

LEPIDOPTERA STUDY OF SCHMEECKLE RESERVE

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During the spring and fall semester of 1993 I continued a lepidoptera inventory at Schmeckle Reserve that I began in the fall of 1992. Most of the effort of the project was directed toward moths and less toward butterflies. The materials and methods described in the 1992 report were also used during study in 1993, however the use of a moth bait trail was done far more often. This method was especially useful for surveying for moths in the Cucullinae subfamily which hibernate as adults, and many more species were found than during 1992 when only bait traps were used. In fact, of the 30 adult hibernating Cucullinids recorded from Wisconsin, 27 were found in Schmeckle Reserve, although Xylena cineritia and Pyreferra pettiti were found only once and may not be breeding residents of the reserve. Many species of the Cucullinae subfamily were found regularly at the bait trail, and I suspect the flight period data obtained for these species is a good representation of their period of activity in both the spring and fall. 13 species of the wetland associated Papaipema genus were found during 1993 surveys, bringing the total number of Papaipema recorded from Schmeckle Reserve to 15 or 16 species (Papaipema rutila has not been confirmed), more than any other locality in Wisconsin so far.

Several unusual migratory species were recorded in Schmeckle during 1993. The most unusual was a single specimen of Autographa californica, a resident of the Western United States only recorded to have strayed into Wisconsin once before. The specimen was collected on the night of 19 October on a baited tree. This genus usually feeds on flowers and never comes to bait, however no flowers were left this late in the season and several examples of the common Autographa precatonensis were found at the bait trail as well. Another noteworthy migrant from the same subfamily (Plusinae) was taken at flowers on 16 September. This species, Agrapha oxygramma occasionally strays into Wisconsin from its tropical breeding habitat. A very notable stray from the southern U.S. found in 1993 was Mocis latipes, taken in a bait trap on 22 September. One tropical migrant, Magusa orbifera, established a breeding population within the reserve. Although no larva were found, freshly emerged adults were found in numbers at bait and to a lesser degree at lights. According to WI moth expert Les Ferge this species could have been utilizing a species of European Buckthorn as a larval host.

One new state record, Schinia chrysellæ, was collected in the reserve on 13 September in a light trap. I had checked the trap around 2:00am and the moth was not in it at that time, therefore it must have come to the trap very late at night. Since other species of Schinia can be found on flowers, I attempted to find additional specimens on white flowers similar to the moth's coloration, but was not successful. I have been able to find little information on this species corresponding with other lepidopterists, however Dr. George Balogh who verified the record informed me there are records of the species from Missouri.

Two especially notable species were recorded in the Lithophane genus (one of the genera in the Cucullinae subfamily which hibernate as adults), Lithophane oriunda and Lithophane tepida. I collected two specimens of L. oriunda (determined by Les Ferge 1993), a species only recorded from WI once before. One specimen was taken at bait on 24 October and the other at lights on 5 May. Both were collected in forested areas. Only one specimen of Lithophane tepida was found. It was collected on a bait trail through a wooded area containing conifers on 20 October. This species is associated with conifer woods and has been recorded from Wisconsin's extreme northern counties.

As previously indicated, I believe to have a fairly good representation of the length and dates of the flight period for several species in the Cucullinae subfamily of Noctuidae which hibernate as adults. The last section of this report contains four graphs relating to these species. The first two graphs contain raw data on species during the spring and fall, an "X" indicates a species was found on a given date. Note that on the fall chart 4 November was essentially the end of the 1993 season for most of these species. However a few species (primarily Eupsilia vinulenta, E. morrisoni, and Lithophane grotei) were found on a few warmer nights up until 15 December, which was the latest date I found any moths during 1993. These species seem to be the most cold weather tolerant, and constitute the bulk of individuals on nights where it is barely warm enough for moth activity (usually low 40's, sometimes upper 30's F). In the spring the same is true for the Eupsilia species, however during the spring of 1993 no Lithophane grotei were found. This is consistent with what I have found in the Outagamie County area: L. grotei is one of the most common and most cold weather tolerant species in the fall however in the spring it is almost never found, and if it is only one individual on an unseasonably warm night.

