# AN ANNOTATED LIST OF SOUTHEASTERN WYOMING RHOPALOCERA

# by Gene R. Defoliart

Wyoming is among the least known areas entomologically in the United States. The older distribution lists of Lepidoptera all too frequently included "Colorado and Montana" in the range of a given species with Wyoming conspicuous by its absence. Although an increasing amount of collecting by lepidopterists has been done in the State in recent years, the dearth of published information remains.

A complete list of the butterflies of the State has never been attempted. KLOTS (1930) recorded 78 species from Wyoming on the basis of collecting at Moose, Teton County, in the northwest and in the Medicine Bow Range of Albany County in the southeast. While not intended as a state list by its author, his paper remains the longest published list to date of Wyoming butterfly records.

KLOTS recorded 43 species from Albany County with some additional ones from nearby northern Colorado localities. Additional published records, mostly by KLOTS (1937, 1940) and NABOKOV (1953), bring the total to nearly 60 species previously reported as occurring in southeastern Wyoming. The purpose of the present paper is to report for the first time a great number of additional species occurring in the southeastern area, bringing the total to 127 species, many of which are recorded also for the first time from anywhere in Wyoming.

There are many species yet to be recorded from the southeastern area that should turn up with additional collecting. The fauna of the north and west differs markedly from that of the southeast. When Wyoming has been as thoroughly collected as some other states, it should boast a rich and varied butterfly fauna, possibly exceeded only by one or two other states.

# PHYSIOGRAPHY AND CLIMATE

The writer has had opportunity to collect intensively in Albany and Platte Counties during the past 5 years and to a lesser extent in Carbon County. The location of the three counties is shown in Figure 1.

The area consists mainly of elevated plains broken by mountain ranges and river valleys. The Medicine Bow Range in southwestern Albany County and southeastern Carbon County has many square miles above timberline topped by Medicine Bow Peak at an elevation of 12,005 ft. The northern, most elevated part of the Medicine Bows is known as the Snowy Range and is frequently capped with snow even in midsummer. Snowy Range Pass (elev. 10,800 ft.) is

traversed by a good hard-surfaced highway (State 130). In eastern Albany County, the Laramie Mountains occur as a foothill spur of the Medicine Bows, separated from the latter by the Laramie Plain. The Sierra Madre Mountains in Carbon County are separated from the Medicine Bows by the upper North Platte valley. The backbone of this range forms the Continental Divide with the highest point being Bridger Peak (elev. 11,007 ft.). Eastward from the Laramie Mountains, the plains are less elevated, the lowest point in the area being Guernsey located on the North Platte at an elevation of 4400 ft.

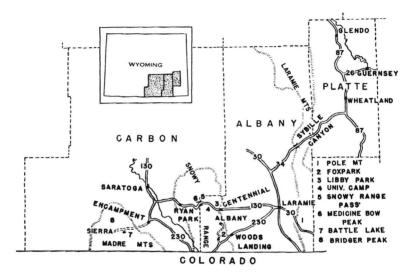


Fig. 1. Map of southeastern Wyoming. Inset shows the location of Albany, Carbon, and Platte Counties in relation to the rest of Wyoming.

Rainfall on the plains averages 11 to 15 inches. The mountains receive a great deal more moisture both as winter snows and heavy rains during the summer. The annual average temperature at representative points is 41.4°F. at Laramie, 33.2°F. at Foxpark, and 48.8°F. at Wheatland. Average annual precipitation for the three locations is 11.32, 17.84, and 13.70 inches respectively.

# LIFE ZONES AND COLLECTING LOCALITIES

Features of the various collecting localities probably can best be ascertained by delimiting life zones as they occur in the three-county area. For detailed information on life zones in Wyoming, CARY (1917) should be consulted.

The Upper Sonoran Zone occurs along the eastern border of the State as an extension of the Great Plains to the east. Its upper limits are generally between 5,000 and 6,000 ft. and it includes a large part of central and eastern

Platte County. It is mainly open plain covered with a luxuriant growth of grasses and large groves of broad-leaved cottonwoods along the rivers and streams. Willows, Box Elder, Flowering Currant, and Wolfberry also occur along the streams, and shrubs common on dry flats and rocky slopes include Saltbush, Rabbit Brush, Sagebrush, Yucca, and others. Localities collected include:

Guernsey, Platte Co., elev. 4400 ft. Collecting mainly along east shore of Guernsey Reservoir. Upper Sonoran species predominate, but rocky buttes and hills support a scrubby growth of Rocky Mountain Juniper, Yellow Pine, and other Transition vegetation.

Wheatland, Platte Co., elev. 4700 ft. Collecting within a 10 to 15 mile radius on both irrigated and grass land.

The Transition Zone occurs approximately between 6,000 and 8,000 ft. elevation and is well marked only along its upper border where sage slopes give way to the aspen and coniferous forest belt. It occupies the remainder of Platte County and the sagebrush plains and high grassy plains of nearly all of Albany and Carbon Counties except the mountainous areas. Sagebrush, grasses, and Yellow Pine are characteristic types of vegetation along with Rocky Mountain and Creeping Junipers, Mountain Mahogany, Rocky Mountain Birch, Gooseberry, and many others. Collecting localities include:

Centennial, Albany Co., elev. 8100 ft. Collecting in sagebrush flats west of town.

Woods Landing, Albany Co., elev. 7500 ft. Collecting in canyons just below the forest.

Sybille Canyon, Albany Co. Collecting from Morton's Pass east along State Highway 34 at elevations of about 7500 ft. down to about 5500 ft.

Glendo, Platte Co., elev. 4700 ft. Collecting between Highway 87 and the North Platte River 5 to 15 miles south of town.

