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## CHECKLIST OF THE MOTHS OF LAKE CARDINAL SWAMP, ASHTABULA COUNTY, OHIO (1988-1992) WITH ANALYSES OF ABUNDANCE

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### ABSTRACT

The biodiversity of moths at Lake Cardinal Swamp on Lake Cardinal Estates in Ashtabula County, Ohio was studied by placing an ultraviolet light trap at the same location each year. The checklist tabulates five consecutive years of trapping (1988-1992) and includes 21,842 specimens representing 532 species. The study continued through 1996, but only data for 1988-1992 are included here. The checklist is a historical record of the species that were present in 1988-1992 and the techniques used were designed so they can be duplicated in the future. The accumulation of species collected over time illustrates the importance of long-term studies. Species were still being added after nine years of trapping. The Shannon-Wiener Diversity Index for the moths collected in 1988-1992 is 6.87 and the Shannon-Wiener Evenness Index is 0.76. Two hundred thirteen of the 532 species are widespread in northeast Ohio, having also been collected in Columbiana, Stark, and Ashland Counties. The less abundant species at Lake Cardinal Swamp are not less likely to be widespread. Five species of owlet moths that were collected at Lake Cardinal Swamp are of special interest in Ohio and one species has been listed as endangered. All specimens collected are deposited at The Cleveland Museum of Natural History, Cleveland, Ohio.

### Introduction

The objective of this study was to document the population changes of native moths for ten years at several sites within the drainage basin of the Grand River in Trumbull, Ashtabula, and Lake Counties, Ohio, during gypsy moth invasion and control. This is the second in a series of six checklists that tabulate the moths collected at each site during 1988–1992.

Over this same period, the population of the gypsy moth increased in the entire drainage basin. Pheromone trap catches of male gypsy moths increased at Lake Cardinal Swamp from  $44 \pm 14(2)$  per trap in 1987 [mean  $\pm$  standard error (number of traps)], to  $20 \pm 5(4)$  in 1988,  $88 \pm 24(4)$  in 1989,  $48 \pm 11(4)$  in 1990, and  $121 \pm 23(4)$  in 1991. Pheromone trapping was discontinued after 1991. Ultraviolet-light-trap catches of male gypsy moths also increased, from 7 in 1988, to 41 in 1989, 36 in 1990, 37 in 1991, and 61 in 1992, but noticeable defoliation was not observed at Lake Cardinal Swamp except for isolated trees.

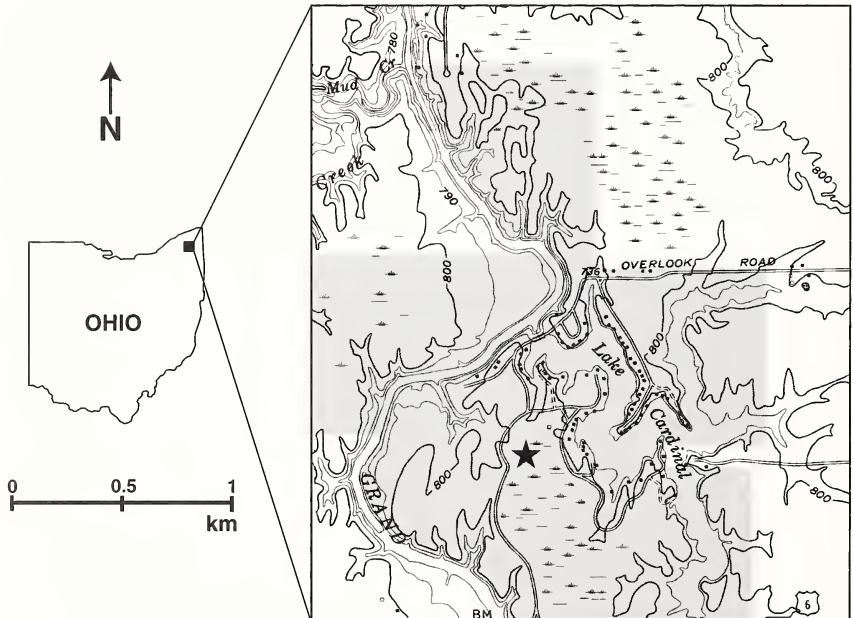
The overall study provides baseline data on pre-outbreak moth diversity, as well as data on the impact of gypsy moth control agents.

### Description of the Surveillance Site at Lake Cardinal Swamp

The Lake Cardinal Estates are composed of 294 ha of lake, forest, and residential allotments located in Rome Township, Ashtabula County, and bordered on the south by U.S. Route 6 (Figure 1). They are situated on swampy glacial lake plain with fine-grained lacustrine silt and clay soils (White and Totten, 1979, p. 7, Pl. 1) overlain by rich organic muck. The Estates are part of a much larger forested area of approximately 1800 ha that extends 6 km north, and 3 km east (Anonymous, 1995).

The light trap at Lake Cardinal Swamp was located within The Estates at latitude  $41^{\circ} 36' 39''$  N and longitude  $80^{\circ} 53' 32''$  W (U.S. Geological Survey Windsor and East Trumbull, Ohio, 7.5-minute quadrangle topographic maps; Figure 1). The Swamp is located in the south-central part of The Estates and covers an area of 54 ha.

The Lake Cardinal Estates are approximately 25 km east/northeast of the National Oceanic and Atmospheric Administration weather station at Chardon. The station at Chardon measured an average temperature of  $9^{\circ}$  Celsius, an average annual precipitation of 120 cm, and an average annual snowfall of 220 cm for 1988–1992.



**Figure 1.** Map of the study area (adapted from the U.S. Geological Survey Windsor and East Trumbull, Ohio, 7.5-minute quadrangle topographic maps). Shaded area delineates Lake Cardinal Estates; star indicates position of surveillance trap within the Swamp.

**Table 1.** The importance values for trees at the surveillance site at Lake Cardinal Swamp. The inventory included all woody stems with a circumference of five or more cm. A stem was counted as canopy only if it reached the uppermost layer of vegetation. Author citations according to Kartesz (1994); common names according to Weishaupt (1971).

Tree Species		Canopy Understory	
Beech, American	<i>Fagus grandifolia</i> Ehrh.	76	164
Maple, red	<i>Acer rubrum</i> L.	74	18
Oak, northern red	<i>Quercus rubra</i> L.	40	0
Cherry, black	<i>Prunus serotina</i> Ehrh.	39	19
Oak, white	<i>Quercus alba</i> L.	38	0
Sassafras	<i>Sassafras albidum</i> (Nutt.) Nees	11	0
Maple, silver	<i>Acer saccharinum</i> L.	8	0
Tupelo, black	<i>Nyssa sylvatica</i> Marsh.	7	57
Magnolia, cucumber	<i>Magnolia acuminata</i> (L.) L.	7	0
Shadbush	<i>Amelanchier arborea</i> (Michx.) F. Fern.	0	9
Ash	<i>Fraxinus</i> spp.	0	8
Birch, yellow	<i>Betula alleghaniensis</i> Britt.	0	8
Hop Hornbeam, eastern	<i>Ostrya virginiana</i> (Mill.) K. Koch	0	8
Witch-hazel	<i>Hamamelis virginiana</i> L.	0	8

The composition of the canopy and understory was evaluated for the 2500 m<sup>2</sup> of forest centered on the surveillance trap (point-quarter technique, nine points; Cottam and Curtis, 1956; Cox, 1980). The area used for the evaluation, 0.25 ha, is smaller than the area from which the moths are drawn. The light was visible to human eyes at distances of 80–90 m in the Lake Cardinal Swamp. The importance values for the trees at the surveillance site at Lake Cardinal Swamp are given in Table 1.

The herbaceous plants and small shrubs in Lake Cardinal Swamp included: crippled crane-fly orchid *Tipularia discolor* (Pursh) Nutt.; sedges *Carex seorsa* Howe and *Carex folliculata* L.; bur-reed *Spartanium americanum* Nutt.; hedge-hyssop *Gratiola neglecta* Torr.; creeping wintergreen *Gaultheria procumbens* L.; goldthread *Coptis trifolia* (L.) Salisb. ssp. *groenlandica* (Oeder) Hulstn.; *Dalibarda repens* L.; ferns *Osmunda cinnamomea* L. and *Osmunda regalis* L.; blue verbenas *Verberna hastata* L.; rhododendrons *Rhododendron pericyclenoides* (Michx.) Shinners and *Rhododendron prinophyllum* (Small) Millais; and blueberries *Vaccinium corymbosum* L. and *Vaccinium myrtilloides* var. Michx. (James K. Bissell, 1998, personal communication; author citations according to Kartesz, 1994). These species were selected from a longer list of Lake Cardinal species on deposit in the Herbarium at the Cleveland Museum of Natural History. The selected species are indicative of the uniqueness of the habitat at Lake Cardinal.

#### Surveillance Techniques

One Ellisco®-type ultraviolet light trap (15 watt, BL) was operated at the same location each year, from late

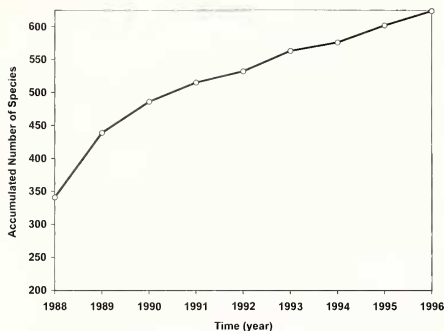
May through September. The light was controlled by a timer from 7 p.m. to 8 a.m., eastern daylight time. The trap was set up before 7 p.m. the evening of operation and emptied after 8 a.m. the next morning. Two killing agents, potassium cyanide and ethyl acetate, were used during each collecting period. Using both improved the condition of the moths in the catch as compared to using only one or the other. Collections were made one week apart regardless of weather. The entire catches were sorted and archived in cellophane envelopes and all data were computerized. All the specimens collected are deposited in the Insect Collection of The Cleveland Museum of Natural History.

#### Results and Discussion

A total of 21,842 specimens representing 532 species were collected in 1988–1992 (Appendix). Species were identified using Covell (1984), Ferguson (1985), Forbes (1923; 1948; 1954; 1960), Holland (1922), Rings et al. (1992), and Rockburne and Lafontaine (1976). Nomenclature for the Noctuidae was updated from that used by Hodges et al. (1983) to that used by Rings et al. (1992; after Poole, 1989). Crambidae is used according to Scholtens (1996). There are 35 species that have been designated as plus-groups (+). These are species that are easily confused with closely related species; the count for a plus group may therefore include individuals from more than one species.

