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**MOTHS OF THE DOUGLAS LAKE REGION  
(EMMET AND CHEBOYGAN COUNTIES), MICHIGAN:  
II. NOCTUIDAE (LEPIDOPTERA)<sup>1</sup>**

Edward G. Voss<sup>2</sup>

The two counties which share the northern tip of the Lower Peninsula of Michigan, Emmet on the west and Cheboygan on the east, have long been taken to define the principal "region" under study by the University of Michigan Biological Station, situated since 1909 on Douglas Lake in Cheboygan County near the Emmet County line.

Welch's 1915 list of the Lepidoptera of the region included 43 species of Noctuidae; the present list includes 311. Unlike the first installment (1970) of my local checklist, which itemized 73 species in the six families preceding the Noctuidae, this one deals with so large and difficult a group that many of the species are unfamiliar and likely to be overlooked by collectors. Inability to identify many species when collecting at a light has meant that I doubtless passed some by undetected. A considerable number of species not listed here are known from adjacent counties (especially through the collecting of M. C. Nielsen in Otsego County to the south), and may be expected one day in the Douglas Lake region as well.

My indebtedness to others is far greater than before. Especially have I been dependent on John H. Newman for identifying or checking all the noctuids in my own collection prior to his retirement. Since then, M. C. Nielsen has named my recent material in this family, has checked some older dubious specimens of mine and in the University of Michigan Museum of Zoology, and has gone over all the noctuids in the University of Michigan Biological Station collection (UMBS). He has also generously sent me copious records from his own collecting (MCN). Eric H. Metzler supplied information on two early spring species. Other collectors with whom I have not been in touch may well be holding choice additions of which I am ignorant. I am grateful to Roland L. Fischer and Thomas E. Moore for facilitating my examination of the collections at Michigan State University (MSU) and The University of Michigan (UMMZ), respectively.

Because of the large number of species and the dubious status of several records, it has appeared best not to continue an independent numbered sequence, but to employ the well known numbers and sequence of McDunnough's checklist, old as it is (1938), with intercalated species indicated by decimals. This scheme will help to provide a key to synonymy. I use McDunnough's nomenclature except in those numerous instances where later work has been generally followed by others. Consequently, the names here are in accord with many recent references; but as these are not always in agreement, and in order to avoid having to cite a large number of synonyms, I have sometimes preferred to use more familiar names. Forbes (1954) cited numerous synonyms, and also supplied keys and descriptions which apply to most of our species. Rockburne and Lafontaine (1976) unfortunately cited no synonyms, but almost all of our species (except for the omitted deltoid subfamilies, species 3623 onwards) were illustrated by them in color and the names were usually the same as in this list. Many of our species were also illustrated in color by Holland (1903). A number were figured in black and white by Ferguson (1954b). *Catocala* were well covered by Sargent (1976). These are the works most useful for general identification of our noctuids.

In the list, when the only extant specimens are in collections other than mine, the sources are always indicated. Sources are also given for some other records of special interest, including some unusual dates. Records cited only as Moore (1955) are published ones I have been unable to verify, and the county name is included in parentheses. Several of these are based on Welch (1915). Welch worked in the Barnes collection and had help from

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McDunnough in his identifications, so that it would be premature to reject them wholesale. Reports by Moore may have been based on specimens in collections I have not seen or specimens now lost (or reidentified). These species are included here for completeness, but confirming specimens should be sought. Similarly, if one of the two counties appears in Moore (1955) but specimens have been seen only from the other county, the reported county name is in parentheses. Except when noted to the contrary, all species listed have previously been reported from Michigan (not necessarily the same counties) by Moore (1955) or Newman and Nielsen (1973).

I have not tried to distinguish the source of the collection dates given, the earliest and latest for the two-county region being cited regardless of origin, except when only a single date of collection is known. Then, the year is added, at least for my own collections, and the source indicated if from another collection. And for these I have tried to give some notation as to collecting circumstances. The unfortunate loss of a large box of my deltoid moths has meant that the data for numbers 3650–3807 are undoubtedly less complete than they ought to be. In my notes are generally full data on time of day (or night) and weather condition for all collections, at least in the 1940's, so that more information is available on the habits of certain species. (My collection, library, and notes are usually accessible only in the summer, at Mackinaw City.)

No data are at hand on the economic importance of any of these moths in the northern Michigan region. However, the larvae of many species of Noctuidae are all too well known, at least farther to the south, as important agricultural pests, including several "armyworms," "cutworms," and "loopers" (the latter not to be confused with the "inchworms" of the Geometridae). A key and excellent illustrations for the adults of some of these are in Rings (1977a), the larvae in Rings (1977b). One of the most destructive species in the family is the corn earworm (*Helicoverpa zea*, long known as *Heliothis obsoleta*). Yet no specimen of this moth (2932) has been encountered in the present study. Common names for some of the best known species, obnoxious or otherwise, are given in the list.

#### NOCTUIDAE

1125. *Panthea acronyctoides* Walker. Cheboygan: 15 July 1968. The only material of this species, rare in Michigan as elsewhere, consists of three specimens which I took at mercury vapor light at the Biological Station. Larvae of all species in this genus are reported to feed strictly on conifers.
1130. *P. fuscilla* Packard. Emmet, Cheboygan: 3 July–5 August. An interesting account of how the mature caterpillar of this species manages to eat the needle of a white pine, starting at the apex, has been published by Klots (1967), based on observations in Connecticut.
1135. *Charadra deridens* Guenée. Cheboygan: 23 June–11 July.
1141. *Raphia frater* Grote. Emmet, Cheboygan: 23 June–2 August. Since the larva is reported almost entirely on *Populus* species, this moth is not surprisingly one of our commonest where aspens are so abundant. Some material might be the very similar *R. abrupta* Grote.
1148. *Acronicta americana* Harris. Cheboygan: 23 June–22 July.
1151. *A. dactylina* Grote. Emmet, Cheboygan: 18 June–5 August.
1153. *A. lepusculina* Guenée. Emmet, Cheboygan: 17 June–8 August.
1155. *A. innotata* Guenée. Emmet, Cheboygan: 24 June–2 August.
1157. *A. radcliffei* Harvey. Cheboygan: 4 July 1969. Not considered a common species; my only specimen was collected at mercury vapor light at the Biological Station.
1159. *A. tritona* Hübner. Cheboygan: 15 July–1 August.
1160. *A. grisea* Walker. Cheboygan: 22 June–5 July (MSU, MCN).
1168. *A. funeralis* Grote and Robinson. Cheboygan: 30 June–17 July.
1173. *A. superans* Guenée. Cheboygan: 30 June–11 July.
1174. *A. laetifica* Smith. Cheboygan: 24 June 1969. One specimen of this uncommon species was taken at mercury vapor light at the Biological Station.
1176. *A. hasta* Guenée. Emmet, Cheboygan: 23 May–June 30.

