758) The Black Witch. This neotropical stray is occasionally reported as far north as Canada.

Tribe Catocalini

- 2073 Catocala aholibah Strecker, 1874
- 2074 Catocala relicta Walker, [1858]
- 2075 Catocala unijuga Walker, [1858]
- 2076 *Catocala faustina* Strecker, 1873

2077 Catocala allusa Hulst, 1884

The taxon *allusa* was relegated to a subspecies of *C. faustina* Strecker by Gall and Hawks (2010), but we follow Crabo et al. (2015) and continue to recognise it as a full species, based on morphological and ecological differences and no indication of intergradation with *C. faustina*.

- 2078 Catocala hermia Edwards, 1880
- 2079 Catocala californica Edwards, 1864
- 2080 Catocala briseis Edwards, 1864
- 2080.1 P Catocala grotiana Bailey, 1879 This species is known from ID and from Waterton Lakes National Park, AB: it likely occurs in adjacent BC (B. C. Schmidt, personal communication).
- 2081 Catocala semirelicta Grote, 1874
- 2082 Catocala meskei Grote, 1873
- 2083 Catocala junctura Walker, [1858]
- 2084 Catocala ultronia (Hübner, 1823)

Tribe Melipotini

- 2085 Cissusa indiscreta (Edwards, 1886)
- 2086 S Melipotis jucunda Hübner, 1818
- 2087 S Bulia deducta (Morrison, 1875)
- 2088 Drasteria hastingsii (Edwards, 1878) The nominate subspecies has been reported from BC.
- 2089 Drasteria sabulosa (Edwards, 1881)
- 2090 Drasteria ochracea (Behr, 1870)
- 2091 *Drasteria pallescens* (Grote & Robinson, 1866) Known in BC only from old material in the USNM collected at Kaslo by H. G. Dyar.
- 2092 Drasteria divergens (Behr, 1870) Reported from BC by Cannings and Scudder (2007) as D. divergens and also under the name D. socia (Behr), a synonym.
- 2093 *Drasteria petricola* (Walker, 1858) Subspecies *athabasca* (Neumögen) has been reported from BC.
- 2094 Drasteria hudsonica (Grote & Robinson, 1865)
- 2095 Drasteria adumbrata (Behr, 1870)
- Subspecies *alleni* (Grote) has been reported from BC.
- 2096 Drasteria howlandii (Grote, 1865)

Tribe Euclidiini

- 2097 *Caenurgina annexa* (Edwards, 1890)
- 2098 *Caenurgina caerulea* (Grote, 1873)
- 2099 *Caenurgina crassiuscula* (Haworth, 1809)
- 2100 Caenurgina erechtea (Cramer, [1780])
- 2101 *Euclidia cuspidea* (Hübner, 1818) Some early BC records refer to *E. ardita* Franclemont, described in 1957. Both species are now known to occur in BC.
- 2102 Euclidia ardita Franclemont, 1957

Tribe Omopterini

Zale lunata (Drury, 1773)
Zale minerea (Guenée, 1852)
Subspecies norda (Smith) has been reported from BC.
Zale duplicata (Bethune, 1865)

68. Family Euteliidae (rolled-wing moths)

Eutelliids are medium-sized moths, with wingspans of about 30 mm. The group is defined by internal abdominal structures. They usually have brightly coloured wings.

The larvae of most North American species feed on sumacs and poison ivy (*Rhus* spp.). Adults have an unusual resting posture, with the wings rolled and held out from the body.

This is a small group of mainly tropical moths with 520 species worldwide, mostly in arid regions of the tropics. Eighteen species occur in North America, one of which is found in BC.

Subfamily Euteliinae

2106 *Marathyssa inficita* (Walker, 1865)

69. Family Nolidae (tuft moths)

Nolid moths are difficult to define simply, as most consistent characters are not easily observed. Many North American species have tufts of raised scales on the upper surfaces of the forewings, and the ocelli are usually absent. Basal abdominal tymbal organs occur in many members of the family.

Larvae of Nolidae feed on green plants or lichens; a few are pests of sorghum or cotton. Adults of some species feed on animal tears, and have been implicated in the transmission of diseases.

Approximately 1700 species of nolids are known worldwide. It is primarily a group of the Old World tropics. Forty species are known from North America, seven of which have been recorded from BC.

Subfamily Nolinae

- 2107 Meganola minuscula (Zeller, 1872)
- 2108 Nola cilicoides (Grote, 1873)
 - Collected recently in BC by D. W. Knight.

- 2109 Nola minna Butler, 1881
- 2110 Nola cucullatella (Linnaeus, 1758) I This is a new North American and BC record for this introduced species, collected in 2009 by DH.

Subfamily Chloephorinae Tribe Sarrothripini

2111	Nycteola frigidana (Walker, 1863)
	Subspecies <i>britana</i> McDunnough has been reported from BC.
2112	Nycteola columbiana (Edwards, 1873)
2113	Nycteola cinereana Neumögen & Dyar, 1893

70. Family Noctuidae (owlet moths)

The Noctuidae, in the modern, more restricted sense, vary in size and coloration; however, at least in North America, most are medium-sized to large, heavy-bodied moths, with wingspans ranging from 20 to 80 mm (up to at least 150 mm in some tropical species). The forewings are usually finely mottled or figured in browns and greys, and the hind wings are pale and more unicolourous. A few species defy this pattern, however.

Most noctuid larvae are naked or clothed in fine, sparse hairs; a few, such as some *Acronicta* and *Panthea*, are more densely hairy.

Noctuid larvae feed on a huge variety of plants. Included in the family are the cutworms, which rest in the soil during the day and emerge at night to feed on the bases of young plants or to climb higher to eat shrub and tree foliage. Many are stem and root borers. Others feed openly on leaves and stems, or eat fruits, buds and flower heads. Some become gregarious and migratory at high densities (armyworms); these are among the most destructive moth pests.

Adults of this diverse group are largely nocturnal and strongly attracted to light; their eyes brightly reflect the light as they flutter or rest nearby. "*Noctua*" in Latin means "owl"—thus the family common name, "owlet moths". The normally strong proboscis enables adults to feed extensively on plant nectar, sap and fermenting fruit. Some tropical species pierce thick-skinned fruits to feed on juices, and the Southeast Asian *Calyptra eustrigata* Hampson and some close relatives use their piercing proboscis to suck blood from mammals.

The family Noctuidae, as defined by Zahiri et al. (2011), consists of about 11 800 described species. About 2525 species are recognised in North America; in BC, 719 have been recorded and a further nine species are expected, making it our most speciose family. A world catalogue of Noctuidae was published by Poole (1989). Other comprehensive works include Lafontaine and Poole (1991; Plusiinae), Poole (1995; Cuculliinae), Hardwick (unpublished report; Heliothinae), and (Lafontaine 1987, 1998, 2004; Noctuinae).

Subfamily Plusiinae

Tribe Abrostolini

2114 Abrostola urentis Guenée, 1852

Tribe Argyrogrammatini

- 2115 Trichoplusia ni (Hübner, [1803])
- 2116 S Chrysodeixis chalcites (Esper, [1798])

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This species was temporarily established in a greenhouse in Delta, BC, with specimens collected as far as 40 km away. It has since been eradicated from BC. It was originally confused with *C. eriosoma* (Doubleday), but was diagnosed via DNA barcode (B. C. Schmidt, personal communication).

Tribe Plusiini

Subtribe Euchalciina

- 2117 Diachrysia aereoides (Grote, 1864)
- 2118 Euchalcia borealis Lafontaine & Poole, 1991
- 2119 Polychrysia esmeralda (Oberthür, 1880)
- 2120 *Pseudeva purpurigera* (Walker, 1858) Reported from BC's Peace River region by Shepard (unpublished report B).
- 2121 *Pseudeva palligera* (Grote, 1881)
- 2122 Eosphoropteryx thyatyroides (Guenée, 1852)

Subtribe Plusiina

- 2123 Autographa californica (Speyer, 1875)
- 2124 Autographa mappa (Grote & Robinson, 1868)
- 2125 Autographa buraetica (Staudinger, 1892)
- 2126 Autographa pseudogamma (Grote, 1875)
- 2127 Autographa v-alba Ottolengui, 1902
- 2128 Autographa speciosa Ottolengui, 1902
- 2129 *Autographa bimaculata* (Stephens, 1830)
- 2130 Autographa corusca (Strecker, 1885)
- 2131 Autographa metallica (Grote, 1875)
- 2132 Autographa ampla (Walker, [1858])
- 2133 Autographa rubidus Ottolengui, 1902
- 2134 Autographa sansoni Dod, 1910

- 2135 Autographa flagellum (Walker, [1858])
- 2136 M Megalographa biloba (Stephens, 1830)
- 2137 *Syngrapha octoscripta* (Grote, 1874)
- 2138 Syngrapha viridisigma (Grote, 1874)
- 2139 Syngrapha selecta (Walker, [1858]) Most older records of *S. selecta* actually refer to *S. viridisigma* (Grote) (Lafontaine and Poole 1991). However, deWaard (2010) confirmed the presence of this species from near Hazelton, BC.
- 2140 Syngrapha epigaea (Grote, 1875)
- 2141 Syngrapha interrogationis (Linnaeus, 1758)
- 2142 Syngrapha surena (Grote, 1882)
- 2143 Syngrapha diasema (Boisduval, 1828)
- 2144 Syngrapha borea (Aurivillius, 1890)
- 2145 Syngrapha orophila (Hampson, 1908)
- 2146 Syngrapha ignea (Grote, 1863)
- 2147 Syngrapha abstrusa Eichlin & Cunningham, 1978
- 2148 Syngrapha alias (Ottolengui, 1902)
- 2149 Syngrapha rectangula (Kirby, 1837)
- 2150 Syngrapha angulidens (Smith, 1891)
- 2151 Syngrapha celsa (Edwards, 1881)
- 2152 Syngrapha microgamma (Hübner, 1823)
- 2153 Syngrapha alticola (Walker, [1858])
- 2154 Syngrapha parilis (Hübner, [1809])
- 2155 Anagrapha falcifera (Kirby, 1837)
- 2156 Plusia venusta Walker, 1865
- 2157 Plusia putnami Grote, 1873
- 2158 *Plusia nichollae* (Hampson, 1913)
- 2158.1 P *Plusia magnimacula* Handfield & Handfield, 2006 Known from the Rocky Mountains of central AB, and expected in adjacent BC (B. C. Schmidt, personal communication).

Subfamily Eustrotiinae

- 2159 *Deltote bellicula* (Hübner, 1818)
- 2160 *Protodeltote albidula* (Guenée, 1852)

Subfamily Acontiinae

Tribe Acontiini

- 2161 *Ponometia semiflava* (Guenée, 1852)
- 2162 *Ponometia tortricina* (Zeller, 1872)
- 2163 Ponometia fumata (Smith, 1905)
- 2164 *Ponometia elegantula* (Harvey, 1876) This species has been reported historically under the name *Conochares arizonae* (Edwards), a recently designated synonym.

- 2165 Tarache areli (Strecker, 1898)
- 2166 *Tarache augustipennis* Grote, 1875
- 2167 Tarache major (Smith, 1900)

Subfamily Pantheinae

- 2168 *Panthea gigantea* (French, 1890)
- 2169 *Panthea furcilla* (Packard, 1864) Treated until recently, including by Cannings and Scudder (2007), as *P. pallescens* (McDunnough), a recently designated synonym (Anweiler 2009).
- 2170 *Panthea acronyctoides* (Walker, 1861) Subspecies *nigra* Anweiler occurs in BC.
- 2171 Panthea virginarius (Grote, 1880)
- 2172 *Colocasia propinquilinea* (Grote, 1873) Collected recently in BC by D. W. Knight and by L. Janzen.

Subfamily Raphiinae

2173 *Raphia frater* Grote, 1864 Cannings and Scudder (2007) and others also reported this species under the name *R. coloradensis* Putnam-Cramer, a recent synonym (Lafontaine and Schmidt 2010).

Subfamily Acronictinae

2174 Acronicta dactylina (Grote, 1874) 2175 Acronicta lepusculina (Guenée, 1852) Subspecies felina (Grote) has been reported from BC. 2176 Acronicta cyanescens (Hampson, 1909) 2177 Acronicta vulpina (Grote, 1883) Listed by Llewellyn Jones (1951) and others as A. leporina (Linnaeus), an Old World name. Subspecies moesta (Dyar) has been reported from BC. 2178 Acronicta innotata (Guenée, 1852) 2179 Acronicta radcliffei (Harvey, 1875) Subspecies vancouverensis Strand occurs in BC. 2180 Acronicta grisea (Walker, 1856) Subspecies revellata (Smith) has been reported from BC. 2181 Acronicta mansueta (Smith, 1897) Crabo et al. (2015) use the name A. parallela (Grote) for western Canadian populations traditionally treated as A. mansueta. That may indeed be correct, but we retain them under the latter name, pending publication of taxonomic work currently underway by B. C. Schmidt and G. G. Anweiler. 2182 Acronicta funeralis (Grote & Robinson, 1866) 2183 Acronicta quadrata (Grote, 1874) 2184 Acronicta hasta (Guenée, 1852) This species was also listed by Cannings and Scudder (2007) under the name A. furcifera (Guenée), a recently designated synonym (Lafontaine and Schmidt 2010). 2185 Acronicta strigulata (Smith, 1897) 2186 Acronicta fragilis (Guenée, 1852) Subspecies fragiloides (Barnes & Benjamin) and minella (Dyar) have been reported from BC.

- 2187 Acronicta marmorata (Smith, 1897)
- 2188 Acronicta impleta (Walker, 1856)
- Subspecies *illita* (Smith) has been reported from BC.
- 2189 Acronicta impressa (Walker, 1856)
- 2190 Acronicta perdita (Grote, 1874)
- 2191 Acronicta oblinita (Smith, 1797)
- 2192 Acronicta lanceolaria (Grote, 1875) Known in BC from a single record near Trail (G. G. Anweiler, personal communication).
- 2193 Acronicta lupini (Grote, 1873)
- 2194 Simyra insularis (Herrich-Schäffer, 1868)

Subfamily Cuculliinae

- 2195 *Cucullia montanae* Grote, 1882
- 2196 *Cucullia similaris* Smith, 1892
- 2197 Cucullia omissa Dod, 1916
- 2198 *Cucullia florea* Guenée, 1852 Also reported from BC by Cannings and Scudder (2007) under the name *C. obscurior* Smith, a recently designated synonym.
- 2199 *Cucullia postera* Guenée, 1852
- 2200 *Cucullia intermedia* Speyer, 1870 Subspecies *cinderella* Smith has been reported from BC.
- 2201 Cucullia speyeri Lintner, 1874
- 2202 *Cucullia dorsalis* Smith, 1892 This species was not reported north of southern WA (Poole 1995), but it has recently been collected in BC.
- 2203 Cucullia antipoda Strecker, 1878
- 2204 *Cucullia eulepis* (Grote, 1876)
- 2205 *Cucullia mcdunnoughi* (Henne, 1940)
- 2206 *Cucullia strigata* (Smith, 1892)

2206.1 P Cucullia albida Smith, 1894

This species was reported from BC by Lafontaine and Troubridge (2011), based on misidentified material of *C. strigata* (Smith). However, *C. albida* occurs in the mountains of AB: it likely occurs in BC also.

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2207 *Cucullia pulla* (Grote, 1881)

Subfamily Amphipyrinae

Tribe Amphipyrini

- 2208 Amphipyra pyramidoides Guenée, 1852
 2209 Amphipyra tragopoginis (Clerck, 1759) Introduced from the Palaearctic.
 2210 Amphipyra pyramidoides Guenée, 1874)
- 2210 Amphipyra glabella (Morrison, 1874)

Tribe Psaphidini

Subtribe Psaphidina

2211 Brachionycha borealis (Smith, 1899)

Subtribe Feraliina

- 2212 Feralia jocosa (Guenée, 1852)
- 2213 Feralia deceptiva McDunnough, 1920
- 2214 Feralia comstocki Grote, 1874

Subtribe Triocnemidina

2215 Acopa perpallida Grote, 1878

Tribe Stiriini

Subtribe Annaphilina

- 2216 Annaphila danistica Grote, 1873
- 2217 Annaphila arvalis Edwards, 1875
- 2218 Annaphila decia Grote, 1875
- 2219 Annaphila diva Grote, 1873

Subfamily Oncocnemidinae

- 2220 Catabena lineolata Walker, 1865
- 2221 *Calophasia lunula* (Hufnagel, 1766) I Introduced from the Palaearctic for the control of toadflax (Lafontaine and Troubridge 2011).
- 2222 Behrensia conchiformis Grote, 1875
- 2223 Pleromelloida conserta (Grote, 1881)
- 2224 Pleromelloida bonuscula (Smith, 1898)
- 2225 *Pleromelloida cinerea* (Smith, 1904)
- 2226 Sympistis coprocolor (Troubridge & Crabo, 1998) Listed by Lafontaine and Troubridge (2011) as "Oncocnemis sp. nr. terminalis Smith".
- 2227 *Sympistis albifasciata* (Hampson, 1906)
- 2228 Sympistis occata (Grote, 1875)
- 2229 Sympistis umbrifascia (Smith, 1894)
- 2230 Sympistis tenuifascia (Smith, 1888) Reported by Cannings and Scudder (2007) as *S. mus* (Troubridge & Crabo), a recently designated synonym. The species was listed by Lafontaine and Troubridge (2011) as "Oncocnemis sp. nr. tenuifascia Smith".
- 2231 *Sympistis parvanigra* (Blackmore, 1923)
- 2232 Sympistis stabilis (Smith, 1895)
- 2233 *Sympistis badistriga* (Grote, 1872) The historical BC record by ESBC (1906) is erroneous. However, the species occurs in BC's Peace River region, where it was discovered by J. H. Shepard in 1999.
- 2234 Sympistis fifia (Dyar, 1904)
- 2235 Sympistis dinalda (Smith, 1908)

2236		<i>Sympistis glennyi</i> (Grote, 1873) This species was also listed from BC by Cannings and Scudder (2007) under the name <i>S. phairi</i> (McDunnough), a recently designated synonym.
2237		Sympistis levis (Grote, 1880)
2238	U	<i>Sympistis incubus</i> Troubridge, 2008 The sole known Canadian specimen, from Fort Steele, BC, was provisionally de- termined as this species by Crabo et al. (2015), but it may be the closely related species <i>S. seth</i> Troubridge. The two species appear to intergrade in the Pacific Northwest.
2239		Sympistis poliochroa (Hampson, 1906)
2240		Sympistis cibalis (Grote, 1880)
2241		Sympistis augustus (Harvey, 1875)
2242		Sympistis sandaraca (Buckett & Bauer, 1967)
2243		Sympistis pudorata (Smith, 1893)
2244		Sympistis acheron Troubridge, 2008
2245		<i>Sympistis cocytus</i> Troubridge, 2008
2246		Sympistis riparia (Morrison, 1875)
2247		<i>Sympistis amun</i> Troubridge, 2008
2248		Sympistis chons Troubridge, 2008
2249		Sympistis columbia (McDunnough, 1922)
2250		Sympistis cherti Troubridge, 2008
2251		Sympistis youngi (McDunnough, 1922)
2252		Sympistis chionanthi (Smith, 1797)
2253		Sympistis barnesii (Smith, 1899)
2254		<i>Sympistis chalybdis</i> (Troubridge & Crabo, 1998) Reported from BC by Lafontaine and Troubridge (2011) as "Oncocnemis sp. nr. <i>piffardi</i> (Walker)".
2255		Sympistis funebris (Hübner, [1809])
2256		Sympistis dentata (Grote 1875)
2250		Sympistis anweileri Troubridge & Lafontaine 2008
2258		Sympistis californiae (McDunnough 1946)
2259		Sympistic lacticollis (Smith, 1908)
2260		Sympistic extremis (Smith, 1890)
2261		Sympistis dunbari (Harvey, 1876)
2262		Sympistis wilsoni Barnes & Benjamin, 1924
2263		Sympistis heliophila (Paykull, 1793)
2264		Sympistis zetterstedtii (Staudinger, 1857)
		Subspecies <i>kolthoffi</i> (Aurivillius) occurs in BC.
2265		Sympistis figurata (Harvey, 1875)
2266		Sympistis pallidior (Barnes, 1928)

- 2267 *Sympistis greyi* (Troubridge & Crabo, 1998) Reported from BC by Lafontaine and Troubridge (2011) as "Oncocnemis sp. nr. *figurata* (Harvey)".
- 2268 Sympistis semicollaris (Smith, 1909)

Subfamily Agaristinae

- 2269 Alypia langtoni Couper, 1865
- 2270 Alypia ridingsii Grote, 1865
- 2271 Androloma maccullochii (Kirby, 1837)

Subfamily Condicinae

Tribe Condicini

- 2272 Condica discistriga (Smith, 1894)
- 2273 *Condica mersa* (Morrison, 1875) Known in BC (and Canada) from a single specimen, collected near Nicola, on 21 August 1993 by L. G. Crabo and J. T. Troubridge (Crabo et al. 2015).