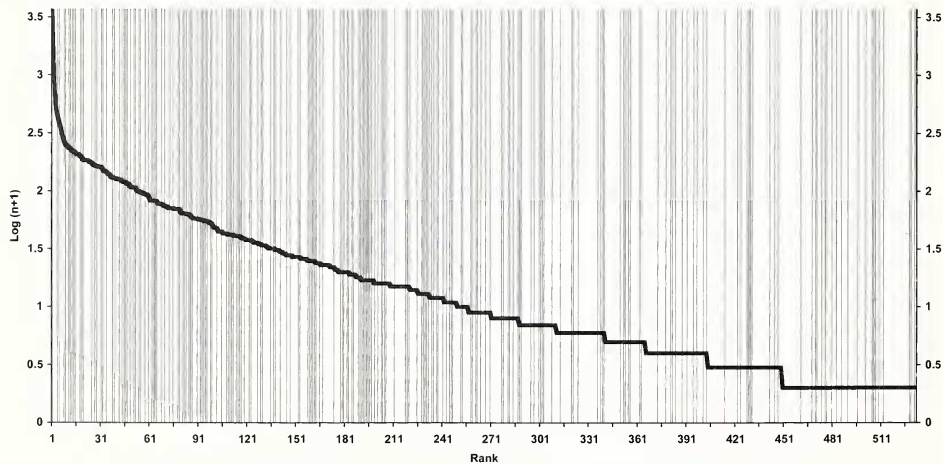
The accumulation of species collected over time, from 1988 to 1996, is shown in Figure 2. In 1988, 341 species were collected and in 1996, after nine years, the total had reached 624 (1993–1996 not included in this checklist). Figure 2 illustrates the importance of long-term studies. One or two years of monitoring would not have been long enough to estimate moth biodiversity at Lake Cardinal Swamp and five years would have been a minimum. The species accumulation curve was still rising after nine years of sampling. Rings and Metzler (1989) estimated that 600 to 1000 moth species may be sampled in a locality with high host plant diversity if collections are made at frequent intervals over five or more years. Our data are consistent with that assertion. It is expected that the asymptote of the curve is well above 600 species since a number of categories of moths are missing from our checklist: fall, winter, and early spring moths are missing because collecting was not begun until the end of May and collecting ended in September. Some species of moths are poorly sampled by light trapping. Also, many Microlepidoptera that were collected are not included because of the difficulty of identifying them.

Our checklist is a historical record of the moth species that were present in 1988–1992. The techniques were designed so that they can be duplicated in the future to document the changes in moth diversity that follow changes in land use and weather.



**Figure 2.** Plot of the annual accumulation of species collected at Lake Cardinal Swamp on Lake Cardinal Estates, 1988–1996.

Relative abundances of the 532 species are shown in Figure 3. The Shannon-Wiener Diversity function was used to measure species diversity (Krebs, 1994). This index takes into account both the number of species and the manner in which the individuals are distributed among the species. A greater number of species increases the index and a more even distribution of individuals among the species also increases the index. Evenness can vary from zero to one and an evenness of one indicates that all species have the same number of individuals. The

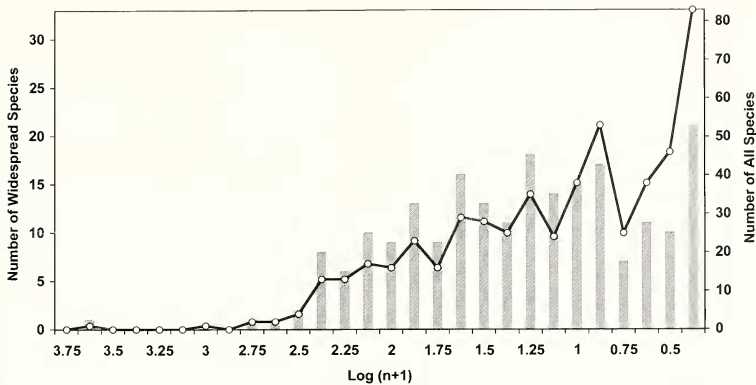


**Figure 3.** Plot of the logarithm of abundance versus rank. Vertical lines indicate species that are widespread in northeast Ohio. Species collected at Lake Cardinal Swamp on Lake Cardinal Estates, 1988–1992.

Shannon-Wiener Diversity Index is 6.87 and the Shannon-Wiener Evenness Index is 0.76.

Seventeen percent of the total count was composed of lesser maple spanworm moth *Itame pustularia* (6273). The next most abundant species was sod webworm *Crambus agitatellus* (5362+) whose larva feeds on grasses and low plants. Following, in order of decreasing abundance, were: rotund idia *Idia rotundalis* (8326) whose larva feeds on dead coral fungus and dead leaves; banded tussock moth *Halysidota tessellaris* (8203+) whose larva feeds on many deciduous trees; disparaged arches *Polia detracta* (10288+) whose larva feeds on clover, blueberries, oaks, etc.; oak leafroller moth *Argyrotaenia alisellana* (3624) whose larva feeds on oaks; pyraustinid *Crocidophora serratissimalis* (4944) whose larva feeds on rice cutgrass; large mossy lithacodia *Lithacodia muscosula* (9047) whose larva feeds on grasses in swamps; agreeable tiger moth *Spilosoma congrua* (8134) whose larva feeds on various herbaceous plants; and orange-spotted idia *Idia diminuendus* (8329) whose larval host is unrecorded.

Figure 3 also indicates, with a vertical line, every species that had been collected at single locations in Columbiana County (Rings and Metzler, 1992), Stark County (Rings et al., 1987), and Ashland County (Rings and Metzler, 1989). A total of 213 Lake Cardinal Swamp species have been collected at all four sites and can be considered to be widespread in northeast Ohio. Data on a wide variety of plants and animals show a broad positive correlation between abundance and distribution (Gaston, 1988, 1990). Three explanations have been proposed (Krebs, 1994). First, the



**Figure 4.** Correspondence between the total number of Lake Cardinal Swamp species in an abundance interval (line, scale at right) and the number of widespread Lake Cardinal Swamp species in the same abundance interval (bar, scale at left). Note that the y-axis scale for the widespread species is larger than the y-axis scale for the total number of species.

relationship is an artifact of sampling because rarer species are less likely to be found. Second, species that use a restricted variety of resources are less likely to be abundant and widespread. And third, species that disperse more are more common and widespread. Our data (Figure 3) suggest that a positive correlation between abundance and distribution does not exist, when abundance is viewed from the perspective of abundance at Lake Cardinal Swamp. Of the 213 Lake Cardinal species which are widespread in northeast Ohio, 85 had total counts of 10 or fewer at Lake Cardinal.

Overall, there is a close correspondence between the number of widespread species in an abundance interval and the total number of species (Figure 4).

One species of owl moth collected at Lake Cardinal Swamp, graceful underwing *Catocala gracilis* (8847), is listed as endangered in Rings et al. (1992). Its larva feeds on blueberries and two species of blueberry have been recorded from Lake Cardinal Estates: *Vaccinium corymbosum* L. and *V. myrtilloides* var. Michx. Five species of owl moths collected at Lake Cardinal Swamp are listed as being of special interest in Rings et al. (1992): gray-banded zale *Zale squamularis* (8700) whose larva feeds on pines; formosa looper moth *Chrysanympha formosa* (8904) whose larva feeds on blueberry and dwarf huckleberry; airy apamea *Apamea vultuosa* (9341) whose larva feeds on grasses; puta sallow *Anathix puta* (9962) whose larva feeds on quaking aspen; and scurfy quaker *Homorthodes furfurata* (10532) whose larva feeds on maples.

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**Appendix.** Checklist of the species collected at Lake Cardinal Swamp on Lake Cardinal Estates, 1988–92. Numbers preceding the species names are checklist numbers from Hodges et al. (1983). A plus-group (+) is a species that is easily confused with closely related species. Following the checklist number is the species name including author (abbreviations as listed in Hodges et al., 1983), date of collection, and count of specimens collected. When more than one collection date is listed, the first is the earliest seasonal date of collection and the second is the latest, both with the year in which that occurred. The count is the total number of specimens collected in 1988–1992.