1182. *A. interrupta* Guenée. Emmet: 13 September 1950 (MSU, a single specimen taken by A. Yates at Petoskey).
1189. *A. haesitata* Grote. Cheboygan: 12 July 1968. A single specimen taken at mercury vapor light at the Biological Station.
1190. *A. clarescens* Guenée. Cheboygan: 30 June–13 August.
1191. *A. inclara* Smith. Cheboygan: 24 June–22 July.
1195. *A. retardata* Walker. Emmet, Cheboygan: 11 July–8 August.
1198. *A. afflicta* Grote. Cheboygan: 24 June 1969. A single specimen, at mercury vapor light at the Biological Station. Apparently the northern edge of the range for this species which is otherwise known in the state only from farther south except for the Beaver Islands, from which it was reported with some doubt (Moore 1930).
1202. *A. sperata* Grote. Cheboygan: 6 July 1940 (UMMZ, taken by Max M. Peet at Burt Lake).
1203. *A. noctivaga* Grote. Emmet: 25 June 1947. Taken at light at Mackinaw City.
1204. *A. impressa* Walker. Cheboygan: 10 July–29 August (UMMZ, MSU, MCN).
1209. *A. lithospila* Grote. Cheboygan: 30 June–15 July.
1215. *A. obliqua* J. E. Smith. Cheboygan: 7 July 1940 (UMMZ, Peet).
1223. *Harrisimemna trisignata* Walker. Cheboygan: 4–24 July.
1272. *Euxoa detersa* Walker [including *E. personata* Morrison; see McDunnough 1949, 1950] (sandhill cutworm). Emmet, Cheboygan: 3 July–19 September. One of the commonest moths at light.
1292. *E. perpolita* Morrison. Emmet, Cheboygan: 26 August–7 September. Cheboygan County collections by Nielsen were cited by Hardwick (1970, p. 37).
1297. *E. scandens* Riley (white cutworm). Emmet, Cheboygan: 26 June–29 August. A very common moth at light. Hardwick (1970, p. 117) cited Cheboygan County specimens.
1309. *E. mimallonis* Grote. (Cheboygan. Moore 1955).
1310. *E. messoria* Harris (dark-sided cutworm). Emmet, Cheboygan: 13–21 August (UMMZ, MCN). Collections from Cheboygan County by Nielsen 7 September–21 October are cited by Hardwick (1970, p. 52).
1341. *E. tessellata* Harris (striped cutworm). Emmet, Cheboygan: 30 June–29 August.
1346. *E. pleuritica* Grote. Emmet, Cheboygan: 1–28 July. Hardwick (1970, p. 149) cited an Emmet County collection by Nielsen.
1351. *E. declarata* Walker. Emmet, Cheboygan: 11 July–29 August (MSU, MCN).
1354. *E. albipennis* Grote. Cheboygan: 29 August 1961 (MCN).
1366. *E. divergens* Walker. Emmet, Cheboygan: 20 June–18 July.
- 1366.1. *E. sinelinea* Hardwick. Emmet, Cheboygan: 8–15 July. Hardwick (1970, p. 65–67) discussed this species and occurrence of specimens evidently intermediate with *E. divergens* in northern and central Michigan.
1371. *E. redimicula* Morrison. Cheboygan: 7 August 1965. My only specimen was taken at mercury vapor light at the Biological Station.
- 1371.1. *E. servita* Smith. Emmet: 15 July 1946. My only specimen was at light at Mackinaw City. Both this species and the preceding, to which it is very similar, were figured by Rockburne and Lafontaine (1976).
1378. *E. ochrogaster* Guenée (redbacked cutworm). Emmet, Cheboygan: 30 June–7 September. Another rather common cutworm moth in our area.
1382. *E. tristicula* Morrison. Cheboygan: 12 August 1932 (UMMZ, det. Brower, taken at Douglas Lake by J. Leonard). This is the only Michigan record of the species, listed by Moore (1955, p. 15, but as 21 Aug.). Hardwick (1970) cited no Michigan collections.
1416. *Agrotis vetusta* Walker. Emmet, Cheboygan: 12 July–20 September.
1419. *A. mollis* Walker. Cheboygan: 2 July–7 August.
1425. *A. venerabilis* Walker (dusky cutworm). Cheboygan: 6–11 September 1937 (UMMZ, taken at light at Burt Lake by Peet).
1432. *A. volubilis* Harvey. Emmet. Cheboygan: 26 May–June 25.
1435. *A. ipsilon* Hufnagel (black cutworm; greasy cutworm). Cheboygan: 22 July–4 October.
1442. *Feltia ducens* Walker (dingy cutworm). Emmet, Cheboygan: 9 August–6 September. This species and *F. herilis* are apparently our commonest members of the genus.

1445. *F. subgothica* Haworth (dingy cutworm). Emmet, Cheboygan: 2 July–20 September.
1446. *F. herilis* Grote (dingy cutworm). Emmet, Cheboygan: 18 July–28 August.
1451. *F. geniculata* Grote and Robinson. Emmet, Cheboygan: 5 July–31 August.
1472. *Spaelotis clandestina* Harris. Emmet, Cheboygan: 24 June–22 September.
1475. *Eurois occulta* L. (Emmet), Cheboygan: 3 July–29 August. A relatively large and handsome northern circumpolar species, the larva in Canada (but not Eurasia) reported principally on tamarack (*Larix*). While adults do come to light, they might be less rare in collections if a light were employed near a bog or swamp with tamarack.
1480. *Ochrolepura plecta* L. Emmet, Cheboygan: 3 July–29 August.
1482. *Euagrotis lubricans* Guenée. Cheboygan: 5 July 1937 (UMMZ, taken by Peet at light at Burt Lake).
- 1483.1. *E. forbesi* Franclemont. Cheboygan: 25 June–5 July.
1493. *Metalepsis fishii* Grote. Cheboygan: 30 April 1964 (MCN).
1496. *Peridroma saucia* Hübner (variegated cutworm). Emmet, Cheboygan: 28 July–18 September.
1498. *Paradiarsia littoralis* Packard. Cheboygan: 24 June–18 July.
1499. *Pseudospaelotis haruspica* Grote. Emmet, Cheboygan: 8 July–27 August. Some recent authors (e.g. Rockburne and Lafontaine 1976) place this species in *Graphiphora*, while the species listed below under *Graphiphora* are placed in *Amathes*.
1502. *Heptagrotis phyllophora* Grote. Emmet, Cheboygan: 9–23 July.
1505. *Diarsia rubifera* Grote. Emmet, Cheboygan: 4–14 August.
1507. *D. jucunda* Walker. Cheboygan: 12–23 July.
1511. *Graphiphora c-nigrum* Linnaeus (spotted cutworm). Cheboygan: 30 June–6 September.
1512. *G. smithii* Snellen. Emmet, Cheboygan: 9 August–5 September.
1513. *G. normaniana* Grote. Emmet, Cheboygan: 31 July–5 August.
1520. *G. badinodis* Grote (spotted-sided cutworm). Cheboygan: 9 September 1939 (UMMZ, a somewhat badly worn specimen taken at light at Burt Lake by Peet).
1522. *G. collaris* Grote and Robinson. Cheboygan: 24 August–9 September 1937 (UMMZ, two specimens taken at light at Burt Lake by Peet). Apparently not a common moth in Michigan.
1523. *G. bicarnea* Guenée. Emmet, Cheboygan: 1 July–27 August.
1525. *G. tenuicula* Morrison. Cheboygan: 8 August 1937 (UMMZ, taken by Peet at light at Burt Lake).
1552. *Anomogyna speciosa* Hübner. Cheboygan: 5 July 1966. My specimen was taken at mercury vapor light at the Biological Station. A northern species, otherwise known in Michigan from Isle Royale.
1561. *A. elimata* Guenée. Cheboygan: 11 August 1951. At gasoline lantern in Mud Lake bog, Inverness Township, a likely location for a moth whose larva feeds on conifers, including spruce and fir.
1562. *A. janualis* Grote. Cheboygan: 21–29 August (MSU, MCN).
1569. *Anaplectoides pressus* Grote. Cheboygan: 30 June–3 July.
1570. *A. prasina* Schiffermüller. Cheboygan: 30 June–13 August.
1571. *Protolampra rufipectus* Morrison. Cheboygan: 29 August 1961 (MSU, taken by Nielsen near Elliott Creek east of Cheboygan).
1572. *P. brunneicollis* Grote. Cheboygan: (6 July, Moore 1955)–29 August (MCN).
1575. *Cryptocala acadensis* Bethune. Emmet: 4 August 1947. At incandescent light, Mackinaw City. An attractive and distinctive boreal species, the hind wings yellow with contrasting dark border. Although there are specimens from several Michigan counties in the MSU collection, this seems not to have been previously reported from the state.
1577. *Eueretagrotes perattenta* Grote. Cheboygan: 7 July 1932 (UMMZ, taken by Peet at Burt Lake).
1578. *E. attenta* Grote. Emmet: 23 July 1946. At incandescent light, Mackinaw City.
1593. *Abagrotis placida* Grote. Cheboygan (UMMZ, an undated but apparently old specimen [female] without collector, labeled "Douglas Lake"; probably the basis of listing by Welch 1915).