Two additional graphs follow the raw data. These graphs are only for selected species which were found consistently, not rare species found only a few times. A possible exception to this is Eupsilia devia, which was found only 5 times but was included because it is the only species of adult hibernating Cucullinae which I found in the spring but not in the fall (this is also consistent with my Outagamie County data on this species). The first graph compares length of flight period of the spring versus the fall. Note that the few dates beyond 4 November were added singly to the length of the flight season, however the total length from first date to last is included in brackets. As an example of why this was done, if I'd included 5 Nov.-15 Dec. in the flight period length of Eupsilia morrisoni, the length would increase 41 days even though the species was found on only 4 of those days, which I didn't consider representative of the actual flight period length. With the exception of Eupsilia devia, the graph essentially shows the spring flight period was equal or shorter than the fall period, and in some cases much shorter. The final graph contrasts spring versus fall dates of activity. The line in the middle of the graph divides fall and spring, with 4 November (the end of the fall season for moth species with the few exceptions mentioned above), to the left, and the beginning of the spring season to the right. The species are arranged with species which showed similar patterns in length of flight season on graph 3 together.

An ongoing aspect of the Schmeckle project will be to attempt to determine how these patterns compare or change during 1994 and 1995. It should be noted that since these graphs contrast spring and fall of 1993, two different generations are being compared--individuals found in the fall of 1993 are the offspring of the spring of 1993. A possible flaw in this comparison is there is no guarantee that the population levels of these generations were equal, which could potentially effect my results. In fact, the fall generation may have been at a higher population level than the spring, since for many species far more individuals were found during the fall of 1993 than the spring, and also my research so far for the spring of 1994 has found notably more individuals of the same species than were found during spring of 1993. On the other hand, there were many cold nights with poor conditions in the beginning of April during 1993.

KEY

- * One of the more notable species found.
- ** A New state record for Wisconsin.
- 2* A second state record for Wisconsin.
- [C] This species was not actually found within the boundaries of Schmeeckle Reserve, but was found very close by on the UW-Stevens Point campus.
- [S] This species is a stray to the reserve, and is hundreds of miles from its breeding range.
- [AS] A stray, but probably occurs in Portage Co. annually.
- [M] A nonresident migrant that established temporary breeding populations which were killed off with the onset of colder weather.
- [RM] A migrant that establishes breeding populations but has a return migration southward.
- [NR] Probably a nonresident of the reserve but a resident of Portage County that originated elsewhere in the county where breeding habitat was present.

HABITAT KEY :

- W Collected in Wetland/Sedge Meadow Habitat.
- B Collected in semi-barrens open area bordered by Oak/Pine forest.
- F Collected in a forested area.
- O Collected in open areas
- G Generalist found in several habitats.

SURVEY METHOD KEY :

- L Attracted to ultraviolet lights in the reserve.
- WL Attracted to white lights on buildings near the reserve.
- B Attracted to bait on trees or in traps.
- F Found nectaring at flowers.
- N Found active at night with a flashlight without searching baited areas or areas with nectaring sources.
- D Found during the day.

NOTE: Where a lower case letter is used to denote habitat association it indicates a species was found in that habitat to a lesser degree than the habitats denoted by capital letters. Likewise, a small letter in the Survey Method Column indicates a species was found by that survey method, however it was primarily found by the method(s) denoted with capital letters.

NOTE: The flight seasons given include records from the UW-SP campus bordering the reserve.

IDENTIFICATION: All records are supported by voucher specimens. Species found which were not in my reference collection were verified or identified by Les Ferge or Dr. George Balogh.

BUTTERFLIES	HABITAT	SURVEY METHOD	DATES FOUND
<u>HESPERIDAE</u>			
<i>Erynnis juvenalis</i>	F,D	D	26 May
<u>PIERIDAE</u>			
<i>Pieris napi oleracea</i>	W/F	D	9-13 May
<i>Pieris rapae</i>	O	D	28 April-15 Oct.
<i>Colias philodice</i>	O	D	30 Aug.-15 Oct.
<i>Colias eurytheme</i>	O	D	30 Aug.-15 Oct.
<u>LYCAENIDAE</u>			
<i>Feniseca tarquinius</i>	W/F	D	24 Sept.
<i>Lycaena phaeas americana</i>	B	D	2 Sept.
<i>Incisalia nippon</i>	B,D,F	D/F	9-13, 26 May
<i>Celastrina ladon</i>	G	D,F	6-13, 26 May
<u>NYMPHALIDAE</u>			
<i>Polygonia interrogationis</i>	F	B	15 Oct.
<i>Polygonia comma</i>	F	B,D	29 Mar-30 Apr, 2 Sep-15 Oct
<i>Polygonia progne</i>	F	B	24 Sept.
<i>Nymphalis vau-album</i>	F	B	2 Sept.-5 Oct.
<i>Nymphalis antiopa</i>	F	B,D	30 Apr-12 May, 2-24 Sept.
<i>Vanessa atlanta</i>	F	B,D	9 May, 30 Aug.-24 Sept.
<u>SATYRIDAE</u>			
<i>Cercyonis pegala</i>	O	D	31 Aug.
<u>DANAIDAE</u>			
<i>Danaus plexippus</i> [RM]	O	D	30 Aug.-5 Oct.