The Canadian Zone occurs extensively on the Medicine Bow Range and the Sierra Madre and Laramie Mountains approximately between 8,000 and 10,000 ft. It is characterized by forests of Aspen, Lodgepole Pine, Engelmann Spruce and Fir. Collecting localities include:

Albany and Foxpark, Albany Co., elev. approximately 8500 ft.

Illinois-Douglas Creek jct., elev. approximately 8,000 ft.

Lower Libby Park, Albany Co., elev. 8500 ft. Collecting along Highway 130 up to about 9,000 ft.

University of Wyoming Science Camp, Albany Co., elev. 9600 ft. Collecting in large meadows at upper edge of coniferous forest up to about 10,300 ft.

Pole Mountain, Albany Co., elev. 8500 ft. Most collecting at lower fringe of the forest.

Ryan Park, Carbon Co. Collecting along Highway 130 on western slope of Snowy Range at elevations of 8,000 to 9500 ft.

Sierra Madre Mountains, Carbon Co. Collecting mostly in Canadian Zone along gravel road from Encampment to beyond Battle Lake at elevations of 8,000 to 9,900 ft.

Collecting in Hudsonian Zone territory was confined to the area around Snowy Range Pass, Albany Co., elev. 10,800 ft., and at elevations up to about 11,500 ft. Lewis Lake, Towner Lake, and Lake Marie are nearby. The area is characterized by patches of stunted spruce and many small lakes. Arctic-Alpine Zone is restricted to the barren top of Snowy Range.

# LIST OF SPECIES

Arrangement of families (and genera as nearly as possible) follows that of KLOTS (1951). With exceptions, arrangement and use of species names within genera primarily follows McDunnough (1938). The writer has taken all species previously reported for the area, with the exceptions of two migratory pierids, so previously published records are not repeated. Mr. F. M. Brown kindly volunteered the data from his collecting trips in the area, and his captures are designated (FMB). Flower preferences and other data are given for some of the species by Klots (1930), and additional recent information on nearly all of the species can be found in *Colorado Butterflies*, by Brown, Eff, and Rotger (1954).

#### SATYRIDÆ

- 1. Cœnonympha tullia ochracea Edwards. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Garrett 7-1-51 (FMB); Illinois-Douglas Creek jct. 7-4-55; Libby Park 6-24-52; Pole Mt. 7-20-52, 6-19-54; Sybille Canyon 6-14-52, 6-12-54; U.W. Sci. Camp 7-5-54: Woods Landing 5-30-54, 6-11-54, 6-12-55. Carbon Co.: Ryan Park 7-1-55; Sierra Madre Mts. 6-26-54. Widespread and common throughout the region with greatest abundance in Transition and Canadian Zones.
- 2. Neominois ridingsii Edwards. Platte Co.: Glendo 6-18-53; Wheatland 6-13-52. Quite local.
- 3. Cercyonis pegala olympus Edwards. Platte Co.: Glendo 7-2-52; Wheatland 7-20-51, 7-10-52, 7-14-53, 7-16-53. Frequents grassy hillsides and meadows, especially near streams.
- 4. Cercyonis meadii Edwards. Platte Co.: Glendo 8-14-52, 8-20-52, 9-3-52, 9-9-53. Very local and not common even when found.
- 5. Cercyonis cetus charon Edwards. Albany Co.: Centennial 6-30-52; Pole Mt. 7-30-51, 7-13-52, 7-27-52, 7-28-54, 8-8-54, 7-30-55, 8-15-55; Woods Landing 7-28-54. Carbon Co.: Ryan Park 7-29-55. Platte Co.: Glendo 7-2-52. This is undoubtedly the most abundant satyrid in the region and, next to C. ochracea, the most widely distributed.
- 6. *Œneis chryxus* Doubleday. Albany Co.: Albany 6-20-54; Libby Park 6-24-52, 6-26-54; Pole Mt. 6-19-54; U.W. Sci. Camp 6-30-52, 7-5-54; Snowy Range Pass 6-30-52. Carbon Co.: Sierra Madre Mts. 6-26-54. *O. chryxus* seems to occur in the area only in even-numbered years.
- 7. *Œneis uhleri* Reakirt. Albany Co.: Albany 6-20-54; nr. Eagle Mt. 7-2 to 4-51 (FMB); Illinois-Douglas Creek jct. 7-4-55; Palmer Canyon 7-1-51 (FMB); Woods Landing 6-14-53, 6-20-53, 5-30-54, 6-11-54, 6-12-55, 6-18-55. Atypical, but not sufficiently different to warrant subspecific recognition according to Brown (1953) who figures a male and female from the Laramie Mountains.
- 8. Erebia epipsodea Butler. Albany Co.: Centennial 6-30-52; nr. Eagle Mt. 7-2 to 4-51 (FMB); Foxpark 7-4-55; Illinois-Douglas Creek jct. 7-4-55; Lake Marie 7-25-53

(FMB); Pole Mt. 6-28-53, 7-11-53, 6-19-54; Snowy Range Pass 7-15-52, 7-20-55; Sybille Canyon 6-12-54; Towner Lake 7-25-53; Upper Nash Fork 7-24-53 (FMB); U.W. Sci. Camp 6-30-52, 7-13-53, 7-5-54. Carbon Co.: Ryan Park 6-26-54, 7-1-55.

#### DANAIDÆ

- 9. Danaus gilippus strigosus Bates. Albany Co.: Albany 6-20-54; a single worn specimen. Another, in better condition, was seen on Pole Mt. in August, 1953.
- 10. Danaus plexippus Linné. Platte Co.: Wheatland 7-14-53. Only 2 to 3 dozen specimens seen in most years.

