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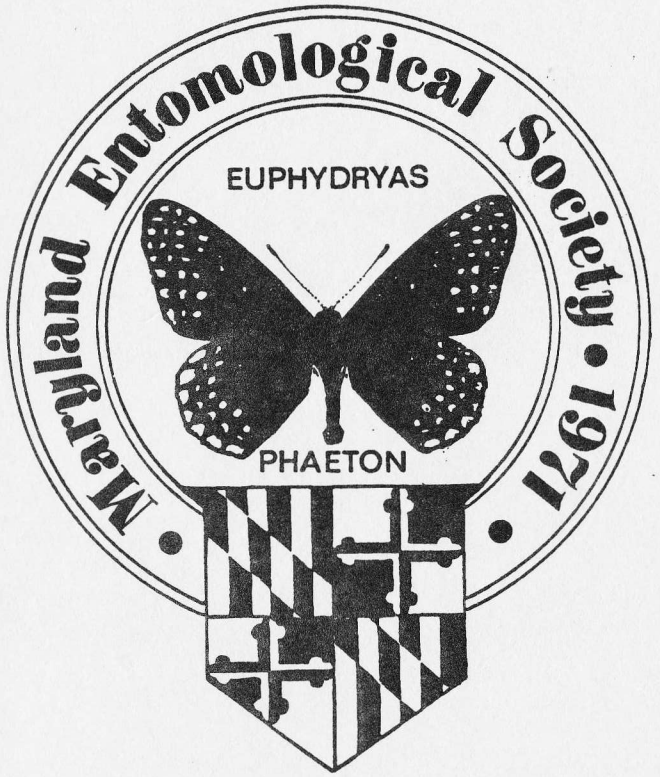

MARYLAND ENTOMOLOGIST

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MACROLEPIDOPTERA AT SOUTHAVEN, ANNE ARUNDEL COUNTY, MARYLAND.

H G STEVENSON
720 Riverview Terrace
Annapolis, MD 21401-7119

ABSTRACT

Five hundred and ninety nine species of macrolepidoptera were collected at Southaven during the six years 1985-1991. Several species new to Maryland were found, although what is new is open to question as no list presently exists. This list will be used as a base on which to add new species from additional areas and, hopefully, produce a list of macrolepidoptera recently collected in Maryland.

INTRODUCTION

No list of species of Macrolepidoptera (ML) that occur in the State of Maryland could be located in 1984. THE MOTH BOOK by Holland and Holland, the only reference available was, for the most part, merely discouraging.

The publication of FIELD GUIDE TO EASTERN MOTHS by C.V. Covell Jr in the fall of 1984 made it possible to identify ML with enough certainty to continue interest in moths. Southaven, my home seemed a good place to begin to learn about moths and perhaps create a list of species in this area.

PURPOSE

The purpose of this report is to present the results of collection during the six years 1985 through 1990. It should provide a list of species upon which further investigation can be based. It also provides a look at unexpected species and unsuspected variations in populations. Ultimately it is hoped to add the results of collection in other areas and habitats to provide a list of the species that have been found in the entire state.

METHODS

Southaven is a peninsula at the headwaters of the South River a tidal estuary on the western shore of the Chesapeake Bay five miles west of Annapolis, Anne Arundel County, Maryland. This site was chosen as it is convenient. HGS has lived here for 35 years and is familiar with the areas' other wildlife and residents who might cooperate in collecting. Varied hardwood and softwood trees, shrubs, wildflowers, and brackish marsh associations are present. The South River at this location varies from brackish to almost fresh water after heavy rains. Blacklight (U-V) was chosen as the only method of collection primarily for its simplicity and convenience for this initial study. Traps were designed that would encourage daily inspection and emptying by untrained and relatively disinterested people. In this manner four traps were put into commission at different sites in or adjacent to Southaven. Two traps, one in my cellar and the other outside the front door of a neighbor, have been operated

continuously during this period. Another was tended consistently for five years but has now been moved to another location. The remaining trap is emptied twice weekly but still produces adequate specimens.

Moths are killed with "Peststrip" installation in the trap. Those that cannot be spread immediately are stored in "Ziplock" bags or plastic half-pint food containers with lid. A dated label is added and the container placed in the freezer for later thawing and spreading.

After spreading the boards are placed in an insulated box heated with a forty watt (40w) bulb, of the type used in aquaria, for twenty four hours (24hr). The temperature remains at a steady 125 degrees and the humidity at or below 10%. It seems important not to exceed drying for more than 24 hours as the smaller specimens become too brittle. Large saturniids and sphinxes are dried for a longer period, usually two to three days, until it is felt they are sufficiently dessicated to remove. This system reduces the number of boards and space necessary to prevent backup of unprepared specimens.

RESULTS

The five hundred and ninety nine species have been identified at Southaven. Below they are listed in the taxonomic sequence of Hodges (1983). Unexpected or unusual species are designated by an asterisk and considered as not previously reported from Maryland. Parenthesis enclosing a number indicate a reference noted at the end of the paper. Brackets enclose the number of individual specimens.

Species collected less than four times are designated by year, month and day separated by a semicolon. Multiple captures are arranged with first capture and last capture separated by a hyphen. Where sufficient specimens were collected to indicate separate broods they are separated by a slant sign (/). Dates of occurrence in the same year, the month or day are separated by a comma (,).

All identifications have been made or confirmed by Drs. D. C. Ferguson or D. F. Schweitzer.

I am extremely grateful to Dr. D.C.Ferguson for his encouragement and interest (not to mention patience) in guiding my footsteps as I stumbled on the road to knowledge of moths. He visited and very kindly examined my collection and identified species in the areas of his particular interest.

Dr. Dale F. Schweitzer has been kind enough to share his time and expertise particularly in the area of noctuids. He also reviewed identifications disallowing some and finding others which resulted in a net gain of information (and species). Dale also introduced me to "baiting" which should result in better knowledge of certain groups of ML, Catocalas and early spring and winter emergers in particular.

It is essential that I thank my associates who have collected, sometimes with difficulty, over these years. Mr. James R. Chiles, Mr. James W. Cheevers and Mr. Tad Aereckson are great neighbors. Mr. Charles L. Staines and Ms. Gaye Williams of the Maryland Department

of Agriculture have been a source of tremendous encouragement and help.

Explanation of abbreviations

* unusual or interesting
*2 asterisk and number - see mention in COMMENTS at end of list
[##] brackets enclose number of individual specimens
( ) parenthesis enclose initials of person identifying or supplying additional information.

901001 (year, month, day) i.e. 1990, October 01.
single date as above designates date of first or only capture

901001,10 (,) comma separates dates of capture same month

901001,1102 (,) comma separates dates of capture same year different month

901001-901102 (-) hyphen separates dates of earliest and latest of multiple captures

901001;901102 (;) semicolon separates individual specimens different day, month or year

900425-0625/891001-1102 (/) separates dates of last and first capture of sufficient number of individuals to suspect separate broods

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Macrolepidoptera at Southaven, Anne Arundel County, Maryland:
A six year study

GENUS	SPECIES	HODGES NO.	SOUTHAVEN
	----THYATIRIDAE----		
Euthyatira	pudens (Gn.)	6240	880418-870429 [9]
Euthyatira	p. pennsylvanica Sm.	6240	860426
	----DREPANIDAE----		
Drepana	arcuata Wlk.	6251	850417
Eudeilinea	herminiata (Gn.)	6253	850609;870609;870725
Oreta	rosea (Wlk.)	6255	870519-860929
	----GEOMETRIDAE----		
	--Oenochrominae--		
Alsophila	pometaria (Harr.)	6258	910120
	--Ennominae--		
Heliomata	cycladata G.& R.	6262	910430-0608
Protitame	virginalis (Hulst)	6270	880417-860728
Itame	pustularia (Gn.)	6273	890615-870705
Mellila	xanthometata (Wlk.)	6322	870626
Semiothisa	aemulataria (Wlk.)	6326	860404-900924
Semiothisa	promiscuata Fgn.	6331	910612;860706,09
Semiothisa	transitaria (Hbn.)	6339	860604-0814
Semiothisa	bicolorata (F.)	6341	900512-900924
Semiothisa	bisignata (Wlk.)	6342	860505;850621
Semiothisa	fissinotata (Wlk.)	6348	870511-860909
Semiothisa	granitata (Gn.)	6352	910407-0521/0903-21
Semiothisa	multilineata (Pack.)	6353	850506-860820
Semiothisa	continuata (Wlk.)	6362	910328-860826
Semiothisa	ocellinata (Gn.)	6386	910327-860820
Semiothisa	gnosphosaria (Gn.)	6405	860709-870802
Hypomecis	umbrosaria (Hbn.)	6439	850330-860720
Glena	cribrataria (Gn.)	6449	860505-850813
Aethalura	intertexta (Wlk.)	6570	900402;880421
Anacamptodes	vellivolata (Hulst)	6582	860404-850916
Anacamptodes	humaria (Gn.)	6584	860404-0909
Anacamptodes	defectaria (Gn.)	6586	900312-1103
Iridopsis	larvaria (Gn.)	6588	860426-850903
Anavitrinella	pampinaria (Gn.)	6590	870420-860916
Cleora	sublunaria (Gn.)	6594	900424
Cleora	projecta (Wlk.)	6595	850406
Ectropis	crepuscularia (D&S)	6597	900314-851109
Protobarmia	porcelaria (Gn.)	6598	870826-0910 [5]
Epimecis	hortaria (F.)	6599	900314-871020
Melanophia	canadaria (Gn.)	6620	900318-0526/0809-1101
Melanophia	signataria (Wlk.)	6621	870417-0517
Biston	betularia (L.)	6640	860510-0913
Hypagyrtis	unipunctata (Haw.)	6654	900423-0816
Hypagyrtis	esther (Barnes)	6655	860523-0903
Phigalia	titea (Cram.)	6658	890315-0409
Phigalia	denticulata Hulst	6659	890129-910404
Phigalia	strigitaria (Minot)	6660	910121-0315
Paleacrita	merricata Dyar	6663	870307
Lomographa	vestaliata (Gn.)	6667	900315-890704
Thysanopygea	intractata (Wlk.)	6711	900314-841231

Macrolepidoptera at Southaven, Anne Arundel County, Maryland:
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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Lytrosis	unitaria (H.-S.)	6720	870606-880621
Lytrosis	sinuosa Rindge	6721	870609
Euchlaena	serrata (Dru.)	6724	880623
Euchlaena	obtusaria (Hbn.)	6726	910515D-870821
Euchlaena	amoenaria (Gn.)	6733	850512-890805
Euchlaena	irraria (B.& McD.)	6739	910524-910904
Xanthotype	urticaria Swett	6740	850518-860814
Xanthotype	sospeta (Dru.)	6743	850513-860926
Pero	zalissaria (Wlk.)	6752	880524;910907
Pero	hubneraria (Gn.)	6754	910409-0826
Nacophora	quernaria (J.E.Sm.)	6763	900413-860601
Campaea	perlata (Gn.)	6796	850512-911011
Ennomos	magnaria Gn.	6797	871030 [3]
Homochlodes	fritillaria (Gn.)	6812	900714
Selenia	kentaria (G.& R.)	6818	860404-04220/0712-0801
Metarranthis	duaria (Gn.)	6822	860628
Metarranthis	angularia B.& McD.	6823	870607-28
Metarranthis	indeclinata (Wlk.)	6825	890528;900529
Metarranthis	hypochraria (H.-S.)	6826	900530-850707
Metarranthis	homuraria (Grt.&Rob.	6828	900421-880806
Metarranthis	obfirmaria (Hbn.)	6832	900425
Cepphis	decoloraria (Hulst)	6834	890519
Probole	alienaria H-S.	6837	850329-0602/870705-0824
Probole	amicaria (H.-S.)	6838	900519-900806
Plagodis	fervidaria (H.-S.)	6843	900422-870522/870629-860716
Plagodis	alcoolaria (Gn.)	6844	910405-0525
Caripeta	aretaria (Wlk.)	6869	860903;880830
Besma	endropiaria (G.& R.)	6884	860601-11
Besma	quercivoraria (Gn.)	6885	850420-0815
Lambdina	pellucidaria (G.&R.)	6889	900314-860531
Lambdina	fervidaria (Hbn.)	6894	850405-860807
Sicya	macularia (Harr.)	6912	900713
Eusarca	confusaria Hbn.	6941	850405-0920
Tetracis	crocellata Gn.	6963	900502-30/860620-0809
Tetracis	cachexiata Gn.	6964	910511-0609
Eutrapela	clemataria (J.E.Sm.)	6966	900314-870722
Patalene	olyzonaria (Wlk.)	6974	910517-871104
Procherodes	transversata (Dru.)	6982	860624-851106
Antepione	thiosaria (Gn.)	6987	870712;900724
Nematocampa	limbata (Haw.)	7009	900718
	--Geometrinae--		
Nemoria	lixaria (Gn.)	7033	900520;890901,27;901005
Nemoria	saturiba Fgn.	7034	860421;0706
Nemoria	bistriaria Hbn.	7046	850329-870504/880530-860814
Dichorda	iridaria (Gn.)	7053	910515-850916
Synchlora	aerata (F.)	7058	860624-851003
Chlorochlamys	chloroleucaria (Gn.)	7071	860508;880521
Chloropteryx	tepperaria (Gn.)	7075	900501-870828 [5]
Hethemia	pistasciaria (Gn.)	7084	870418-870622
	--Sterrhinae--		

