

## RHOPALOCERA IN THE N. B. SANSON COLLECTION

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Norman Bethune Sanson served as Curator at the Banff National Park, Alberta, Museum from 1896–1931, during which time he gathered together much insect, plant, and other material. This collection includes 585 labelled Alberta specimens of skippers and butterflies, representing 71 different taxa. These collections are reported here, along with some biographical notes on Sanson, as little has been published on either the Rhopalocera of the Park (Bean, 1890–1893) or on Sanson himself.

N. B. Sanson was born on 1 November 1861, in Toronto, Ontario. He came west in 1885 as a member of the Queen's Own Regiment and participated in the fierce battles against the forces of Louis Riel at North Battleford and Prince Albert, Saskatchewan. In 1892 he travelled to Banff and became an accountant at the Sanatorium Hotel and at a general store. In 1896 he was hired by the Canadian Government and appointed as a Meteorological Officer and as Curator of the Museum. His work in the first position involved the keeping of detailed weather records, especially in an observatory erected in 1902–1903 on the top of Sulphur Mountain at an elevation of 8,030 ft., some 3,500 ft. above the town of Banff. It has been estimated that he climbed to this observatory some 815 times, usually every two weeks, to man the weather instruments. Many of his collections were made on these hikes. His work as Curator involved the gathering of extensive collections and data on the local fauna and flora. The earliest Rhopalocera collection made by him is dated 10 May 1897, the latest 12 June 1929, but most collections were made in the period from 1906–1912. His collection includes a small number of specimens collected by J. Macoun, T. E. Bean, and J. Fletcher, and it is assumed that he was personally acquainted with these individuals. He was also acquainted with F. H. Wolley Dod as some of his collections are cited for Banff in the first list of the species of the province which Wolley Dod published in 1901. Wolley Dod and Arthur Gibson helped identify his material according to some determination labels. Sanson died at the age of 88 on 30 May 1949 and was buried in the Banff Cemetery.

## Annotated List

The following list includes all of the Alberta specimens, mostly from Banff National Park, in the N. B. Sanson collection. The geographical

location of the collections is indicated along with the flight period. The scientific names employed, unless otherwise indicated, are those of the latest list of North American taxa by dos Passos (1964) and of subsequent revisions to it by the same author (1969, 1970). The identifications of all of the specimens have been either verified or revised by the author.

#### HESPERIIDAE

*Polites coras* (Cramer)—Coras Skipper. Banff. July 27–31.

*Hesperia manitoba* (Scudder)—Manitoba Skipper. Banff, Mystic Lake, Sulphur Mountain, Tunnel Mountain. June 18–August 24. The name of this taxon, listed as *H. comma manitoba* by dos Passos (1964), was altered to the above by MacNeill (1964).

*Carterocephalos palaemon mandan* (Edwards)—Arctic Skipper. Banff, Mt. Rundle, Spray River Valley, Sulphur Mountain, Tunnel Mountain. June 5–July 27.

*Pyrgus centaurae loki* Evans—Grizzled Skipper. Banff. June 12.

*Pyrgus ruralis* (Boisduval)—Ruralis Checkered Skipper. Banff, trail to Lake Minnewanka, Simpson Pass, trail to Stony Squaw Mountain, Tunnel Mountain. May 8–July 13.

*Erynnis icelus* (Scudder & Burgess)—Dreamy Dusky Wing. Banff. June 25.

*Erynnis persius fredericki* H. A. Freeman—Persius Dusky Wing. Banff, Sulphur Mountain, Upper Anthracite Road. May 4–July 14.

#### PAPILIONIDAE

*Parnassius phoebus smintheus* Doubleday—Parnassian. Aylmer Pass, Cascade Mountain, Simpson Pass, Stony Squaw Mountain, Sulphur mountain. August 6–October (day not mentioned).

*Papilio glaucus canadensis* Rothschild & Jordan—Tiger Swallowtail. Banff. May 23–July 5.

#### PIERIDAE

*Neophasia menapia menapia* (Felder & Felder)—Pine White. Sulphur Mountain. August 10–September 6.

*Pieris sisymbrii flavitincta* J. A. Comstock—California White. Tunnel Mountain. June 7.