#### NYMPHALIDÆ

- 11. Euptoieta claudia Cramer. Albany Co.: Foxpark 7-4-55; Pole Mt. 8-1-53. Carbon Co.: Sierra Madre Mts. 8-17-54. Platte Co.: Wheatland 8-12-53, 8-18-53. Frequently becomes common on the plains late in the summer.
- 12. Speyeria cybele charlottii Barnes. Carbon Co.: Sierra Madre Mts. 8-2-55. 8-28-55. These dates are late; only females were taken.
- 13. Speyeria aphrodite ethne Hemming. Albany Co.: Pole Mt. 7-30-51, 7-13-52, 8-1-53, 8-6-53, 8-7-53, 7-30-55. Platte Co.: Wheatland 7-2-53; Glendo 8-12-53.
- 14. Speyeria idalia Drury. Platte Co.: Wheatland 7-7-55. The specimen was netted by Dr. W. D. FRONK while collecting with the author.
- 15. Speyeria edwardsii Reakirt. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Lewis Lake 7-23-51 (FMB); Pole Mt. 7-13-52, 8-23-53, 6-19-54; Sybille Canyon 6-11-52, 6-14-52. Platte Co.: Wheatland 6-13-52, 6-24-53, 6-30-55.
- 16. Speyeria coronis halcyone Edwards. Albany Co.: Pole Mt. 7-13-52, 7-20-52, 8-1-53, 8-6-53, 8-23-53, 7-30-55; Sybille Canyon 6-14-52, 7-9-53. Carbon Co.: Ryan Park 7-29-55; Sierra Madre Mts. 8-17-54. Platte Co.: Guernsey 7-20-51, 6-18-52, 7-16-52; Wheatland 6-24-53, 7-2-53, 7-7-55. These show much green and according to PAUL GREY (personal communication) are transitional toward snyderi Skinner, the Utah and western Wyoming subspecies. It is a common species in this area.
- 17. Speyeria zerene platina Skinner. Albany Co.: Pole Mt. 7-30-51, 7-20-52, 7-27-52, 8-17-52, 8-20-52, 8-1-53, 8-7-53, 8-23-53. Grey provisionally referred these to zerene, but stated that they are not quite typical of any named subspecies, running to sinope dos Passos & Grey, platina, and garretti Gunder. They are somewhat difficult to separate from the local Speyeria coronis.
- 18. Speyeria callippe meadii Edwards. Albany Co.: Albany 6-20-54; Pole Mt. 8-11-51, 7-13-52, 7-11-53; Sybille Canyon 6-13-52, 6-14-52, 6-27-53, 6-12-54. Carbon Co.: Ryan Park 6-26-54; Sierra Madre Mts. 6-26-54. This insect, lighter than true meadii, abounds in some years in Sybille Canyon.
- 19. Speyeria egleis secreta dos Passos & Grey. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55. Abundant on the latter date.
- 20. Speyeria atlantis hesperis Edwards. Albany Co.: Libby Park 6-30-52; Pole Mt. 7-30-51, 8-11-51, 7-13-52, 7-20-52, 8-1-53, 8-6-53, 8-7-53, 8-23-53, 8-8-54, 7-30-55, 8-15-55; Woods Landing 7-21-52. Carbon Co.: Ryan Park 7-29-55; Sierra Madre Mts. 6-26-54, 8-2-55. Apparently never descends much below 8,000 ft.
- 21. Speyeria hydaspe sakuntala Skinner. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55.
- 22. Speyeria mormonia eurynome Edwards. Albany Co.: Albany 6-20-54; Lewis Lake 7-23-53 (FMB); Pole Mt. 7-22-51, 7-30-51, 8-6-53, 8-7-53, 8-8-54, 7-30-55; Snowy Range Pass 7-5-54, 7-31-54; Towner Lake 7-25-53; U.W. Sci. Camp 8-15-53. Carbon Co.: Ryan Park 6-26-54; Sierra Madre Mts. 6-26-54, 8-17-54, 8-2-55. S. eurynome ranges higher than any of the other local Speyeria, and, with Plebeius glandon rustica and Colias eurytheme, is one of the last species to disappear from the high mountains in September. Like S. hesperis, it is never found at lower elevations.
- 23. Boloria selene tollandensis Barnes & Benjamin. Albany Co.: Foxpark 6-29-52 7-15-52, 6-20-54, 7-2-54, 7-4-55; Illinois-Douglas Creek jct. 7-4-55. Carbon Co.: Ryan Park 6-26-54. Habits and habitats of this and the following species are locally more or less as reported by BROWN (1954) for Colorado Boloria.