Macrolepidoptera at Southhaven, Anne Arundel County, Maryland:
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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Lobocleta	ossularia (Gey.)	7094	860623
Idaea	furciferata (Pack.)	7108	860620-870624
Idaea	obfusaria (Wlk.)	7123	870618-850718
Pleuropucha	insularia (Gn.)	7132	860628-1114
Cyclophora	packardi (Prout)	7136	860427-0923
Cyclophora	pendulinaria (Gn.)	7139	860606-870623,24,25
Haematopis	grataria (F.)	7146	870603-900927
Scopula	limboundata (Haw.)	7159	900519-860912
Scopula	junctaria (Wlk.)	7164	900623-0903
Scopula	inductata (Gn.)	7167	870623-860904
	--Larentiinae--		
Eulithis	diversilineata (Hbn.	7196	850620-911008,10,11
Eulithis	gracilineata (Gn.)	7197	860616-1009
Ecliptoptera	atricolorata (G.&R.)	7214	820628
Hydriomena	renunciata (Wlk.)	7236	860402-30
Hydriomena	transfigurata Swett.	7237	860402-29
Hydriomena	pluviata (Gn.)	7239	880410-860502
Coryphista	meadii (Pack.)	7290	880507-860520
Hydria	prunivorata (Fgn.)	7292	910510;900525-850704
Anticlea	vasiliata Gn.	7329	900314;860401
Anticlea	multiferata (Wlk.)	7330	870501-890520
Xanthorhoe	lacustrata (Gn.)	7390	890315-0418/860803-1025
Orthonama	obstipata (F.)	7414	890215-861108
Orthonama	centrostrigaria (Wol	7416	910323-881121
Disclistoprocta	stellata (Gn.)	7417	860901-1121
Eubaphe	mendica (Wlk.)	7440	900519-0921
Eubaphe	meridiana (Slosson)	7441	890721;860913
Horisme	intestinata (Gn.)	7445	860906
Eupithecia	miserulata Grt.	7474	850907-1030
Eupitheia	herefordaria C. & S.	7509	860316,26
Cladara	limitaria (Wlk.)	7637	860414-850502
Cladara	anguilinieata (G&R)	7638	860429
Lobophora	nivigerata Wlk.	7640	900420;880512,14
Heterophleps	triguttaria H.-S.	7647	910512
Dyspteris	abortivaria (H.-S.)	7648	910429-900901
	----EPIPLEMIDAE----		
Calledapteryx	dryoptera Grt.	7653	910531-910902
	----MIMALLONIDAE----		
Lacosoma	chiridota Grt.	7659	860613-900627
	----APATELODIDAE----		
Apatelodes	torrefacta (J.E.Sm.)	7663	860601-0724
Olceclostera	angelica (Grt.)	7665	890718-860726 [7]
	----LASIOCAMPIDAE---		
Tolype	velleda (Stoll)	7670	870927-871019
Tolype	laricis (Fitch)	7673	870913 (DFS)
Tolype	notialis Franc.	7674	890724;890920
Artace	cribraria (Ljungh)	7683	880702-1003
Phyllodesma	americana (Harr.)	7687	900314,0425;910423;890428
Malacosoma	disstria Hbn.	7698	860603-880613
Malacosoma	americanum (F.)	7701	900519-0613;910705

Macrolepidoptera at Southhaven, Anne Arundel County, Maryland:
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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
	----SATURNIIDAE----		
	--Citheroniinae--		
Eacles	imperialis (Dru.)	7704	860714-0806
Citheronia	regalis (F.)	7706	910627-880815
Dryocampa	rubicunda (F.)	7715	850424-890901
Anisota	stigma (F.)	7716	880713
Anisota	virginiensis (Dru.)	7723	880528-870814
	--Hemileucinae--		
Automeris	io (F.)	7746	870526-0825
	--Saturniinae--		
Antheraea	polyphemus (Cram.)	7757	900421-860804
Actias	luna (L.)	7758	880423-910805
Callosamia	promethea (Dru.)	7764	850610;910613
Callosamia	angulifera (Wlk.)	7765	900513-890906 [+]
Hyalophora	cecropia (L.)	7767	870625 MF IN COPULO
	----SPHINGIDAE----		
	--Sphinginae--		
Agrius	cingulatus (F.)	7771	881001
Manduca	sexta (L.)	7775	910715;870729;880711;890624
Manduca	quinquemaculata (Haw	7776	890701;880818,0914
Dolba	hyloeus (Dru.)	7784	910515-880808 [5]
Ceratomia	undulosa (Wlk.)	7787	890428,850612,870812
Ceratomia	catalpae (Bdv.)	7789	890623-870822
Paratrea	plebeja (F.)	7793	870529-860906
Lapara	coniferarum(J.E.Sm.)	7816	870517-860813
Lapara	bombycoides Wlk.	7817	890610
Paonias	excaecaetus (J.E.Sm.	7824	880523-860821
Paonias	myops (J.E. Sm.)	7825	890508-860904
Paonias	astylus (Dru.)	7826	900623,30,0709;880712,27
Laothoe	juglandis (J.E. Sm.)	7827	890514-870715
	--Macroglossinae--		
Eumorpha	pandorus (Hbn.)	7859	910610;900627;890707;880713
Sphecodina	abbottii (Swainson)	7870	890604;900609,0627
Deidamia	inscripta (Harr.)	7871	880417-0605
Amphion	floridensis BP Clark	7873	910705(UV);870713 (Bait)
Darapsa	myron (Cram.)	7885	860519-880923
Darapsa	pholus (Cram.)	7886	860501-870802
Xylophanes	tersa (L.)	7890	860813
Hyles	lineata (F.)	7894	860709;890718,22;880825
	----NOTODONTIDAE----		
Clostera	albosigma Fitch	7895	890525,0718,22;910831
Clostera	inclusa (Hbn.)	7896	880417-870826
Datana	ministra (Dru.)	7902	850528-860819
Datana	angusii G. & R.	7903	860518-870823
Datana	drexelii Hy. Edw.	7904	900525-870801
Datana	major G. & R.	7905	880528-850724
Datana	contracta Wlk.	7906	850605-860820
Datana	integerrima G. & R.	7907	850621-860808
Datana	perspicua G.& R.	7908	880622-880722
Nadata	gibbosa (J.E.Sm.)	7915	880417-860915

Macrolepidoptera at Southaven, Anne Arundel County, Maryland:
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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Hyperaeschra	georgica (H.-S.)	7917	900410-870809
Peridea	angulosa (J.E.Sm.)	7920	870529-870917
Peridea	ferruginea (Pack.)	7921	880626-0901
Nerice	bidentata Wlk.	7929	860508-870822
Glupnisia	septentrionis Wlk.	7931	860516-870915
Furcula	borealis (Guer.)	7936	890617-890817
Furcula	cinerea (Wlk.)	7937	870619-0903
Symmerista	albifrons (J.E.Sm.)	7951	910324-870815
Dasylophia	anguina (J.E.Sm.)	7957	880502-860916
Dasylopha	thyatiroides (Wlk.)	7958	860527;900606
Misogada	unicolor (Pack.)	7974	850521-891001
Macrurocampa	marthesia (Cram.)	7975	860516-860910
Heterocampa	obliqua Pack.	7983	0516-0828
Heterocampa	umbrata Wlk.	7990	900602-870823
Heterocampa	guttivitta (Wlk.)	7994	850509-871002
Heterocampa	biundata Wlk.	7995	850509-871002
Lochmaeus	manteo Doubleday	7998	870531-850914
Lochmaeus	bilineata Wlk.	7999	910515-0827
Schizura	ipomoeae Doubleday	8005	850506-0825
Schizura	i.(telifer) (Grt.)	8005	850506-860825
Schizura	i.cinereofrons (Pack	8005	850529-870827
Schizura	badia (Pack.)	8006	880611-910823
Schizura	unicornis (J.E.Sm.)	8007	880417-860920
Schizura	concinna (J.E.Sm.)	8010	870710,0814,15
Schizura	leptinoides (Grt.)	8011	880523-0827
Oligocentra	semirufescens (Wlk.)	8012	850607-870909
Oligocentra	lignicolor (Wlk.)	8017	880513-870914
Hyparpax	aurora (J.E.Sm.)	8022	850706-870729 [6]*90,91 none
	----ARCTIIDAE----		
	--Lithosiinae--		
Crambidia	lithosioides Dyar	8045	880825
Crambidia	pallida Pack.	8045.1	850916;870917
Crambidia	uniformis Dyar	8046	870624;850627,0701
Cisthene	tenuifascia Harv.	8066	910613
Cisthene	plumbea Stretch	8067	890604-860626;0815-0914
Cisthene	packardii (Grt.)	8072	850830;870815
Hypoprepia	miniata (Kby.)	8089	850703-860820
Hypoprepia	fucosa Hbn.	8090	910608-890912
Clemensia	albata Pack.	8098	910515-0906
Comachara	cadburyi Franc.	8104	890430;870512
	--Arctiinae--		
Haploa	clymene (Brown)	8107	880623-860716
Holomelina	opella (Grt.)	8118	900520-860926
Holomelina	aurantiaca (Hbn.)	8121	890901-880928
Holomelina	ferruginosa (Wlk.)	8123	880808 [2],19
Pyrrnarctia	isabella (J.E.Sm.)	8129	900424-891013
Estigmene	acrea (Dru.)	8131	890608;880805
Spilosoma	latipennis Stretch	8133	910531-0630
Spilosoma	congrua Wlk.	8134	900415-860820
Spilosoma	virginica (F.)	8137	900415-860925

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Hyphantria	cunea Dru.	8140	860429-0827
Ecpantheria	scribonia (Stoll)	8146	910611-880708
Apantesis	phalerata (Harr.)	8169	870529-890918 [6]
Apantesis	nais (Dru.)	8171	890426-850615/900718-910925
Apantesis	carlotta Fgn.	8171.1	890719,0901;860726;870817
Grammia	anna (Grt.)	8176	910530-900704
Grammia	figurata (Dru.)	8188	850523-890810 [7]
Grammia	virgo (L.)	8197	900808;890823,25
Grammia	arge (Dru.)	8199	850331-1015
Halysidota	tessellaris (J.E.Sm.	8203	850516-870905
Cycnia	tenera Hbn.	8230	850508-860924
Cycnia	oregonensis (Stretch	8231	860520;890619
Euchaetes	egle (Dru.)	8238	900605-870813
	--Ctenuchinae--		
Cisseps	fulvicollis (Hbn.)	8267	900428-901022
	----LYMANTRIIDAE--		
Dasychira	tephra Hbn.	8292	850516-870830 [7]
Dasychira	basiflava (Pack.)	8296	890609-880815
Dasychira	atrivenosa (Palm.)	8299	*1 870604-0908 [13]
Dasychira	obliquata (G. & R.)	8302	900614-850829
Dasychura	manto (Stkr.)	8307	870524,29,0605;900803,08
Orgyia	definita Pack.	8314	0917-0930
Orgyia	leucostigma (JE Sm.)	8316	0719-1110
Lymantria	dispar (L.)	8318	910610-860712
	----NOCTUIDAE----		
	--Herminiinae--		
Idia	americalis (Gn.)	8322	890422-851103
Idia	aemula (Hbn.)	8323	860507-1112
Idia	rotundalis (Wlk.)	8326	870607-861001
Idia	forbesi (French)	8327	860618;870604
Idia	julia (B. & McD.)	8328	850809-870910
Idia	scobialis (Grt.)	8330	880811
Idia	lubricalis (Gey.)	8334	910615-0906
Phalaenophana	paramusalis (Wlk.)	8338	900425-880527 [5]
Zanclognatha	lituralis (Hbn.)	8340	870515-890808
Zanclognatha	obscuripennis (Grt.)	8347	860602-870831
Zanclognatha	pedipilalis (Gn.)	8348	870515-860727
Zanclognatha	cruralis (Gn.)	8351	850514-880907
Zanclognatha	jacchusalis (Wlk.)	8352	870529-860929
Chytolita	morbidalis (Gn.)	8355	910517-890616
Chytolita	petrealis Grt.	8356	850430-860526
Phalaenostola	metonalis (Wlk.)	8362	850804
Phalaenostola	larentioides Grt.	8364	900724-870915
Tetanolita	mynesalis (Wlk.)	8366	870522-861027
Tetanolita	floridana (Sm.)	8368	870522-860909
Bleptina	caradrinalis Gn.	8370	860520-870904
Hypenula	cacuminalis (Wlk.)	8376	870704-0825
Renia	discoloralis Gn.	8381	870618-850906
Renia	fraternalis Sm.	8385	880729;870806
Renia	adspergillus (Bosc.)	8386	850609-0927 [5]

