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THE COLLECTION OF BUTTERFLIES MADE BY JACK DENNIS AT BEULAH, MANITOBA

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During a period of almost 50 years A. J. Dennis, better known as Jack, resided and collected Lepidoptera at Beulah, Manitoba. He engaged in extensive exchange and sale of specimens and, as a result, his materials are distributed throughout the world. His personal collection, now in the possession of the Manitoba Museum of Man and Nature in Winnipeg, is the basis of this paper.

I have not been able to ascertain a great deal concerning Jack Dennis himself. Only three lepidopterists had direct contact with him, Jack May,

Hugh Gibbon and Shirley Brooks, all of whom are now deceased. Most of what I have been able to learn is from the G. Shirley Brooks correspondence file in the Manitoba Museum, from Don Eff of Boulder, Colorado who visited him at Beulah in 1941, and from L. P. Grey of Lincoln, Maine who had extensive correspondence with him.

Dennis started collecting Lepidoptera in the 1890s (specimens in his collection date from 1898) at Beulah. He saw action during the first world war and was disabled. After the war he returned to Beulah, where the rest of his life was a rather impoverished existence on an army pension. Of necessity, he raised vegetables and fished, but this left him with considerable time for butterfly collecting. His collecting was confined, however, to the immediate vicinity of Beulah and the nearby town of Birtle, since he had no means to travel and was apparently not physically able to do much hiking. To supplement his pension he sold specimens and also exchanged them. Among those to whom he sold specimens was Jean Gunder, who named two aberrational forms after him. Judging from the mounted specimens in his collection, his primary exchange partners were G. S. Brooks, J. A. Comstock, D. Eff, L. P. Grey, V. Harper, W. Hovanitz, H. A. Howland, J. C. Hopfinger, and J. May. After an extended illness, Jack Dennis died of cancer in Winnipeg on 12 July 1946. G. S. Brooks, at that time curator of entomology for the Manitoba Museum, purchased his collection shortly afterwards for the Museum.

The Dennis collection is contained in home-made plaques of the Riker Mount type. Specimens were carefully mounted, depinned and placed in these mounts over cotton. In spite of the fact that the collection has had virtually no care for 25 years, it is in excellent shape with no dermestid infestation. The remaining collection, in the Manitoba Museum of Man and Nature, consists of about 400 of these plaques. At one time there were considerably more. Some of the details of the original collection can be ascertained from a letter which Shirley Brooks wrote to Don Eff, 26 September 1946: "The collection proper is coming here. About half of the stuff is going to Hugh Gibbon. Well I never saw such a mess of butterflies as I found there. The collection, as you may call [sic! recall] it is all in Riker mounts, and has full data, but that consists of about a third of the total, all the remainder lacks any data, much of it beautiful stuff. Quite useless from a collectors point. Then there were about 70 boxes of papered stuff, probably 10% with data, and some of it many years old. I looked through most of it, and after selecting about 4 cigar boxes full, had a bonfire with the remainder."

The fact that Brooks selected what he wanted from the collection to take back to Winnipeg probably accounts for a number of species, known

to be taken at Beulah, being absent from the collection and the fact that there are only one or two plaques of some species but many many of others. Some of the gaps can be filled in by the fact that Dennis submitted all of his records from Beulah and Birtle to Brooks for inclusion in his (1942) list of Manitoba butterflies. All of the Beulah and Birtle records cited there are from Dennis.

Brooks had intended to organize and catalogue the Dennis collection that he took back to Winnipeg. He died in 1947 before having a chance to do this and the collection was kept in storage in the Manitoba Museum until Harvey Beck, then Keeper of Collections for the Museum, invited me to use the collection in 1968. I have ignored the non-Manitoban exchange materials in the collection, but have catalogued the remainder, mostly specimens that Jack Dennis collected himself.

Beulah and the nearby town of Birtle are located on the prairie in southwest Manitoba, just south of the Manitoba Escarpment. The lepidopterous fauna here shows predominately eastern species, but with notable incursions from the west. A few forest species stray into the area from Riding Mountain, which is part of the Manitoba Escarpment just to the north. All in all it is an interesting collecting locality and with 50 years of collecting here by Dennis, the species list should be fairly complete.