- 24. Boloria eunomia laddi Klots. Albany Co.: Lewis Lake 7-25-53; Snowy Range Pass 7-31-54, 7-17-55, 7-20-55, 7-29-55; Upper Nash Fork 7-24-53 (FMB). Lewis Lake is the type locality of the subspecies. It was described by KLOTS (1940).
- 25. Boloria titania helena Edwards. Albany Co.: Foxpark 7-2-54, 8-1-54; Lake Marie 7-25-53 (FMB), 8-8-53; Lewis Lake 7-23-53 (FMB); Snowy Range Pass 7-15-52, 6-26-54, 7-20-55; U.W. Sci. Camp 8-15-53. Carbon Co.: Sierra Madre Mts. 8-2-55.
- 26. Boloria freija browni Higgins. Albany Co.: Foxpark 6-12-55, 6-19-55; Illinois-Douglas Creek jct. 5-15-54, 5-15-55; Lewis Lake 7-23-53 (FMB); Snowy Range Pass 7-15-52, 6-26-54; Upper Nash Fork 7-24-53 (FMB); U.W. Sci. Camp 7-3-53. A very early appearing species.
- 27. Boloria toddi Holland. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Foxpark 6-20-54, 7-2-54; Illinois-Douglas Creek jct. 7-4-55; Pole Mt. 7-11-53. Carbon Co.: Ryan Park 6-26-54, 7-1-55. This insect occurs abundantly at Ryan Park.
- 28. Boloria frigga sagata Barnes & Benjamin Albany Co.: Albany 6-20-54, 6-19-55, 7-4-55; Foxpark 6-29-52, 6-20-54. Occurs in several bogs in the Albany-Foxpark area but is always scarce.
- 29. Euphydryas anicia eurytion Mead. Albany Co.: Centennial 6-30-52, 7-3-53, 7-5-54; Libby Park 6-24-52; Pole Mt. 6-13-53, 7-11-53, 6-13-54, 6-19-54; Snowy Range Pass 6-30-52, 7-15-52, 6-26-54, 7-5-54; Sybille Canyon 6-21-53, 6-12-54, 5-29-55; U.W. Sci. Camp 6-30-52, 7-13-53, 7-5-54; Woods Landing 6-14-53, 6-11-54. Long series from the same spot are extremely variable, and individual specimens resemble not only eurytion, but also capella and occassionally bernadetta. Material from the following localities is best referred to race bernadetta Leussler: Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB). Carbon Co.: Sierra Madre Mts. 6-26-54, 8-2-55.
- 30. Euphydryas editha Boisduval. KLOTS (1930) reported a subspecies of this from the University Science Camp. He determined the species by genitalic examination, but was unable to distinguish females from those of E. anicia eurytion with which they were flying. He did not take E. editha at lower elevations. Probably, some of the records from higher elevations given above under E. anicia eurytion actually are of this species.
- 31. Melitæa pola arachne Edwards. Albany Co.: Woods Landing 7-28-54. Platte Co.: Glendo 8-14-52, 8-20-52, 6-23-53.
- 32. Melitæa palla calydon Mead. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB). Carbon Co.: Sierra Madre Mts. 8-2-55.
- 33. Melitæa gorgone carlota Reakirt. Albany Co.: Sybille Canyon 6-12-54. Platte Co.: Glendo 7-16-52.
- 34. Melitæa nycteis drusius Edwards. Albany Co.: Sybille Canyon 6-21-53, 6-12-54, 6-19-55.
- 35. Phyciodes campestris camillus Edwards. Albany Co.: Foxpark 8-1-54; Illinois-Douglas Creek jct. 7-4-55; Pole Mt. 9-9-52, 6-28-53, 7-11-53, 8-7-53, 8-23-53, 9-5-53; Sybille Canyon 6-21-53, 6-27-53; U.W. Sci. Camp 8-15-53. Carbon Co.: Ryan Park 7-9-55.
- 36. Phyciodes tharos Drury. Albany Co.: Pole Mt. 7-11-53; Sybille Canyon 6-27-53; Woods Landing 7-21-52. Platte Co.: Wheatland 8-5-53.
- 37. Phyciodes mylitta Edwards. Albany Co.: Sybille Canyon 6-12-54. Platte Co.: Guernsey 6-18-52. Race barnesi Skinner; Carbon Co.: Sierra Madre Mts. 8-2-55. The reader is referred to Brown's (1955) discussion of the status and spotted distribution of typical P. mylitta and P. mylitta barnesi. Typical P. mylitta is Californian and ranges eastward; P. mylitta barnesi was described from Glenwood Springs, Colorado. I have taken barnesi in the Sierra Madre and at Lander which is about 150 miles northwest. NABOKOV (1953) reported it as flying on sandy ground on the parched plain at less than 7,000 ft. altitude between Saratoga and Encampment just east of the Sierra Madres. Sybille Canyon and Guernsey, where mylitta-like specimens have been taken, are 75 and 125 miles, respectively, northeast of Saratoga. The latter three localities are similar, except that Guernsey is lower.
- 38. Polygonia satyrus Edwards. Albany Co.: Lewis Lake 7-23-53 (FMB); Pole Mt. 7-27-52, 8-17-52, 9-5-53. Carbon Co.: 20 mi. SE of Encampment 5-8-54. Form marsy.ts Edwards. Pole Mt. 7-27-52.