Subfamily Heliothinae

- 2274 Eutricopis nexilis Morrison, 1875
- 2275 Pyrrhia exprimens (Walker, 1857)
- 2276 *Helicoverpa zea* (Boddie, 1850) The Corn Earworm, a serious agricultural pest.
- 2277 Heliothis phloxiphaga Grote & Robinson, 1867
- 2278 Heliothis ononis (Fabricius, 1787)
- 2279 Heliothis oregonica (Edwards, 1875)
- 2280 *Heliothis borealis* (Hampson, 1903) Recently collected in the BC southern Interior by D. Nicholson.
- 2281 Heliocheilus paradoxus Grote, 1865
- 2282 Protoschinia nuchalis (Grote, 1878)
- 2283 S Schinia biundulata Smith, 1891 Reported by Blackmore (1927) and Llewellyn Jones (1951) as probably an accidental introduction; it is likely either that or a stray, as no further records of this species have been found in BC (Lafontaine and Troubridge 2011). However, this species may occur naturally in the extreme southern Okanagan Valley in BC (L. G. Crabo, personal communication).
- 2284 Schinia suetus (Grote, 1873)
- 2284.1 P Schinia meadi (Grote, 1873)
- This species occurs in WA and in AB, and may occur in BC.
- 2285 Schinia honesta (Grote, 1881)
- 2286 Schinia villosa (Grote, 1864)
- 2287 Schinia intermontana Hardwick, 1958
- 2288 Schinia persimilis (Grote, 1873)
- 2289 Schinia acutilinea (Grote, 1878)
- 2290 Schinia walsinghami (Edwards, 1881)
- 2291 Schinia cumatilis (Grote, 1865)

Subfamily Bryophilinae

2292 "Cryphia" olivacea (Smith, 1891)

2293 "Cryphia" cuerva (Barnes, 1907)

Subfamily Noctuinae

Tribe Prodeniini

2294 S Spodoptera exigua (Hübner, [1808])

2295 S Spodoptera praefica (Grote, 1875)

Tribe Elaphriini

- 2296 Elaphria alapallida Pogue & Sullivan, 2003
- 2297 Galgula partita Guenée, 1852
- 2298 Chytonix palliatricula (Guenée, 1852)

Tribe Caradrinini

Subtribe Caradrinina

- 2299 Protoperigea anotha (Dyar, 1904)
- 2300 Protoperigea posticata (Harvey, 1875)
- 2301 *Protoperigea umbricata* Mustelin, 2006 Collected in BC by L. G. Crabo.
- 2302 *Caradrina morpheus* (Hufnagel, 1766) Introduced from Europe; first found in North America in BC in 1944.

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- 2303 Caradrina meralis Morrison, 1875
- 2304 Caradrina camina (Smith, 1894)
- 2305 Caradrina montana Bremer, 1861

Subtribe Athetiina

- 2306 *Proxenus miranda* (Grote, 1873)
- 2307 Proxenus mindara Barnes & McDunnough, 1913
- 2308 Proxenus mendosa McDunnough, 1927

Tribe Actinotiini

2309 Alastria chico Lafontaine & Troubridge, 2004

Tribe Phlogophorini

- 2310 Euplexia benesimilis McDunnough, 1922
- 2311 Phlogophora periculosa Guenée, 1852

Tribe Apameini

- 2312 Apamea vultuosa (Grote, 1875) Subspecies multicolor (Dyar) occurs in BC.
- 2313 Apamea plutonia (Grote, 1883)
- 2314 Apamea alia (Guenée, 1852)
- Apamea unanimis (Hübner, [1813])
 Reported recently from BC by L. Avis; the determination was confirmed by L. G. Crabo and via DNA barcoding.

- 2316 *Apamea indocilis* (Walker, 1856) This species has been referred to in some historical lists under the name *A. remissa* (Hübner), which is the Old World/Beringian sister species to *A. indocilis* that occurs in North America only in AK (Mikkola et al. 2009).
- 2317 Apamea impulsa (Guenée, 1852)
- 2318 Apamea cuculliformis (Grote, 1875)
- 2319 *Apamea sordens* (Hufnagel, 1766) Subspecies *finitima* Guenée occurs in BC.
- 2320 Apamea inordinata (Morrison, 1875) The nominate subspecies occurs in BC.
- 2321 Apamea spaldingi (Smith, 1909)
- 2322 Apamea cinefacta (Grote, 1881)
- 2323 Apamea atriclava (Barnes & McDunnough, 1913)
- Apamea antennata (Smith, 1891)
- 2325 Apamea sora (Smith, 1903)
- 2326 Apamea commoda (Walker, 1857)
 - Subspecies commoda and parcata (Smith) occur in BC.
- 2327 Apamea centralis (Smith, 1891)
- 2328 Apamea occidens (Grote, 1878)
- 2329 Apamea amputatrix (Fitch, 1857)
- 2330 Apamea maxima (Dyar, 1904)
- 2331 Apamea acera (Smith, 1900)
- 2332 Apamea longula (Grote, 1879)
- 2333 *Apamea scoparia* Mikkola, Mustelin & Lafontaine, 2000 Reported until recently as *A. lateritia* (Hufnagel), an Old World name. The nominate subspecies occurs in BC.
- 2334 Apamea cogitata (Smith, 1891)
- 2335 Apamea inficita (Walker, 1857)
 Subspecies indela (Smith) and inficita (Walker) have been reported from BC.
- 2336 Apamea lutosa (Andrews, 1877)
- 2337 *Apamea devastator* (Brace, 1819)
- 2338 *Apamea zeta* (Treitschke, 1825) Subspecies *nichollae* (Hampson) was described from Simpson River, BC. The Palaearctic name *A. maillardi* (Geyer) was historically applied in North America to *A. zeta*.
- 2339 Apamea contradicta (Smith, 1895)
- 2340 *Apamea niveivenosa* (Grote, 1879) Subspecies *niveivenosa* (Grote) and *obscuroides* Poole occur in BC.
- 2341 *Lateroligia ophiogramma* (Esper, 1793)
- 2342 U *Resapamea venosa* (Smith, 1903) This species is virtually indistinguishable from *R. passer* (Guenée); the BC determination is uncertain.

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2343 *Resapamea passer* (Guenée, 1852)

- 2344 Eremobina claudens (Walker, 1857)
- 2345 *"Oligia" tusa* (Grote, 1878)
- 2346 *"Oligia" violacea* (Grote, 1881)
- Subspecies columbia (McDunnough) has been reported from BC.
- 2347 *"Oligia" rampartensis* (Barnes & Benjamin, 1923)
- 2348 "Oligia" obtusa (Smith, 1902)
- 2349 *"Oligia" divesta* (Grote, 1874)
- 2350 Neoligia subjuncta (Smith, 1898)
- 2351 Neoligia tonsa (Grote, 1880)
- 2352 Neoligia invenusta Troubridge & Lafontaine, 2002
- 2353 Neoligia albirena Troubridge & Lafontaine, 2002
- 2354 Neoligia lancea Troubridge & Lafontaine, 2002
- 2355 *Neoligia lillooet* Troubridge & Lafontaine, 2002
- 2356 U Xylomoia chagnoni Barnes & McDunnough, 1917 Records reported from southeastern BC by Crabo et al. (2015) require verification; this species is otherwise known from eastern North America only as far west as SK.
- 2357 Xylomoia indirecta (Grote, 1875)
- 2358 *Photedes inops* (Grote, 1881) Known in BC from recent collections near Cranbrook, by D. Nicholson (Crabo et al. 2015).
- 2359 *Photedes defecta* (Grote, 1874)
- 2360 Hypocoena inquinata (Guenée, 1852)
- 2361 Hypocoena basistriga (McDunnough, 1933)
- 2362 Hypocoena rufostrigata (Packard, 1867)
- 2363 Benjaminiola colorada (Smith, 1900)
- 2364 Capsula oblonga (Grote, 1882)
- 2365 Capsula subflava (Grote, 1882)
- 2366 Helotropha reniformis (Grote, 1874)
- 2367 *Amphipoea interoceanica* (Smith, 1899) This species was reported from BC by Blackmore (1927) and Llewellyn Jones (1951), but Lafontaine and Troubridge (2011) excluded it from their BC list, stating that the BC material had been redetermined as *A. americana* (Speyer). However, a specimen in the CNC from Duncan, BC, has recently been confirmed via genitalic dissection as *A. interoceanica* (B. C. Schmidt, personal communication).
- 2368 Amphipoea americana (Speyer, 1875)
- 2369 Hydraecia medialis (Smith, 1892)
- 2370 Hydraecia obliqua (Harvey, 1876)
- 2371 *Hydraecia perobliqua* (Hampson, 1910)
- 2372 Papaipema birdi (Dyar, 1908)
- 2373 Papaipema pertincta Dyar, 1920
- 2374 Papaipema insulidens (Bird, 1902)

Tribe Arzamini

Bellura obliqua (Walker, 1865)
 Also reported by Cannings and Scudder (2007) under the name *B. gargantua* (Dyar), now considered to be a subspecies, which probably does not occur in BC. The name *gargantua* was inadvertently left out of Lafontaine and Schmidt (2010). The subspecies *pallida* Barnes & Benjamin occurs in the BC Interior.

Tribe Xylenini

Subtribe Xylenina

- 2376 *Xylena nupera* (Lintner, 1874)
- 2377 Xylena curvimacula (Morrison, 1874)
- 2378 *Xylena thoracica* (Putnam-Cramer, 1886)
- 2379 Xylena cineritia (Grote, 1875)
- Subspecies mertena (Smith) has been reported from BC.
- 2380 Xylena brucei (Smith, 1892)
- 2381 *Lithomoia germana* (Morrison, 1875) The Palaearctic name *L. solidaginis* (Hübner) has historically been misapplied to this species.
- 2382 Homoglaea californica (Smith, 1891)
- 2383 Homoglaea hircina Morrison, 1876
- 2384 Homoglaea dives Smith, 1907
- 2385 *Homoglaea carbonaria* (Harvey, 1876)
- 2386 Litholomia napaea (Morrison, 1874)
- Subspecies umbrifasciata Blackmore was described from Victoria, BC.
- 2387 *Lithophane innominata* (Smith, 1893)
- 2388 Lithophane petulca Grote, 1874
- 2389 U Lithophane disposita Morrison, 1874 This occasional pest of fruit trees was reported from BC by Belton (1988). No BC vouchers are known, but it is known from WA and MT and from across much of the rest of Canada, including AB, so it may occur in BC.
- 2390 Lithophane amanda (Smith, 1900)
- 2391 Lithophane pexata Grote, 1874
- Subspecies washingtonia Grote has been reported from BC.
- 2392 *Lithophane dilatocula* (Smith, 1900)
- 2393 Lithophane thaxteri Grote, 1874
- 2394 *Lithophane fagina* Morrison, 1874
- 2395 *Lithophane baileyi* Grote, 1877 Also reported from BC by Cannings and Scudder (2007) and others under the name *L. vivida* (Dyar), now considered a synonym.
- 2395.1 P Lithophane tepida Grote, 1874 Historical reports of this species in western BC as subspecies *atincta* (Smith) refer to *L. baileyi* Grote. However, this species may occur in BC's Peace River region.
- 2396 Lithophane atara (Smith, 1909)
- 2397 Lithophane ponderosa Troubridge & Lafontaine, 2003

- 2398 Lithophane itata (Smith, 1899)
- 2399 *Lithophane contenta* Grote, 1880
- 2400 *Lithophane georgii* Grote, 1875 Subspecies *ancilla* (Smith), *holocinerea* (Smith), *oregonensis* Harvey, and *vertina* (Smith) have been reported from BC.
- 2401 *Lithophane pertorrida* (McDunnough, 1942)
- 2402 Eupsilia tristigmata (Grote, 1877)
- 2403 *Eupsilia fringata* (Barnes & McDunnough, 1916)
- 2404 *Eupsilia devia* (Grote, 1875)
- 2405 *Eucirroedia pampina* (Guenée, 1852)
- 2406 Mesogona olivata (Harvey, 1874)
- 2407 Mesogona subcuprea Crabo & Hammond, [1998]
- 2408 Agrochola purpurea (Grote, 1874)
- 2409 Agrochola pulchella (Smith, 1900)
- 2410 U Sunira bicolorago (Guenée, 1852)

This species has been placed on various historical BC lists, but no confirmed vouchers are known. Historical records likely refer to similar species *S. decipiens* (Grote) or *Agrochola purpurea* (Grote) (L. G. Crabo, personal communication). However, *S. bicolorago* may occur in BC, as it is known from nearby AB.

- 2411 Sunira decipiens (Grote, 1881)
- 2412 Sunira verberata (Smith, 1904)
- 2413 Anathix puta (Grote & Robinson, 1868)
- Subspecies dusca (Smith) has been reported from BC.
- 2414 Anathix aggressa (Smith, 1907)
- 2415 *Xanthia tatago* Lafontaine & Mikkola, 2003 Prior to the description of *X. tatago*, this species was historically reported in western North America under the name *X. togata* (Esper), which does not occur in the area.
- 2416 Hillia maida (Dyar, 1904)
- 2417 *Hillia iris* (Zetterstedt, 1839)
- 2418 Parastichtis suspecta (Hübner, [1817])
- 2419 Aseptis fumosa (Grote, 1879)
- 2420 Aseptis binotata (Walker, 1865)

Subspecies curvata (Grote) has been reported from BC.

- 2421 Aseptis adnixa (Grote, 1880)
- 2422 Aseptis characta (Grote, 1880)
- 2423 Epidemas cinerea Smith, 1894

This species is known from BC, based on a specimen from the Cariboo region (Doc English Gulch) collected by A. I. Fisher in 1996.

2424 Epidemas obscurus Smith, 1903

Reported by Cannings and Scudder (2007) as *E. melanographa* Hampson, a dark morph of *E. obscurus* that was synonymised by Lafontaine and Schmidt (2010).

- 2425 Brachylomia populi (Strecker, 1898)
- 2426 Brachylomia algens (Grote, 1878)

- 2427 Brachylomia discinigra (Walker, 1856)
- 2428 Brachylomia cascadia Troubridge & Lafontaine, 2007
- 2429 Brachylomia thula (Strecker, 1898)
- 2430 *Hyppa contrasta* McDunnough, 1946 Reported as *H. xylinoides* (Guenée) by early workers under a previous taxonomic arrangement.
- 2431 Hyppa brunneicrista Smith, 1902
- 2432 Hyppa indistincta Smith, 1894

Subtribe Cosmiina

- 2433 Cosmia praeacuta (Smith, 1894)
- 2434 Cosmia elisae Lafontaine & Troubridge, 2003
- 2435 Cosmia calami (Harvey, 1876)
- 2436 Zotheca tranquilla Grote, 1874
- 2437 Enargia infumata (Grote, 1874)
- 2438 Enargia fausta Schmidt, 2010
- 2439 Enargia decolor (Walker, 1858)
- 2440 Ipimorpha nanaimo Barnes, 1905
- 2441 Ipimorpha viridipallida Barnes & McDunnough, 1916
- 2442 Ipimorpha pleonectusa Grote, 1873

Subtribe Antitypina

- 2443 Andropolia diversilineata (Grote, 1877)
- 2444 Andropolia contacta (Walker, 1856)
- Subspecies *pulverulenta* (Smith) has been reported from BC.
- 2445 Andropolia aedon (Grote, 1880)
- 2446 Andropolia theodori (Grote, 1878) Subspecies *epichysis* (Grote) and *vancouvera* McDunnough have been reported from BC. Cannings and Scudder (2007) reported this species under the name *A. epichysis*.
- 2447 Fishia discors (Grote, 1881)
- 2448 Fishia yosemitae (Grote, 1873)
- 2449 Fishia illocata (Walker, 1857)

Moved from Oligia (tribe Apameini) by Lafontaine and Schmidt (2010).

- 2450 *Platypolia anceps* (Stephens, 1850)
- 2451 *Platypolia contadina* (Smith, 1894) The nominal subspecies and subspecies *albertae* McDunnough have been reported from BC.
- 2452 *Platypolia loda* (Strecker, 1898)
- 2453 "Platypolia" mactata (Guenée, 1852)
 Subspecies allecto (Guenée) has been reported from BC. This species was moved from Oligia (tribe Apameini) by Lafontaine and Schmidt (2010).
- 2454 *Xylotype arcadia* Barnes & Benjamin, 1922 This species name has been misspelled as *"acadia"* in many works, including Hodges et al.'s (1983) checklist.

- 2455 Dryotype opina (Grote, 1878)
- 2456 *Mniotype pallescens* McDunnough, 1946
- 2457 *Mniotype ducta* (Grote, 1878)
- 2458 *Mniotype tenera* (Smith, 1900)
- 2459 *Sutyna privata* (Walker, 1857) Reported until recently, including by Cannings and Scudder (2007), under the name *S. profundus* (Smith), now considered a synonym (Pohl et al. 2010).