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Renia	sobrialis (Wlk.)	8387	870522
Lascoria	ambigualis Wlk.	8393	910407F-860704
Palthis	angulalis (Hbn.)	8397	860427-850917
Palthis	asopialis (Gn.)	8398	850516-861109
	--Rivulinae--		
Rivula	propinqualis Gn.	8404	890707
	--Hypenodinae--		
Colobochyla	interpuncta (Grt.)	8411	870812
	--Hypeninae--		
Bomolocha	manalis (Wlk.)	8441	870515-890905
Bomolocha	baltimoralis (Gn.)	8442	900410-860923
Bomolocha	bijugalis (Wlk.)	8443	850419-870909
Bomolocha	palparia (Wlk.)	8444	860526-0815
Bomolocha	abalienalis (Wlk.)	8445	870524-890720;910819
Bomolocha	madefactalis (Gn.)	8447	870515-0814
Bomolocha	sordidula (Grt.)	8448	910803
Hypena	humuli Harr.	8461	850406 (DCF)
Plathypena	scabra (F.)	8465	900202-861126
Spargaloma	sexpunctata Grt.	8479	910605-0906
Phytometra	rhodarialis (Wlk.)	8481	870525
	--Catocalinae--		
Pangrapta	decoralis Hbn.	8490	890602-860831
Ledaea	perditalis (Wlk.)	8491	910621;890704
Isogona	tenuis (Grt.)	8493	910525-880810 [8]
Metalectra	discalis (Grt.)	8499	870515-860824
Metalectra	quadrisignata (Wlk.)	8500	870515-900708
Metalectra	richardsi Brower	8505	870803 (DFS)
Scoleocampa	liburna (Gey.)	8514	910607-850921
Phyprosopus	callitrichiodes Grt.	8525	850507-860906
Hypsoropha	hormos (Hbn.)	8528	850507-0826
Plusiodonta	compressipalpis Gn.	8534	880612-870915
Anomis	erosa Hbn.	8545	900907;910902,16;1004 *
Anomis	commoda Butler	8547	900425-911005
Scoliopteryx	libatrix (L.)	8555	910707-890924
Anticarsia	gemmatalis Hbn.	8574	910915-891114
Panopoda	rufimargo (Hbn.)	8587	850427-0721
Panopoda	carneicosta Gn.	8588	870605-890812
Phoberia	atomaris Hbn.	8591	910305-870418
Lesmone	detrahens (Wlk.)	8651	860525-870910
Zale	lunata (Dru.)	8689	900317-851115
Zale	galbanata (Morr.)	8692	850405-880923
Zale	aeruginosa (Gn.)	8694	900317-870801
Zale	undularis (Dru.)	8695	870514-880718
Zale	minerea (Gn.)	8697	870418-880710
Zale	submediana Strand	8702	880421
Zale	helata (Sm.)	8704	860525-850705
Zale	bethunei (Sm.)	8705	900314-860627
Zale	metatoides McD.	8707	860601-880704 [5]
Zale	metata (Sm.)	8708	900410-860704
Zale	unilineata (Grt.)	8716	890403-890514

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Zale	horrida Hbn.	8717	870418-870922
Euparthenos	nubilis (Hbn.)	8719	850406-911008
Allotria	elonympha (Hbn.)	8721	900429-860911
Parallelia	bistriaris Hbn.	8727	880417-850812
Euclidea	cuspidea (Hbn.)	8731	860502
Caenurgina	crassiuscula (Haw.)	8738	900314-870925
Caenurgina	erechtea (Cram.)	8739	880614-911008
Mocis	latipes (Gn.)	8743	850914;910923
Mocis	texana (Morr.)	8745	900425-880908
Celiptera	frustulum Gn.	8747	880506-850922
Catocala	innubens Gn.	8770	890810
Catocala	piatrix Grt.	8771	910811;850911-841020 ;910913
Catocala	epione (Dru.)	8773	880622,0709;860718
Catocala	flebilis Grt.	8782	880825;861004
Catocala	vidua (J.E.Sm.)	8792	860808-901010
Catocala	lachrymosa Gn.	8794	890803;910815
Catocala	paleogama Gn.	8795	880718-900820
Catocala	nebulosa Edw.	8796	880729
Catocala	neogama (J.E.Sm.)	8798	860802;910914
Catocala	ilia "conspicua"	8801	910625
Catocala	ilia (Cram.)	8801	890615-880907
Catacola	cara Gn.	8832	890913
Catocala	gracilis Edw.	8847	860710;870725
Catocala	andromedae (Gn.)	8849	860705;880720 [2]
Catocala	ultronia (Hbn.)	8857	910612-0804
Catocala	grynea (Cram.)	8864	870625-880719
Catocala	connubialis Gn.	8877	880724
Catocala	amica (Hbn.)	8878	880710-880818
Catocala	lineella Grte.	8878.1	890622,28;880805
	--Plusiinae--		
Abrostola	ovalis Gn.	8880	850729
Trichoplusia	ni (Hbn.)	8887	880827-0926
Agrapha	oxygramma (Gey.)	8889	910811-851030 [9]
Pseudoplusia	includens (Wlk.)	8890	900617 [1]; 850829-1102
Rachiplusia	ou (Gn.)	8895	870429(DCF)
Allographa	aerea (Hbn.)	8898	850512-860929
Chrysanympha	formosa (Grt.)	8904	910621
Autographa	bilba (Steph.)	8907	850405-850913
Autographa	precationis (Gn.)	8908	910326,0404-881108
Anagrapha	falcifera (Kby.)	8924	850405-861110
	--Euteliinae--		
Marathyssa	inficita (Wlk.)	8955	910527-0826
Marathyssa	basalis Wlk.	8956	850502-880607
Paectes	occulatrix (Gn.)	8957	850502-880909
Paectes	pygmaea Hbn.	8959	880615-870725
Paectes	abrostoloides (Gn.)	8962	880408-881019
Eutelia	pulcherrima (Grt.)	8968	900513;890523;870529
	--Sarrothripinae--		
Baileya	doubledayi (Gn.)	8969	850420,0502;890522;870828
Baileya	ophthalmica (Gn.)	8970	850415-880615

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Baileya	dormitans (Gn.)	8971	850516;870515;880518;890710
Baileya	levitans (Sm.)	8972	890417-860606
Baileya	australis (Grt.)	8973	900515-860624
	--Nolinae--		
Meganola	minuscula (Zell.)	8983	860408-900815
	--Acontiinae--		
Oruza	albocostaliata (Pack	9025	850617;860707;900828
Ozarba	aeria (Grt.)	9030	850907
Hyperstrotia	secta (Grt.)	9040	890726
Thioptera	nigrofimbria (Gn.)	9044	890508-850911
Lithacodia	muscosula (Gn.)	9047	900519-890822
Lithacodia	synochitis (G. & R.)	9049	850507-880605
Lithacodia	musta (G.& R.)	9051	890619;900806
Lithacodia	carneola (Gn.)	9053	900502-0925
Homophoberia	cristata Morr.	9056	850621;900718,20
Homophoberia	apicosa (Haw.)	9057	900520-860922
Cerma	cerintha (Tr.)	9062	850521-860702
Leuconycta	diptheroides (Gn.)	9065	850510-860714
Amyna	octo (Gn.)	9070	860917,1002;901001;911029
Tarachida	candefacta (Hbn.)	9090	890525-900815
Tarachidia	erastrioides (Gn.)	9095	860626-900823
Spragueia	dama (Gn.)	9122	*2 900723-890912 [12]
Spragueia	leo (Gn.)	9127	#2 910531-890901
Spragueia	apicalis (H.-S.)	9131	*2 890607,0717
Acontia	terminimaculata (Grt	9145	910527;0604,23,24;0709
	--Pantheinae--		
Panthea	furcilla (Pack.)	9182	900404-860905
Calocasia	flavicornis (Sm.)	9184	860409-900815
Charadra	deridens (Gn.)	9189	880502-900825
Raphia	abrupta Grt.	9192	860814
Raphia	frater Grt.	9193	860525;880614;870705
	--Acronictinae--		
Acronicta	rubricoma Gn.	9199	900614
Acronicta	americana (Harr.)	9200	900504-870913
Acronicta	betulae Riley	9208	870615;860805
Acronicta	radcliffei (Harv.)	9209	910516-870909
Acronicta	connecta Grt.	9219	880521;900719
Acronicta	vinnula (Grt.)	9225	850809;880804
Acronicta	laetifica Sm.	9227	870519-880905
Acronicta	hasta Gn.	9229	880420-880810
Acronicta	morula G.& R.	9236	860808;880813,25
Acronicta	interrupta Gn.	9237	900428-0915
Acronicta	lobeliae Gn.	9238	860428-880724
Acronicta	fragilis (Gn.)	9241	860520-880724
Acronicta	exilis Grt.	9242	850506-870801
Acronicta	ovata Grt.	9243	870610-850612
Acronicta	modica Wlk.	9244	850425;860616
Acronicta	haesitata (Grt.)	9245	850314-880913
Acronicta	clarescens Gn.	9246	850611
Acronicta	inclara Sm.	9250	880515-0619

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Acronicta	retardata (Wlk.)	9251	880523-870801
Acronicta	afflicta Grt.	9254	850529-880819
Acronicta	impleta Wlk.	9257	880417-880825
Acronicta	lithospila Grt.	9266	850521-870821
Acronicta	oblinita (J.E.Sm.)	9272	850720-890826
Simyra	henrici (Grt.)	9280	880513;890808,17,24
Agriopodes	fallax (H.-S.)	9281	910515-860915
Polygrammate	hebraeicum Hbn.	9285	910509-0821
Harrisimemna	trisignata (Wlk.)	9286	880619,860822
	--Agaristinae--		
Eudryas	unio (Hbn.)	9299	850611
Eudryas	grata (F.)	9301	910527-850825
	--Amphipyrinae--		
Apamea	cariosa (Gn.)	9329	900618;880630
Apamea	vulgaris (G. & R.)	9332	850528;880607
Apamea	apamiformis (Gn.)	9343	850711;890805
Luperina	passer (Gn.)	9391	850919 (specimen lost)
Oligia	modica (Gn.)	9404	900815-850930
Oligia	fractilinea (Grt.)	9406	860917
Oligia	crytora (Franc.)	9410	880530-0611
Meropleon	titan Todd	9426	*3 910918-881016 [24]
Meropleon	diversicolor (Morr.)	9427	*3 890913-850927
Archanara	oblonga (Grt.)	9449	900703;890717
Macronoctua	onusta Grt.	9452	900922-881023
Amphipoea	velata (Grt.)	9454	900615 (DFS)
Parapamea	buffaloensis (Grt.)	9463	850908;860926
Papaipema	duovata (Bird)	9465	901005-861022
Papaipema	cataphracta (Grt.)	9466	1015-1101
Papaipema	araliae Bird & Jones	9470	890828;850918;861002
Papaipema	arctivorens Hamp.	9471	860823-850920
Papaipema	impecuniosa (Grt.)	9473	901020;861022
Papaipema	inquaesita (G. & R.)	9483	860810-1019
Papaipema	rutila (Gn.)	9484	880907-861005 [13]
Papaipema	baptisiae (Bird)	9485	880909-900920
Papaipema	birdi (Dyar)	9486	850917;900917,880920
Papaipema	marginidens (Gn.)	9492	880905-1105
Papaipema	furcata (Sm.)	9495	850916,22;891002;861022
Papaipema	nebris (Gn.)	9496	860913-881023
Papaipema	cerussata (Grt.)	9505	880921-901023 NONE 90,91
Achatodes	zeae (Harr.)	9520	910617;900702
Iodopepla	u-album (Gn.)	9522	870530
Bellura	brehmei (B.& McD.)	9524	900425-0602 [8]
Bellura	obliqua (Wlk.)	9525	900526-900725
Bellura	densa (Wlk.)	9526	870704-0801
Euplexia	benesimilis McD.	9545	900428-900728
Phlogophora	periculosa Gn.	9547	860910-1025
Chytonix	palliatricula (Gn.)	9556	900425-0901 (iaspis 900518)
Dipterygia	rozmani Berio	9560	890607-910918
Nedra	ramosula (Gn.)	9582	910320;900428-1105
Phosphila	turbulenta Hbn.	9618	860519-870820