- 39. Polygonia hylas Edwards. Albany Co.: Libby Park 8-30-53; Pole Mt. 9-5-53. Carbon Co.: Sierra Madre Mts. 8-17-54, 5-20-55.
- 40. Polygonia zephyrus Edwards. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Libby Park 8-30-53; Palmer Canyon 7-1-51 (FMB); Pole Mt. 7-27-52, 9-5-53, 9-7-53; U.W. Sci. Camp 8-15-53. Carbon Co.: Sierra Madre Mts. 8-17-54.
- 41. Nymphalis californica Boisduval. Albany Co.: Pole Mt. 8-17-52. There was a great influx of this species in 1952. It has not been seen since then.
- 42. Nymphalis milberti subpallida Cockerell. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Lewis Lake 7-23-53 (FMB); Libby Park 6-30-52; Pole Mt. 8-1-53; Snowy Range Pass 7-15-52; Sybille Canyon 6-27-53; Towner Lake 7-25-53; U.W. Sci. Camp 8-8-53. Carbon Co.: Sietra Madre Mts. 8-17-54.
- 43. Nymphalis antiopa Linné. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Palmer Canyon 7-1-51 (FMB); Pole Mt. 7-27-52, 9-7-53. Carbon Co.: 20 mi. SE of Encampment 5-8-54.
- 44. Vanessa atalanta Linné. Albany Co.: Palmer Canyon 7-1-51 (FMB); Pole Mt. 8-25-51, 3-17-52. Platte Co.: Wheatland 6-25-52.
  - 45. Vanessa virginiensis Drury. Albany Co.: Pole Mt. 9-5-53. Rare.
- 46. Vanessa cardui Linné. Albany Co.: Centennial 5-25-52; Palmer Canyon 7-1-51 (FMB); Pole Mt. 8-15-55; Woods Landing 7-21-52. Platte Co.: Wheatland 9-15-53. Abundant everywhere in 1952.
- 47. Vanessa carye Hübner. Carbon Co.: Sierra Madre Mts. 8-17-54. One specimen only.
  - 48. Precis lavinia Cramer. Platte Co.: Wheatland 7-7-55. One specimen.
- 49. Limenitis weidemeyerii Edwards. Albany Co.: Lewis Lake 7-23-53 (FMB); Pole Mt. 7-13-52, 7-11-53, 7-30-55. Carbon Co.: Sierra Madre Mts. 8-2-55. Platte Co.: Guernsey 6-18-52.
- 50. Limenitis archippus Cramer. Platte Co.: Wheatland 8-11-53. Not common. I have found it only in the N. Platte valley.

#### LYCÆNIDÆ

- 51. Strymon melinus humuli Harris. Platte Co.: Glendo 8-14-52; Guernsey 5-18-54. The specimens are between humuli and atrofasciata, but closer to the former, according to BROWN who examined them. It is very scarce. The same can be said more or less of all the hairstreaks.
- 52. Strymon titus Fabricius. Albany Co.: Woods Landing 7-28-54, 8-1-54. Carbon Co.: Sierra Madre Mts. 8-15-54, 8-17-54, 8-2-55.
  - 53. Strymon californica Edwards. Albany Co.: Woods Landing 7-21-52, 7-28-54.
- 54. Strymon sæpium Boisduval. Albany Co.: Woods Landing 7-28-54, 8-1-54. Carbon Co.: Sierra Madre Mts. 8-15-54, 8-17-54.
- 55. Callipsyche behrii crossi Field. Albany Co.: Sybille Canyon 7-9-53; Woods Landing 7-21-52, 7-28-54, 8-1-54. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55.
- 56. Satyrium fuliginosa Edwards Albany Co.: Sybille Canyon 6-27-53. Carbon Co.: Sierra Madre Mts. 8-2-55.
- 57. Mitoura spinetorum Hewitson. Albany Co.: Albany 6-20-54, 7-4-55; Pole Mt. 6-28-53, 7-11-53, 6-19-54. Widespread and abundant in Canadian Zone.
- 58. Mitoura siva Edwards. Platte Co.: Guernsey 6-18-52, 7-9-53, 5-18-54, 5-11-55, 6-21-55. Extremely local.
- 59. Callophrys apama homoperplexa Barnes & Benjamin. Albany Co.: Centennial 7-3-53; Pole Mt. 6-28-53. Most specimens have the white discal line on the underside of the wings reduced to a faint white spot in the Cu<sub>1</sub>-Cu<sub>2</sub> interspace.
- 60. Callophrys sheridani Edwards. Albany Co.: Centennial 5-25-52. Carbon Co.: 20 mi. SE of Encampment 5-8-54. This is one of the earliest appearing butterflies of the area.
- 61. Incisalia augustinus Westwood. Albany Co.: Centennial 5-25-52; Woods Landing 6-4-52, 6-14-53, 5-14-54, 5-30-54.
- 62. Incisalia mossii schryveri Cross. Carbon Co.: 20 mi. SE of Encampment 5-8-54. Underside of hindwing more dull than in typical schryveri.

