

Butterflies and moths of the Yukon



FRONTISPIECE. Some characteristic arctic and alpine butterflies and moths from the Yukon. Upper, males of the nymphalid butterflies *Oeneis alpina* Kurentzov (left) and *Boloria natazhati* (Gibson) (right), normally encountered on rocky tundra slopes; Middle, males of the alpine arctiid moths *Pararctia yarrowi* (Stretch) (left), typically on dry rocky slopes with willow, and *Acsala anomala* Benjamin (right), confined to the Yukon and Alaska and shown here on the characteristic dry rocky habitat of the lichen-feeding larvae; Lower, (left) female of the arctiid moth *Dodia kononenkoi* Chistyakov and Lafontaine from dry rocky tundra slopes, and (right) a mated pair of the noctuid moth *Xestia aequiva* (Benjamin), showing the reduced wings of the female. All species were photographed at Windy Pass, Ogilvie Mountains (see book frontispiece), except for *B. natazhati* (Richardson Mountains). Forewing length of these species is about 2 cm (first 3 species) and 1.5 cm (last 3).

Butterflies and Moths (Lepidoptera) of the Yukon

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Abstract. An annotated list of the 518 species of Lepidoptera known from the Yukon is presented with a zoogeographic analysis of the fauna. Topics discussed are: historical review of Yukon collecting and research; the expected size of the Yukon fauna (about 2000 species); zoogeographic affinities; special features of Yukon fauna (endemic species, disjunct species, biennialism, flightless species). There are 191 species of Lepidoptera (37% of the fauna) in the Yukon that occur in both Nearctic and Palaearctic regions. Twenty-five of these, and 6 more in Alaska, occur in North America only in Beringia. Twenty-two species are known only from East Beringia (Alaska and Yukon) with 9 of these known only from the Yukon. The Yukon lepidopteran fauna is dominated by boreal-zone species (289 species; 56% of the fauna); 135 species (26%) are associated with tundra habitats, 49 species (9%) occur in the boreomontane zone, and 45 species (9%) in steppe habitat. Most species restricted to Beringia in North America are in dry rocky tundra, especially scree and rockslide habitats.

Résumé. *Les papillons (Lepidoptera) du Yukon.* On trouvera ici une liste commentée des 518 espèces de lépidoptères connues du Yukon ainsi qu'une analyse zoogéographique de cette faune. Parmi les principaux sujets traités ici il faut mentionner l'historique des récoltes et des recherches au Yukon, l'importance présumée de la faune du Yukon (environ 2000 espèces), les affinités zoogéographiques, les caractéristiques particulières de la faune du Yukon (espèces endémiques, espèces à répartition discontinue, bisannualité, aptérisme). Cent quatre-vingt-onze espèces de papillons (37% de la faune) du Yukon sont à la fois néarctiques et paléarctiques; de celles-ci, 25, plus 6 espèces d'Alaska, sont essentiellement béringiennes en Amérique du Nord. Vingt-deux espèces sont strictement de la Béringie orientale (Alaska et Yukon), dont 9 se trouvent seulement au Yukon. La faune des papillons du Yukon est dominée par des espèces boréales (289 espèces; 56% de la faune); 135 (26%) sont associées aux habitats de la tundra, 49 (9%) sont boréo-alpines et 45 (9%) sont des espèces de la steppe. La majorité des espèces confinées à la Béringie en Amérique du Nord habitent la toundra rocheuse sèche, surtout les zones de glissement de terrain et les zones d'éboulis.

Introduction

The Yukon has been a Lepidoptera treasure trove from the beginning of collecting activity in the area. Only a handful of butterflies and moths were collected by the field parties of the Geological Survey that made their way across northern Canada in the early part of this century, but what gems these specimens proved to be. The material included a new barren-ground fritillary, *Boloria natazhati* (Gibson), found in 1913 on Mount Natazhat at an incredible elevation of 2800 m; this species essentially disappeared from the literature until recently when it was rediscovered and redescribed (Troubridge and Wood 1990). Similarly, a new genus and species of noctuid, *Parabarrovia keelei* Gibson, a bizarre species that superficially looks more like a caddisfly than a moth, was found in the Mackenzie Mountains in 1908. Like the *Boloria*, *Parabarrovia keelei* largely disappeared from the literature until recently and is still known from only a handful of localities from as widely scattered locations as Richardson Mountains, Yukon and Wrangel Island, Russia (Lafontaine and Kononenko 1988). These early Geological Survey collections also included the most northerly record of *Polygonia oreas* (Edwards) from the Kloassin River, and the most easterly record of the largely Palaearctic *Acerbia alpina* (Quensel) from Herschel Island, that today still represent the only Yukon localities for these species.

In spite of these early discoveries, Lepidoptera collecting in the Yukon essentially stopped for almost half a century until interest was again rekindled by the Northern Insect Survey. Field parties organized by the Survey collected at Whitehorse (1948, 1959), Dawson (1949), Rampart House (1951), Herschel Island (1953, 1971), Firth River (1956), and the western Mackenzie Mountains (1960), but most of these collections were made in boreal-zone localities and failed to uncover the abundance of steppe and tundra endemic and disjunct species that make the Yukon fauna unique in Canada.

The true zoogeographic significance of the Yukon did not clearly emerge until the Dempster Highway provided easy access to a wide variety of tundra habitats that had previously been accessible only by air. Collecting activity along the Dempster Highway, primarily in the Ogilvie and Richardson Mountains, together with concomitant collecting in Alaska and the British Mountains, resulted in the discovery of more than 25 new species of butterflies and moths, in addition to the 15 species already known to be restricted to Beringia, and also revealed that 14 species previously thought to be restricted to the Palaearctic Region extended eastward to the Yukon.

Knowledge of the Lepidoptera of the Yukon, particularly among the Microlepidoptera, is still incomplete. In spite of this, the Yukon fauna is now much better known than that of Alaska. This is unfortunate because Alaska is almost 3 times the land area of the Yukon and includes about 80% of East Beringia. A great deal of collecting and research must be done in Alaska and eastern Russia before the true significance of the Yukon Lepidoptera fauna can be fully understood and appreciated.

The most widespread habitat in the Yukon, the boreal forest, is also the least collected habitat. Boreal forest, and much of the boreal forest fauna, occurs across Canada from Newfoundland to British Columbia, so most collectors travelling to the Yukon are anxious to pass through this habitat quickly and get to collecting areas in the north or the mountains where tundra species are accessible.

The information contained in the annotated list of Yukon Lepidoptera, particularly general distributions, Yukon distributions, and larval hostplant data, is based primarily on the Canadian National Collection (CNCI) in Ottawa. In addition, data have been obtained from the Royal Ontario Museum (ROME), the United States National Museum (USNM), the University of British Columbia (SMDV) and the personal collections of Lars Crabo, Bellingham, Washington and James Troubridge, Langley, British Columbia. These original data are supplemented by distributional and hostplant data from various literature sources cited in the text. The records from the "Forest Insect and Disease Survey" published by McGugan (1958) and Prentice (1962, 1963, 1965) are not cited individually because voucher material for most of these species is in the CNCI. The habitat groupings used in the annotated list and the text follow Lafontaine and Wood (1988).

Annotated List of Yukon Lepidoptera

The following codes are used in the list:

‡ Species known from both Nearctic and Palaearctic Regions

Locality Codes

- | | |
|---|-------------------------------|
| 1 | Coastal Plain/Herschel Island |
| 2 | British Mountains |
| 3 | North Slope |
| 4 | Old Crow Basin/Rampart House |

- 5 Richardson Mountains
- 6 Eagle River Plateau
- 7 Peel River
- 8 Ogilvie Mountains
- 9 Northern Selwyn Mountains (La Force Lake, Swim Lake)
- 10 Yukon River Valley (Dawson/Pelly River Crossing)
- 11 Mayo, Keno
- 12 Snag/Kluane Lake/Burwash Landing/Haines Junction
- 13 Alaska/Yukon international boundary west of Dawson
- 14 Faro/Ross River
- 15 Hyland River
- 16 Mountains of southern Yukon: St. Elias Mts./Montana Mt.
- 17 Whitehorse/Carcross/Teslin
- 18 Cassiar Mountains
- 19 SE Yukon: Watson Lake

Habitat Codes

- B Boreal Forest/Taiga
- BM Boreomontane Forest
- WT Wet Shrub-Tundra
- DT Dry Tundra/Scree Slopes
- D Dune/Steppe

Superfamily Bombycoidea

Family Lasiocampidae

1. *Phylodesma americana* (Harris, 1841)

Distribution: Alaska to Newfoundland south to New Jersey, Missouri, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae mostly on Salicaceae and Betulaceae.

Superfamily Gelechioidea

Family Gelechiidae

2. *Aroga* sp. *trialbamaculella* complex

Distribution: Unknown.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

Taxonomic notes: The genus needs revision before ranges and affinities of species can be determined.

3. *Chionodes continuella* (Zeller, 1839)‡

Distribution: Yukon and Alberta to Newfoundland; Eurasia.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

4. *Chionodes lugubrella* (Fabricius, 1794)‡

Distribution: Alaska to Newfoundland; Eurasia.

Yukon records: 8.

Biological information: Habitat WT, B: wet tundra and northern boreal.

5. *Chionodes psilopterus* (Barnes and Busck, 1920)

Distribution: Yukon to Quebec.

Yukon records: 17.

Biological information: Habitat WT, B: boreal forest.

6. *Chionodes viduella* (Fabricius, 1794)‡

Distribution: Alaska to Newfoundland; Eurasia.

Yukon records: 2, 5.

Biological information: Habitat WT: wet tundra and shrubby slopes.

7, 8. ***Gnorimoschema* sp. A and sp. B**

Distribution: Known only from dunes near Carcross, Yukon.

Yukon records: 17.

Biological information: Habitat D: active dunes; adults run over sand during the day like silverfish.

Taxonomic notes: The genus needs revision to determine if these 2 species occur in Siberia.

9. ***Helcystogramma fernaldella* (Busck, 1903)**

Distribution: Yukon and Alberta to New Brunswick; New England.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

10. ***Lita sexpunctella* (Fabricius, 1774)‡**

Distribution: Yukon and British Columbia to Newfoundland, northern United States; Eurasia.

Yukon records: 2, 4.

Biological information: Habitat B, WT: boreal forest; shrub tundra.

11. ***Neofaculta* sp. near *infernella* (Herrich-Schäffer, 1854)‡**

Distribution: Yukon.

Yukon records: 2, 8, 9.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

Taxonomic notes: The genus is in need of revision so the identity of the species is uncertain; *N. infernella* occurs from Ontario to Alaska and in Eurasia.

12. ***Scrobipalpula henshawiella* (Busck, 1903)**

Distribution: Yukon and Alaska south to Montana and southern British Columbia.

Yukon records: 17.

Biological information: Habitat BM: boreal forest.

Family Momphidae

13. ***Cyphophora idaei* Zeller, 1839‡**

Distribution: Yukon to Quebec south to Virginia and Colorado; Eurasia (Sinev 1996).

Yukon records: 10, 17.

Taxonomic notes: Recently synonymized with *Mompha tricristatella* (Chambers, 1875) (Sinev 1996).

14. ***Mompha albapalpella* (Chambers, 1875)**

Distribution: Alaska to Quebec south to northern United States.

Yukon records: 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

15. ***Mompha nodicolella* Fuchs, 1902‡**

Distribution: Eurasia to Yukon and possibly United States (Sinev 1996).

Yukon records: 10.

Biological information: Habitat B: boreal forest.

16. ***Psacaphora complexa* Svensson, 1982‡**

Distribution: Yukon and western United States; Eurasia (Sinev 1996).

Yukon records: 17.

Biological information: Habitat BM: boreal forest.

Family Oecophoridae

17. ***Agonopteryx arnicella* (Walsingham, 1881)**

Distribution: Yukon; Washington to northern California. This group is too inadequately collected to demonstrate that the Yukon record is disjunct.

Yukon records: 4.

Biological information: Habitat BM: boreal forest; larvae on *Erigeron* and possibly *Arnica* (Hodges 1974).

18. *Depressaria alienella* (Busck, 1904)

Distribution: Yukon to Nova Scotia south to New England, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on flowers of *Artemisia* and *Achillea* (Hodges 1974).

Superfamily Geometroidea**Family Geometridae****19. *Anticlea multiferata* (Walker, 1863)**

Distribution: Alaska to Newfoundland south to Florida.

Yukon records: 4, 10, 13.

Biological information: Habitat B: boreal forest in Yukon; larvae on *Epilobium*.

20. *Aspitates forbesi* Munroe, 1963

Distribution: Subarctic; Alaska to northern Manitoba.

Yukon records: 2, 4, 8.

Biological information: Habitat WT: boggy tundra; adults are diurnal.

21. *Aspitates orciferarius* (Walker, 1863)

Distribution: Subarctic; Alaska to northern Manitoba and Baffin Island.

Yukon records: 1, 2, 4, 8, 10, 13, 16, 17.

Biological information: Habitat DT: dry rocky tundra; adults are diurnal.

22. *Aspitates taylorae* (Butler, 1893)

Distribution: Subarctic; Alaska to central Manitoba.

Yukon records: 4, 10, 17.

Biological information: Habitat WT: boggy tundra; adults are diurnal.

23. *Cabera borealis* (Hulst, 1896)

Distribution: Alaska to Newfoundland south to central Quebec, southern Manitoba, Alberta and British Columbia.

Yukon records: 10, 16, 17.

Biological information: Habitat B: boreal forest; adults are diurnal; larvae on Salicaceae and Betulaceae (McGuffin 1981).

24. *Cabera exanthemata* (Scolopi, 1763)‡

Distribution: Alaska to northern Manitoba south in Rocky Mountains to southern Alberta and British Columbia; Eurasia.

Yukon records: 4, 10, 17, 19.

Biological information: Habitat BM: boreal forest; adults are crepuscular and nocturnal; larvae on *Salix* (McGuffin 1981).

25. *Campaea perlata* (Guenée, 1857)

Distribution: Alaska to Newfoundland south to North Carolina, Missouri and Arizona.

Yukon records: 4, 10.

Biological information: Habitat B: boreal forest; larvae reported on 65 species of trees and shrubs, most commonly Salicaceae and Betulaceae (McGuffin 1981).

26. *Carsia sororiata* (Hubner, [1813])‡

Distribution: Alaska to Newfoundland south to New Hampshire in the east and Washington in the west; Eurasia.

Yukon records: 4, 8, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on *Vaccinium*.

27. *Chloroclysta citrata* (Linnaeus, 1761)‡

Distribution: Alaska to Newfoundland south to New England (in the Appalachians to North Carolina) and California; Eurasia.

Yukon records: 4, 8, 10, 11, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on a variety of herbs and woody plants.

28. *Chloroclysta truncata* (Hufnagel, 1767)‡

Distribution: Yukon to Nova Scotia south to northern United States; Eurasia.

Yukon records: 11.

Biological information: Habitat B: boreal forest; larvae on a variety of herbs and woody plants.

29. *Chloroclysta walkerata* (Pearsall, 1909)

Distribution: Alaska to Newfoundland south to New England (in the Appalachians to North Carolina) and California; Eurasia.

Yukon records: 8, 10, 11.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on a variety of herbs and shrubs.

30. *Cyclophora pendulinaria* (Guenée, 1857)

Distribution: Alaska to Newfoundland south to northern half of United States.

Yukon records: 4, 8, 10.

Biological information: Habitat B: boreal forest; larvae on *Betula* and other woody plants.

31. *Ecliptopera silaceata* ([Denis and Schiffermüller], 1775)‡

Distribution: Alaska to Newfoundland south to New England, Colorado and California; Eurasia.

Yukon records: 10, 13.

Biological information: Habitat B: boreal forest; larvae on *Epilobium* and occasionally other herbs.

32. *Entephria lagganata* (Taylor, 1908)

Distribution: Yukon to Colorado.

Yukon records: 10.

Biological information: Habitat WT: boggy tundra.

33. *Entephria multivagata* (Hulst, 1881)

Distribution: Yukon to Colorado.

Yukon records: 17.

Biological information: Habitat BM: boreal forest.

34. *Entephria polata* (Duponchel, 1830)‡

Distribution: Alaska to Newfoundland south to Quebec and Colorado; Eurasia.

Yukon records: 2, 4, 8, 10.

Biological information: Habitat WT, DT: boggy and dry tundra.

Taxonomic notes: Two species are confused under this name; both of them are Holarctic in distribution (J. Troubridge, pers. comm.).

35. *Entephria* sp. A‡

Distribution: Yukon and Alaska; Chukotka, Russia.

Yukon records: 2, 8.

Biological information: Habitat DT: dry rocky (limestone) tundra; this undescribed species is restricted to dry mountain tundra in limestone areas.; adults are diurnal; females are probably flightless (more than 100 males are known).

Taxonomic notes: Adults are much smaller than those of *polata* with less contrasting markings.

36. *Entephria* sp. B

Distribution: Yukon and Alaska.

Yukon records: 5, 8.

Biological information: Habitat DT: dry tundra; adults are diurnal.

Taxonomic notes: This species looks like a small checkered form of *E. polata* but differs in genitalia (J. Troubridge, pers. comm.).

37. *Entephria* sp. C‡

Distribution: Central and southern Yukon; eastern Russia.

Yukon records: 8, 16.

Biological information: Habitat WT: boggy tundra; adults are diurnal.

Taxonomic notes: Adults closely resemble *E. polata* but differ in genitalia (J. Troubridge, pers. comm.).

38. *Epelis truncataria* (Walker, 1862)

Distribution: Alaska to Newfoundland south to New Jersey, Colorado and Arizona.

Yukon records: 4, 8–10, 16.

Biological information: Habitat B: open boreal forest and peat bogs; larvae on *Arctostaphylos* (McGuffin 1972).

39. *Epirranthis substriataria* (Hulst, 1896)

Distribution: Alaska to Nova Scotia south to New Jersey and California.

Yukon records: 4.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and conifers (McGuffin 1981).

40. *Epirrhoe alternata* (Müller, 1764)‡

Distribution: Alaska to Newfoundland south to Virginia, New Mexico and California; Eurasia.

Yukon records: 4, 10.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on *Galium*.

41. *Epirrhoe sperryi* Herbulot, 1951

Distribution: Alaska to Newfoundland south to Ontario and Colorado.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

42. *Epirrita undulata* (Harrison, 1942)

Distribution: Alaska to Northwest Territories south to southern Alberta; Labrador.

Yukon records: 9, 13, 16.

Biological information: Habitat WT: shrub tundra.

43. *Eulithis destinata* (Möschler, 1860)

Distribution: Alaska to Newfoundland south to New England, New York, Colorado and California.

Yukon records: 4, 8, 10, 11, 16, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on deciduous and coniferous trees and shrubs, especially *Salix*.

44. *Eulithis flavibrunneata* (McDunnough, 1943)

Distribution: Alaska to Quebec south to northern United States.

Yukon records: 8, 17.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

45. *Eulithis propulsata* (Walker, 1862)

Distribution: Alaska to Newfoundland south to New York and Arizona.

Yukon records: 4, 10, 16.

Biological information: Habitat B: boreal forest; larvae on *Ribes*.

46. *Eulithis testata* (Linnaeus, 1761)‡

Distribution: Yukon and northern and eastern British Columbia to Newfoundland south to New Jersey and Montana; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

47. *Eulithis xylina* (Hulst, 1896)

Distribution: Alaska to Saskatchewan south to Colorado and California.

Yukon records: 4, 10, 17, 19.

Biological information: Habitat BM: boreal forest; larvae on shrubs, especially *Salix*.

48. *Eupithecia absinthiata* (Clerck, 1759)‡

Distribution: Alaska to Newfoundland south to Pennsylvania and central California; Eurasia.

Yukon records: 4, 10.

Biological information: Habitat B: boreal forest; larvae on flowers, usually Asteraceae (Bolte 1990).

49. *Eupithecia albicapitata* Packard, 1876

Distribution: Alaska to Newfoundland and across northern United States.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae in the cones of conifers, especially *Picea*.

Taxonomic notes: *E. albicapitata* is probably conspecific with the Eurasian species *Eupithecia analoga* Djakonov, 1926 (Bolte 1990).

50. *Eupithecia annulata* (Hulst, 1896)

Distribution: Yukon to Newfoundland south to New York, Colorado and California.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on conifers (Bolte 1990).

51. *Eupithecia bryanti* Taylor, 1906

Distribution: Yukon and Alaska south to Utah and central California.

Yukon records: 8, 17.

Biological information: Habitat BM: boreal forest; larvae on *Salix* (Bolte 1990).

52. *Eupithecia cretaceata* (Packard, 1874)

Distribution: Alaska to New Brunswick south to New York and southern California.

Yukon records: 17.

Biological information: Habitat B: boreal forest and peat bogs; larvae on *Veratrum* (Bolte 1990).

53. *Eupithecia gelidata* Möschler, 1860‡

Distribution: Alaska to Newfoundland south to New England and New Mexico; Eurasia.

Yukon records: 11, 16, 19.

Biological information: Habitat B, WT: open boreal forest and peat bogs; larvae usually on *Ledum*, occasionally on other shrubs (Bolte 1990).

54. *Eupithecia interruptofasciata* Packard, 1873

Distribution: Yukon to Newfoundland south to Texas (with *Juniperus communis*).

Yukon records: 4, 10, 17.

Biological information: Habitat B: boreal forest in Yukon; larvae on *Juniperus communis* L. (Bolte 1990).

55. *Eupithecia intricata* (Zetterstedt, 1839)‡

Distribution: Yukon to Newfoundland south to New England, Colorado and California; Eurasia.

Yukon records: 4.

Biological information: Habitat B: boreal forest; larvae on Cupressaceae (Bolte 1990).

56. *Eupithecia lariciata* (Freyer, 1842)‡

Distribution: Yukon to Newfoundland south to New York and Arizona; Eurasia.

Yukon records: 13.

Biological information: Habitat B: boreal forest; larvae on conifers (Bolte 1990).

57. *Eupithecia misturata* (Hulst, 1896)

Distribution: Yukon to Newfoundland south to North Carolina, New Mexico and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae most commonly on *Larix* but also on a wide variety of other trees and shrubs, both deciduous and coniferous (Bolte 1990).

58. *Eupithecia perfusca* (Hulst, 1898)

Distribution: Yukon to Newfoundland south to Pennsylvania and Arizona.

Yukon records: 8, 10, 16, 17.

Biological information: Habitat B: boreal forest; larvae usually on Salicaceae and Betulaceae (Bolte 1990).

59. *Eupithecia pygmaeata* (Hübner, [1799])‡

Distribution: Alaska to Newfoundland south to Gaspé Peninsula, Quebec and Colorado; Eurasia.

Yukon records: 10.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on Caryophyllaceae (Bolte 1990).

60. *Eupithecia satyrata* (Hübner, [1813])‡

Distribution: Yukon to Newfoundland south to North Carolina and California; Eurasia.

Yukon records: 10, 11.

Biological information: Habitat B: boreal forest; larvae usually on flowers and fruits of a variety of herbs and shrubs (Bolte 1990).

61. *Eupithecia sharronata* Bolte, 1990

Distribution: Yukon south to southern Alberta and Washington; disjunct in Newfoundland and Labrador.

Yukon records: 10, 17.

Biological information: Habitat BM: boreal forest; larvae on *Salix* (Bolte 1990).