*Pieris protodice occidentalis* Reakirt—Western Checkered White. Banff, Sulphur Mountain. April 25–September 20. Considered a separate species, *P. occidentalis*, by some recent workers.

*Pieris napi oleracea* Harris—Mustard White. Sundance Canyon Road, Tunnel Mountain, Upper Anthracite Road. May 23–August 8.

*Colias meadii elis* Strecker—Elis Sulphur. Banff, Cascade Mountain, Ptarmigan Valley, Sulphur Mountain. July 21–September 4.

*Colias philodice eriphyle* Edwards—Alfalfa Butterfly. Banff; F. H. Wolley Dod's Ranch, SW of Calgary. June (day not mentioned)—October 4. Ultraviolet photographic studies by Ferris (1972) and others have shown *C. philodice* and *C. eurytheme* to be different species. The taxon *eriphyle* belongs to the *philodice* complex.

*Colias interior interior* Scudder—Pink-edged Sulphur. Ptarmigan Valley. June 21.

*Colias alexandra christina* Edwards—Christina Sulphur. Banff, Lake Minnewanka, Sulphur Mountain, Sundance Canyon Road. July 18–August 20. Four (57%) of seven females were albinistic. The subspecific nature of this species in Alberta has been discussed by Ferris (1973).

- Colias pelidne minisni* Bean—Pelidne Sulphur. Sundance Canyon Road. July 18.  
*Colias nastes streckeri* Grum-Grschimailo—Nastes Sulphur. Cascade Mountain. August 25.  
*Euchloe creusa* (Doubleday)—Creusa Marble. Banff, 40 Mile Creek Campground, Sulphur Mountain, Tunnel Mountain, Upper Anthracite Road. May 21—September 25.  
*Euchloe ausonides ausonides* Lucas—Marbled White. Banff. May 17—July 1.

## LYCAENIDAE

- Callophrys polios obscurus* Ferris and Fisher—Hoary Elfin. Upper Anthracite Road. May 28—June 9. This subspecies was recently described by Ferris & Fisher (1973).  
*Callophrys augustinus iroides* (Boisduval)—Brown Elfin. Banff, Sundance Canyon Road, Upper Anthracite Road. May 5—June 9. The relationship of this subspecies and of ssp. *augustinus* (Westwood) in Alberta are discussed in dos Passos (1943).  
*Callophrys eryphon eryphon* (Boisduval)—Western Pine Elfin. Banff, Spray River Valley. April 24—June 24.  
*Lycaena mariposa mariposa* Reakirt—Mariposa Copper. Banff, trail to Lake Minnewanka, Mystic Lake, Stony Squaw Mountain. July 25—September 25.  
*Lycaena dorcas dorcas* Kirby—Dorcas Copper. Banff. July 19—25.  
*Lycaena phlaeas arethusa* (Wolley Dod)—Arethusa Copper. Vermilion Range. Date not mentioned.  
*Lycaena snowi* (Edwards)—Snow's Copper. Upper Kananaskis Pass, Vermilion Range. August 3. Alberta material may belong to ssp. *henryae* (Cadbury) described from Caribou Pass, B.C.  
*Lycaeides argyrognomon scudderii* (Edwards)—Scudder's Blue. Banff, Lake Minnewanka, Stony Creek to Cascade Valley, Sulphur Mountain, Sundance Canyon. July 10—August 11.  
*Plebejus saepiolus amica* (Edwards)—Saepiolus Blue. Banff, Laggan (J. Fletcher), Tunnel Mountain. June 19—August 3.  
*Plebejus acmon lutzii* dos Passos—Acmon Blue. Banff. August 7. Goodpasture (1973) has shown that *lutzii* is the only subspecies of *Plebejus acmon* in Alberta.  
*Plebejus aquilo megalis* McDunnough—Mountain Arctic Blue. Banff, Ptarmigan Valley, Simpson Pass, Sulphur Mountain. June 21—September 1.  
*Plebejus aquilo rustica* (Edwards)—Plains Arctic Blue. F. H. Wolley Dod's Ranch, SW of Calgary. June 19.  
*Everes amyntula albrighti* Clench—Western Tailed Blue. Banff, Sulphur Mountain, Tunnel Mountain, Upper Anthracite Road, Whiteman's Cabin. June 9—August 2.  
*Glaucopsyche lygdamus couperi* Grote—Silvery Blue. Banff, Sulphur Mountain, Tunnel Mountain, Whiteman's Cabin. June 11—July 29.  
*Celastrina argiolus lucia* (Kirby)—Spring Azure. Banff, base of Stony Squaw Mountain. May 21—June 24.