- 63. Incisalia polios Cook & Watson. Carbon Co.: 20 mi. SE of Encampment 5-8-54.
- 64. Incisalia eryphon Boisduval. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Foxpark 6-19-55; Palmer Canyon 7-1-51 (FMB); Pole Mt. 6-28-53; Woods Landing 6-1-52, 6-14-53, 6-11-54. Carbon Co.: Ryan Park 7-1-55. Platte Co.: Guernsey 5-18-54.
- 65. Lycæna heteronea Boisduval. Albany Co.: Libby Park 8-30-53; Pole Mt. 7-13-52, 7-27-52, 8-7-53, 8-15-55; Woods Landing 7-21-52, 7-28-54. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55.
- 66. Lycæna thoe Guérin. Platte Co.: Wheatland 8-28-53. Only one colony found so far.
- 67. Lycæna xanthoides dione Scudder. Platte Co.: Wheatland 7-14-53. One colony only.
- 68. Lycæna rubidus sirius Edwards. Albany Co.: Centennial 8-15-53; Pole Mt. 8-11-51, 8-1-53, 8-7-53, 8-23-53, 8-15-55. Platte Co.: Glendo 7-2-52, 7-2-53; Wheatland 6-25-52. Widespread.
- 69. Lycæna nivalis browni Field. Albany Co.: Centennial 7-3-53; nr. Eagle Mt. 7-2 to 4-51 (FMB); Lake Marie 7-25-53 (FMB); Pole Mt. 7-11-53; Woods Landing 6-29-52. Carbon Co.: Sierra Madre Mts. 8-2-55. Not common.
- 70. Lycæna helloides Boisduval. Albany Co.: Foxpark 8-1-54; Pole Mt. 9-9-52, 7-11-53, 9-5-53; U.W. Sci. Camp 8-15-53; Woods Landing 6-29-52, 7-28-54. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55. Platte Co.: Wheatland 7-29-53. A large percentage of specimens are referable to form "florus".
- 71. Hemiargus isolus Reakirt. Platte Co.: Wheatland 7-29-53, 7-28-55. One specimen taken in an irrigated area, the other on sage flats.
- 72. Everes amyntula Boisduval. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Sybille Canyon 6-27-53.
- 73. Lycæides melissa Edwards. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Palmer Canyon 7-1-51 (FMB); Pole Mt. 9-9-52, 9-5-53; Sybille Canyon 6-12-54; Woods Landing 9-2-52, 6-11-54. Platte Co.: Guernsey 5-28-52; Wheatland 5-30-52.
- 74. Plebeius glandon rustica Edwards. Albany Co.: Albany 6-20-54; Foxpark 7-4-55; Illinois-Douglas Creek jct. 7-4-55; Lake Marie 7-25-53 (FMB); Lewis Lake 7-23-53 (FMB), 7-25-53; Pole Mt. 6-19-54; Snowy Range Pass 7-5-54, 7-17-55; Towner Lake 7-25-53; U.W. Sci. Camp 7-13-53, 8-8-53, 8-15-53, 8-29-53, 7-5-54; Upper Nash Fork 7-24-53 (FMB). Carbon Co.: Sierra Madre Mts. 6-26-54.
- 75. Plebeius sæpiolus Boisduval. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Lewis Lake 7-2-53 (FMB), 7-25-53; Pole Mt. 7-11-53, 6-19-54, 6-26-55; Snowy Range Pass 6-30-52, 7-5-54, 7-3-55; Sybille Canyon 6-27-53, 6-12-54; Towner Lake 7-25-53; U.W. Sci. Camp 7-3-53, 7-13-53, 8-8-53, 8-15-53, 7-5-54; Upper Nash Fork 7-24-53 (FMB). Carbon Co.: Sierra Madre Mts. 6-26-54. Common and widespread.
- 76. Plebeius icarioides lycea Edwards. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Pole Mt. 6-14-52, 6-19-54; Sybille Canyon 6-27-53, 6-12-54; U.W. Sci. Camp 6-30-52, 7-13-53, 7-5-54. Carbon Co.: Ryan Park 7-9-55.
- 77. Plebeius shasta Edwards. Albany Co.: Sybille Canyon 6-27-53. This little Blue was not known from Wyoming until recently. Now it has been found at Saratoga in the upper North Platte valley and at Dubois in the northwest by NABOKOV (1953) and in the Bighorn Mountains by F. M. BROWN (personal communication, 1953) as well as at the above location in the Laramie Mountains.
- 78. Plebeius acmon lutzi dos Passos. Albany Co.: Centennial 7-3-53; nr. Eagle Mt. 7-2 to 4-51 (FMB).
- 79. Philotes enoptes ancilla Barnes & McDunnough. Albany Co.: Centennial 7-3-53, 7-5-54; Palmer Canyon 7-1-51 (FMB); Pole Mt. 6-28-53; Sybille Canyon 6-27-53, 6-12-54. Platte Co.: Wheatland 8-18-55.
- 80. Phædrotes piasus daunia Edwards. Albany Co.: Sybille Canyon 6-12-54. Except for one specimen, I have not taken the species in Wyoming east of Lander which is 175 miles west of the above locality.
- 81. Glaucopsyche lygdamus oro Scudder. Albany Co.: nr Eagle Mt. 7-2 to 4-51 (FMB); Foxpark 7-4-55; Illinois-Douglas Creek jct. 7-4-55; Sybille Canyon 5-29-55;

Woods Landing 6-1-52, 6-8-52, 6-14-53, 5-14-54, 6-18-55. Carbon Co.: Ryan Park 6-26-54, 7-1-55, 7-9-55; Sierra Madre Mts. 5-20-55, 6-16-55. Platte Co.: Guernsey 5-18-54.

82. Lycænopsis argiolus pseudargiolus Boisduval & Leconte. Albany Co.: Sybille Canyon 6-14-52, 6-19-55; Woods Landing 6-14-53. Carbon Co.: Sierra Madre Mts. 6-16-55.