1594. *A. barnesi* Benjamin. Cheboygan: 1–25 July 1938 (MSU, several specimens with no collector indicated).
1601. *A. alternata* Grote (mottled gray cutworm). Cheboygan: 30 July–21 August.
1602. *Rhynchagrotis cupida* Grote. Cheboygan: 18 July–8 August (UMBS, MSU).
1604. *R. anchocelioides* Guenée. (Cheboygan. Moore 1955).
1611. *Ufeus satyricus* Grote. Emmet, Cheboygan: 2–13 October. A late-flying species, taken by Nielsen at UV light and by me at a lighted window (fluorescent and incandescent lamps).
1633. *Scotogramma trifolii* Rottenburg (clover cutworm). Cheboygan: 23 July–14 August.
1663. *Polia nimbosa* Guenée. Emmet, Cheboygan: 11–28 July. Evidently a rare moth in Michigan, for it is striking enough to be collected whenever seen but specimens are scarce.
1667. *P. imbrifera* Guenée. (Cheboygan. Moore 1955, only citing Welch 1915).
1669. *P. purpurissata* Grote (blueberry cutworm). Emmet, Cheboygan: 31 July–26 August.
1672. *P. grandis* Boisduval. Emmet, Cheboygan: 9 June–7 July.
1679. *P. radix* Walker. Cheboygan: 23 July 1956 (UMBS). One specimen, taken at light at Douglas Lake, was examined by Newman, Nielsen, and myself in June 1979. The entire box in which it was pinned disappeared shortly afterward and has not been located despite extensive search.
1683. *P. legitima* Grote (striped garden caterpillar). Emmet, Cheboygan: 3–12 July.
1684. *P. tacoma* Strecker. Emmet: 25 May 1973 (MSU, two specimens taken 10 mi. north of Harbor Springs).
1685. *P. rugosa* Morrison. Cheboygan: "14 July." A collection of mine was cited by Newman and Nielsen (1973) when reporting the species as new to Michigan, but no such specimen can be found; furthermore, my notes record no moth collections at the Biological Station on 14 July of any year. So some mixup of data has apparently occurred.
1691. *P. adjuncta* Boisduval. Cheboygan: 30 June–6 July.
1693. *P. assimilis* Morrison. Cheboygan: 12 July 1937 (UMMZ, taken at light at Burt Lake by Peet).
1694. *P. pulverulenta* Smith. Cheboygan: 5 July 1966. Taken at mercury vapor light at the Biological Station. Previous records are from the Upper Peninsula in Michigan (Newman and Nielsen 1973).
1696. *P. ingravis* Smith. Cheboygan: 24 June 1969. Collected at mercury vapor light at the Biological Station.
1699. *P. lura* Guenée. Emmet, Cheboygan: 26 May–23 July. A rather common moth at light.
1709. *P. detracta* Walker. Emmet, Cheboygan: 1 July–8 August. Another rather common species at light.
1710. *P. goodellii* Grote. Cheboygan: 31 July 1950. At gasoline lantern about 4 mi. southeast of the Biological Station.
1711. *P. obscura* Smith. Emmet: 27 May 1973 (MSU, collected 10 mi. north of Harbor Springs).
1712. *Lacinipolia meditata* Grote. Emmet, Cheboygan: 6–28 August.
1714. *L. lustralis* Grote. Emmet, Cheboygan: 3–6 July.
1716. *L. anguina* Grote. Cheboygan: 12 June 1963 (MSU, collected by Nielsen at black-light).
1738. *L. renigera* Stephens (bristly cutworm). Emmet, Cheboygan: 7 July–30 August.
1744. *L. lorea* Guenée. Emmet, Cheboygan: 30 May–8 July.
1745. *L. olivacea* Morrison. Emmet, Cheboygan: 12 July–5 September.
1801. *Sideridis congermana* Morrison. Cheboygan: 10 September 1936 (UMMZ, taken by Peet at Burt Lake). This is considered a rare moth. Moore (1955) cited no other records from northern Michigan, and the only specimen at MSU is from Midland County. The only Ontario record is from the southern part of that province (Rockburne and Lafontaine 1976).
1804. *Anepia capsularis* Guenée. Emmet: 12 June 1946. Captured at incandescent light at Mackinaw City.