62. *Eupithecia* sp. near *zygadeniata* Packard, 1876

Distribution: Yukon.

Yukon records: 4, 8, 16.

Biological information: Habitat BM?: open boreal forest. *Zygadenus*, the larval hostplant of *E. zygadeniata*, was present where the Yukon specimens were collected.

Taxonomic notes: This species is known from 4 specimens from the Yukon. It is closely related to, or conspecific with, *Eupithecia zygadeniata* which is known only from central Texas.

63. *Eustroma atrifasciata* (Hulst, 1888)

Distribution: Yukon south to California.

Yukon records: 17.

Biological information: Habitat BM: boreal forest.

64. *Eustroma semiatrata* (Hulst, 1881)

Distribution: Alaska to Newfoundland south to New York, Colorado and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on *Epilobium*.

65. *Gnophos macguffini* Smiles, 1978

Distribution: Yukon and Northwest Territories south to northern British Columbia (Summit Lake).

Yukon records: 2, 5, 8.

Biological information: Habitat DT: dry tundra; adults fly mainly in the evening before dark (7:00–10:00 p.m.).

66. *Hydriomena furcata* (Thunberg, 1784)‡

Distribution: Alaska to Newfoundland south to northern British Columbia; Eurasia.

Yukon records: 4, 8, 17.

Biological information: Habitat B: boreal forest; larvae mainly on *Salix*.

67. *Hydriomena macdunnoughi* Swett, 1918

Distribution: Yukon south to British Columbia and Alberta.

Yukon records: 13.

Biological information: Habitat BM: boreal forest; larvae mainly on *Salix*.

68. *Hydriomena renunciata* (Walker, 1862)

Distribution: Alaska to Newfoundland south to Kentucky and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae mainly on *Alnus*.

69. *Hydriomena ruberata* (Freyer, 1831)‡

Distribution: Yukon to Nova Scotia south to New York, Colorado and California; Eurasia.

Yukon records: 8, 10.

Biological information: Habitat B: boreal forest; larvae mainly on *Salix*.

70. *Itame anataria* (Swett, 1913)

Distribution: Alaska to Newfoundland south to New England.

Yukon records: 4, 5, 8, 10.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on Betulaceae, Salicaceae, and *Potentilla fruticosa* L. (McGuffin 1972).

71. *Itame andersoni* (Swett, 1916)

Distribution: Yukon and British Columbia to Newfoundland south to New York and New England.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on *Vaccinium* (McGuffin 1972).

72. *Itame bitactata* (Walker, 1862)

Distribution: Yukon and British Columbia to Newfoundland south to Pennsylvania and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on *Alnus* and *Ribes* (McGuffin 1972).

73. *Itame brunneata* (Thunberg, 1784)‡

Distribution: Alaska to Newfoundland south to New England, Michigan and Wyoming; Eurasia.

Yukon records: 4, 10, 16, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on Betulaceae, Salicaceae, *Vaccinium*, and *Shepherdia* (McGuffin 1972).

74. *Itame loricaria* (Eversmann, 1837)‡

Distribution: Alaska to Newfoundland south to New York and Colorado; Eurasia.

Yukon records: 4, 10, 16, 17.

Biological information: Habitat B: boreal forest; larvae on Betulaceae and Salicaceae (McGuffin 1972).

75. *Leucobrephos brephoides* (Walker, 1857)

Distribution: Yukon to Labrador south to New York and Wisconsin.

Yukon records: 11, 16.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

76. *Lobophora magnoliatoidata* (Dyar, 1904)

Distribution: Alaska to Yukon south to southern Alberta and British Columbia.

Yukon records: 9, 10, 13, 17.

Biological information: Habitat BM: boreal forest; larvae on Salicaceae.

77. *Lycia rachelae* (Hulst, 1896)

Distribution: Alaska and British Columbia to Manitoba south to Pennsylvania and Colorado.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on Betulaceae, Salicaceae, woody Rosaceae and other shrubs (McGuffin 1977).

78. *Mesothea incertata* (Walker, 1862)

Distribution: Alaska to Newfoundland south to North Carolina and California.

Yukon records: 4, 17.

Biological information: Habitat B: boreal forest and peat bogs; larvae on shrubs, especially *Myrica* and Salicaceae.

79. *Metanema determinata* Walker, 1866

Distribution: Yukon and British Columbia to Newfoundland south to New Jersey, Kentucky, Indiana and New Mexico.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae (McGuffin 1987).

80. *Metanema inatomaria* Guenée, 1857

Distribution: Yukon and British Columbia to Newfoundland south to New Jersey, Oklahoma, Colorado and Arizona.

Yukon records: 4.

Biological information: Habitat B: boreal forest; larvae on Salicaceae (McGuffin 1987).

81. *Neoterpes trianguliferata* (Packard, 1871)

Distribution: Yukon to Saskatchewan south to Colorado and California.

Yukon records: 17.

Biological information: Habitat BM: boreal forest; larvae on *Ribes* (McGuffin 1987).

82. *Plemyria georgii* Hulst, 1896

Distribution: Alaska to Newfoundland south to New England, Wisconsin, Montana and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae mainly on Salicaceae and Betulaceae.

83. *Psycophora sabini* Kirby, 1824‡

Distribution: Circumpolar; Alaska east across arctic to northern Quebec and Greenland; Eurasia.

Yukon records: 2, 8, 16.

Biological information: Habitat WT, DT: tundra; adults are diurnal.

Taxonomic notes: Antennal pectinations short and clubbed.

84. *Psycophora suttoni* Heinrich, 1942

Distribution: Yukon to Labrador south to Colorado.

Yukon records: 8.

Biological information: Habitat WT, DT: tundra; adults are diurnal.

Taxonomic notes: Antennal pectinations long and thin.

85. *Psycophora* n. sp. near *suttoni* Heinrich, 1942

Distribution: British Mountains, Yukon.

Yukon records: 2.

Biological information: Habitat DT: dry tundra; adults are diurnal.

Taxonomic notes: Antennal pectinations short and thin.

86. *Rheumaptera hastata* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to North Carolina and Colorado; Eurasia.

Yukon records: 4, 8–11, 13, 16, 17, 19.

Biological information: Habitat B: boreal forest; larvae mainly on Betulaceae; adults are diurnal.

87. *Rheumaptera subhastata* (Nolcken, 1870)‡

Distribution: Alaska to Newfoundland south to New England in the east and Colorado in the west; Eurasia.

Yukon records: 2, 4, 5, 9, 10–17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae mainly on Betulaceae; adults are diurnal.

88. *Scopula frigidaria* (Möschler, 1860)‡

Distribution: Subarctic and northern boreal: Alaska to Newfoundland south to New England, Indiana and southern British Columbia; Eurasia.

Yukon records: 2, 4, 8–11, 16.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

89. *Scopula junctaria* (Walker, 1861)

Distribution: Yukon and British Columbia to Newfoundland south to New Jersey, Colorado and central California.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

90. *Scopula sentinaria* (Geyer, 1837)‡

Distribution: Alaska to Labrador south in west to Colorado; Eurasia.

Yukon records: 2, 10, 16.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

91. *Scopula septentrionica* McDunnough, 1939

Distribution: Alaska to central Northwest Territories.

Yukon records: 2, 3, 4, 8.

Biological information: Habitat WT: shrub tundra.

92. *Selenia alciphearia* Walker, 1860

Distribution: Alaska to Newfoundland south to North Carolina in the east and Washington in the west.

Yukon records: 4, 6, 8.

Biological information: Habitat B: boreal forest; larvae mainly on Betulaceae and Salicaceae (McGuffin 1987).

93. *Semiothisa denticulata* Grote, 1883

Distribution: Yukon and British Columbia to Ontario south to South Dakota, New Mexico, Arizona and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on poplar.

94. *Semiothisa hebetata* (Hulst, 1881)

Distribution: Yukon and British Columbia to Labrador south to Colorado.

Yukon records: 4, 10, 17, 19.

Biological information: Habitat B: boreal forest; larvae on *Salix* (McGuffin 1972).

95. *Semiothisa neptaria* (Guenée, 1857)

Distribution: Yukon and British Columbia to Newfoundland south to New England and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae (McGuffin 1972).

96. *Semiothisa sexmaculata* (Packard, 1867)

Distribution: Yukon and British Columbia to Newfoundland south to New England, New York and Oregon.

Yukon records: 17, 19.

Biological information: Habitat B: boreal forest; larvae on tamarack (McGuffin 1972).

97. *Semiothisa signaria* (Hübner, [1809])‡

Distribution: Yukon to Newfoundland south to North Carolina, New Mexico, Arizona and California; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on conifers (McGuffin 1972).

98. *Sicya macularia* (Harris, 1850)

Distribution: Alaska to Newfoundland south to Virginia, Missouri, New Mexico and California.

Yukon records: 4, 10, 17, 19.

Biological information: Habitat B: boreal forest; larvae on a wide variety of trees and shrubs, especially Salicaceae (McGuffin 1987).

99. *Spargania luctuata* ([Denis and Schiffermüller], 1775)‡

Distribution: Alaska to Newfoundland south to New England and southern British Columbia; Eurasia.

Yukon records: 4, 5, 9, 10, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on *Epilobium*; adults are diurnal (Forbes 1948).

100. *Spargania magnoliata* Guenée, 1857

Distribution: Alaska to Newfoundland south to North Carolina and California.

Yukon records: 10, 13.

Biological information: Habitat B: boreal forest; larvae on *Epilobium* and *Oenothera*.

101. *Stannodes topazata* (Strecker, 1899)

Distribution: Alaska to Ontario south to Colorado.

Yukon records: 8.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

102. *Sterrhia rotundopennata* (Packard, 1876)

Distribution: Yukon and British Columbia to Nova Scotia and New England.

Yukon records: 9, 10.

Biological information: Habitat B: boreal forest; larvae on *Polygonum* (McGuffin 1967).

103. *Thera otisi* (Dyar, 1904)

Distribution: Yukon south to Colorado.

Yukon records: 16, 17.

Biological information: Habitat BM: boreal forest; larvae on *Juniperus*.

104. *Trichodezia albovittata* (Guenée, 1857)

Distribution: Alaska to Newfoundland south to North Carolina and Colorado.

Yukon records: 4, 10.

Biological information: Habitat B: boreal forest; larvae on *Impatiens* (Forbes 1948).

105. *Xanthorhoe abrasaria* (Herrich-Schäffer, 1856)‡

Distribution: Alaska to Newfoundland south to New England, New York and New Mexico; Eurasia.

Yukon records: 4, 8–10, 13, 16, 17.

Biological information: Habitat B: boreal forest; larvae on *Galium* and other low plants (Mikkola et al. 1985).

106. *Xanthorhoe baffinensis* McDunnough, 1939

Distribution: Alaska, Northwest Territories, northern Quebec and Labrador, south to northern British Columbia.

Yukon records: 1, 4, 10, 13, 16.

Biological information: Habitat WT: wet tundra.

107. *Xanthorhoe ferrugata* (Clerck, 1759)‡

Distribution: Alaska to Newfoundland south to North Carolina and California; Eurasia.

Yukon records: 4, 10, 13.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on *Galium*, *Stellaria* and other low plants (Mikkola et al. 1985).

108. *Xanthorhoe fossaria* Taylor, 1906

Distribution: Alaska to Yukon south to southern Alberta and Washington.

Yukon records: 9, 16.

Biological information: Habitat BM: boreal forest.

109. *Xanthorhoe incursata* (Hübner, [1813])‡

Distribution: Yukon to western Northwest Territories south to Colorado and California; Eurasia.

Yukon records: 10, 13.

Biological information: Habitat BM: boreal forest; larvae on *Vaccinium* (Forbes 1948).

110. *Xanthorhoe labradorensis* (Packard, 1867)

Distribution: Alaska to Newfoundland south to North Carolina, Louisiana and Colorado.

Yukon records: 10, 13.

Biological information: Habitat B: boreal forest; larvae on various herbs (Covell 1984).

111. *Xanthorhoe munitata* (Hübner, [1809])‡

Distribution: Alaska to Newfoundland south to New England, Arizona and California; Eurasia.

Yukon records: 4, 10, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on *Galium*, *Geranium* and other low plants (Mikkola et al. 1985).

112. *Xanthorhoe ramaria* Swett and Cassino, 1920

Distribution: Yukon to Labrador south to New York, northern British Columbia and south in the Rockies to southern Alberta.

Yukon records: 8–11.

Biological information: Habitat B: boreal forest.

113. *Zenophleps alpinata* Cassino, 1927

Distribution: Alaska to Manitoba south to New Mexico, Arizona and California.

Yukon records: 4, 8, 10, 16, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

Superfamily Hesperioidea

Family HesperIIDae

114. *Carterocephalus palaemon* (Pallas, 1771)‡

Distribution: Alaska to Newfoundland south to Pennsylvania, Wyoming and California; Eurasia (Scott 1986).

Yukon records: 2–6, 8–11, 15–17, 19.

Biological information: Habitat B: damp grassy clearings; larvae on grasses.

115. *Erynnis afranius* (Lintner, 1876)

Distribution: Southern Alberta to southern Manitoba south to Mexico (Scott 1986); disjunct in Yukon.

Yukon records: 8, 11.

Biological information: Habitat D: dry steppe; larvae on Fabaceae, especially *Lupinus* and *Astragalus*.

116. *Erynnis persius* (Scudder, 1863)

Distribution: Alaska to northern Ontario south to New Mexico, Arizona and California; disjunct in eastern United States and southern Ontario (Scott 1986).

Yukon records: 4, 8, 10, 11, 12, 16, 17, 19.

Biological information: Habitat B: open boreal forest and clearings; larvae on Fabaceae, especially *Lupinus*, and Salicaceae.

Taxonomic notes: Taxonomic resolution is needed on willow- and poplar-feeding populations versus legume feeders.

117. *Hesperia comma* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California; Eurasia (Scott 1986).

Yukon records: 2, 5, 8–12, 15–17, 19.

Biological information: Habitat B: dry grassy areas in open boreal forest; larvae on grasses; adults are biennial in odd-numbered years in Beringia.

118. *Polites draco* (Edwards, 1871)

Distribution: Southern Alberta to New Mexico and Arizona; disjunct in southern Yukon and northern British Columbia (Scott 1986).

Yukon records: 10–12, 17.

Biological information: Habitat D: steppe slopes with grass and *Artemisia*; larvae on grasses.

119. *Pyrgus centaureae* (Rambur, 1840)‡

Distribution: Alaska to Newfoundland south to Gaspé Peninsula, Quebec and in west to New Mexico; disjunct in eastern United States; Eurasia (Scott 1986).

Yukon records: 2–6, 8–11, 16, 17, 19.

Biological information: Habitat B, WT: forest clearings and shrub tundra; larvae on herbaceous Rosaceae, especially *Rubus chamaemorus*; adults are biennial in odd-numbered years in Beringia.

Superfamily Incurvarioidea**Family Adelidae****120. *Adela purpurea* Walker, 1863**

Distribution: Boreal: Alaska, Yukon and British Columbia to Newfoundland.

Yukon records: 4, 9.

Biological information: Habitat B: boreal forest: associated with shrubby willows; adults usually collected on catkins; adults are diurnal.

121. *Cauchas* sp.

Distribution: Unknown.

Yukon records: 9.

Biological information: Habitat B: boreal zone.

Taxonomic notes: The genus needs revision.

122. *Nemophora bellela* (Walker, 1863)

Distribution: Subarctic/northern boreal: Alaska, Yukon and British Columbia to Newfoundland.

Yukon records: 2, 8, 10, 11, 17.

Biological information: Habitat WT, B: shrub tundra and northern boreal forest; adults are diurnal.

Family Prodoxidae**123. *Greya variabilis* Davis and Pellmyr, 1992**

Distribution: Yukon and Alaska south to Oregon.

Yukon records: 1, 8.

Biological information: Habitat BM, WT: boreal forest and shrub tundra.

Superfamily Noctuoidea**Family Arctiidae****124. *Acerbia alpina* (Quensel, 1802)‡**

Distribution: Arctic: Yukon and Alaska; Fennoscandia to Russian Far East.

Yukon records: 1.

Biological information: Habitat DT: dry rocky tundra; adults are diurnal.

125. *Acsala anomala* Benjamin, 1935 (Frontispiece, middle right)

Distribution: Alpine: Yukon and Alaska.

Yukon records: 2, 5, 8.

Biological information: Habitat DT: dry rocky scree; adults are diurnal, females flightless; larvae on lichens (Lafontaine et al. 1982).

126. *Crambidia casta* (Packard, 1869)

Distribution: Boreal: Yukon and British Columbia to Nova Scotia; northern and western United States.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on lichens.

127. *Dodia albertae* Dyar, 1901‡

Distribution: Northern boreal: Alaska to Labrador; Lake Baikal area, Russia to Russian Far East.

Yukon records: 2, 4, 8, 9, 16.

Biological information: Habitat B, WT: open boreal forest and shrub tundra; adults are nocturnal.

Taxonomic notes: Revised by Chistyakov and Lafontaine (1984).

128. *Dodia kononenkoi* Chistyakov and Lafontaine, 1984‡ (Frontispiece, lower left)

Distribution: Subarctic: Yukon; Russia (Chukotka to Sayan Mts.)

Yukon records: 5, 8.

Biological information: Habitat DT: rocky dry tundra slopes; adults are diurnal.

Taxonomic notes: Revised by Chistyakov and Lafontaine (1984).

129. *Dodia* n. sp.

Distribution: Subarctic: northern Yukon.

Yukon records: 2, 5.

Biological information: Habitat DT: rocky dry tundra; adults are diurnal.

Taxonomic notes: Undescribed species known from 2 females and several partially grown larvae.

130. *Eilema bicolor* (Grote, 1864)

Distribution: Boreal zone: Alaska, Yukon and British Columbia to Newfoundland; northern and western United States.

Yukon records: 4, 10, 17.

Biological information: Habitat B: boreal forest; larvae on conifers.

131. *Grammia blakei* (Grote, 1865)

Distribution: Alberta to Manitoba south to Kansas; disjunct in southern Yukon.

Yukon records: 10.

Biological information: Habitat D: prairie; larvae on low herbs.

132. *Grammia celia* (Saunders, 1863)

Distribution: Boreal zone: Yukon to Nova Scotia.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

133. *Grammia geneura* (Strecker, 1880)

Distribution: Southern British Columbia and Alberta southward throughout western United States; disjunct in southern Yukon.

Yukon records: 10.

Biological information: Habitat D: dry steppe, both open and under conifers.

134. *Grammia quenseli* (Paykull, 1793)‡

Distribution: Subarctic: Alaska to Newfoundland; Fennoscandia to Russian Far East.

Yukon records: 1, 2, 8.

Biological information: Habitat DT: dry tundra, also in shrub tundra; adults are diurnal.

135. *Grammia virguncula* (Kirby, 1837)

Distribution: Yukon to Newfoundland south to New Jersey and Colorado.

Yukon records: 10, 16.

Biological information: Habitat B: boreal forest.

Taxonomic notes: Specimens from the subarctic and farther south in bogs are small and may be a distinct species.

136. *Neoarctia lafontainei* Ferguson, 1985

Distribution: Known only from a single pair from a mountain top near Windy Pass in Ogilvie Mts., Yukon.

Yukon records: 8.

Biological information: Habitat DT: dry scree.

137. *Pararctia lapponica* (Thunberg, 1791)‡

Distribution: Subarctic: Alaska to Newfoundland; Fennoscandia to Russian Far East.

Yukon records: 8, 16.

Biological information: Habitat WT: shrub tundra; larvae on shrub willows.

138. *Pararctia subnebulosa* (Dyar, 1899)‡

Distribution: Beringian: Yukon and Alaska; Chukotka, Russia.

Yukon records: 8.

Biological information: Habitat DT: dry closed tundra; females are flightless.

139. *Pararctia yarrowii* (Stretch, 1873) (Frontispiece, middle left)

Distribution: Alpine: Yukon and western Northwest Territories to Colorado and Arizona.

Yukon records: 2, 8, 19.

Biological information: Habitat DT: dry rocky slopes with willow.

Taxonomic notes: Formerly thought to be a western montane subspecies of subarctic *P. lapponica* but occurs with *lapponica* in Yukon and has black-and-white rather than brown-and-yellow forewing pattern and different larvae.

140. *Parasemia plantaginis* (Linnaeus, 1758)‡

Distribution: Alaska to Quebec; widespread in western United States and Palaearctic.

Yukon records: 4, 8, 10, 11, 16.

Biological information: Habitat B: boreal forest.

141. *Phragmatobia fuliginosa* (Linnaeus, 1758)‡

Distribution: Throughout boreal and north temperate zone of North America and Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

142. *Platarctia parthenos* (Harris, 1850)

Distribution: Alaska to Newfoundland south to New England and Colorado.

Yukon records: 4, 5, 8–10, 19.

Biological information: Habitat B: boreal forest.

Family Lymantriidae

143. *Gynaephora groenlandica* (Wocke, 1874)

Distribution: Northern Yukon, arctic Canada and Greenland.

Yukon records: 2.

Biological information: Habitat DT: dry rocky tundra; seldom collected as an adult (females do not fly and males are fast and do not visit flowers); adults are diurnal; larvae can be abundant (on *Salix*, *Dryas*, and other low plants).

144. *Gynaephora rossii* Curtis, 1835‡

Distribution: Arctic Canada south to New England and Colorado; Japan and eastern Siberia.

Yukon records: 2, 4, 5, 8.

Biological information: Habitat WT: shrub tundra and boggy tundra; habits and foodplants as in *G. groenlandica*.

145. *Orgyia antiqua* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to Pennsylvania and northern California; Eurasia.

Yukon records: 8, 10.

Biological information: Habitat B: boreal forest; adults are diurnal, females wingless; larvae on wide variety of deciduous and coniferous trees and shrubs.

Family Noctuidae**146. *Abagrotis dodi* McDunnough, 1927***Distribution:* Yukon south to Colorado and Utah.*Yukon records:* 17.*Biological information:* Habitat BM: open pine forests.**147. *Abagrotis placida* (Grote, 1876)***Distribution:* Yukon to Newfoundland south to New England, New Mexico and southern California.*Yukon records:* 16.*Biological information:* Habitat D, B: grassland, dry open boreal forest.**148. *Acronica impressa* (Walker, 1856)***Distribution:* Yukon to Newfoundland south to Pennsylvania and Colorado.*Yukon records:* 8, 10.*Biological information:* Habitat B: boreal forest in Yukon; larvae mostly on Salicaceae.**149. *Actebia fennica* (Tauscher, 1808)‡***Distribution:* Alaska to Newfoundland south to New England and Oregon; Eurasia.*Yukon records:* 10.*Biological information:* Habitat B: boreal forest; larvae mostly on *Vaccinium* but can cause considerable damage to conifer seedlings.**150. *Agrotis obliqua* (Smith, 1903)***Distribution:* Yukon to Newfoundland south to southern Quebec, Arizona and California.*Yukon records:* 16.*Biological information:* Habitat B: dry clearings.**151. *Agrotis ruta* (Eversmann, 1851)‡***Distribution:* Alaska to Labrador south to northern Manitoba and northern British Columbia; eastern Asia.*Yukon records:* 4, 8, 10, 17.*Biological information:* Habitat B, WT: northern boreal forest and shrub tundra.**152. *Agrotis vetusta* Walker, 1865***Distribution:* Yukon to Nova Scotia south to Georgia, Arizona and California.*Yukon records:* 10, 17.*Biological information:* Habitat D: dry steppe slopes and sandy clearings.**153. *Aletia yukonensis* (Hampson, 1911)***Distribution:* Alaska to Yukon south to northern British Columbia.*Yukon records:* 10, 17.*Biological information:* Habitat D: grassy steppe slopes.**154. *Alypia langtoni* (Couper, 1865)***Distribution:* Alaska to Labrador south to New England, New York and Oregon.*Yukon records:* 4, 10.*Biological information:* Habitat B: clearings and roadsides; adults are diurnal; larvae on *Epilobium*.**155. *Anarta luteola* (Grote and Robinson, 1865)***Distribution:* Alaska to Labrador south to New England, southern British Columbia and Colorado.*Yukon records:* 2, 4, 8, 10, 11, 16, 17.*Biological information:* Habitat B, WT: peat bogs and shrub tundra; adults are diurnal; larvae on Ericaceae.**156. *Anarta macrostigma* Lafontaine and Mikkola, 1987***Distribution:* Alaska to western Northwest Territories south to southern Alberta and Colorado.*Yukon records:* 4, 10, 17.*Biological information:* Habitat WT: wet tundra and alpine meadows, apparently in less acidic situations than *A. luteola*; adults are diurnal.