MOTHS	HABITAT	SURVEY METHOD	DATES FOUND
<u>LASIOCAMPIDAE</u>			
<i>Tolype vellea</i>	W	L	15 Sept.
<i>Tolype laricis</i>	W	L	13 Sept.
<i>Phyllodesma americana</i>	F	L	8-12 May
<u>SPHINGIDAE</u>			
<i>Paonia excaecatus</i>	W	L	13 Sept.
<i>Hemaris thysbe</i>	G	F,D	12 May
<i>Deidamia inscripta</i>	W	L	12 May
<i>Hyles lineata</i>	O	F	13, 22 Sept.
<u>NOTODONTIDAE</u>			
<i>Clostera albosigma</i>	F	L	8 May
<i>Clostera strigosa</i>	F	L	8 May
<i>Notodonta simplaria</i>	F	L	8 May
<i>Ellida caniplaga</i> [N]	F	L	8 May
<i>Gluphisia septentrionis</i>	F	L	31 Aug.-2 Sept.
<i>Gluphisia avimacula</i>	F	L	5-10 May
<i>Gluphisia lintneri</i> [C]		WL	28 April
<u>ARCTIIDAE</u>			
<i>Cisseps fulvicollis</i>	G	F,L,D	30 Aug.-5 Oct.

MOTH SPECIES	HABITAT	SURVEY METHOD	DATES FOUND
NOCTUIDAE			
<i>Idia americalis</i>	G	B,L	30 Aug.-25 Oct.
<i>Idia aemula</i>	G	B,L	30 Aug.-25 Oct.
<i>Zanclognatha ochreipennis</i>	O	N	31 Aug.
<i>Rivula propinqualis</i>	F	D	2 Sept.
<i>Hypena humuli</i>	G	B,1	25 April, 30 Aug.-25 Oct.
<i>Plathypena scabra</i>	G	B,1	31 Aug.-3 Nov.
<i>Scoliopteryx libatrix</i>	F	B,1	8 May, 13 Sept.-25 Oct.
<i>Phoberia atomaris</i>	F	L	28 April-8 May
* <i>Cissua spadix</i>	F	L	7-10 May
<i>Zale lunata</i>	F	B	24 Sept.
<i>Zale galbanata</i>	F	L	8, 10 May
<i>Zale undularis</i>	F	B	8 May
<i>Zale minerea</i>	F	L,b	8-10 May
<i>Zale duplicata</i>	F	L,b	7-10 May
<i>Zale heleta</i>	F	L	8 May
<i>Zale lunifera</i>	F	L	8 May
<i>Caenurgina crassiuscula</i>	F,O	L,D	8-12 May
<i>Caenurgina erechtea</i>	F,O	L,D	8-12 May
* <i>Mocis latipes</i> [S]	F	B	22 Sept.
<i>Catocala antinympha</i>	F,B	B,L	31 Aug.-22 Sept.
<i>Catocala neogama</i> [N]	F	B	12 Sept.
<i>Catocala ilia</i>	F	B	31 Aug.-13 Sept.
<i>Catocala cerogama</i>	F	B	1 September
<i>Catocala relictta</i>	F	B,1	1 Sept.-7 Oct.
<i>Catocala unijugua</i>	F	B,1	8-22 September
<i>Catocala parta</i>	F	B,1	8 Sept.-7 Oct.
<i>Catocala briseis</i>	F	B	9 September
* <i>Catocala meskei</i>	F	B	9 September
<i>Catocala cara</i>	F	B	1-22 September
<i>Catocala concumbens</i>	F	B,1	31 Aug.-7 Oct.
<i>Catocala amatrix</i>	F	B	9 September
<i>Catocala ultronia</i>	F	B	31 Aug.-9 September
<i>Catocala grynea</i>	F	B	31 Aug.-12 Sept.
* <i>Catocala praeclara</i>	W/F	L	1 September
<i>Trichoplusia ni</i> [AS?]	O	F	2-21 Sept.
* <i>Agrapha oxygramma</i> [S]	B	F	16 Sept.
<i>Autographa biloba</i>	O	F	2 Sept.
<i>Autographa precationis</i>	G	F,b	31 Aug.-19 Oct.
2* <i>Autographa californica</i> [S]	F	B	19 Oct.
<i>Anagrapha falcifera</i>	G	F,D,1	31 Aug.-5 Oct.
<i>Plusia putnami</i>	O,W	F,L	31 Aug., 2,8 Sept.
* <i>Nycteola frigidana</i>	F	L	2 May
* <i>Nola triquetrana</i>	F	L	29 April-9 May
<i>Lithacodia carneola</i>	G	L	8-12 May, 31 Aug.-16 Sept.
<i>Tarachidia erastrioides</i>	W	D	31 Aug.
<i>Acronicta impressa</i>	F	L	5 May
<i>Crymodes devastator</i>	G	L,B	30-31 Aug.
<i>Oligia modica</i>	F	F,B	8 Sept.
<i>Oligia mactata</i>	F/W	B,1	1 Sept.-14 Oct.
* <i>Oligia illocata</i>	F/W	B	5 Oct.