1821. *Tricholita signata* Walker. Emmet: 1 August 1945. Taken at Mackinaw City, at incandescent light.
1830. *Utolonche modesta* Morrison. (Cheboygan. Moore 1955)
1831. *U. culea* Guenée. Cheboygan: 12 June–5 July.
1848. *Protorthodes incincta* Morrison.<sup>3</sup> Emmet: 20–24 June.
1855. *P. oviduca* Guenée. Emmet, Cheboygan: 27 May–9 September.
1871. *Orthodes crenulata* Butler. Cheboygan: 23 July 1956 (UMBS, taken at light at Douglas Lake).
1872. *O. cynica* Guenée. Emmet, Cheboygan: 18 June–6 July.
1890. *Hormorthodes furfurata* Grote.<sup>3</sup> Emmet, Cheboygan: 17–28 July.
1895. *Nephelodes minians* Guenée (bronzed cutworm). Emmet, Cheboygan: 13 August–3 September.
1940. *Orthosia revicta* Morrison. Emmet, Cheboygan: 30 April–27 May (MSU, MCN).
1943. *O. hibisci* Guenée. Cheboygan: 30 April 1964 (MSU, two specimens taken by Nielsen near Grass Bay, east of Cheboygan).
1950. *Crocigrapha normani* Grote. Cheboygan: 30 April 1964 (MSU, same data as the preceding).
1962. *Protoleucania albilinea* Hübner (wheat armyworm). Emmet, Cheboygan: 21 June–11 July. By some authors (e.g. Rockburne and Lafontaine 1976), this species is called *Faronta diffusa* Walker.
1973. *Leucania pseudargyria* Guenée. Emmet, Cheboygan: 3–13 July.
1975. *L. inermis* Forbes. Cheboygan: 27 June 1966. Taken at mercury vapor light at the Biological Station. Only material from Otsego County was cited by Newman and Nielsen (1973).
1977. *L. commoides* Guenée. Emmet, Cheboygan: 2–23 July.
1978. *L. phragmatidicola* Guenée. Emmet, (Cheboygan): 7–31 July.
1982. *L. multilinea* Walker. Emmet, Cheboygan: 29 June–20 July.
1992. *L. insueta* Guenée. Emmet: 20 June–13 July.
1994. *L. unipuncta* Haworth (armyworm). Emmet, Cheboygan: 24 June–18 September. An all too common species!
1995. *L. luteopallens* Smith. Emmet, Cheboygan: 7 July–12 August. Some authors (e.g. Rockburne and Lafontaine 1976) call this species *Aletia oxygala* Grote.
2042. *Cucullia postera* Guenée. Emmet, Cheboygan: 24 June–30 July.
2044. *C. asteroides* Guenée. Cheboygan: 7–22 July.
2116. *Oncocnemis piffardi* Walker. Cheboygan: 29 August (MCN). Three specimens at UV light from Elliott Creek east of Cheboygan were cited by Newman and Nielsen (1973).
2127. *O. riparia* Morrison. Emmet: 6–28 July.
2147. *Homohadena badistriga* Grote. Cheboygan: 7 July–21 August.
2191. *Psaphida grotei* Morrison. Emmet: 25 May 1973 (MSU, taken 10 mi. north of Harbor Springs).
2207. *Bombycia algens* Grote. Cheboygan: 26–29 August 1962 (MCN).
2215. *Litholomia napaea* Morrison. (Cheboygan. Moore 1955)
2216. *Lithomoia solidaginis* Hübner. Cheboygan: 6 September 1937 (UMMZ, taken by Peet at light at Burt Lake).
2248. *Lithophane fagina* Morrison. Emmet, Cheboygan: 9 April; 5 October. The April collection was made in 1966 by Metzler at blacklight on the south side of Carp Lake; the October record is from Nielsen (pers. comm.) and represents the other season when this moth can be expected.
2252. *L. pexata* Grote. Emmet: 27 May 1960 (MSU, two specimens by R. and K. Dreisbach).
2260. *Xylena curvamacula* Morrison. Cheboygan: 30 April 1964 (MSU, taken by Nielsen at blacklight near Grass Bay, east of Cheboygan).
2268. *Platypolia anceps* Stephens. Cheboygan: 2–4 October (MCN, at bait). Reported for the 1975 and 1976 seasons (Nielsen 1976, 1977). The only other published report for

<sup>3</sup>The genera segregated from *Orthodes* follow McDunnough (1943).

- Michigan is for Mackinac County (Moore 1955, as *Eurotype confragosa* Morrison); Moore's collection from St. Ignace, 2 October 1926, is in UMMZ.
2292. *Psectraglaea carnosa* Grote. Cheboygan: 6 September 1936 (UMMZ, collected at Burt Lake by Peet).
2309. *Parastichtis discivaria* Walker. Cheboygan: 1 July 1931 (MSU, coll. C. W. S[abrosky]).
2312. *Sunira bicolorago* Guenée. Emmet, Cheboygan: 2–14 October.
2316. *Xanthia lutea* Ström. Emmet: 18 September 1977. This attractive moth, with yellow and purple forewings, was taken at light at Mackinaw City.
2317. *Anathix ralla* Grote and Robinson. Cheboygan: 8 August 1937 (UMMZ, taken by Peet at light at Burt Lake).
2318. *A. puta* Grote and Robinson. Emmet, Cheboygan: 8 August–14 September.
2321. *Eucirrhoedia pampina* Guenée. Cheboygan: 1–11 September (MMZ, MSU).
2324. *Homoglaea hircina* Morrison. Emmet: 8–9 April (MSU). A series was taken in 1966 by Metzler at blacklight on the south side of Carp Lake, and he kindly placed specimens in my collection as well as MSU.
2329. *Septis nigrior* Smith.<sup>4</sup> Cheboygan: 6 July 1940 (UMMZ, taken by Peet at Burt Lake, at light).
2330. *S. cariosa* Guenée. Cheboygan: 3 August 1940 (UMMZ, taken at light at Burt Lake by Peet).
2335. *S. lignicolor* Guenée. Emmet, Cheboygan: 30 June–23 July.
2344. *S. vultuosa* Grote. Emmet: 3 July 1945. Taken at incandescent light at Mackinaw City.
2351. *S. amputatrix* Fitch (yellow-headed cutworm). Emmet, Cheboygan: 1 July–8 August. This is the rather large, easily recognized, and very common moth long known as *S. arctica* Boisduval (or *Hadena arctica*) (see Franclemont 1950, p. 146–148).
2353. *S. alia* Guenée. Emmet: 11 August 1945. One specimen taken at incandescent light at Mackinaw City; another taken in an earlier year, without date; both retained by Newman.
2355. *S. inordinata* Morrison. Cheboygan: 30 June 1968. Taken at mercury vapor light at the Biological Station.
2362. *S. impulsa* Guenée. Cheboygan: 28 June 1932 (UMMZ, collected at Burt Lake by Peet).
2366. *Agroperina lateritia* Hufnagel. Emmet, Cheboygan: 23 June–14 August.
2368. *A. dubitans* Walker. Cheboygan: 1 July 1949. Taken at carbon arc light at the Biological Station.
2375. *Crymodes devastator* Brace (glassy cutworm). Emmet, Cheboygan: 1 July–26 August. A common species in our area.
2383. *Protagrotis niveivenosa* Grote. Emmet: 27 July–5 August.
2393. *Luperina passer* Guenée (Cheboygan. Moore 1955)
- 2417a. *Oligia tonsa subjuncta* Smith. Cheboygan: 9 July 1969. Collected at mercury vapor light at the Biological Station. Evidently a rare moth in Michigan, and not listed by Rockburne and Lafontaine (1976) from Ontario.
2420. *O. bridghami* Grote and Robinson. Cheboygan: 8–29 August (UMMZ, MCN).
2421. *O. minuscula* Morrison. Emmet, Cheboygan: 28 June–6 September.
2423. *O. illocata* Walker. Cheboygan: (5 July) 6–7 September (UMMZ, MCN). No specimen has been found as early as the 5 July date cited by Moore (1955). There is one specimen in UMMZ, taken 6 September 1937 at light at Burt Lake by Peet, and Nielsen reported the species for 7 September.
2424. *O. mactata* Guenée. Cheboygan: 5 October (MCN).
2431. *Eremobina jocasta* Smith. Cheboygan: 13–23 August (UMMZ).
2434. *Xylomoia chagnoni* Barnes and McDunnough. Cheboygan: 8 August 1961 (MCN).
2453. *Ipimorpha pleonectusa* Grote. Cheboygan: 28 July–12 August.