<b>Family HEPIALIDAE</b>		3594	<i>Pandemis limitata</i> (Rob.) June 8, 1990–Aug. 27, 1992.....	Count 16
20	<i>Sthenopis quadriguttatus</i> (Grt.) July 5, 1991.....			Count 1
<b>Family TINEIDAE</b>		3597	<i>Argyrotaenia velutinana</i> (Wlk.) July 3, 1992.....	Count 1
372+	<i>Acrolophus plumifrontella</i> (Clem.) July 10, 1992.....	3623	<i>Argyrotaenia quercifoliana</i> (Fitch) June 6, 1991–Aug. 21, 1992.....	Count 168
		3624	<i>Argyrotaenia alisellana</i> (Rob.) June 6, 1991–July 3, 1992.....	Count 350
<b>Family OECOPHORIDAE</b>		3625	<i>Argyrotaenia mariana</i> (Fern.) June 1, 1988.....	Count 1
882	<i>Agonopterix robinella</i> (Pack.) June 1–Aug. 5, 1988.....	3632	<i>Choristoneura fractivittana</i> (Clem.) June 1–Aug. 26, 1988.....	Count 182
951	<i>Machimia tentoriferella</i> Clem. Sep. 24, 1988.....	3633	<i>Choristoneura parallela</i> (Rob.) June 22–Sep. 7, 1990.....	Count 12
957	<i>Psilocorsis reflexella</i> Clem. June 1, 1988–Aug. 9, 1990.....	3635	<i>Choristoneura rosaceana</i> (Harr.) June 8–Sep. 14, 1990.....	Count 92
1014+	<i>Antaeotricha leucillana</i> (Zell.) May 18, 1988–Aug. 24, 1990.....	3648	<i>Archips argyrosipila</i> (Wlk.) June 8, 1990–July 10, 1989.....	Count 9
1046	<i>Callima argenticinctella</i> Clem. July 24, 1989.....	3658	<i>Archips purpurana</i> (Clem.) July 24, 1989.....	Count 1
<b>Family GELECHIIDAE</b>		3686	<i>Clepsis melaleucana</i> (Wlk.) June 1, 1988–June 26, 1989.....	Count 42
2295	<i>Trichoptahe flavocostella</i> (Clem.) July 4, 1989–Aug. 9, 1990.....	3695	<i>Sparganothis sulfureana</i> (Clem.) June 8, 1990–June 15, 1988.....	Count 2
<b>Family YPONOMEUTIDAE</b>		3720	<i>Sparganothis reticulatana</i> (Clem.) Aug. 21–Sep. 9, 1989.....	Count 2
2401	<i>Atteva punctella</i> (Cram.) July 12, 1991–Sep. 7, 1990.....	3725	<i>Sparganothis petitana</i> (Rob.) June 22, 1988–Sep. 9, 1989.....	Count 10
2420	<i>Yponomeuta multipunctella</i> Clem. June 20, 1991–July 24, 1992.....	3748	<i>Anorbia humerosana</i> Clem. June 1–June 15, 1988.....	Count 3
<b>Family SESHIDAE</b>		<b>Family LIMACODIDAE</b>		
2554	<i>Synanthedon acerni</i> (Clem.) June 22, 1988–July 10, 1992.....	4652	<i>Tortricidia testacea</i> Pack. June 1, 1988–June 26, 1992.....	Count 30
<b>Family TORTRICIDAE</b>		4654	<i>Tortricidia flexuosa</i> (Grt.) June 20, 1991–Aug. 16, 1990.....	Count 161
2784	<i>Olethreutes footiana</i> (Fern.) Aug. 21, 1989.....	4659	<i>Packardia geminata</i> (Pack.) June 5–July 3, 1992.....	Count 15
2863	<i>Hedya chionosema</i> (Zell.) Aug. 21, 1989.....	4661	<i>Packardia elegans</i> (Pack.) June 5, 1992–July 10, 1992.....	Count 26
3116	<i>Encosma dorsisignatana</i> (Clem.) Sep. 9, 1989.....	4665	<i>Lithacodes fasciola</i> (H.-S.) June 15, 1988–Aug. 7, 1992.....	Count 25
3186	<i>Epiblema scudderiana</i> (Clem.) June 1, 1988.....	4667	<i>Apoda y-inversum</i> (Pack.) June 22–July 20, 1990.....	Count 12
3361	<i>Ancylys semiovana</i> (Zell.) June 1–June 8, 1988.....	4669	<i>Apoda biguttata</i> (Pack.) June 15, 1988–July 24, 1992.....	Count 22
3494	<i>Melissopus latiferreanus</i> (Wlsm.) July 31–Aug. 14, 1989.....	4671	<i>Prolimacodes badia</i> (Hbn.) July 5, 1991–July 24, 1989.....	Count 6
3503	<i>Croesia semipurpurana</i> (Kft.) June 26, 1989.....	4681	<i>Isa textula</i> (H.-S.) June 22, 1990–July 10, 1992.....	Count 3
3504	<i>Croesia curvalana</i> (Kft.) June 19–July 10, 1989.....			

- 4685 *Adoneta spinuloides* (H.-S.)  
June 20, 1991–July 10, 1989 . . . . . Count 5
- 4697 *Euclea delphinii* (BdV.)  
June 8, 1990–July 22, 1988 . . . . . Count 16

**Family CRAMBIDAE**

- 4703 *Gesneria centuriella* (D. & S.)  
June 1–Aug. 5, 1988 . . . . . Count 57
- 4748 *Munroessa icciusalis* (Wlk.)  
June 1, 1988–Aug. 30, 1991 . . . . . Count 162
- 4749 *Munroessa faulalis* (Wlk.)  
June 20, 1991 . . . . . Count 3
- 4751 *Munroessa gyralis* (Hulst)  
June 8, 1990–Sep. 9, 1989 . . . . . Count 56
- 4755 *Synclitella obliteralis* (Wlk.)  
July 29, 1988–Aug. 14, 1989 . . . . . Count 3
- 4794 *Eustixia pupula* Hbn.  
July 8, 1988 . . . . . Count 1
- 4889 *Dicymolomia julianalis* (Wlk.)  
July 3, 1992–Sep. 9, 1989 . . . . . Count 13
- 4897 *Evergestis pallidata* (Hufn.)  
June 1, 1990–Sep. 10, 1992 . . . . . Count 21
- 4936 *Sancrobotys futilalis* (Led.)  
June 5, 1992–Aug. 30, 1991 . . . . . Count 6
- 4937 *Nascia acutella* (Wlk.)  
June 8, 1990–Aug. 5, 1988 . . . . . Count 6
- 4944 *Crocidophora serrataissimalis* Zell.  
June 15, 1988–Sep. 9, 1989 . . . . . Count 309
- 4945 *Crocidophora tuberculalis* Led.  
June 20, 1991–July 29, 1988 . . . . . Count 35
- 4949 *Ostrinia nubilalis* (Hbn.)  
June 1, 1988–Sep. 13, 1991 . . . . . Count 73
- 4950 *Fumibotys fumalis* (Gn.)  
July 12, 1991–Sep. 4, 1992 . . . . . Count 30
- 4951 *Perispasta caeculalis* Zell.  
July 12, 1991–Aug. 9, 1990 . . . . . Count 4
- 4953a *Phlyctaenia coronata tertialis* (Gn.)  
July 12–Aug. 2, 1991 . . . . . Count 4
- 4962 *Hahnccapsia marculenta* (G. & R.)  
June 1–June 22, 1988 . . . . . Count 4
- 4975 *Achyra rantalis* (Gn.)  
Aug. 21, 1989 . . . . . Count 5
- 4980 *Hebivibotys helvialis* (Wlk.)  
June 12, 1989 . . . . . Count 6
- 5040 *Pyrausta bicoloralis* (Gn.)  
June 8–Sep. 14, 1990 . . . . . Count 69
- 5071 *Pyrausta acronialis* (Wlk.)  
June 6, 1991–Sep. 24, 1988 . . . . . Count 30
- 5079 *Udea rubigalis* (Gn.)  
June 1, 1988–Sep. 14, 1990 . . . . . Count 100
- 5142 *Diacme elealis* (Wlk.)  
Apr. 23, 1989–Aug. 7, 1992 . . . . . Count 31
- 5156 *Nomophila nearctica* Mun.  
June 5, 1992–Sep. 13, 1991 . . . . . Count 2
- 5159 *Desmia funeralis* (Hbn.)  
June 15, 1988–Sep. 9, 1989 . . . . . Count 24
- 5160 *Desmia maculalis* Westwood  
July 12, 1991 . . . . . Count 7

- 5182 *Blepharomastix ranalis* (Gn.)  
June 29, 1988 . . . . . Count 1
- 5226 *Palpita magniferalis* (Wlk.)  
June 1–Aug. 3, 1990 . . . . . Count 44
- 5228 *Polygrammodes flavidalis* (Gn.)  
June 15, 1988–Aug. 21, 1989 . . . . . Count 9
- 5241 *Pantographa limata* (G. & R.)  
July 5, 1991–Aug. 19, 1988 . . . . . Count 24
- 5272 *Herpetogramma bipunctalis* (F.)  
June 15, 1988–Aug. 14, 1989 . . . . . Count 26
- 5275 *Herpetogramma pertextalis* (Led.)  
June 22, 1988–Aug. 14, 1989 . . . . . Count 26
- 5280 *Herpetogramma aeglealis* (Wlk.)  
July 5–Aug. 2, 1991 . . . . . Count 18
- 5281 *Piloecrocis ramentalis* Led.  
June 12, 1991–July 22, 1988 . . . . . Count 4
- 5362+ *Crambus agitatellus* Clem.  
June 5, 1992–Sep. 10, 1988 . . . . . Count 948
- 5392 *Arequipa turbaella* Wlk.  
June 20, 1991–July 17, 1992 . . . . . Count 4
- 5403 *Agriphila vulgivagella* (Clem.)  
Sep. 10, 1992 . . . . . Count 3
- 5464 *Urola nivalis* (Drury)  
June 20–Aug. 30, 1991 . . . . . Count 37
- 5465 *Vaxi auratella* (Clem.)  
July 10, 1989–Aug. 3, 1990 . . . . . Count 14
- 5466 *Vaxi critica* (Fbs.)  
July 5, 1991 . . . . . Count 1

**Family PYRALIDAE**

- 5518 *Aglossa cuprina* Zell.  
June 15, 1990–Aug. 27, 1992 . . . . . Count 206
- 5524 *Hypsopygia costalis* (F.)  
June 29, 1990–Aug. 19, 1988 . . . . . Count 5
- 5532 *Herculia infimbrialis* Dyar  
July 10, 1989–Aug. 16, 1990 . . . . . Count 5
- 5533 *Herculia olinalis* (Gn.)  
June 22, 1988–Aug. 27, 1992 . . . . . Count 8
- 5552 *Galasa nigrinodis* (Zell.)  
July 5, 1991 . . . . . Count 1
- 5556 *Tosale oviplagalalis* (Wlk.)  
July 5, 1991 . . . . . Count 1
- 5571 *Condylolomia participalis* Grt.  
July 4–Aug. 7, 1989 . . . . . Count 40
- 5577 *Epipaschia superatalis* Clem.  
June 20, 1991–July 22, 1988 . . . . . Count 4
- 5606 *Tetralopha asperatella* (Clem.)  
July 20, 1990 . . . . . Count 1
- 5622 *Galleria mellonella* (L.)  
July 12–Sep. 13, 1991 . . . . . Count 4
- 5997 *Euzophera ostricolorella* Hulst  
June 15, 1988–Aug. 16, 1990 . . . . . Count 15
- 6053 *Peoria approximella* (Wlk.)  
July 3, 1992–Aug. 16, 1990 . . . . . Count 14