	HABITAT	SURVEY METHOD	DATES FOUND
* <i>Meropleon diversicolor</i>	W	L	1 Sept.
* <i>Lemmeria digitalis</i>	W	L	24 Sept.-7 Oct.
<i>Archanara oblonga</i>	W	L	13 Sept.
<i>Helotropha reniformalis</i>	F	B,1	31 Aug.-25 Oct.
<i>Papaipema arctivorens</i>	F	L	7 Sept.
* <i>Papaipema impecuniosa</i>	W	L	20 Sept., 18 Oct.
* <i>Papaipema lysimachiae</i>	F/W	L	1,7 Sept.
<i>Papaipema pterisii</i>	F	L	1-16 Sept.
<i>Papaipema inquaesita</i>	W,f	L,b,n	31 Aug.-18 Oct.
* <i>Papaipema rutila</i> [UNV]	W	L	9 Sept.
* <i>Papaipema birdi</i>	W	L	13 Sept.
* <i>Papaipema nepheleptena</i>	W	L	16 Sept.-6 Oct.
<i>Papaipema furcata</i>	W	L	2 Sept.
<i>Papaipema nebris</i>	W	L	8 Sept.
* <i>Papaipema necopina</i>	W/F	F	8 Sept.
* <i>Papaipema eupatorii</i>	W	L	25 Sept.-6 Oct.
<i>Papaipema unimoda</i>	W	L	25 Sept.
<i>Phlogophora periculosa</i>	B	L	30 Aug.
<i>Enargia decolor</i>	B,F,W	L,b	30 Aug.-24 Sept.
<i>Hyppa xylinoides</i>	F	L	1 Sept.
* <i>Magusa orbifera</i> [M]	F,W	B,1	8 Sept.-20 Oct.
<i>Amphipyra pyramidoides</i>	F	L	30 Aug.-30 Sept.
<i>Proxenus miranda</i>	O	L,WL	24 Sept.
* <i>Platyperigea meralis</i>	F	L	30 Sept.
<i>Platyperigea extima</i>	F	L,F	30 Sept.-8 Oct.
<i>Spodoptera frugiperda</i> [AS?]	F	B,1	21 Sept.-25 Oct.
<i>Spodoptera ornithogalli</i> [AS]	F	B	6 Oct.
<i>Galgula partita</i>	G	B,1	8 May, 6-25 Oct.
<i>Ogdoconta cinereola</i>	F	L	31 Aug.
* <i>Xylena nupera</i>	W/F	B	26 Sept.-24 Oct.
<i>Xylena curvimacula</i>	F,W,B	B,1	7 Oct.-3 Nov.
* <i>Xylena cineritia</i> [N]	F	B	26 Oct.
<i>Lithomia solidaginis</i>	F,W	B,1	9 Sept.-14 Oct.
* <i>Homoglaea hircina</i>	F	L	30 March, 6 April
<i>Lithophane semiusta</i>	F	B,1	18-25 April, 7-25 Oct.
<i>Lithophane patefacta</i>	F	B	24 Sept.-24 Oct.
<i>Lithophane bethunei</i>	F	B	18-24 Apr., 7 Sept.-4 Nov.
<i>Lithophane innominata</i>	F	B	13-22 April, 9 Sept.-23 Oct
<i>Lithophane petulca</i>	F	B	30 Mar-22 Apr, 15 Sep-18 Nov
<i>Lithophane disposita</i>	F	B	30 Mar-22 Apr, 25 Sep-20 Oct
<i>Lithophane hemina</i>	F	B	29 Mar-28 Apr, 9 Sept-4 Nov.
2* <i>Lithophane oriunda</i>	F	B,L	5 May, 24 Oct.
* <i>Lithophane baileyi</i>	F,w	B,1	26 Sept.-25 Oct.
* <i>Lithophane tepida</i>	F	B	20 Oct.
<i>Lithophane antennata</i>	F	B,1	13-22 Apr., 5-25 Oct.
<i>Lithophane laticinerea</i>	F	B	23-24 Apr., 11 Oct-3 Nov.
<i>Lithophane grotei</i>	F,w	B,1	3 Oct.-3 Nov.
<i>Lithophane unimoda</i>	F,w	B,1	30 March-22 Apr, 7-26 Oct.
* <i>Lithophane fagina</i>	F,w	B,1	30 March-31 Apr., 20 Oct.
* <i>Lithophane pexata</i>	F	B	5 April, 3 Oct.-4 Nov.
* <i>Lithophane thaxteri</i>	F	B	5-28 Oct.
<i>Pyreferra hesperidago</i>	F,W	B,1	18 Apr-8 May, 11 Oct-4 Nov.
<i>Pyreferra citromba</i>	F,W	B,1	29 Mar-5 May, 1 Oct.-3 Nov.
<i>Pyreferra pettiti</i> [N]	F	B	26 Oct.