#### **PAPILIONIDÆ**

- 83. Papilio polyxenes Fabricius. Albany Co.: Sybille Canyon 6-14-52. Adults are scarce in June, more common in August.
- 84. *Papilio brucei* Edwards. Albany Co.: Centennial 7-13-54; Pole Mt. 6-19-54; Sybille Canyon 6-27-53. Scarce.
- 85. Papilio indra Reakirt. Albany Co.: Sybille Canyon 6-21-53, 6-23-53, 6-25-53, 6-27-53. Platte Co.: Guernsey 5-18-54. A Transition Zone species.
- 86. Papilio rutulus Lucas. Albany Co.: Albany 7-4-55; nr. Eagle Mt. 7-2 to 4-51 (FMB); Illinois-Douglas Creek jct. 7-4-55; Palmer Canyon 7-1-51 (FMB); Pole Mt. 6-28-53, 7-11-53, 6-19-54; Sybille Canyon 6-27-53; Woods Landing 6-14-53, 6-26-53, 6-18-55. Carbon Co.: Ryan Park 6-26-54.
- 87. Papilio multicaudatus Kirby. Albany Co.: Albany 7-4-55; Laramie 7-2-53; Sybille Canyon 6-21-53, 6-27-53. Transition Zone species.
- 88. Papilio eurymedon Lucas. Albany Co.: Illinois-Douglas Creek jct. 7-4-55. Carbon Co.: Rvan Park 6-26-54.
- 89. Parnassius smintheus sayii Edwards. Albany Co.: nr. Eagle Mt. 7-2 to 4-51 (FMB); Garrett 7-1-51 (FMB); Illinois-Douglas Creek jct. 7-4-55; Lewis Lake 7-23-53 (FMB); Pole Mt. 7-15-51, 7-22-51, 7-30-51, 8-25-51, 7-30-55, 8-15-55; Snowy Range Pass 7-3-55, 7-17-55; Tie Siding 8-12-51. Carbon Co.: Sierra Madre Mts. 8-17-54, 8-2-55. PIERIDÆ
- 90. Anthocaris sara julia Edwards. Albany Co.: Foxpark 6-19-55; Libby Park 6-24-52; Pole Mt. 6-13-53, 6-19-54; Woods Landing 6-29-52, 6-14-53. Carbon Co.: Sierra Madre Mts. 6-16-55.
- 91. Euchloe ausonides coloradensis Hy. Edwards. Albany Co.: Albany 7-4-55; nr. Eagle Mt. 7-2 to 4-51 (FMB); Foxpark 7-4-55; Illinois-Douglas Creek jct. 7-4-55; Libby Park 6-24-52; Palmer Canyon 7-1-51 (FMB); Pole Mt. 6-28-53; Sybille Canyon 5-18-54; Woods Landing 5-26-52, 6-4-52, 6-29-52, 6-18-55. Carbon Co.: Ryan Park 7-1-55, 7-9-55; 20 mi. SE of Encampment 5-8-54.
- 92. Colias meadii Edwards. Albany Co.: Lewis Lake 7-23-53 (FMB), 7-25-53; Pole Mt. 7-30-55; Snowy Range Pass 6-30-52, 7-13-53, 7-5-54, 7-17-55, 7-20-55, 7-29-55; Towner Lake 7-25-53. Restricted to Hudsonian Zone. It was surprising to turn up the specimen on Pole Mt. at 8,000 ft. elevation and 50 miles across the plains from its normal habitat.
- 93. Colias eurytheme Boisduval. F. "amphidusa". Albany Co.: Albany 6-20-54; Pole Mt. 9-9-52, 8-1-53, 8-6-53, 9-5-53; Sybille Canyon 6-27-53. Platte Co.: Wheatland 8-4-53. Female f. "alba" Platte Co.: Wheatland 7-29-53, 8-5-53. F. "ariadne" Albany Co.: Pole Mt. 8-7-53. Platte Co.: Wheatland 8-4-53, 8-5-53. F. "eriphyle" Albany Co.: Centennial 6-20-53, 8-29-53; nr. Eagle Mt. 7-2 to 4-51 (FMB); Pole Mt. 9-9-52, 6-13-53, 8-5-53, 8-23-53, 9-5-53, 8-15-55; Sybille Canyon 6-27-53; U.W. Sci. Camp 8-30-53; Woods Landing 7-21-52. Platte Co.: Chugwater 5-28-52; Glendo 7-2-52; Guernsey 5-28-52, 7-9-53. "Eriphyle" is the most common form in the area.
- 94. Colias alexandra Edwards. Albany Co.: Illinois-Douglas Creek jct. 7-4-55; Libby Park 6-24-52; Palmer Canyon 7-1-51 (FMB); Pole Mt. 7-30-51, 7-8-52, 7-13-52, 7-30-55; Woods Landing 7-28-54. F. "hatui" Pole Mt. 7-13-52.
- 95. Colias scudderii Reakirt. Albany Co.: Illinois-Douglas Creek jct. 7-4-55; Pole Mt. 7-30-55; Snowy Range Pass 8-15-53, 7-31-54; U.W. Sci. Camp 7-13-53, 8-15-53. Carbon Co.: Ryan Park 7-9-55.
- 96. Colias cæsonia Stoll. Platte Co.: Wheatland 7-10-52. Several specimens were seen on the above date in an alfalfa field, one of which was captured. That is the only time I have encountered it.

- 97. Phœbis sennæ eubule Linné. No specimens taken, but one was seen in Sybille Canyon, and NABOKOV (1953) saw one near Battle Lake in Carbon County.
- 98. Eurema mexicana Boisduval. Reportedly seen by NABOKOV (1953) between Chevenne and Laramie.
- Nathalis iole Boisduval. Albany Co.: Centennial 7-13-54. Platte Co.: Guernsey 7-16-52; Wheatland 7-7-55, 8-9-55, 8-18-55. Usually not common and only occasional individual specimens usually seen, but on August 2, 1955, more than 40 were observed along a 10 mile stretch of road west of Wheatland.
- 100. Pieris sisymbrii Boisduval. Albany Co.: Centennial 5-25-52; Sybille Canyon 5-18-54; Woods Landing 6-1-52, 6-4-52. Carbon Co.: 20 mi. SE of Encampment 5-8-54. Platte Co.: Guernsey 5-18-54. An early-appearing species frequently found flying with E. ausonides coloradensis from which it is difficult to distinguish on the wing.

101. Pieris occidentalis Reakirt, Albany Co.: Lewis Lake 7-23-53 (FMB), 7-25-53; Snowy Range Pass 8-8-53, 7-5-54. Carbon Co.: 20 mi. SE of Encampment 5-8-54.

- 102. Pieris rapæ Linné. Albany Co.: Sybille Canyon 7-9-53. Common.
- 103. Pieris protodice Bdv. & Lec. Platte Co.: Glendo 7-2-52, 7-16-52; Wheatland 8-5-53.
- 104. Pieris napi macdunnoughii Remington. Albany Co.: Lake Marie 7-25-53 (FMB); Lewis Lake 7-25-53; Libby Park 5-25-52, 6-24-52; Upper Nash Fork 7-24-53 (FMB); Woods Landing 6-14-53. Carbon Co.: Ryan Park 6-26-54; Sierra Madre Mts. 8-2-55.