Species Collected at Beulah and Birtle by Jack Dennis

HESPERIIDAE

- Amblyscirtes samoset* (Scudder). Three specimens, 14 May 1901 and 14 June 1906.
Amblyscirtes vialis (Edwards). Two specimens, 16 June 1920 and 24 June 1925.
Euphyes vestris metacometa (Harris). Ten specimens, 7 to 18 July, 1904 to 1943.
Poanes hobomok (Harris). Nine specimens (one plaque), 6 to 18 July, 1940 and 1941. Additional plaques are undoubtedly missing.
Polites coras (Cramer). Twelve specimens, 1 to 24 July, 1906 to 1941.
Polites themistocles (Latreille). Four specimens, 11 July 1901.
Polites mystic (Scudder). Eight specimens, 10 to 20 July, 1921 to 1940.
 [*Hesperia uncas uncas* Edwards]. Not present in the Dennis collection, however MacNeill (1964) records a male from Beulah (presumably of Dennis origin) in the Los Angeles County Museum, 22 August 1901.
Hesperia manitoba laurentina (Lyman). Well represented, 41 rather variable specimens, all in August, 1920 to 1940.
Hesperia nevada (Scudder). Seven specimens, labeled by Dennis as *H. comma colorado*, 18 to 24 June, 1940 and 1941. Also recorded from Beulah by MacNeill (1964).
Hesperia ottoe Edwards. One specimen, 18 August 1943, Miniota, Manitoba (possibly collected by Hugh Gibbon).
Oarisma poweshiek (Parker). Nine specimens, 10 to 20 July, 1902 to 1920. These were labeled *O. garita* by Dennis and recorded as that species by Brooks (1942).
Ancyloxypha numitor (Fabricius). Four specimens, one dated 28 June 1940 noted "first ever caught," other three 4 and 10 July 1941.

Carterocephalus palaemon mandan (Edwards). Ten specimens, 16 to 24 June, 1901 to 1905.

Pyrgus communis (Grote) ssp. 18 specimens, June to August, 1912 to 1936.

Erynnis icelus (Scudder & Burgess). Nine specimens in three plaques, three of them labeled *E. brizo*; 14 May to 18 June, 1906 to 1938.

[*Erynnis brizo* (Boisduval & LeConte)]. Three specimens of *E. icelus* were labeled as this species by Dennis. Brooks (1942) recorded it from Beulah and Birtle on Dennis' word.

Erynnis persius (Scudder) ssp. One female, 18 June 1940, labeled *E. icelus*.

Erynnis lucilius (Scudder & Burgess). One female, 18 June 1940, labeled *E. icelus*.

This constitutes the only known record for Manitoba.

[*Erynnis juvenalis* (Fabricius) ssp.]. Brooks (1942) records this species from Beulah and Birtle on Dennis' word, but there are no specimens in the collection nor are there any labeled as such.

PAPILIONIDAE

× *Papilio kahli* Chermock & Chermock. I consider *Papilio kahli* to be a viable breeding population of hybrid origin. The species is well represented in the Dennis collection with over 50 specimens, mostly reared from larvae. The specimens are quite variable, ranging in appearance from that of *Papilio asterius* to *Papilio hudsonianus*, which are the presumed parental stocks. They are variously labeled *Papilio polyxenes*, *Papilio zelicaon*, *Papilio bairdii*, *Papilio nitra* and *Papilio oregonia* by Dennis, which accounts for these names on Brooks' (1942) checklist. A detailed study of the variation in this species is in preparation.

[*Papilio glaucus canadensis* Rothschild & Jordan]. Not represented in the collection, but Dennis is known to have taken it at Beulah and Birtle, as would be expected.

PIERIDAE

Pieris protodice protodice Boisduval & LeConte. A dozen specimens, mixed with the following species, May, July and August, 1920 to 1937.

Pieris occidentalis Reakirt ssp. Over 30 specimens, mixed with *P. protodice*, May, July and August, 1920 to 1937. Variable and very darkly marked specimens in both spring and summer broods, obviously distinct from *P. protodice* in the summer brood. These were labeled by Dennis as var. *calyce* Edwards, hence this name in Brooks' checklist.

Pieris napi oleracea Harris. Six specimens, 15 June to 26 July, 1904 to 1922.

Pieris rapae rapae (Linnaeus). Only one specimen, undated, in the collection. This species is very abundant at Beulah now, and must have been during Dennis' later years there.

Colias eurytheme eurytheme Boisduval. Represented by 95 specimens, 1 July to 6 September, 1924 to 1941. Of special interest are eight miniature specimens (forewing lengths 17 to 19 mm.) taken during July 1934 and labeled "caught at Beulah, Manitoba, the year of the drought."

Colias eriphyle Edwards or *Colias philodice* Godart ssp. Represented by 89 specimens, 24 May to 18 October, 1910 to 1944.

Colias alexandra christina Edwards. This is the best represented species in the Dennis collection. There are over 400 examples, including at least one plaque for nearly every year between 1902 and 1944. Male capture dates range from 12 June to 5 July, female from 16 June to 14 July. The variation in these specimens is the subject of another paper (Masters, in press).