**Family THYRIDIDAE**

- 6079 *Dysodia granulata* (Neum.)  
Aug. 21, 1989 . . . . . Count 1



<b>Family</b>	<b>PTEROPHORIDAE</b>		
6226	<i>Oidaematophorus unicolor</i> (B. & McD.)		
	June 4, 1989	Count 3	
<b>Family</b>	<b>THYATIRIDAE</b>		
6235	<i>Habrosyne scripta</i> (Gosse)		
	June 15, 1988	Count 1	
6237	<i>Pseudothyatira cymatophoroides</i> (Gn.)		
	June 26, 1992	Count 1	
<b>Family</b>	<b>DREPANIDAE</b>		
6251	<i>Drepana arcuata</i> Wlk.		
	June 1–Aug. 9, 1990	Count 11	
6253	<i>Eudeilinia herminiata</i> (Gn.)		
	Aug. 7, 1992–Aug. 14, 1989	Count 2	
6255	<i>Oreta rosea</i> (Wlk.)		
	June 6, 1991–Aug. 21, 1989	Count 22	
<b>Family</b>	<b>GEOMETRIDAE</b>		
6261	<i>Heliomata cycladata</i> G. & R.		
	May 30, 1991–June 15, 1988	Count 3	
6270	<i>Protitame virginalis</i> (Hulst)		
	June 15, 1988–Aug. 7, 1989	Count 5	
6273	<i>Itame pustularia</i> (Gn.)		
	June 13, 1991–Sep. 9, 1989	Count 3733	
6278	<i>Itame evagaria</i> (Hulst)		
	July 13, 1990	Count 1	
6299	<i>Itame coartaria</i> (Hulst)		
	June 20, 1991–July 10, 1992	Count 6	
6303	<i>Itame subcessaria</i> (Wlk.)		
	July 15, 1988–July 24, 1992	Count 3	
6335+	<i>Semiothisa aequiferaria</i> (Wlk.)		
	May 30, 1991–Aug. 9, 1990	Count 40	
6340	<i>Semiothisa minorata</i> (Pack.)		
	July 19, 1991–July 20, 1990	Count 2	
6342	<i>Semiothisa bisignata</i> (Wlk.)		
	June 22, 1988–Aug. 16, 1991	Count 13	
6344+	<i>Semiothisa signaria</i> (Hbn.)		
	June 15–Aug. 9, 1990	Count 11	
6386	<i>Semiothisa ocellinata</i> (Gn.)		
	July 10, 1989–Aug. 26, 1988	Count 2	
6405	<i>Semiothisa gnophosaria</i> (Gn.)		
	June 15, 1988–Aug. 2, 1991	Count 7	
6583	<i>Anacamptodes ephyraria</i> (Wlk.)		
	June 27, 1991–July 24, 1989	Count 77	
6584	<i>Anacamptodes humaria</i> (Gn.)		
	July 15, 1988–July 31, 1989	Count 6	
6586	<i>Anacamptodes defectoria</i> (Gn.)		
	July 13, 1990–Aug. 19, 1988	Count 2	
6588	<i>Iridopsis larvaria</i> (Gn.)		
	May 30, 1991–Aug. 16, 1990	Count 8	
6590	<i>Anavitrinella pampinaria</i> (Gn.)		
	May 30, 1991–Sep. 24, 1988	Count 55	
6597	<i>Ectropis crepuscularia</i> (D. & S.)		
	June 5, 1992–July 26, 1991	Count 41	
6598	<i>Protoarmia porcelaria</i> (Gn.)		
	June 6, 1991–Sep. 10, 1992	Count 19	
6599	<i>Epimecis hortaria</i> (F.)		
	May 21, 1989–Aug. 9, 1990	Count 31	
6620+	<i>Melanolopia canadaria</i> (Gn.)		
	May 21–Aug. 14, 1989	Count 120	
6640a	<i>Biston betularia cognataria</i> (Gn.)		
	June 29, 1988	Count 1	
6654	<i>Hypagyrtis unipunctata</i> (Haw.)		
	May 30, 1991–Aug. 24, 1990	Count 27	
6655	<i>Hypagyrtis esther</i> (Barnes)		
	May 30, 1991–Sep. 7, 1990	Count 176	
6667	<i>Lomographa vestaliata</i> (Gn.)		
	May 28–July 10, 1992	Count 56	
6668	<i>Lomographa glomeraria</i> (Grt.)		
	May 21, 1989	Count 1	
6677	<i>Cabera erythemaria</i> Gn.		
	May 21, 1989–Aug. 27, 1992	Count 27	
6678	<i>Cabera variolaria</i> Gn.		
	June 1, 1988–June 8, 1990	Count 2	
6720	<i>Lytrosis unitaria</i> (H.-S.)		
	June 20, 1991–July 10, 1989	Count 82	
6724	<i>Euchlaena serrata</i> (Drury)		
	July 3, 1992–July 31, 1989	Count 7	
6725	<i>Euchlaena tuzaria</i> (Wlk.)		
	May 30, 1991–July 8, 1988	Count 38	
6729	<i>Euchlaena johnsonaria</i> (Fitch)		
	June 5, 1992–Aug. 21, 1989	Count 6	
6739	<i>Euchlaena irvaria</i> (B. & McD.)		
	June 15, 1988	Count 2	
6740+	<i>Xanthotype urticaria</i> Swett		
	May 30, 1991–Aug. 21, 1989	Count 33	
6753+	<i>Pero honestaria</i> (Wlk.)		
	May 18, 1988–Aug. 27, 1992	Count 81	
6763	<i>Nacophora quernaria</i> (J.E. Smith)		
	June 1–June 22, 1988	Count 4	
6796	<i>Campaea perlata</i> (Gn.)		
	May 30, 1991–Sep. 14, 1990	Count 184	
6797	<i>Emmonos magnaria</i> Gn.		
	Sep. 13, 1991–Sep. 14, 1990	Count 2	
6798	<i>Emmonos subsignaria</i> (Hbn.)		
	June 20, 1991–Aug. 7, 1992	Count 107	
6812	<i>Homochlodes fritillaria</i> (Gn.)		
	July 13, 1990	Count 1	
6819	<i>Metaena inatomaria</i> Gn.		
	June 22, 1988–Aug. 27, 1992	Count 2	
6822	<i>Metarranthis dnaria</i> (Gn.)		
	May 21–June 4, 1989	Count 3	
6823	<i>Metarranthis angularia</i> B. & McD.		
	June 8, 1990–June 20, 1991	Count 4	
6825	<i>Metarranthis indeclinata</i> (Wlk.)		
	June 5–June 19, 1992	Count 6	
6826	<i>Metarranthis hypocharia</i> (H.-S.)		
	May 30, 1991–July 10, 1992	Count 118	
6827	<i>Metarranthis refractaria</i> (Gn.)		
	July 3, 1992	Count 2	
6828	<i>Metarranthis homuraria</i> (G. & R.)		
	June 1, 1988	Count 1	
6834	<i>Cepphis decoloraria</i> (Hulst)		
	June 4–July 17, 1989	Count 8	
6835	<i>Cepphis armataria</i> (H.-S.)		
	May 30–July 5, 1991	Count 3	

- 6836 *Anagoga occiduaria* (Wlk.)  
July 20, 1990–Aug. 14, 1989 . . . . . Count 11
- 6838+ *Probole amicaria* (H.-S.)  
May 28, 1992–Aug. 16, 1990 . . . . . Count 106
- 6840 *Plagodis serinaria* H.-S.  
May 18, 1988–June 29, 1990 . . . . . Count 127
- 6841 *Plagodis kuetzingi* (Grt.)  
Aug. 2, 1991 . . . . . Count 1
- 6842 *Plagodis phlogosaria* (Gn.)  
July 15, 1988–July 27, 1990 . . . . . Count 2
- 6843 *Plagodis fervidaria* (H.-S.)  
July 5, 1991–Aug. 7, 1992 . . . . . Count 10
- 6844 *Plagodis alcoalaria* (Gn.)  
May 18, 1988–Aug. 9, 1990 . . . . . Count 54
- 6884 *Besna endropiaria* (G. & R.)  
May 30, 1991–July 8, 1988 . . . . . Count 35
- 6885 *Besna quercivoraria* (Gn.)  
May 21–Sep. 2, 1989 . . . . . Count 82
- 6888 *Lambdina fiscellaria* (Gn.)  
Aug. 16, 1991–Sep. 25, 1992 . . . . . Count 7
- 6894a *Lambdina fervidaria athasaria* (Wlk.)  
Aug. 7, 1992 . . . . . Count 1
- 6912 *Sicya macularia* (Harr.)  
June 13, 1991–July 10, 1992 . . . . . Count 22
- 6941 *Eusarca confusaria* Hbn.  
June 27, 1991–July 20, 1990 . . . . . Count 19
- 6963 *Tetracis crocallata* Gn.  
July 8, 1988 . . . . . Count 1
- 6964 *Tetracis cachexiata* Gn.  
May 30, 1991–June 26, 1992 . . . . . Count 63
- 6965 *Eugonobapta nivosaria* (Gn.)  
June 13, 1991–July 31, 1992 . . . . . Count 127
- 6966 *Eutrapela clemataria* (J.E. Smith)  
May 18, 1988–Aug. 7, 1992 . . . . . Count 93
- 6982 *Prochoerodes transversata* (Drury)  
June 20, 1991–Sep. 25, 1992 . . . . . Count 106
- 6987 *Anteponia thisoaria* (Gn.)  
July 19, 1991 . . . . . Count 1
- 7009 *Nematocampa limbata* (Haw.)  
June 13, 1991–Sep. 9, 1989 . . . . . Count 131
- 7046+ *Nemoria bistriaria* Hbn.  
May 28–Aug. 14, 1989 . . . . . Count 54
- 7047 *Nemoria rubrifrontaria* (Pack.)  
June 15, 1988 . . . . . Count 1
- 7048 *Nemoria niuosaria* (Gn.)  
June 4, 1989–Aug. 30, 1991 . . . . . Count 3
- 7053 *Dichorda iridaria* (Gn.)  
May 28–July 31, 1989 . . . . . Count 3
- 7058 *Synchlora aerata* (F.)  
May 30–Aug. 30, 1991 . . . . . Count 10
- 7071 *Chlorochlamys chloroleucaria* (Gn.)  
June 26, 1989–Sep. 7, 1990 . . . . . Count 5
- 7084 *Hethemia pistaciaria* (Gn.)  
June 1, 1988 . . . . . Count 1
- 7132 *Pleuroprucha insulsaria* (Gn.)  
May 30–Aug. 30, 1991 . . . . . Count 17
- 7136 *Cyclophora packardi* (Prout)  
May 30–Sep. 13, 1991 . . . . . Count 11
- 7139 *Cyclophora pendulinaria* (Gn.)  
May 30, 1991–Sep. 9, 1989 . . . . . Count 77
- 7146 *Haematopis grataria* (F.)  
Aug. 7, 1992–Sep. 9, 1989 . . . . . Count 2
- 7157 *Scopula cacuminiaria* (Morr.)  
May 30, 1991–Aug. 21, 1992 . . . . . Count 33
- 7159 *Scopula limboudata* (Haw.)  
May 30, 1991–Aug. 21, 1989 . . . . . Count 147
- 7165 *Scopula quadrilineata* (Pack.)  
May 30, 1991 . . . . . Count 2
- 7169 *Scopula inductata* (Gn.)  
June 5, 1992–Aug. 30, 1991 . . . . . Count 13
- 7189 *Dysstroma hersiliata* (Gn.)  
June 20, 1991–July 3, 1992 . . . . . Count 2
- 7196+ *Eulithis diversilineata* (Hbn.)  
June 29, 1990–Sep. 4, 1992 . . . . . Count 12
- 7236+ *Hydriomena renunciata* (Wlk.)  
May 18, 1988 . . . . . Count 6
- 7290 *Coryphista meadii* (Pack.)  
July 24, 1989–Sep. 4, 1992 . . . . . Count 2
- 7292 *Hydria prunivorata* (Fgn.)  
July 15, 1988 . . . . . Count 1
- 7368 *Xanthorhoe labradorensis* (Pack.)  
Aug. 24, 1990–Sep. 13, 1991 . . . . . Count 7
- 7388 *Xanthorhoe ferrugata* (Cl.)  
June 12, 1989–July 26, 1991 . . . . . Count 3
- 7390 *Xanthorhoe lacustrata* (Gn.)  
July 12, 1991–Sep. 9, 1989 . . . . . Count 10
- 7394 *Epirrhoe alternata* (Muller)  
June 20, 1991–Sep. 9, 1989 . . . . . Count 5
- 7399a *Euphyia unangulata intermedia* (Gn.)  
June 12–Sep. 4, 1992 . . . . . Count 8
- 7414 *Orthonama obstipata* (F.)  
May 21–Sep. 9, 1989 . . . . . Count 47
- 7416 *Orthonama centrostrigaria* (Woll.)  
May 30–Sep. 6, 1991 . . . . . Count 108
- 7422 *Hydrelia inornata* (Hulst)  
May 30, 1991–June 15, 1988 . . . . . Count 3
- 7423 *Hydrelia albifera* (Wlk.)  
May 30, 1991–Aug. 21, 1989 . . . . . Count 5
- 7430 *Trichodezia albovittata* (Gn.)  
May 30, 1991–Aug. 16, 1990 . . . . . Count 3
- 7440 *Eubaphe mendica* (Wlk.)  
June 26–July 24, 1992 . . . . . Count 8
- 7445 *Horisme intestinata* (Gn.)  
July 26, 1991–Aug. 24, 1990 . . . . . Count 7
- 7474+ *Eupithecia miserulata* Grt.  
May 21, 1989–Sep. 24, 1988 . . . . . Count 140
- 7640 *Lobophora nivergerata* Wlk.  
June 1, 1990–July 8, 1988 . . . . . Count 8
- 7647 *Heterophleps triguttaria* H.-S.  
June 26, 1989–July 13, 1990 . . . . . Count 2
- Family EPIPLEMIDAE**
- 7653 *Calledapteryx dryopterata* Grt.  
June 22–Aug. 9, 1990 . . . . . Count 2