SPECIES	HABITAT	SURVEY METHOD	DATES FOUND
<i>Eupsilia vinulenta</i>	F	B	28 Mar-28 Apr, 1 Oct.-13 Dec
* <i>Eupsilia sidus</i> [N?]	F	B	4 November
<i>Eupsilia tristigmata</i>	F	B	28 Mar-22 Apr, 8 May, 1 Oct.-4 Nov.
<i>Eupsilia morrisoni</i>	F	B	28 Mar-28 Apr, 1 Oct-15 Dec
* <i>Eupsilia devia</i>	F	B	29 Mar-22 April
* <i>Chaetagnathia sericea</i>	F,w	B,l	16 Sept.-25 Oct.
<i>Eucirroedia pampina</i>	B	L	5 Oct.
<i>Sunira bicolorago</i>	F	B,l	24 Sept.-4 Nov.
<i>Anathix ralla</i>	F,B	B,L	30 Aug., 21 Sept.
<i>Anathix putta</i>	F	B	3 Oct.
<i>Xanthia togata</i>	F/W	B,L	25 Sept.-16 Oct.
<i>Sutyna privata</i>	F	L	9 Sept.
<i>Feralia major</i> [C]		WL	28 April
<i>Copipinolis styracis</i>	B	L	8 April
<i>Copivaleria grotei</i>	F	L	28, 30 April
<i>Adita chionanthi</i>	W/F	L	9 Sept.
<i>Cucullia asteroides</i> [C]		F	22 Sept.
<i>Cucullia convexipennis</i> [C]		F	9 Sept.
<i>Polia purpurissata</i>	B	L	1 Sept.
<i>Polia latex</i>	F	B	10 May
<i>Lacanobia subjuncta</i>	F	L	31 Aug.
<i>Trichordestra legitima</i>	B	L	1 Sept.
<i>Lacinipolia meditata</i>	B	L	1 Sept.
<i>Lacinipolia renigera</i>	G	L	31 Aug.-8 Sept.
<i>Lacinipolia olivacea</i>	F,B	L	31 Aug.-9 Sept.
<i>Aletia oxygalla</i>	W	L	9 Sept.
<i>Pseudaletia unipuncta</i>	G	B,L	18 Apr-12 May, 30 Aug-13 Nov
<i>Orthosia rubescens</i>	F	B,L	28 April-8 May
<i>Orthosia garmani</i>	F	L	28 April-5 May
<i>Orthosia revicta</i>	F,W,B	L	28 April-10 May
<i>Orthosia alurina</i>	F	L	8-10 May
<i>Orthosia hibisci</i>	F	B,L	31 March, 18 April-8 May
<i>Crocigrapha normani</i>	F	L	30 April-8 May
<i>Egira dolosa</i>	F	L	29 April-8 May
<i>Achatia distincta</i>	F	L	2-10 May
<i>Morrisonia evicta</i>	F	L	8-12 May
<i>Morrisonia confusa</i>	F	L	8-10 May
<i>Nephelodes minians</i>	B,F	L	30 Aug.-10 Sept.
<i>Agrotis venerabilis</i>	B,F	L	8-22 Sept.
<i>Agrotis ipsilon</i>	F	B,l	1 Sept.-2 Nov.
<i>Feltia jaculifera</i>	B,F	L	31 Aug.
<i>Feltia</i> sp	F	L	31 Aug.-2 Sept.
<i>Euxoa messoria</i>	F	L	9 Sept.
<i>Euxoa velleripennis</i>	F	L	2,9 Sept.
<i>Euxoa albipennis</i>	O	N	2 Sept.
<i>Euxoa perpolita</i>	F	L	2,9 Sept.
<i>Euagrotis illapsa</i>	W	L	2 Sept.
<i>Peridroma saucia</i>	F	B,l	18 Apr-10 May, 31 Aug-13 Nov
<i>Spaelotis clandestina</i>	F,W	B,L	22 Sept.-5 Oct.
<i>Graphiphora haruspica</i>	F	L	30 Aug.