<sup>4</sup>The species here listed in *Septis* are all placed in *Apamea* by some recent authors, following the argument of Franclemont (1950).



2458. *Apamea velata* Walker.<sup>5</sup> Emmet: 24–27 July.
2459. *Papaipema appassionata* Harvey. Cheboygan: 25 August–11 September (MSU, including specimens ex larva or pupa, collected by Nielsen and V. Warczynski). Specimens reared from larvae boring in pitcher plants (*Sarracenia purpurea* L.) were reported by Nielsen (in Heitzman 1966, p. 9; 1978, p. 6). See also Newman and Nielsen (1973). The localities were along Duncan Bay and Grass Bay, east of Cheboygan.
2484. *P. marginidens* Guenée. Cheboygan: 23 August 1937 (UMMZ, taken at light by Peet at Burt Lake).
2490. *P. furcata* Smith. Cheboygan: 7 September 1936 (UMMZ, taken at light by Peet at Burt Lake).
2507. *P. purpurifascia* Grote and Robinson (columbine borer). Cheboygan: 29 August–11 September (UMMZ, MSU).
2533. *Euplexia benesimilis* McDunnough. Emmet: 11 July 1946. Captured at incandescent light at Mackinaw City.
2535. *Phlogophora iris* Guenée. Emmet, Cheboygan: 23 June–22 July.
2536. *P. periculosa* Guenée. Cheboygan: 20 July–18 August.
2539. *Haploolophus mollissima* Guenée. Cheboygan: 6 July 1940 (UMMZ, taken by Peet at Burt Lake, at light).
2540. *Euherrichia monetifera* Guenée. Emmet, Cheboygan: 16 June–14 August. This common little moth is readily noticed, the orange forewings each bedecked with two larger “silver coins” and smaller silver spots and crescents. It is one of the few moths whose larvae feed on ferns, and in view of its abundance in our area, bracken (*Pteridium aquilinum* [L.] Kuhn) may be suspected as the foodplant (as in Nova Scotia, but apparently not Ontario, where sensitive fern [*Onoclea sensibilis* L.] is cited by Rockburne and Lafontaine 1976).
2547. *Trachea delicata* Grote. Cheboygan: 12 July 1937 (UMMZ, collected at light at Burt Lake by Peet). This is evidently the northern edge of the range of this species in the state.
2554. *Chytonix palliatricula* Guenée. Emmet, Cheboygan: 24 June–12 July. A rather common moth in our area.
2555. *C. sensilis* Grote. Cheboygan: 31 July 1957 (MSU, collected by Nielsen near Elliott Creek east of Cheboygan). Moore (1955) listed the species for the county, only citing Welch (1915), but no specimens have been found in support of these earlier reports.
2559. *Cerma cora* Hübner. Cheboygan: 28 May–24 June. An unusually attractive little moth for this family, but generally considered a rare species although the larva is supposed to feed on the common pin cherry (*Prunus pensylvanica* L. f.). Moore (1955) cited only Luce County and the only collections at MSU are from Alcona, Crawford, and Kalkaska counties. My single specimen was taken in 1969 at mercury vapor light at the Biological Station. Nielsen took a specimen 28 May 1980 on a brick wall at a highway rest area about 5 mi. southeast of the Station.
2576. *Leuconycta diptheroides* Guenée. Emmet, Cheboygan: 16 June–10 July.
2578. *Agriopodes fallax* Herrich-Schaeffer. Cheboygan: 2–14 July. Two specimens, both taken at the Biological Station. I have one collected by R. E. Beer in 1966, and there is one in the UMBS collection taken in 1951 by A. A. Wagner. This is a striking moth for a noctuid, with mottled green and black forewings.
2584. *Amphipyra pyramidoides* Guenée. Cheboygan: 1 July–14 August.
2586. *A. glabella* Morrison. Emmet: 25 August 1951. My specimen was collected at incandescent light at Mackinaw City.
2589. *Nedra ramosula* Guenée. Cheboygan: 21 August–6 September (UMMZ, MCN).
2607. *Hyppa xylinoides* Guenée. Emmet, Cheboygan: 30 June–30 September.
2647. *Elaphria festivoides* Guenée. Emmet, Cheboygan: 20 June–15 July. Quite a common moth at light.
2651. *Anorthodes tarda* Guenée. Cheboygan: 22 July 1965. Two specimens taken at mercury vapor light at the Biological Station, and retained by Newman. Evidently the north-

<sup>5</sup>Both species of *Apamea* are placed by some recent authors in *Amphipoea*, the former name being applied to *Septis* (see previous note).