DANAIDAE

[*Danaus plexippus plexippus* (Linnaeus)]. Not represented in the collection, but known to have been taken by Dennis at Beulah.

SATYRIDAE

- [*Lethe anthedon borealis* (Clark)]. Not represented in the collection, but recorded for Beulah and Birtle by Brooks (1942). The species is abundant at Riding Mountain, a short distance to the north.
- Lethe eurydice fumosus* (Leussler). Thirty specimens, 1 to 24 July, 1903 to 1944. Series of six specimens 12 July 1903, are labeled, "Uno near Beulah, first time caught."
- Coenonympha tullia* nr. *benjamini* McDunnough. Represented by 25 specimens divided by Dennis into groups with ocelli, which he labeled *benjamini*, and groups without ocelli, which he labeled *insulana*. Dates include 16 June to 10 July, 1898 to 1936.
- Cercyonis pegala* nr. *ino* (Hall). Ten specimens in one plaque, 10 to 20 July, 1906 to 1922.
- Erebia discoidalis discoidalis* (Kirby). Four specimens, undated, possibly from Riding Mountain or some other point in Manitoba; however Beulah and Birtle were included by Brooks (1942) as localities for this species.
- Erebia epipsodea freemani* Ehrlich. One specimen, undated. Beulah is given as a locale for this species by Brooks, and in correspondence to L. P. Grey, Dennis lamented on the fact that *epipsodea* is no longer seen although it was once common before extensive agriculture.
- Oeneis uhleri varuna* (Edwards). Jean Gunder named an aberration of this species, taken by Dennis at Beulah, *O. uhleri varuna* trans. form *dennisi*. There are 25 specimens in the collection, 1 to 14 June, 1934 to 1938.
- Oeneis alberta alberta* Elwes. Represented by 29 specimens, 16 to 26 May, 1899 to 1938.

NYMPHALIDAE

- Vanessa atalanta rubria* (Fruhstorfer). Represented in the collection by one plaque of ten specimens, 28 July to 28 August, 1908 to 1912.
- [*Cynthia virginiensis* Drury]. Not represented in the collection, but listed for Beulah and Birtle by Brooks (1942).
- [*Cynthia cardui* (Linnaeus)]. Not represented in the collection, but assumed to have been taken at Beulah by Dennis.
- [*Precis coenia coenia* (Huebner)]. Listed by Brooks (1942) for Birtle, however not represented in the collection.
- Nymphalis j-album j-album* (Boisduval & LeConte). Nine specimens, 24 July to 4 August, 1900 to 1912.
- Nymphalis milberti milberti* (Godart). Five specimens, 24 July to 1 September, 1910 to 1926.
- [*Nymphalis antiopa antiopa* (Linnaeus)]. Not represented in the collection, but known to have been taken by Dennis.
- Polygonia interrogationis* (Fabricius). Six specimens in the collection, all 24 June 1896.
- Polygonia comma* (Harris). Two specimens in the collection, undated. Recorded from Beulah by Brooks (1942).
- Polygonia satyrus neomarsyas* dos Passos. This is the commonest *Polygonia* on the western Manitoba prairies; it is represented in the collection by 17 specimens, 17 May to 25 July, 1903 to 1942.
- [*Polygonia faunus* (Edwards)]. Recorded from Beulah and Birtle by Brooks (1942), but not represented in the collection. This species is fairly abundant at Riding Mountain.
- [*Polygonia zephyrus* (Edwards)]. The record from Beulah that Dennis gave to Brooks for his Manitoba list (1942) for this species, turns out to be erroneous. The specimen is a rather darkly marked *P. progne*.