	HABITAT	SURVEY METHOD	DATES FOUND
<i>Xestia c-nigrum adela</i>	G	L	31 Aug.-22 Sept.
<i>Xestia dolosa</i>	F	L,B	9 Sept.-5 Oct.
<i>Xestia normaniana</i>	F,B	L	7-8 Sept.
<i>Xestia smithii</i>	F,B	L	1-17 Sept.
<i>Xestia bicarnea</i>	F	L	7 Sept.
<i>Xestia tenuicula</i>	O	N	7 Sept.
<i>Xestia collaris</i>	B,f	L	2-22 Sept.
<i>Xestia badinodis</i>	F	L	13-25 Sept.
<i>Anomogyna badicollis</i>	F,B	L	7-9 Sept.
<i>Anomogyna dilucida</i>	F,B	L	2 Sept.
<i>Cerastis tenebrifera</i>	F,W	L	28 April-3 May
<i>Metalepsis salicarum</i>	F	L	18 Apr-8 May
<i>Abagrotis alternata</i>	B,F	L	1-12 Sept.
<i>Rynchagrotis</i> sp	B	L	10 Sept.
<i>Rynchagrotis</i> sp	B	L	10 Sept.
<i>Heliothis zea</i>	O	F	22 Sept.-5 Oct.
** <i>Schinia chrysellia</i>	W	L	13 Sept.
DREPANIDAE			
<i>Drepana bilineata</i>	F	L	5,8 May
<i>Drepana arcuata</i>	F	D	26 May
GEOMETRIDAE			
<i>Itame pustularia</i>	G	L	30 Aug.-2 Sept.
<i>Semiothisa pinstrobata</i>	F	D	9 Sept.
<i>Aethalura intertexta</i>	F	L	30 April-8 May
<i>Anacamptodes vellivolata</i>	F/W	L	8, 10 May
<i>Ectropis crepuscularia</i>	F	L	28 Apr-10 May
<i>Melanolophia canadaria</i>	F	L	8 May
<i>Melanolophia signataria</i>	F	L	5-12 May
<i>Lycia ursaria</i>	F	L	28,30 April
<i>Phigalia titea</i>	F	L	30 March-30 April
<i>Phigalia strigataria</i>	F/W	L	30 April
<i>Paleacrita vernata</i>	F	L	31 March-18 April
<i>Erannis tiliaria</i>	G	L	5 Oct.-3 Nov.
<i>Lomographa semiclarata</i>	F,O	D	12-13, 26 May
<i>Lomographa vestaliata</i>	W	D	26 May
<i>Lomographa glomeraria</i>	G	L	27 April-12 May
<i>Cabera erythemaria</i>	F/W	L	30 Aug.
<i>Cabera variolaria</i>	F/W	L	30 Aug, 9 Sept.
<i>Campaea perlata</i>	W/F	L	30-31 Aug.
<i>Ennomos magnaria</i>	G	L	30 Aug.-5 Oct.
<i>Petrophora subaequaria</i>	W,F	L,D	5-13 May
<i>Tacparia determata</i>	F	L	8 May
<i>Homochlodes fritillaria</i>	W	D	26 May
<i>Plagodis phlogosaria</i>	F	L	10-12 May
<i>Plagodis fervidaria</i>	F	L	10-12 May
<i>Lambdina fiscellaria</i>	F	L,F	8 Sept.-7 Oct.
<i>Nepytia canosaria</i>	F	L	30 Aug.-22 Sept.
<i>Eutrapela clemataria</i>	F	L	6-12 May
<i>Prochoerodes transversata</i>	G	L,D	31 Aug.-22 Sept.
<i>Chlorochlamys chloroleucaria</i>	O	D	31 August
<i>Mesothea incertata</i>	B,O	D	10-13 May