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Phosphila	miselioides (Gn.)	9619	850507-870830
Callopistria	mollissima (Gn.)	9631	880530-890827
Callopistria	cordata (Ljungh)	9633	890624
Magusa	orbifera (Wlk.)	9637	870921 *
Amphipyra	pyramidoides Gn.	9638	890630-1104
Proxenus	miranda (Grt.)	9647	860510
Anathordes	tarda (Gn.)	9650	850422-0907
Crambodes	talidiformis Gn.	9661	890713
Balsa	malana (Fitch)	9662	850425;870511,19
Balsa	tristrigella (Fitch)	9663	880505,22,26
Balsa	labecula (Grt.)	9664	850502-0617
Spodoptera	exigua (Hbn.)	9665	870914; 851026
Spodoptera	frugiperda (J.E.Sm.)	9666	850913-861022
Spodoptera	ornithogalli (Gn.)	9669	890317-871103
Elaphria	versicolor (Grt.)	9678	900425-880909
Elaphria	festivoides (Gn.)	9681	900416-860922
Elaphria	grata Hbn.	9684	910327-0927
Galgula	partita Gn.	9688	910321-901020
Perigea	xanthioides Gn.	9689	910524-0826 [6]
Platysenta	videns (Gn.)	9690	870512-0914
Platysenta	mobilis (Wlk.)	9693	850816-861026 (6)
Platysenta	vecors (Gn.)	9696	860425-881002
Platysenta	sutor (Gn.)	9699	850824,1103;911010
Condica	cupentia (Cram.)	9713	910829 *
Ogdoconta	cinereola (Gn.)	9720	870519-901010
Stiriodes	obtusa (H.-S.)	9725	890604-880827
Plagiomimicus	pityochromus Grt.	9754	910820,21,23[2],25,26 [6]
Cirrhophanus	triangulifer Grt.	9766	910804-880907 [9]
Basilodes	pepita Gn.	9781	880830-870914 [13] (89,90=0)
Cosmia	calami (Harv.)	9815	890624
Lithophane	patefacta (Wlk.)	9886	910222;880417;870421
Lithophane	disposita Morr.	9892	890417
Lithophane	signosa (Wlk.)	9895	850320
Lithophane	antennata (Wlk.)	9910	900223-900425/881015,19
Lithophane	grotei (Lint.)	9915	900317;901103,07,09;861204
Lithophane	unimoda (Lint.)	9916	880303;870308;901122
Pyreferra	hesperidago (Gn.)	9929	870307;910321
Pyreferra	citromba Franc.	9930	880324
Eupsilia	vinulenta (Grt.)	9933	890119-910404/881106-1122
Eupsilia	cirripalea Franc.	9934	870307;900314,1023
Eupsilia	morrisoni (Grt.)	9936	880202 UV;910301 Bait
Sericaglaea	signata (French)	9941	900222-0420;861025,28
Xystopepla	rufago (Hbn.)	9942	910321;900410
Metaxaglaea	inulta (Grt.)	9943	*4 860923-881116
Metaxaglaea	viatica (Grt.)	9944	*4 861006-871109
Metaxaglaea	semitaria Franc.	9945	*4 881010-891111
Metaxaglaea	australis Schweitzer	9945.1	*4 851024-1106
Metaxaglaea	violacea Schweitzer	9945.2	*4 851024-861210
Epiglaea	decliva (Grt.)	9946	911015-891030
Chaetaglaea	tremula (Harv.)	9949	891030;861109 (DCF)

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GENUS	SPECIES	HODGES NO.	SOUTHAVEN
Chaetaglaea	sericea (Morr.)	9950	871012-881128
Eucirroedia	pampina (Gn.)	9952	911006-881116 [17]
Sunira	bicolorago (Gn.)	9957	910930-861210
Anathix	ralla G.& R.	9961	880911-871030
Xylotype	capax (Grt.)	9979	871016;881024
Eutolype	rolandi (Grt.)	10014	880312,24;910317
Psaphida	resumens Wlk.	10019	870312-0501
Homohadena	infixa (Wlk.)	10065	880618,23
Cucullia	asteroides Gn.	10200	900807;880819
Cucullia	convexipennis G. & R	10202	890804;860806;880825,27
	--Hadeninae--		
Polia	detracta (Wlk.)	10288	880510-0618
Polia	goodelli (Grt.)	10289	850626;880810
Polia	latex (Gn.)	10291	860507;850527;870603;850612
Melanchra	adjuncta (Gn.)	10292	850820,23
Lacanobia	legitima (Grt.)	10304	850815-0914
Hadena	ectypa (Morr.)	10316	850724
Lacinipolia	meditata (Grt.)	10368	900915-870930
Lacinipolia	renigera (Steph.)	10397	850508-0925
Lacinipolia	lorea (Gn.)	10405	850519-880616
Lacinipolia	explicata McD.	10413	890823-870913
Lacinipolia	implicata McD.	10414	850903-880927
Faronta	diffusa (Wlk.)	10431	860505,08,11;900827
Pseudaletia	unipuncta (Haw.)	10438	910321;890403-901212
Leucania	linita Gn.	10440	900422-861001
Leucania	phragmitidicola Gn.	10444	870819,29
Leucania	linda Franc.	10445	850522-860917
Leucania	multilinea Wlk.	10446	870725-901015
Leucania	scirpicola Gn.	10455	851015-28
Leucania	adjuta (Grt.)	10456	870707-861105
Leucania	ursula (Fbs.)	10461	880507-0604;0806-0919
Leucania	pseudargyria Gn.	10462	900516;870614
Orthosia	rubescens (Wlk.)	10487	900310-900415
Orthosia	revicta (Morr.)	10490	910407
Orthosia	alurina (Sm.)	10491	900314[2];890403;880409
Orthosia	hibisci (Gn.)	10495	910301-880430
Crocigrapha	normani (Grt.)	10501	890404-870518
Himella	intractata (Morr.)	10502	900314-870518
Egira	alternans (Wlk.)	10517	900422 [2];880506
Achatia	distincta Hbn.	10518	880402-890510
Morrisonia	evicta (Grt.)	10520	900417-890512
Morrisonia	confusa (Hbn.)	10521	880331-910625
Nephelodes	minians Gn.	10524	850908-871005
Homorthodes	furfurata (Grt.)	10532	900507 [2];870524
Homorthodes	lindseyi (Benj.)	10532	900504-0520;850801-870901
Ulolonche	culea (Gn.)	10567	890430-870522
Ulolonche	modesta (Morr.)	10569	890526;900905
Orthodes	crenulata (Btlr.)	10585	880513-860915
Orthodes	cynica Gn.	10587	910423[9]-900627
Tricholita	signata (Cram.)	10627	890821-900921

Macrolepidoptera at Southaven, Anne Arundel County, Maryland:
A six year study

GENUS	SPECIES	HODGES NO.	SOUTHAVEN
		--Noctuinae--	
Agrotis	gladiaria Morr.	10648	870925-1023
Agrotis	venerabilis Wlk.	10651	890908-1010
Agrotis	ipsilon (Hufn.)	10663	850406-1212
Agrotis	subterranea (F.)	10664	0708-0827[2];1003-17[3]
Agrotis	manifesta Morr.	10666	890501
Feltia	jaculifera (Gn.)	10670	860820-1015
Feltia	subgothica (Haw.)	10674	860906,12,16
Feltia	herilis (Grt.)	10676	880824-1004
Feltia	geniculata G.& R.	10680	910909MF-1030
Eucoptocnemis	fimbriaris (Gn.)	10694	900928
Euxoa	messoria (Harr.)	10705	870903;880905
Euxoa	velleripennis (Grt.)	10803	880919
Euxoa	tessellata (Harr.)	10805	860612-900625
Euxoa	bostoniensis (Grt.)	10812	881014 (DCF)
Loxagrotis	acclivis (Morr.)	10870	850821;870826,0921
Ochopleura	plecta (L.)	10891	850424-870922
Euagrotis	illapsa (Wlk.)	10903	900422-881003
Anicla	infecta (Ochs.)	10911	850703-871118
Peridroma	saucia (Hbn.)	10915	900314-901125
Spaelotis	clandestina (Harr.)	10926	880605-890704
Xestia	dolosa Franc.	10942.1	910405-861026
Xestia	normaniana (Grt.)	10943	900828-861026
Xestia	smithii (Snell.)	10944	890917-841104
Xestia	bicarnea (Gn.)	10950	900801-871014
Xestia	badinodis (Grt.)	10955	860929-871030
Xestia	bollii (Grt.)	10956	*5 881003;891016
Anomogyna	elimata (Gn.)	10967	880829;880905
Anomogyna	dilucida (Morr.)	10969	910918-861022
Cerastis	tenebrifera (Wlk.)	10994	910303-870418
Choephora	fungorum (G.& R.)	10998	850922-1025
Protolampra	brunneicollis (Grt.)	11006	900528-0709/0907-1004
Heptagrotis	phyllophora (Grt.)	11010	880621
Abagrotis	alternata (Grt.)	11029	910614-0719
Rhynchogrotis	cupida (Grt.)	11043	880629-841104
		--Heliothinae--	
Pyrrhia	umbra (Huffn.)	11063	890522;880612
Pyrrnia	exprimens (Wlk.)	11064	850512-870612
Heliothis	zea (Boddie)	11068	860526-1103
Heliothis	virescens (F.)	11071	860808,910827;880913
Heliothis	turbatus (Wlk.)	11073	880830
Schinia	lynx (Gn.)	11117	890902
Schinia	arcigera (Gn.)	11128	850903-870921
Schinia	rivulosa (Gn.)	11135	890809-860911
Schinia	thoreaui (G. & R.)	11141	870816;860818,22,24
Schinia	trifascia Hbn.	11149	890805-870903
Schinia	florida (Gn.)	11164	890805
Schinia	nundina (Dru.)	11177	880803

MARYLAND ENTOMOLOGIST (4):145-146 (1992)

Cicindela ancocisconensis Harris (Coleoptera: Cicindelidae) in Maryland

J. D. Glaser
6660 Loch Hill Road
Baltimore, MD 21239

Abstract

Cicindela ancocisconensis Harris is reported from Maryland for the first time.

In my review of Maryland tiger beetles (Glaser, 1984) I speculated that Cicindela ancocisconensis Harris, heretofore undiscovered in Maryland although present in surrounding states, might eventually be found within our borders. That is now the case.

The first specimens were collected April 17, 1991, on the west bank of Sideling Hill Creek (the Allegany-Washington Co. boundary), a few hundred yards north of Zeigler Road. Subsequent search through the remainder of April and throughout May has shown that C. ancocisconensis is distributed along the creek in suitable habitat from the Potomac River north to at least the Maryland-Pennsylvania border, or over about 13 miles of riverbank. All of the individual colonies are small, with about 50 or fewer beetles, but I found twelve such colonies, and a scattering of stragglers between them. The preferred habitat for this species consists of normally-dry flood-deposited sand in bare patches which lie just inland and slightly above the actual river beach of damp sand. Such sand patches are open or sparsely vegetated in spring, coincident with the period of adult activity of this tiger beetle. The last activity observed was June 4th, by which time their habitat was mostly covered by herbaceous growth.

The banks of Sideling Hill Creek are also home to Cicindela repanda Dejean, a few C. duodecimguttata Dejean, and a scattering of C. sexguttata Fab. Althought more numerous, C. repanda shows an interesting segregation from C. ancocisconensis in that it is confined to the always damp river-level beaches and only rarely mixes with the latter.

With a bit of practice, C. ancocisconensis can be recognized on the ground at a glance. Although superficially similar to C. repanda, its size averages larger with proportinately longer elytra, and the middle band lacks the terminal "hook" typical of C. repanda. Moreover, it tends to fly farther and higher when disturbed.

The status of the Sideling Hill Creek population of C. ancocisconensis appears secure since a large portion of the watershed lies within the Sideling Hill Wildlife Management Area, and most of the remainder is undisturbed woodland. The waterway itself appears unpolluted.

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MARYLAND ENTOMOLOGIST 3(4):146 (1992)

WEATHER AND MOTH COLLECTING

H G STEVENSON
720 Riverview Terrace
Annapolis MD 21401-7119

Moth collectors are aware that weather has an influence on the success of their catch. During six years of daily collection, summer or winter, fair or foul weather and despite the moon phase, success has been recorded on a weather graph I have maintained for seventeen years. Here is my interpretation of the data.