Subtribe Ufeina

- 2460 Ufeus satyricus Grote, 1873 Subspecies sagittarius Grote occurs in BC (Lafontaine and Walsh 2013). Cannings and Scudder (2007) listed sagittarius as a separate species.
- 2461 Ufeus hulstii Smith, 1908

Tribe Xylenini-unplaced

- 2462 Properigea albimacula (Barnes & McDunnough, 1912)
- 2463 Properigea niveirena (Harvey, 1876)
- 2464 Pseudobryomima muscosa (Hampson, 1906)
- 2465 *Pseudanarta crocea* (Edwards, 1875)
- 2466 *Pseudanarta flava* (Grote, 1874)

Tribe Orthosiini

- 2467 Acerra normalis Grote, 1874
- 2468 Stretchia plusiaeformis Edwards, 1874
- 2469 Stretchia muricina (Grote, 1876)
- 2470 Orthosia pulchella (Harvey, 1876) Subspecies *achsha* (Dyar) and *pulchella* (Harvey) have been reported from BC.
- 2471 Orthosia transparens (Grote, 1882)
- 2472 Orthosia praeses (Grote, 1879)
- 2473 Orthosia mys (Dyar, 1903)
 - Subspecies caloramica (Barnes & McDunnough) has been reported from BC.
- 2474 Orthosia ferrigera (Smith, 1894)
- 2475 Orthosia revicta (Morrison, 1876)
- 2476 Orthosia segregata (Smith, 1893)
- 2477 Orthosia pacifica (Harvey, 1874)
- 2478 Orthosia hibisci (Guenée, 1852)
- Subspecies quinquefasciata (Smith) has been reported from BC.
- *Egira variabilis* (Smith, 1891)
- 2480 Egira hiemalis (Grote, 1874)
- 2481 Egira simplex (Walker, 1865)
- 2482 Egira crucialis (Harvey, 1875)
- 2483 Egira cognata (Smith, 1894)

- 2484 *Egira curialis* (Grote, 1873) Subspecies *indurata* (Smith) has been reported from BC; the taxon *candida* (Smith) from Vancouver Island, currently treated as a junior synonym, may be a geographic subspecies, as well (L. G. Crabo, personal communication).
- 2485 Egira dolosa (Grote, 1880)
- 2486 Egira rubrica (Harvey, 1878)

Subspecies *mustelina* (Smith) and *pulchella* (Smith) have been reported from BC.

- 2487 Egira perlubens (Grote, 1881)
- 2488 Admetovis oxymorus Grote, 1873
- 2489 Admetovis similaris Barnes, 1904

Tribe Tholerini

- 2490 Tholera americana (Smith, 1894)
- 2491 *Nephelodes minians* Guenée, 1852 The subspecies *pectinatus* Smith and *tertialis* Smith have been reported from BC.

Tribe Hadenini

- 2492 Hadenella pergentilis Grote, 1883
- 2493 Anarta nigrolunata Packard, 1867

This species was traditionally reported in North America under the name *A. melanopa* (Thunberg). However, as currently defined, *A. nigrolunata* is the Nearctic species and *A. melanopa* is restricted to the Palaearctic. The subspecies *laerta* Smith has been reported from BC.

- 2494 *Anarta trifolii* (Hufnagel, 1766) Subspecies *albifusa* (Walker) has been reported from BC.
- 2495 Anarta mutata (Dod, 1913)
- 2496 Anarta hamata (McDunnough, 1930)
- 2497 Anarta oregonica (Grote, 1881)
- 2498 Anarta inconcinna (Smith, [1888]) Until recently, this species was known as *A. montanica* (McDunnough), a recently designated synonym.
- 2499 *Anarta columbica* (McDunnough, 1930)
- 2499.1 P Anarta alta (Barnes & Benjamin, 1924) This species is known from western AB and likely occurs in BC's Peace River region (L. G. Crabo, personal communication).
- 2500 Anarta farnhami (Grote, 1873)
- 2501 Anarta crotchii (Grote, 1880)
- 2502 Anarta edwardsii (Smith, 1888)
- 2503 Anarta decepta (Grote, 1883)
- 2504 *Coranarta luteola* (Grote & Robinson, 1865)
- 2505 Coranarta macrostigma (Lafontaine & Mikkola, 1987)
- 2506 *Polia discalis* (Grote, 1877) Lafontaine and Troubridge (2011) list this species from BC, but also state that BC material has been revised to *P. piniae* Buckett & Bauer; the latter is incorrect.
- 2507 *Polia piniae* Buckett & Bauer, 1967

- 2508 *Polia nimbosa* (Guenée, 1852) Subspecies *mystica* (Smith) and *mysticoides* Barnes & Benjamin have been reported from BC.
- 2509 *Polia imbrifera* (Guenée, 1852)
- 2510 Polia rogenhoferi (Möschler, 1870)
- 2511 Polia propodea McCabe, 1980
- 2512 Polia richardsoni (Curtis, 1834)
- 2513 *Polia purpurissata* (Grote, 1864)
- 2514 *Polia nugatis* (Smith, 1898)
- 2515 *Melanchra adjuncta* (Guenée, 1852)
- 2516 Melanchra picta (Harris, 1841)
- 2517 Melanchra pulverulenta (Smith, 1888)
- 2518 *Melanchra assimilis* (Morrison, 1874)
- 2519 Lacanobia nevadae (Grote, 1876)
- 2520 *Lacanobia atlantica* (Grote, 1874)
- 2521 Lacanobia radix (Walker, [1857])
- 2522 *Lacanobia subjuncta* (Grote & Robinson, 1868) Subspecies *eleanora* (Barnes & McDunnough) and *subjuncta* (Grote & Robinson) have been reported from BC.
- 2523 *Lacanobia grandis* (Guenée, 1852) Moved from *Spiramater* by Lafontaine and Schmidt 2010.
- 2524 Spiramater lutra (Guenée, 1852)
- Subspecies glaucopis (Hampson) has been reported from BC.
- 2525 Trichordestra tacoma (Strecker, 1900)
- 2526 Trichordestra dodii (Smith, 1904)
- 2527 Trichordestra lilacina (Harvey, 1874)
- 2528 Trichordestra liquida (Grote, 1881)
- Subspecies meodana (Smith) has been reported from BC.
- 2529 Papestra quadrata (Smith, 1891)
- Subspecies ingravis (Smith) has been reported from BC.
- 2530 Papestra biren (Goeze, 1781)
- 2531 Papestra cristifera (Walker, 1858)
- 2532 Papestra brenda (Barnes & McDunnough, 1916)
- 2533 Papestra invalida (Smith, 1891)
- 2534 Hada sutrina (Grote, 1881)
- 2535 Mamestra configurata Walker, 1856
- 2536 Mamestra curialis (Smith, 1888)
- 2537 Sideridis fuscolutea (Smith, 1892)
- 2538 Sideridis uscripta (Smith, 1891)
- 2539 Sideridis rosea (Harvey, 1874)
- 2540 Sideridis maryx (Guenée, 1852)

- 2541 *Hadena variolata* (Smith, 1888) The nominate subspecies and subspecies *dealbata* (Staudinger) occur in BC (Troubridge and Crabo 2002).
- 2542 Hadena capsularis (Guenée, 1852)
- 2543 Hadena caelestis Troubridge & Crabo, 2002
- 2544 Hadena ectrapela (Smith, 1898)
- 2545 Dargida procinctus (Grote, 1873)
- 2546 Dargida diffusa (Walker, 1856)
- 2547 Dargida terrapictalis (Buckett, 1969)

Tribe Leucaniini

- 2548 Mythimna oxygala (Grote, 1881)
- Subspecies luteopallens (Smith) has been reported from BC.
- 2549 Mythimna yukonensis (Hampson, 1911)
- 2550 *Mythimna unipuncta* (Haworth, 1809)
- 2551 Leucania farcta (Grote, 1881)
- 2552 Leucania oregona Smith, 1902
- 2553 *Leucania anteroclara* Smith, 1902 This species name has often been misspelled "*anteoclara*".
- 2554 Leucania multilinea Walker, 1856
- 2555 *Leucania commoides* Guenée, 1852
- 2556 Leucania insueta Guenée, 1852

Subspecies heterodoxa Smith and megadia Smith have been reported from BC.

2557 Leucania dia (Grote, 1879)

For many years, this taxon was considered a synonym or western subspecies of *L. insueta* Guenée. However, it was formally recognised as a distinct species by Pohl et al. (2010).

Tribe Eriopygini

- 2558 Lasionycta taigata Lafontaine, 1988
- 2559 *Lasionycta secedens* (Walker, [1858]) The nominate subspecies occurs in BC.
- 2560 *Lasionycta fergusoni* Crabo & Lafontaine, 2009 This is a recently recognised name for populations previously included within *L. conjugata* (Smith); the type locality is Pavilion, BC.
- 2561 Lasionycta mutilata (Smith, 1898)
- 2562 Lasionycta haida Crabo & Lafontaine, 2009
- 2563 Lasionycta luteola (Smith, 1893)
- 2564 *Lasionycta leucocycla* (Staudinger, 1857) Subspecies *albertensis* (McDunnough) occurs in BC. Subspecies *hampa* (Smith) was reported from BC by Blackmore (1922a), but that is erroneous: *hampa* is restricted to the White Mountains of NH.
- 2565 *Lasionycta poca* (Barnes & Benjamin, 1923)
- 2566 Lasionycta illima Crabo & Lafontaine, 2009

2567	Lasionycta perplexa (Smith, 1888)
	This species now includes the synonym marloffi (Dyar), listed as a separate species
	by Cannings and Scudder (2007). It was synonymised with <i>L. perplexa</i> by Crabo
2568	and Lafontaine (2009). Lacionycta porplovalla Crabo & Lafontaine 2000
2500	Lasionycta perpiexella Clabo & Lalontaine, 2009
2569	Lasionycla subjuscula (Glole, 10/4)
2570 11	Lasionycta guadrilunata (Crote, 1874)
2370 0	This species was not specifically reported from BC by Crabo and Lafontaine (2009)
	but it was reported from AK, YT, NT, AB and MT, and almost certainly occurs in BC.
2571	Lasionycta lagganata (Barnes & Benjamin, 1924)
2571.1 P	Lasionycta carolynae Crabo, 2009
	Known from YT on Montana Mountain, very close to the BC border; this species
	may occur in BC.
2572	Lasionycta uniformis (Smith, 1893)
	Subspecies <i>multicolor</i> Crabo & Lafontaine (type locality: Gott Peak, BC) and <i>uni-</i>
2572	torms (Smith) occur in BC.
2573	Lasionycta brunnea Crabo & Latontaine, 2009
25/4	Lasionycta caesia Crabo & Lafontaine, 2009
25/5	Lasionycta gelida Crabo & Lafontaine, 2009
2576	Lasionycta promulsa (Morrison, 1875)
2577	Lasionycta macleani (McDunnough, 1927)
2578	Lasionycta silacea Crabo & Lafontaine, 2009
2579	Lasionycta impingens (Walker, 1857)
	The nominate subspecies occurs in BC.
2580	Psammopolia arietis (Grote, 1879)
2581	Psammopolia wyatti (Barnes & Benjamin, 1926)
2582	Lacinipolia meditata (Grote, 1873)
	Subspecies columbia (Smith) has been reported from BC.
2583	Lacinipolia lustralis (Grote, 1875)
2584	Lacinipolia cuneata (Grote, 1873)
2585	Lacinipolia anguina (Grote, 1881)
	Subspecies <i>larissa</i> (Smith) has been reported from BC.
2586	Lacinipolia stenotis (Hampson, 1905)
2587	Lacinipolia vicina (Grote, 1874)
	Subspecies <i>acutipennis</i> (Grote) has been reported from BC.
2588	Lacinipolia pensilis (Grote, 1874)
2500	The nominate subspecies has been reported from BC.
2589	Lacinipolia renigera (Stephens, 1829)
2590	Lacinipolia stricta (Walker, 1865)
2501	Subspecies <i>cinnabarina</i> (Grote) has been reported from BC.
2591	Lacinipolia Iorea (Guenee, 1852)
- 2592 Lacinipolia olivacea (Morrison, 1874) Subspecies altua (Smith), lucina (Smith), and petita (Smith) have been reported from BC. 2593 Lacinipolia bucketti Selman & Leuschner, 2001 This coastal species is known in BC from an individual photgraphed by L. Avis near Port Alberni, and identified by L. Crabo (Crabo et al. 2015). 2594 Lacinipolia davena (Smith, 1901) 2595 Lacinipolia comis (Grote, 1876) 2596 Lacinipolia rectilinea (Smith, 1888) 2597 Lacinipolia strigicollis (Wallengren, 1860) 2598 Lacinipolia patalis (Grote, 1873) Subspecies fletcheri (Grote) has been reported from BC. 2599 Trichocerapoda oblita (Grote, 1877) Anhimella perbrunnea (Grote, 1879) 2600 Anhimella contrahens (Walker, 1860) 2601 2602 Anhimella pacifica McDunnough, 1943 Homorthodes furfurata (Grote, 1875) 2603 Subspecies uniformis (Smith) has been reported from BC. 2604 Homorthodes communis (Dyar, 1904) 2605 Homorthodes fractura (Smith, 1906) Subspecies mecrona (Smith) has been reported from BC. 2606 Homorthodes discreta (Barnes & McDunnough, 1916) Homorthodes hanhami (Barnes & McDunnough, 1911) 2607 Homorthodes carneola McDunnough, 1943 2608 Protorthodes curtica (Smith, 1890) 2609 Subspecies bostura (Smith) has been reported from BC. Protorthodes oviduca (Guenée, 1852) 2610 2611 Protorthodes rufula (Grote, 1874) 2612 Pseudorthodes irrorata (Smith, 1888) "Orthodes" goodelli (Grote, 1875) 2613 Subspecies acutermina (Grote) has been reported from BC. 2614 "Orthodes" obscura (Smith, 1888) 2615 "Orthodes" noverca (Grote, 1878) Until recently this species was known as Orthodes delecta (Barnes & McDunnough), a recently designated synonym. 2616 "Orthodes" detracta (Walker, 1857) Subspecies neoterica (Smith) has been reported from BC. 2617 Zosteropoda hirtipes Grote, 1874 Tribe Noctuini Subtribe Agrotina 2618 Peridroma saucia (Hübner, [1808])
- The Variegated Cutworm, a serious agricultural pest.
- 2619 Anicla exuberans (Smith, 1898)

- 2621 Actebia fennica (Tauscher, 1806)
- 2622 *Actebia balanitis* (Grote, 1873) Reported by Lafontaine and Troubridge (2011) from BC as *A. squalida* (Guenée), a Palaearctic name historically applied to this species.
- 2623 Dichagyris variabilis (Grote, 1874)
- 2624 Copablepharon spiritum Crabo & Fauske, 2004
- 2625 Copablepharon absidum (Harvey, 1875)
- 2626 Copablepharon fuscum Troubridge & Crabo, 1996
- 2627 Copablepharon viridisparsa (Dod, 1916)
 Known from a single BC specimen in the CNC, collected at Brilliant (near Castlegar),
 8 July 1946, by H. R. Foxlee. Subspecies *hopfingeri* Franclemont occurs in BC; it was listed by Cannings and Scudder (2007) as a separate species.
- 2628 *Euxoa bochus* (Morrison, 1874)
- 2629 *Euxoa adumbrata* (Eversmann, 1842) This species has been historically included within the concept of *E. lidia* (Cramer), including by Lafontaine (1987). However, *E. adumbrata* has since been recognised as a distinct species. *Euxoa lidia* is restricted to the Old World. Subspecies *thanatologia* (Dyar) has been reported from BC.
- 2630 Euxoa auxiliaris (Grote, 1873)
- 2631 Euxoa shasta Lafontaine, 1975
- The nominate subspecies occurs in BC.
- 2632 Euxoa biformata Smith, 1910
- 2633 Euxoa intermontana Lafontaine, 1975
- 2634 *Euxoa mimallonis* (Grote, 1873) Subspecies *gagates* (Grote) occurs in BC.
- 2635 Euxoa septentrionalis (Walker, 1865)
- 2636 Euxoa olivia (Morrison, 1876)
- 2637 Euxoa messoria (Harris, 1841)
- 2638 Euxoa divergens (Walker, [1857])
- 2639 Euxoa edictalis (Smith, 1893)
- 2640 Euxoa westermanni (Staudinger, 1857)
- 2641 Euxoa quebecensis (Smith, 1900)
- 2642 *Euxoa vallus* (Smith, 1900)
- The nominate subspecies occurs in BC.
- 2643 Euxoa macleani McDunnough, 1927
- 2644 Euxoa apopsis Troubridge & Lafontaine, 2010
- 2645 Euxoa lewisi (Grote, 1873)
- The nominate subspecies occurs in BC.
- 2646 Euxoa altens McDunnough, 1946
- 2647 Euxoa extranea (Smith, 1888)
- 2648 Euxoa tristicula (Morrison, 1876)
- 2649 Euxoa vetusta (Walker, 1865)

²⁶²⁰ Anicla tepperi (Smith, 1888)

2650 *Euxoa atomaris* (Smith, 1890) Subspecies esta Smith (type locality: Wellington, BC) occurs in coastal BC, and subspecies detesta (Smith) occurs inland. 2651 Euxoa pleuritica (Grote, 1876) 2652 Euxoa pestula Smith, 1904 2653 Euxoa simona McDunnough, 1932 2654 U Euxoa medialis (Smith, 1888) Reported from BC by ESBC (1906), but not by subsequent workers. No BC vouchers are known, but the species occurs in southwestern AB, and may also occur in southeastern BC. 2655 Euxoa perexcellens (Grote, 1875) 2656 Euxoa rufula (Smith, 1888) Subspecies basiflava (Smith) was described from BC. Euxoa intrita (Morrison, 1874) 2657 2658 Euxoa terrenus (Smith, 1900) 2659 Euxoa scotogrammoides McDunnough, 1932 2660 Euxoa pluralis (Grote, 1878) 2661 Euxoa setonia McDunnough, 1927 2662 Euxoa pallidimacula Lafontaine, 1987 Euxoa declarata (Walker, 1865) 2663 2664 Euxoa campestris (Grote, 1875) 2665 Euxoa rockburnei Hardwick, 1973 2666 Euxoa silens (Grote, 1875) 2667 Euxoa simulata McDunnough, 1946 2668 Euxoa punctigera (Walker, 1865) Euxoa pallipennis (Smith, 1888) 2669 2670 Euxoa tessellata (Harris, 1841) 2671 Euxoa plagigera (Morrison, 1874) Euxoa albipennis (Grote, 1876) 2672 Euxoa hollemani (Grote, 1874) 2673 2674 Euxoa subandera Lafontaine, 1987 2675 Euxoa catenula (Grote, 1879) Subspecies lindseyi Blackmore (type locality: Goldstream, BC) occurs on Vancouver Island, and subspecies catenula occurs inland in BC. 2676 Euxoa comosa (Morrison, 1876) Subspecies lutulenta (Smith) and ontario (Smith) have been reported from BC. 2677 Euxoa occidentalis Lafontaine & Byers, 1982 2678 Euxoa infausta (Walker, 1865) 2679 Euxoa satis (Harvey, 1876) 2680 Euxoa brunneigera (Grote, 1876) 2681 Euxoa excogita (Smith, 1900) 2682 Euxoa bicollaris (Grote, 1878)

- 2683 Euxoa satiens (Smith, 1890)
- 2684 *Euxoa ochrogaster* (Guenée, 1852)
- 2685 Euxoa nostra (Smith, 1890)
- 2686 Euxoa choris (Harvey, 1876)
- 2687 *Euxoa obeliscoides* (Guenée, 1852)
- 2688 Euxoa lillooet McDunnough, 1927
- 2689 Euxoa basalis (Grote, 1879)
- Known in BC from a single specimen from Mt. Kobau, in the CNC.
- 2690 Euxoa costata (Grote, 1876)
- 2691 Euxoa castanea Lafontaine, 1981
- 2692 Euxoa idahoensis (Grote, 1878)
- 2693 Euxoa furtivus (Smith, 1890)
- 2694 Euxoa brevipennis (Smith, 1888)
- 2695 Euxoa servitus (Smith, 1895)
- 2696 Euxoa auripennis Lafontaine, 1974
- 2697 Euxoa olivalis (Grote, 1879)
- 2698 Euxoa agema (Strecker, 1899)
- 2699 Euxoa oblongistigma (Smith, 1888)
- 2700 *Euxoa tronellus* (Smith, 1903) Recently collected by D. Nicholson in the Cranbrook, BC, area; the determination was confirmed by J. D. Lafontaine.
- 2701 Euxoa difformis (Smith, 1900)
- 2702 Euxoa murdocki (Smith, 1890)
- 2703 Euxoa infracta (Morrison, 1875)
- 2704 Euxoa laetificans (Smith, 1894)
- 2705 *Euxoa quadridentata* (Grote & Robinson, 1865) Subspecies *flutea* Smith and *quadridentata* (Grote & Robinson) occur in BC.
- 2706 Euxoa dargo (Strecker, 1898)
- 2707 Euxoa cicatricosa (Grote & Robinson, 1865)
- 2708 Euxoa aequalis (Harvey, 1876)
- Subspecies alko (Strecker) occurs in BC.
- 2709 Euxoa munis (Grote, 1879)
- 2710 Euxoa atristrigata (Smith, 1890)
- 2711 Euxoa nevada (Smith, 1900)
- 2712 Euxoa cinereopallidus (Smith, 1903)
- 2713 Euxoa mitis (Smith, 1894)
- 2714 Euxoa aberrans McDunnough, 1932
- 2715 Euxoa nomas (Erschov, 1874)
- 2716 Euxoa macrodentata Hardwick, 1965
- 2717 Euxoa perolivalis (Smith, 1905)
- 2718 Euxoa perpolita (Morrison, 1876)

- 2719 Euxoa taura Smith, 1905
- 2720 Euxoa flavicollis (Smith, 1888)
- 2721 Euxoa maimes (Smith, 1903)
- 2722 Euxoa ridingsiana (Grote, 1875)
- 2723 Euxoa wilsoni (Grote, 1873)
- 2724 Feltia mollis (Walker, [1857])
- 2725 Feltia nigrita (Graeser, 1892)
- 2726 Feltia jaculifera (Guenée, 1852)
- 2727 Feltia herilis (Grote, 1873)
- 2728 Agrotis vetusta (Walker, 1856)
- 2729 Agrotis ruta (Eversmann, 1851)
- 2730 Agrotis venerabilis Walker, [1857]
- 2731 Agrotis vancouverensis Grote, 1873
- 2732 Agrotis gravis Grote, 1874
- 2732.1 P Agrotis volubilis Harvey, 1874

Reports from BC by Dyar (1904) and other historical workers are erroneous. All known BC material is actually *A. obliqua* (Smith) or *A. antica* Crabo & Lafontaine (Lafontaine and Troubridge 2011). However, *A. volubilis* is known from AB's Peace River region and may yet be found in adjacent northeastern BC.