157. *Anarta melanopa* (Thunberg, 1791)‡

Distribution: Alaska to Newfoundland south to New England and Colorado; Eurasia.

Yukon records: 5, 8, 16.

Biological information: Habitat WT: boggy tundra and alpine meadows; adults are diurnal; larvae on *Vaccinium*.

158. *Anartomima secedens* (Walker, 1858)‡

Distribution: Alaska to Newfoundland south to New England and southern Alberta; Eurasia.

Yukon records: 8, 11, 13.

Biological information: Habitat B: boreal forest.

Taxonomic notes: The Old World subspecies *A. s. bohemani* (Staudinger, 1861) occurs in Yukon and Alaska and intergrades with typical *secedens* in southern Yukon.

159. *Anathix puta* (Grote and Robinson, 1868)

Distribution: Alaska to Nova Scotia south to Pennsylvania and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on *Populus*.

160. *Andropolia contacta* (Walker, 1856)

Distribution: Alaska to Newfoundland south to New England, New York, Colorado and southern British Columbia.

Yukon records: 10, 16, 17.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

161. *Apamea alia* (Guenée, 1852)

Distribution: Alaska to Newfoundland south to New Jersey, New Mexico and Oregon.

Yukon records: 8, 16, 17.

Biological information: Habitat B: boreal forest; larvae on grasses.

162. *Apamea commoda* (Walker, 1857)

Distribution: Alaska to Newfoundland south to New England, New York, New Mexico, Arizona and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest.

163. *Apamea devastator* (Brace, 1819)

Distribution: Alaska to Newfoundland south to New Jersey, Texas, Arizona and California.

Yukon records: 10, 16.

Biological information: Habitat B: boreal forest in Yukon; larvae are sod cutworms, primarily on grasses.

164. *Apamea inficita* (Walker, 1857)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and Oregon.

Yukon records: 17.

Biological information: Habitat B: boreal forest in Yukon.

165. *Apamea* sp. near *lateritia* (Hufnagel, 1766)

Distribution: Alaska to Newfoundland south to New Jersey, Arizona and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest in Yukon.

166. *Apamea longula* (Grote, 1879)

Distribution: Yukon south to New Mexico, Arizona and California.

Yukon records: 17.

Biological information: Habitat D, BM: steppe slopes and open conifer forests.

167. *Apamea zeta* (Treitschke, 1825)‡

Distribution: Alaska to Greenland south to Newfoundland, Colorado and northern Washington; Eurasia.

Yukon records: 2, 8.

Biological information: Habitat WT, B: shrub tundra and northern boreal forest.

168. *Apharetra pyralis* (Smith, 1895)*Distribution:* Yukon south to Manitoba, Montana and southern British Columbia.*Yukon records:* 8.*Biological information:* Habitat B: open boreal forest.**169. *Autographa buraetica* (Staudinger, 1892)‡***Distribution:* Alaska to western Northwest Territories south to northern British Columbia; Eurasia (Lafontaine and Poole 1991).*Yukon records:* 4, 8, 10, 17.*Biological information:* Habitat BM: boreal forest.**170. *Autographa pseudogamma* (Grote, 1875)***Distribution:* Alaska to Newfoundland south to New England, New Mexico, Arizona and California (Lafontaine and Poole 1991).*Yukon records:* 8, 10.*Biological information:* Habitat B: boreal forest.**171. *Autographa sansoni* Dod, 1910***Distribution:* Alaska and southern Yukon south to New Mexico and northern Oregon (Lafontaine and Poole 1991).*Yukon records:* 16.*Biological information:* Habitat BM: boreal forest.**172. *Brachylomia algens* (Grote, 1878)***Distribution:* Yukon to Newfoundland south to New England and Colorado.*Yukon records:* 19.*Biological information:* Habitat B: boreal forest; larvae mainly on Salicaceae.**173. *Caenurgina crassiuscula* (Haworth, 1809)***Distribution:* Alaska to Newfoundland south to Georgia, Texas, Arizona and California.*Yukon records:* 8, 10.*Biological information:* Habitat B, D: dry grassy clearings and roadsides; larvae mainly on grasses.**174. *Caenurgina distincta* (Neumoegen, 1884)***Distribution:* Alaska and Yukon south to northern Great Plains from British Columbia to Manitoba.*Yukon records:* 10.*Biological information:* Habitat D: grassy steppe slopes; larvae on grasses.*Taxonomic notes:* This species is probably only a prairie form of *C. crassiuscula*; the 2 species interbreed freely and have the same sex pheromone.**175. *Chersotis juncta* (Grote, 1878)‡***Distribution:* Alaska to Newfoundland south to New York, Arizona and southern California; north-eastern Russia.*Yukon records:* 10.*Biological information:* Habitat B: dry open boreal forest.**176. *Chortodes basistriga* (McDunnough, 1933)***Distribution:* Alaska to Newfoundland south to southern Alberta and British Columbia.*Yukon records:* 10.*Biological information:* Habitat B: dry open boreal forest.**177. *Diarsia calgary* (Smith, 1898)***Distribution:* Yukon to western Saskatchewan south to Colorado, Utah and California.*Yukon records:* 19.*Biological information:* Habitat BM: conifer forests.**178. *Diarsia dislocata* (Smith, 1904)***Distribution:* Alaska to Newfoundland south to New England, Colorado and Washington.*Yukon records:* 4, 10, 17.*Biological information:* Habitat B: dry open boreal forest.

179. *Diarsia rosaria* (Grote, 1878)

Distribution: Alaska to Newfoundland south to New England, Colorado and California.

Yukon records: 8.

Biological information: Habitat B: dry open conifer forests; larvae on herbaceous plants, especially grasses.

180. *Discestra farnhami* (Grote, 1873)

Distribution: Yukon to northern Quebec south to New Mexico and California.

Yukon records: 10.

Biological information: Habitat BM: boreal forest.

181. *Discestra trifolii* (Hufnagel, 1766)‡

Distribution: Alaska to Newfoundland south to Virginia and Mexico; Eurasia.

Yukon records: 1, 6.

Biological information: Habitat D, B: steppe areas and dry open boreal forest; larvae on many herbaceous plants, especially Fabaceae.

182. *Drasteria hudsonica* (Grote and Robinson, 1865)

Distribution: Alaska to Manitoba south in the mountains to New Mexico.

Yukon records: 4, 8, 10, 17.

Biological information: Habitat B: dry, open boreal forest; adults are diurnal.

183. *Drasteria petricola* (Walker, 1858)

Distribution: Alaska to Manitoba south in the mountains to New Mexico.

Yukon records: 2, 8, 10, 12, 16, 17.

Biological information: Habitat D: steppe slopes; adults are diurnal; larvae on *Hedysarum*.

184. *Enargia infumata* (Grote, 1874)

Distribution: Alaska to Newfoundland south to New England, New York, New Mexico, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

185. *Eremobina claudens* (Walker, 1857)

Distribution: Alaska to Newfoundland south to New England, New York, Colorado and Oregon.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

186. *Eurois astricta* (Morrison, 1874)

Distribution: Alaska to Newfoundland south to New Jersey, Colorado, Utah and Oregon.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on a wide variety of plants, especially *Populus*.

187. *Eurois nigra* (Smith, 1892)

Distribution: Alaska to Yukon south to New Mexico, Arizona and California.

Yukon records: 10, 16, 17.

Biological information: Habitat BM: boreal forest.

188. *Eurois occulta* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to New Jersey, New Mexico, Arizona and Oregon; Eurasia.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on a wide variety of plants, especially shrubs.

189. *Eutricopis nexilis* Morrison, 1875

Distribution: Yukon to Nova Scotia south to New England, Colorado and northern California.

Yukon records: 17.

Biological information: Habitat B: clearings and roadsides; adults are diurnal; larvae on flowers and seeds of *Antennaria*.

190. *Euxoa aequalis* (Harvey, 1876)

Distribution: Southern British Columbia to southern Saskatchewan southward to northern New Mexico, Arizona and southern California; disjunct in southern Yukon.

Yukon records: 17.

Biological information: Habitat D: steppe slopes.

Taxonomic notes: Yukon populations differ from southern populations in mouse gray wing color (brownish gray elsewhere), hairy rather than scaly thoracic vestiture, and tendency for females to be shorter winged than males; Yukon adults interbreed with southern ones in the laboratory.

191. *Euxoa campestris* (Grote, 1875)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and Utah.

Yukon records: 16.

Biological information: Habitat B: boreal forest.

192. *Euxoa choris* (Harvey, 1876)

Distribution: Yukon southward to New Mexico, Arizona and California.

Yukon records: 16.

Biological information: Habitat D: steppe slopes and dry conifer forests.

193. *Euxoa comosa* (Morrison, 1876)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California.

Yukon records: 8, 16, 17.

Biological information: Habitat B: boreal forest.

194. *Euxoa cursoria* (Hufnagel, 1766)‡

Distribution: Southern Yukon, Fort Smith, Northwest Territories, western Alberta; Eurasia.

Yukon records: 12, 17.

Biological information: Habitat D: steppe slopes and dunes; larvae on herbaceous plants.

195. *Euxoa declarata* (Walker, 1865)

Distribution: Alaska to Nova Scotia south to New York, New Mexico, Arizona and California.

Yukon records: 16.

Biological information: Habitat B, D: dry conifer forests and steppe.

196. *Euxoa divergens* (Walker, 1856)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest.

197. *Euxoa flavicollis* (Smith, 1888)

Distribution: Yukon to western Northwest Territories south to North Dakota, Colorado and Washington.

Yukon records: 17.

Biological information: Habitat D: steppe slopes.

198. *Euxoa hyperborea* Lafontaine, 1987‡

Distribution: Yukon and northern Alaska; eastern Siberia.

Yukon records: 8.

Biological information: Habitat D: active dunes in northern Alaska and along the Kolyma River, Russia; a specimen from km 105, Dempster Highway, in the ROME is out of normal habitat.

199. *Euxoa idahoensis* (Grote, 1878)

Distribution: Alaska to Saskatchewan south to North Dakota, New Mexico, Arizona and California.

Yukon records: 10.

Biological information: Habitat D, BM: steppe slopes and dry conifer forests.

200. *Euxoa lidia* (Stoll, 1782)‡

Distribution: Alaska to Newfoundland and southern Greenland south to New England, Colorado and Oregon; Eurasia.

Yukon records: 10.

Biological information: Habitat B, D: boreal forest and northern steppe.

201. *Euxoa macrodentata* Hardwick, 1965

Distribution: Southern Yukon and northern British Columbia.

Yukon records: 12, 17.

Biological information: Habitat D: steppe slopes.

202. *Euxoa maimes* (Smith, 1903)

Distribution: Yukon to western Northwest Territories south to New Mexico, Arizona and southern British Columbia.

Yukon records: 10, 12, 17.

Biological information: Habitat D: steppe slopes.

203. *Euxoa nomas* (Erschoff, 1874)‡

Distribution: Alaska to western Northwest Territories south to western Alberta and southern British Columbia; southern Siberia.

Yukon records: 2, 5, 16.

Biological information: Habitat DT: dry gravelly tundra; adults are diurnal.

204. *Euxoa ochrogaster* (Guenée, 1852)‡

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and Oregon; Eurasia.

Yukon records: 17.

Biological information: Habitat D, B: steppe slopes and open boreal forest; larvae (redbacked cutworm) on a wide variety of broad-leaved herbs.

205. *Euxoa olivalis* (Grote, 1878)

Distribution: Yukon southward to New Mexico, Arizona and California.

Yukon records: 16.

Biological information: Habitat D: steppe slopes and dry conifer forests.

206. *Euxoa perolivalis* (Smith, 1905)

Distribution: Yukon to western Northwest Territories south to New Mexico, Arizona and central Washington.

Yukon records: 17.

Biological information: Habitat D, BM: dry conifer forests and aspen groves.

207. *Euxoa plagigera* (Morrison, 1874)

Distribution: Yukon southward to New Mexico, Arizona and California.

Yukon records: 12, 17.

Biological information: Habitat D: steppe slopes and dry conifer forests.

208. *Euxoa quebecensis* (Smith, 1900)

Distribution: Yukon to Labrador south to New England, Colorado, and Oregon.

Yukon records: 17.

Biological information: Habitat B: dry, open boreal forest.

209. *Euxoa ridingsiana* (Grote, 1875)

Distribution: Alaska to western Northwest Territories south to North Dakota, New Mexico, Utah, and California.

Yukon records: 17.

Biological information: Habitat D: steppe slopes and dry open forest.

210. *Euxoa rufula* (Smith, 1888)

Distribution: Yukon southward to New Mexico, Arizona and California.

Yukon records: 17.

Biological information: Habitat BM: conifer forests.

211. *Euxoa servita* (Smith, 1895)

Distribution: Yukon to Nova Scotia south to New York, New Mexico, Arizona and California.

Yukon records: 17.

Biological information: Habitat B, D: dry conifer forests and steppe.

212. ***Euxoa tessellata* (Harris, 1841)**

Distribution: Alaska to Newfoundland south to North Carolina, New Mexico, Arizona and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on a wide variety of broad leaved herbs.

213. ***Euxoa westermanni* (Staudinger, 1857)**

Distribution: Yukon to Newfoundland and southern Greenland south to western Alberta.

Yukon records: 10.

Biological information: Habitat B: northern boreal forest.

214. ***Feltia jaculifera* (Guenée, 1852)**

Distribution: Yukon to Nova Scotia south to Florida, Texas and California.

Yukon records: 17.

Biological information: Habitat D, B: steppe slopes, clearings and dry grassy roadsides; larvae on herbaceous plants.

215. ***Graphiphora augur* (Fabricius, 1775)‡**

Distribution: Alaska to Newfoundland south to Kentucky, New Mexico, Arizona and California; Eurasia.

Yukon records: 4, 8, 10, 11, 17.

Biological information: Habitat B: boreal forest; larvae on a variety of broad leaved herbs and shrubs.

216. ***Hada sutrina* (Grote, 1881)**

Distribution: Yukon to Newfoundland south to Quebec, Colorado and Oregon.

Yukon records: 4, 5, 8.

Biological information: Habitat B: boreal forest.

217. ***Heliothis ononis* (Fabricius, 1787)‡**

Distribution: Alaska to Manitoba south to Colorado; Eurasia.

Yukon records: 10.

Biological information: Habitat D: steppe slopes; larvae on herbaceous plants.

218. ***Hillia iris* (Zetterstedt, 1839)‡**

Distribution: Alaska to Newfoundland south to New England, New York, Colorado and central British Columbia; Eurasia.

Yukon records: 8, 10, 17.

Biological information: Habitat B: boreal forest; larvae on dwarf willow.

219. ***Homoglaea carbonaria* (Harvey, 1876)**

Distribution: Yukon south to Colorado and California.

Yukon records: 19.

Biological information: Habitat BM: boreal forest; larvae on Salicaceae.

220. ***Hyppa* sp.**

Distribution: Yukon.

Yukon records: 10, 16.

Biological information: Habitat B: boreal forest.

Taxonomic notes: The genus *Hyppa* contains one species in Eurasia and 4 described and several undescribed species in North America. Species differences are based mainly on male genital and antennal characters. The Yukon specimens are females and cannot be identified with certainty.

221. ***Idia aemula* Hübner, 1813**

Distribution: Yukon to Nova Scotia south to Florida, New Mexico and Oregon.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae feeding in leaf litter on mould.

222. ***Ipimorpha pleonectusa* (Grote, 1873)**

Distribution: Yukon to Newfoundland south to New Jersey, Texas, Arizona and Washington.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on *Populus*.

223. *Lacinipolia olivacea* (Morrison, 1874)

Distribution: Alaska to Newfoundland south to North Carolina, New Mexico, Arizona and California.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on herbaceous plants.

224. *Lasionycta impingens* (Walker, 1857)

Distribution: Yukon to northern Manitoba south to northern British Columbia and in the Rockies to Colorado.

Yukon records: 8, 16.

Biological information: Habitat WT: boggy tundra and alpine meadows; adults are diurnal in the Yukon, diurnal and nocturnal farther south.

225. *Lasionycta leucocycla* (Staudinger, 1857)‡

Distribution: Alaska to Newfoundland and Greenland south to New England, Colorado and Oregon; Eurasia.

Yukon records: 1–5, 8–11, 16.

Biological information: Habitat DT: dry rocky tundra and alpine meadows; adults are diurnal in the Yukon; some subspecies are diurnal and nocturnal (Lafontaine et al. 1986).

226. *Lasionycta luteola* (Smith, 1893)

Distribution: Yukon south to Washington and southern Alberta.

Yukon records: 16, 17.

Biological information: Habitat BM: dry conifer forests.

227. *Lasionycta perplexa* (Smith, 1888)

Distribution: Alaska to Yukon south to New Mexico and California; also in northern Quebec.

Yukon records: 17.

Biological information: Habitat BM: dry conifer forests.

228. *Lasionycta quadrilunata* (Grote, 1874)

Distribution: Colorado; disjunct population in Yukon and Alaska.

Yukon records: 16.

Biological information: Habitat BM: boggy alpine meadows; adults are diurnal.

229. *Lasionycta skraelingia* (Herrich-Schäffer, 1845)‡

Distribution: In North America known only from Yukon; Eurasia.

Yukon records: 8.

Biological information: Habitat WT: open boggy conifer forest; adults fly high among the trees at dusk.

230. *Lasionycta staudingeri* (Aurivillius, 1891)‡

Distribution: Alaska to Baffin Island (Northwest Territories) south to southern Yukon and southern Northwest Territories; disjunct in Colorado; Eurasia.

Yukon records: 2, 16.

Biological information: Habitat DT: dry gravelly tundra; adults are diurnal.

231. *Lasionycta taigata* Lafontaine, 1988

Distribution: Yukon to Newfoundland south to New England, northern Manitoba and western Alberta.

Yukon records: 9.

Biological information: Habitat B: peat bogs.

232. *Lasionycta uniformis* (Smith, 1893)

Distribution: Yukon south to southern British Columbia and Colorado.

Yukon records: 4.

Biological information: Habitat BM: conifer forests.

233. *Leucania insueta* Guenée, 1852

Distribution: Alaska to Newfoundland south to Virginia, New Mexico, Arizona and California.

Yukon records: 17.

Biological information: Habitat B: dry clearings and roadsides; larvae on grasses.

234. *Lithomoia germana* (Morrison, 1874)

Distribution: Alaska to Newfoundland south to Pennsylvania, Colorado and Oregon.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

235. *Luperina* sp. near *hedeni* (Graeser, 1888)

Distribution: Alaska to western Northwest Territories.

Yukon records: 4.

Biological information: Habitat DT: dry tundra; adults collected near *Rumex arcticus* Trautvetter, a probable larval hostplant.

236. *Luperina passer* (Guenée, 1852)

Distribution: Yukon to Newfoundland south to New Jersey, Arizona and Oregon.

Yukon records: 19.

Biological information: Habitat B: clearings and roadsides; larvae bore in roots of *Rumex*.

237. *Merolonche atlinensis* Barnes and Benjamin, 1927

Distribution: Yukon and northern British Columbia.

Yukon records: 8.

Biological information: Habitat DT: rocky scree slopes.

Taxonomic notes: Possibly conspecific with *Merolonche ursina* (Smith) of the Rocky Mountain region and Labrador.

238. *Mniotype tenera* (Smith, 1900)

Distribution: Alaska to Newfoundland south to New England, Montana and Oregon.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae recorded on *Abies*, *Tsuga* and Betulaceae.

239. *Oncocnemis phairi* McDunnough, 1927

Distribution: Yukon to central California.

Yukon records: 16.

Biological information: Habitat D: steppe slopes.

240. *Papestra biren* (Goeze, 1781)‡

Distribution: Yukon to Newfoundland south to Nova Scotia, Colorado and southern British Columbia; Eurasia.

Yukon records: 19.

Biological information: Habitat B: boreal forest; larvae recorded on *Abies*, *Larix*, *Alnus* and *Salix*; in Eurasia it feeds on various herbs and shrubs but has not been reported on conifers.

241. *Papestra cristifera* (Walker, 1858)

Distribution: Alaska to Newfoundland south to central Quebec, Colorado and Oregon.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

242. *Papestra quadrata* (Smith, 1891)

Distribution: Alaska to Newfoundland south to Nova Scotia, Arizona and California.

Yukon records: 8, 13, 19.

Biological information: Habitat B: boreal forest.

243. *Parabarrovia keelei* Gibson, 1920‡

Distribution: Yukon and Alaska; northeastern Siberia.

Yukon records: 2, 5, 9.

Biological information: Habitat DT: dry tundra dominated by fine gravelly rocks.

244. *Parabarrovia ogilviensis* Lafontaine, 1988

Distribution: Yukon. Endemic to dolomite areas of the Ogilvie Mountains (Lafontaine and Kononenko 1988).

Yukon records: 8.

Biological information: Habitat DT: white limestone barrens and scree at high elevations.

245. *Paradiarsia littoralis* (Packard, 1867)

Distribution: Yukon to Labrador south to Pennsylvania, New Mexico, Utah and northern California.

Yukon records: 4, 16.

Biological information: Habitat D, B: steppe slopes and dry open forest.

246. *Parastichtis suspecta* (Hübner, 1817)‡

Distribution: Alaska to Newfoundland south to North Carolina, Colorado and southern British Columbia; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on *Salix* and *Betula*.

247. *Platyperigea montana* (Bremer, 1861)‡

Distribution: Alaska to Ontario south to Pennsylvania, Kansas, New Mexico, Arizona and California; Eurasia.

Yukon records: 4, 8, 10, 17.

Biological information: Habitat B, D: dry open forest and steppe slopes; larvae on herbaceous plants.

248. *Plusia putnami* Grote, 1873‡

Distribution: Alaska to Newfoundland south to Pennsylvania, Colorado and northern California; Eurasia (Lafontaine and Poole 1991).

Yukon records: 17.

Biological information: Habitat B: damp grass and sedge meadows; larvae on grasses and sedges.

249. “*Polia*” *obscura* (Smith, 1888)

Distribution: Yukon to Quebec south to southern Ontario, Arizona and eastern British Columbia.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

Taxonomic notes: The generic assignment is provisional.