TEMP. (F.) high / low	HUMIDITY (relative)	BAROMETER	WIND <5MPH	SKY	EXPECTATION
>60 / >40	>60%	falling	SE-SW	CLOUDY	GOOD-GREAT
55 / 45	50-60	steady	N-SE	PT-CLDY	WORTH A TRY
<50 / <40	<40	rising	W - N	CLEAR	DON'T BOTHER

TEMPERATURE The high is the daily high. Low is at the time of trapping. The daily low, usually about sunrise, may be below 40 F. with little effect on the catch.

Temperature/dewpoint, if available, the closer the better regardless of the numbers.

Wind over five miles per hour (5MPH) at bait or trap site decreases chances of catch with increase of wind velocity. The downwind side of obstructions to air movement is the preferred area for trapping. For instance, BAIT the downwind side of the tree if there is ANY sensation of wind.

Full moon with solid overcast has little effect on catch. Decrease of sky cover reduces catch in direct proportion.

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Bibliography of New World Hispinae (Coleoptera: Chrysomelidae): Addenda

C. L. Staines and S. L. Staines
3302 Decker Place
Edgewater, Maryland 21037

ABSTRACT

Additions to the bibliography (Staines & Staines 1989) are presented.

Since the publication of our bibliography (Staines & Staines 1989), a number of papers concerning New World Hispinae have come to our attention. In order to update and keep the bibliography current, we present this addenda.

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MARYLAND ENTOMOLOGIST 3(4):152-154

Addenda to the Checklist of Maryland Cerambycidae (Coleoptera)

John D. Glaser
6660 Loch Hill Rd., Baltimore, MD 21239

Abstract

Additions and substantiating records are presented for 31 Cerambycidae from Maryland.

The following additions and substantiating records are intended to update the checklist of Maryland Cerambycidae (Staines, 1987). In addition, comments are offered regarding the habits, distribution or abundance of some of our more interesting species. All of the data cited refers to specimens in the collection of the author.

Cerambycinae

Hesperophanes pubescens (Haldeman). Allegany Co.- Sideling Hill, Rocky Gap State Park, Green Ridge State Forest, Warrior Mountain WMA. 9 July- 6 August. A number of specimens at blacklight.

Enaphalodes hispicornis (L.). Allegany Co.- Rocky Gap State Park, Green Ridge State Forest. Harford Co.- Belcamp. Worcester Co.- Pocomoke State Forest. 27 June- 24 July. Frequent at lights in forest settings.

E. cortiphagus (Craighead). Allegany Co.- Rocky Gap State Park. Baltimore Co.- White Marsh. Calvert Co.- Appeal. Prince George's Co.- Accokeek. 9 July- 2 September. Frequent at lights in forested areas.

Parelaphidion aspersum (Haldeman). Allegany Co.- Rocky Gap State Park. 10 September 1985.

Purpuricenus axillaris (Harris) and P. humeralis (Fab.) are infrequent in collections because they fly at treetop level, and being diurnal, are not attracted to lights. In fact, they are quite common in some areas, as evidenced by the ease with which they are attracted to fermenting sweet baits hung out in oak-dominated forests. For example, these beetles come in large number to bait in Green Ridge State Forest of Allegany Co. during mid to late July. As many as 70 have been taken in a single bait pail at one time.

Phymatodes aereus (Newman). Garrett Co.- New Germany State Park. 14 June 1988.

Neoclytus caprea (Say). Prince George's Co.- Chapman Point. 22 April 1987.

N. fulguratus (Casey). Calvert Co.- Prince Frederick, St. Leonard. A dozen of this uncommon species emerged from oak logs in June, 1976.

Glycobius speciosus (Say). Allegany Co.- Green Ridge State Forest. 8 August 1990.

Batyle ignicollis australis L. This subspecies is rare in

Maryland, although common in the Ohio Valley and west. However, during the last half of July, 1990, a long series was taken in a single meadow in the Green Ridge State Forest from Rudbeckia flowers.

Lamiinae

Neacanthocinus obsoletus (Olivier). Allegany Co.- Rocky Gap State Park. 22 July 1982.

Pogonocherus penicillatus LeConte. Allegany Co.- Green Ridge State Forest, Polish Mountain. 17-27 June 1989.

Eupogonius pauper LeConte. Allegany Co.- Rocky Gap State Park. 7 August 1984.

Microgoes oculatus (LeConte). Allegany Co.- Cresaptown, 22 May 1982. Garrett Co.- Glades of Cherry Creek, 14 July 1982.

Saperda imitans Felt & Joutel. Garrett Co.- Meadow Mountain. 8 June 1982.

Dorcaschema nigrum (Say). Allegany Co.- Polish Mountain. 17 June 1987.

Oberea praelonga Casey. Allegany Co.- Green Ridge State Forest. 8 June 1989. Oberea praelonga is often confused with O. tripunctata (Swederus), but can be separated by its pale scutellum and consistently black head (Hicks, 1962).

O. affinis Leng. Allegany Co.- Dans Mountain, Green Ridge State Forest, Lavale. Garrett Co.- Meadow Mountain. 22-27 June. This is the O. bimaculata of authors, but according to Hicks (1962), that name refers to an unidentifiable species, perhaps even exotic. Oberea affinis is the best available name for our species.

Goes tigrinus (DeGeer). Allegany Co.- Green Ridge State Forest, Rocky Gap State Park. Prince George's Co.- Rosaryville. 27 June- 6 August.

Lepturinae

Leptura emarginata Fab. This is another canopy dweller which is not often encountered in casual collecting, as it does not visit flowers like most other lepturines. However, like Purpuricenus, it comes abundantly to fermenting baits in forested areas. I have seen many hundreds of specimens in bait traps during late July and throughout August in Green Ridge State Forest.

Strictoleptura canadensis (Olivier). Allegany Co.- Green Ridge State Forest, Polish Mountain. 20 July- 8 August. Frequent at baits.

Brachyleptura champlaini (Casey). Allegany Co.- Green Ridge State Forest, Rawlings. Anne Arundel Co.- Odenton. Baltimore Co.- Prettyboy Reservoir. Charles Co.- Promfret, Mason Springs. Garrett Co.- Deep Creek Lake, Wolf Swamp. 25 June- 15 July. Apparently common, but close to B. vagans and probably confused with that species.

Pseudogaurotina abdominalis (Blanchard). Allegany Co.-

Polish Mountain, Green Ridge State Forest. Garrett Co.- Bloomington. 29 May- 3 June.

Gaurotes cyanipennis (Say). This common species is represented in Maryland by two geographically-restricted color forms. In all of the State east of the Allegany Front (Dans Mountain), the species is green to blue-green, whereas on Dans Mountain and throughout Garrett Co., cyanipennis is coppery violet in color. No exceptions have been seen in several hundred specimens examined.

Typocerus sinuatus Newman. Anne Arundel Co.- Odenton, 3 July 1973. Calvert Co.- Plum Point, 9 July 1976.

Stenocerus schaumi (LeConte). Allegany Co.- Polish Mountain, 1 June 1987.

S. cinnamopterus (Randall). Allegany Co.- Green Ridge State Forest, Warrior Mountain WMA. Washington Co.- Little Pool. 15 May- 6 June.

Anthophyllax cyaneus (Haldeman). Allegany Co.- Dans Mountain, 26 May 1983. Garrett Co.- Meadow Mountain, New Germany, 31 May- 16 June. Seven specimens of this rare species, all incidental captures (flying, resting on vegetation, pitfall trap); apparently does not frequent flowers.

Charisalia americana (Haldeman). Baltimore Co.- Parkton, 8 June 1969.

Grammoptera subargentata (Kirby). Garrett Co.- Meadow Mountain, Wolf Swamp. 16-22 June.

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REVIEWERS FOR VOLUME 3

The current Editorial Staff thanks the following individuals who reviewed manuscripts considered for publication in Volume 3: R. E. Acciavatti, R. A. Bean, N. Erwin, D. C. Ferguson, E. J. Gerberg, W. F. Gimpel, W. O. Lamp, J. W. Neal, M. J. Rothschild, P. W. Schaefer, P. J. Spangler, T. J. Spilman, C. L. Staines, S. L. Staines, K. J. Sweeney, and G. L. Williams.

MARYLAND ENTOMOLOGIST 3(4): 155-159

The Impact of Three Insect Herbivores on Seed Production of Musk Thistle (*Carduus thoermeri*)

Philip W. Tipping
Maryland Department of Agriculture, Plant Protection Section,
50 Harry S. Truman Parkway, Annapolis, MD 21401.

Abstract

Musk thistles were exposed to different combinations of three species of insects, *Rhinocyllus conicus* Froelich, *Trichosirocalus horridus* (Panzer), and *Cassida rubiginosa* Muller, to quantify their effect on seed production. Individually, *R. conicus*, *T. horridus*, and *C. rubiginosa* reduced seed yield by 71.5%, 59.5%, and 72.1%, respectively. Together, *R. conicus* and *T. horridus* reduced seed yield by 65.3%, while the three species combined caused a reduction of 85.4%. The relative seed viability per plant was affected similarly.

One approach to classical biological control of weeds with insects is to establish a complex of natural enemies which stress the target weed throughout the year or in different ways, e. g., defoliation, gall formation, etc. The cumulative effects of multiple stresses are considered to increase the likelihood of controlling the target weed.

In Maryland, there are three species of insects which attack primarily musk thistle, *Carduus thoermeri* Weinm.: *Rhinocyllus conicus* Froelich (Coleoptera: Curculionidae), *Trichosirocalus horridus* (Panzer) (Coleoptera: Curculionidae), and *Cassida rubiginosa* Muller (Coleoptera: Chrysomelidae).

The larvae of *R. conicus* exhibit three feeding strategies: tunneling through the central receptacle and consuming callus cells in the feeding tunnels, feeding in chambers enclosed with proliferating callus tissue in the upper receptacle and, less commonly, feeding in the peduncle on non-callus tissue (Shorthouse and Lalonde 1984). The period of attack ranges from early spring to mid-summer, causing significant reductions in seed production (Rees 1977, Surles and Kok 1978).

T. horridus larvae feed on meristematic tissue in the rosette during late fall into early spring (Kok and Mays 1989). The impact on seed production depends on various factors, including rosette size and degree of competition from other plant species (Cartwright and Kok 1985). Kok (1986) reported that densities of musk thistle declined at all sites where *T. horridus* was established in Virginia.

Adults and larvae of *C. rubiginosa* are defoliators of musk, plumeless (*Carduus acanthoides* L.), and Canada thistles (*Cirsium arvense* (L.) Scop.) in Maryland. This insect was accidentally introduced into the U. S. from the Paleartic region, along with at

least one of its parasites, *Tetrastichus rhosaces* (Walker) (Hymenoptera: Eulophidae) (Ward and Pienkowski 1978). Cartwright and Kok (1990) found no seed reduction in musk thistle defoliated by *C. rubiginosa*.

Although studies of the quantitative impact of each individual species on musk thistle have been performed, the effect of these species acting in concert has not been explored. Therefore, the objective of the present study was to examine the impacts on musk thistle of the aforementioned insect species, either as a single species or in combinations.

MATERIALS AND METHODS

Greenhouse-grown rosettes (65.9 ± 12.8 cm in diameter) of musk thistle were planted at the Maryland Department of Agriculture's Cheltenham facility in Prince George's County in the fall of 1988. The rosettes were arranged five to a treatment which was then covered by a field cage. Each plant within a treatment cage was considered as a replication.

The cages (1.8 m x 1.8 m x 1.8 m) were constructed of galvanized metal pipe with Speed-Rail™ elbows, covered with 18 x 14 mesh Lumite™ netting. The bottom edges of the netting were fitted with tape and grommets to attach to the bottom pipe rails, and one side of each cage had a zipper for access. The outside edges of each cage were covered with soil to prevent insect entrance or escape.

The rosettes in the cages were manually infested with the following insect species and their combinations: *Cassida rubiginosa* (CR), *Rhinocyllus conicus* (RC), *Trichosirocalus horridus* (TH), RC & TH, and CR & RC & TH. Limitations in the number of cages and insects prevented the examination of all possible insect combinations. Although plants in the control treatment were caged also, rosettes (once) and bolting plants (twice) were sprayed with acephate (O, S-Dimethyl acetylphosphoramidothioate) to eliminate any insects which may have penetrated the cages.

Ten first-instar larvae of *T. horridus* were placed in the crown of each rosette on Nov. 3-4, 1988 by using a fine camel's hair brush. Larvae were reared from eggs obtained from a laboratory colony of adults that had been field-collected the previous spring and maintained on leaf bouquets of musk thistle.