## NYMPHALIDAE

- Limenitis arthemis rubrofasciata* (Barnes & McDunnough)—White Admiral. Anthracite, Banff. July 12—30.  
*Vanessa atalanta rubria* (Fruhstorfer)—Red Admiral. Stony Squaw Mountain, Sulphur Mountain. June 24—26.  
*Cynthia cardui* (Linnaeus)—Painted Lady. Banff, Stony Squaw Mountain. June 26—July 1. Specimens of this occasional migrant to Alberta were collected only in 1911 and 1914.  
*Nymphalis vau-album j-album* (Boisduval & Le Conte)—Compton's Tortoise-shell. Banff. August 18—September 30.

*Nymphalis californica californica* (Boisduval)—California Tortoise-shell. Banff, Sulphur Mountain. One specimen of this occasional migrant was collected on June 10, 1912, while 11 were taken on September 12, 1911.

*Nymphalis milberti* (Godart)—Milbert's Tortoise-shell. Banff, Cascade Mountain, Sulphur Mountain. July 30–August 29.

*Nymphalis antiopa antiopa* (Linnaeus)—Mourning Cloak. Banff. August 24–September 26.

*Polygonia satyrus satyrus* (Edwards)—Satyr Angle-wing. Banff, base of Stony Squaw Mountain. May 12–27.

*Polygonia faunus rusticus* (Edwards)—Green Comma. Banff, Sulphur Mountain. April 23–30, September 2–23.

*Polygonia zephyrus* (Edwards)—Zephyrus Angle-wing. Banff, Sulphur Mountain. May 7, August 9–September 16.

*Phyciodes tharos pulchella* (Boisduval)—Pearl Crescent. Banff. July 15–31.

*Phyciodes campestris camillus* Edwards—Meadow Crescent. Banff, Lake Minnewanka, Sundance Canyon Road. June 17–August 6.

*Euphydryas anicia anicia* (Doubleday)—Anicia Checkerspot. Banff, Lake Minnewanka, Ptarmigan Valley, Stony Squaw Mountain, Sulphur Mountain. May 29–July 30. The type locality for *anicia* is Banff, Alberta.

*Boloria selene atrocotalis* (Huard)—Silver-bordered Fritillary. Banff. June 17.

*Boloria toddi jenistai* Stallings & Turner—Meadow Fritillary. Calgary. June 8.

*Boloria frigga saga* (Staudinger)—Frigga Fritillary. Banff, Spray River Valley. May 21–June 30.

*Boloria freija freija* (Thunberg)—Freija Fritillary. Banff, Rundle Mountain trail. April 28–June 12.

*Boloria astarte astarte* (Doubleday)—Astarte Fritillary. Sulphur Mountain. July 20.

*Boloria titania grandis* (Barnes & McDunnough)—Purple Lesser Fritillary. Banff, Simpson Pass, trail to Stony Squaw Mountain, Sulphur Mountain. June 24–August 22.

*Boloria eunomia dawsoni* (Barnes & McDunnough)—Bog Fritillary. Banff, Cascade Mountain, Ptarmigan Valley, Simpson Pass. June 3–August 26.

*Speyeria atlantis beani* (Barnes & Benjamin)—Bean's Fritillary. Banff, Sulphur Mountain. June 25–August 27.

*Speyeria atlantis helena* dos Passos & Grey—Northwestern Silverspot. Banff, Sulphur Mountain. July 27–August 2. The distinction between the two subspecies of *atlantis* is often tenuous. The three specimens labelled *ssp. helena* were lighter underneath than those called *ssp. beani*.

*Speyeria hydaspe sakuntala* (Skinner)—Hydaspe Fritillary. Banff, Sulphur Mountain. July 23–August 22.

*Speyeria mormonia eurynome* (Edwards)—Mormon Fritillary. Banff, Upper Kananaskis Pass. July 11–August 18.