- ern edge of the range, as Moore (1955) cited, only Ottawa County and the species is represented at MSU only from Berrien and Kalamazoo counties, also southern. It is not known in Ontario (Rockburne and Lafontaine 1976).
2655. *Platyperigea multifera* Walker. Cheboygan: 24 August 1937 (UMMZ, taken at light at Burt Lake by Peet).
2657. *P. meralis* Morrison. Emmet, Cheboygan: 8 August–7 September.
2662. *Proxenus miranda* Grote. Emmet, Cheboygan: 24 June–28 July.
2666. *Galgula partita* Gueneé. Cheboygan: 24 June 1937 (UMMZ, taken at light at Burt Lake by Peet).
2669. *Balsa malana* Fitch. Cheboygan: 19–24 August (UMMZ, only two specimens, one taken by Moore at Cheboygan in 1921 [at light, fide Moore 1922] and the other by Peet at light at Burt Lake in 1937).
2678. *Prodenia ornithogalli* Gueneé. (yellow-striped armyworm; cotton cutworm). Cheboygan: 21 August (MCN). In our area, a migrant from farther south.
2685. *Enargia decolor* Walker. Emmet, Cheboygan: 2 July–26 August.
- 2685.1. *E. infumata* Grote. Emmet, Cheboygan: 13–31 August.
2687. *Cosmia calami* Harvey. Emmet, Cheboygan: 7–14 August.
2703. *Arzama obliqua* Walker. Cheboygan: 24 June–20 July (UMMZ, UMBS).
2710. *Bellura diffusa* Grote. Cheboygan (UMMZ). Not listed for the region by Moore (1955), although included by Welch (1915) (as *B. melanopyga* Grote). Welch (1914) had earlier provided detailed observations (made while he was at the Biological Station 1911–1913) on the behavior of the larvae, which feed on leaves and burrow lengthwise in the petioles of *Nuphar*, the yellow pond-lily or spatterdock. No other host was noted in the field by Welch, although the white water-lily (*Nymphaea*) was accepted in the laboratory in the absence of *Nuphar*. McGaha (1954) reported the larvae as abundant on *Nuphar*, never on other plants, especially at Nigger Creek, Black Lake, and Black River. The only specimens I have located are two larvae in alcohol, dated 22 August 1912, in the Welch material at UMMZ.
2715. *Pyrrhia umbra* Hufnagel. Cheboygan: 24 June–9 August. One of my specimens was taken during the day at flowers of *Stachys palustris* L. Other collections were all nocturnal, at light.
- 2715.1. *P. exprimens* Walker. Cheboygan: 3 July 1937 (UMMZ, taken at light at Burt Lake by Peet). This species is now recognized as distinct from the preceding (see Hardwick 1970, p. 28).
2858. *Euthisanotia grata* Fabricius. Cheboygan: 14 July 1944 (UMBS, collected by Wm. B. Owsley). Not previously reported from so far north in the state. This brightly colored species was common at light in Oceana County in 1944, when I collected a series, and perhaps that was an unusually good year for it.
2932. *Helicoverpa zea* Boddie (corn earworm; tobacco budworm). (Cheboygan. Moore 1955). Long known as *Heliothis obsoleta* Fabricius; see Hardwick (1965, p. 107).
- 2933.1. *Heliothis subflexus* Gueneé. Cheboygan: 15 July 1968. Taken at mercury vapor light at the Biological Station. According to Steyskal (1971) the generic name is masculine.
2941. *Schinia florida* Gueneé. Emmet, Cheboygan: 19–31 July. Long known as *Rhodophora florida*, but included in *Schinia* by Hardwick (1958, p. 15; 1970, p. 33). The attractive moths, with forewings pink basally and yellow apically, are attracted to light and may also be found well camouflaged in (or on) the flowers of evening-primrose (*Oenothera*), as described by Hardwick (1958, p. 10–11).
3007. *S. marginata* Haworth. Cheboygan: 8 August 1950. Taken at carbon arc light at the Biological Station.
3106. *Ecyra rolandiana* Grote. Cheboygan: (MSU [larvae], MCN). Adults and larvae have been found on pitcher plants (*Sarracenia purpurea* L.) by Nielsen (1967, p. 11), along the Lake Huron shore east of Cheboygan.
3117. *Erastria bellicula* Hübner.<sup>6</sup> Emmet, Cheboygan: 17 June–18 July. Of my two specimens, one was taken at Mud Lake bog, Inverness Township, and the other at Galloway Lake bog north of Levering.

<sup>6</sup>The generic name *Lithacodia* is sometimes used instead of *Erastria*.

3118. *E. muscosula* Guenée. Emmet: 29 June 1946. Collected at incandescent light at Mackinaw City.
3119. *E. albidula* Guenée. Emmet, Cheboygan: 12 June–4 August. A common but rather nondescript moth at light.
3120. *E. synochitis* Grote and Robinson. Emmet: 28 June–12 August.
3124. *E. carneola* Guenée. Emmet, Cheboygan: 30 June–26 August.
3129. *Capis curvata* Grote. Cheboygan (UMMZ, a specimen without date or collector, apparently old, labeled “Douglas Lake”; probably the basis of the listing by Welch 1915).
3131. *Chamyris cerintha* Treitschke. Emmet, Cheboygan: 12 June–22 July. A rather pretty and common species.
3172. *Tarachidia erastrioides* Guenée. Cheboygan: 28 July 1949. Collected at light at the Biological Station.
3223. *Marathyssa inficita* Walker. Emmet, Cheboygan: 28 June–1 August. A very common and distinctive moth, the wings at rest more or less plicate or rolled, resembling a twig or even a bird dropping. The larvae are reported to feed on sumac (*Rhus*).
3235. *Sarothrips revayana* Scopoli. (Cheboygan. Moore 1955, only citing Welch 1915).
3238. *Baileya doubledayi* Guenée. Cheboygan: 26 June–7 August.
3239. *B. ophthalmica* Guenée. Cheboygan: 4 July 1969. Taken at mercury vapor light at the Biological Station.
3252. *Syngrapha falcifera* Kirby<sup>7</sup> (celery looper). Emmet, Cheboygan: 26 May–5 September. A common moth at light and also diurnal. While it is often flushed from grass, it sometimes actively visits flowers. On 5 September 1947, I was collecting butterflies at a favorite site, the old Mackinaw City golf course just south of town, abandoned a number of years previously and overgrown with weeds and native plants. Early on a warm, sunny afternoon several individuals of *S. falcifera* were busy at flower heads of large-leaved aster (*Aster macrophyllus* L.), evidently obtaining nectar. Their flight was extremely rapid and jerky, thus hard to follow, and not unlike that of a skipper. Generally, although not invariably, the moths avoided the topmost heads on a plant in favor of those closer to the ground. When captured in the net, a specimen would flutter and beat its wings as actively as any skipper. Some moths hovered briefly at heads of goldenrod (*Solidago*), but did not stay at them. I have one specimen that emerged 12 August 1949 from a cocoon found on a plant of wood-sage (*Teucrium canadense* L.).
3254. *S. rectangula* Kirby. Cheboygan: 1 July–13 August.
- 3257.2. *S. cryptica* Eichlin and Cunningham. Cheboygan: 17 July–8 August. This species was recently segregated from *S. alias* Ottolengui, under which name Moore (1955) listed it for Cheboygan County (UMMZ, at light, Burt Lake, taken by Peet 8 Aug. 1938). It is not previously reported for the state, but Nielsen has taken it in Schoolcraft and Otsego counties. My two specimens were collected in 1966 at mercury vapor light at the Biological Station, and one of them has pollinia of milkweed (*Asclepias*) on its legs, indicating flower visitation.
3260. *S. octoscripta* Grote. Emmet, Cheboygan: 8–26 August. Nielsen reports one specimen taken at UV light east of Cheboygan; my only one was found on a porch screen at Mackinaw City in 1945, presumably attracted to light the previous night.
3264. *S. epigaea* Grote. Cheboygan: 14–29 August (MSU, MCN).
3265. *Autographa ampla* Walker. Emmet, Cheboygan: 30 June–8 August.
- 3266.1. *Syngrapha viridisigma* Grote. Cheboygan: 4 August (MCN).
3269. *Trichoplusia ni* Hübner [*Autographa brassicae* Riley] (cabbage looper). Emmet, Cheboygan: 27 June–30 September.
3273. *Chryspidia putnami* Grote. Emmet, Cheboygan: 24–26 June.
3275. *C. contexta* Grote. Cheboygan: 5 July 1966. Collected at mercury vapor light at the Biological Station.
3279. *Autographa biloba* Stephens. Emmet, Cheboygan: 15 May–17 July (UMMZ, MSU).