<b>Family MIMALLONIDAE</b>		7898	<i>Clostera strigosa</i> (Grt.)
7659	<i>Lacosoma chiridota</i> Grt.	July 5–Aug. 16, 1991	Count 6
	June 15, 1988		Count 1
<b>Family APATELODIDAE</b>		7901	<i>Clostera apicalis</i> (Wlk.)
7663	<i>Apateledes torrefacta</i> (J.E. Smith)	June 1, 1990–Aug. 27, 1992	Count 6
	June 6, 1991–June 29, 1990		Count 4
7665	<i>Olceclostera angelica</i> (Grt.)	7902	<i>Datana ministra</i> (Drury)
	June 20, 1991–July 17, 1992	June 15–July 15, 1988	Count 8
		7903	<i>Datana angusii</i> G. & R.
		May 30, 1991–July 17, 1989	Count 11
		7904+	<i>Datana drexelii</i> Hy. Edw.
		June 15, 1990–July 17, 1989	Count 8
<b>Family LASIOCAMPIDAE</b>		7906+	<i>Datana contracta</i> Wlk.
7670	<i>Tolype velleda</i> (Stoll)	May 30, 1991–Aug. 7, 1992	Count 17
	Aug. 2, 1991–Sep. 24, 1988		Count 10
7687	<i>Phyllodesma americana</i> (Harr.)	7915	<i>Nadata gibbosa</i> (J.E. Smith)
	May 21, 1989–July 15, 1988	May 28, 1989–Aug. 24, 1990	Count 218
7698	<i>Malacosoma dissiria</i> Hbn.	7919	<i>Peridea basitriens</i> (Wlk.)
	June 20, 1991–July 24, 1989	May 30, 1991–Aug. 24, 1990	Count 19
7701	<i>Malacosoma americanum</i> (F.)	7920	<i>Peridea angulosa</i> (J.E. Smith)
	June 13, 1991–July 17, 1992	June 30, 1991–Sep. 9, 1989	Count 235
		7922	<i>Pheosia rimosa</i> Pack.
		July 13, 1990–July 22, 1988	Count 3
<b>Family SATURNIIDAE</b>		7926	<i>Notodonta scitipennis</i> Wlk.
7715	<i>Dryocampa rubicunda</i> (F.)	Aug. 14, 1989	Count 1
	May 30, 1991–Aug. 5, 1988		Count 52
7723	<i>Anisota virginiensis</i> (Drury)	7929	<i>Nerice bidentata</i> Wlk.
	June 1, 1988	May 30, 1991–Aug. 14, 1989	Count 6
7746	<i>Automeris io</i> (F.)	7930	<i>Ellida caniplaga</i> (Wlk.)
	May 30, 1991–June 29, 1990	July 10, 1989	Count 1
7757	<i>Antheraea polyphenus</i> (Cram.)	7931	<i>Gluphisia septentrionis</i> Wlk.
	June 15, 1988–July 10, 1989	June 15, 1988–July 31, 1989	Count 5
7758	<i>Actias luna</i> (L.)	7936	<i>Furcula borealis</i> (Guer.-Meneville)
	June 12–June 26, 1989	May 28, 1989–July 19, 1989	Count 5
7764	<i>Callosamia promethea</i> (Drury)	7951+	<i>Synmerista albifrons</i> (J.E. Smith)
	July 31, 1992	May 28, 1989–Aug. 27, 1992	Count 98
7767	<i>Hyalophora cecropia</i> (L.)	7957	<i>Dasylophia anguina</i> (J.E. Smith)
	June 29, 1990	June 8–June 29, 1990	Count 2
		7958	<i>Dasylophia thyatroides</i> (Wlk.)
		May 28, 1989–Aug. 23, 1991	Count 16
<b>Family SPHINGIDAE</b>		7975	<i>Macrocampa warthesia</i> (Cram.)
7784	<i>Dolba hyloeus</i> (Drury)	June 20, 1991–Aug. 7, 1992	Count 70
	July 8, 1988		Count 1
7787	<i>Ceratonia undulosa</i> (Wlk.)	7994	<i>Heterocampa guttivitta</i> (Wlk.)
	July 5, 1991	May 30, 1991–Aug. 5, 1988	Count 175
7810	<i>Sphinx gordius</i> Cram.	7995	<i>Heterocampa bimundata</i> Wlk.
	May 30, 1991–June 8, 1990	Aug. 9, 1990–Aug. 27, 1992	Count 5
7821	<i>Smerinthus jamaicensis</i> (Drury)	7998	<i>Lochnaetes manteo</i> Doubleday
	May 30–July 12, 1991	June 26, 1992–Aug. 14, 1989	Count 19
7824	<i>Paonias excaecatus</i> (J.E. Smith)	7999	<i>Lochnaetes bilineata</i> (Pack.)
	May 30, 1991–Aug. 7, 1992	June 8–Aug. 24, 1990	Count 23
7825	<i>Paonias myops</i> (J.E. Smith)	8005	<i>Schizura ipomoeae</i> Doubleday
	May 30, 1991–Aug. 14, 1989	May 30, 1991–July 17, 1992	Count 7
7827	<i>Laothoe juglandis</i> (J.E. Smith)	8006	<i>Schizura badia</i> (Pack.)
	June 27, 1991–July 13, 1990	June 12, 1989–Aug. 5, 1988	Count 5
7828	<i>Pachysphinx modesta</i> (Harr.)	8007	<i>Schizura unicornis</i> (J.E. Smith)
	June 15, 1988	May 30, 1991–Sep. 7, 1990	Count 63
7870	<i>Sphecodina abbotii</i> (Swainson)	8011	<i>Schizura leptinoides</i> (Grt.)
	June 1, 1988	June 12, 1989–Aug. 27, 1992	Count 9
		8012	<i>Oligocentria seminifescens</i> (Wlk.)
		June 15, 1990–July 15, 1988	Count 4
<b>Family NOTODONTIDAE</b>		8017	<i>Oligocentria lignicolor</i> (Wlk.)
7895	<i>Clostera albosignata</i> Fitch	May 28, 1992–Aug. 16, 1990	Count 10
	June 13–Aug. 30, 1991		Count 12

## Family ARCTHIDAE

8045.1	<i>Crambidia pallida</i> Pack. July 8, 1988–Sep. 4, 1992 . . . . .	Count 70
8090	<i>Hypoprepia fucosa</i> Hbn. July 5, 1991–Aug. 16, 1990 . . . . .	Count 71
8104	<i>Conachara cadburyi</i> Franc. June 5, 1992 . . . . .	Count 1
8107	<i>Haploa chymene</i> (Brown) July 5, 1991–July 31, 1992 . . . . .	Count 8
8121+	<i>Holomelina aurantiaca</i> (Hbn.) May 30–Aug. 30, 1991 . . . . .	Count 139
8129	<i>Pyrrharctia isabella</i> (J.E. Smith) May 30, 1991–Sep. 10, 1992 . . . . .	Count 60
8133	<i>Spilosoma latipennis</i> Stretch May 30, 1991–June 29, 1990 . . . . .	Count 14
8134	<i>Spilosoma congrua</i> Wlk. May 21, 1989–Sep. 13, 1991 . . . . .	Count 249
8137	<i>Spilosoma virginica</i> (F.) May 30, 1991–Aug. 24, 1990 . . . . .	Count 76
8140	<i>Hyphantria cunea</i> (Drury) June 26, 1992–July 8, 1988 . . . . .	Count 5
8156	<i>Phragmatobia fuliginosa</i> (L.) July 5, 1991–Aug. 27, 1992 . . . . .	Count 28
8169+	<i>Apantesis phalerata</i> (Harr.) May 30–Sep. 13, 1991 . . . . .	Count 70
8197	<i>Apantesis virgo</i> (L.) July 12, 1991–July 27, 1990 . . . . .	Count 8
8203+	<i>Halysidota tessellaris</i> (J.E. Smith) June 6 1991–Aug. 7, 1992 . . . . .	Count 458
8211	<i>Lophocampa caryae</i> Harr. May 30, 1991–June 26, 1992 . . . . .	Count 47
8230	<i>Cyenia tenera</i> Hbn. June 5, 1992–Aug. 2, 1991 . . . . .	Count 16
8231	<i>Cyenia oregonensis</i> (Stretch) June 15–Aug. 5, 1988 . . . . .	Count 3
8238	<i>Euchaetes egle</i> (Drury) June 6, 1991–Aug. 5, 1988 . . . . .	Count 14
8262	<i>Ctenucha virginica</i> (Esp.) May 30, 1991–June 15, 1990 . . . . .	Count 5
8267	<i>Cispeps fulvicollis</i> (Hbn.) May 30, 1991–Sep. 21, 1990 . . . . .	Count 221