250. *Polia propodea* McCabe, 1980

Distribution: Yukon to Newfoundland south to Colorado and southern British Columbia.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest.

251. *Polia purpurissata* (Grote, 1864)

Distribution: Yukon to Nova Scotia south to New England, New York, New Mexico, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on a variety of shrubs, especially *Vaccinium*.

252. *Polia richardsoni* (Curtis, 1834)‡

Distribution: Alaska to Labrador and Greenland south to Quebec, northern Ontario and Colorado; Eurasia.

Yukon records: 1, 5, 8, 16.

Biological information: Habitat DT: dry tundra; adults are diurnal; larvae on herbs and *Salix*.

253. *Polia rogenhoferi* (Möschler, 1870)

Distribution: Alaska to Newfoundland south to New Brunswick, Colorado and northern British Columbia.

Yukon records: 8.

Biological information: Habitat B: boreal forest.

254. *Polychrysis esmeralda* (Oberthür, 1880)‡

Distribution: Alaska and Yukon south to southern Manitoba and southern Alberta; eastern Asia (Lafontaine and Poole 1991).

Yukon records: 4, 10.

Biological information: Habitat B: dry grassy clearings and roadsides; larvae on *Delphinium*.

255. *Protexarnis squalida* (Guenée, 1852)‡

Distribution: Alaska and Yukon south to South Dakota, Colorado and Washington; eastern Asia.

Yukon records: 4, 10, 17.

Biological information: Habitat D: steppe slopes.

256. *Protolampra rufipectus* (Morrison, 1875)

Distribution: Alaska to Newfoundland south to New Jersey, New Mexico, Arizona and California.

Yukon records: 4, 8, 10.

Biological information: Habitat B, D: dry, open boreal forest and steppe; larvae on Salicaceae and woody Rosaceae.

257. *Proxenus mendosa* McDunnough, 1927

Distribution: Alaska to Nova Scotia south to central Ontario and southern British Columbia.

Yukon records: 10.

Biological information: Habitat B: dry boreal forest.

258. *Rhyacia clemens* (Smith, 1890)

Distribution: Yukon south to Nebraska, Utah and central California.

Yukon records: 17.

Biological information: Habitat D: steppe slopes.

259. *Schinia persimilis* (Grote, 1873)

Distribution: Southern Alberta and Saskatchewan to Colorado and Utah; also Montana Mt. in southern Yukon and Steens Mt. in Oregon.

Yukon records: 16.

Biological information: Habitat BM: open boreal forest and alpine meadows; adults overwinter; larvae on Salicaceae.

260. *Scoliopteryx libatrix* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to Virginia and New Mexico; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest; adults overwinter; larvae on Salicaceae.

261. *Spaelotis clandestina* (Harris, 1841)

Distribution: Alaska to Newfoundland south to North Carolina, New Mexico, Arizona and California.

Yukon records: 10, 16, 17.

Biological information: Habitat B: boreal forest; larvae general feeders on woody and herbaceous plants.

262. *Sympistis funebris* (Hübner, [1809])‡

Distribution: Alaska to Labrador south to New Brunswick, Colorado and northern Washington; Eurasia.

Yukon records: 4, 5, 8, 13.

Biological information: Habitat WT: open peat bogs; adults are diurnal; larvae on *Vaccinium*.

263. *Sympistis heliophila* (Paykull, 1793)‡

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to eastern Quebec, northern Manitoba and northern British Columbia; Eurasia.

Yukon records: 4, 5, 8–11, 13, 16, 17.

Biological information: Habitat WT: wet tundra; adults are diurnal; larvae on *Empetrum*.

264. *Sympistis lapponica* (Thunberg, 1791)‡

Distribution: Alaska to Greenland south to Labrador, northern Quebec and southern Northwest Territories; Eurasia.

Yukon records: 2, 5, 8, 16.

Biological information: Habitat DT: dry tundra associated with small rocks and pebbles; adults are diurnal.

265. *Sympistis zetterstedti* (Staudinger, 1857)‡

Distribution: Alaska to Greenland south to Labrador, northern Quebec and Ontario, and southern Alberta and northern Washington; Eurasia.

Yukon records: 1, 2, 5, 8, 13, 16.

Biological information: Habitat DT: dry rocky tundra, especially boulder talus slopes; adults are diurnal; larvae on *Dryas*.

266. *Syngrapha alias* (Ottolengui, 1902)

Distribution: Alaska to Newfoundland south to North Carolina, New Mexico and northern California (Lafontaine and Poole 1991).

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on *Picea* and possibly other conifers.

267. *Syngrapha alticola* (Walker, 1858)

Distribution: Alaska to Newfoundland south in the west to Colorado and central California (Lafontaine and Poole 1991).

Yukon records: 1, 2, 8, 16, 17.

Biological information: Habitat WT: alpine tundra; adults are diurnal.

268. *Syngrapha borea* (Aurivillius, 1890)

Distribution: Alaska to western Northwest Territories south to southern Alberta and southern British Columbia; also in southern Greenland (Lafontaine and Poole 1991).

Yukon records: 4, 8, 10, 11, 13, 16.

Biological information: Habitat WT, BM: boggy tundra and wet conifer forests.

269. *Syngrapha diasema* (Boisduval, 1829)‡

Distribution: Alaska to Labrador south to northern Ontario and southern Alberta; Eurasia (Lafontaine and Poole 1991).

Yukon records: 8.

Biological information: Habitat WT, B: boggy tundra and northern boreal forests; adults are diurnal; larvae on dwarf birch.

270. *Syngrapha epigaea* (Grote, 1874)

Distribution: Yukon to Newfoundland south to Pennsylvania, Colorado and Oregon (Lafontaine and Poole 1991).

Yukon records: 10, 16.

Biological information: Habitat B: boreal forest and peat bogs; larvae on *Vaccinium*.

271. *Syngrapha ignea* (Grote, 1863)

Distribution: Alaska to Labrador south in the west to New Mexico, Utah and central California (Lafontaine and Poole 1991).

Yukon records: 1, 4, 8, 10, 16, 17.

Biological information: Habitat WT, B: shrub tundra and northern boreal forest; adults are diurnal and nocturnal; larvae on *Vaccinium* and *Salix*.

272. *Syngrapha interrogationis* (Linnaeus, 1758)‡

Distribution: Alaska to Labrador south in the west to southern Alberta; Eurasia (Lafontaine and Poole 1991).

Yukon records: 1, 4, 10, 13, 17.

Biological information: Habitat B, WT: northern boreal forest and shrub tundra; larvae on Ericaceae and dwarf birch.

273. *Syngrapha microgamma* (Hübner, [1823])‡

Distribution: Yukon to Newfoundland south to New England, the Great Lakes States and Colorado; Eurasia (Lafontaine and Poole 1991).

Yukon records: 10.

Biological information: Habitat WT, B: shrub tundra and peat bogs; adults are diurnal and nocturnal; larvae on Ericaceae and *Salix*.

274. *Syngrapha octoscripta* (Grote, 1874)

Distribution: Alaska to Newfoundland south to Pennsylvania, Ohio, North Dakota and southern British Columbia (Lafontaine and Poole 1991).

Yukon records: 8, 10, 13, 17.

Biological information: Habitat B: boreal forest; larvae on *Vaccinium*.

275. *Syngrapha parilis* (Hübner, [1809])‡

Distribution: Alaska to Greenland south to Labrador, northern Ontario and southern Alberta; Eurasia (Lafontaine and Poole 1991).

Yukon records: 5, 8, 16.

Biological information: Habitat WT: shrub tundra; adults are diurnal; larvae on *Salix* and *Vaccinium*.

276. *Syngrapha viridisigma* (Grote, 1874)

Distribution: Alaska to Newfoundland south to New England, Michigan, New Mexico, Arizona and Oregon (Lafontaine and Poole 1991).

Yukon records: 10, 13, 16, 17.

Biological information: Habitat B: boreal forest; larvae on conifers.

277. *Trichosilia beringiana* Lafontaine and Kononenko, 1986‡

Distribution: Yukon and Alaska; northeastern Siberia.

Yukon records: 8.

Biological information: Habitat DT: dry grassy tundra; adults are diurnal.

278. *Trichosilia boreana* Lafontaine, 1986‡

Distribution: Alaska to Hudson Bay (Northwest Territories); northeastern Siberia.

Yukon records: 2, 5.

Biological information: Habitat DT: stabilized gravelly scree; adults are diurnal.

279. *Trichosilia mollis* (Walker, 1857)

Distribution: Yukon to Newfoundland south to New England, Colorado and southern British Columbia.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest.

280. *Trichosilia nigrita* (Graeser, 1892)‡

Distribution: Yukon and Alaska south to southern Alberta; Siberia.

Yukon records: 8, 10, 16, 17.

Biological information: Habitat BM: open conifer forests.

281. *Trichosilia woodiana* Lafontaine, 1986

Distribution: Yukon and western Northwest Territories.

Yukon records: 2, 5.

Biological information: Habitat DT: loose gravelly scree; adults are diurnal.

282. *Trichosilia* sp. near *woodiana* Lafontaine, 1986

Distribution: Northern Yukon.

Yukon records: 5.

Biological information: Habitat DT: stabilized gravelly scree; adults are diurnal.

283. *Xestia aequaeva* (Benjamin, 1933)‡ (Frontispiece, lower right)

Distribution: Yukon and Alaska; northern Siberia.

Yukon records: 5, 8, 16.

Biological information: Habitat DT: dry tundra; adults are diurnal, females flightless.

284. *Xestia alaskae* (Grote, 1876)‡

Distribution: Yukon and Alaska; northern Siberia.

Yukon records: 2, 8.

Biological information: Habitat DT, WT: dry and moist tundra; adults are diurnal, females flightless.

285. *Xestia albuncula* (Eversmann, 1851)‡

Distribution: Alaska to western Northwest Territories south to southern Yukon; Russia east of Ural Mountains, Japan.

Yukon records: 4, 8, 10, 13, 16.

Biological information: Habitat BM, WT: open conifer forests and shrub tundra; adults biennial, flying in odd-numbered years in Yukon; larvae on *Vaccinium*.

286. *Xestia atrata* (Morrison, 1874)‡

Distribution: Alaska to Labrador south to New England, Colorado and southern British Columbia; eastern Siberia.

Yukon records: 4, 10, 16, 17.

Biological information: Habitat B: northern boreal forest; adults biennial, flying in odd-numbered years in Yukon.

287. *Xestia bryanti* (Benjamin, 1933)

Distribution: Alaska to western Northwest Territories south to northern British Columbia.

Yukon records: 2, 5, 8, 16.

Biological information: Habitat DT: dry tundra; adults diurnal.

288. *Xestia c-nigrum* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to Virginia and Mexico; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest in Yukon; larvae on various herbs and occasionally fruit trees.

289. *Xestia fabulosa* (Ferguson, 1965)

Distribution: Yukon to Newfoundland south to New England, Colorado and northern Washington.

Yukon records: 8.

Biological information: Habitat B: boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae on *Picea*.

290. *Xestia fergusonii* Lafontaine, 1983‡

Distribution: Yukon and Alaska; northeastern Siberia.

Yukon records: 17.

Biological information: Habitat DT: dry tundra; adults diurnal.

291. *Xestia homogena* (McDunnough, 1921)

Distribution: Alaska to Newfoundland south to New England, Colorado and northern Washington.

Yukon records: 8, 10, 16, 17.

Biological information: Habitat B: boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae on *Abies* and *Tsuga*.

292. *Xestia imperita* (Hübner, [1831])

Distribution: Yukon to Newfoundland south to New England, Colorado and southern British Columbia.

Yukon records: 16, 17.

Biological information: Habitat B: boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae on *Vaccinium*.

293. *Xestia intermedia* (Kononenko, 1981)‡

Distribution: Yukon and Alaska; northeastern Siberia.

Yukon records: 5, 8, 13.

Biological information: Habitat DT: dry rocky tundra; adults are diurnal.

294. *Xestia kolymae* (Herz, 1903)‡

Distribution: Yukon; eastern Siberia.

Yukon records: 10, 17.

Biological information: Habitat WT: boggy tundra; adults biennial, flying in odd-numbered years in Yukon.

295. *Xestia* sp. near *laetabilis* (Zetterstedt, 1839)

Distribution: Yukon to Labrador south in the west to southern Alberta.

Yukon records: 4, 8, 10, 16.

Biological information: Habitat B: boreal forest; adults biennial, flying in odd-numbered years in Yukon.

296. *Xestia liquidaria* (Eversmann, 1848)‡

Distribution: Northern Yukon and Alaska; northeastern Siberia.

Yukon records: 1, 2.

Biological information: Habitat DT: dry tundra; adults are diurnal, females flightless.

297. *Xestia lorezi* (Staudinger, 1891)‡

Distribution: Yukon and Alaska; Eurasia.

Yukon records: 8.

Biological information: Habitat WT: boggy tundra; adults biennial, flying in odd-numbered years in Yukon; larvae on *Salix*, *Vaccinium*, and herbs (Ahola and Silvonen 1981).

298. *Xestia lyngei* (Rebel, 1923)‡

Distribution: Yukon and Alaska; northern Eurasia.

Yukon records: 1, 2, 8, 9, 16.

Biological information: Habitat DT: dry tundra; adults are diurnal.

299. *Xestia maculata* (Smith, 1893)

Distribution: Yukon south to Wyoming and northern Washington.

Yukon records: 16.

Biological information: Habitat DT: rocky tundra; adults are diurnal.

300. *Xestia oblata* (Morrison, 1875)

Distribution: Yukon to Newfoundland south to New England, Colorado and northern California.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

301. *Xestia okakensis* (Packard, 1867)‡

Distribution: Alaska to Labrador south to New England, northern Manitoba and northern British Columbia; central Siberia.

Yukon records: 8.

Biological information: Habitat WT: boggy tundra; adults biennial, flying in odd-numbered years in Yukon.

302. *Xestia* sp. near *penthima* (Erschoff, 1870)

Distribution: Yukon.

Yukon records: 2, 8.

Biological information: Habitat DT: boulder talus slopes; adults are diurnal.

303. *Xestia perquiritata* (Morrison, 1874)

Distribution: Yukon to Newfoundland south to New England, Colorado and Oregon; disjunct in North Carolina.

Yukon records: 8, 10.

Biological information: Habitat B: boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae on conifers, especially *Abies* and *Picea*.

304. *Xestia quieta* (Hübner, [1813])‡

Distribution: Alaska to Baffin Island (Northwest Territories); Eurasia.

Yukon records: 1.

Biological information: Habitat DT: dry tundra; adults are diurnal.

305. *Xestia smithii* (Snellen, 1896)

Distribution: Alaska to Newfoundland south to North Carolina, New Mexico and northern California.

Yukon records: 4, 10.

Biological information: Habitat B: boreal forest in Yukon; larvae on various herbs and deciduous shrubs.

306. *Xestia speciosa* (Hübner, 1813)‡

Distribution: Alaska to Hudson Bay (Northwest Territories) south to northern Manitoba, Colorado and Washington; Eurasia.

Yukon records: 4, 6, 8, 10, 11.

Biological information: Habitat BM, WT: boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae mostly on *Vaccinium*.

307. *Xestia* sp. near *staudingeri* (Möschler, 1862)‡

Distribution: Alaska to Hudson Bay (Northwest Territories); northeastern Siberia.

Yukon records: 2.

Biological information: Habitat DT: dry gravelly tundra.

308. *Xestia tecta* (Hübner, [1808])‡

Distribution: Alaska to Labrador south to northern Manitoba and southern Yukon; Eurasia.

Yukon records: 4, 8, 13, 16.

Biological information: Habitat WT, B: shrub tundra and northern boreal forest; adults biennial, flying in odd-numbered years in Yukon; larvae on *Vaccinium* and dwarf birch.

309. *Xestia thula* Lafontaine and Kononenko, 1983‡

Distribution: Northern Yukon to Baffin Island (Northwest Territories); northern Siberia.

Yukon records: 1.

Biological information: Habitat DT: dry tundra; adults are diurnal.

310. *Xestia ursae* (McDunnough, 1940)‡

Distribution: Yukon to Hudson Bay (Northwest Territories); eastern Siberia.

Yukon records: 4, 8, 10.

Biological information: Habitat WT: shrub tundra; adults biennial, flying in odd-numbered years in Yukon; females flightless.

311. *Xestia wockei* (Möschler, 1862)‡

Distribution: Yukon and Alaska; Labrador and northern Quebec; eastern Siberia.

Yukon records: 5, 8, 16.

Biological information: Habitat WT: boggy tundra; adults biennial, flying in odd-numbered years in Yukon.

Taxonomic notes: Yukon and Alaska specimens are smaller and grayer than those from elsewhere.

312. *Xestia woodi* Lafontaine and Kononenko, 1983

Distribution: Northern Alaska to northwestern Northwest Territories.

Yukon records: 2, 5.

Biological information: Habitat DT: fine gravelly scree slopes; adults are diurnal.

313. *Xylina thoracica* (Putnam-Cramer, 1886)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae mostly on Salicaceae and Betulaceae.

Family Notodontidae314. *Clostera brucei* (Hy. Edwards, 1885)

Distribution: Yukon to Quebec south to New Jersey and California.

Yukon records: 4, 10, 17.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

315. *Gluphisia septentrionis* Walker, 1855

Distribution: Newfoundland to Alaska south to Georgia, Arizona and California.

Yukon records: 11, 19.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

316. *Notodonta simplaria* Graef, 1881

Distribution: Yukon to Newfoundland south to New York and southern British Columbia.

Yukon records: 6.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

Superfamily Papilionoidea**Family Lycaenidae**317. *Agriades glandon* (de Prunner, 1798)‡

Distribution: Alaska to Newfoundland south to central Quebec, New Mexico, Arizona and California; Eurasia (Scott 1986).

Yukon records: 1–5, 8, 10–13, 16, 17.

Biological information: Habitat DT: dry rocky tundra; larvae on Fabaceae and Saxifragaceae, especially flowers.

318. *Callophrys augustinus* (Westwood, 1852)

Distribution: Alaska to Newfoundland south to Georgia and Mexico (Scott 1986).

Yukon records: 6, 10.

Biological information: Habitat B: forest clearings and peat bogs; larvae on Ericaceae.

319. *Callophrys polia* Cook and Watson, 1907

Distribution: Alaska to Nova Scotia south to Virginia, New Mexico and Oregon (Scott 1986).

Yukon records: 4, 10, 11, 16, 17.

Biological information: Habitat B: forest clearings and boggy areas; larvae on *Arctostaphylos*.

320. *Celastrina ladon* (Cramer, [1780])

Distribution: Alaska to Newfoundland south to Virginia and Mexico (Scott 1986).

Yukon records: 2, 4–6, 8–11, 16, 17, 19.

Biological information: Habitat B, WT: forest margins and shrub tundra in Yukon; larvae mostly on shrubs, especially Rosaceae and Cornaceae.

321. *Everes amyntula* (Boisduval, 1852)

Distribution: Alaska to Ontario south to New Mexico, Arizona, and California; disjunct in eastern Quebec (Scott 1986).

Yukon records: 2, 4, 5, 6, 8–12, 16–18.

Biological information: Habitat B: forest clearings and dry open areas; larvae on Fabaceae.

322. *Glaucopsyche lygdamus* (Doubleday, 1841)

Distribution: Alaska to Newfoundland south to New York, New Mexico, Arizona, and California; disjunct in eastern United States (Scott 1986).

Yukon records: 2–6, 8–13, 15–17, 19.

Biological information: Habitat B: forest clearings and damp open areas; larvae on Fabaceae.

323. *Lycaeides idas* (Linnaeus, 1761)‡

Distribution: Alaska to Newfoundland south to central Ontario, Colorado and California (Scott 1986); Eurasia.

Yukon records: 1, 2, 4, 5, 8–19.

Biological information: Habitat B, WT: forest clearings, meadows and tundra; larvae on Fabaceae.

324. *Lycaena dorcas* Kirby, 1837

Distribution: Alaska to Newfoundland south to New England, Ohio, and New Mexico (Ferris 1977).

Yukon records: 4, 5, 8–13, 15–18.

Biological information: Habitat B: forest clearings and damp meadows; larvae on *Potentilla fruticosa* L.

Taxonomic notes: Beringian and some Rocky Mountain populations appear intermediate between *L. dorcas* and *L. helloides* (Boisduval, 1852) and have been assigned to the latter species by some authors (e.g. Scott 1986).

325. *Lycaena mariposa* (Reakirt, 1866)

Distribution: Yukon south to Wyoming and California (Scott 1986).

Yukon records: 16, 19.

Biological information: Habitat BM: boggy forest clearings; larvae on *Vaccinium*.

326. *Lycaena phlaeas* (Linnaeus, 1761)‡

Distribution: Alaska to Baffin Island south to northern Quebec, southern Northwest Territories and in west to Wyoming and California; disjunct in southeastern Canada and eastern United States; Eurasia (Scott 1986).

Yukon records: 8, 10, 11, 16, 17.

Biological information: Habitat DT: dry tundra in Yukon; larvae on Polygonaceae.

327. *Plebejus saepiolus* (Boisduval, 1852)

Distribution: Alaska to Nova Scotia and Labrador south to New England, Wisconsin, New Mexico, Arizona and California (Scott 1986).

Yukon records: 2, 4, 5, 8–13, 16, 17, 19.

Biological information: Habitat B: damp meadows and roadsides; larvae on Fabaceae.

328. *Vacciniina optilete* (Knoch, 1781)‡

Distribution: Alaska to Hudson Bay, Manitoba south to central Manitoba and northern British Columbia; Eurasia (Scott 1986).

Yukon records: 1–5, 8–13, 15–17.

Biological information: Habitat WT, B: wet tundra and peat bogs; larvae on *Vaccinium*.

Family Nymphalidae

329. *Boloria astarte* (Doubleday and Hewitson, 1847)‡

Distribution: Alaska to western Northwest Territories south to Montana and Washington; northeastern Asia (Scott 1986).

Yukon records: 2–5, 8, 10, 11, 13, 16.

Biological information: Habitat DT: rocky scree slopes; larvae on *Saxifraga bronchialis*.

330. *Boloria bellona* (Fabricius, 1775)

Distribution: Yukon to Labrador south to North Carolina, Colorado and Oregon (Scott 1986).

Yukon records: 11, 15, 19.

Biological information: Habitat B: wet meadows; larvae on *Viola*.

331. *Boloria chariclea* (Schneider, 1794)‡

Distribution: Alaska to Greenland south to New England, northern Minnesota and New Mexico; Eurasia (Scott 1986).

Yukon records: 1–18.

Biological information: Habitat WT, B: wet tundra (subspecies *arctica* (Zetterstedt, [1839])); boreal forest and roadsides (subspecies *grandis* (Barnes and McDunnough, 1916)).

Taxonomic notes: *Boloria titania* (Esper, 1793) is a species that occurs in Europe and was formerly thought to also occur throughout the boreal zone in North America. What had been called *titania* in North America (subspecies *grandis* in Yukon), is now considered to be a boreal zone subspecies of *chariclea*; they are usually separated from subspecies *arctica* by habitat but hybridize where they occur together.

332. *Boloria epithore* (Edwards, 1864)

Distribution: Yukon south to Montana and California (Scott 1986).

Yukon records: 16.