<sup>7</sup>Nomenclature of the Plusiinae follows Eichlin and Cunningham (1978), which is also very close to that of Rockburne and Lafontaine (1976); but the McDunnough numbers have been retained in sequence. Species 3252–3286 were all included in *Autographa* by McDunnough (1938, but not 1944).

3280. *Pseudoplusia includens* Walker [*P. oo* Cramer] (soybean looper). Cheboygan: 7 September–25 October (MSU, MCN).
3281. *Autographa precationis* Guenée (plantain looper). Emmet, Cheboygan: 27 May–9 September.
3286. *A. mappa* Grote and Robinson. Cheboygan: 30 June 1969 (UMBS, one specimen from Douglas Lake). A northern species, otherwise known in Michigan from the Upper Peninsula.
3295. *Allagrapha aereoides* Grote [*Plusia aereoides*]. Cheboygan: 6 August 1938 (UMMZ, taken by Peet at light at Burt Lake).
3297. *Plusia balluca* Geyer. Cheboygan: 7 August 1965. One worn specimen, taken at light at the Biological Station.
3304. *Chryspidia venusta* Walker. Cheboygan: 11 July 1937 (UMMZ, taken at light at Burt Lake by Peet).
3316. *Catocala antinympha* Hübner (sweet-fern underwing). Cheboygan: 18 July–15 August (UMMZ, UMBS). Apparently an uncommon underwing, at least in the northern part of our region. The larval foodplant, *Comptonia peregrina* (L.) Coulter (*Myrica peregrina* [L.] Kuntze), is common on the jack pine plains in southern Cheboygan County (although it does occur farther north), and collecting there would probably produce more of this species.
3317. *C. coelebs* Grote. Cheboygan: 31 July–31 August (MSU, MCN). Previously reported for the county by Nielsen (1976).
3342. *C. ilia* Cramer. Cheboygan: 14 June–29 August. Although not common, an extremely variable species. There is a full range on the forewing, from a conspicuous white spot (f. *conspicua*) to no white spot (f. *umbrosa*); one of the latter, rather worn, with almost entirely black hindwings was taken 22 July 1965 at mercury vapor light at the Biological Station.
3343. *C. cerogama* Guenée. (yellow-banded underwing). Emmet, Cheboygan: 29 July–23 August.
3344. *C. relictia* Walker (white birch underwing). Emmet, Cheboygan: 2 July–5 October. This is one of our two commonest underwings. The common name cited is one I learned long ago, from the *National Geographic*; it is an apt one, as the forewings, though they vary a great deal in proportion of white, do resemble a piece of birchbark. Whether the moth in fact rests well camouflaged on such bark I do not know (perhaps it hides too well!). On Isle Royale, 12 August 1975, a specimen was resting head-up, very well camouflaged on some pale lichens, on rock beneath the Blake Point lighthouse. I have also seen a specimen, head-up as usual for this species, on the dark trunk of a large white-cedar (*Thuja occidentalis* L.) in the Porcupine Mountains, Ontonagon County, 19 August 1971.
3346. *C. unijuga* Walker. Emmet, Cheboygan: 1 July–4 October. This is clearly one of our two commonest species in the genus, though less easily recognized at a glance than the preceding. The larvae of both include aspen (*Populus*) in their diet and hence the moths are not unexpectedly common in the extensive aspen forests which surround the Biological Station. On 8 August 1950 it was a warm, still night unusually fine for underwings at the carbon arc light then operating on a tower at the Station. In addition to these two common species that night, I took *C. ilia* (both major forms), *C. briseis*, *C. semirelictia*, and *C. similis*. Several of the moths feigned death when a net was clapped over them, and dropped into the net or fell onto the platform beneath the light (Voss 1950a). The end of the first week of August 1956 was also unusually good for *C. unijuga*, to judge from numerous specimens in the UMBS collection. This species was resting, with the two preceding, on lichen-covered rocks beneath the Blake Point light at Isle Royale on 12 August 1975.
3347. *C. parta* Guenée. Emmet, Cheboygan: 15 August–7 September (UMMZ, MSU). Only two collections have been seen from the region. One in UMMZ was taken at Mackinaw City by Moore 15 August 1921; it is labeled Cheboygan County, but was reported (1922, p.20) from Emmet County. As the county line bisects the village, either is quite possible. The other, at MSU, was taken at Petoskey by Yates in 1942.
3357. *C. briseis* Edwards. Cheboygan: 4–21 August.

3361. *C. semirelicta* Grote. (Emmet, 7 Sept.), Cheboygan: 30 July–8 August. Although this species and the two preceding are also reported to feed on *Populus* in the larval stage, they are not at all common in this region. Moore's Emmet County material was determined by Brower (Moore 1955).
3362. *C. meskei* Grote. Emmet, Cheboygan: 24 July–17 August (UMMZ, MSU). The July specimen, from Cheboygan, was collected in 1939 by Frances Hubbs; both Newman and Nielsen have concurred in its determination. Two specimens (MSU) were collected by Yates at Petoskey (6 Aug. 1942 and 17 Aug. 1947) and determined by Brower.
3372. *C. cara* Guenée. (darling underwing). Emmet: 16 September 1978. One specimen, taken at light at Mackinaw City. Ordinarily more southern in range.
3373. *C. concumbens* Walker. Emmet, Cheboygan: 30 July–29 September.
3385. *C. sordida* Grote. Cheboygan: 7 August 1965. Two specimens at light at the Biological Station.
3395. *C. ultronia* Hübner. Cheboygan: 30 July–9 August. I also have a specimen from Porcupine Mountains State Park, Ontonagon County, 19 August 1971.
3398. *C. grynea* Cramer. Cheboygan: 13 August 1956 (UMBS, one specimen taken at Douglas Lake by L. Bachman).
3401. *C. blandula* Hulst. Cheboygan: 22 July–4 August. My specimen of 22 July 1978 was prematurely reported as the very similar *C. mira* Grote (in Nielsen 1979, p. 11), but Nielsen, who has also taken the species in the county, has referred it to *blandula*. It bears pollinia of milkweed (*Asclepias*) on the tongue and legs, indicating visits to the flowers, although the specimen was captured at a lighted window at the Biological Station.
3407. *C. similis* Edwards. Cheboygan: 4–29 August.
3414. *Euparthenos nubilis* Hübner. Cheboygan: 29 June–17 July. The first collection from the Douglas Lake region was apparently made in 1948 at the Biological Station, about the same time as the larval foodplant, black locust (*Robinia pseudoacacia* L.), native much farther south, became well established, spread from cultivation at the Station. The moth is now common.
3422. *Parallelia bistriaris* Hübner. Emmet, Cheboygan: 12 June–3 August. In addition to being attracted to light, the moths are often flushed from vegetation in both wooded and open areas.
3426. *Euclidina cuspidata* Hübner. Emmet, Cheboygan: 8 June–7 July. Another species found at light as well as flushed from vegetation.
3430. *Caenurgina crassiuscula* Haworth (clover looper). Emmet, Cheboygan: 1 July–28 August. Occasionally flushed from vegetation, and also found at light.
3431. *C. erechtea* Cramer (forage looper). Cheboygan: 17–24 July (UMMZ). Also cited from Emmet County by Moore (1922, p. 21) but not there clearly distinguished from the preceding, which is very similar.
3458. *Argyrostromis anilis* Drury. Emmet: 24–30 June. This is rather far north for the species. My two specimens were taken in 1946 and I know of no others from the region. The distinctive moth has chocolate-brown wings, the forewing with two narrow white bands.
3474. *Zale lunata* Drury. Cheboygan: 9–11 July; also 4 October (MCN).
3481. *Z. undularis* Drury. Cheboygan: 12 June–4 July.
3484. *Z. minerea* Guenée. Cheboygan: 30 June 1968. Taken at mercury vapor light at the Biological Station.
3487. *Z. obliqua* Guenée. Cheboygan: 27 June–11 July.
3490. *Z. duplicata* Bethune. Cheboygan: 29 May–30 June.
- 3493.1. *Z. metatoides* McDunnough. Cheboygan: 27 June–1 July. My specimens are mostly somewhat worn and faded, suggesting that the flight period peaks earlier than the dates cited here. According to Nielsen (pers. comm.), who has determined my specimens, there are other localities known since the species was reported as new to the state from Arenac County (Newman and Nielsen 1973).
3501. *Z. horrida* Hübner. Cheboygan: 6 July 1940 (UMMZ, taken at light at Burt Lake by Peet).
3525. *Erebus odora* L. (black witch). Cheboygan: 14 July–1 August. Two specimens in the UMBS collection were reported earlier (Voss 1950b): the July one collected in 1947, in