## Family LYMANTRIIDAE

8294	<i>Dasychira vagans</i> (B. & McD.) July 27, 1990 . . . . .	Count 1
8296	<i>Dasychira basiflava</i> (Pack.) July 12, 1991–Aug. 16, 1990 . . . . .	Count 28
8302	<i>Dasychira obliquata</i> (G. & R.) July 26, 1991–Aug. 14, 1989 . . . . .	Count 15
8314	<i>Orgyia definita</i> Pack. July 5, 1991–Aug. 31, 1990 . . . . .	Count 7
8316	<i>Orgyia leucostigma</i> (J.E. Smith) June 20, 1991–Sep. 21, 1990 . . . . .	Count 11
8318	<i>Lymantria dispar</i> (L.) July 5, 1991–Aug. 27, 1992 . . . . .	Count 182

## Family NOCTUIDAE

8322	<i>Idia americalis</i> (Gn.) May 30, 1991–Sep. 21, 1990 . . . . .	Count 63
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8323+	<i>Idia aemula</i> Hbn. May 30, 1991–Sep. 21, 1990 . . . . .	Count 115
8326	<i>Idia roundalis</i> (Wlk.) June 20, 1991–Sep. 10, 1992 . . . . .	Count 530
8327	<i>Idia forbesi</i> (French) June 12, 1989–Aug. 3, 1990 . . . . .	Count 53
8329	<i>Idia diminutis</i> (B. & McD.) June 20–Aug. 30, 1991 . . . . .	Count 244
8330	<i>Idia scobialis</i> (Grt.) July 13–July 20, 1990 . . . . .	Count 14
8333	<i>Idia denticulalis</i> (Harv.) July 12, 1991 . . . . .	Count 2
8334	<i>Idia lubricalis</i> (Gey.) June 22, 1990–Sep. 9, 1989 . . . . .	Count 24
8338	<i>Phalaenophana pyramusalis</i> (Wlk.) June 5, 1992–Aug. 14, 1989 . . . . .	Count 6
8340	<i>Zanclognatha lituralis</i> (Hbn.) June 1–Sep. 7, 1990 . . . . .	Count 22
8345	<i>Zanclognatha laevigata</i> (Grt.) June 20, 1991–Sep. 4, 1992 . . . . .	Count 33
8348	<i>Zanclognatha pedipilalis</i> (Gn.) June 15, 1990–June 22, 1988 . . . . .	Count 2
8349	<i>Zanclognatha protommusalis</i> (Wlk.) July 22, 1988–Sep. 13, 1991 . . . . .	Count 5
8351	<i>Zanclognatha cruralis</i> (Gn.) June 26–July 17, 1989 . . . . .	Count 14
8352+	<i>Zanclognatha jacchusalis</i> (Wlk.) June 12, 1989–Sep. 21, 1990 . . . . .	Count 207
8355	<i>Chytolita morbidalis</i> (Gn.) May 30, 1991–July 10, 1992 . . . . .	Count 39
8356	<i>Chytolita petrealis</i> Grt. June 5–July 24, 1992 . . . . .	Count 11
8357	<i>Macrochilo absorptalis</i> (Wlk.) June 22, 1990–Aug. 7, 1992 . . . . .	Count 42
8357.1	<i>Macrochilo hypocritalis</i> Fgn. June 20–Sep. 13, 1991 . . . . .	Count 5
8358	<i>Macrochilo litophora</i> (Grt.) June 20, 1991–July 20, 1990 . . . . .	Count 15
8360	<i>Macrochilo orciferalis</i> (Wlk.) June 15, 1988–Aug. 27, 1992 . . . . .	Count 10
8361	<i>Macrochilo louisiana</i> (Fbs.) May 30, 1991 . . . . .	Count 3
8362	<i>Phalaenostola metonalis</i> (Wlk.) May 30, 1991–Aug. 27, 1992 . . . . .	Count 19
8363	<i>Phalaenostola eumehusalis</i> (Wlk.) June 27, 1991–Aug. 9, 1990 . . . . .	Count 5
8364	<i>Phalaenostola larentioides</i> Grt. June 26, 1992–Sep. 13, 1991 . . . . .	Count 13
8365	<i>Phalaenostola hanhami</i> (Sm.) July 13, 1990 . . . . .	Count 1
8370	<i>Bleptina caradrinalis</i> Gn. June 20, 1991–July 31, 1989 . . . . .	Count 14
8378	<i>Renia salusalis</i> (Wlk.) July 17, 1992–July 19, 1991 . . . . .	Count 5
8379	<i>Renia factiosalis</i> (Wlk.) June 15, 1988–Aug. 21, 1992 . . . . .	Count 57
8381	<i>Renia discoloralis</i> Gn. June 29, 1990–Sep. 4, 1992 . . . . .	Count 65

8386	<i>Renia adspersgillus</i> (Bosc.) June 26–Sep. 9, 1989 . . . . .	Count 44	8588	<i>Panopoda carneicosta</i> Gn. June 22–July 15, 1988 . . . . .	Count 4
8387	<i>Renia sobrialis</i> (Wlk.) June 20, 1991–July 24, 1989 . . . . .	Count 8	8689	<i>Zale lunata</i> (Drury) July 13–July 20, 1990 . . . . .	Count 4
8393	<i>Lascoria ambignalis</i> Wlk. June 4, 1989–Aug. 16, 1991 . . . . .	Count 6	8697	<i>Zale minerea</i> (Gn.) May 21, 1989–July 15, 1988 . . . . .	Count 14
8397	<i>Palthis angulalis</i> (Hbn.) May 30, 1991–Sep. 7, 1990 . . . . .	Count 15	8700	<i>Zale saquannularis</i> (Drury) May 18, 1988 . . . . .	Count 1
8398	<i>Palthis asopialis</i> (Gn.) May 30–Sep. 13, 1991 . . . . .	Count 40	8704+	<i>Zale helata</i> (Sm.) June 22, 1990 . . . . .	Count 1
8404	<i>Rivula propinqualis</i> Gn. May 30–Sep. 13, 1991 . . . . .	Count 62	8716	<i>Zale multilineata</i> (Grt.) June 15, 1988 . . . . .	Count 1
8411	<i>Colobochyla interpuncta</i> (Grt.) June 12, 1989–July 12, 1991 . . . . .	Count 7	8717	<i>Zale horrida</i> Hbn. May 30, 1991–July 4, 1989 . . . . .	Count 6
8412	<i>Melanonma auricinctaria</i> Grt. May 30, 1991–Aug. 16, 1990 . . . . .	Count 25	8721	<i>Allotria elonympha</i> (Hbn.) May 30–Aug. 16, 1991 . . . . .	Count 24
8421	<i>Hypenodes fractilinea</i> (Sm.) May 30, 1991–Sep. 10, 1992 . . . . .	Count 96	8727	<i>Parallelia bistriaris</i> Hbn. May 30, 1991–Sep. 4, 1992 . . . . .	Count 19
8426	<i>Dyspyralis illocata</i> Warr. July 5–July 19, 1991 . . . . .	Count 5	8738+	<i>Caenurgina crassiuscula</i> (Haw.) June 27–Sep. 13, 1991 . . . . .	Count 27
8427	<i>Dyspyralis puncticosta</i> (Sm.) July 5, 1991–July 31, 1989 . . . . .	Count 23	8764	<i>Argyrostromis anilis</i> (Drury) July 4, 1989 . . . . .	Count 1
8428	<i>Dyspyralis nigella</i> (Stkr.) July 5, 1991–Aug. 5, 1988 . . . . .	Count 73	8778	<i>Catocala habilis</i> Grt. Sep. 21, 1990–Sep. 25, 1992 . . . . .	Count 3
8430	<i>Parahypenodes quadralis</i> B. & McD. June 20, 1991 . . . . .	Count 1	8779	<i>Catocala serena</i> Edw. Aug. 27, 1992 . . . . .	Count 1
8441	<i>Bomolocha manalis</i> (Wlk.) June 8, 1990–Sep. 10, 1988 . . . . .	Count 32	8784	<i>Catocala obscura</i> Stkr. Aug. 27, 1992–Sep. 21, 1990 . . . . .	Count 2
8442	<i>Bomolocha baltimoralis</i> (Gn.) May 28, 1992–Sep. 9, 1989 . . . . .	Count 69	8785	<i>Catocala residua</i> Grt. Aug. 9–Sep. 7, 1990 . . . . .	Count 3
8443	<i>Bomolocha bijugalis</i> (Wlk.) Sep. 13, 1991 . . . . .	Count 1	8788	<i>Catocala resecta</i> Grt. Aug. 16, 1990–Sep. 24, 1988 . . . . .	Count 7
8444	<i>Bomolocha palparia</i> (Wlk.) June 15, 1988–Aug. 14, 1989 . . . . .	Count 3	8790	<i>Catocala dejecta</i> Stkr. Sep. 14, 1990 . . . . .	Count 1
8445	<i>Bomolocha abalienalis</i> (Wlk.) June 5, 1992 . . . . .	Count 1	8795	<i>Catocala palaeogama</i> Gn. Aug. 2, 1991 . . . . .	Count 1
8447	<i>Bomolocha madefactalis</i> (Gn.) July 5, 1991–July 13, 1990 . . . . .	Count 2	8801	<i>Catocala ilia</i> (Cram.) July 12, 1991–Aug. 26, 1988 . . . . .	Count 7
8448	<i>Bomolocha sordidula</i> (Grt.) July 12, 1991 . . . . .	Count 1	8802	<i>Catocala cerogama</i> Gn. Sep. 2, 1989 . . . . .	Count 1
8465	<i>Plathypena scabra</i> (F.) June 15, 1990–Sep. 25, 1992 . . . . .	Count 15	8832	<i>Catocala cara</i> Gn. Sep. 9, 1989 . . . . .	Count 1
8479	<i>Spargaloma sexpunctata</i> Grt. June 15–Aug. 19, 1988 . . . . .	Count 12	8846	<i>Catocala sordida</i> Grt. July 12, 1991–Aug. 21, 1989 . . . . .	Count 9
8490	<i>Pangrapta decoralis</i> Hbn. May 30, 1991–Sep. 9, 1989 . . . . .	Count 75	8847	<i>Catocala gracilis</i> Edw. July 13, 1990 . . . . .	Count 1
8491	<i>Ledaea perditalis</i> (Wlk.) May 30, 1991–Sep. 7, 1990 . . . . .	Count 184	8857	<i>Catocala ultronia</i> (Hbn.) July 20, 1990–Aug. 27, 1992 . . . . .	Count 15
8499	<i>Metalectra discalis</i> (Grt.) July 15, 1988–Aug. 9, 1990 . . . . .	Count 2	8858	<i>Catocala crataegi</i> Saund. July 22, 1988–Aug. 7, 1992 . . . . .	Count 2
8514	<i>Scolecocampa libinra</i> (Gey.) June 20, 1991–Aug. 7, 1992 . . . . .	Count 37	8863	<i>Catocala mira</i> Grt. July 13, 1990–Aug. 27, 1992 . . . . .	Count 27
8536	<i>Calyptra canadensis</i> (Bethune) July 10, 1992 . . . . .	Count 1	8864	<i>Catocala grynea</i> (Cram.) July 5, 1991–Sep. 9, 1989 . . . . .	Count 38
8555	<i>Scoliopteryx libatrix</i> (L.) May 14, 1989–June 22, 1988 . . . . .	Count 2	8865	<i>Catocala praeclara</i> G. & R. July 12, 1991–Aug. 14, 1989 . . . . .	Count 10
8587	<i>Panopoda rufimargo</i> (Hbn.) June 20, 1991–Aug. 7, 1992 . . . . .	Count 58	8867	<i>Catocala blandula</i> Hulst July 12, 1991–July 24, 1989 . . . . .	Count 2