Biological information: Habitat BM: damp meadows and clearings; larvae on *Viola*.

333. *Boloria eunomia* (Esper, 1787)‡

Distribution: Alaska to Newfoundland south to New England, northern Minnesota, and Colorado; Eurasia (Scott 1986).

Yukon records: 1–6, 8–13, 16, 17.

Biological information: Habitat B, WT: peat bogs and shrub tundra; larvae on *Salix*, *Polygonum* and *Viola*.

Taxonomic notes: Adults are silver spotted on the underside in most of North America but are yellow spotted in northern Yukon, Alaska and Eurasia.

334. *Boloria freija* (Thunberg, 1791)‡

Distribution: Alaska to Newfoundland and Baffin Island (Northwest Territories) south to central Quebec, northern Minnesota and northern New Mexico; Eurasia (Scott 1986).

Yukon records: 2, 4–6, 8–11, 15–18.

Biological information: Habitat WT, B: boggy tundra and peat bogs; larvae on Ericaceae.

335. *Boloria frigga* (Thunberg, 1791)‡

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to northern Quebec, northern Minnesota, Colorado and southern British Columbia; Eurasia (Scott 1986).

Yukon records: 1–6, 8–12, 15–17.

Biological information: Habitat B, WT: peat bogs and shrub tundra; larvae mostly on *Salix* and *Betula*.

336. *Boloria improba* (Butler, 1877)‡

Distribution: Alaska to Baffin Island (Northwest Territories) south to southern Northwest Territories, and Alberta; disjunct in Wyoming and Colorado; Eurasia (Scott 1986).

Yukon records: 1–3, 5, 8–11, 15–17.

Biological information: Habitat WT: wet tundra; larvae on prostrate species of *Salix*.

337. *Boloria napaea* (Hoffmannsegg, 1804)‡

Distribution: Alaska to west coast of Hudson Bay south to west-central Alberta; disjunct in Wyoming; Eurasia (Scott 1986).

Yukon records: 1, 2, 5, 8, 11, 16, 17.

Biological information: Habitat WT: boggy tundra; larvae on *Polygonum*.

338. *Boloria natazhati* (Gibson, 1920)‡ (Frontispiece, upper right)

Distribution: Eastern Alaska to Victoria Island (Northwest Territories) south to northern British Columbia; northeastern Siberia (Troubridge, pers. comm.).

Yukon records: 5, 16.

Biological information: Habitat DT: rocky tundra barrens.

Taxonomic notes: Long considered to be a form of *B. freija*, *B. natazhati* is now known to be a distinct species occurring in a very different habitat but occasionally flying with *freija* (Troubridge and Wood 1990).

339. *Boloria polaris* (Boisduval, 1828)‡

Distribution: Alaska to Labrador and Greenland south to northern Quebec, northern Manitoba, and northern British Columbia; Eurasia.

Yukon records: 1–6, 8–11, 13, 15, 16.

Biological information: Habitat DT: dry tundra; larvae on *Dryas* and *Vaccinium*.

340. *Boloria selene* ([Denis and Schiffermüller], 1775)‡

Distribution: Alaska to Newfoundland south to Virginia, New Mexico, Utah and Oregon; Eurasia (Scott 1986).

Yukon records: 9, 17.

Biological information: Habitat B, WT: moist meadows and bog margins; larvae on *Viola*.

341. *Coenonympha tullia* (Müller, 1764)‡

Distribution: Alaska to Newfoundland south to New Jersey, New Mexico, Arizona and California; Eurasia (Scott 1986).

Yukon records: 2, 5, 8, 10, 11, 16, 17.

Biological information: Habitat B: meadows and grassy roadsides; larvae on grasses.

342. *Erebia anyuica* Kurentzov, 1966‡

Distribution: Yukon and Alaska; eastern Siberia (Scott 1986).

Yukon records: 2, 5, 8.

Biological information: Habitat DT: gravelly scree slopes.

Taxonomic notes: This species has recently been synonymized with *Erebia occulta* Roos and Kimmich, 1983.

343. *Erebia disa* (Thunberg, 1791)‡

Distribution: Alaska to Bathurst Inlet, Northwest Territories, south to central Yukon; Asia.

Yukon records: 2, 5.

Biological information: Habitat WT: wet shrub tundra; adults fly in open tundra, usually with scattered stunted spruce nearby.

Taxonomic notes: This species and *manicus* have been treated as the same species until recently. Adults have the underside of the forewing dark brown dusted with gray, the basal area of the hindwing underside is almost as light as the postmedian band and much paler than the dark median band, and the saccus spine in the male genitalia is short and triangular, about as long as its basal width.

344. *Erebia discoidalis* (Kirby, 1837)‡

Distribution: Alaska to Quebec south to northern Minnesota, North Dakota and Montana; eastern Asia (Scott 1986).

Yukon records: 1–6, 8, 10, 11, 12, 17.

Biological information: Habitat D, DT: dry grassy prairie and tundra; larvae on grasses, mainly *Poa*.

345. *Erebia epipsodea* Butler, 1868

Distribution: Alaska to Saskatchewan south to New Mexico, Idaho and Oregon (Scott 1986).

Yukon records: 4, 10, 11, 16, 17.

Biological information: Habitat BM, B: moist grassy meadows.

346. *Erebia fasciata* Butler, 1868‡

Distribution: Alaska to Hudson Bay, Northwest Territories, south to southern Northwest Territories and southern Yukon; eastern Asia (Scott 1986).

Yukon records: 1–6, 8, 10, 13, 16, 17.

Biological information: Habitat WT: wet sedge tundra.

347. *Erebia lafontainei* Troubridge and Philip, 1983

Distribution: Alaska to western Northwest Territories south to southern Yukon (Scott 1986).

Yukon records: 2, 5, 8, 13, 16.

Biological information: Habitat WT: wet sedge tundra.

Taxonomic notes: Closely related to *Erebia kozhantshikovi* Sheljuzhko, 1925 and treated as a subspecies of it by Scott (1986).

348. *Erebia mackinleyensis* Gunder, 1932‡

Distribution: Alaska to western Northwest Territories; eastern Asia.

Yukon records: 2, 5, 8, 16.

Biological information: Habitat DT: rocky scree slopes.

Taxonomic notes: This species was until recently treated as a subspecies of the Rocky Mountain species *E. magdalena* Strecker, 1880. The 2 species were separated by Hilchie (1990). True *E. magdalena* occurs north in British Columbia to Stone Mountain Provincial Park and may well occur in the Mackenzie Mountains in eastern Yukon.

349. *Erebia mancinus* Doubleday and Hewitson, [1849]

Distribution: Alaska to Labrador south to central Quebec, northern Minnesota and southern Alberta.

Yukon records: 3, 5, 6, 8–11, 15–18.

Biological information: Habitat B: spruce bogs; adults commonly rest on tree trunks.

Taxonomic notes: This species was formerly confused with *E. disa*. Adults have the reddish flush on the underside of the forewing, the basal area of the hindwing underside is almost as dark as the median band, and the saccus spine in the male genitalia is long, about 2× its basal width.

350. *Erebia rossii* (Curtis, 1835)‡

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to central Manitoba and northern British Columbia; eastern Siberia (Scott 1986).

Yukon records: 1–6, 8, 11, 15, 16.

Biological information: Habitat WT: wet sedge tundra; larvae on *Carex*.

351. *Erebia theano* (Tauscher, 1809)‡

Distribution: Alaska to northern Manitoba south to northern British Columbia; disjunct in Alberta, Montana, Wyoming and Colorado; Siberia (Scott 1986).

Yukon records: 2, 8, 10, 13, 16, 17.

Biological information: Habitat WT: wet grassy tundra.

352. *Erebia youngi* Holland, 1900

Distribution: Alaska to western Northwest Territories south to northern British Columbia (Scott 1986).

Yukon records: 1–5, 8, 13, 16.

Biological information: Habitat DT: dry tundra.

Taxonomic notes: Closely related to *Erebia dabanensis* Erschoff, 1871 and treated as a subspecies of it by Scott (1986).

353. *Euphydryas chalcedona* (Doubleday, [1847])

Distribution: Yukon and Alaska south to New Mexico, Arizona and Oregon (Scott 1986).

Yukon records: 10, 11, 12, 17, 19.

Biological information: Habitat D: steppe slopes; larvae mostly on Scrophulariaceae.

Taxonomic notes: The Yukon subspecies, *E. c. anicia* (Doubleday and Hewitson, [1848]), is treated as a separate species by some authors; it is largely a Rocky Mountain taxon differing from the more western *chalcedona* by genitalia differences but the 2 hybridize extensively in southern British Columbia where their ranges come together.

354. *Limenitis arthemis* (Drury, [1773])

Distribution: Alaska to Newfoundland south to Florida, Texas and Arizona (Scott 1986).

Yukon records: 4, 5, 6, 10, 11, 16, 17, 19.

Biological information: Habitat B: deciduous woodlands and roadsides; larvae mostly on Salicaceae and Betulaceae.

355. *Nymphalis antiopa* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to Florida and Mexico; Eurasia (Scott 1986).

Yukon records: 2, 4, 6, 8–12, 15–17, 19.

Biological information: Habitat B: boreal forest; larvae on deciduous trees, especially Salicaceae and Betulaceae.

356. *Nymphalis milberti* (Godart, [1819])

Distribution: Newfoundland to Alaska south to North Carolina, New Mexico, Arizona and California (Scott 1986).

Yukon records: 10.

Biological information: Habitat B: clearings and roadsides; larvae on *Urtica*.

357. *Nymphalis vaualbum* (Denis and Schiffermüller, 1775)‡

Distribution: Alaska to Newfoundland south to North Carolina, Colorado and Washington; Eurasia (Scott 1986).

Yukon records: 10, 15.

Biological information: Habitat B: boreal forest; larvae mostly on Salicaceae and Betulaceae.

358. *Oeneis alpina* Kurentzov, 1970‡ (Frontispiece, upper left)

Distribution: Alaska to central Northwest Territories; eastern Siberia (Scott 1986).

Yukon records: 2, 5, 6, 8.

Biological information: Habitat WT, DT: breeds in wet grassy tundra, males hilltop on dry tundra ridges.

Taxonomic notes: We have examined the holotype of *O. alpina* and confirm Scott's (1986) synonymy of *alpina* and *excubitor* Troubridge, Philip, Scott and Shepard, 1982.

359. *Oeneis bore* (Schneider, 1792)‡

Distribution: Alaska to Labrador and Baffin Island south to Gaspé Peninsula, Quebec and northern British Columbia; disjunct in the Rocky Mountains to Colorado; Eurasia (Scott 1986).

Yukon records: 1–6, 8–13, 15–17.

Biological information: Habitat WT: boggy tundra; larvae on grasses and sedges.

Taxonomic notes: Field work by C.D. Ferris (pers. comm.) suggests that 2 species may be present under this name in Yukon.

360. *Oeneis chryxus* (Doubleday and Hewitson, [1849])

Distribution: Alaska to Labrador and Baffin Island south to Gaspé Peninsula, Quebec and northern British Columbia; disjunct in the Rocky Mountains to Colorado; Eurasia (Scott 1986).

Yukon records: 10–12, 16, 17, 19.

Biological information: Habitat B, D: dry open barrens and subarctic steppe; larvae on grasses.

361. *Oeneis jutta* (Hübner, [1806])‡

Distribution: Alaska to Newfoundland south to New England, Colorado and southern British Columbia; Eurasia (Scott 1986).

Yukon records: 4–6, 10–13, 15–17.

Biological information: Habitat B: open spruce bogs; larvae on sedges.

362. *Oeneis melissa* (Fabricius, 1775)‡

Distribution: Alaska to Labrador and Baffin Island; disjunct in Gaspé Peninsula, Quebec, New Hampshire, and in the Rocky Mountains to New Mexico; Eurasia (Scott 1986).

Yukon records: 2–6, 8–13, 15, 16.

Biological information: Habitat DT: dry rocky tundra; larvae on grasses and sedges.

363. *Oeneis polixenes* (Fabricius, 1775)‡

Distribution: Alaska to Labrador and Baffin Island; disjunct in Gaspé Peninsula, Quebec, New Hampshire, and in the Rocky Mountains to New Mexico; Eurasia (Scott 1986).

Yukon records: 1–3, 5, 6, 8–10, 15, 16.

Biological information: Habitat DT: dry grassy tundra; larvae on grasses and sedges.

364. *Oeneis rosovi* Kurentzov, 1970‡

Distribution: Yukon and Alaska south to northern British Columbia; eastern Siberia.

Yukon records: 6, 8, 10, 11.

Biological information: Habitat BM: spruce bogs.

Taxonomic notes: Until recently this species was known as *Oeneis philipi* Troubridge, 1988.

365. *Oeneis uhleri* (Reakirt, 1866)

Distribution: Yukon and northeastern Alaska south to Minnesota, New Mexico and Idaho (Scott 1986).

Yukon records: 2, 5, 8, 12, 13, 16, 17.

Biological information: Habitat D, DT: steppe slopes and dry grassy tundra.

366. *Phyciodes cocyta* (Cramer, [1777])

Distribution: Yukon to Newfoundland south to Virginia, New Mexico, Arizona and Washington (Scott 1986).

Yukon records: 8, 16.

Biological information: Habitat B: damp forest clearings and roadsides; larvae on *Aster*.

367. *Phyciodes pratensis* (Behr, 1863)

Distribution: Yukon and Alaska south to New Mexico, Arizona and California (Scott 1986).

Yukon records: 4, 8–12, 16, 17, 19.

Biological information: Habitat D, BM: steppe slopes and forest clearings; larvae on *Aster*.

368. *Polygonia faunus* (Edwards, 1862)

Distribution: Alaska to Newfoundland south to Georgia, New Mexico, Arizona and California (Scott 1986).

Yukon records: 2, 4, 5, 8, 10, 11, 15–17.

Biological information: Habitat B: boreal forest clearings; larvae mostly on Salicaceae and Betulaceae.

369. *Polygonia gracilis* (Grote and Robinson, 1867)

Distribution: Alaska to Labrador south to New England, New Mexico, Arizona and California (Scott 1986).

Yukon records: 2, 4, 5, 8, 10, 11, 16, 17.

Biological information: Habitat B: boreal forest clearings; larvae on *Ribes*.

370. *Polygonia oreas* (Edwards, 1869)

Distribution: Yukon south to Colorado, Utah and California (Scott 1986).

Yukon records: 10.

Biological information: Habitat BM: boreal forest clearings; larvae on *Ribes*.

371. *Polygonia satyrus* (Edwards, 1869)

Distribution: Yukon to Newfoundland south to New England, New Mexico, Arizona and California (Scott 1986).

Yukon records: 10.

Biological information: Habitat B: boreal forest clearings; larvae mostly on *Urtica*.

372. *Speyeria hesperis* (Edwards, 1864)

Distribution: Alaska to Manitoba south to New Mexico, Arizona and California (Bird et al. 1995).

Yukon records: 10, 11, 16, 19.

Biological information: Habitat B: forest clearings and roadsides; larvae on *Viola*.

Taxonomic notes: Formerly considered to be a subspecies of *Speyeria atlantis*, this species was shown to be a distinct species by Bird et al. (1995) under the name *Speyeria electa* (Edwards, 1878) which is now treated a northern prairie subspecies of *S. hesperis*.

373. *Speyeria mormonia* (Boisduval, 1869)

Distribution: Alaska to western Northwest Territories south to New Mexico, Arizona and California (Scott 1986).

Yukon records: 10, 11, 12, 17.

Biological information: Habitat D: steppe meadows; larvae on *Viola*.

374. *Vanessa atalanta* (Linnaeus, 1758)‡

Distribution: Northern British Columbia to Newfoundland south to Florida and Central America; strays northward to Alaska, Yukon and Iceland; also in Eurasia and North Africa; introduced into other areas (Scott 1986).

Yukon records: 15, 16.

Biological information: Habitat B: clearings and roadsides; larvae on Urticaceae.

375. *Vanessa cardui* (Linnaeus, 1758)‡

Distribution: Yukon and Northwest Territories south to Florida and South America; also Eurasia, Africa and Australia (Scott 1986).

Yukon records: 10, 17.

Biological information: Habitat B zone migrant: clearings and roadsides; larvae on Asteraceae; the species migrates north into Canada each summer from southern United States and Mexico.

Family Papilionidae**376. *Papilio machaon* Linnaeus, 1758‡**

Distribution: Alaska to central Quebec south to New Mexico, Arizona and California; Eurasia (Scott 1986).

Yukon records: 2–6, 8–13, 15–17.

Biological information: Habitat B, D, DT: boreal forest, steppe slopes and rocky tundra; adult males commonly congregate on hilltops; larvae on Asteraceae, usually *Artemisia* in North America and eastern Siberia.

377. *Papilio canadensis* Rothschild and Jordan, 1906

Distribution: Alaska to Newfoundland south to New England, New York, Montana and southern British Columbia (Scott 1986).

Yukon records: 2, 4–6, 8–12, 15–17, 19.

Biological information: Habitat B: open boreal forest; larvae mostly on Salicaceae and Betulaceae.

378. *Parnassius eversmanni* Ménétriés, 1849‡

Distribution: Yukon and Alaska south to central British Columbia; eastern Siberia (Scott 1986).

Yukon records: 2, 5, 8–11, 13, 15–17.

Biological information: Habitat WT: boggy tundra; larvae on *Corydalis*.

379. *Parnassius phoebus* (Fabricius, 1793)‡

Distribution: Yukon and Alaska; Eurasia.

Yukon records: 8, 12.

Biological information: Habitat DT: dry grassy slopes; larvae on *Sedum rosea* (L.) Scop. in Yukon.

380. *Parnassius smintheus* Doubleday, [1847]

Distribution: Yukon south to New Mexico, Arizona and northern California.

Yukon records: 12, 16, 17.

Biological information: Habitat D: steppe slopes; larvae on *Sedum*.

Taxonomic notes: Recently separated from *Parnassius phoebus* as a distinct species by Shepard et al. (1994), *Parnassius smintheus* occurs at lower elevations in steppe habitat in Yukon with *Parnassius phoebus* occurring at higher elevations.

Family Pieridae**381. *Anthocaris sara* Lucas, 1852**

Distribution: Southwestern Yukon and Alaska southward on the West Coast to northern Mexico.

Yukon records: 17.

Biological information: Habitat D: dry steppe; larvae on Brassicaceae.

382. *Colias christina* Edwards, 1863

Distribution: Alaska to western Northwest Territories south to South Dakota, Wyoming and northern British Columbia (Scott 1986).

Yukon records: 9–12, 15–17.

Biological information: Habitat D, B: steppe slopes and grassy tundra; larvae on Fabaceae, especially *Hedysarum* in Yukon.

383. *Colias canadensis* Ferris, 1982

Distribution: Alaska to western Northwest Territories southward to western Alberta and northern British Columbia.

Yukon records: 2–17.

Biological information: Habitat WT, B: shrubby tundra and open taiga; larvae on Fabaceae.

Taxonomic notes: Possibly a southern subspecies of *Colias tyche* but we have collected the 2 species occurring together in the British Mountains without any evidence of hybridization or intermediate forms.

384. *Colias gigantea* Strecker, 1900

Distribution: Alaska to northern Ontario south to Minnesota, Wyoming and Oregon (Scott 1986).

Yukon records: 2, 4, 5, 8–11, 15–17.

Biological information: Habitat B, WT: willow bogs and shrub tundra; larvae on *Salix*.

385. *Colias hecla* Lefèbvre, 1836‡

Distribution: Alaska to Labrador and Greenland south to northern Manitoba and northern British Columbia; Eurasia (Scott 1986).

Yukon records: 1–6, 8–13, 15–17.

Biological information: Habitat DT: dry rich tundra; larvae on Fabaceae.

386. *Colias nastes* Boisduval, [1834]‡

Distribution: Alaska to Labrador and Greenland south to northern Manitoba and southern British Columbia; Eurasia (Scott 1986).

Yukon records: 1–6, 8, 16, 17.

Biological information: Habitat DT: dry rocky tundra; larvae on Fabaceae.

387. *Colias palaeno* (Linnaeus, 1761)‡

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to northern Ontario, central Alberta and northern British Columbia; Eurasia (Scott 1986).

Yukon records: 1–6, 8–17, 19.

Biological information: Habitat WT: boggy tundra and stream valleys; larvae on *Vaccinium*.

388. *Colias pelidne* Boisduval and LeConte, 1829

Distribution: Alaska to Newfoundland and Baffin Island (Northwest Territories) south to northern Ontario, Wyoming and Idaho (Scott 1986).

Yukon records: 2, 8.

Biological information: Habitat WT: boggy and shrub tundra; larvae on *Vaccinium*.

389. *Colias philodice* Godart, [1819]

Distribution: Alaska to Newfoundland south to Florida and Mexico (Scott 1986).

Yukon records: 2, 4, 5, 8–13, 15–17, 19.

Biological information: Habitat B: forests clearings and meadows; larvae on Fabaceae, especially *Trifolium*.

390. *Colias tyche* (Böber, 1812)‡

Distribution: Alaska to Northwest Territories south to western Alberta and northern British Columbia; Eurasia.

Yukon records: 1, 2, 5.

Biological information: Habitat DT, WT: tundra; larvae on Fabaceae.

Taxonomic notes: Some populations appear to hybridize with *Colias nastes* and *hecla* but in Yukon *Colias tyche* flies earlier than the other 2 species. This species has previously been called *Colias boothii* (Curtis, 1835).

391. *Euchloe ausonides* (Lucas, 1852)

Distribution: Alaska to central Ontario south to New Mexico and California (Scott 1986).

Yukon records: 4, 8–12, 16, 17, 19.

Biological information: Habitat D, DT: steppe slopes and dry tundra; larvae on Brassicaceae.

Taxonomic notes: Treated by some authors as conspecific with Palaearctic *Euchloe ausonia* (Hübner, 1804). Back (1990) recently described specimens from the Ogilvie Mountains, Yukon, as a new species, *Euchloe ogilvia* Back, which he distinguished from “typical” *ausonides* (from San Francisco, California) by pupal shape and egg sculpturing. Since these characters are likely to show variation over such large geographical distances and since *ausonides* is widely distributed throughout western North America, the Yukon material is not recognized as having been convincingly established as a distinct species. Specimens from the Ogilvie Mountains are darker above and have more green marbling below but grade into “typical” *ausonides* between Dawson and Carmacks.

392. *Euchloe creusa* (Doubleday, [1847])‡

Distribution: Alaska to western Northwest Territories south to southern Alberta and British Columbia (Scott 1986); eastern Asia.

Yukon records: 1–5, 8–11, 16, 17.

Biological information: Habitat DT, WT: tundra and alpine meadows; larvae on Brassicaceae.

393. *Euchloe naina* Kozhantshikov, 1923‡

Distribution: Known in North America only from several areas along the Dempster Highway (km 130 to 155) in the Ogilvie Mountains, Yukon, and the Kenai Peninsula, Alaska; also occurs in eastern Siberia.

Yukon records: 8.

Biological information: Habitat DT: dry rocky tundra.

394. *Pieris angelika* Eitschberger, 1981

Distribution: Alaska, Yukon, western Northwest Territories, northwestern British Columbia.

Yukon records: 2–6, 8–17, 19.

Biological information: Habitat B, WT: damp forests, clearings, and wet tundra.