#### SATYRIDAE

*Coenonympha tullia inornata* Edwards—Ringlet. Banff. June 24. Though referred to as *C. inornata* in dos Passos (1964), Brown (1955) has shown that *inornata* should be included within *C. tullia*.

*Cercyonis oetus charon* (Edwards)—Small Meadow Brown. Banff. July 18–August 8. Emmel (1969) refers Alberta material to the *ssp. charon* and regards it as distinct from *ssp. oetus*. The two were regarded as synonymous by dos Passos (1964).

*Oeneis uhleri varuna* (Edwards)—Varuna Arctic. Kananaskis (J. Macoun, no date); F. H. Wolley Dod's Ranch, SW of Calgary. June (no day mentioned).

*Oeneis chryxus* (Doubleday)—Chryxus Arctic. Banff, Lake Minnewanka, Ptarmigan Valley, Spray River Valley, Sulphur Mountain, Tunnel Mountain. May 23–

July 25. Banff area material is close to ssp. *caryi* described from Smith Landing in extreme northeastern Alberta.

*Oeneis jutta chermocki* Wyatt—Jutta Arctic. Banff, Lake Louise (J. Fletcher), Ptarmigan Valley, Spray River Valley. June 7–August 2. This subspecies was described by Wyatt (1965) after the appearance of dos Passos' (1964) Synonymic List. Masters (1969) regards it as "a weak but valid subspecies somewhat intermediate between *Oeneis jutta ridgingiana* . . . and *Oeneis jutta reducta*."

*Oeneis melissa beanii* Elwes—Bean's Arctic. Sulphur Mountain. June 28–July 29.

*Oeneis polixenes brucei* (Edwards)—Bruce's Arctic. Ptarmigan Valley, Sulphur Mountain, July 23–29.

*Erebia disa mancinus* Doubleday—Mancinus Alpine. Banff, Spray River Valley, Sulphur Mountain. June 18–July 12.

*Erebia discoidalis macdunnoughi* dos Passos—Red-disked Alpine. Banff, May 2–June 20.

*Erebia epipsodea epipsodea* Butler—Mountain Common Alpine. Banff, Ptarmigan Valley, Sulphur Mountain. June 5–August 11.

*Erebia epipsodea freemani* Ehrlich—Plains Common Alpine. F. H. Wolley Dod's Ranch, SW of Calgary, June (day not mentioned). Dos Passos (1964) regarded this taxon as ssp. *sineocellata* but as it was described on the basis of aberrant material (Ehrlich, 1955) "without ocelli," *sineocellata* should be regarded as a "form" name only.

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EVIDENCE OF BREEDING MIGRANT POPULATIONS OF  
*LEPTOTES CASSIUS* (LYCAENIDAE) IN KANSAS

Three newly emergent specimens of *Leptotes cassius* Cramer were captured during a field study conducted on 15 June 1975 within the city limits of Lawrence, Kansas. The range of this species is normally southern Florida and southern Texas, and these records represent a rarity in northeastern Kansas (Lawrence is situated in Douglas Co., ca. 35 miles west of Kansas City).

All three specimens were female; two were released with the intention of propagating the species locally, and one was mounted in lamination for a permanent record. Other records of *L. cassius* occurring in Kansas are as follows: (1) 24 July 1935, Douglas Co., one specimen; (2) 4 July 1935, Scott Co., one specimen (Field 1938, Studies in Kansas Insects, p. 163-164).

The presence of three females might indicate a local breeding (migrant) population, although Dr. J. C. Downey (pers. comm.) suggests: (1) pupae of *L. cassius* may have been imported with *Plumbago* transplants from Florida and (2) the lack of northern populations even in northern Florida indicates that one must be cautious when concluding that an indigenous population exists in northeastern Kansas. A search of the capture area failed to yield any *Plumbago*, neither in adjacent lots nor in any greenhouse in Lawrence. However, *Phaseolus* is common throughout the neighborhood and is listed as an alternate larval food plant (Klots 1951, A Field Guide to the Butterflies, p. 157-158).

It is extremely unlikely that these three female specimens of *L. cassius* represent windblown migrants at such an early date in Kansas. Subsequent field collection data in this area are necessary and will be continued over the next two years to establish the probable migrant breeding residency of this butterfly.

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