In the *C. rubiginosa* and *R. conicus* treatments, 50 adults were released in the center of each cage prior to bolting of the rosettes. Both species were collected in early spring (1989) from musk thistle rosettes in another area of the state. Because of concern over disturbing their oviposition activities, the numbers of *C. rubiginosa* ootheca and *R. conicus* eggs were not counted.

When the rosettes were in the early bloom stage of the terminal inflorescences, the cages were removed to allow for natural pollination. In order to prevent loss of seeds by natural dispersal or by birds, individual inflorescences were enclosed in organdy bags after senescence. At the end of the summer, the

inflorescences were removed to collect the seeds.

The seeds were separated by seed blower into three weight classes and tested for germination. Class I consisted of lightweight, shriveled seeds without a developed embryo. Class II seeds were heavier, but had reduced embryos. Class III seeds were the heaviest and largest, with well developed embryos. The respective germination rates of the three classes were 0, 2, and 79.5%. For data analysis, Class I and II seeds were considered as nonviable.

Two hundred seeds from each class were tested for germination. Seeds were placed uniformly on saturated steel blue germination paper in a germination chamber and held at 15° C, 100% relative humidity, 8-h photophase for 7 d. Germinated seeds were counted, removed, and the remaining seeds returned to the germinator for 10 d more. All germinated seeds were counted and the test ended. A seed was considered to have germinated successfully if there was a vigorous primary root with root hairs, the hypocotyl had no lesions, and at least one cotyledon was present.

An estimate of the amount of viable seeds produced by a plant was obtained by multiplying the weight of Class III seeds (g) by their percent viability. The relative viability of the seeds produced by a musk thistle plant was estimated by multiplying the total weight of Class III seeds by their percent viability, then dividing this result by the total weight of seeds from all seed classes. The mean (± SD) weight of Class III seeds was 2.776 ± 0.105 mg (n=300).

The data were subjected to analysis of variance and means were separated using Fisher's Protected LSD ($P \leq 0.05$).

RESULTS AND DISCUSSION

Each of the herbivores reduced seed yield of musk thistle (Table 1). The combination of all three species reduced seed production and lowered relative seed viability more than did *T. horridus* alone. The individual effect of *C. rubiginosa* or *R. conicus*, as well as the combined effect of *R. conicus* and *T. horridus*, was intermediate.

C. rubiginosa has been regarded as a relatively unimportant species with regard to biological control of musk thistle since it is a defoliator and because of its accidental introduction (Goeden 1983, Harris 1976). Batra (1978) suggested that this species did not reduce the vigor of *Carduus* spp. thistles, although extensively damaged plants were noted in some areas. Cartwright and Kok (1990) found no reduction in seed yield despite an average of 23.6% defoliation on large musk thistles.

Therefore, it was rather surprising to note the magnitude of seed reduction (72.1%) by this species. Although the amount of defoliation was not quantified, it was extensive on the test plants. Perhaps the beetles were more concentrated than would normally occur and subsequent oviposition may have been artificially high. However, this is not an entirely satisfying

Table 1. Mean seed yield (± SD) and relative seed viability of *Carduus thoermeri* attacked by different herbivores.

Treatment[1]	Seed Yield[2]	Seed Reduction	Relative Seed Viability	Viability Reduction
	(g)		(%)	
Control	13.9 ± 11.8 a	-	51.0 ± 10.0 a	-
CR	3.9 ± 2.0 bc	72.1	24.9 ± 10.2 bc	51.2
RC	3.9 ± 2.2 bc	71.4	23.1 ± 1.8 bc	54.7
TH	5.6 ± 2.1 b	59.4	29.4 ± 3.2 b	42.3
RC/TH	4.8 ± 2.1 bc	65.3	25.8 ± 8.8 bc	49.4
CR/RC/TH	2.0 ± 1.5 c	85.4	17.4 ± 5.7 c	65.9

[1] CR - *Cassida rubiginosa*, RC - *Rhinocyllus conicus*, TH - *Trichosirocalus horridus*.

[2] Means within a column followed by the same letter are not significantly different by Fisher's protected least significant difference test ($P \leq 0.05$).

answer since it is common to find more than 20 ootheca on larger musk thistle rosettes in the spring in Maryland (Tipping, unpublished data). A more likely reason would be protection from predators provided by the cages. Mortality of the smaller larvae can exceed 85% in the field (Tipping, unpublished data).

The rosettes inoculated with *T. horridus* responded as reported by Cartwright and Kok (1985), namely, the alteration of the growth pattern from a single to multiple stems because of the destruction of apical dominance. However, unlike the aforementioned study, which found no decrease in seed production from larger rosettes, the seed yield of plants inoculated with *T. horridus* alone was less than the control (59.5%). These data confirm the ability of *T. horridus* to stress musk thistle, as reported by Kok (1986).

R. conicus, the first of the exotic species to be intentionally introduced into North America, was able to reduce seed yield by 71.5% (Table 1). The ability of this insect to inhibit seed production by musk thistle is well documented (McCarty and Lamp 1982).

These data indicate that, in the case of musk thistle, the impact of several insect species can exceed that of a single species. In Maryland, *R. conicus* and *C. rubiginosa* are common, while populations of *T. horridus* are less so but increasing throughout the areas where musk thistle is a problem (Tipping and Hight 1989). However, because musk thistle is still present at economic levels in many areas of the state, additional organisms may be required to reduce their populations to subeconomic levels.

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MARYLAND ENTOMOLOGIST 3(4):160-173

MACROLEPIDOPTERA AT BATTLE CREEK CYPRESS SWAMP,CALVERT COUNTY, MARYLAND, 1990: A ONE YEAR BASELINE COLLECTION

H G STEVENSON
720 Riverview Terrace
Annapolis, MD 21401-7119

ABSTRACT

Use of a blacklight (U-V) trap at Battle Creek Cypress Swamp in Calvert County, Maryland for one year, 1989-1990, resulted in the identification of 345 species of macrolepidoptera (ML). Three cypress associated ML were found. Collecting at bait and continued UV trapping should result in valuable information concerning the ML distribution in this habitat. Selected voucher specimens are deposited at the USNM-NH with Dr. D.C. Ferguson (DCF) and with Dr. D.F. Schweitzer (DFS). With a few exceptions a representative specimen of each species is in the collection at the Nature Center at Battle Creek preserve.

INTRODUCTION

In the eastern United States the Battle Creek Cypress Swamp sanctuary is at the northern limit of the natural occurrence of baldcypress, Taxodium distichum (L.) in Maryland. Located three miles south of Prince Frederick in Calvert County, Maryland, it contains 100 acres of dominant cypress ranging up to two (2) meters dbh (diameter breast height).

It should be noted that this stand is largely third-growth having undergone timber harvests prior to 1957, at which time it was acquired by the Nature Conservancy. The sanctuary is managed by the Calvert County Government. Removal of any specimens of flora or fauna is strictly prohibited.

PURPOSE

This study was undertaken in order to provide a baseline for future investigations into moth populations at northern Cypress Swamps. It may also be of value in determining populations of pest species harmful to baldcypress.

METHOD

A standard fifteen watt ultraviolet (blacklight) trap using a modified "Bugzapper" with the killing element removed was the sole method used to attract the moths. "Pestrip" (DDVP) was used as the killing agent. The trap was emptied daily for one year except holidays etc. when no personnel were present. Due to the restriction concerning removal of specimens from the sanctuary proper and for the convenience of the personnel, the trap was located at the NATURE CENTER about 50 feet from the edge of the cypress swamp. The NATURE CENTER building is at 38 deg 28 min N Lat and 76 deg 36 min W Long (UTM - UT65).

Nature Center personnel emptied the trap each morning into a "Ziplock" bag and immediately placed it in the freezer. A dated label was placed in each bag. The accumulated bags were picked up approximately every two weeks and emptied immediately upon return to Annapolis (about one hour) at which time they had thawed enough to handle without damage.

Specimens were sorted by daily catch and selected specimens spread immediately, as time permitted. The balance of the specimens were returned to the freezer or placed in a relaxing container for later attention. The above procedures produced satisfactory, identifiable specimens.

The plant community in the immediate vicinity of the light trap is characterized by mature baldcypress, Taxodium distichum (L.). The secondary canopy consists largely of red maple, Acer rubrum L. and green ash, Fraxinus pennsylvannica Marsh.

The sparse understory is silky dogwood Cornus amomum Mill., and paw-paw Asimina triloba (L.). Smooth alder, Alnus serrulata (Ait.), occurs less frequently. Other understory species are tassle-white, Itea virginica L., spice bush, Lindera benzoin (L.), and strawberry bush, Euonymus americanus L. The area contains heavy growth of poison ivy, Toxicodendron radicans (L.). Herbaceous plants abundant in the cypress community are spotted touch-me-not, Impatiens capensis Meerb., lizards tail, Saururus cernuus L., spring beauty, Claytonia virginica L,, turtlehead, Chelone glabra L., jack-in-the-pulpit, Arisaema triphyllum (L.) and may apple, Podophyllum peltatum L.

RESULTS

Three hundred forty five species were identified and are listed below in the order of Hodges (1983). Three species commonly associated with baldcypress were identified, Isoparce cupressi (Bdv.), Semiothisa aequiferaria (Wlk.) and Anacamptodes pergracilis (Hulst).

Isoparce cupressi (Bdv.)

Prior to this study the presence of the cypress sphinx at the Battle Creek sanctuary was established by J.M. Hill with the capture of two specimens now in the collection of the Maryland Natural Heritage at Annapolis. DAILY COLLECTION, as in this study, suggests that cupressi is double-brooded at the northern limit of its range. Specimens were obtained April 24,26, May 30, June 12,13,14,20 and August 27 & 31. This is information that would be very difficult to establish during one year of random collection alone.

Anacamptodes pergracilis (Hulst)

The cypress looper also appears to be double-brooded as it first appeared in small numbers on 5 February. It then went unnoticed until late September when it became common with the last seen 9 November.

Semiothisa aequiferaria (Wlk.)
This second geometrid associated with baldcypress was first collected 14 March but was uncommon until the fall when it became abundant, if not a nuisance.

Cutina distincta (Grt.) and **C. albopunctella** Wlk. were not identified during this years collecting but may well be here. Both have been collected at eastern shore cypress swamps by John Glaser. (JDG pers. comm.)

Several other cypress feeders or species associated with cypress swamps should be considered potentially present as they have been found as far north as Virginia. They are **Anacamptodes cypressaria** (Grossb.), **Acronicta perblanda** Fgn., **Dasychira dominickaria** Fgn., **Emarginea** (Cyathissa) **percara** (Morr.) and an undescribed **Lithophane** species. Several of these moths come more readily to bait than light which may explain their absence in this study.

DISCUSSION

The one year collection of 347 species of Macrolepidoptera at Battle Creek Cypress Swamp provides a baseline for further investigation. Continued collection at blacklight should be considered as I believe many more species are present than were collected. If acceptable pest control measures are developed, blacklight alone may forecast a need for their use.

At bait on the night of February 5, 1991, Dr. Dale F. Schweitzer and I collected four species not previously found during this study, three of them **Eupsilia** species. **Eupsilia cirripalea**, **E. morrisoni** and an as yet undescribed species. This success on one night certainly warrants an additional year's investigation with the use of bait. "Painting" trees and night collection on a routine basis is not acceptable to the personnel at the center, however, they have volunteered to run a bait trap as frequently as time permits. This could be valuable in filling in the obvious deficiencies in the list presented below.

Explanation of abbreviations

* unusual or interesting
*2 asterisk and number - see mention in COMMENTS at end of list
[##] brackets enclose number of individual specimens
( ) parenthesis enclose initials of person identifying or supplying additional information.