- 8878 *Catocala amica* (Hbn.)  
July 12, 1991–Sep. 9, 1989 . . . . . Count 7
- 8878.1 *Catocala lineella* Grt.  
July 12, 1991–Aug. 27, 1992 . . . . . Count 3
- 8898 *Allagrapha aerea* (Hbn.)  
June 8–Sep. 21, 1990 . . . . . Count 26
- 8904 *Chrysozephyra formosa* (Grt.)  
June 26, 1992–June 29, 1990 . . . . . Count 2
- 8908 *Autographa precationis* (Gn.)  
May 28, 1989–Sep. 25, 1992 . . . . . Count 16
- 8924 *Anagrapha falcifera* (Kby.)  
July 17, 1989–July 26, 1991 . . . . . Count 3
- 8955 *Marathyssa inficita* (Wlk.)  
June 15, 1988 . . . . . Count 1
- 8956 *Marathyssa basalis* Wlk.  
May 21–May 28, 1989 . . . . . Count 2
- 8957 *Paectes oculatrix* (Gn.)  
June 19–Sep. 9, 1989 . . . . . Count 7
- 8970 *Baileya ophthalmica* (Gn.)  
May 21, 1989–June 26, 1992 . . . . . Count 44
- 8971 *Baileya dormitans* (Gn.)  
May 30–Aug. 2, 1991 . . . . . Count 17
- 8972 *Baileya levitans* (Sm.)  
June 12–July 24, 1989 . . . . . Count 11
- 8975 *Nycteola frigidana* (Wlk.)  
June 4, 1989–Aug. 3, 1990 . . . . . Count 3
- 8983 *Meganola minuscula* (Zell.)  
May 21, 1989–Aug. 16, 1990 . . . . . Count 124
- 8983.1 *Meganola phylla* (Dyar)  
May 28–July 31, 1989 . . . . . Count 7
- 8983.2 *Meganola spodia* Franc.  
July 3, 1992–July 4, 1989 . . . . . Count 3
- 8990 *Nola cilicoides* (Grt.)  
June 15, 1988 . . . . . Count 1
- 8992 *Nola triquetrana* (Fitch)  
May 21, 1989 . . . . . Count 2
- 9037 *Hyperstrotia pervertens* (B. & McD.)  
May 30, 1991–Aug. 3, 1990 . . . . . Count 34
- 9038 *Hyperstrotia villificans* (B. & McD.)  
June 22, 1990–July 12, 1991 . . . . . Count 25
- 9040 *Hyperstrotia secta* (Grt.)  
June 22, 1990–Aug. 2, 1991 . . . . . Count 9
- 9046 *Lithacodia bellicula* Hbn.  
June 20, 1991–Aug. 24, 1990 . . . . . Count 3
- 9047 *Lithacodia muscosula* (Gn.)  
May 30, 1991–Sep. 9, 1989 . . . . . Count 269
- 9048 *Lithacodia albidula* (Gn.)  
June 22, 1988–Aug. 21, 1989 . . . . . Count 36
- 9051 *Lithacodia musta* (G. & R.)  
July 29, 1988 . . . . . Count 1
- 9053 *Pseudeustrotia cameola* (Gn.)  
May 30, 1991–Sep. 25, 1992 . . . . . Count 125
- 9055.1 *Maliattha synochitis* (G. & R.)  
May 30, 1991–July 22, 1988 . . . . . Count 29
- 9055.3 *Anterastria teratophora* (H.-S.)  
June 15, 1988–June 22, 1990 . . . . . Count 2
- 9056 *Homophoberia cristata* Morr.  
May 30, 1991–Aug. 7, 1992 . . . . . Count 20
- 9057 *Homophoberia apicosa* (Haw.)  
May 30, 1991–Sep. 9, 1989 . . . . . Count 62
- 9062 *Cerma cerintha* (Tr.)  
May 30, 1991–Aug. 5, 1988 . . . . . Count 14
- 9065 *Leuconycta diptheroides* (Gn.)  
June 15, 1990–Aug. 7, 1992 . . . . . Count 14
- 9066 *Leuconycta lepidula* (Grt.)  
May 30, 1991–Aug. 5, 1988 . . . . . Count 22
- 9090 *Tarachidia candefacta* (Hbn.)  
June 15, 1988–Aug. 21, 1989 . . . . . Count 14
- 9095 *Tarachidia erastrioides* (Gn.)  
June 1, 1988–Aug. 27, 1992 . . . . . Count 15
- 9185 *Colocasia propinquinella* (Grt.)  
May 30, 1991–June 26, 1992 . . . . . Count 42
- 9189 *Charadra deridens* (Gn.)  
May 18, 1988 . . . . . Count 1
- 9193 *Rophia frater* Grt.  
June 1, 1988–Aug. 7, 1992 . . . . . Count 18
- 9200 *Acronicta americana* (Harr.)  
May 30, 1991–July 20, 1990 . . . . . Count 18
- 9219 *Acronicta connecta* Grt.  
June 22, 1988–June 27, 1991 . . . . . Count 2
- 9227 *Acronicta laetifica* Sm.  
June 15, 1988–Aug. 21, 1992 . . . . . Count 3
- 9229 *Acronicta hasta* Gn.  
May 30, 1991–July 31, 1992 . . . . . Count 16
- 9235 *Acronicta spinigera* Gn.  
June 12, 1989–June 29, 1990 . . . . . Count 8
- 9236 *Acronicta morula* G. & R.  
June 15, 1990 . . . . . Count 1
- 9237 *Acronicta interrupta* Gn.  
July 17–Aug. 21, 1989 . . . . . Count 3
- 9238 *Acronicta lobeliae* Gn.  
May 18, 1988–Aug. 7, 1989 . . . . . Count 3
- 9242 *Acronicta exilis* Grt.  
June 22, 1988–Aug. 14, 1989 . . . . . Count 4
- 9243 *Acronicta ovata* Grt.  
June 6, 1991–Aug. 7, 1989 . . . . . Count 81
- 9244 *Acronicta modica* Wlk.  
May 30, 1991–Aug. 5, 1988 . . . . . Count 48
- 9245+ *Acronicta haesitata* (Grt.)  
May 30–Aug. 16, 1991 . . . . . Count 212
- 9246 *Acronicta clarescens* Gn.  
July 31–Aug. 7, 1989 . . . . . Count 2
- 9251 *Acronicta retardata* (Wlk.)  
June 8–July 13, 1990 . . . . . Count 5
- 9259 *Acronicta noctivaga* Grt.  
June 26, 1992 . . . . . Count 1
- 9261 *Acronicta impressa* Wlk.  
July 29–Aug. 26, 1988 . . . . . Count 5
- 9272 *Acronicta obliterata* (J.E. Smith)  
July 27, 1990–July 31, 1989 . . . . . Count 2
- 9285 *Polygrammate hebraeicum* Hbn.  
May 30–Aug. 2, 1991 . . . . . Count 119
- 9299 *Eudryas unio* (Hbn.)  
June 22, 1990–Aug. 14, 1989 . . . . . Count 4
- 9301 *Eudryas grata* (F.)  
July 8, 1988–July 24, 1989 . . . . . Count 6