- Polygonia progne* (Cramer). Nine specimens, 9 to 24 June, 21 July and 10 September, 1936 to 1941.
- Phyciodes tharos* (Drury) ssp. There are 30 specimens of *Phyciodes* in the collection, all labeled *Phyciodes tharos pascoensis* by Dennis, but only a very few of them are actually *tharos*; most are *P. campestris*. I suspect that *tharos* is at least as common, if not more so, than *campestris* at Beulah but that Dennis primarily mounted *campestris* because they are slightly larger.
- Phyciodes campestris camillus* Edwards. See comments on preceding species; 2 to 20 July, 1906 to 1938. This is the first published record for *P. campestris* in Manitoba, although I have found it moderately abundant in recent years at the Lake Audy Prairie area in Riding Mountain National Park.
- Chlosyne gorgone carlota* (Reakirt). Represented by 19 mounted and many, many papered specimens, this is evidently one of the most abundant species at Beulah; 8 to 20 June, 1936 to 1944. The Beulah population seems to be distinct from more typical *carlota*. The ground color of the wings is more "pinkish" and the black markings on the dorsal surfaces are reduced in much the same manner as in *C. nycteis reversa*. The southwest Manitoba population of this species could be given subspecific recognition.
- Chlosyne nycteis reversa* (Chermock & Chermock). One specimen only, a female, 28 June 1900, included in a plaque with six specimens from Sylvania, Ohio with 1939 and 1940 dates. The inference is that the species is very rare here and the one specimen more than likely the only one caught.
- [*Chlosyne harrisii* (Scudder) and *Chlosyne hanhami* (Fletcher)]. Neither of these are represented in the collection, but Dennis apparently captured both at Beulah or Birtle as recorded by Brooks (1942). In a letter to G. S. Brooks, dated 9 May 1943, Dennis states that he takes *C. harrisii* in green spots near springs and *C. hanhami* in more open terrain. The two are sympatric over much of southern Manitoba and remain distinct; *harrisii* is smaller and prefers wooded habitats while the much larger *hanhami* is found on the prairies.
- Boloria selene* (Denis & Schiffermüller) ssp. One very lightly marked male, 28 July 1944 at Birtle; presumably the only example of this species taken by Dennis.
- Boloria bellona* (Fabricius) ssp. Only one plaque of nine specimens in the collection, 18 June to 14 July, 1900 to 1940, would indicate a rarity at Beulah. Hugh Gibbon took these in numbers at Miniota during the 40's and 50's.
- Speyeria callippe calgariana* (McDunnough). Four specimens; female 10 July 1900, male 16 July 1902, male 14 July 1909, and female 20 July 1909.
- Speyeria edwardsii* (Reakirt). Four specimens; male and female 17 July 1898, male 14 July 1928, and female 24 July 1936.
- Speyeria atlantis dennisii* dos Passos & Grey. This was originally described by Jean Gunder as "*Argynnis lais* tr. f. *dennisii*." This name, as proposed by Gunder, is not available; transitional form was his term for designating aberrant specimens. The name *dennisii* was elevated to the subspecies rank by dos Passos & Grey (1947); this is its first availability. The species is better known as *Argynnis* or *Speyeria lais* Edwards in the literature, but unfortunately this name is not available, the *Argynnis lais* of Scudder having priority. The species is common at Beulah in late summer.
- Speyeria mormonia eurynome* (Edwards). Two specimens at Beulah, a female 23 July 1937, and a male 28 July 1938. There is another Manitoba specimen in the Dennis collection, 25 July 1935, from Riding Mountain.
- Speyeria cybele pseudocarpenteri* (Chermock & Chermock). Represented by 18 specimens, 24 July to 18 August, 1920 to 1934. These are relatively small for *cybele*. *Speyeria aphrodite manitoba* (Chermock & Chermock) would be expected to occur here with *cybele*, but it is not represented in the collection, nor is it recorded from Beulah by Brooks (1942).
- Euptoieta claudia claudia* (Cramer). Six specimens, 10 to 26 July, 1920 to 1938.

LYCAENIDAE

- Satyrium liparops fletcheri* (Michener & dos Passos). One plaque with three specimens from Birtle, 15–16 July 1940, plus four more specimens taken by Hugh Gibbon at Miniota, 18 July 1942.
- Satyrium acadica watrini* (Dufrane). Two specimens, only one dated, 12 July 1941. [*Harkenclenus titus* (Fabricius) ssp.]. Not represented in the collection, however recorded from both Beulah and Birtle by Brooks (1942).
- Lycaena thoe* Guérin-Méneville. Eight specimens, only six dated, 10 to 17 July, 1906 and 1907.
- Lycaena xanthoides dione* Scudder. Nine specimens, 16 to 20 July, 1904 to 1940.
- Lycaena helloides* (Boisduval). Nineteen examples, 8 to 24 July, 1900 to 1930.
- Lycaeides melissa melissa* (Edwards). Four specimens, all females, 1 to 16 July, 1924 to 1938.
- Plebejus saepiolus* (Boisduval) ssp. Eleven examples, 8 to 20 July, 1900 to 1914.
- Agricides rustica* manuscript ssp. Brown. Represented by 24 specimens, 10 to 20 June, 1900 to 1936.
- Everes comyntas comyntas* (Godart). There is one plaque of five specimens, undated, that were labeled as *comyntas* by Dennis. Of these only one male is actually *comyntas*, the others are *amyntula*. Southern Manitoba is part of a very limited area where these two species are sympatric.
- Everes amyntula albrighti* Clench. Two males and two females, undated; see comments under *E. comyntas*.
- Glaucopsyche lygdamus afra* Edwards. Eight specimens, only six of them dated, 14 June to 17 July, 1907 to 1910.
- Celastrina argiolus argentata* Fletcher. Twelve specimens, all from the spring brood, 20 to 25 May, 1906 to 1920.

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