	HABITAT	SURVEY METHOD	DATES FOUND
<i>Pleuroprucha insulsaria</i>	W	L	2-22 Sept.
<i>Cyclophora pendulinaria</i>	O	D	26 May
<i>Haematopsis grataria</i>	O	D	2 Sept.
<i>Scopula limboundata</i>	F	L	30 Aug.
<i>Eulithis testata</i>	W,B	L	30 Aug.-10 Sept.
* <i>Triphosa haesitata affirmaria</i>	F	B	16-18 Oct.
<i>Coryphista meadii</i>	F	N	2 Sept.
<i>Xanthorhoe ferrugata</i>	F/W	D	10 May
<i>Xanthorhoe lacustrata</i>	F/W	L,D	5-10 May
<i>Orthonama obstipata</i>	G	L	30 Aug.-5 Oct.
<i>Orthonama centrostrigaria</i>	G	L	30 Aug.-5 Oct.
<i>Venusia comptaria</i>	F,B	L	27 April-5 May
* <i>Operophtera bruceata hyperborea</i>	F	N	28 Oct.-3 Nov.
<i>Eupithecia miserulata</i> [UNV]	F	B,1	1 Sept.-2 Nov.
<i>Eupithecia ravocostaliata</i>	F,B	L	30 April-8 May
* <i>Cladara limitaria</i> [UNV]	W	L	3 May
* <i>Cladara atroliterata</i>	F,B	L	30 April-8 May
<i>Dyspteris abortivaria</i>	W	L	9 May

MICROLEPIDOPTERA

Note: Only one species is reported although many species were collected. I have been unable to get the other species identified at this point.

PYRALIDAE

* <i>Spoladea recurvalis</i> [S] [C]	L	6 Oct.
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NOTE: This list includes the great majority of macrolepidoptera collected in Schmeekle Reserve during 1993, however it is incomplete since some specimens have yet to be identified. The genus *Eupithecia* (Geometridae) contains most of the species awaiting identification.

NOTE: Some specimens from the second week of May have not yet been mounted out and examined, and therefor are not included in this report.