Taxonomic notes: Until recently, this species and the next 2 species were treated as subspecies of *Pieris napi* (Linnaeus) from Eurasia. Geiger and Shapiro (1992), using enzyme electrophoresis to measure genetic similarity among populations of “*napi*”, demonstrated that there are 4 species in the *Pieris napi* complex in Canada, none of which is the same as Old World *Pieris napi*.

395. *Pieris marginalis* Scudder, 1861

Distribution: Southwestern Alaska south to New Mexico, Arizona and California.

Yukon records: 18. This species occurs widely in northern British Columbia and is probably more widespread in southern Yukon than records indicate.

Biological information: Habitat BM: forests, clearings, and roadsides; larvae on Brassicaceae.

396. *Pieris oleracea* Harris, 1829

Distribution: Western Northwest Territories and central and northern British Columbia to Newfoundland, south to New Jersey, Ohio and southern Alberta.

Yukon records: This species occurs north into northwestern Northwest Territories and northeastern British Columbia adjacent to the Yukon border (e.g. Aklavik, Northwest Territories; Lower Post, British Columbia) and undoubtedly occurs in southeastern Yukon.

Biological information: Habitat B: forests and clearings; larvae on Brassicaceae.

397. *Pontia occidentalis* (Reakirt, 1866)

Distribution: Alaska to northern Ontario south to Colorado, Utah and California (Scott 1986).

Yukon records: 2–6, 8–12, 15–17, 19.

Biological information: Habitat B, D, DT: forest clearings, steppe and grassy tundra; larvae on Brassicaceae.

Taxonomic notes: Treated by some workers as a North American subspecies of the Eurasian *Pontia callidice* (Hübner, 1805).

398. *Pontia sisymbrii* (Boisduval, 1852)

Distribution: Yukon and western Northwest Territories south to New Mexico, Arizona and California (Scott 1986).

Yukon records: 2, 8, 12, 16, 17.

Biological information: Habitat D, DT: steppe slopes and dry grassy tundra; larvae on Brassicaceae.

Superfamily Pterophoroidea**Family Pterophoridae****399. *Amblyptilia pica* (Walsingham, 1880)**

Distribution: Alaska to New Brunswick south to New England, Colorado, and California.

Yukon records: 4, 10.

Biological information: Habitat B: open boreal forest; larvae on herbs, especially Scrophulariaceae.

400. *Oidaematophorus alaskensis* Barnes and Lindsey, 1923

Distribution: Yukon and Alaska.

Yukon records: 10.

Biological information: Habitat B: open boreal forest.

401. *Oidaematophorus albilobatus* McDunnough, 1939

Distribution: Banks Island (Northwest Territories) to northern Quebec south to southern Northwest Territories and central Yukon.

Yukon records: 2, 5, 8, 10.

Biological information: Habitat WT: wet tundra.

402. *Oidaematophorus phaceliae* McDunnough, 1938

Distribution: Yukon to Ontario south to California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on Hydrophyllaceae.

403. *Platyptilia comstocki* Lange, 1940

Distribution: Yukon to New Brunswick south to Arizona.

Yukon records: 16, 17.

Biological information: Habitat B: boreal forest.

404. *Stenoptilia coloradensis* Fernald, 1898

Distribution: Yukon to Labrador south to Colorado.

Yukon records: 5, 12.

Biological information: Habitat B: boreal forest; larvae on *Gentiana*.

405. *Stenoptilodes petrodactyla* (Walker, 1864)

Distribution: Alaska to Baffin Island (Northwest Territories) south to treeline.

Yukon records: 2, 5, 8, 10.

Biological information: Habitat WT, DT: wet and dry tundra.

Superfamily Pyraloidea**Family Pyralidae****406. *Catoptria latiradiella* (Walker, 1863)**

Distribution: Yukon and British Columbia to Newfoundland.

Yukon records: 2, 9, 10.

Biological information: Habitat B, WT: boreal forest and wet tundra.

407. *Catoptria maculalis* (Zetterstedt, 1840)‡

Distribution: Yukon to Labrador; Eurasia.

Yukon records: 8.

Biological information: Habitat WT: wet tundra.

408. *Catoptria trichostoma* (Christoph, 1858)

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to treeline and in Rockies to southern Alberta.

Yukon records: 2, 5, 8, 13.

Biological information: Habitat WT, DT: wet and dry tundra.

409. *Crambus alienellus* (Zincken, 1817)‡

Distribution: Alaska to Labrador south to New England, Michigan, and southern British Columbia; Eurasia.

Yukon records: 8, 17.

Biological information: Habitat B: boreal forest; larvae on grasses.

410. *Crambus hamellus* (Thunberg, 1794)‡

Distribution: Alaska to Labrador south to New England, New York, Colorado and California; Eurasia.

Yukon records: 8, 10, 13, 17.

Biological information: Habitat B: boreal forest; larvae on grasses.

411. *Crambus pascuellus* (Linnaeus, 1798)‡

Distribution: Yukon and British Columbia to Newfoundland south to New York, Utah and California; Eurasia.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest; larvae on grasses.

412. *Crambus perlellus* (Scolopi, 1763)‡

Distribution: Alaska to Newfoundland south to Pennsylvania, Illinois, New Mexico and California; Eurasia.

Yukon records: 10, 12, 13, 16, 17.

Biological information: Habitat B: boreal forest; larvae on grasses.

413. *Crambus whitmerellus* Klots, 1942

Distribution: Alaska to Quebec south to Colorado.

Yukon records: 2, 4, 10, 12, 16, 17.

Biological information: Habitat B: boreal forest.

414. *Eudonia lugubralis* (Walker, 1866)

Distribution: Alaska to Newfoundland south to New England, southern Alberta and Washington.

Yukon records: 9, 10.

Biological information: Habitat B: boreal forest.

415. *Evergestis simulatilis* (Grote, 1880)

Distribution: Yukon to western Northwest Territories south to Texas, Arizona and Oregon.

Yukon records: 10.

Biological information: Habitat BM: boreal forest.

416. *Gesneria centuriella* ([Denis and Schiffermüller], 1775)‡

Distribution: Alaska to Newfoundland and Greenland south to New England, New York, Arizona and Oregon; Eurasia.

Yukon records: 1, 2, 4, 8, 10, 13, 16, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

417. *Herculia thymetusalis* (Walker, 1859)

Distribution: Yukon to Newfoundland south to New York and central Alberta.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on conifers, especially *Picea*.

418. *Loxostege anartalis* (Grote, 1877)

Distribution: Alaska to Quebec south to southern Canada in the east and Utah and northern California in the west.

Yukon records: 8, 10.

Biological information: Habitat B: boreal forest.

419. *Loxostege commixtalis* (Walker, 1866)‡

Distribution: Yukon to Newfoundland south to New England and southern British Columbia; Eurasia.

Yukon records: 4, 10, 16, 17.

Biological information: Habitat B: boreal forest; adults are diurnal in peat bogs.

420. *Loxostege ephippialis* (Zetterstedt, 1839)‡

Distribution: Yukon to Labrador south to treeline and in alpine areas to Wyoming and Colorado; Eurasia.

Yukon records: 5, 16.

Biological information: Habitat WT: shrub tundra; adults are diurnal.

421. *Loxostege sticticalis* (Linnaeus, 1761)‡

Distribution: Yukon to Nova Scotia south to Massachusetts in the east and southern Arizona in the west; Eurasia.

Yukon records: 4.

Biological information: Habitat B: open areas; a major pest in North America and Eurasia on a wide variety of crops, particularly broad-leaved herbs.

422. *Nephoterix terminalis* (Hulst, 1886)

Distribution: Alaska to Ontario south in the west to New Mexico.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

423. *Oreanaia arcticalis* Munroe, 1974

Distribution: Yukon to Victoria Island and Hudson Bay (Northwest Territories).

Yukon records: 2, 5, 8.

Biological information: Habitat DT: dry tundra; adults are diurnal.

424. *Oreanaia trivialis* Barnes and McDunnough, 1914

Distribution: Southern Yukon south to southern British Columbia, Utah and Colorado.

Yukon records: 16.

Biological information: Habitat WT: boggy tundra and alpine meadows; adults are diurnal.

425. *Ostrinia marginalis* (Walker, 1866)

Distribution: Yukon to Newfoundland south to New England and southern Alberta.

Yukon records: 10.

Biological information: Habitat B: wet open areas.

426. *Pediasia browerella* (Klots, 1942)

Distribution: Alaska to Baffin Island (Northwest Territories); farther south in New England and Colorado.

Yukon records: 2, 5, 8, 11.

Biological information: Habitat WT: wet tundra.

427. *Polopeustis arctiella* (Gibson, 1920)

Distribution: Alaska to Labrador and Baffin Island (Northwest Territories) south to southern Alberta.

Yukon records: 1, 2, 16.

Biological information: Habitat WT, DT: boggy and dry tundra.

428. *Pyla fusca* (Haworth, 1828)‡

Distribution: Alaska to Newfoundland south to New Jersey, New Mexico, and California; Eurasia.

Yukon records: 5, 10, 13, 17.

Biological information: Habitat B: boreal forest, especially blueberry bogs; larvae on *Vaccinium* and *Salix*.

429. *Pyla gaspeensis* McDunnough, 1958

Distribution: Yukon to Newfoundland south to eastern Quebec.

Yukon records: 9.

Biological information: Habitat B: boreal forest.

430. *Pyrausta nicalis* (Grote, 1878)

Distribution: Yukon to Quebec south to New England, Colorado and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

431. *Pyrausta subsequalis* (Guenée, 1854)

Distribution: Alaska to Newfoundland south to northern Florida in the east and Mexico in the west.

Yukon records: 10, 13, 17.

Biological information: Habitat B: boreal forest in Yukon.

432. *Pyrausta tuolumnalis* Barnes and McDunnough, 1918

Distribution: Yukon to northwestern Saskatchewan south to New Mexico and California.

Yukon records: 10.

Biological information: Habitat BM: boreal forest.

433. *Pyrausta unifascialis* (Packard, 1873)

Distribution: Yukon to Quebec south to New Jersey, Arizona and California.

Yukon records: 8.

Biological information: Habitat B: boreal forest; larvae on *Antennaria* and probably other herbaceous plants.

434. *Sarata* sp.

Distribution: Known only from Firth River, Yukon.

Yukon records: 2.

Biological information: Habitat WT: boggy tundra.

Taxonomic notes: Species characters in this genus are inadequately known.

435. *Saucrobotys fumoferalis* (Hulst, 1886)

Distribution: Yukon to Nova Scotia south to Pennsylvania, Illinois, Montana and California.

Yukon records: 17.

Biological information: Habitat B: boreal forest.

436. *Scoparia biplagiialis* Walker, 1866

Distribution: Alaska to Newfoundland south to South Carolina and Washington.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

437. *Udea abstrusa* Munroe, 1966

Distribution: Yukon to Montana and western Northwest Territories south to New Mexico and northern California.

Yukon records: 17.

Biological information: Habitat BM: boreal forest.

438. *Udea alaskalis* (Gibson, 1920)

Distribution: Arctic coast of Yukon and Alaska, including Pribilof Islands, Alaska.

Yukon records: 1.

Biological information: Habitat DT: dry tundra.

439. *Udea beringialis* **Munroe, 1966**

Distribution: Yukon, northern Alaska and Banks Island, Northwest Territories.

Yukon records: 1, 8.

Biological information: Habitat DT, WT: tundra.

440. *Udea inquinatalis* (**Lienig and Zeller, 1846**)‡

Distribution: Alaska to Labrador south to New Brunswick, central Quebec, southern Alberta and northern British Columbia; Eurasia.

Yukon records: 4, 10, 13.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

441. *Udea itysalis* (**Walker, 1859**)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California.

Yukon records: 8, 10, 13, 16, 17.

Biological information: Habitat B: boreal forest.

442. *Udea radiosalis* (**Möschler, 1883**)

Distribution: Alaska to northern Manitoba south to New England, New Mexico, Arizona and California; Labrador.

Yukon records: 10, 16, 17.

Biological information: Habitat BM: boreal forest.

443. *Udea torvalis* (**Möschler, 1864**)

Distribution: Yukon east across arctic to Labrador and Greenland.

Yukon records: 1, 5, 8.

Biological information: Habitat WT, DT: tundra.

Superfamily Sesiioidea**Family Choreutidae**444. *Caloreas multimarginata* (**Braun, 1925**)

Distribution: Yukon to southern Alberta and British Columbia; also western United States.

Yukon records: 4.

Biological information: Habitat BM: boreal forest.

445. *Choreutis diana* (**Hübner, 1822**)‡

Distribution: Alaska to Newfoundland south to Michigan and Colorado; Eurasia.

Yukon records: 4.

Biological information: Habitat B: boreal forest; larvae primarily on Salicaceae and Betulaceae.

Family Sesiidae446. *Albuna pyramidalis* (**Walker, 1856**)

Distribution: Alaska to Newfoundland south to New England, New Mexico, Arizona and California.

Yukon records: 4, 10, 17.

Biological information: Habitat B: boreal forest; adults are diurnal; larvae on *Epilobium* and *Oenothera*.

Superfamily Sphingoidea**Family Sphingidae**447. *Hemaris thysbe* (**Fabricius, 1775**)

Distribution: Yukon to Newfoundland south to New York, Missouri, New Mexico, Arizona and California.

Yukon records: 4, 10, 19.

Biological information: Habitat B: boreal forest; adults are diurnal (bumble bee mimics); larvae on shrubs (*Viburnum*, *Lonicera*, *Prunus*, etc.).

448. *Hyles gallii* (**Rottemburg, 1775**)‡

Distribution: Yukon to Labrador south to Pennsylvania, Colorado and California; Eurasia.

Yukon records: 2, 4.

Biological information: Habitat B, WT: boreal forest and shrub tundra; larvae on herbs (*Epilobium*, *Galium*, etc.).

449. *Smerinthus cerisyi* Kirby, 1837

Distribution: Yukon to Newfoundland south to New York, Missouri, New Mexico, Arizona and California.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae.

450. *Smerinthus jamaicensis* (Drury, 1773)

Distribution: Yukon to Newfoundland south to Florida, Mississippi, New Mexico and Arizona.

Yukon records: 19.

Biological information: Habitat B: boreal forest; larvae on various deciduous trees, especially Salicaceae and Betulaceae.

451. *Sphinx luscitiosa* Clemens, 1859

Distribution: Yukon and Alberta to Nova Scotia south to New Jersey and Utah.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.

Superfamily Tineoidea**Family Gracillariidae**452. *Caloptilia alnivorella* (Chambers, 1875)

Distribution: Yukon to Newfoundland south to New England, New York and western United States.

Yukon records: 11, 17.

Biological information: Habitat B: boreal forest; larvae on Betulaceae, especially *Alnus*.

453. *Phyllocnistis populiella* Chambers, 1875

Distribution: Yukon to Nova Scotia south through northern United States.

Yukon records: 17, 19.

Biological information: Habitat B: boreal forest; larvae on *Populus*.

Family Tineidae454. *Monopis spilotella* Tengström, 1848‡

Distribution: Alaska to Nova Scotia and Labrador south to Texas and Washington; Eurasia.

Yukon records: 4, 10, 17.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

455. *Nemapogon* sp.

Distribution: Unknown.

Yukon records: 17.

Biological information: Habitat B: boreal forest; 2 specimens of an unknown species from Hunter Creek were reared on *Betula*.

Taxonomic notes: The genus needs revision.

Superfamily Tortricoidea**Family Cochyliidae**456. *Aethes deutschiana* (Zetterstedt, 1840)‡

Distribution: Alaska to Newfoundland south to New England and Colorado; Eurasia.

Yukon records: 10.

Biological information: Habitat B, WT: boreal forest; also in wet tundra north to Victoria Island, Northwest Territories.

457. *Aethes smeathmanniana* (Fabricius, 1781)‡

Distribution: Alaska to Newfoundland south to New Jersey and New Mexico; Eurasia.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

458. *Hysterosia fulviplicana* (Walsingham, 1879)

Distribution: Yukon to Saskatchewan south to Colorado and California.

Yukon records: 10, 17.

Biological information: Habitat B: boreal forest.

Family Tortricidae**459. *Acleris emargana* (Fabricius, 1775)‡***Distribution:* Alaska to Ontario south to Idaho and British Columbia; Eurasia.*Yukon records:* 8, 10, 17.*Biological information:* Habitat B: boreal forest; larvae on *Salix*.**460. *Acleris* sp. near *hastiana* (Linnaeus, 1758)***Distribution:* Yukon to Newfoundland south to southern British Columbia.*Yukon records:* 17.*Biological information:* Habitat B: boreal forest; larvae on *Salix*.**461. *Acleris hudsoniana* (Walker, 1863)***Distribution:* Yukon to Nova Scotia south to Virginia and British Columbia.*Yukon records:* 4.*Biological information:* Habitat B: boreal forest; larvae mainly on Salicaceae.**462. *Acleris maccana* (Treitschke, 1835)‡***Distribution:* Yukon to New Brunswick south to Massachusetts and British Columbia; Eurasia.*Yukon records:* 17.*Biological information:* Habitat B: boreal forest; larvae on Ericaceae.**463. *Acleris* sp. near *nigrolinea* (Robinson, 1869)***Distribution:* Yukon south to Arizona and California.*Yukon records:* 17.*Biological information:* Habitat BM: boreal forest; larvae on Salicaceae.**464. *Acleris variana* (Fernald, 1869)***Distribution:* Alaska to Newfoundland south to New York and western United States.*Yukon records:* 17, 19.*Biological information:* Habitat B: boreal forest; larvae mainly on *Picea* and *Abies*.**465. *Ancylis metamelana* (Walker, 1863)***Distribution:* Yukon to Nova Scotia south to Pennsylvania, Kentucky, and Washington.*Yukon records:* 2.*Biological information:* Habitat B: boreal forest; larvae on *Trifolium*.**466. *Ancylis unguicella* (Linnaeus, 1758)‡***Distribution:* Alaska to Newfoundland south to New England and California; Eurasia.*Yukon records:* 10.*Biological information:* Habitat B: boreal forest; larvae on Ericaceae.**467. *Apotomis capreana* (Hübner, [1817])‡***Distribution:* Yukon to Newfoundland south to New England and Washington; Eurasia.*Yukon records:* 8, 10.*Biological information:* Habitat B: boreal forest; larvae on Salicaceae and Betulaceae.**468. *Apotomis deceptana* (Kearfott, 1905)***Distribution:* Yukon to Ontario south to New England, New York, Colorado and Washington.*Yukon records:* 8, 10.*Biological information:* Habitat WT: wet tundra.**469. *Apotomis frigidana* (Packard, 1867)***Distribution:* Alaska to Labrador and Baffin Island (Northwest Territories) south to New England and Colorado.*Yukon records:* 1, 2, 8, 10.*Biological information:* Habitat WT: wet tundra.**470. *Apotomis strigosa* (Heinrich, 1926)***Distribution:* Known only from the type locality (Dawson, Yukon).*Yukon records:* 10.*Biological information:* Habitat B?: probably boreal forest.

471. *Archips alberta* (McDunnough, 1923)

Distribution: Yukon to Newfoundland south to New England and British Columbia.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae mainly on *Picea*.

472. *Argyrotaenia occultana* Freeman, 1942

Distribution: Yukon to Newfoundland south to Kentucky and western United States.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on conifers.

473. *Bactra lancealana* (Hübner, [1799])‡

Distribution: Yukon to British Columbia; Eurasia.

Yukon records: 16.

Biological information: Habitat BM: damp open areas; larvae on *Juncus*.

474. *Choristoneura albaniana* (Walker, 1863)

Distribution: Alaska to Newfoundland south to Colorado and California.

Yukon records: 4, 9, 13.

Biological information: Habitat B: boreal forest; larvae recorded on *Prunus* and *Betula*.

475. *Choristoneura biennis* Freeman, 1967

Distribution: Yukon south to southern Alberta and British Columbia.

Yukon records: 16.

Biological information: Habitat BM: boreal forest; larvae on *Picea* and *Abies*.

476. *Choristoneura conflictana* (Walker, 1863)

Distribution: Yukon to Newfoundland south to New Mexico.

Yukon records: 8, 9, 17, 19.

Biological information: Habitat B: boreal forest; larvae mostly on *Populus*.

477. *Choristoneura fumiferana* (Clemens, 1865)

Distribution: Alaska to Newfoundland south to New England (supposedly described from Virginia), New Mexico and California.

Yukon records: 17, 19.

Biological information: Habitat B: boreal forest; larvae mostly on *Picea* and *Abies*.

478. *Choristoneura lapponica* (Tengström, 1869)‡

Distribution: Yukon; Eurasia.

Yukon records: 8.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

Taxonomic notes: Recently discovered in North America (Kuznetsov and Mikkola 1991).

479. *Clepsis danilevskyi* Kostjuk, 1973‡

Distribution: Yukon; northeastern Siberia to Altai Mountains.

Yukon records: 8.

Biological information: Habitat WT, DT: mountain tundra.

Taxonomic notes: Recently discovered in North America (Kuznetsov and Mikkola 1991).

480. *Clepsis moeschleriana* (Wocke, 1862)

Distribution: Alaska to Newfoundland south to New England and Colorado.

Yukon records: 2, 4, 8, 10, 13, 16, 17.

Biological information: Habitat WT, B: shrub tundra and subarctic boreal forest.

481. *Clepsis persicana* (Fitch, 1856)

Distribution: Alaska to Newfoundland south to Virginia and California.

Yukon records: 4, 13, 17.

Biological information: Habitat B: boreal forest; larvae on coniferous and deciduous trees.

482. *Clepsis* n. sp.

Distribution: Known only from Firth River area, British Mountains, Yukon.

Yukon records: 2.

Biological information: Habitat WT: boggy tundra.

Taxonomic notes: Resembles a narrow winged diffusely marked form of *C. moeschleriana* but differs in genitalia.

483. *Cydia prosperana* (Kearfott, 1907)

Distribution: Alaska to southwestern Saskatchewan south to Colorado and California.

Yukon records: 8, 9, 10.

Biological information: Habitat BM: boreal forest.

484. *Cydia rana* (Forbes, 1924)

Distribution: Yukon to Nova Scotia south to North Carolina and Montana.

Yukon records: 19.

Biological information: Habitat B: boreal forest; larvae on *Picea* and *Pinus*.

485. *Cydia strobilella* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to New England, Colorado and Oregon; Eurasia.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on *Picea* cones.

486. *Eana argentana* (Clerck, 1759)‡

Distribution: Alaska and Yukon south to Colorado and Washington; Eurasia.

Yukon records: 8, 16, 17.

Biological information: Habitat BM: dry open boreal forest.

487. *Eana osseana* (Scolopi, 1763)‡

Distribution: Alaska to Newfoundland south to southern British Columbia and Alberta; Eurasia.

Yukon records: 2, 8, 16, 17.

Biological information: Habitat WT, DT: boggy and dry tundra.

488. *Epiblema simplonianum* (Duponchel, 1835)‡

Distribution: Yukon and Alaska; Eurasia.

Yukon records: 2, 8, 16.

Biological information: Habitat WT: boggy tundra.

Taxonomic notes: The species *Epiblema arctica* Miller, 1985, described from Anaktuvuk Pass, Alaska, has recently been synonymized with *E. simplonianum*, described from Simplon, Switzerland (Miller 1995).

489. *Epinotia crenana* (Hübner, 1817)‡

Distribution: Yukon to Newfoundland south to New England, Utah and California; Eurasia.