- 2733 Agrotis obliqua (Smith, 1903)
- 2734 Agrotis antica Crabo & Lafontaine, 2004
- 2735 M Agrotis ipsilon (Hufnagel, 1766)

Subtribe Noctuina

- 2736 Ochropleura implecta Lafontaine, 1998 This species has historically been reported in North America under the Palaearctic name O. plecta (Linnaeus).
- 2737 Diarsia esurialis (Grote, 1881)
- 2738 Diarsia calgary (Smith, 1898)
- 2739 Diarsia dislocata (Smith, 1904)
- 2740 Diarsia rubifera (Grote, 1875)
- 2741 *Diarsia rosaria* (Grote, 1878) The nominate subspecies occurs in BC. deWaard (2010) also reported the subspecies freemani Hardwick, but that may be a result of a barcoding misidentification; freemani
- was considered by Lafontaine (1998) to be restricted to east of the Rocky Mountains.
 Cerastis enigmatica Lafontaine & Crabo, 1997
 Reported by historical workers as *C. cornuta* (Grote) before the recognition of *C. enigmatica* as a distinct species.
- 2743 *Cerastis salicarum* (Walker, 1857)
- 2744 Paradiarsia littoralis (Packard, 1867)
- The nominate subspecies has been reported from BC.
- 2745 *Lycophotia phyllophora* (Grote, 1874)
- 2746 *Rhyacia clemens* (Smith, 1890)
- 2747 *Chersotis juncta* (Grote, 1878)

2748 Noctua pronuba (Linnaeus, 1758) I Introduced from Europe to NS in about 1979, it quickly spread across North America. Noctua comes Hübner. [1813] 2749 I Introduced from Europe to BC in about 1982, and to ON in 2006. 2750 Cryptocala acadiensis (Bethune, 1870) Spaelotis clandestina (Harris, 1841) 2751 2752 Spaelotis bicava Lafontaine, 1998 . This species has been treated historically under the Palaearctic name S. havilae Grote before the description of *S. bicava* by Lafontaine (1998). 2753 Eurois occulta (Linnaeus, 1758) 2754 Eurois astricta Morrison, 1874 Subspecies subjugata (Dyar) (type locality: Kaslo, BC) occurs in BC. 2755 Eurois nigra (Smith, 1892) The nominate subspecies has been reported from BC. 2756 Graphiphora augur (Fabricius, 1775) 2757 Anaplectoides prasina ([Denis & Schiffermüller], 1775) 2758 Anaplectoides pressus (Grote, 1874) Aplectoides condita (Guenée, 1852) 2759 Eueretagrotis perattentus (Grote, 1876) 2760 *Xestia xanthographa* ([Denis & Schiffermüller], 1775) 2761 L Xestia smithii (Snellen, 1896) 2762 2763 Xestia normanianus (Grote, 1874) Reported from BC's Peace River region by Shepard (unpublished report B). 2764 Xestia oblata (Morrison, 1875) 2765 Xestia plebeia (Smith, 1898) 2766 Xestia mustelina (Smith, 1900) 2767 Xestia vernilis (Grote, 1879) Historical records of this species from the BC coast refer to X. verniloides Lafontaine, described in 1998. However, at least some records from the BC Interior ("southern interior; Kootenays" (Blackmore 1927); Salmon Arm, Vavenby, Enderby, Canoe (UBC collection)) are correct, as are recent records by D. Nicholson. Lafontaine (1998) did not report this species from BC, but reported it from adjacent AB, ID and MT. 2768 Xestia verniloides Lafontaine, 1998 2769 Xestia infimatis (Grote, 1880) 2770 Xestia finatimis Lafontaine, 1998 2771 Xestia praevia Lafontaine, 1998 2772 U Xestia dilucida (Morrison, 1875)

This taxon includes *X. youngii* (Smith), synonymised by Lafontaine and Schmidt (2010). It was reported from BC by Crumb (1956), but that record is likely based on material of a related species such as *X. praevia* Lafontaine, which was not described at that time. However, *X. dilucida*, previously considered to be strictly eastern, was recently discovered in boreal AB and may occur in northeastern BC.

2773		<i>Xestia c-nigrum</i> (Linnaeus, 1758)
2774		Xestia maculata (Smith, 1893)
2775		Xestia speciosa (Hübner, [1813])
		Subspecies apropitia (Benjamin) occurs in BC.
2776		Xestia mixta (Walker, 1856)
2777		Xestia imperita (Hübner, [1831])
2778		Xestia atrata (Morrison, 1874)
		The nominate subspecies and probably subspecies <i>yukona</i> (McDunnough) occur in BC (Lafontaine 1998).
2779		Xestia ursae (McDunnough, 1940)
2779.1	Р	Xestia tecta (Hübner, [1808])
		This species is known from YT on Montana Mountain, very close to the BC border;
2700		it likely occurs in adjacent BC.
2780		Xestia Okakensis (Packard, 1867)
2781		Voctia porquiritata (Morrisop 1874)
2701		Subspecies partita (McDuppough) and perquiritata (Morrison) occur in BC
2782		Xestia fabulosa (Ferguson, 1965)
2783		Xestia homogena (McDunnough 1921)
2700		The nominate subspecies occurs in BC.
2784		Xestia intermedia (Kononenko, 1981)
		Recent BC record by B. C. Schmidt.
2785		Xestia bryanti (Benjamin, 1933)
2785.1	Р	Xestia lyngei (Rebel, 1923)
		This species is known from YT on Montana Mountain, very close to the BC border; it likely occurs in adjacent BC.
2786		Xestia lupa Lafontaine & Mikkola, 1998
2787		Coenophila opacifrons (Grote, 1878)
2788		Prognorisma substrigata (Smith, 1895)
2789		Agnorisma bugrai (Koçak, 1983)
2790		Pseudohermonassa tenuicula (Morrison, 1874)
2791		Pseudohermonassa flavotincta (Smith, 1892)
2792		Setagrotis pallidicollis (Grote, 1880)
		This species was historically treated under the name S. cinereicollis (Grote), which
		is now considered a synonym of <i>S. vocalis</i> (Grote).
2/93		Tesagrotis atritrons (Grote, 18/3)
2/94		Tesagrotis piscipellis (Grote, 18/8)
2795		Tesagrotis corrodera (Smith, 1907)
2796		Adelphagrotis stellaris (Grote, 1880)
2797		Adelphagrotis indeterminata (Walker, 1865)
2798		Parabagrotis formalis (Grote, 1874)
2799		Parabagrotis insularis (Grote, 1876)
2800		Parabagrotis cupidissima (Grote, 1875)

- 2801 *Parabagrotis exsertistigma* (Morrison, 1874)
- 2802 Parabagrotis sulinaris Lafontaine, 1998
- 2803 *Protolampra rufipectus* (Morrison, 1875)
- 2804 *Protolampra brunneicollis* (Grote, 1865) Collected recently in BC near Okanagan Falls by deWaard (2010) and confirmed via DNA barcoding.
- 2805 Abagrotis erratica (Smith, 1890)
- 2806 Abagrotis trigona (Smith, 1893)
- 2807 Abagrotis apposita (Grote, 1878)
- 2808 Abagrotis vittifrons (Grote, 1864)
- 2809 Abagrotis mirabilis (Grote, 1879)
- 2810 Abagrotis glenni Buckett, 1968
- 2811 Abagrotis pulchrata (Blackmore, 1925)
- 2812 Abagrotis nefascia (Smith, 1908)
- 2813 Abagrotis reedi Buckett, 1969
- 2814 Abagrotis duanca (Smith, 1908)
- 2815 Abagrotis nanalis (Grote, 1881)
- 2816 Abagrotis discoidalis (Grote, 1876)
- 2817 Abagrotis turbulenta McDunnough, 1927
- 2818 Abagrotis hermina Lafontaine, 1998
- 2819 Abagrotis dodi McDunnough, 1927
- 2820 Abagrotis dickeli Lafontaine, 1998
- 2821 *Abagrotis placida* (Grote, 1876)
- 2822 Abagrotis orbis (Grote, 1876)
- 2823 Abagrotis baueri McDunnough, 1949
- 2824 Abagrotis variata (Grote, 1876)
- 2825 Abagrotis scopeops (Dyar, 1904)
- 2826 U Abagrotis alternata (Grote, 1864) Report of this species in BC by ESBC (1906) is unconfirmed and probably erroneous. However, it is known from southwestern AB (Lafontaine 1998) and may well occur in BC.
- 2827 Abagrotis forbesi (Benjamin, 1921)
- 2828 Abagrotis brunneipennis (Grote, 1875)
- 2829 Abagrotis cupida (Grote, 1865)
- 2830 *Pronoctua typica* Smith, 1894
- 2831 *Pronoctua peabodyae* (Dyar, 1903) Historically reported under the name *P. pyrophiloides* (Harvey) under a previous concept of that species.
- 2832 Pronoctua craboi Lafontaine, 1998

Part III: Excluded Taxa

The following 322 species have been erroneously reported in published literature as occurring in BC. Some of the entries in this list reflect cases that are deemed to be errors or misidentifications, but many others result from recent taxonomic interpretations shifting the historical divisions between species and subspecies. Many are due to the recognition of separate Palaearctic and Nearctic species that were once considered conspecific. A few may be due to mislabelled material. One collection in particular, the "Bush-Wilson" collection of approximately 100 years ago was made up of eastern North American material that was mistakenly labelled as being from "Vancouver, BC" (the collection may once have been housed there), and has caused confusion about species ranges. There may still be mislabelled "Bush-Wilson" material (particularly bombycoids) deposited in collections (B. C. Schmidt, personal communication). Details of current species and subspecies assignments are provided for each entry. Species are listed here in the most recent taxonomic order, similar to the main checklist.

Micropterigidae

E001 *Epimartyria pardella* Walsingham, 1880. This species was listed by Blackmore (1923) based on an old record at Fraser Mills. Those specimens are the very recently described *E. bimaculella* Davis & Landry, 2012.

Hepialidae

E002 *Gazoryctra pulcher* (Grote, [1865]). Reported from BC as "*Hepialus pulcher macglashlani* Edwards" by Blackmore (1921). *Gazoryctra mcglashlani* Edwards is now a valid species; neither *G. mcglashani* or *G. pulcher* occur in BC.

E003 *Gazoryctra mcglashani* (Edwards, 1886). Early records of this species in BC are based on specimens of *G. novigannus* (Barnes & Benjamin), which was not described until 1926.

Tineidae

E004 *Morophagoides tessulatellus* (Zeller, 1846). This Palaearctic species was reported by Dietz (1905) under a previous taxonomic arrangement. All records of this species in North America refer to *M. burkerella* (Busck).

Gracillariidae

- E005 *Caloptilia elongella* (Linnaeus, 1761). This Palaearctic species was reported by ESBC (1906) under a previous taxonomic arrangement. North American records refer to *C. alnivorella* (Chambers).
- E006 *Caloptilia glutinella* (Ely, 1915). The record from Prentice (1965) for BC and YT is considered to be erroneous: no authentic voucher material could be found. This species is otherwise known only from CT.
- E007 *Marmara pomonella* Busck, 1915. Reported as a pest in BC by Belton (1988) but that is deemed erroneous as no vouchers are known.
- E008 *Phyllonorycter populiella* (Chambers, 1878). This species was not reported from the West by Davis and Deschka (2001). British Columbia material cited by ESBC (1906) and other early works is assumed to be another species.

Yponomeutidae

E009 Zelleria hepariella Stainton, 1849. This Palaearctic species was reported in error by Cannings and Scudder (2007), based on misidentified specimens of Z. pyri Clarke.

Ypsolophidae

E010 *Ypsolopha ustella* (Clerck, 1759). Historical reports of this species in BC are incorrect; it is restricted to the Palaearctic (J. Sohn, personal communication).

Argyresthiidae

E011 *Argyresthia calliphanes* Meyrick, 1913. The identity of this species has long been confused with *A. goedartella* (Linnaeus). Forbes (1923) claims that most North American reports of the latter actually

refer to *A. calliphanes*. Until this matter is resolved, we list known BC material under *A. goedartella*, and treat *A. calliphanes* as an erroneous record.

Oecophoridae

- E012 *Decantha borkhausenii* (Zeller, 1839). This Palaearctic species was reported by Cannings and Scudder (2007). North American material is *D. boreasella* (Chambers).
- E013 *Endrosis lacteella* ([Denis & Schiffermüller], 1775). The report from BC by ESBC (1906) refers to *E. sarcitrella* (Linnaeus). *Endrosis lacteella* is restricted to the Old World.

Cosmopterigidae

E014 Walshia amorphella Clemens, 1864. Western Canadian specimens once identified as this species are actually *W. miscecolorella* (Chambers), long considered a synonym of *W. amorphella*.

Gelechiidae

- E015 *Dichomeris flavocostella* (Clemens, 1860). Reported as an uncertain record from BC by Hodges (1986). No BC voucher material is known, and the species is otherwise unknown west of MB; the report is considered erroneous. Two specimens in the RBCM with no locality information may be the basis of Hodges' record.
- E016 *Chrysoesthia hermanella* (Fabricius, 1781). The report by Blackwelder (1923) is erroneous and refers to *C. drurella* (Fabricius). *Chrysoesthia hermanella* is restricted to the Old World.
- E017 *Coleotechnites nigritus* (Hodges, 1983). The BC record by Cannings and Scudder (2007) is based on a misidentified specimen in the CNC. This species is not known to occur in Canada.
- E018 *Carpatolechia proximella* (Hübner, 1796). The report by Cannings and Scudder (2007) is erroneous; it is based on misidentified material that is actually *C. belangerella* (Chambers).
- E019 *Chionodes trophella* (Busck, 1903). Reported from BC by Blackmore (1924), but this species is not known north of UT and CO (Hodges 1999b). The BC report is probably based on the very similar *C. restio* Hodges, which is a recently-described Garry Oak feeder in southwestern BC.
- E020 *Aroga paraplutella* (Busck, 1910). The report by Cannings and Scudder (2007) was based on misidentified material.

Elachistidae

E021 *Elachista stramineola* Braun, 1921. Misidentification by Braun (1948); this is *E. morwenella* Kaila, according to Kaila (1999b).

Coleophoridae

E022 *Coleophora tenuis* (Walsingham, 1882). The record of this species in BC by ESBC (1906) is deemed erroneous as no vouchers are known and it is otherwise unknown from Canada.

Momphidae

- E023 *Mompha albapalpella* (Chambers, 1875). Historical records of this species in Canada are based on misidentified material of *M. conturbatella* (Hübner).
- E024 *Mompha decorella* (Stephens, 1835). Historical records of this Palaearctic species in North America refer to *M. unifasciella* (Chambers).

Alucitidae

- E025 *Alucita hexadactyla* Linnaeus, 1758. Historical application of this name to North American material is incorrect; known BC specimens have been redetermined as *A. montana* Barnes & Lindsey.
- E026 Alucita huebneri Wallengren, 1859. Like A. hexadactyla Linnaeus, the name A. huebneri was sometimes applied to Alucita material in North America. In BC, these records refer to A. montana Barnes & Lindsey.

Pterophoridae

- E027 *Stenoptilia islandicus* (Staudinger, 1857). This Palaearctic species was reported by Landry (1987) under a previous taxonomic arrangement. North American material is *S. mengeli* Fernald.
- E028 *Paraplatyptilia grandis* (Walsingham, 1880). The ESBC (1906) record was declared erroneous by Blackmore (1922b). British Columbia specimens are *Platyptilia carduidactylus* (Riley). Barnes and Lindsey (1921) repeated the BC report as a questionable record.
- E029 *Paraplatyptilia modesta* (Walsingham, 1880). The ESBC (1906) record was declared erroneous by Blackmore (1922b). British Columbia specimens are *Platyptilia carduidactylus* (Riley).
- E030 *Amblyptilia cosmodactyla* (Hübner, [1819]). This Palaearctic species was reported by ESBC (1906) following a previous taxonomic arrangement. North American material is *A. pica* (Walsingham).

- E031 *Amblyptilia punctidactyla* (Haworth, 1811). This Palaearctic species was reported by several early workers following a previous taxonomic arrangement. North American material is *A. pica* (Walsingham).
- E032 *Geina periscelidactyla* (Fitch, 1854). The ESBC (1906) record was declared erroneous by Blackmore (1922b). British Columbia specimens are *Amblyptilia pica* (Walsingham).
- E033 *Dejongia californicus* (Walsingham, 1880). An uncertain record by Barnes & Lindsey (1921), who reported that *D. lobidactylus* (Fitch) records from BC (reported by ESBC 1906) likely referred to this species. However, Landry (1987) confirmed the presence of *D. lobidactylus* in BC. *Dejongia californicus* is otherwise unknown from Canada so we consider Barnes & McDunnough's conclusion erroneous.
- E034 *Hellinsia fishii* (Fernald, 1893). Reported by McDunnough (1923, 1927b) from BC to ON, but no Canadian voucher specimens are known so that is deemed erroneous.
- E035 *Hellinsia paleaceus* (Zeller, 1873). The BC record by ESBC (1906) and Barnes and Lindsey (1921) was declared erroneous by Blackmore (1922b). British Columbia specimens are *H. corvus* (Barnes & Lindsey).
- E036 *Oidaematophorus guttatus* Walsingham, 1880. The record by McDunnough (1927b) without current vouchers is considered to be a misidentification. This species is otherwise unknown in Canada and the northwestern USA.