9328	<i>Apamea nigrior</i> (Sm.) June 13, 1991–July 3, 1992.....	Count 4	9638	<i>Amphipyra pyramidoides</i> Gn. July 12, 1991–Sep. 25, 1992.....	Count 82
9329	<i>Apamea cariosa</i> (Gn.) July 15, 1988–July 17, 1992.....	Count 2	9647	<i>Athetis miranda</i> (Grt.) June 5, 1992–Aug. 5, 1988.....	Count 3
9332	<i>Apamea vulgaris</i> (G. & R.) June 15, 1990–June 27, 1991.....	Count 3	9650	<i>Anorthodes tarda</i> (Gn.) May 28–Sep. 25, 1992.....	Count 57
9341	<i>Apamea vultuosa</i> (Grt.) June 26, 1992.....	Count 1	9661	<i>Crambodes talidiformis</i> Gn. June 4–Sep. 9, 1989.....	Count 7
9364	<i>Apamea sordens</i> (Hufn.) June 12, 1989–June 26, 1992.....	Count 4	9662	<i>Balsa malana</i> (Fitch) June 15, 1988–Aug. 14, 1989.....	Count 6
9427	<i>Meropleon diversicolor</i> (Morr.) Aug. 21, 1989–Sep. 21, 1990.....	Count 31	9663	<i>Balsa tristrigella</i> (Wlk.) May 30, 1991–July 15, 1988.....	Count 94
9428	<i>Meropleon ambifuscum</i> (Newman) Sep. 9, 1989.....	Count 1	9664	<i>Balsa labecula</i> (Grt.) May 30, 1991–July 10, 1989.....	Count 19
9451	<i>Archanaera laeta</i> (Morr.) July 20, 1990.....	Count 1	9666	<i>Spodoptera frugiperda</i> (J.E. Smith) Sep. 7–Sep. 21, 1990.....	Count 3
9454	<i>Amphipoea velata</i> (Wlk.) July 10, 1989–July 27, 1990.....	Count 4	9681	<i>Elaphria festivoidea</i> (Gn.) June 12, 1989–July 3, 1992.....	Count 7
9457+	<i>Amphipoea americana</i> (Speyer) July 20, 1990–Aug. 21, 1992.....	Count 4	9688	<i>Galgula partita</i> Gn. June 1, 1988–Sep. 9, 1989.....	Count 16
9471	<i>Papaipema arctivirens</i> Hamp. Sep. 7–Sep. 21, 1990.....	Count 2	9689	<i>Perigea xanthioides</i> Gn. June 26, 1989–July 15, 1988.....	Count 6
9482	<i>Papaipema speciosissima</i> (G. & R.) Sep. 13, 1991–Sep. 24, 1988.....	Count 5	9690	<i>Condica videns</i> (Gn.) June 1, 1990–Aug. 21, 1989.....	Count 22
9483	<i>Papaipema iniquasita</i> (G. & R.) Aug. 26, 1988–Sep. 25, 1992.....	Count 8	9696	<i>Condica vecors</i> (Gn.) June 8, 1990–July 12, 1991.....	Count 5
9485	<i>Papaipema baptisiae</i> (Bird) Aug. 24, 1990–Sep. 13, 1991.....	Count 3	9720	<i>Ogdoconta cinereola</i> (Gn.) May 30–Sep. 13, 1991.....	Count 26
9486	<i>Papaipema birdi</i> (Dyar) Sep. 9, 1989–Sep. 25, 1992.....	Count 2	9725	<i>Stiriodes obtusa</i> (H.-S.) July 17, 1992.....	Count 1
9503	<i>Papaipema rigida</i> (Grt.) Sep. 13, 1991.....	Count 1	9815	<i>Cosmia calami</i> (Harv.) June 27, 1991–Aug. 7, 1992.....	Count 114
9505	<i>Papaipema cernsata</i> (Grt.) Sep. 21, 1990–Sep. 25, 1992.....	Count 4	9818	<i>Amolita fessa</i> Grt. June 20, 1991–July 24, 1992.....	Count 29
9523	<i>Bellura gortynoides</i> Wlk. July 31, 1989–Aug. 7, 1992.....	Count 5	9957	<i>Suñira bicolorago</i> (Gn.) Sep. 21, 1990–Sep. 25, 1992.....	Count 2
9525	<i>Bellura obliqua</i> (Wlk.) June 4–June 12, 1989.....	Count 6	9961	<i>Anathix ralla</i> (G. & R.) May 30, 1991–Sep. 25, 1992.....	Count 37
9545	<i>Euplexia benesimilis</i> McD. May 30, 1991–Aug. 14, 1989.....	Count 41	9962	<i>Anathix puta</i> (G. & R.) Sep. 2, 1989.....	Count 1
9546	<i>Phlogophora iris</i> Gn. June 22, 1988.....	Count 1	10005	<i>Feralia jocosca</i> (Gn.) July 3, 1992.....	Count 1
9547	<i>Phlogophora perichlosa</i> Gn. Aug. 14, 1989–Sep. 13, 1991.....	Count 12	10019	<i>Psaphida resmians</i> Wlk. May 7, 1989.....	Count 1
9551	<i>Enargia mephisto</i> Franc. June 20, 1991–June 22, 1990.....	Count 2	10033	<i>Catabena lineolata</i> Wlk. June 27, 1991–Aug. 7, 1992.....	Count 4
9555	<i>Ipimorpha pleonectus</i> a Grt. July 19, 1991–Sep. 9, 1989.....	Count 18	10059	<i>Homobadena badistriga</i> (Grt.) July 10, 1989–July 29, 1988.....	Count 3
9556	<i>Chytonix palliatricula</i> (Gn.) June 1, 1988–July 31, 1989.....	Count 37	10194	<i>Cucullia lucifuga</i> (D. & S.) July 8, 1988.....	Count 1
9578	<i>Hyppa xylinoides</i> (Gn.) June 8, 1988–Sep. 6, 1991.....	Count 13	10200	<i>Cnecilia asteroides</i> Gn. Aug. 7, 1989.....	Count 1
9618	<i>Phosphila turbulenta</i> Hbn. June 27–July 12, 1991.....	Count 6	10276	<i>Polia imbrifera</i> (Gn.) June 29, 1988–July 10, 1989.....	Count 5
9619	<i>Phosphila mischioides</i> (Gn.) June 19, 1989–July 12, 1991.....	Count 5	10288+	<i>Polia detracta</i> (Wlk.) May 30, 1991–Aug. 24, 1990.....	Count 393
9631	<i>Callopietria mollissima</i> (Gn.) June 12, 1992–Aug. 24, 1990.....	Count 21	10292	<i>Melanchnra adjuncta</i> (Gn.) June 1, 1988–Aug. 9, 1990.....	Count 2

- 10299 *Lacanobia subjuncta* (G. & R.)  
June 8, 1988..... Count 2
- 10300 *Spiramater grandis* (Gn.)  
June 26, 1989..... Count 1
- 10397 *Lacinipolia renigera* (Steph.)  
June 1, 1988–Sep. 25, 1992..... Count 55
- 10405 *Lacinipolia lorea* (Gn.)  
June 6, 1991–July 4, 1989..... Count 35
- 10436 *Aletia oxygala* (Grt.)  
May 30, 1991–Aug. 14, 1989..... Count 16
- 10438 *Pseudaletia unipuncta* (Haw.)  
May 14, 1989–Sep. 10, 1988..... Count 41
- 10440 *Leucania litata* Gn.  
July 19, 1991..... Count 1
- 10444+ *Leucania phragmatidicola* Gn.  
June 6–Sep. 13, 1991..... Count 9
- 10446+ *Leucania multilinea* Wlk.  
May 30–Aug. 30, 1991..... Count 23
- 10447 *Leucania commoides* Gn.  
July 20, 1990–Aug. 2, 1991..... Count 2
- 10461+ *Leucania ursula* (Fbs.)  
May 30, 1991–Aug. 27, 1992..... Count 41
- 10501 *Crocigrappa normani* (Grt.)  
May 18, 1988–June 8, 1990..... Count 5
- 10521 *Morrisonia confusa* (Hbn.)  
May 18, 1988–June 8, 1990..... Count 5
- 10521.1 *Morrisonia latex* (Gn.)  
June 6, 1991–July 6, 1990..... Count 12
- 10524 *Nephetodes minians* Gn.  
Aug. 21, 1989–Sep. 21, 1990..... Count 130
- 10532 *Homorthodes furfurata* (Grt.)  
June 20, 1991–July 31, 1992..... Count 6
- 10578 *Pseudorthodes vecors* (Gn.)  
June 1, 1988–Sep. 13, 1991..... Count 40
- 10585 *Orthodes crenulata* (Butler)  
Sep. 4, 1992..... Count 1
- 10587 *Orthodes cynica* Gn.  
May 30, 1991–July 22, 1988..... Count 97
- 10627 *Tricholitia signata* (Wlk.)  
Aug. 19–Sep. 10, 1988..... Count 15
- 10663 *Agrotis ipsilon* (Hufn.)  
June 8–Sep. 10, 1988..... Count 24
- 10674+ *Feltia subgotticha* (Haw.)  
July 29, 1988–Sep. 4, 1992..... Count 21
- 10676 *Feltia herilis* (Grt.)  
July 22, 1988–Sep. 21, 1990..... Count 152
- 10891 *Ochropleura plecta* (L.)  
May 18, 1988–Sep. 7, 1990..... Count 199
- 10903+ *Euagrotis illapsa* (Wlk.)  
June 12, 1989–Aug. 30, 1991..... Count 3
- 10915 *Peridroma saucia* (Hbn.)  
Aug. 21, 1989..... Count 1
- 10917 *Diarsia rubifera* (Grt.)  
Aug. 3, 1990–Aug. 27, 1992..... Count 2
- 10942.1+ *Xestia dolosa* Franc.  
May 30, 1991–Sep. 25, 1992..... Count 159
- 10943 *Xestia normaniana* (Grt.)  
Aug. 14, 1989–Sep. 25, 1992..... Count 51
- 10944 *Xestia smithii* (Snell.)  
Aug. 16, 1991–Sep. 25, 1992..... Count 90
- 10950+ *Xestia bicarnea* (Gn.)  
Aug. 2–Sep. 13, 1991..... Count 194
- 10955 *Xestia badinodis* (Grt.)  
Sep. 9, 1989–Sep. 25, 1992..... Count 5
- 10998 *Chloephora fungorum* G. & R.  
Sep. 2, 1989–Sep. 24, 1988..... Count 25
- 11006 *Protolampra brunneicollis* (Grt.)  
June 26, 1989–Sep. 10, 1988..... Count 31
- 11007+ *Eueretagrotes sigmoides* (Gn.)  
July 8–July 22, 1988..... Count 4
- 11010 *Heptagrotes phyllophora* (Grt.)  
June 26–July 24, 1989..... Count 15
- 11012 *Cryptocala acadensis* (Bethune)  
July 20, 1990..... Count 1
- 11029+ *Abagrotes alternata* (Grt.)  
July 12, 1991–Sep. 25, 1992..... Count 34
- 11068 *Helicoverpa zea* (Boddie)  
Sep. 9, 1989..... Count 1
- 11128 *Schinia arcigera* (Gn.)  
Aug. 9, 1990..... Count 1