Yukon records: 4.

Biological information: Habitat B: boreal forest; larvae on *Salix*.

490. *Epinotia cruciana* (Linnaeus, 1761)‡

Distribution: Alaska to Labrador south to New England, Montana and California; Eurasia.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on *Salix*.

491. *Epinotia medioplagata* (Walsingham, 1895)‡

Distribution: Yukon to Labrador south to New England and Colorado; Eurasia.

Yukon records: 13, 17.

Biological information: Habitat B: boreal forest; larvae on *Salix*.

492. *Epinotia radicana* (Heinrich, 1923)

Distribution: Yukon to Newfoundland south to New England and California.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae mainly on *Picea*, *Abies* and *Pseudotsuga*.

493. *Epinotia stroemiana* (Fabricius, 1781)‡

Distribution: Yukon to Newfoundland south to New Jersey and southern British Columbia; Eurasia.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae on *Betula* and *Alnus*.

Taxonomic notes: *E. stroemina* is listed as a junior synonym of *Epinotia trigonella* (Linnaeus, 1758) by some authors (e.g. Varis et al. 1987).

494. *Eucosma dodana* Kearfott, 1907

Distribution: Yukon south to Colorado and southern British Columbia.

Yukon records: 4, 8.

Biological information: Habitat WT: boggy alpine tundra.

495. *Eucosma smithiana* (Walsingham, 1895)

Distribution: Yukon to Manitoba south to New Mexico and Oregon.

Yukon records: 10.

Biological information: Habitat B: boreal forest.

496. *Eulia ministrana* (Linnaeus, 1758)‡

Distribution: Alaska to Newfoundland south to New England, New York and Washington; Eurasia.

Yukon records: 9, 10, 13.

Biological information: Habitat B: boreal forest; larvae mainly on *Alnus*.

497. *Gypsonoma nitidulana* (Zeller, 1846)‡

Distribution: Yukon; Eurasia.

Yukon records: 8.

Biological information: Habitat B, WT: boreal forest and shrub tundra.

Taxonomic notes: This species has only recently been discovered in North America (Kuznetsov and Mikkola 1991).

498. *Gypsonoma parryana* (Curtis, 1835)‡

Distribution: Alaska east to Labrador and Baffin Island (Northwest Territories) and south to Colorado; arctic Eurasia west to Taimyr Peninsula.

Yukon records: 2, 8, 16.

Biological information: Habitat WT: boggy tundra and alpine meadows.

Taxonomic notes: This species has recently been discovered in the Palaearctic (Taimyr Peninsula, Wrangel Island, Chukotka; Kuznetsov and Mikkola 1991).

499. *Hedya separatana* (Kearfott, 1907)

Distribution: Yukon to Newfoundland south to Pennsylvania, Arkansas and Washington.

Yukon records: 10.

Biological information: Habitat B: boreal forest; larvae on *Salix*, *Betula* and *Prunus*.

500. *Hystrichophora asphodelana* (Kearfott, 1907)

Distribution: Yukon and Alaska south to Colorado and Oregon.

Yukon records: 8, 9, 17.

Biological information: Habitat BM: dry boreal forest.

501. *Lozotaenia hesperia* Powell, 1962

Distribution: Yukon and Alaska.

Yukon records: 8, 10, 17.

Biological information: Habitat WT, B: shrub tundra and boreal forest.

502. *Olethreutes bipartitana* (Clemens, 1860)

Distribution: Alaska to Newfoundland south to New Jersey, Pennsylvania and Montana.

Yukon records: 16.

Biological information: Habitat B: boreal forest.

503. *Olethreutes glaciana* (Möschler, 1860)‡

Distribution: Yukon to Labrador south to North Carolina, Arizona and Washington; northeastern Siberia (Kuznetsov and Mikkola 1991).

Yukon records: 19.

Biological information: Habitat B: boreal forest.

504. *Olethreutes inquietana* (Walker, 1863)‡

Distribution: Alaska to Labrador and Greenland south to New England; Russia east of Ural Mountains.

Yukon records: 1, 8, 10.

Biological information: Habitat WT, DT: boggy and rocky tundra.

505. *Olethreutes intermistana* (Clemens, 1865)*Distribution:* Alaska to Newfoundland south to New England.*Yukon records:* 2, 8–11, 16.*Biological information:* Habitat WT: boggy tundra.**506. *Olethreutes mengelana* (Fernald, 1894)***Distribution:* Arctic Canada and Greenland south to central Yukon and Churchill, Manitoba.*Yukon records:* 5, 8.*Biological information:* Habitat DT: dry tundra.**507. *Olethreutes metallicana* (Hübner, [1799])‡***Distribution:* Alaska to Nova Scotia south to New Hampshire, New York and Colorado; Eurasia.*Yukon records:* 8, 9, 10, 13.*Biological information:* Habitat B: boreal forest.*Taxonomic notes:* This species was known in North America for many years under the name *Olethreutes murina* (Packard) (Miller 1985).**508. *Olethreutes schulziana* (Fabricius, 1777)‡***Distribution:* Yukon to Labrador south to New England, southern Alberta and British Columbia; Eurasia.*Yukon records:* 1, 8, 10, 17.*Biological information:* Habitat WT: boggy tundra.**509. *Petrova burkeana* (Kearfott, 1907)***Distribution:* Yukon to Newfoundland south to New England and Colorado.*Yukon records:* 10.*Biological information:* Habitat B: boreal forest.**510. *Phaneta awemeana* (Kearfott, 1907)***Distribution:* Yukon and southern Alberta to New Brunswick.*Yukon records:* 10.*Biological information:* Habitat B: boreal forest.**511. *Phaneta insignata* (Heinrich, 1924)***Distribution:* Yukon and Colorado.*Yukon records:* 8.*Biological information:* Habitat DT: mountain tundra.**512. *Phaneta pallidarcis* (Heinrich, 1923)***Distribution:* Yukon to southern California.*Yukon records:* 16.*Biological information:* Habitat D: steppe slopes; larvae on *Artemisia*.**513. *Phaneta tarandana* (Möschler, 1874)***Distribution:* Yukon to Labrador south to New Mexico.*Yukon records:* 16, 17.*Biological information:* Habitat B: boreal forest.**514. *Phaneta youngi* (McDunnough, 1[9]25)***Distribution:* Yukon south to southern British Columbia and Colorado.*Yukon records:* 16.*Biological information:* Habitat D: steppe slopes.**515. *Rhopobota unipunctata* (Haworth, 1811)‡***Distribution:* Yukon to Nova Scotia south to Virginia and California; Eurasia.*Yukon records:* 10.*Biological information:* Habitat B: boreal forest; larvae on Ericaceae.**516. *Zeiraphera fortunana* (Kearfott, 1907)***Distribution:* Yukon to Newfoundland south to northern United States.*Yukon records:* 17, 19.*Biological information:* Habitat B: boreal forest; larvae on *Picea*, rarely on *Abies*.

517. *Zeiraphera improbana* (Walker, 1863)

Distribution: Yukon to Newfoundland south to Virginia and California.

Yukon records: 19.

Biological information: Habitat B: boreal forest; larvae mostly on *Larix* but also on *Picea*.

518. *Zeiraphera unfortunana* Powell, 1983

Distribution: Yukon to Newfoundland south to central United States.

Yukon records: 17.

Biological information: Habitat B: boreal forest; larvae mostly on *Picea* but also on *Pseudotsuga* and *Abies*.

Faunal Composition

Systematic Diversity of the Yukon Lepidoptera Fauna. There are 518 species of Lepidoptera known at present from the Yukon, but how many species could actually be expected to occur there? We may never collect all of the species that live in the Yukon but we can use well-known groups to estimate the diversity of the Yukon Lepidoptera fauna.

The known Lepidoptera fauna of the Yukon is dominated by the families of larger moths and butterflies collectively referred to as Macrolepidoptera. The Microlepidoptera, by contrast, make up only 26% of the Yukon fauna. This certainly reflects a collecting and research bias because the Microlepidoptera make up 48% of the known fauna of North America. Similarly, in the Ottawa area, one of the most thoroughly collected areas for Lepidoptera in North America, Microlepidoptera make up 50% of the 2000 species known. Because most families of Microlepidoptera are more inadequately collected than those of Macrolepidoptera, we expect the Microlepidoptera will comprise 60–70% of the fauna in most areas of North America, proportions similar to those known from Great Britain (Kloet and Hinks 1972) where Microlepidoptera are relatively well known.

Probably the best group to use for estimating the size of the fauna in temperate areas is the butterflies (superfamilies Hesperioidea and Papilionoidea), because they are well known for most areas, including the Yukon, and can be expected to make up 4–5% of the Lepidoptera fauna. In North America the butterflies make up about 7% of the Lepidoptera fauna, this reflecting our relatively incomplete knowledge of the Microlepidoptera. In Great Britain and Finland, where the Microlepidoptera are relatively well known, butterflies make up about 4% and 5% of the fauna respectively (Kloet and Hinks 1972; Varis et al. 1987); in the Ottawa area butterflies are 5% of the Lepidoptera fauna. The known Yukon Lepidoptera fauna is 17% butterflies (88/518 total Lepidoptera); because we expect about 90 species of butterflies in the Yukon, the actual diversity of the Lepidoptera fauna would be about 2000 species if butterflies are assumed to make up 4.5% of the fauna ($90/2000 \text{ total} = 4.5\% \text{ butterflies}$). In the high arctic, diurnal species dominate the fauna and butterflies form an unusually high percentage of the Lepidoptera but this bias would not be expected in most areas of the Yukon where the Lepidoptera are dominated by nocturnal groups.

Butterflies have been very well collected throughout most of the Yukon and probably more than 95% of the fauna is known. Geometridae and Noctuidae have been well collected only in tundra habitats and a large number of widespread boreal-zone species could be expected in the southern Yukon, which would more than double the size of the Yukon fauna of these 2 families. An estimate of the diversity of major groups of Lepidoptera in the Yukon is given in Table 1; this estimate is extrapolated from the proportions of butterflies to moths and the relative sizes of the major groups of Macrolepidoptera to each other and to the Microlepidoptera. It leads to an estimate of about 2000 species for the Lepidoptera fauna as a whole.

TABLE 1. Expected diversity of the Yukon Lepidoptera fauna.

Group	No. species known from Yukon	No. species expected from Yukon	Percentage known
Microlepidoptera	136	1200	11%
Butterflies	88	90	98%
Noctuidae	168	400	41%
Geometridae	95	250	36%
Other Macrolepidoptera	31	60	52%
Total	518	2000	26%

Diversity of the Yukon Fauna by Habitat. In Table 2 we have arranged the Yukon Lepidoptera fauna into 5 major habitat groupings. These are: 1) Boreal forest/taiga; 2) Boreomontane; 3) Wet shrub-tundra; 4) Dry tundra/scree; and 5) Dune/steppe. These 5 habitat groupings are characterized below. Although some species occur in more than one habitat, we have attempted to assign each species to the habitat in which it is most likely to be found. *Vanessa cardui* is widespread throughout most of North America south of 60° North and occasionally wanders into the southern Yukon. It is most likely to be found along roadsides in the boreal zone and so has been listed as a boreal-zone species for discussion purposes.

Boreal Forest/Taiga (B). Species associated with this habitat tend to have transcontinental distributions that extend through the boreal forest from Alaska to Newfoundland. Typically the southern limits of this fauna are New England and in the Appalachian Mountains to North Carolina in the east and in the Rocky Mountains in the west to New Mexico, Arizona and California. Boreal forests, dominated by spruce, aspen and birch, cover a large proportion of the Yukon area and species associated with this habitat make up 56% of the known Lepidoptera fauna. In spite of this, the boreal zone is undoubtedly the most inadequately collected habitat in the Yukon and we expect the boreal-zone fauna will increase to about 1500 species with adequate collecting. Most of the species found in the boreal zone are widely distributed throughout much of Canada and the northern United States so there is relatively little incentive to collect in this habitat in the Yukon. Most collectors travel to the Yukon to collect in tundra areas, and boreal-zone species are collected almost incidentally en route to northern collecting sites. The relatively large number of boreal-zone species recorded (289) only reflects the large diversity of species in the boreal forest. Except for a disjunct population of Balsam Poplar (*Populus balsamifera*) in Chukotka, no species of trees are shared between the Nearctic and Palaearctic regions and few Holarctic Lepidoptera species in the boreal zone feed on trees as larvae; many of the Holarctic boreal-zone Lepidoptera species are associated with willow or blueberry as larval hostplants rather than with trees; many of these Lepidoptera species, and these hostplants, also occur in the shrub-tundra zone to some degree. Because boreal habitat is so widespread and continuous, there are probably no boreal-zone Beringian or Yukon endemic or disjunct species; although at present *Apotomis strigosa* (470) is known only from boreal-zone habitat at Dawson. *Pieris angelika* (394) is equally common in boreal habitat and shrub-tundra.

Boreomontane (BM). This habitat is superficially similar to the boreal zone except that the species have ranges that are predominantly western montane rather than transcontinental. Characteristic trees include subalpine fir (*Abies lasiocarpa* (Hook.) Nutt.), Sitka spruce (*Picea sitchensis* (Bong.) Carr) and lodgepole pine (*Pinus contorta* Dougl.). The Lepidoptera fauna of boreomontane habitats is probably better collected than that of the boreal zone

TABLE 2. Distribution by habitat of the recorded species of Yukon Lepidoptera.

Family	Boreal forest/taiga	Boreo-montane	Wet shrub-tundra	Dry tundra/scree	Dune/steppe	Total no. of species	Species in both Palaearctic and Nearctic
Adelidae	2	0	1	0	0	3	0
Arctiidae	8	0	1	8	2	19	8
Choreutidae	1	1	0	0	0	2	1
Cochylidae	2	1	0	0	0	3	2
Gelechiidae	6	1	2	0	2	11	5
Geometridae	67	13	10	5	0	95	31
Gracillariidae	2	0	0	0	0	2	0
Hesperiidae	4	0	0	0	2	6	3
Lasiocampidae	1	0	0	0	0	1	0
Lycaenidae	8	1	1	2	0	12	4
Lymantriidae	1	0	1	1	0	3	2
Momphidae	3	1	0	0	0	4	3
Noctuidae	80	14	20	27	27	168	59
Notodontidae	3	0	0	0	0	3	0
Nymphalidae	19	4	11	8	5	47	28
Oecophoridae	1	1	0	0	0	2	0
Papilionidae	2	0	1	1	1	5	3
Pieridae	5	1	3	5	4	18	6
Prodoxidae	0	1	0	0	0	1	0
Pterophoridae	5	0	2	0	0	7	0
Pyalidae	23	4	8	3	0	38	11
Sesiidae	1	0	0	0	0	1	0
Sphingidae	5	0	0	0	0	5	1
Tineidae	2	0	0	0	0	2	1
Tortricidae	38	6	12	2	2	60	23
Total	289	49	73	62	45	518	191

because of the close association of tundra habitats with mountain ranges in the Yukon. There are 49 species (9% of the known Yukon fauna) associated with boreomontane habitats; most are Nearctic species that are widely distributed in the Rocky Mountain region to the south and reach their northern limits in the Yukon. The ranges of 36 species extend as far south as Colorado or California, 11 species reach their southern limits in Alberta or British Columbia and 2, *Autographa buraetica* (169) and *Xestia albuncula* (285), are boreomontane species of the Palaearctic Region that reach the eastern limits of their ranges in the Yukon. These 2 species are among 10 (20% of the boreomontane fauna) that occur in the Palaearctic Region.

Wet Shrub-Tundra (WT). Wet boggy tundra dominates the northernmost Yukon between the British Mountains and the Arctic Ocean, and many valleys and lower mountain slopes in montane areas to the south. Included in this habitat category are open peatlands dominated by sedges and low ericaceous shrubs, and shrub-tundra dominated by willows and dwarf birch that may be a metre or more tall. The abundance and height of the shrubs seems often to reflect local conditions such as winter snow cover and protection from wind and drought, so wet and shrub-tundra habitats tend to blend into one another. Most plant species, and the associated lepidopterous fauna, occur across the spectrum of these habitat extremes. The wet shrub-tundra zone extends as a more or less continuous band eastward from the Yukon across northern Canada and westward through Alaska and northern Eurasia to northern Fennoscandia. As a result, many of the plant and Lepidoptera species associated with this habitat are widespread Holarctic species with ranges extending from eastern Canada westward to

northern Europe. Of the 73 species that occur in this habitat, 42 (58%) occur in Eurasia of which 28 range through northern Eurasia to Europe and 14 occur only in the eastern Palaearctic Region. Four species associated with this habitat are widespread in the Palaearctic but have been found in the Nearctic only in the Yukon (*Lasionycta skraelingia* (229), *Xestia kolymae* (294) and *Clepsia danilevskyi* (479)) or in the Yukon and Alaska (*Xestia lorezi* (297)). The only wet tundra species that is restricted to East Beringia is *Erebia lafontainei* (347), a species closely related to *Erebia kozhantshikovi* Sheljuzhko from eastern Siberia. Many of the wet tundra species that are restricted to the Nearctic are subalpine species of the Rocky Mountain region that reach the northern limits of their ranges in the Yukon. One of these, *Lasionycta quadrilunata* (228), has not been collected between Colorado and the Yukon.

Dry Tundra/Scree (DT). Included in this category are a number of treeless habitats collectively characterized by dry, well-drained, frequently rocky conditions. The vegetation is usually dominated by plants that occur in mats or cushion-like clumps such as *Dryas* spp., *Saxifraga* spp., *Silene acaulis* L., *Draba* spp., *Phlox siberica* L., and *Arenaria* spp. Various grasses, sedges, and prostrate willows may also be important components in the vegetation. In most habitats rocks cover more surface area than does vegetation, although in some areas, especially those with a fine gravelly soil, an almost continuous vegetation cover may be present. Almost half (49%) of the 62 species collected in this habitat are restricted to Beringia in North America. Of these, 14 are Palaearctic species with ranges extending eastward to the Yukon (Table 4) and 16 are East Beringian endemics (Table 5). This habitat, like wet tundra, contains a high proportion of Holarctic species (59%) and by far the lowest proportion of species (14%) that are widespread Nearctic species.

Dune/Steppe (D). This habitat includes open active dunes, such as those near Carcross, as well as south- or southeast-facing hillsides that are dominated by grasses and sagebrush (*Artemisia* spp.), such as those on Sheep Mountain in Kluane National Park, and those on the banks of the Yukon River. Although this habitat is very patchy in the the Yukon, it is fairly well collected for all groups except Microlepidoptera; only 4 of the 45 species collected are Microlepidoptera. There are 3 Beringian endemics in this habitat (*Aletia yukonensis* (153), *Euxoa hyperborea* (198) and *Euxoa macrodentata* (201)) and 8 species (18 % of the fauna) are shared with the Old World steppe. The dune/steppe habitat is dominated by Nearctic species that are widely distributed in the Great Plains or Great Basin to the south and the Yukon populations of many of these species appear to be disjunct. There has been virtually no Lepidoptera collecting in remnants of steppe habitats in the northern half of British Columbia so it is difficult to verify the validity of these apparent disjunctions. Two species, *Erynnis afranius* (115) and *Schinia persimilis* (259), have not been collected between southern Alberta and Saskatchewan and the southern Yukon. Yukon populations of *Euxoa aequalis* (190) are differentiated from those from southern British Columbia and areas farther south. No species in the Yukon are known to be restricted to dunes. The 2 unknown *Gnorimoschema* species from the Carcross dunes (7, 8) have not been found anywhere else; however, this genus is inadequately collected in most areas.

Zoogeographic Affinities

The present-day composition of the Yukon Lepidoptera fauna is a mixture of Old and New World elements from a variety of habitats. This faunal mixture, however, is far from random and may be used to reconstruct the history of the fauna in association with the known

geological and climatic history of the region. The most significant factors for the region from a zoogeographic perspective are: 1. unlike most of Canada, much of the Yukon was not glaciated during the various advances of Pleistocene glaciation; thus the fauna may not wholly be a recent immigrant fauna like that of most of Canada; 2. Yukon and Alaska have oscillated from being part of the Nearctic region, separated from the Palaearctic by the Bering and Chukchi Seas, as they are now, to being part of the Palaearctic region during glacial maxima. During glacial periods the Beringian area was a treeless, or essentially treeless, eastern peninsula of the Palaearctic that included the exposed sea floors of the Bering and Chukchi Seas, and the unglaciated parts of Yukon and Alaska. As a result, most (19/25) Palaearctic species that have ranges that extend into the Beringian area of North America are associated with tundra. This Palaearctic “peninsula” was separated from the Nearctic fauna by the vast ice sheets that covered most of western Canada. Following deglaciation, Nearctic boreal forest trees and boreal forest Lepidoptera species moved back into Beringia and dominate the fauna of the area today. There is little evidence of endemism, range disjunctions, or geographical differentiation in the faunas now associated with boreal, boreomontane, or wet-tundra habitats. These habitats are continuous over large geographical areas extending well beyond the Yukon or Beringian boundaries. By contrast, there are numerous endemic species, disjunct populations, and locally differentiated populations in species associated with the dry tundra and the steppe zones. Both of these latter habitats are patchy in the Yukon and are believed to have been more widespread in Beringia (and Yukon) in glacial times. Areas supporting these habitats are isolated from each other and from similar habitats outside the Beringian area.

Holarctic Species. In this section, we use the term “Holarctic species” to refer to species with distributions in both the Palaearctic and Nearctic Zoogeographic Regions. This is not meant to imply that the Holarctic species are widely distributed in both regions (“Nearctic” species are restricted to North America but are not necessarily found throughout North America). There are 191 species, 37% of the Yukon fauna, that have Holarctic distributions (followed by the symbol ‡ in the annotated list). Most Holarctic species (166 species, 87% of the Holarctic fauna) are widely distributed in both the Palaearctic and Nearctic Regions (Table 3). The remaining 25 species are restricted in North America to the Beringian area (Table 4). We know of an additional 6 Palaearctic species that have been found in Beringia in Alaska but not in the Yukon. These are: *Hyperborea czekanowskii* Grum-Grshimailo, 1900 (Arctiidae), *Syngrapha ottolenguii* (Dyar, 1902), *Apamea rubirena* (Treitschke, 1825), *Chortodes stigmatica* (Eversmann, 1855), *Mniotype adusta* (Esper, 1790) (Noctuidae), and *Aphelia septentrionalis* Obraztsov, 1959 (Tortricidae).

The Holarctic Lepidoptera fauna of the Yukon is dominated by species associated with either the boreal forest/taiga and/or the wet or dry tundra. Half (96) of the 191 Holarctic species are boreal-zone species associated with taiga forests and all but 2 of them are widely distributed in both North America and Eurasia (the 2 exceptions, *Choristoneura lapponica* (478) and *Gypsonoma nitidulana* (497), are known to occur in North America only in the Yukon, Table 4). This circumboreal Holarctic fauna, however, is not associated with the tree species that characterize the boreal zone but feed as larvae on blueberry, willow, or dwarf birch and frequently also occur in the shrub-tundra zone.

Seventy-seven Holarctic species are primarily associated with tundra habitats, 42 with wet tundra and 35 with dry tundra, this representing 60% of the tundra fauna. Species associated with wet tundra habitats tend to be widespread in both the Palaearctic and Nearctic, this habitat being widespread and more or less continuous in the northern hemi-

TABLE 3. Zoogeographic affinities by habitat of the recorded species of Yukon Lepidoptera.