Tortricidae – Tortricinae

- E037 *Acleris bergmanniana* (Linnaeus, 1758). This Palaearctic species was reported by Dyar (1904) and ESBC (1906) under a previous taxonomic arrangement. North American material is *A. albicomana* (Clemens).
- E038 *Acleris permutana* (Duponchel, 1836). Report of this Palaearctic species by Forbes (1923) follows a previous taxonomic arrangement. North American material is *A. fragariana* Kearfott.
- E039 *Acleris lipsiana* ([Denis & Schiffermüller], 1775). According to Clarke (1987), all reports of *A. lipsiana* in North America refer to *A. inana* (Robinson). *Acleris lipsiana* is strictly Palaearctic.
- E040 *Acleris emargana* (Fabricius, 1775). Historical application of this Palaearctic name to North American material is erroneous. All

North American populations have recently been recognised as a distinct species, *A. effractana* (Hübner) (Karsholt et al. 2005).

- E041 *Cnephasia asseclana* [Denis & Schiffermüller], 1775. This introduced species was reported from BC in error by Smith (1994) under the name *C. interjectana* (Haworth), a synonym (Lafontaine and Troubridge 2011).
- E042 *Phalonidia felix* (Walsingham, 1895). No vouchers are known for the Cannings & Scudder (2007) BC record; it presumably originated with CNC material that has since been redetermined as another species, so the BC record is deemed erroneous.
- E043 *Argyrotaenia ljungiana* (Thunberg, 1797). This Palaearctic species was reported by ESBC (1906) as *"Eulia politana* Haworth", a synonym. It is assumed to refer to the very similar *A. occultana* Freeman, which had not been described at the time.
- E044 *Sparganothis pilleriana* ([Denis & Schiffermüller], 1775). The record by ESBC (1906) is thought to be erroneous, as no BC vouchers are known and this species is otherwise unknown in North America (Powell and Brown 2012).

Tortricidae – Olethreutinae

- E045 *Apotomis albeolana* (Zeller, 1875). The BC report by Blackmore (1923) is considered erroneous and refers to another species of *Apotomis. Apotomis albeolana* is not known west of ON in Canada.
- E046 *Olethreutes electrofuscum* (Heinrich, 1923). The report from BC by deWaard (2010), based on a barcoded specimen, is deemed erroneous. Barcodes are not reliable for diagnosis in this genus, and this species is otherwise known only in eastern North America.
- E047 *Olethreutes versicolorana* (Clemens, 1860). The report from BC by Blackmore (1922a) was erroneous and was corrected to *O. appendiceum* (Zeller) (Blackmore 1923).
- E048 *Ancylis geminana* (Donovan, [1806]). Reported in error by ESBC (1906) and other early authors as *A. biarcuana* (Stephens), a synonym of this Palaearctic species (see Heinrich 1923). North American records refer to *A. diminutana* (Haworth).
- E049 *Spilonota lariciana* (Heinemann, 1863). The report of this species in BC by Blackmore (1921) refers to *S. ocellana* ([Denis & Schiffermüller]); *S. lariciana* is strictly Palaearctic.
- E050 *Eucosma refusana* (Walker, 1863). This species was reported from BC by Cannings and Scudder (2007) on the basis of misidentified specimens of *E. verna* (Miller) in the CNC.

- E051 *Eucosma circulana* Hübner, 1823. The record by Dyar (1904) and ESBC (1906) is assumed to be a misidentification; this species is otherwise unknown in western North America.
- E052 *Eucosma salmicolorana* (Heinrich, 1923). Report of this species from BC by Cannings and Scudder (2007) is erroneous, it occurs in Canada only in the southern prairies east of the Rocky Mountains.
- E053 *"Eucosma" occipitana* (Zeller, 1875). Reported by Cannings and Scudder (2007) under a previous taxonomic arrangement. All known Canadian records of *E. occipitana* refer to *Pelochrista kingi* Wright. *"Eucosma" occipitana* is not known to occur north of CO. The generic placement of this species is uncertain (Gilligan et al. 2014).
- E054 *Pelochrista similiana* (Clemens, 1860). Reported from BC by Dyar (1904). This record is erroneous, and refers to *P. dorsisignatana* (Clemens). *Pelochrista similiana* is not known to occur west of MB (Wright 2011).
- E055 *Pelochrista atomosana* (Walsingham, 1879). The record by Dyar (1904) and ESBC (1906) is assumed to be a misidentification; this species is otherwise unknown in western North America.
- E056 *Pelochrista lathami* (Forbes, 1937). Western records of this species refer to *E. morrisoni* (Walsingham).
- E057 *Pelochrista passerana* (Walsingham, 1879). This species was reported from BC by Blackmore (1923) but the record is deemed erroneous; no BC vouchers are known and the species is otherwise unknown north of CA.
- E058 Zeiraphera ratzeburgiana (Saxesen, 1840). Historical application of this Palaearctic name in North America is based on a previous taxonomic concept. All North American material is Z. canadensis Mutuura & Freeman.
- E059 *Zeiraphera diniana* (Guenée, 1845). Records of this Palaearctic species by Prentice (1965) and others are erroneous. North American material is *Z. improbana* (Walker).
- E060 *Epinotia crenana* (Hübner, [1817]). This Palaearctic name has been used for many years for North American material now recognised as a distinct species, *E. columbia* (Kearfott).
- E061 *Dichrorampha alpinana* (Treitschke, 1830). This Palaearctic species was reported by ESBC (1906) under a previous taxonomic concept. North American material is *D. simulana* (Clemens) (Heinrich 1926).
- E062 *Grapholita molesta* (Busck, 1916). This exotic pest species, known as the Oriental Fruit Moth, was reported by Cannings and Scudder

(2007). It was intercepted at Summerland, BC, in 1956 on fruit imported from WA for canning. An eradication campaign was carried out at the cannery and in an adjacent orchard as a precautionary measure (Touzeau and Nielson 1957, 1958). However, it has never been collected in the wild in the province, so is hereby removed from the BC list.

- E063 *Cydia strobilella* (Linnaeus, 1758). Historical records of this European species in North America are now recognised as a distinct species, *Cydia youngana* (Kearfott), which was raised from synonymy with *C. strobilella* by Svensson et al. (2012).
- E064 *Cydia gallaesaliciana* (Riley, 1881). The BC record by Dyar (1904) and other early workers was based on a determination by Kearfott that is assumed to be erroneous. No vouchers are known, and the species is otherwise unknown west of MB.

Papilionidae

- E065 *Papilio polyxenes* Fabricius, 1775. This Holarctic species was reported in error by Smith (1994), as *P. polyxenes asterius* Stoll, in a list of exotic species introduced to BC. It does not occur west of MB.
- E066 *Papilio glaucus* Linnaeus, 1758. Reported in error from BC by Dyar (1904) and other early workers based on a previous taxonomic arrangement. British Columbia records refer to *P. canadensis* Rothschild & Jordan.

Hesperiidae

- E067 *Pyrgus albescens* Plötz, 1884. A report of *"Urbanus tessellata occidentalis* Skinner" from BC by Blackmore (1927) has been misinterpreted as a record of this species. *Hesperia tessellata* Scudder is a synonym of *Pyrgus communis* (Grote), which occurs in BC. However, *P. occidentalis* is now considered a synonym of *P. albescens*, which does not occur in Canada.
- E068 *Pyrgus oileus* (Linnaeus, 1767). Report of this species by Dyar (1904) and ESBC (1906) under the name *montivagus* Reakirt, a synonym, is considered to be erroneous. This species does not occur in Canada or the Pacific Northwest.
- E069 *Hesperia comma* (Linnaeus, 1758). North American specimens south of Beringia are *H. manitoba* (Scudder), long considered to be a subspecies of *H. comma* (Pohl et al. 2010).
- E070 *Ochlodes agricola* (Boisduval, 1852). Historical records of this species are assumed to be erroneous. It has not been listed as occurring

in Canada since Llewellyn Jones (1951), and no Canadian vouchers are known.

Pieridae

- E071 *Colias meadii* Edwards, 1871. Canadian records historically referred to as *C. meadii* are *C. elis* Strecker, which was long treated as a subspecies of *C. meadii*, but was raised to species status by Pohl et al. (2010). *Colias meadii* is restricted to the USA.
- E072 *Euchloe hyantis* (Edwards, 1871). Reported from BC by various workers, including Cannings and Scudder (2007), but these records refer to *E. lotta* (Beutenmüller), considered a subspecies of *E. hyan-tis* until recently.
- E073 *Pieris napi* (Linnaeus, 1758). Historical records of this Palaearctic species from North America are erroneous, due to a previous taxonomic arrangement. All North American populations are *P. oleracea* Harris.

Lycaenidae

- E074 *Lycaena epixanthe* (Boisduval & LeConte, [1835]). Reported from BC in error by Belton (1988). This is an eastern species.
- E075 *Satyrium fuliginosa* (Edwards, 1861). Reports of this species in BC by Layberry et al. (1998) and others all refer to *S. semiluna* Klots, then considered a subspecies of *S. fuliginosa*, but now considered a full species, following Warren (2005).
- E076 *Satyrium acadica* (Edwards, 1862). The report of this species from southeastern BC by Ferris and Brown (1981) is incorrect, it refers to *S. sylvinus* (Boisduval).
- E077 *Callophrys dumetorum* (Boisduval, 1852). The reports of this species in BC by Llewellyn Jones (1951) and earlier workers refer to *C. sheridanii* (Carpenter).
- E078 *Callophrys xami* Reakirt, [1867]. The record by ESBC (1906), as *"Thecla blenina* Hewitson", a synonym, is erroneous. This species does not occur in northwestern North America.
- E079 *Callophrys irus* (Godart, [1824]). The report by ESBC (1906) is erroneous, and refers to another *Callophrys* species. *Callophrys irus* is not known to occur in northwestern North America.
- E080 *Celastrina ladon* (Cramer, [1780]). Reported from BC by Layberry et al. (1998), Guppy and Shepard (2001) and others going back to ESBC (1906). However, these records refer to *C. lucia* (Kirby) and *C. echo* (Edwards), once treated within the concept of a widespread

Holarctic "*C. ladon*", but now considered to be separate species. True *C. ladon* is restricted to eastern North America.

- E081 *Celastrina argiolus* (Linnaeus, 1758). Reports of this Palaearctic species in North America are based on a previous taxonomic arrangement. Western North American populations are now treated as *C. lucia* (Kirby) and *C. echo* (Edwards). In the east, they are *C. ladon* (Cramer).
- E082 *Euphilotes battoides* (Behr, 1867). Reports of this species in BC by Layberry et al. (1998), Guppy and Shepard (2001) and others refer to *E. glaucon* (Edwards), then considered to be a subspecies of *E. battodes*.
- E083 *Plebejus acmon* (Westwood, 1852). Records in Layberry et al. (1998), Guppy and Shepard (2001) and others going back to ESBC (1906) refer to *P. lupini* (Boisduval), recently raised to species status.
- E084 *Plebejus podarce* (Felder & Felder, 1865). Reported from BC in error by Dyar (1904) and ESBC (1906), this taxon was until recently considered to be a subspecies of *P. glandon* (de Prunner). It is now recognised as a full species, and is restricted to OR and CA (Layberry et al. 1998).

Nymphalidae – Heliconiinae

- E085 *Boloria napaea* (Hoffmansegg, [1826]). This Palaearctic name has been used for North American populations under a previous taxonomic arrangement. They are now treated as *B. alaskensis* (Holland), following Pelham (2008).
- E086 *Boloria selene* ([Denis & Schiffermüller], 1775). This Palaearctic name has been used for North American populations under a previous taxonomic arrangement. They are now treated as *B. myrina* (Cramer), following Pelham (2008).
- E087 *Boloria tritonia* (Boeber, 1812). This Palaearctic name has been used for North American populations under a previous taxonomic arrangement. North American populations are now treated as *B. astarte* (Doubleday), following Pelham (2008).

Nymphalidae – Nymphalinae

E088 *Vanessa caryae* (Hübner, 1812). Reports of this Palaearctic species in BC by ESBC (1906) and Blackmore (1927) are based on a previous taxonomic arrangement. All North American material is *V. annabella* (Field).

- E089 *Nymphalis I-album* (Esper, 1781). This Palaearctic species was reported by Guppy and Shepard (2001) and Pyle (2002), following a previous taxonomic arrangement. North American populations are *N. j-album* (Boisduval & LeConte).
- E090 *Polygonia marsyas* Edwards, 1870. ESBC (1906) reported "variety *marsyas* Edwards" from BC in error; *marsyas* was described from mislabelled Old World material (see Pelham 2008: Appendix II).
- E091 *Euphydryas chalcedona* (Doubleday, 1847). Records of this species in BC refer to *E. colon* (Edwards), long considered a subspecies of E. *chalcedona*, but treated as distinct by Pelham (2008). True *E. chalcedona* does not occur north of the USA.
- E092 *Chlosyne whitneyi* (Behr, 1863). Reported in BC by Guppy and Shepard (2001) and others as *C. whitneyi damoetas* (Skinner), now considered to be a separate species.
- E093 *Chlosyne acastus* (Edwards, 1874). Layberry et al. (1998) reported "*C. palla sterope* (Edwards)" from the southern Okanagan of BC, but those populations are actually *C. palla* (Boisduval), subspecies *calydon* (Strecker). The taxon *sterope* is now regarded as a subspecies of *C. acastus* (Edwards), which occurs in central WA and in the grasslands of AB, but is unknown from BC (Pyle 2002).
- E094 *Phyciodes tharos* (Drury, 1773). British Columbia records of *P. tharos* refer to *P. cocyta* (Cramer), which was recently split from *P. tharos*. Guppy and Shepard (2001) continued to treat *P. cocyta* as a subspecies of *P. tharos*.

Nymphalidae – Satyrinae

- E095 *Cercyonis sylvestris* (Edwards, 1861). The report by ESBC (1906) as *"Cercyonis sylvestris* Edwards variety *charon* (Edwards)" is erroneous. The taxon *charon* is a valid subspecies of *C. oetus* (Boisduval) that occurs in BC; however, *C. sylvestris* is strictly Palaearctic.
- E096 *Erebia disa* (Thunberg, 1791). The BC records by Blackmore (1927) and Llewellyn Jones (1951) refer to *E. mancinus* Doubleday & Hewitson, which was considered a synonym of *E. disa* at that time. *Erebia disa* is otherwise known only from YT, NT and NU near the Arctic Ocean.
- E097 *Erebia theano* (Tauscher, 1809). This Palaearctic name was applied to North American populations by Layberry et al. (1998) and others, following a previous taxonomic arrangement. The North American taxon is now known as *E. pawloskii* Ménétriés.

- E098 *Oeneis rosovi* Kurentzov, 1960. This Palaearctic species was reported by Layberry et al. (1998) and Cannings and Scudder (2007) following a previous taxonomic arrangement. North American material is *O. philipi* Troubridge & Parshall.
- E099 *Oeneis norna* (Thunberg, 1791). Listed from BC by ESBC (1906) as *"Oeneis norna* Thunberg variety *beanii* Elwes". The taxon *beanii* is now recognised as a subspecies of *O. melissa* (Fabricius). It occurs in BC. However, *O. norna* is strictly Palaearctic.

Pyralidae

- E100 *Aglossa electalis* (Hulst, 1886). The historical records by Dyar (1904) and ESBC (1906) refer to *A. cacamica* (Dyar), which had not been described at that time. *Aglossa electalis* does not occur in northwestern North America.
- E101 *Euzophera aglaeella* Ragonot, 1887. Reported by Blackmore (1923), but now assumed to be erroneous. No vouchers are known, and this species was not reported from Canada or the northern USA by Neunzig (1990).
- E102 *Pima albiplagiatella* (Packard, 1874). All records west of QC refer to *P. occidentalis* Heinrich, which was considered a subspecies of *P. albiplagiatella* prior to Neunzig (2003).
- E103 *Sciota termitalis* (Hulst, 1886). The BC record by Heinrich (1956), repeated by Cannings and Scudder (2007), is considered erroneous. Earlier western determinations were thought by Neunzig (2003) to refer to *S. levigatella* (Hulst), which Heinrich (1956) considered to be a synonym of *S. termitalis*.
- E104 *Sciota inconditella* (Ragonot, 1893). Reported by Blackmore (1923, 1924) as "*S. virgatella* subspecies *inconditella* Ragonot", from Shawnigan Lake and Duncan, BC. Only two purported BC vouchers exist, both in the UBC collection. They were redetermined by GRP: one is *S. fraudifera* (Heinrich), and the other is a *Sciota* species, but definitely not *S. virgatella* (Clemens) or *S. inconditella. Sciota inconditella* is not known from western North America (Neunzig 2003).
- E105 Sciota subcaesiella (Clemens, 1860). Reported by Blackmore (1922a) as a subspecies of S. virgatella (Clemens) from Goldstream, BC. This is assumed to be a misidentification; the species is known only from eastern North America.
- E106 *Sciota virgatella* (Clemens, 1860). Reported by Blackmore (1923, 1924) as *"S. virgatella* subspecies *inconditella* Ragonot". Purported

vouchers have been redetermined as other *Sciota* species (see note above on *S. inconditella*). *Sciota virgatella* is not known from western North America (Neunzig 2003).

- E107 *Pyla aeneella* Hulst, 1895. Canadian records, including from BC by Cannings & Scudder 2007, are erroneous: no confirmed vouchers are known, and the species is reported only from CO and UT by Neunzig 2003.
- E108 *Dioryctria abietella* ([Denis & Schiffermüller], 1775). This Palaearctic name was used in North America before 1973 when Nearctic populations were described as a separate species, *D. reniculelloides* Mutuura & Munroe.
- E109 *Sarata atrella* (Hulst, 1890). Erroneous BC record by ESBC (1906) and Blackmore (1922a). Vouchers in the RBCM were redetermined as *S. pullatella* (Ragonot) by GRP.
- E110 *Zophodia convulutella* (Hübner, 1796). This Palaearctic species was reported in error by Heinrich (1956) under a previous taxonomic arrangement. North American populations are *Z. grossulariella* (Hübner).
- E111 *Phycitodes reliquella* (Dyar, 1904). Historical records of this species in western North America refer to *P. mucidella* (Ragonot), a closely related species. As defined by Neunzig (1997), *P. reliquella* is restricted to eastern North America.

Crambidae

- E112 *Euchromius ocelleus* (Haworth, 1811). Reports of this species from western Canada, including from BC by Blackmore (1924), refer to *E. californicalis* (Packard). *Euchromius ocelleus* is not known from the area.
- E113 *Crambus dumetellus* Hübner, 1813. This Palaearctic species was reported by various authors prior to Klots (1942) under a previous taxonomic arrangement. North American populations are *C. whitmerellus* Klots.
- E114 *Crambus gausapalis* Hulst, 1886. Reported from BC by ESBC (1906), but not by subsequent authors. The record is assumed to be erroneous, because the species is not known to occur in northern North America.
- E115 *Stegea eripalis* (Grote, 1878). The BC record by Dyar (1904) and ESBC (1906) is considered to be erroneous and likely refers to *S. salutalis* (Hulst). *Stegea eripalis* is otherwise unknown west of the Great Lakes region.