## **HESPERIIDÆ**

- 105. Epargyreus clarus Cramer. Platte Co.: Guernsey 6-23-53.
- 106. Pyrgus centaureæ loki Evans. Albany Co.: Snowy Range Pass 7-5-54.
- 107. Pyrgus ruralis Boisduval. Albany Co.: Woods Landing 6-14-53.
  108. Pyrgus communis Grote. Albany Co.: Pole Mt. 9-5-53; Platte Co.: Glendo 8-12-53; Wheatland 8-18-55.
  - 109. Pholisora catullus Fabricius. Platte Co.: Wheatland 7-28-53.
- 110. Erynnis icelus Scudder & Burgess. Albany Co.: Albany 7-4-55; Pole Mt. 6-13-54; Woods Landing 6-18-55.
- 111. Erynnis persius frederickii H. A. Freeman. Albany Co.: Albany 6-20-54; Centennial 7-5-54; Pole Mt. 6-19-54. Carbon Co.: Ryan Park 6-26-54.
  - 112. Butleria pirus Edwards. Albany Co.: Pole Mt. 8-15-55.
- 113. Oarisma garita Reakirt. Albany Co.: Centennial 7-5-54; Pole Mt. 7-30-55; Sybille Canyon 6-21-53, 6-27-53.
  - 114. Yvretta rhesus Edwards. Platte Co.: Guernsey 5-18-54.
  - 115. Yvretta simius Edwards. Platte Co.: Wheatland 6-17-53, 6-30-55.
- 116. Hesperia uncas Edwards. Albany Co.: Laramie 6-?-54. Platte Co.: Wheatland 6-17-53, 6-24-53, 8-5-53, 6-30-55.
- 117. Hesperia nevada Scudder. Albany Co.: Centennial 6-20-54; Pole Mt. 6-19-54; Sybille Canyon 6-21-53.
- 118. Hesperia comma colorado Scudder. Albany Co.: Libby Park 8-30-53; Pole Mt. 8-15-55.
- 119. Hesperia harpalus idaho Edwards. Albany Co.: Illinois-Douglas Creek jct. 7-4-55; Pole Mt. 8-23-53, 9-5-53, 8-15-55; Sybille Canyon 6-27-53.
  - 120. Hesperia pahaska Leussler. Platte Co.: Guernsey 7-9-53.
- 121. Ochlodes sylvanoides napa Edwards. Albany Co.: Centennial 8-15-53; Pole Mt. 8-15-55; Woods Landing 7-28-54.
  - 122. Polites themistocles Latreille. Albany Co.: Sybille Canyon 6-27-53.
- 123. Polites draco Edwards. Albany Co.: Illinois-Douglas Creek jct. 7-4-55; Pole Mt. 6-19-54; Sybille Canyon 6-27-53; U.W. Sci. Camp 7-3-53; 7-5-54. Carbon Co.: Ryan Park 7-1-55.
  - 124. Polites sonora utahensis Skinner. Albany Co.: Pole Mt. 8-7-53, 8-8-54, 7-30-55.
  - 125. Poanes taxiles Edwards. Platte Co.: Guernsey 6-23-53.

126. Atrytone ruricola Boisduval. Albany Co.: Pole Mt. 8-15-55. Platte Co.: Guernsey 7-16-52, 6-10-53.

127. Atrytonopsis hianna Scudder. Platte Co.: Guernsey 5-18-54.

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# References

- Brown, F. M., 1953. Taxonomic notes on *Eneis uhleri* Reakirt (Lepidoptera, Satyridæ). *Amer. Mus. Novitates* 1625: 1-26.
- ......, 1954. Some notes on Boloria in Colorado. Lepid. News 8: 4-66.
- Brown, F. M., D. Eff, & B. Rotger, 1954, 1955. Colorado butterflies. Pt. I. Satyridæ. Pt. II. Danaidæ, Heliconidæ, Nymphalidæ. Proc. Denver Mus. Nat. Hist. 3: 1-32; 4: 33-112.
- Cary, M. 1917. Life zone investigations in Wyoming. North Amer. Fauna (U.S.D.A. Bur. Biol. Surv.) 42: 1-95.
- Klots, A. B., 1930. Diurnal Lepidoptera from Wyoming and Colorado. Bull. Brooklyn Ent. Soc. 25: 147-170.
- ......, 1937. Some notes on *Colias* and *Brenthis* (Lepidoptera, Pieridæ and Nymphalidæ). *Journ. New York Ent. Soc.* 45: 311-333.
- ....., 1940. New butterfly subspecies from Wyoming (Nymphalidæ, Pieridæ). Amer. Mus. Novitates 1054: 1-6.
- ....., 1951. A field guide to the butterflies: xvi + 349 pp. Houghton Mifflin Co., Boston.
- McDunnough, J., 1938. Check list of the Lepidoptera of Canada and the United States of America. Pt. I. Macrolepidoptera. Mem. So. Calif. Acad. Sci. 1: 1-275.
- Nabokov, V., 1953. Butterfly collecting in Wyoming, 1952. Lepid. News 7: 49-52.

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With very great regret, we have just received word of the death of Brigadier W. H. EVANS, an Honorary Life Member of the Society. The distinguished authority on the Hesperiidæ of the world passed peacefully away in his sleep, apparently on 13 November. A biographical obituary, accompanied by a complete list of published work on Lepidoptera, will be published in a later issue of the *News*.