901001 (year, month, day) i.e. 1990,October 01.
single date as above designates date of first or only capture

901001,10 (,) comma separates dates of capture same month

901001,1102 (,) comma separates dates of capture same year different month

901001-901102 (-) hyphen separates dates of earliest and latest of multiple captures

901001;901102 (;) semicolon separates individual specimens different day, month or year

900425-0625/891001-1102 (/) separates dates of last and first capture of sufficient number of individuals to suspect separate broods

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Stevenson, H. G. 1989. The genus **Sprageia** Grote in Tidewater Maryland. Md. Entomol. 3(3):80-82

COMMENTS

*1 Cypress associated species
*2 Erannis tiliara. This specimen is the first seen in six years. A specimen collected the same week in Baltimore Co. is the first seen by John D. Glaser (Pers. comm.)
*3 Tolype laricis. A hemlock-spruce-white pine feeder heretofore recorded only in western Maryland.
*4 Spilosoma latipennis has been quite rare until this year (1990) in all of tidewater.
*5 Dasychira atrivenosa is a recent discovery in Maryland.
*6 Lymantria dispar. Baldcypress has been found to be a primary food source of the gypsy moth in Maryland (CLS). In the Annapolis area, only thirty miles north, it was destructively abundant this year.
*7 Calyptra canadensis. This seems far east for this species.
*8 Catocala marmorata is apparently "extremely rare" especially at light. Capture of this specimen may well indicate a local population." (DFS) The host plant is unknown.
*9 Abrostola ovalis. There are three other records known from Maryland
*10 Spragueia dama and S. apicalis are new records in Maryland.
*11 Meropleon titan and M. diversicolor have only recently been found in Maryland.
*12 Eupsilia. This winter-flying genus seems to come to bait at a ratio of ten to one at blacklight.
*13 Metaxaglaea semitaria. Of the five known species only semitaria was not found.
*14 Xestia bollii seems to be established as a resident in southern Maryland and on the eastern shore.
*15 Schinia obscurata is quite similar to S.lynx, however obscurata flies in June and lynx in September.
*16 Schinia nundina is rare in my experience, however, it is common where Meadow Rue, Thalictrum L. (sp?) is found. (DCF)

I must thank the personnel at the Battle Creek Nature Center for their outstanding cooperation in the collection of material for this study. There would have been no study without the aid of Dwight Williams, Andy Brown and Mitzie Pool in emptying the trap, dating labels and carefully freezing the specimens.

Doug Ferguson and Dale Schweitzer have been most patient in answering what must seem to be trivial questions to them but very necessary to me. For this, my sincere thanks.

John Glaser has spent many hours grappling with problems of identification with me and supplied me with information and specimens from the cypress swamps of the eastern shore. In addition he has carefully proofread this paper and supplied many helpful comments and corrections. Any errors remaining are mine.

Macrolepidoptera at Battle Creek Cypress Swamp, Calvert County, Maryland

GENUS	SPECIES	HODGES NO.	SPECIES
	---THYATIRIDAE----		
Euthyatira	pudens (Gn.)	6240	900417
	---DREPANIDAE----		
Eudeilinea	herminiata (Gn.)	6253	900609
Oreta	rosea (Wlk.)	6255	900511-890926
	---GEOMETRIDAE----		
	--Oenochrominae--		
	--Ennominae--		
Heliomata	cycladata G.& R.	6262	900514
Itame	pustularia (Gn.)	6273	900623
Semiothisa	aemulataria (Wlk.)	6326	900501
Semiothisa	aequiferaria (Wlk.)	6335	900314-891028 *1
Semiothisa	granitata (Gn.)	6352	900415,0718
Semiothisa	multilineata (Pack.)	6353	900522-900907
Semiothisa	ocellinata (Gn.)	6386	900426
Anacamptodes	pergracilis (Hulst)	6580	910205-901109 *1
Anacamptodes	vellivolata (Hulst)	6582	900501-1009
Anacamptodes	humaria (Gn.)	6584	900515
Anacamptodes	defectaria (Gn.)	6586	891031
Iridopsis	larvaria (Gn.)	6588	900417
Anavitrinella	pampinaria (Gn.)	6590	900501
Ectropis	crepuscularia (D&S)	6597	900221-901105
Epimecis	hortaria (F.)	6599	900422
Melanophia	canadaria (Gn.)	6620	900318
Melanophia	signataria (Wlk.)	6621	900422
Hypagyrtis	unipunctata (Haw.)	6654	901022
Phigalia	titea (Cram.)	6658	900322
Phigalia	denticulata Hulst	6659	900202 [25+]
Phigalia	strigitaria (Minot)	6660	900221
Paleacrita	merricata Dyar	6663	900206
Erannis	tiliaria (Harr.)	6665	901117 *2
Lomographa	vestaliata (Gn.)	6667	900531
Thysanopygea	intractata (Wlk.)	6711	900314
Lytrosis	unitaria (H.-S.)	6720	900614
Euchlaena	obtusaria (Hbn.)	6726	900519
Euchlaena	amoenaria (Gn.)	6733	900815
Xanthotype	urticaria Swett	6740	900511;890901
Pero	zalissaria (Wlk.)	6752	890903
Pero	hubneraria (Gn.)	6754	900428
Nacophora	quernaria (J.E.Sm.)	6763	900525
Campaea	perlata (Gn.)	6796	900915
Ennomos	magnaria Gn.	6797	891006,16
Selenia	kentaria (G.& R.)	6818	890729
Metarranthis	angularia B.& McD.	6823	900623
Metarranthis	hypochraria (H.-S.)	6826	900623
Metarranthis	homuraria (Grt.&Rob.	6828	900625
Cepphis	decoloraria (Hulst)	6834	900522,0603,14

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GENUS	SPECIES	HODGES NO.	SPECIES
Probole	alienaria H-S.	6837	900515
Plagodis	fervidaria (H.-S.)	6843	900625,0710
Lambdina	pellucidaria (G.&R.)	6889	900415
Eusarca	confusaria Hbn.	6941	890831
Tetracis	crocellata Gn.	6963	900507
Tetracis	cachexiata Gn.	6964	900507,12
Eutrapela	clemataria (J.E.Sm.)	6966	891021
Patalene	olyzonaria (Wlk.)	6974	891004-20
Procherodes	transversata (Dru.)	6982	900630-1101
	--Geometrinaae--		
Nemoria	lixaria (Gn.)	7033	900927
Nemoria	bistriaria Hbn.	7046	900719
Dichorda	iridaria (Gn.)	7053	900426;890821
	--Sterrhinae--		
Cyclophora	packardi (Prout)	7136	890818-0906
Haematopis	grataria (F.)	7146	900808
	--Larentiinae--		
Eulithis	gracilineata (Gn.)	7197	901022
Hydriomena	pluviata (Gn.)	7239	900421
Xanthorhoe	lacustrata (Gn.)	7390	900323
Orthonama	centrostrigaria (Wol	7416	900314
Disclistoprocta	stellata (Gn.)	7417	900907
Trichodesia	albovittata (Gn.)	7430	890820
Eubaphe	mendica (Wlk.)	7440	890720
Eubaphe	meridiana (Slosson)	7441	890903
Cladara	atroliturata (Wlk.)	7639	900323,0415
Dyspteris	abortivaria (H.-S.)	7648	900511
	---EPIPLEMIDAE---		
Calledapteryx	dryoptera Grt.	7653	900616
	---MIMALLONIDAE---		
Lacosoma	chiridota Grt.	7659	900618
	---APATELODIDAE---		
Apatelodes	torrefacta (J.E.Sm.)	7663	900623
Olceclostera	angelica (Grt.)	7665	900712
	---LASIOCAMPIDAE---		
Tolype	velleda (Stoll)	7670	891002-1009
Tolype	laricis (Fitch)	7673	901016 *3
Tolype	notialis Franc.	7674	900913
Artace	cribraria (Ljungh)	7683	891002,05
Malacosoma	disstria Hbn.	7698	900608,0703
Malacosoma	americanum (F.)	7701	900516
	---SATUENIIDAE---		
	--Citheroniinae--		
Eacles	imperialis (Dru.)	7704	900619-890728
Citheronia	regalis (F.)	7706	900620-890804
Dryocampa	rubicunda (F.)	7715	890724
Anisota	stigma (F.)	7716	900630-0720

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GENUS	SPECIES	HODGES NO.	SPECIES
Anisota	virginiensis (Dru.)	7723	900618
Automeris	io (F.)	7746	900614
	--Saturniinae--		
Antheraea	polyphemus (Cram.)	7757	900424
Actias	luna (L.)	7758	900514
Callosamia	angulifera (Wlk.)	7765	900620,23
	---SPHINGIDAE---		
	--Sphinginae--		
Agrius	cingulatus (F.)	7771	901016
Manduca	sexta (L.)	7775	900606;890818
Manduca	quinquemaculata (Haw)	7776	900623
Dolba	hyloeus (Dru.)	7784	900625,0709
Ceratomia	undulosa (Wlk.)	7787	900501,0702,23
Isoparce	cupressi (Bdv.)	7791	900424-0620[9]/890827,31 *1
Paratrea	plebeja (F.)	7793	890820
Lapara	coniferarum(J.E.Sm.)	7816	900720-890818
Paonias	excaecaetus (J.E.Sm.	7824	900703-0822
Paonias	myops (J.E. Sm.)	7825	900703
	--Macroglossinae--		
Darapsa	myron (Cram.)	7885	900527-0822
Darapsa	pholus (Cram.)	7886	900514-0822
Hyles	lineata (F.)	7894	890916
	---NOTODONTIDAE---		
Clostera	inclusa (Hbn.)	7896	900508
Datana	ministra (Dru.)	7902	900614
Datana	angusii G. & R.	7903	900605;890724
Datana	integerrima G. & R.	7907	900622
Datana	perspicua G.& R.	7908	900714,0823
Nadata	gibbosa (J.E.Sm.)	7915	900624-0822
Hyperaeschra	georgica (H.-S.)	7917	900501,0619;900822
Peridea	angulosa (J.E.Sm.)	7920	900511,0620,0827,0913
Peridea	ferruginea (Pack.)	7921	890821
Nerice	bidentata Wlk.	7929	900424
Gluphisia	septentrionis Wlk.	7931	900619,20
Furcula	borealis (Guer.)	7936	900822
Symmerista	albifrons (J.E.Sm.)	7951	900417-0607
Dasylophia	thyatiroides (Wlk.)	7958	900620
Misogada	unicolor (Pack.)	7974	900606
Macrurocampa	marthesia (Cram.)	7975	900609
Heterocampa	umbrata Wlk.	7990	900622
Heterocampa	guttivitta (Wlk.)	7994	900504
Heterocampa	biundata Wlk.	7995	900614
Lochmaeus	bilineata Wlk.	7999	900501
Schizura	ipomoeae Doubleday	8005	900616
Schizura	badia (Pack.)	8006	900816
Schizura	unicornis (J.E.Sm.)	8007	890906

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GENUS	SPECIES	HODGES NO.	SPECIES
Schizura	leptinoides (Grt.)	8011	900703-890806
Oligocentra	lignicolor (Wlk.)	8017	900610,0816
Hyparpax	aurora (J.E.Sm.)	8022	890801
	--Lithosinae--		
Cisthene	plumbea Stretch	8067	900620,0827
Cisthene	packardii (Grt.)	8072	890901
Hypoprepia	miniata (Kby.)	8089	900719;890801
Hypoprepia	fucosa Hbn.	8090	900612
Clemensia	albata Pack.	8098	900519
	--Arctiinae--		
Holomelina	opella (Grt.)	8118	900618
Holomelina	aurantiaca (Hbn.)	8121	890728,0821
Holomelina	ferruginosa (Wlk.)	8123	900709,14
Pyrrharctia	isabella (J.E.Sm.)	8129	900724
Estigmene	acrea (Dru.)	8131	900809
Spilosoma	latipennis Stretch	8133	900531-0619 [7] *4
Spilosoma	congrua Wlk.	8134	900417;890821
Spilosoma	virginica (F.)	8137	900514
Hyphantria	cunea Dru.	8140	900808
Ecpantheria	scribonia (Stoll)	8146	890916
Apantesis	phalerata (Harr.)	8169	900612;891001
Apantesis	nais (Dru.)	8171	900506-1003
Apantesis	carlotta Fgn.	8171.1	900714;891001
Grammia	anna (Grt.)	8176	900610
Grammia	figurata (Dru.)	8188	890819
Grammia	parthenice (Kby.)	8196	900910-901013
Grammia	virgo (L.)	8197	890823-900914
Grammia	arge (Dru.)	8199	890810;900818
Halysidota	tessellaris (J.E.Sm.	8203	890804-900927
Cycnia	tenera Hbn.	8230	900825
Cycnia	oregonensis (Stretch	8231	900515
Euchaetes	egle (Dru.)	8238	900605
	--Ctenuchinae--		
Cisseps	fulvicollis (Hbn.)	8267	900609
	---LYMANTRIIDAE---		
	--Agaristinae--		
Dasychira	atrivenosa (Palm.)	8299	900712,0827;900827 *5
Dasychira	obliquata (G. & R.)	8302	890804-20
Dasychura	manto (Stkr.)	8307	890805
Orgyia	definita Pack.	8314	890922
Orgyia	leucostigma (JE Sm.)	8316	900725-891109
Lymantria	dispar (L.)	8318	90-NONE *6
	---NOCTUIDAE--		
	--Herminiinae--		
Idia	americalis (Gn.)	8322	900801
Idia	lubricalis (Gey.)	8334	900712
Zanclognatha	lituralis (Hbn.)	8340	900507,15