- E116 *Anania coronata* (Hufnagel, 1767). This Palaearctic name was used in North America until very recently. North American populations are now recognised as a distinct species, *A. tertialis* (Guenée) (Yang et al. 2012).
- E117 *Anania terrealis* (Trietschke, 1829). This Palaearctic species was reported by early workers up to Forbes (1923). North American populations are *A. mysippusalis* (Walker).
- E118 *Pyrausta generosa* (Grote & Robinson, 1867). Report of this species from BC by ESBC (1906) refers to *P. orphisalis* Walker. The two species were historically confused. *Pyrausta generosa* does not occur west of southern AB.
- E119 *Herpetogramma aeglealis* (Walker, 1859). BC record by Dyar (1904) and ESBC (1906) is assumed erroneous: no BC vouchers are known, and this species is otherwise unknown in western Canada.
- E120 *Udea ferrugalis* (Hübner, 1796). This Palaearctic species was reported by ESBC (1906) following a previous taxonomic arrangement. North American populations are *U. rubigalis* (Guenée).
- E121 *Nomophila noctuella* ([Denis & Schiffermüller], 1775). North American records of this Palaearctic species are erroneous, due a previous taxonomic concept. North American populations are *N. nearctica* Munroe.

Drepanidae

- E122 *Euthyatira lorata* (Grote, 1881). Erroneous BC record by deWaard (2010) based on a misidentification of *E. pudens* (Guenée). *Euthyatira lorata* does not occur in Canada.
- E123 *Ceranemota tearlei* (Edwards, 1886). The record from Blackmore (1927) and Llewellyn Jones (1951) is erroneous and refers to *C. albertae* Clarke (Lafontaine and Troubridge 2011). Crabo et al. (2015) treat *C. albertae* as a synonym of *C. tearlei*, and list records in the Pacific Northwest, including BC, under the latter name.

Lasiocampidae

- E124 *Phyllodesma occidentis* (Walker, 1855). Erroneous record by Franclemont (1973) under a previous concept of this species. Western Canadian populations are now considered to be *P. americana* (Harris). *Phyllodesma occidentis* does not occur in northwestern North America.
- E125 *Malacosoma americana* (Fabricius, 1793). This otherwise eastern North American species was reported as an uncertain record by

Llewellyn Jones (1951) and Forbes (1954); the specimen is either mislabelled or misidentified.

E126 *Tolype laricis* (Fitch, 1856). Historical records of this species, including by Franclemont (1973), are considered to be misidentifications of *T. dayi* Blackmore. No confirmed *T. laricis* material is known west of MB (B. C. Schmidt, personal communication).

Saturniidae

- E127 *Ormiscodes ribesii* Edwards, 1875. This species was described from a reared female from "Esquimault", BC, by Edwards (1874). The ESBC (1906) subsequently listed it as a questionable record for BC. This is the only known report of this tropical species from North America; Ferguson (1971) presumed it was either mislabelled or an accidental introduction.
- E128 *Hyalophora columbia* (Smith, 1865). British Columbia records of *H. columbia* refer to *H. gloveri* (Strecker), historically treated as a subspecies or synonym, but recognised as distinct by Pohl et al. (2010). True *H. columbia* does not occur west of MB.

Sphingidae

- E129 *Sphinx gordius* Cramer, 1780. Reported from BC by Shepard (unpublished report B), but that record refers to *S. poecila* Stephens. *Sphinx gordius* is an eastern species, occurring only as far west as SK.
- E130 *Smerinthus saliceti* Boisduval, 1875. Erroneous record by Llewellyn Jones (1951). Specimens from western Canada that are similar in appearance to *S. saliceti* are currently considered to be *S. ophthalmica* Boisduval (Pohl et al. 2010). However, these may in fact represent another biological entity. More taxonomic work is required on this group in western Canada (B. C. Schmidt, personal communication).
- E131 *Deidamia inscripta* (Harris, 1839). This introduced species was reported in error from BC by Smith (1994).

Geometridae – Larentiinae

- E132 *Dysstroma walkerata* (Pearsall, 1909). This species has been reported from BC by many workers; however, all BC material is *D. pseudimmanata* (Heydemann). *Dysstroma walkerata* is a species of the eastern boreal forest (Pohl et al. 2010).
- E133 *Eulithis populata* (Linnaeus, 1758). Reported from BC by Dyar (1904). Nevertheless, he thought the specimens may be *E. propulsata*

(Walker) (as *packardata* (Lintner), a synonym), a view reiterated by Taylor (1908a).

- E134 *Colostygia turbata* Hübner, [1799]. Records of this Palaearctic species by various authors, including Cannings and Scudder (2007), are based on a previous taxonomic arrangement. North American populations are *C. circumvallaria* (Taylor).
- E135 *Thera contractata* (Packard, 1873). The BC record by Fischer et al. (unpublished report) is based on a misidentification; this species is restricted to eastern North America.
- E136 *Hydriomena impluviata* ([Denis & Schiffermüller], 1775). This Palaearctic species was reported by ESBC (1906), under the name *Geometra autumnalis* Ström, a synonym. The report likely refers to *H. renunciata* (Walker), a very similar species.
- E137 *Hydriomena pluviata* (Guenée, [1858]). Llewellyn Jones' (1951) BC record is assumed to be a misidentification: this species is otherwise known in Canada only from QC.
- E138 *Entephria aurata* (Packard, 1867). The report of this species in BC by Forbes (1948) is considered erroneous. Western populations are *E. multivagata* (Hulst) (Troubridge 1997).
- E139 *Stamnodes gibbicostata* (Walker, 1862). The report of this species in BC by ESBC (1906) is erroneous, based on a previous taxonomic interpretation. British Columbia populations were described as *S. blackmorei* by Swett (1915).
- E140 *Xanthorhoe designata* (Hufnagel, 1767). Historical records of this Palaearctic species, up to and including Llewellyn Jones (1951), are based on a previous taxonomic concept. North American populations are now known as *X. labradorensis* (Packard).
- E141 *Xanthorhoe incursata* (Hübner, [1813]). North American populations previously treated under this Palaearctic name have recently been recognised as distinct, under the name *X. lagganata* Swett & Cassino (Pohl et al. 2010).
- E142 *Epirrhoe tristata* (Linnaeus, 1758). This Palaearctic species was reported by historical workers under a previous taxonomic arrangement. North American populations are now recognised as *E. sperryi* Herbulot.
- E143 *Euphyia unangulata* (Haworth, 1809). Llewellyn Jones (1951) and Lafontaine and Troubridge (2011) used this Palaearctic name following a previous taxonomic arrangement. North American populations are now known as *E. intermediata* (Guenée).

- E144 *Epirrita dilutata* ([Denis & Schiffermüller], 1775). This Palaearctic species was reported from BC by ESBC (1906) under a previous taxonomic arrangement. North American populations are *E. autumnata* (Borkhausen).
- E145 *Eubaphe unicolor* (Robinson, 1869). This species has been reported on historical BC lists, but no vouchers are known north of the southwestern USA. Those reports are deemed erroneous.
- E146 *Horisme vitalbata* ([Denis and Schiffermüller], 1775). Historical use of this Palaearctic name is incorrect; North American populations were recognised as a distinct species, *E. incana* Swett, in 1918.
- E147 *Eupithecia subvirens* Dietze, 1875. The report of this species from BC by Llewellyn Jones (1951)—under the name *E. laisata* Strecker, a synonym—is assumed to be erroneous. It was not reported from Canada by Bolte (1990).
- E148 *Eupithecia chiricahuata* McDunnough, 1944. Report by Llewellyn Jones (1951) is assumed to be a misidentification. It is otherwise known only from AZ (Lafontaine and Troubridge 2011).
- E149 *Eupithecia sobrinata* (Hübner, [1817]). This species was reported from BC by Prentice (1963) as "*E. sobrinata niphadophilata* (Dyar)", and by Llewellyn Jones (1951) as "*E. sobrinata interruptofasciata* Packard". Both *E. niphadophilata* and *E. interruptofasciata* are now recognised as distinct species in North America. *Eupithecia sobrinata* is restricted to the Palaearctic.
- E150 *Eupithecia fletcherata* Taylor, 1907. BC records reported by Forbes (1948) and Prentice (1963) refer to *E. sharronata* Bolte, which was not described until 1990.
- E151 *Eupithecia arceuthata* (Freyer, 1842). This Palaearctic name was used by Prentice (1963); North American populations are *E. intricata* (Zetterstedt). The name *arceuthata* was omitted from the world Geometridae catalogue of Scoble (1999).
- E152 *Eupithecia multiscripta* (Hulst, 1896). The report of this species from BC by Llewellyn Jones (1951) is assumed to be erroneous; it was not reported from Canada by Bolte (1990). It may be based on non-BC material in the RBCM.
- E153 *Eupithecia innotata* (Hufnagel, 1767). Llewellyn Jones (1951) used this Palaearctic name for what is now known as *E. perfusca* (Hulst).
- E154 *Eupithecia togata* (Hübner, [1817]). This Palaearctic name was used by early workers up to Llewellyn Jones (1951). North American populations are now known as *E. columbrata* McDunnough.

- E155 *Eupithecia abietaria* (Goeze, 1781). Erroneous BC record by Forbes (1948), who reported *E. pini* Retzius, a synonym of this Palaearctic species. This record refers to *E. columbrata* McDunnough.
- E156 *Eupithecia scabrogata* Pearsall, 1912. Reports of this species from BC by various workers, beginning with Blackmore (1921) and up to Llewellyn Jones (1951), are assumed to be erroneous. The species was not reported from Canada by Bolte (1990).
- E157 *Eupithecia subapicata* Guenée, [1858]. Reported from BC by ESBC (1906), but no BC vouchers are known, and the species was not reported from BC by subsequent authors. It is assumed to be erroneous.
- E158 *Eupithecia implorata* (Hulst, 1896). The report of this species from BC by Llewellyn Jones (1951) is assumed to be erroneous; it was not reported from Canada by Bolte (1990).
- E159 *Eupithecia cestata* (Hulst, 1896). The report of this species from BC by Llewellyn Jones (1951) is assumed to be erroneous; it was not reported from Canada by Bolte (1990).

Geometridae – Sterrhinae

- E160 *Lobocleta quaesitata* (Hulst, 1880). Report of this species in BC and the rest of Canada by Llewellyn Jones (1951), McGuffin (1967), and Cannings and Scudder (2007) is erroneous (Pohl et al. 2010, deWaard 2010).
- E161 *Scopula quadrilineata* (Packard, 1876). This species was listed in error by Cannings and Scudder (2007) and deWaard (2010); no vouchers are known west of SK.
- E162 *Leptostales hepaticaria* (Guenée, [1858]). Reports from BC by Dyar (1904) and other early workers are assumed to be erroneous. No BC voucher material is known, and the species is otherwise known only from the southeastern USA. These historical records probably refer to *L. rubromarginaria* (Packard).

Geometridae – Ennominae

- E163 *Speranza sulphurea* (Packard, 1873). This species is restricted to eastern North America as far west as MB; western material is *S. amboflava* (Ferguson), which was historically considered a subspecies of *S. sulphurea* (Ferguson 2008).
- E164 *Speranza anataria* (Swett, 1913). According to Ferguson (2008), all Canadian specimens west of ON are *S. boreata* Ferguson.

- E165 *Speranza denticulodes* (Hulst, 1896). Erroneous record by Llewellyn Jones (1951) and other early workers. British Columbia records refer to *S. bitactata* (Walker). *Speranza denticulodes* is restricted to the southwestern USA (Ferguson 2008).
- E166 *Speranza flavicaria* (Packard, 1876). Reported from BC by ESBC (1906) under the name "*Diastictis subfalcata* Hulst", a synonym, but no vouchers or other BC reports exist. According to Forbes (1948), early reports of this species were confused with *S. occiduaria* (Packard).
- E167 *Speranza pustularia* (Guenée, [1858]). The BC record by Blackmore (1922a) is erroneous; this eastern North American species is known to occur only as far west as the Great Plains of southern SK (Ferguson 2008).
- E168 *Psamatodes atrimacularia* (Barnes & McDunnough, 1913). This species was erroneously reported from BC by Cannings and Scudder (2007); it is restricted to southern TX (Ferguson 2008).
- E169 *Macaria regulata* (Fabricius, 1775). Erroneous record by ESBC (1906) under the name *"Philobia enotata* Guenée", a synonym of this Palaearctic species. The record probably refers to *M. notata* (Linnaeus), which is similar in appearance.
- E170 *Macaria bicolorata* (Fabricius, 1798). Records from BC by historical workers, beginning with ESBC (1906), are erroneous; this species occurs only in the eastern USA. These records refer to *M. masquerata* Ferguson, although Ferguson (2008) did not report that species from BC.
- E171 *Macaria minorata* Packard, 1873. Reported by ESBC (1906) and Forbes (1948) under a previous taxonomic arrangement. Their records refer to *M. sexmaculata* Packard. *Macaria minorata* is not known to occur west of ON and MN.
- E172 *Macaria granitata* Guenée, [1858]. Historical reports of this species from BC, beginning with Dyar (1904), are erroneous; this species is restricted to eastern North America (Ferguson 2008).
- E173 *Digrammia continuata* (Walker, 1862). Historical reports of this species from BC (Dyar 1904; Ross and Evans 1958) refer to *D. setonana* (McDunnough) (Ferguson 2008). However, *D. setonana* is doubtfully distinct from *D. continuata* (Ferguson 2008; B. C. Schmidt, personal communication). If future research proves that to be the case, then *D. setonana* would become a synonym of *D. continuata*, the older name.

- E174 *Digrammia atrofasciata* (Packard, 1876). The report from Osoyoos, BC, by ESBC (1906) is considered to be erroneous, as the species is known only from the southwestern USA. The record likely refers to *D. setonana* (McDunnough), which was not described until 1927.
- E175 *Digrammia ordinata* (Walker, 1862). The record by deWaard (2010) and deWaard et al. (2011) is a misidentification; this species is not known to occur west of MB and ND (Ferguson 2008). These specimens likely are *D. sexpunctata* (Bates).
- E176 *Digrammia hebetata* (Hulst, 1881). Erroneus record under a previous taxonomic arrangement. British Columbia material is *D. rippertaria* (Duponchel). *Digrammia hebetata* is restricted to the southwestern USA, occurring only as far north as CO and UT (Ferguson 2008).
- E177 Orthofidonia exornata (Walker, 1862). Report of this species from BC by Cannings and Scudder (2007) and others is incorrect. Recent genetic barcode work indicates that all western Canadian Orthofidonia are O. tinctaria (Walker) (B. C. Schmidt personal communication).
- E178 *Ematurga amitaria* (Guenée, [1858]). This species was reported from "AK to NS" by Powell and Opler (2009), erroneously implying that it occurs in BC. It does not occur as far west as BC or AK (Ferris et al. 2012).
- E179 *Hypomecis umbrosaria* (Hübner, [1813]). Reported from BC by Dyar (1904). The record is assumed to be erroneous, as there are no vouchers or other BC or Canadian records. His record most likely refers to *Protoboarmia porcelaria* (Guenée).
- E180 *Stenoporpia dissonaria* (Hulst, 1896). Report of this species in BC by Llewellyn Jones (1951) is considered to be erroneous: it is otherwise not known north of CO and UT (Rindge 1968).
- E181 *Iridopsis vellivolata* (Hulst, 1881). The BC record by Llewellyn Jones (1951) is considered erroneous. This species is otherwise known from eastern North America only as far west as central SK (Rindge 1966; McGuffin 1977).
- E182 *Iridopsis humaria* (Guenée, [1858]). Reported from BC by Dyar (1904) as *"Selidosema humarium emasculatum* Dyar" under a previous taxonomic arrangement. British Columbia specimens are *I. emasculatum*, which is now recognised as a full species.
- E183 *Eufidonia notataria* (Walker, 1860). Reports of this species from BC by various authors (initially by Blackmore 1923) are considered to

be erroneous; it is otherwise known from eastern Canada only as far west as MB (McGuffin 1977).

- E184 *Erannis defoliaria* (Clerck, 1759). Reported from BC by ESBC (1906) under a previous taxonomic arrangement as *"E. defoliaria* Clerck variety *vancouverensis* Hulst*"*. *Erannis vancouverensis* is now recognized as a distinct species; *E. defoliaria* is strictly Palaearctic.
- E185 *Drepanulatrix bifilata* (Hulst, 1880). Report of this species in BC by various early authors, beginning with ESBC (1906), under the name *"Deilinia perpallidaria* Grote", a synonym, is considered erroneous. This species occurs in the southwestern USA only as far north as northern CA (Rindge 1949).
- E186 *Euchlaena effecta* (Walker, 1860). The BC record by Blackmore (1927) and Llewellyn Jones (1951) is based on a misidentification (McGuffin 1981).
- E187 *Euchlaena amoenaria* (Guenée, [1858]). Report of this species from BC by early workers (as *E. astylusaria* (Walker), now a subspecies) is erroneous, due to a previous taxonomic arrangement. The record refers to *E. madusaria* (Walker), which at that time was considered a synonym of *E. astylusaria* (McDunnough 1938).
- E188 *Euchlaena pectinaria* ([Denis & Schiffermüller], 1775). Dyar's (1904) report of this species from Kaslo refer to *E. tigrinaria* (Guenée), subspecies *sirenaria* (Strecker). Dyar considered *sirenaria* to be a synonym of *E. pectinaria*.
- E189 *Pero ancetaria* (Hübner, 1806). Erroneous record by ESBC (1906) and Taylor (1908b) under a previous taxonomic arrangement. This name was mistakenly applied to *P. honestaria* (Walker) (Poole 1987). True *P. ancetaria* is not known to occur in Canada.
- E190 *Pero giganteus* Grossbeck, 1910. Records of this species in BC by Blackmore (1927) and Llewellyn Jones (1951) refer to *P. mizon* Rindge (Rindge 1955).
- E191 *Ennomos subsignaria* (Hübner, [1823]). No vouchers are known of this species in BC; Llewellyn Jones' (1951) record is assumed to be erroneous. *Ennomos subsignaria* is not known west of eastern AB.
- E192 *Thallophaga nigroseriata* (Packard, 1874). Report from BC by ESBC (1906) is considered erroneous; the record probably refers to *T. hyperborea* (Hulst).
- E193 *Nepytia semiclusaria* (Walker, [1863]). Report of this species by Blackmore (1927) and Llewellyn Jones (1951) is assumed to be erroneous: it is otherwise unknown from Canada.

E194 *Nepytia pellucidaria* (Packard, 1873). Report of this species by Blackmore (1927), as a subspecies of *N. semiclusaria* (Walker), is assumed to be erroneous: it is not otherwise known from Canada.

Notodontidae

- E195 *Pheosia dimidiata* Herrich-Schäffer, 1856. This is a Palaearctic name used by ESBC (1906) following an old taxonomic concept. North American material has since been recognised as *P. rimosa* Packard.
- E196 *Nadata oregonensis* Butler, 1881. Erroneous BC record by Blackmore (1927); a purported voucher specimen in the UBC collection is *N. gibbosa* (Smith). *Nadata oregonensis* is not known from Canada.
- E197 *Oligocentria perangulata* (Edwards, 1882). Historical reports of this species in BC are assumed to be erroneous, as no BC voucher specimens are known, it has not been reported since Blackmore (1924), and the species is otherwise unknown in Canada.