FALL 1993

SEPTEMBER

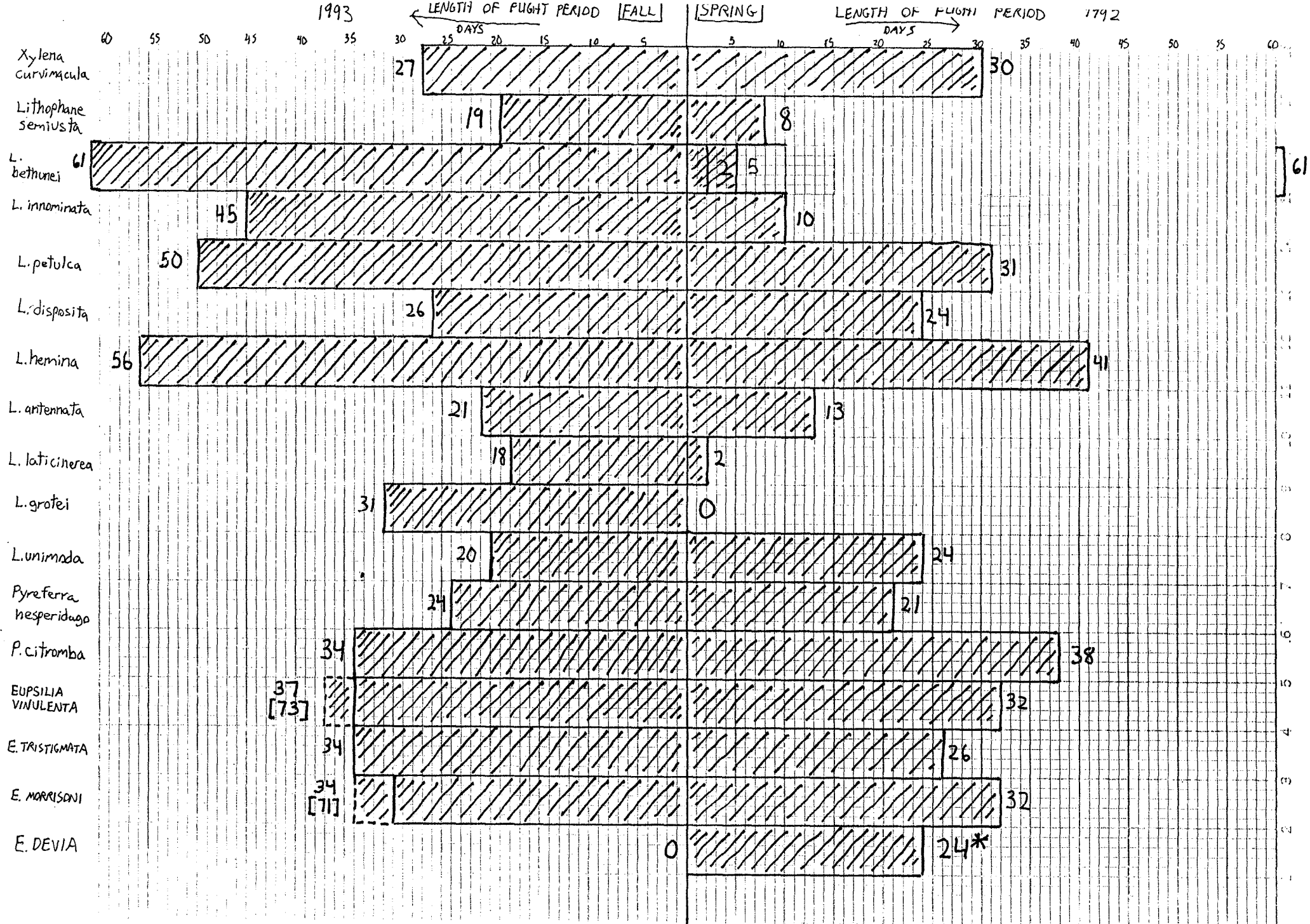
OCTOBER

NOVEMBER

DECEMBER

SPECIES

SPECIES	SEPT. 10	SEPT. 11	SEPT. 16	SEPT. 21	SEPT. 26	SEPT. 31	OCT. 1	OCT. 6	OCT. 11	OCT. 16	OCT. 21	OCT. 26	NOV. 1	NOV. 6	NOV. 11	NOV. 16	NOV. 21	NOV. 26	DEC. 1	DEC. 6	DEC. 11	DEC. 16	DEC. 21	DEC. 26	DEC. 31	
XYLENA CURVIMACULATA							X	X	XXXXXX	X	XXX		X													
LITHOPHANE SEMIATA								X				XX														
L. BETHUNEI							X		XX	X				XX												
L. INNOMINATA		X			X	XXX		X	XXX	X	X	X														
L. PETULCA			X			XXX	X	X	XX	X	XXX	XX	XX				X	X								
L. DISPOSITA						XXX		X	XXX	X	XXX	XXX														
L. HERMINA		X		XX		XXXX	X	X	X	X	X	X	XXXX				XX									
L. ANTENNATA								XX		X	X	XXXX	X	XX												
L. LATIKINEREA									X	X	XXX		X	XX												
L. UNIMODA								X		X	XXX		X	X												
L. FACINA												X														
L. PEXATA								XX	XX			XX					X									
L. THAÏTERI								X		X	X			X												
PYREFFERA HESPERIDARUM									X	X			XX				XX									
P. CITROMBA							X	X	X	X		X	XX				XX									
RUPSIVA VINIVENTA							X	X	XX	X	XXX	XX	X	XX			XXX		X			X				
R. TRISTIGMATA							X		X		XX	XX	X	X	X		XX									
E. MAXWISONI								XXX		XXX	XXX	X	XXX				XXX		X		X				X	X
LITHOPHANE GROTEI								X	X	X	X	XXXXXXX	X	X	X	XXX										
L. BAILEYA							XX	X		XX		X	X													
L. TEPIDA												X														
L. ORIUNDA													X													
L. PATEFACTA							X	X	X	XX	XX		X													



* Less meaningful due to small sample (5 specimens)