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GENUS	SPECIES	HODGES NO.	SPECIES
Renia	discoloralis Gn.	8381	890720
Lascoria	ambigualis Wlk.	8393	900504
	--Hypeninae--		
Bomolocha	baltimoralis (Gn.)	8442	890901
Bomolocha	abalienalis (Wlk.)	8445	900426;890729
Bomolocha	madefactalis (Gn.)	8447	900720
Plathypena	scabra (F.)	8465	890926
Spargaloma	sexpunctata Grt.	8479	900730
	--Catocalinae--		
Ledaea	perditalis (Wlk.)	8491	900430
Isogona	tenuis (Grt.)	8493	900618-0822
Metalectra	discalis (Grt.)	8499	900608
Metalectra	richardsi Brower	8505	900825
Scoleocampa	liburna (Gey.)	8514	900623
Phyprosopus	callitrichiodes Grt.	8525	900506
Plusiodonta	compressipalpis Gn.	8534	890901
Calyptra	canadensis (Bethune)	8536	900530;890906 *7
Anticarsia	gemmatalis Hbn.	8574	890918-1021
Panopoda	rufimargo (Hbn.)	8587	900623
Phoberia	atomaris Hbn.	8591	900314
Lesmone	detrahens (Wlk.)	8651	900511-890825
Zale	lunata (Dru.)	8689	900417;891031
Zale	undularis (Dru.)	8695	900604
Zale	minerea (Gn.)	8697	900417
Zale	bethunei (Sm.)	8705	900323
Zale	metata (Sm.)	8708	900724
Zale	unilineata (Grt.)	8716	900724
Zale	horrida Hbn.	8717	900511;890917
Euparthenos	nubilis (Hbn.)	8719	900421
Allotria	elonympha (Hbn.)	8721	900622-0822
Parallelia	bistriaris Hbn.	8727	890905
Euclidea	cuspidea (Hbn.)	8731	900709,14
Caenurgina	crassiuscula (Haw.)	8738	900214
Caenurgina	erechtea (Cram.)	8739	891001
Mocis	texana (Morr.)	8745	890724
Celiptera	frustulum Gn.	8747	900823
Argyrostrotis	anilis (Dru.)	8764	900628
Doryodes	bistrialis (Gey.)	8765	901004-09
Spiloloma	lunilinea Grt.	8769	890804
Catocala	piatrix Grt.	8771	900823-1022 [16]
Catocala	maestosa (Hulst)	8793	900915
Catocala	paleogama Gn.	8795	890911
Catocala	ilia (Cram.)	8801	900722
Catocala	marmorata Edw.	8804	900823 (DFS) *8
Catocala	ultronia (Hbn.)	8857	900630
	--Plusiinae--		
Abrostola	ovalis Gn.	8880	890720 *9

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GENUS	SPECIES	HODGES NO.	SPECIES
Pseudoplusia	includens (Wlk.)	8890	891003,26
Allographa	aerea (Hbn.)		8898 900514
Autographa	biloba (Steph.)	8907	900628
	--Euteliinae--		
Marathyssa	basalis Wlk.		8956 900511
Paectes	occulatrix (Gn.)	8957	900506;890905
Paectes	pygmaea Hbn.		8959 900619
Paectes	abrostoloides (Gn.)	8962	890805-901003
	--Sarrothripinae--		
Baileya	ophthalmica (Gn.)	8970	900612
	--Nolinae--		
Meganola	minuscula (Zell.)	8983	900506
	--Acontiinae--		
Oruza	albocostaliata (Pack	9025	900610
Thioptera	nigrofimbria (Gn.)	9044	900703
Lithacodia	muscosula (Gn.)	9047	900606,07
Lithacodia	synochitis (G. & R.)	9049	890908
Lithacodia	musta (G.& R.)		9051 900820
Lithacodia	carneola (Gn.)		9053 900515;891016
Homophoberia	apicosa (Haw.)		9057 890722,0909
Cerma	cerintha (Tr.)		9062 900626;890828
Leuconycta	diptheroides (Gn.)	9065	900725
Tarachidia	erastrioides (Gn.)	9095	900618-900913
Spragueia	dama (Gn.)	9122	890823-0907 [4] *10
Spragueia	leo (Gn.)	9127	900516-0628/890807-09
Spragueia	apicalis (H.-S.)	9131	890907 *10
Acontia	aprica (Hbn.)	9136	890828
	--Pantheinae--		
Panthea	furcilla (Pack.)	9182	900816
Calocasia	flavicornis (Sm.)	9184	890810
Charadra	deridens (Gn.)	9189	890815;900815
	--Acronictinae--		
Acronicta	americana (Harr.)	9200	900621,0805
Acronicta	betulae Riley	9208	900612,0821
Acronicta	vinnula (Grt.)	9225	900519-890815 [7]
Acronicta	laetifica Sm.	9227	900614
Acronicta	hasta Gn.	9229	900519-0802
Acronicta	morula G.& R.	9236	900524;890805,10,19
Acronicta	interrupta Gn.	9237	900813,0902,15
Acronicta	lobeliae Gn.	9238	900511
Acronicta	exilis Grt.	9242	900507,0813,18
Acronicta	ovata Grt.	9243	900624
Acronicta	haesitata (Grt.)	9245	900426-0820
Acronicta	inclara Sm.	9250	900426
Acronicta	retardata (Wlk.)	9251	900618,890727
Acronicta	afflicta Grt.	9254	900514
Acronicta	impleta Wlk.	9257	900426

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GENUS	SPECIES	HODGES NO.	SPECIES
Acronicta	oblinita (J.E.Sm.)	9272	900820
Simyra	henrici (Grt.)	9280	890817
Agriopodes	fallax (H.-S.)	9281	900702
Polygrammate	hebraeicum Hbn.	9285	900511
Harrisimemna	trisignata (Wlk.)	9286	890810;900818,22
Eudryas	unio (Hbn.)	9299	900709;890805
Eudryas	grata (F.)	9301	900625
	--Amphipyrinae--		
Meropleon	titan Todd	9426	890923 *11
Meropleon	diversicolor (Morr.)	9427	890922 *11
Parapamea	buffaloensis (Grt.)	9463	890913-1018 [6]
Papaipema	duovata (Bird)	9465	901009,18
Papaipema	cataphracta (Grt.)	9466	891006,12,13 [3]
Papaipema	araliae Bird & Jones	9470	890921,26,27
Papaipema	arctivorens Hamp.	9471	890915
Papaipema	impecuniosa (Grt.)	9473	890916;901027
Papaipema	inquaesita (G. & R.)	9483	900921;890930;901017
Papaipema	baptisiae (Bird)	9485	900923
Papaipema	birdi (Dyar)	9486	900908-1010 [7]
Papaipema	nebris (Gn.)	9496	900914-901009 [5]
Papaipema	cerussata (Grt.)	9505	901004-22 [4]
Bellura	densa (Wlk.)	9526	890810;900818
Euplexia	benesimilis McD.	9545	890725
Phlogophora	periculosa Gn.	9547	890908,26
Chytonix	palliatricula (Gn.)	9556	900426
Dipterygia	rozmani Berio	9560	900816
Nedra	ramosula (Gn.)	9582	900930
Phosphila	turbulenta Hbn.	9618	900612
Phosphila	miselioides (Gn.)	9619	900618
Callopistria	mollissima (Gn.)	9631	900511;890824
Crambodes	talidiformis Gn.	9661	900604
Balsa	malana (Fitch)	9662	900609
Spodoptera	frugiperda (J.E.Sm.)	9666	901009
Spodoptera	ornithogalli (Gn.)	9669	890905
Elaphria	versicolor (Grt.)	9678	900501;890923
Elaphria	grata Hbn.	9684	900519;890728
Galgula	partita Gn.	9688	901103
Platysenta	videns (Gn.)	9690	890815-900930
Platysenta	vecors (Gn.)	9696	890822;900825
Ogdoconta	cinereola (Gn.)	9720	900529
Stiriodes	obtusa (H.-S.)	9725	900604
Cirrhophanus	triangulifer Grt.	9766	890826
Amolita	fessa Grt.	9818	900604
	--Cucullinae--		
Lithophane	signosa (Wlk.)	9895	901101 *
Lithophane	grotei (Lint.)	9915	910205 BAIT HGSpc

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GENUS	SPECIES	HODGES NO.	SPECIES
Eupsilia	vinulenta (Grt.)	9933	910205 [2] BAIT;90304 BL *12
Eupsilia	new species	9933.2	910205 [3] BAIT
Eupsilia	cirripalea Franc.	9934	910205 [4] BAIT
Eupsilia	morrisoni (Grt.)	9936	910205 [2] BAIT
Sericaglaea	signata (French)	9941	900417
Metaxaglaea	inulta (Grt.)	9943	891029 *13
Metaxaglaea	viatica (Grt.)	9944	891006;901105
Metaxaglaea	australis Schweitzer	9945.1	891029
Metaxaglaea	violacea Schweitzer	9945.2	901013-1117/910205
Epiglaea	decliva (Grt.)	9946	891020 [2]
Eucirroedia	pampina (Gn.)	9952	891010,18
Sunira	bicolorago (Gn.)	9957	891004-1117
Copivaleria	grotei (Morr.)	10021	910205
	--Hadeninae--		
Polia	goodelli (Grt.)	10289	900607,12
Polia	latex (Gn.)	10291	900516,22,0606,07
Lacanobia	legitima (Grt.)	10304	890904
Anepia	capsularis (Gn.)	10317	890521
Lacinipolia	renigera (Steph.)	10397	890930
Pseudaletia	unipuncta (Haw.)	10438	900417-1117
Leucania	linita Gn.	10440	900519,27
Leucania	linda Franc.	10445	890730-0919
Orthosia	rubescens (Wlk.)	10487	900314,25
Crocigrapha	normani (Grt.)	10501	900424
Himella	intractata (Morr.)	10502	900421
Egira	alternans (Wlk.)	10517	900415 [3]
Morrisonia	confusa (Hbn.)	10521	900519
Nephelodes	minians Gn.	10524	901001
Homorthodes	furfurata (Grt.)	10532	890930
Orthodes	crenulata (Btlr.)	10585	900823,0926
Orthodes	cynica Gn.	10587	900512,15
	--Noctuinae--		
Agrotis	gladiaria Morr.	10648	900921-891013
Agrotis	venerabilis Wlk.	10651	890930,1006
Agrotis	ipsilon (Hufn.)	10663	891006-1117
Feltia	jaculifera (Gn.)	10670	890905,0930;901011
Feltia	herilis (Grt.)	10676	890908
Eucoptocnemis	fimbriaris (Gn.)	10694	901009-18 [4]
Ochopleura	plecta (L.)	10891	900504-900916
Anicla	infecta (Ochs.)	10911	901013
Peridroma	saucia (Hbn.)	10915	900314
Spaelotis	clandestina (Harr.)	10926	890722
Xestia	dolosa Franc.	10942.1	900601,0907
Xestia	normaniana (Grt.)	10943	890903,11
Xestia	smithii (Snell.)	10944	900616
Xestia	bollii (Grt.)	10956	891005,07;901007 *14

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GENUS	SPECIES	HODGES NO.	SPECIES
Anomogyna	elimata (Gn.)	10967	900910,1010,12
Cerastis	tenebrifera (Wlk.)	10994	900314
Choephora	fungorum (G.& R.)	10998	901003,11
Protolampra	brunneicollis (Grt.)	11006	900530-891013
Abagrotis	alternata (Grt.)	11029	900814-1011
	--Heliothinae--		
Heliothis	zea (Boddie)	11068	900815
Heliothis	virescens (F.)	11071	890830
Schinia	lynx (Gn.)	11117	8909-21 [4]
Schinia	obscurata Stkr.	11118	900609 (DFS) *15
Schinia	rivulosa (Gn.)	11135	910814 [9]
Schinia	trifascia Hbn.	11149	890830;900827

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R. S. Bryant
editor

Cover illustration: The logo of the Maryland Entomological Society features the Maryland Shield and a specimen of Euphydras phaeton (Drury), the Baltimore checkerspot, which is the offical insect of the state of Maryland.

The Maryland Entomologist is published irregularly by the Maryland Entomological Society. There are four numbers in each volume. Original articles on geographic and temporal distribution, particularly pertaining to Maryland and adjacent states, ecology, biology, morphology, genetics, systematics, behavior, etc. are welcome. Book notices and reviews, distributional notes, migration, life history, and others will be published. All articles are subject to editorial review and acceptance. They should be sent to: Robert S. Bryant, 522 Old Orchard Road, Baltimore, MD 21229. Instructions to authors are contained in Volume 3(2).

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