Erebidae – Lymantriinae

- E198 *Orgyia leucostigma* (Smith, 1797). The BC record by Forbes (1948) is considered to be erroneous: this species is known from eastern Canada only as far west as MB.
- E199 *Euproctis chrysorrhoea* (Linnaeus, 1758). The record of this species in BC by Smith (1994) is erroneous and refers to *E. similis* (Feussly). Historically, there was confusion as to the application of the name *E. chrysorrhoea* to either the Browntail Moth or the Goldtail Moth. This was clarified by Ferguson (1978), but misapplication of the name continued. The Browntail Moth, *E. chrysorrhoea*, was introduced to eastern North America in 1897, but it did not spread beyond New England and the Canadian Maritime provinces.
- E200 *Euproctis similis* (Feussly, 1775). A single specimen of this European species, known as the Goldtail Moth, was collected in 1948 at Wellington, BC, and more recently several specimens were collected at Delta, BC. These are treated herein as unestablished interceptions, and the species is hereby excluded from the resident BC fauna.

Erebidae – Arctiinae

E201 Crambidia impura Barnes & McDunnough, 1913. Reports of this species from western Canada are based on misidentified C. casta (Packard). True C. impura is restricted to the southwestern USA (B. C. Schmidt, personal communication).

- E202 *Grammia figurata* (Drury, 1773). Earlier reports of *G. figurata* (as *G. celia* (Saunders), a synonym) refer to the recently described *G. margo* Schmidt. The taxon *celia* is now considered to be a synonym of *G. figurata* (Drury), an eastern species that does not occur in BC.
- E203 *Grammia blakei* (Grote, 1865). Blackmore (1927) reported this species from BC under a different taxonomic arrangement, as *"Apantesis blakei superba* Stretch" and *"Apantesis blakei elongata* Stretch". The taxon *superba* is now regarded as a subspecies of *G. nevadensis* (Grote & Robinson), and *G. elongata* is recognised as a full species. *Grammia blakei* does not occur in BC.
- E204 Virbia fragilis (Strecker, 1878). Records of V. fragilis from BC refer to V. ferruginosa (Walker). True V. fragilis does not occur north of WY (B. C. Schmidt, personal communication).
- E205 Virbia lamae (Freeman, 1941). The report of this species from BC by Shepard (unpublished report B) is considered to be erroneous. It probably refers to an undescribed Virbia species near aurantiaca (Hübner), which is provisionally placed under the name V. aurantiaca in the BC list.
- E206 *Virbia immaculata* (Reakirt, 1864). Report of this species in BC by Blackmore (1927) and Llewellyn Jones (1951) is assumed to be erroneous and probably refers to *V. ferruginosa* (Walker). *Virbia immaculata* is not known from western Canada. This record may be based on non-BC material in the RBCM.
- E207 *Gnophaela latipennis* (Boisduval, 1852). British Columbia records by Dyar (1904) and other early workers refer to *G. vermiculata* (Grote), which was then considered a subspecies of *G. latipennis*.
- E208 *Cisseps packardii* (Grote, 1865). The records by Dyar (1904) and other early workers refer to *C. fulvicollis* (Hübner); *C. packardii* is not known to occur in Canada.

Erebidae – Hypeninae

- E209 *Hypena modestoides* Poole, 1989. Specimens that have been identified as *H. modestoides* in Canada and the Pacific Northwest are actually a plain form of *H. decorata* Smith. True *H. modestoides* is a small gray species confined to southwestern CA.
- E210 *Hypena scabra* (Fabricius, 1798). This species was reported from BC by ESBC (1906), but no BC vouchers are known. It is otherwise unknown west of central AB, and the record is considered erroneous. However, there is a slight chance it could occur in BC's Peace River region.

Erebidae – Erebinae

- E211 *Catocala clintonii* Grote, 1864. Reported from BC by ESBC (1906), but no BC vouchers are known so the record is deemed erroneous. The species is otherwise known from eastern North America only as far west as MB.
- E212 *Bulia mexicana* (Behr, 1870). Reported in error by ESBC (1906) and Blackmore (1927) under a previous taxonomic arrangement. These records refer to *B. deducta* (Morrison). *Bulia mexicana* does not occur north of Mexico.
- E213 *Drasteria mirifica* (Edwards, 1878). Erroneous record by Llewellyn Jones (1951) under a previous taxonomic arrangement. His record refers to *D. hastingsii* (Edwards), then considered a subspecies of *D. mirifica*, but now elevated to full species status. *Drasteria mirifica* does not occur in BC.
- E214 *Drasteria graphica* Hübner, 1818. Erroneously reported in Llewellyn Jones (1951). This is strictly an eastern species (Lafontaine and Troubridge 2011).
- E215 Zale calycanthata (Smith, 1797). This species was reported from BC by early workers, but Blackmore (1923) noted that these reports referred to Z. norda (Smith) (now Z. minerea norda). Zale calycanthata is strictly an eastern species (Lafontaine and Troubridge 2011).

Nolidae

E216 *Nycteola revayana* (Scopoli, 1772). Historical records of this Palaearctic species in North America refer to *N. cinereana* Neumögen & Dyar.

Noctuidae – Plusiinae

- E217 Syngrapha u-aureum (Guenée, 1852). Reports of this species from BC by Dyar (1904) and ESBC (1906) refer to *S. interrogationis* (Linnaeus). True *S. u-aureum* is not known to occur west of Churchill, MB (Lafontaine and Poole 1991).
- E218 Syngrapha hochenwarthi (Hochenwarth, 1785). Reports of this Palaearctic species by early workers up to Crumb (1956) refer to S. ignea (Grote).

Noctuidae – Pantheinae

E219 *Colocasia flavicornis* (Smith, 1884). This species was reported from BC by Blackmore (1927) and Llewellyn Jones (1951), but

those records are assumed to be erroneous. No voucher material is known west of SK (Lafontaine and Troubridge 2011).

E220 Charadra deridens (Guenée, 1852). Report of this species "from NS to BC (not yet recorded from AB)" by Schmidt and Anweiler (2010) is incorrect; the species occurs in eastern Canada only as far west as southeastern SK (G. G. Anweiler, personal communication 2012). Other reports from BC (Cannings and Scudder 2007; Powell and Opler 2009) are also incorrect.

Noctuidae – Acronictinae

- E221 Acronicta leporina (Linnaeus, 1758). This Palaearctic species has been reported by many authors following a previous taxonomic arrangement. North American populations are *A. vulpina* (Grote).
- E222 *Acronicta interrupta* (Guenée, 1852). Reported in error by Llewellyn Jones (1951). This species does not occur west of CO and UT (Lafontaine and Troubridge 2011).
- E223 Acronicta ovata (Grote, 1873). Reported in error by Blackmore (1927) and Llewellyn Jones (1951). This is strictly an eastern species (Lafontaine and Troubridge 2011).

Noctuidae – Cuculliinae

E224 *Cucullia serraticornis* Lintner, 1874. This species was erroneously reported from BC by Blackmore (1927) under the name *C. solidaginis* Strecker, a synonym. The error is likely based on a misidentification of *C. strigata* (Smith). *Cucullia serraticornis* occurs only in CA and AZ (Poole 1995).

Noctuidae – Oncocnemidinae

- E225 *Sympistis saundersiana* (Grote, 1876). The record by Forbes (1954) of this species from BC is assumed to be erroneous, as no BC vouchers are known and it is otherwise unknown west of east-central AB.
- E226 *Sympistis viriditincta* (Smith, 1894). The ESBC (1906) and Forbes (1954) records of this species from BC are assumed to be erroneous, as no BC vouchers are known and it is otherwise unknown west of east–central AB.
- E227 *Sympistis infixa* (Walker, 1856). All historical BC records of this species refer to *S. dinalda* (Smith).
- E228 *Sympistis simplex* (Smith, 1888). Report of this species in BC by Lafontaine and Troubridge (2011) is considered to be erroneous.

It was not reported by CBIF (2003), and is otherwise unknown in Canada.

- E229 *Sympistis chandleri* (Grote, 1873). Erroneous record by earlier workers based on a previous taxonomic arrangement. These BC records refer to *S. poliochroa* (Hampson), at that time considered to be a synonym of *S. chandleri*.
- E230 *Sympistis hayesi* (Grote, 1873). Western Canadian material previously identified as *S. hayesi* are *S. sandaraca* (Buckett & Bauer), not described until 1967.
- E231 Sympistis major (Grote, 1881). Historical reports of this species in BC refer to S. amun Troubridge and S. chons Troubridge. True S. major is restricted to the southwestern USA (Troubridge 2008). Crabo et al. (2015) consider S. chons and S. amun to be synonyms of S. major.
- E232 *Sympistis homogena* (Grote, 1877). Reports of this species in BC by Blackmore (1927) and others refer to *S. cherti* Troubridge (Troubridge 2008).
- E233 *Sympistis piffardi* (Walker, 1862). Historical records of this species from BC refer to *S. chalybdis* (Troubridge & Crabo). *Sympistis piffardi* occurs only east of the Rocky Mtns. (G. G. Anweiler, personal communication).
- E234 *Sympistis chorda* (Grote, 1880). The BC record of this species by Llewellyn Jones (1951) refers to *S. extremis* (Smith), then considered to be a subspecies of *S. chorda*.
- E235 *Sympistis definita* (Barnes & McDunnough, 1912). Reported in error from BC by Powell and Opler (2009) prior to their knowledge of work by Troubridge (2008) describing many new species in the group. This record probably refers to *S. dunbari* (Harvey), a similar species (L. G. Crabo, personal communication).
- E236 *Sympistis lapponica* (Thunberg, 1791). Historical reports of this species in BC, beginning with Dyar (1904), are erroneous and probably refer to *S. wilsoni* Barnes & Benjamin, which was described in 1924.

Noctuidae – Condicinae

E237 Ogdoconta cinereola (Guenée, 1852). Reports of this species in BC by Llewellyn Jones (1951) and Cannings and Scudder (2007) are based on Bush-Wilson material in the CNC that is presumed to be eastern material that was mislabelled as "Vancouver". This species is not known to occur in western North America (L. G. Crabo, personal communication).

Noctuidae - Heliothinae

- E238 *Pyrrhia umbra* Hufnagel, 1766. Reported in error in Llewellyn Jones (1951) and other historical lists as well as in Crumb (1956). *Pyrrhia umbra* is strictly Palaearctic; records of it in North America generally refer to *P. cilisca* (Guenée), but that species does not occur west of MB. These western records are a further misidentification applicable to *P. exprimens* (Walker).
- E239 *Protoschinia scutosa* ([Denis & Schiffermüller], 1775). Reports of this Palaearctic species by early workers, up to and including Llewellyn Jones (1951), refer to *P. nuchalis* (Grote).
- E240 *Schinia perminuta* (Edwards, 1881). No BC vouchers are known of this species, and the BC record originating with Blackmore (1923) is presumed to be erroneous. It is likely a misidentification of *S. villosa* (Grote) (Lafontaine and Troubridge 2011) or of *S. intermontana* Hardwick (L. G. Crabo, personal communication).
- E241 *Melaporphyria immortua* Grote, 1874. This species was reported specifically from BC by Forbes (1954), but despite an exhaustive search for Canadian material to include in a report commissioned by COSEWIC on this enigmatic species, no specimens were found west of Edmonton, AB (Schmidt and Anweiler unpublished report). Forbes' report is therefore deemed erroneous. It may have originated with two specimens from MB at the RBCM.

Noctuidae – Noctuinae – Elaphriini

- E242 *Elaphria georgei* (Moore & Rawson, 1939). Misidentification reported in Llewellyn Jones (1951). This is strictly an eastern species (Lafontaine and Troubridge 2011).
- E243 *Elaphria festivoides* (Guenée, 1852). Historical reports of this species in BC going back to Dyar (1904) refer to *E. allapallida* Pogue & Sullivan, which was not described at that time.
- E244 *Elaphria grata* Hübner, 1818. Reported in error by Llewellyn Jones (1951) and others, based on a misidentification. This is strictly an eastern species (Lafontaine and Troubridge 2011).

Noctuidae – Noctuinae – Caradrinini

E245 *Caradrina multifera* Walker, [1857]. Historical reports of this species from BC are based on dark specimens of *C. montana* Bremer. True *C. multifera* does not occur west of MB (L. G. Crabo, personal communication).

Noctuidae – Noctuinae – Phlogophorini

E246 *Euplexia lucipara (Linnaeus, 1758)*. Historical reports of this Palaearctic species in North America refer to *E. benesimilis* McDunnough.

Noctuidae – Noctuinae – Apameini

- E247 *Apamea apamiformis* (Guenée, 1852). Erroneous record by ESBC (1906); this species occurs in eastern North America only as far west as MB. The BC record probably refer to *A. vultuosa* (Grote), which is similar in appearance.
- E248 *Apamea remissa* (Hübner, [1809]). This species is now considered to reside only in Beringia. All North American material outside of Beringia that has previously been referred to under this name, e.g., by Cannings and Scudder 2007, is now treated under the name *A. indocilis* (Walker).
- E249 *Apamea lignicolora* (Guenée, 1852). Historical reports of this species in BC refer to *A. atriclava* (Barnes & McDunnough), which was once thought to be a subspecies of *A. lignicolora*; true *A. lignicolora* is not known to occur west of AB (Mikkola et al. 2009).
- E250 *Apamea auranticolor* (Grote, 1873). Canadian material historically referred to as *A. auranticolor* (often under the synonym *barnesii* (Smith)) is now treated under the name *A. sora* (Smith).
- E251 *Apamea genialis* (Grote, 1874). The record by ESBC (1906) is assumed to be erroneous, as this species is restricted to CA. British Columbia records probably refer to *A. commoda* (Walker), which can look very similar (Mikkola et al. 2009) and was not reported by ESBC (1906).
- E252 *Apamea albina* (Grote, 1874). The record by ESBC (1906) is assumed to be erroneous, as this species is restricted to CA and southern OR. The record probably refers to *A. amputatrix* (Fitch), which can look very similar (Mikkola et al. 2009) and was not reported by ESBC (1906).
- E253 *Apamea relicina* (Morrison, 1875). Records by Dyar (1904) and ESBC (1906) are considered to be erroneous; no BC vouchers are known, and this species is otherwise unknown in northwestern North America.
- E254 *Apamea lateritia* (Hufnagel, 1766). Reports of this Palaearctic species in North America refer to *A. scoparia* Mikkola, Mustelin & Lafontaine, described in 2000.
- E255 *Apamea dubitans* (Walker, 1856). Reports by Llewellyn Jones (1951), Crumb (1956) and others refer to *A. cogitata* (Smith), then considered to be a subspecies of *A. dubitans* but now treated as a full species. True *A. dubitans* does not occur in western North America.
- E256 *Apamea maillardi* (Geyer, [1834]). Historical reports of this Palaearctic species in North America refer to *A. zeta* (Treitschke).
- E257 *Loscopia velata* (Walker, 1865). Forbes' (1954) report from BC based on "a single specimen seen from Vancouver; determination uncertain" is deemed erroneous, due to mislabelling. The specimen (in the CNC) was once part of the Bush-Wilson collection that is known to contain mislabelled material. This species is otherwise restricted to eastern NA only as far west as MB (Mikkola et al. 2009).
- E258 *Eremobina leucoscelis* (Grote, 1874). This species was reported "from the west coast" by Forbes (1954) as "race *hanhami* Barnes & Benjamin" under a previous taxonomic arrangement. The taxon *hanhami* (described from Duncan, BC) is now a synonym of *E. claudens* (Walker).
- E259 "Oligia" modica (Guenée, 1852). Report of this species in BC by Cannings and Scudder (2007) is considered erroneous. It is not known to occur west of Saskatoon SK (Pohl et al. 2010; B. C. Schmidt, personal communication).
- E260 *"Oligia" egens* (Walker, [1857]). The report of this species from BC by ESBC (1906) (as *"Hadena transfrons* Neumögen", a synonym) is deemed erroneous. It is a Great Plains species that does not occur near BC.
- E261 *Macronoctua onusta* Grote, 1874. This species was reported from BC by Cannings and Scudder (2007) based on a single specimen that was brought in with eastern plant material (L. G. Crabo, personal communication). It has never become established in BC and it is hereby excluded from the BC fauna.
- E262 *Amphipoea oculea* (Linnaeus, 1761). This species was reported from BC (as *A. nictitans* (Linnaeus), a synonym) by Blackmore (1927) and Jones (1951) under a previous taxonomic arrangement. The North American species is now known as *A. americana* (Speyer). It was considered to be a subspecies of *A. nictitans* prior to Forbes (1954). *Amphipoea oculea* is strictly Palaearctic.
- E263 *Amphipoea pacifica* (Speyer, 1875). This species was reported from BC by Cannings and Scudder (2007), based on misidentified material. All BC *Amphipoea* has been redetermined as *A. americana*

(Speyer), except for the sole specimen of *A. interoceanica* (Smith) (L. G. Crabo and B. C. Schmidt, personal communications). See note under the latter species in the main list.

E264 *Hydraecia micacea* (Esper, 1789). This introduced species was reported in error from BC by Smith (1994). It is not known to occur west of ON (Belton 1988).

Noctuidae – Noctuinae – Arzamini

E265 *Bellura gortynoides* Walker, 1865. Reported by ESBC (1906) from BC, but Llewellyn Jones (1951) considered it a doubtful record. It probably refers to *B. obliqua* (Walker).

Noctuidae – Noctuinae – Xylenini

- E266 *Lithomoia solidaginis* (Hübner, [1803]). Historical reports of this species in North America refer to *L. germana* (Morrison).
- E267 Lithophane patefacta (Walker, 1858). This eastern species was reported on several previous BC checklists, but no authentic BC material is known (L. G. Crabo, personal communication). These erroneous reports likely refer to the very similar *L. innominata* (Smith) (B. C. Schmidt, personal communication).
- E268 *Lithophane lamda* (Fabricius, 1787). Reports of this species in North America refer to *L. fagina* Morrison and *L. thaxteri* Grote; *L. lamda* is strictly Palaearctic.
- E269 *Lithophane lepida* Grote, 1878. Report of this species by Prentice (1962) from Cherryville, BC, (on Ponderosa Pine) refers to *L. ponderosa* Troubridge & Lafontaine, described in 2003. *Lithophane lepida* does not occur outside of eastern North America.
- E270 *Lithophane antennata* (Walker, 1858). This pest of apple trees was reported from BC by Belton (1988), who described an infestation in apple orchards at Kamloops in the 1940s. However, no BC vouchers are known, and this species is otherwise unknown in Canada west of MB. That report is assumed to be a misidentification referable to *L. georgii* Grote.
- E271 *Lithophane torrida* (Smith, 1899). Reported from BC by Llewellyn Jones (1951) and other early workers. The BC material has been redetermined as *L. pertorrida* (McDunnough) (Lafontaine and Troubridge 2011).
- E272 *Eupsilia sidus* (Guenée, 1852). Report of this species by Prentice (1962) from the BC Interior, and repeated by Belton 1988, is considered erroneous. This species is not known to occur west of ON.