- fairly good condition, by Syril Appleton, and the other a worn one collected at light in 1939 by R. E. Serfling, both at the Biological Station, presumably at the carbon arc light operated at the time on a wooden tower. This is a tropical species, as large as a big saturniid, which occasionally strays as far north as Alaska.
3534. *Panopoda rufimargo* Hübner. Cheboygan: 25 June–13 August. A fairly frequent moth at light, here at the northern edge of its range.
3565. *Synedoida grandirena* Haworth. Cheboygan: 30 June–8 August.
- 3578b. *S. adumbrata alleni* Grote. Emmet, Cheboygan: 24 June–9 July.
3608. *Calpe canadensis* Bethune. Cheboygan: 2–31 July (UMMZ, UMBS).
3615. *Scoliopteryx libatrix* L. Emmet, Cheboygan: 10 August–13 October. The only two specimens I have collected myself were on plants of blackberry (*Rubus*) and practically fell into my basket while I was picking berries in September and October; the larva, however, is said to feed on Salicaceae (*Salix* and *Populus*).
3650. *Pangrapta decoralis* Hübner. Emmet, Cheboygan: 27 July–11 August.
3652. *Metalectra quadrisignata* Walker. Cheboygan: 4–31 July.
3688. *Bomolocha baltimoralis* Guenée. Cheboygan: 12 June–20 July.
3689. *B. bijugalis* Walker. Cheboygan: 5 July–20 August (UMMZ).
3690. *B. palparia* Walker. Cheboygan: 15 July–7 August.
3691. *B. abalienalis* Walker. Cheboygan: 24 June–10 July.
3692. *B. deceptalis* Walker. Cheboygan: 24 June–12 August. Probably our commonest species in the genus. The larva is reported only on basswood (*Tilia*) in Ontario (Prentice 1962).
3699. *B. edictalis* Walker. Emmet, Cheboygan: 27 May–8 August. The Emmet County specimen (MSU) was taken by R. and K. Dreisbach in 1960. Mine was taken at light at the Biological Station in 1965.
3703. *Lomanaltes eductalis* Walker. Cheboygan: 5 July 1966. Taken at mercury vapor light at the Biological Station.
3705. *Plathypena scabra* Fabricius (green cloverworm). Cheboygan: 28 July–1 September.
3728. *Hyphenodes caducus* Dyar. Cheboygan: 11 August 1951. Undoubtedly our smallest noctuid. My specimen has a wingspan of barely 12 mm, and was taken at light at the Biological Station. It is typical *caducus* and not one of the other species recognized by Ferguson (1954a) in his revision.
3732. *Rivula propinqualis* Guenée. Emmet, Cheboygan: 17–19 July.
3734. *Camptylchila americalis* Guenée.<sup>8</sup> Emmet, Cheboygan: 5 July–13 August. Specimens of this species and the next three in the UMBS collection indicate that they were taken at sugar.
3735. *C. aemula* Hübner (fodder worm). Emmet, Cheboygan: 24 June–7 August. Quite a common moth at light. The larva feeds on spruce and fir needles in Canada (Prentice 1962) and has also been reported on dead foliage and debris, including corn fodder.
3737. *C. rotundalis* Walker. Emmet, Cheboygan: 17 July–14 August.
3740. *C. diminuendis* Barnes and McDunnough. Emmet, Cheboygan: 18–28 July.
3746. *C. lubricalis* Geyer. Emmet, Cheboygan: 19 July–8 August.
3752. *Epizeuxis lituralis* Hübner. Cheboygan: 9 July 1940 (UMMZ, taken at light at Burt Lake by Peet).
3759. *E. pedipalilis* Guenée. Cheboygan: 12 July 1969. Taken at mercury vapor light at the Biological Station.
3764. *E. ochreipennis* Grote. Emmet, Cheboygan: 7 July–15 August.
3766. *Chytolita morbidalis* Guenée. (Cheboygan. Moore 1955)
3767. *C. petrealis* Grote. Cheboygan: 6 July 1940 (UMMZ, taken by Peet at light at Burt Lake).
3770. *Philometra metonalis* Walker. (Cheboygan. Moore 1955)
3771. *P. eumelusalis* Walker. Cheboygan: 12–31 July (UMMZ).
3772. *P. hanhami* Smith. Cheboygan: 26 June–15 August (UMMZ).
3773. *Hormisa absortpalis* Walker. Emmet, Cheboygan: 4 July–19 August.

<sup>8</sup>The species of *Camptylchila* are often included in *Epizeuxis*.

3789. *Renia flavipunctalis* Geyer. Emmet, Cheboygan: 31 July–20 August.  
 3794. *R. larvalis* Grote. (Cheboygan. Moore 1955)  
 3797. *Bleptina caradrinalis* Guenée. Emmet, Cheboygan: 25 June–28 July.  
 3807. *Palthis angulalis* Hübner. (Cheboygan. Moore 1955, only citing Welch 1915)

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*Note added in proof:*

- 1251.1. *Euxoa manitobana* McDunnough. Emmet: 4 August 1947. A specimen of a questionable *Euxoa* from Mackinaw City had been retained by Newman for the MSU collection some years ago and was recently sent by Nielsen to J. D. Lafontaine for determination. He reports that it is this species, previously known in the state from other northern Lower Peninsula counties (Newman and Nielsen 1973) and ranging as far east only as Grand Bend, Ontario (Rockburne and Lafontaine 1976).