Range type	Boreal forest/taiga	Boreo-montane	Wet shrub-tundra	Dry tundra/scree	Dune/steppe	Total no. of species
Widespread Nearctic	191	39	29	11	35	305
Nearctic Beringian	2	0	2	16	2	22
Widespread Holarctic	94	7	37	21	7	166
Palaeartic plus Nearctic Beringian	2	3	5	14	1	25
Total	289	49	73	62	45	518

sphere north of treeline. Species associated with dry tundra habitats, by contrast, are frequently restricted to Beringia (Tables 4 and 5). Dry tundra habitats, especially scree slopes, are usually in upland areas and thus are more patchy in their occurrence in the arctic.

Only a small proportion of Holarctic species occurs in the boreomontane zone (10 species, 20% of the boreomontane fauna). Most of the boreomontane fauna consists of Nearctic species that are widespread in western North America and reach the northern limits of their ranges in Yukon or Alaska. Six Holarctic boreomontane species (i.e. *Bactra lancealana*, *Cabera exanthemata*, *Eana argentana*, *Trichosilia nigrita*, *Xanthorhoe incurvata* and *Xestia speciosa*) are widely distributed in Eurasia and western North America. The other 3 occur in North America only in the Beringian area (Table 4).

Eight steppe species are Holarctic (18% of the steppe fauna). Most steppe species are associated with Great Basin steppe habitat and occur in the Yukon as disjunct populations on dry south-facing slopes and river banks.

More taxonomic research is needed on Holarctic species. A recent study of Holarctic noctuids (Mikkola et al. 1991) revealed an additional 29 Holarctic species through taxonomic revision and showed that 17 species thought to be Holarctic consisted of separate Nearctic/Palaeartic species pairs. Similarly, a small collection of Microlepidoptera made in the Yukon over a 2-week period in 1985 produced 4 species of Tortricidae and one species of Momphidae previously thought to be restricted to the Palaeartic (Kuznetsov and Mikkola 1991; Sinev 1996).

Nearctic Species. The lepidopteran fauna of the Yukon restricted to the Nearctic region (327 species) includes 305 species that are widespread in western or northern North America and 22 species that are known only from Nearctic Beringia. Fifty-eight percent of the Nearctic fauna (191 of 327 Nearctic species) are boreal-zone species that have reinvaded the Yukon from the south following deglaciation. Most of these species occur from Newfoundland through the boreal forest zone to Alaska and occur southwards in the Appalachians to North Carolina and in the Rocky Mountains to New Mexico and Arizona. In reality, the boreal-zone Nearctic fauna in the Yukon will be even more dominant than present records show because only about one quarter of the transcontinental boreal-zone Lepidoptera fauna has been recorded from the Yukon. Because the Yukon is one of the best and most accessible areas to collect arctic and alpine Lepidoptera, the tundra fauna of the Yukon, at least in the Macrolepidoptera superfamilies (Papilionoidea, Hesperioidea, Noctuoidea, Geometroidea, Bombycoidea, Sphingoidea) is relatively well collected. Of the 135 tundra species known from the Yukon (Table 3) 58 (43%) are restricted to the Nearctic region. We expect that many of these tundra species will be discovered in the Palaeartic region because only 14%

TABLE 4. Palaearctic-East Beringian species in the Yukon and their habitat type, showing range in Eurasia. Habitat: B, Boreal forest/taiga; BM, Boreomontane; WT, Wet shrub-tundra; DT, Dry tundra/scree; D, Dune/steppe.

Species (Species number)	Habitat	Eastern Palaearctic only (16 spp.)	Palaearctic including Europe (9 spp.)
Arctiidae			
<i>Acerbia alpina</i> (Quensel, 1802) (124)	DT		+
<i>Dodia kononenkoi</i> Chistyakov and Lafontaine, 1984 (128)	DT	+	
<i>Pararctia subnebulosa</i> (Dyar, 1899) (138)	DT	+	
Geometridae			
<i>Entephria</i> sp. A (35)	DT	+	
Noctuidae			
<i>Autographa buraetica</i> (Staudinger, 1892) (169)	BM		+
<i>Euxoa hyperborea</i> Lafontaine, 1987 (198)	D	+	
<i>Lasionycta skraelingia</i> (Herrich-Schäffer, 1845) (229)	WT		+
<i>Parabarrovia keelei</i> Gibson, 1920 (243)	DT	+	
<i>Trichosilia beringiana</i> Lafontaine and Kononenko, 1986 (277)	DT	+	
<i>Xestia aequaeva</i> (Benjamin, 1933) (283)	DT	+	
<i>Xestia alaskae</i> (Grote, 1876) (284)	DT	+	
<i>Xestia albuncula</i> (Eversmann, 1851) (285)	BM	+	
<i>Xestia fergusonii</i> Lafontaine, 1983 (290)	DT	+	
<i>Xestia intermedia</i> (Kononenko, 1981) (293)	DT	+	
<i>Xestia kolymae</i> (Herz, 1903) (294)	WT	+	
<i>Xestia liquidaria</i> (Eversmann, 1848) (296)	DT	+	
<i>Xestia lorezi</i> (Staudinger, 1891) (297)	WT		+
<i>Xestia lyngei</i> (Rebel, 1923) (298)	DT		+
Nymphalidae			
<i>Erebia anyuica</i> Kurentzov, 1966 (342)	DT	+	
<i>Oeneis rosovi</i> Kurentzov, 1970 (364)	BM	+	
Pieridae			
<i>Euchloe naina</i> Kozhantshikov, 1923 (393)	DT		+
Tortricidae			
<i>Choristoneura lapponica</i> (Tengström, 1869) (478)	B		+
<i>Clepsis danilevskyi</i> Kostjuk, 1973 (479)	WT	+	
<i>Epiblema simplonianum</i> Duponchel, 1835 (488)	WT		+
<i>Gypsonoma nitidulana</i> (Zeller, 1846) (497)	B		+

(4/29) of the tundra butterflies are restricted to the Nearctic region. The list of species known only from East Beringia (Table 5) is dominated (16/22, 73%) by species associated with dry tundra habitat. Steppe habitat is much more restricted in Alaska than in the Yukon and steppe collections from Russia lack most of the Yukon steppe species, so most of the Nearctic steppe fauna in the Yukon is probably at its northern and western limits. Most of the steppe fauna consists of Great Basin and Great Plains species that are disjunct in the relict steppe habitats in the southern Yukon.

Special Features of the Yukon Fauna

Yukon Endemic Species. Nine species of Lepidoptera are known only from the Yukon (Table 5). Most of these species occur in widespread tundra habitats and are unlikely to be restricted to the Yukon but simply have not yet been collected in Alaska. There are, however, 2 species that might prove to be endemic to the Yukon.

TABLE 5. East Beringian endemic species of the Yukon and their habitat types, showing those restricted to the Yukon. Habitat: B, Boreal forest/taiga; BM, Boreomontane; WT, Wet shrub-tundra; DT, Dry tundra/scree; D, Dune/steppe.

Species (Species number)	Habitat	Yukon restricted (9 spp.)
Arctiidae		
<i>Acsala anomala</i> Benjamin, 1935 (125)	DT	
<i>Dodia</i> n. sp (129)	DT	+
<i>Neoarctia lafontainei</i> Ferguson, 1985 (136)	DT	+
Geometridae		
<i>Entephria</i> sp. B (36)	DT	
<i>Psycophora</i> n. sp. near <i>suttoni</i> Heinrich, 1942 (85)	DT	+
Noctuidae		
<i>Aletia yukonensis</i> (Hampson, 1911) (153)	D	
<i>Euxoa macrodentata</i> Hardwick, 1965 (201)	D	+
<i>Luperina</i> sp. near <i>hedeni</i> (Graeser, 1888) (235)	DT	+
<i>Merolonche atlinensis</i> Barnes and Benjamin, 1927 (237)	DT	
<i>Parabarrovia ogilviensis</i> Lafontaine, 1988 (244)	DT	+
<i>Trichosilia woodiana</i> Lafontaine, 1986 (281)	DT	
<i>Trichosilia</i> sp. near <i>woodiana</i> (282)	DT	+
<i>Xestia bryanti</i> (Benjamin, 1933) (287)	DT	
<i>Xestia</i> sp. near <i>penthima</i> (Erschoff, 1870) (302)	DT	+
<i>Xestia woodi</i> Lafontaine and Kononenko, 1983 (312)	DT	
Nymphalidae		
<i>Erebia lafontainei</i> Troubridge and Philip, 1983 (347)	WT	
<i>Erebia youngi</i> Holland, 1900 (352)	DT	
Pieridae		
<i>Pieris angelika</i> Eitschberger, 1981 (394)	B, WT	
Pterophoridae		
<i>Oidaematophorus alaskensis</i> Barnes and Lindsey, 1923 (400)	DT	
Pyralidae		
<i>Udea alaskalis</i> (Gibson, 1920) (438)	DT	
Tortricidae		
<i>Apotomis strigosa</i> (Heinrich, 1926) (470)	B?	+
<i>Lozotaenia hesperia</i> Powell, 1962 (501)	WT	

Euxoa macrodentata (201) is associated with steppe habitat and has been found at Teslin, Whitehorse and Kluane National Park. There is little suitable habitat for this species in Alaska or northern British Columbia.

Parabarrovia ogilviensis (244) is probably endemic to the northern Ogilvie Mountains where it is restricted to white dolomite barrens at high elevations. This habitat is very limited elsewhere in the Yukon, Alaska and Russia and *Parabarrovia ogilviensis* is replaced by 2 other species of *Parabarrovia* in these other areas.

Yukon Disjunct Species. The intensity of collecting efforts in the Yukon in the past 20 years has produced records of a number of species that are well outside their previously known ranges. Some species that had been considered to be Palaearctic, such as *Choristoneura lapponica* (478), *Clepsid danilevskyi* (479), *Gypsonoma nitidulana* (497), *Lasionycta skraelingia* (229), and *Xestia kolymae* (294), have now been found in North America in the Yukon but are unknown from Alaska. Such tundra and boreal-zone species are unlikely to be disjunct but reflect a lack of collecting in Alaska. Similarly, boreal-zone species such as *Grammia virguncula* (135), *Lasionycta taigata* (231), and *Xestia fabulosa* (289), which occur in the Yukon but have not been collected in British Columbia or the Northwest Territories, undoubtedly reflect a lack of collecting rather than range disjunctions.

There do appear to be genuine disjuncts in the Yukon steppe fauna. Most of these are species that are widespread in the Great Basin and Great Plains and reach the northern limits of their ranges in southern British Columbia and southern Alberta but occur in the north on the steppe slopes of the southern Yukon. *Schinia persimilis* (259) has not been found in British Columbia so the gap in its range is between southern Alberta and southern Yukon.

Possibly the largest disjunction among Yukon Lepidoptera is in *Lasionycta quadrilunata* (228), which occurs in the Yukon and Alaska and in Colorado. Other species, such as the butterflies *Boloria improba* (336) and *Erebia theano* (351), have similar ranges but are known from isolated colonies between Yukon and Colorado and the range gap in *L. quadrilunata* may reflect the fact that butterflies are much more extensively collected than moths.

Biennialism in Yukon Lepidoptera. Most of the Lepidoptera fauna of the Yukon is present as adults every year. For some species, particularly arctic and high-elevation species, development from egg to adult cannot be completed in a single year and 2 or more summers may be required to complete the larval stage. Larval development stops when conditions deteriorate in late summer and continues again in the spring when conditions are suitable. For these species, variability and unpredictability of summer length and mean summer temperature result in adults being present every year in variable numbers and with varying numbers of years having been spent in the larval stage.

For a small portion of the fauna, usually species associated with the northern boreal zone, development to the adult stage predictably lasts for 2 years. The larvae of these species develop about half way the first season and development is completed the second season. There is an obligatory prepupal diapause; the larvae may complete as little as one third or as much as two thirds of their development the first year but when growth is completed the second year the larvae go into diapause for the remainder of the season. The groups that tend to have a fixed 2-year life cycle are the northern boreal-zone species of *Boloria*, *Oeneis* and *Erebia* in the butterflies and *Xestia* in the Noctuidae. A second aspect of this phenomenon is that many species have a synchronized life cycle so that adults are rare or absent every second year. This synchrony is believed to result from complicated interactions consisting of predator/parasitoid pressures, natural disasters which lower the population for a season, and plant defence mechanisms (Mikkola and Kononenko 1989; Mikkola 1976; Wipking and Mengelkoch 1994). A third aspect of biennialism is that the various species become synchronous with each other over large geographical areas. In the Yukon, biennial species fly in odd-numbered years; this is a small portion of the odd-year zone which extends from Hudson Bay westward to central Fennoscandia. An even-year pattern predominates in eastern Canada and in western Fennoscandia and Great Britain. In Canada, these zones are separated by Hudson Bay but in Fennoscandia there is a complex pattern where the ranges of the odd-year and even-year flights are in contact (Mikkola 1986). In the Yukon, the odd-year flight pattern results in many species of *Boloria*, *Erebia* and *Oeneis* being much more common in odd-numbered years. In *Xestia*, however, species in the subgenera *Pachnobia* and *Anomogyia* are virtually absent in even-numbered years (Lafontaine et al. 1987).

Flightless Species. Flightlessness in Yukon Lepidoptera is restricted to females of 9 species. Females of *Acsala anomala* (125) and *Pararctia subnebulosa* (138) (Arctiidae), *Orgyia antiqua* (145) (Lymantriidae), and *Xestia aequaeva* (283), *Xestia alaskae* (284), *Xestia liquidaria* (296), and *Xestia ursae* (310) (Noctuidae) have markedly reduced wings and can not fly at all. Females of *Gynaephora rossii* (144) and *Gynaephora groenlandica* (143) (Lymantriidae) have larger wings than males but apparently do not fly (Ferguson 1978). In a number of species (e.g. *Aspitates orciferarius* (21) (Geometridae), *Xestia tecta* (308) and

Xestia okakensis (301) (Noctuidae)), females have shorter or narrower wings than males and fly less frequently than males. Some Gelechiidae, such as the *Gnorimoschema* species on the dunes at Carcross (7, 8), prefer to run on the sand like silverfish rather than fly.

Flightlessness in females is characteristic of the genera *Orgyia* and *Gynaephora* throughout their range and is not a Beringian phenomenon. The other 6 species are largely restricted in distribution to the Beringian area (*Xestia ursae* occurs as far east as Hudson Bay). There is nothing obvious in either the habits or habitat requirements of the 6 Beringian species to explain the development of flightlessness in these species.

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References

- Ahola, M. and J. Silvonon. 1981. The immature stages of *Xestia kongsvoldensis* and *X. tecta* (Lepidoptera, Noctuidae). *Notulae ent.* 61:183–189.
- Back, W. 1990. Taxonomische Untersuchungen innerhalb der Artengruppe um *Euchloe ausonia* (Hübner, 1804) (Lepidoptera, Pieridae). *Atalanta* 21:187–206.
- Bird, C.D., G.J. Hilchie, N.G. Kondla, E.M. Pike, and F.A.H. Sperling. 1995. Alberta Butterflies. Provincial Museum of Alberta, Edmonton. 347 pp.
- Bolte, K.B. 1990. Guide to the Geometridae of Canada (Lepidoptera). VI. Subfamily Larentiinae. 1. Revision of the Genus *Eupithecia*. *Mem. ent. Soc. Can.* 151. 253 pp.
- Chistyakov, Y.A. and J.D. Lafontaine. 1984. A review of the genus *Dodia* Dyar (Lepidoptera: Arctiidae) with description of a new species from eastern Siberia and northern Canada. *Can. Ent.* 116:1549–1556.
- Covell, C.V., Jr. 1984. A Field Guide to the Moths of Eastern North America. Houghton Mifflin Co., Boston. 496 pp., 64 plates.
- Ferguson, D.C. 1978. Noctuoidea Lymantriidae. In: R.B. Dominick et al., The Moths of America North of Mexico, fascicle 22.2. The Wedge Entomological Research Foundation, Washington, D.C. 110 pp., 9 plates.
- Forbes, W.T.M. 1948. Lepidoptera of New York and neighboring states. Part II: Geometridae, Spingidae, Notodontidae, Lymantriidae. *Mem. Cornell Univ. agric. Exp. Stn* 274:1–263.
- Geiger, H. and A.M. Shapiro. 1992. Genetics, systematics and evolution of holarctic *Pieris napi* species group populations (Lepidoptera, Pieridae). *Z. Zool. Syst. Evolutforsch.* 30:100–122.
- Hilchie, G.J. 1990. Classification, relationships, life history, and evolution of *Erebia magdalena* Strecker (Lepidoptera: Satyridae). *Quaest. ent.* 26:665–693.
- Hodges, R.W. 1974. Gelechioidea Oecophoridae. In: R.B. Dominick et al., The Moths of America North of Mexico, fascicle 6.2. The Wedge Entomological Research Foundation, Washington, D.C. 142 pp., 7 plates.
- Kloet, G.S. and W.D. Hinks. 1972. A Check List of British Insects. Part 2: Lepidoptera. *Handb. Ident. Br. Insects* 11 (2). 153 pp.
- Kuznetsov, V.I. and K. Mikkola. 1991. The leaf-roller fauna of north-eastern Siberia, USSR, with descriptions of three new species (Lepidoptera, Tortricidae). *Nota lepid.* 14:194–219.

- Lafontaine, J.D., J.G. Franclemont, and D.C. Ferguson. 1982. Classification and life history of *Acsala anomala* (Arctiidae: Lithosiinae). *J. Lepid. Soc.* 36:218–226.
- Lafontaine, J.D. and V.S. Kononenko. 1988. A review of the genus *Parabarbarovia* Gibson (Lepidoptera: Noctuidae) with description of the immature stages and a new species. *Can. Ent.* 120:507–523.
- Lafontaine, J.D., V.S. Kononenko, and T.L. McCabe. 1986. A review of the *Lastonycta leucocyclus* complex (Lepidoptera: Noctuidae) with descriptions of three new subspecies. *Can. Ent.* 118:255–279.
- Lafontaine, J.D., K. Mikkola, and V.S. Kononenko. 1987. A revision of the genus *Xestia* subg. *Pachnobia* (Lepidoptera: Noctuidae), with descriptions of two new subspecies. *Entomologica scand.* 18:305–331.
- Lafontaine, J.D. and R.W. Poole. 1991. Noctuoidea, Noctuidae (part) Plusiinae. In: R.B. Dominick et al., The Moths of America North of Mexico, fascicle 25.1. The Wedge Entomological Research Foundation, Washington, D.C. 182 pp., text figures 1–68, monochrome plates A–Q, color plates 1–4.
- Lafontaine, J.D. and D.M. Wood. 1988. A zoogeographic analysis of the Noctuidae (Lepidoptera) of Beringia, and some inferences about past Beringian habitats. pp. 109–123 in J.A. Downes and D.H. Kavanaugh (Eds.), Origins of the North American Insect Fauna. *Mem. ent. Soc. Can.* 144. 168 pp.
- McGuffin, W.C. 1967. Guide to the Geometridae of Canada (Lepidoptera). I. Subfamily Sterrhinae. *Mem. ent. Soc. Can.* 50. 67 pp.
- 1972. Guide to the Geometridae of Canada (Lepidoptera). II. Subfamily Ennominae. 1. *Mem. ent. Soc. Can.* 86. 159 pp.
- 1977. Guide to the Geometridae of Canada (Lepidoptera). III. Subfamily Ennominae. 2. *Mem. ent. Soc. Can.* 101. 191 pp.
- 1981. Guide to the Geometridae of Canada (Lepidoptera). IV. Subfamily Ennominae. 3. *Mem. ent. Soc. Can.* 117. 153 pp.
- 1987. Guide to the Geometridae of Canada (Lepidoptera). V. Subfamily Ennominae. 4. *Mem. ent. Soc. Can.* 138. 182 pp.
- McGugan, B.M. (compiler). 1958. Forest Lepidoptera of Canada. Volume 1 Papilionidae to Arctiidae. *Can. Dep. For. Publ.* 1034:1–76.
- Mikkola, K. 1976. Alternate-year flight of northern *Xestia* species (Lep., Noctuidae) and its adaptive significance. *Annls ent. fenn.* 42:191–199.
- Mikkola, K., I. Jalas, and O. Peltonen. 1985. Suomen Perhoset, Mittarit 1 [Finnish Lepidoptera, Geometrioida 1]. Suomen Perhostutkijain Seura, Helsinki. 260 pp., 12 plates.
- Mikkola, K. and V.S. Kononenko. 1989. Flight year of the alternate-year *Xestia* moths (Lepidoptera, Noctuidae) in north-eastern Siberia - a character from the Ice Ages? *Nota lepid.* 12:144–152.
- Mikkola, K., J.D. Lafontaine, and V.S. Kononenko. 1991. Zoogeography of the Holarctic species of the Noctuidae (Lepidoptera): importance of the Beringian refuge. *Entomologica fenn.* 2:157–173.
- Miller, W.E. 1985. Nearctic *Olethreutes*: five new synonymies, two revised statuses, and notes (Lepidoptera: Tortricidae). *Proc. ent. Soc. Wash.* 87:408–417.
- 1995. Beringian Tortricidae: a new synonymy in *Epiblema* and a recount of holarctic species. *J. Lepid. Soc.* 49:250–252.
- Prentice, R.M. (compiler). 1962. Forest Lepidoptera of Canada. Volume 2 Nycteolidae Noctuidae Notodontidae Liparidae. *Can. Dep. For. Bull.* 128:75–281.
- (compiler). 1963. Forest Lepidoptera of Canada. Volume 3 Lasiocampidae Thyatiridae Drepanidae Geometridae. *Can. Dep. For. Publ.* 1013:281–543.
- (compiler). 1965. Forest Lepidoptera of Canada. Volume 3 Microlepidoptera. *Can. Dep. For. Publ.* 1142:543–840.
- Scott, J.A. 1986. The Butterflies of North America. Stanford University Press, Stanford, California. 583 pp., 64 plates.
- Shepard, J.S., S.M. Shepard, and T.R. Manley. 1994. A revision of the *Parnassius phoebus* complex in North America (Lepidoptera, Papilionidae). pp. 717–726 in T.C. Emmel (Ed.), Systematics of Western North American Butterflies. Mariposa Press, Gainesville. 859 pp.
- Sinev, S.Y. 1996. Geographic distribution and nomenclature of nine species of Momphidae (Lepidoptera) discovered in Asia and North America. *Acta zool. fenn.* 200:9–17.
- Troubridge, J.T. and D.M. Wood. 1990. Biology and taxonomic status of *Boloria natazhati* (Gibson) (Nymphalidae). *J. Lepid. Soc.* 44:180–187.
- Varis, V., J. Jalava, and J. Kyrki. 1987. Check-list of Finnish Lepidoptera. *Notulae ent.* 67:49–118.
- Wipking, W. and C. Mengelkoch. 1994. Control of alternate-year flight activities in high-alpine Ringlet butterflies (*Erebia*, Satyridae) and Burnet moths (*Zygaena*, Zygaenidae) from temperate environments. pp. 313–347 in H.V. Danks (Ed.), Insect Life-cycle Polymorphism. Theory, Evolution and Ecological Consequences for Seasonality and Diapause Control. Kluwer Academic Publishers, Dordrecht, Netherlands. 378 pp.