- E273 *Epiglaea apiata* (Grote, 1874). Report of this species in BC by Forbes (1954) was based on a misidentified specimen of *Mesogona olivata* (Harvey) (L. G. Crabo, personal communication).
- E274 Agrochola lota (Clerck, 1759). Reported from BC by Llewellyn Jones (1951) and Crumb (1956) under a previous taxonomic arrangement, as "Nephelodes emmedonia pectinata Smith". Although emmedonia Cramer is now a synonym of A. helvola (Linnaeus), which does not occur in the Nearctic, that name has generally been applied to Agrochola lota Clerck in North America. However, BC material is currently treated under the name Nephelodes minians Guenée (Noctuinae: Tholerini), of which pectinatus is a subspecies.
- E275 *Agrochola helvola* (Linnaeus, 1758). This species was indirectly reported from BC if one logically follows the synonym trail. Llewellyn Jones (1951) and Crumb (1956) erroneously reported *Nephelodes emmedonia pectinata* (Smith) from BC; *pectinatus* is now a subspecies of *Nephelodes minians* Guenée. However, *emmedonia* Cramer is now a synonym of *A. helvola*, which does not occur in North America.
- E276 *Xanthia togata* (Esper, 1788). This Palaearctic name was widely used in North America under a previous taxonomic arrangement. North American material was recently described as a distinct species, *X. tatago* Lafontaine & Mikkola.
- E277 *Aseptis perfumosa* (Hampson, 1918). Reports by Llewellyn Jones (1951) and Crumb (1956) are based on a misidentification. This species is known only from CA (Lafontaine and Troubridge 2011).
- E278 *Brachylomia curvifascia* (Smith, 1891). Reported from BC by Llewellyn Jones (1951) and others based on an earlier taxonomic concept of the species. British Columbia records refer to other *Brachylomia* species.
- E279 *Brachylomia rectifascia* (Smith, 1891). Reported from BC by Llewellyn Jones (1951) and others based on an earlier taxonomic concept. Western Canadian specimens are *B. cascadia* Troubridge & Lafontaine. True *B. rectifascia* does not occur north of central CA (Troubridge and Lafontaine 2007). Crabo et al. (2015) continue to use the name *B. rectifascia* for BC populations, considering *B. cascadia* to be a subspecies.
- E280 *Hyppa xylinoides* (Guenée, 1852). Records by Llewellyn Jones (1951) and other early workers refer to *H. contrasta* McDunnough.

- E281 *Cosmia epipaschia* (Grote, 1883). Reports from BC by Blackmore (1927) and Crumb (1956) are erroneous; known BC voucher specimens are *C. praeacuta* (Smith).
- E282 *Enargia paleacea* (Esper, 1788). The report of this Palaearctic species by ESBC (1906) refers to *E. decolor* (Walker).
- E283 *Xylotype capax* (Grote, 1868). Reported in error by Dyar (1904) and other early workers under a different taxonomic concept. The BC records refer to *X. arcadia* Barnes & Benjamin.
- E284 *Ufeus plicatus* Grote, 1873. Historical reports of this species in BC refer to *U. hulstii* Smith, recently recognised as distinct (Lafontaine and Schmidt 2011).

Noctuidae – Noctuinae – Orthosiini

E285 *Perigonica pectinata* (Smith, 1888). Reports of this species from BC by ESBC (1906) and Blackmore (1927), and from the Peace River region of northeastern BC by Shepard (unpublished report B), are considered erroneous. No verified BC vouchers are known and the species is otherwise unknown in Canada.

Noctuidae – Noctuinae – Hadenini

- E286 *Anarta melanopa* (Thunberg, 1791). This Palaearctic name was used for many years in North America following a previous taxnomic concept. As currently defined, *A. nigrolunata* Packard is the Nearctic species.
- E287 *Scotogramma densa* Smith, 1893. Historical reports of this species from BC by Dyar (1904) and other early workers are deemed incorrect as no vouchers are known.
- E288 Scotogramma ptilodonta (Grote, 1883). This species was reported by Llewellyn Jones (1951) as subspecies *nevada* Barnes & McDunnough, but Lafontaine and Troubridge (2011) considered that a misidentification. Scotogramma ptilodonta is a Great Basin and southern Rockies species.
- E289 *Coranarta cordigera* (Thunberg, 1792). The report of this Palaearctic species by Llewellyn Jones (1951) refers to *C. luteola* (Grote & Robinson).
- E290 *Trichordestra legitima* (Grote, 1864). The record by Llewellyn Jones (1951) from Vernon is considered to be erroneous. Crumb (1956) repeated the Llewellyn Jones (1951) record, but listed it as uncertain. No voucher specimens of this species are known in BC, and it is widely believed to occur only in eastern Canada. However,

a specimen has recently been collected from the boreal forest of northeastern AB (Pohl et al. 2010), so it may yet be found in BC, perhaps in the Peace River region.

E291 *Dargida albilinea* (Hübner, [1821]). The report of this Palaearctic species by Llewellyn Jones (1951) refers to *D. diffusa* (Walker).

Noctuidae – Noctuinae – Eriopygini

- E292 *Lasionycta conjugata* (Smith, 1899). This species was reported in error by Cannings and Scudder (2007), based on a previous taxonomic concept. Crabo and Lafontaine (2009) described northern populations as *L. fergusoni* Crabo & Lafontaine. *Lasionycta conjugata* is restricted to the southern Rocky Mountains, only as far north as WY.
- E293 *Lasionycta phoca* (Möschler, 1864). This is a historical misidentification going back to Blackmore (1924). *Lasionycta phoca* is strictly an eastern species (Lafontaine and Troubridge 2011).
- E294 *Lasionycta discolor* (Smith, 1899). Records of this species in western Canada refer to *L. uniformis* (Smith) (Crabo and Lafontaine 2009).
- E295 *Lacinipolia buscki* (Barnes & Benjamin, 1927). The uncertain record by deWaard (2010) is deemed erroneous, this species is otherwise restricted to southwestern USA.
- E296 *Homorthodes mania* (Strecker, 1899). Report by Blackmore (1927) and Llewellyn Jones (1951) is considered to be a misidentification. This species is otherwise known only from the southwestern USA (Lafontaine and Troubridge 2011).
- E297 *Orthodes cynica* Guenée, 1852. Report of this species in BC by Blackmore (1922a) is assumed to be erroneous. No BC vouchers are known, and it is otherwise unknown west of central SK.
- E298 *"Hexorthodes" senatoria* (Smith, 1900). Report of this species in BC by Dyar (1904) and other early workers is erroneous. It occurs only in the southwestern USA (Lafontaine and Troubridge 2011).
- E299 *"Hexorthodes" nipana* (Smith, 1910). Misidentification by Llewellyn Jones (1951), under the name *"Polia montara* Smith", a synonym; this species is otherwise known only from the southern USA (Lafontaine and Troubridge 2011).

Noctuidae – Noctuinae – Noctuini

E300 *Actebia squalida* (Guenée, 1852). This Palaearctic species was reported in error from BC by Lafontaine and Troubridge (2011). The BC record refers to *A. balanitis* (Grote).

- E301 *Euxoa lidia* (Cramer, 1782). This Palaearctic species has been reported for many years in North America under a previous taxonomic concept. North American material has recently been recognised as distinct, *E. adumbrata* (Eversmann).
- E302 *Euxoa dissona* (Möschler, 1860). The report from Field, BC, by Llewellyn Jones (1951) is assumed to be a misidentification, as no vouchers are known. This is a subarctic species known only as far west as Churchill, MB.
- E303 *Euxoa trifasciata* (Smith, 1888). Reported by Dyar (1904) and ESBC (1906), but not by subsequent workers. No BC vouchers are known; this is assumed to be a misidentification. However, the species is known from south–central WA and could occur in BC.
- E304 *Euxoa fuscigerus* (Grote, 1874). This species was reported from BC by Blackmore (1923, 1927) and Llewellyn Jones (1951) as *Euxoa feniseca* (Harvey), a synonym. No vouchers are known, and it is otherwise unknown north of CA, so the record is assumed to be a misidentification.
- E305 *Euxoa stigmatalis* (Smith, 1900). Reported from BC by Blackmore (1927) and Llewellyn Jones (1951), as *E. stigmatalis* and *E. stigmatalis atrofusca* (Smith). *Euxoa atrofusca* is now considered a full species, which occurs in BC. The record of *E. stigmatilis* is deemed erroneous. No BC vouchers of true *E. stigmatalis* are known, and it is otherwise not known to occur as far north as Canada. It is either *E. atrofusca* or, possibly, *E. punctigera* (Walker).
- E306 *Euxoa velleripennis* (Grote, 1874). This species was reported from BC by ESBC (1906), but not by subsequent workers. The BC record is considered erroneous, as the species is known from eastern Canada only as far west as MB (Lafontaine 1987).
- E307 *Euxoa redimicula* (Morrison, 1874). Erroneous record by Dyar (1904) and other early workers up to Llewellyn Jones (1951); their records refer to *E. auripennis* Lafontaine, which had not been described at that time.
- E308 *Euxoa teleboa* (Smith, 1890). This species was reported in error by Lafontaine (1998); it is restricted to the Great Plains (Lafontaine 1987). A specimen from BC in the CNC is assumed to be mislabelled or an unestablished introduction.
- E309 *Euxoa latro* (Barnes & Benjamin, 1927). The BC record by Lafontaine and Troubridge (2011) was based on a misidentification.
- E310 *Feltia subgothica* (Haworth, 1809). Historical reports of this species from BC are erroneous, based on a previous taxonomic concept.

British Columbia material is *F. jaculifera* (Guenée), which was considered a synonym of *F. subgothica* at the time.

- E311 *Agrotis buchholzi* (Barnes & Benjamin, 1929). The uncertain BC record by deWaard (2010) is deemed erroneous, this species occurs only in eastern USA (Lafontaine 2004).
- E312 *Ochropleura plecta* (Linnaeus, 1761). This Palaearctic species has historically been reported in North America under a previous taxonomic concept. North American material has been described recently as a distinct species, *O. implecta* Lafontaine.
- E313 *Cerastis cornuta* (Grote, 1874). This species has been reported in error by historical workers going back to ESBC (1906). British Columbia records refer to the recently described *C. enigmatica* Lafontaine & Crabo.
- E314 *Spaelotis unicava* Lafontaine, 1998. The BC record by deWaard (2010) is a misidentification; this species is restricted to the south-western USA, only as far north as southern OR (Lafontaine 1998).
- E315 *Spaelotis havilae* Grote, 1881. This Palaearctic species was reported from North America prior to the description of Nearctic material as a distinct species, *S. bicava* Lafontaine.
- E316 *Xestia baja* ([Denis & Schiffermüller], 1775). Historical records of this Palaearctic species in North America, e.g. by Forbes (1954), refer to *X. smithii* (Snellen) which was once considered to be a race of *X. baja*. True *X. baja* does not occur in North America.
- E317 *Xestia elimata* (Guenée, 1852). Erroneous record by Blackmore (1927) and Llewellyn Jones (1951). Those records refer to *X. praevia* Lafontaine, which had not been described at that time.
- E318 *Xestia laetabilis* (Zetterstedt, 1839). This Palaearctic species was reported from North America prior to the description of Nearctic material as a distinct species, *X. lupa* Lafontaine & Mikkola.
- E319 *Pseudohermonassa bicarnea* (Guenée, 1852). The report from BC by Forbes (1954) is deemed erroneous. This species is strictly eastern, occurring only as far west as SK.
- E320 Setagrotis vocalis (Grote, 1879). Reported from BC by various historical workers, often under the name *S. cinereicollis* (Grote), a synonym. These records refer to *S. pallidicollis* (Grote), of which *cinereicollis* was once considered a synonym. *Setagrotis vocalis* has recently been recognised as a distinct species by Lafontaine (1998); it is known from the Great Basin as far north as southern MT and is replaced by *S. pallidicollis* to the northwest.

- E321 *Abagrotis anchocelioides* (Guenée, 1852). Historical reports of this species from BC going back to Dyar (1904) are assumed to be erroneous; no BC vouchers are known, and the species is otherwise not known to occur West of MB (Lafontaine 1998).
- E322 *Pronoctua pyrophiloides* (Harvey, 1876). Reports of this species from BC by various historical workers refer to *P. peabodyae* (Dyar). Northern specimens of the latter were historically considered to be *P. pyrophiloides* until Lafontaine (1998) clarified the matter. True *P. pyrophiloides* is restricted to CA and southern OR.

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Appendix

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Index

All entries are listed by species numbers, not page numbers. All higher taxa, genera, species and common names listed in the BC checklist, and in the excluded species list, are included below. Species-level names (including subspecies and synonyms) are followed by the author, and then by the current genus placement in square brackets. Whole numbers and decimal numbers indicate the species number in the BC checklist; numbers preceded by an "E" indicate excluded species list numbers. Higher taxa and genus entries refer to the first mention of the taxon in the BC checklist and in the excluded list. Species numbers in regular font refer to primary entries for that name; entries in italics indicate where that taxon is mentioned within the note on another species. Insect species mentioned only in the introductory sections, and all plant species mentioned throughout the text, are not included in the index.

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Cacotherapia Cacotherapini Cadra caducus (Dyar) [Hypenodes] <i>caecalis (Walker) [Gesneria]</i>	1943 1290 1290 1330 2064 <i>1415</i>	Cal Cal Cal <i>cal</i> [
Cacotherapia Cacotherapini Cadra caducus (Dyar) [Hypenodes] <i>caecalis (Walker) [Gesneria]</i> caeculalis Zeller [Perispasta]	1943 1290 1290 1330 2064 <i>1415</i> 1499	Cal Cal Cal <i>Cal</i> <i>cal</i> Cal
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Fumibotys	1498
fumiferana (Clemens) [Choristoneura]	728
fumoferalis (Hulst) [Saucrobotys]	1494
tumosa (Grote) [Aseptis]	2419
tunalis (Grote) [Evergestis]	1485
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tunebris (Ström) [Anania]	1503

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[Acronicta]	2182	Gelechiini	366
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gallaeasterella (Kellicott)		gibsoni Holland [Oeneis]	1276
[Gnorimoschema]	433	gigans (McDunnough) [Furcula]	1970
gallaesaliciana (Riley) [Cydia]	E064	gigantea (French) [Panthea]	2168
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Galleriinae	1286	gigas Butler [Oeneis]	1280
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grandis (Guenée) [Lacanobia]	2523
grandis (Hulst) [Perizoma]	1658
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gratiosus (Fish) [Hellinsia]	577
gratuitana Heinrich [Epiblema]	950
gratulata (Walker) [Mesoleuca]	1654
gravenotata Klots [Lycaena]	1169
gravis Grote [Agrotis]	2732
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gripalis (Hulst) [Acallis]	1283
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[Dasychira]	1983
grisea (Robinson) [Archips]	746
grisea (Walker) [Acronicta]	2180
griseata Grossbeck [Enypia]	1954
grisefacta (Dyar) [Dasychira]	1984, 1985
grisella (Fabricius) [Achroia]	1287
griseocapitana (Walsingham)	
[Eucosma]	910
griseor (Barnes & McDunnough)
[Euthyatira]	1549
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gueneata Packard [Ceratodalia]	1620
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Habrosyne	1546	helianthi (Walsingham) [Hellinsia]	580
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haesitata (Guenée) [Triphosa]	1644	Heliothinae	2274
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Haimbachiini	1431	Helotropha	2366
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hammondi (Riley) [Psorosina]	1346	Hemileucinae	1561
hampa (Smith) [Lasionycta]	2564	Hemileucini	1561
hanburyi Watkins [Oeneis]	1277	Hemithea	1806
hanhamella Dyar [Pyla]	1370	Hemitheini	1805
hanhami (Barnes & McDunnoug	h)	Hemlock Looper	1934
[Homorthodes]	2607	Henricus	686
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hanhami Barnes & Benjamin		henshawi (Swett) [Epirrita]	1705
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Hesperiini	1122	Honora	1400
hesperis (Edwards) [Speyeria]	1233	hopfingeri Ehrlich [Erebia]	1270
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Heterocampinae	1976	[Copablepharon]	2627
heterodoxa Smith [Leucania]	2556	hopfingeri Gunder [Euphydrya	s] 1252
heteronea Boisduval [Lycaena]	1169	hopkinsana (Kearfott) [Epinotia	a] 987
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hibisci (Guenée) [Orthosia]	2478	[Euphydryas]	1252
hiemalis (Grote) [Egira]	2480	howlandii (Grote) [Drasteria]	2096
Hilarographini	1061	hudsoniana (Walker) [Acleris]	665
hilchie Kemal & Koçak [Erebia]	1268	hudsonianus Clark [Papilio]	1099
Hillia	2416	hudsonica (Grote & Robinson)	
hircina Morrison [Homoglaea]	2383	[Drasteria]	2094
hirsutana (Walsingham) [Epiblema]	949	huebneri Wallengren [Alucita]	546, E026
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hoffmanni (Behr) [Chlosyne]	1253	hydaspe (Boisduval) [Speyeria]	1234
Hofmannophila	239	Hydraecia	2369, E264
hohana (Kearfott) [Pelochrista]	932	Hydrelia	1697
Holarctia	1997	Hydriomena	1622, E136
Holcocera	526	Hydriomenini	1622
Holcocerinae	524	hylas (Edwards) [Polygonia]	1248
hollandi (Chermock & Chermock)		Hyles	1589
[Speyeria]	1232	hyllus (Cramer) [Lycaena]	1170
hollandi Munroe [Udea]	1530	Hypagyrtis	1875
hollemani (Grote) [Euxoa]	2673	Hypatopa	530
holmiana (Linnaeus) [Acleris]	625	Hypena	2053, E209
Holoarctia	1994	Hypeninae	E209
holocinerea (Smith) [Lithophane]	2400	Hypeninae	2053
hololeuca Braun [Elachista]	466	Hypenodes	2064
homodactylus (Walker) [Hellinsia]	581	Hypenodinae	2064
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homogena (Grote) [Sympistis]	E232	[Thallophaga]	1918, E192
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Hypsopygia		1295
Hystrichophora		852
icarioides (Boisduval) [Plebejus]	1204
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31, E266	lugubrosa (Hulst) [Lambdina]		1934
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1114	luteola (Smith) [Lasionycta]		2563
924	luteolata (Hulst) [Scopula]		1792
1880	luteolellus (Clemens) [Neodact	ria]	1458
1011	luteopallens (Smith) [Mythimna	a]	2548
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2068	lutosa (Andrews) [Apamea]		2336
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2332	lutulenta (Smith) [Euxoa]		2676
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4	subpallida (Cockerell) [Aglais]	1240
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zapulata (Robinson) [Choristone	eura]	724
zea (Boddie) [Helicoverpa]		2276
Zeiraphera	969,	E058
zelicaon Lucas [Papilio]		1100
zelleri (Grote) [Macalla]		1298
Zelleria	170,	E009
Zenodoxus		1066
Zenophleps		1692
zephyrus (Edwards) [Polygonia]		1247
zerene (Boisduval) [Speyeria]	1229,	1230
zeta (Treitschke) [Apamea]	2338,	E256
zetterstedtii (Staudinger) [Sympi	istis]	2264

zimmermani (Grote) [Dioryctria	1384
zinckenella (Treitschke) [Etiella]	1396
zoegana (Linnaeus) [Agapeta]	690
Zophodia	1404, E110
zophopasta Braun [Bucculatrix]	98
Zosteropoda	2617
Zotheca	2436
zozana (Kearfott) [Rhyacionia]	858
Zygaenoidea	1092

Moths and butterflies (Lepidoptera) are one of the most diverse and economically important groups of insects, with approximately 157,000 species worldwide. This book establishes a definitive list of the species that occur in BC, and clarifies erroneous records in past works. It provides a knowledge baseline that will be useful to resource and conservation managers, biodiversity researchers, taxonomists, amateur collectors, and naturalists.

