A LIST OF LEPIDOPTERA TAKEN IN LIGHT TRAPS AT WINCHMORE IRRIGATION RESEARCH STATION

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SUMMARY

A list of 125 Lepidoptera which have been taken in the traps since 1.9.64 and the flight periods where they are known are given. For the more common species the earliest and latest flight records are also shown.

INTRODUCTION

Light trapping to study the flight patterns of insect pest species commenced at Winchmore Irrigation Research Station with one trap on 2.9.63. A second trap at a different site on the Station was installed on 7.4.64, and these traps have been in almost constant operation ever since. The light is supplied by Mercury-Vapour 230 volt 80 watt lamps operating from 6 p.m. to 12 p.m. The trapping area is approximately 12 miles [19.5 km] NNE of the town of Ashburton in the Canterbury Plains, South Island, New Zealand, and is 16 miles [22 km] from the coast and 20 miles [32 km] from the foothills at an altitude of 526 ft [160 m]. The traps are cleared and the catch is sorted daily during the main trapping season. From the beginning of May to end of August they are not cleared at weekends. All Lepidoptera, Coleoptera and a few species of other Orders are recorded and unknown species are identified by specialist entomologists. Twenty-five species have been identified since August 1971. Some species are not known to be established in New Zealand (e.g. **Othreis materna**) and their presence here is probably by chance. In conjunction with the light trapping a collection of all identified insects has been compiled.

	FLIGHT PERIOD AND COMMENTS		
	Commence	**Finish**	**Comments**
HEPIALIDAE			
Wiseana cervinata	19/9 to 5/10	17/2 to 16/3	
Wiseana umbraculata	5/11 to 28/11	11/12 to 10/1	
LYONETIDAE			
Opogona comptella	3/2 to 26/2	21/2 to 29/3	
PSYCHIDAE			
Oeceticus omnivorus	Not established	One specimen 16.9.70	
TINEIDAE			
Archyala terranea	Not established	Identified 2.7.70	
Monopsis ethelella	Intermittant visitor taken from 30/10to 25/3		
TORTRICIDAE			
"Capua semiferana"	23/11 to 15/12	31/3 to 20/4	
Cydia pomonella	Not established	Two specimens 16.3.71 and 1.4.72	
Crocidosema plebeiana	Not established		
Crytaspasma querula	Not established		
Epichorista emphanes	Not established	Specimens 29/11 and 1/12/70	
Epiphyas postvittana	9/11 to 23/12	6/4 to 22/5	
Harmologa ampleaxana	1/11 to 10/12	29/2 to 25/4	
Harmologa oblongana	Not established		
Merophyas leucaniana	9/10 to 9/12	13/3 to 19/4	
Planotortrix excessana	5/10 to 17/12	5/3 to 19/4	
Planotortrix notophea	Not established		
Sperchia intractana	Not established	Specimen 25/4/72; had been taken previously but not identified	
Spilonota infensa	Not established	Identified 31/5/72	
Spilonota macropetana	26/10 to 17/11	29/5 to 17/6	
"Tortrix" pictoriana	Not established		
HYPONOMEUTIDAE			
Plutella xylostella	16/11 to 2/3	15/5 to 15/7	
GLYPHIPTERYGIDAE			
Glyphipterix achyloessa	5/11 to 29/12	14/3 to 10/4	
Tebenna bradleyi	10/2	23/2 to 29/4	

	Commence	Finish	Comments
YPONOMEUTIDAE			
Orthenches porphyritis	Not established	One specimen 21/5/70	
GELECHIIDAE			
Anisoplaca ptyoptera	16/11 to 29/12	11/2 to 12/4	
Phthorimea operculella	Not established	Identified 9/4/70	
Scrobipalpa plaesiosema	Not established	One specimen 28/3/72, two others of unknown date	
OESOPHORIDAE			
Atomotricha sp.	Not established	Specimens 2/10/70 and 30/9/71	
Barea exarcha	Not established		
Borkhausenia sp.	Not established		
Coleophora frischella	22/10 to 12/11	2/4 to 1/5	
Coleophora spissicornis	19/11 to 13/12	22/12 to 11/2	One late specimen 21/3/71
Coleophora nr. **musculella**	7/12 to 10/12	10/3 to 6/4	Two seasons records
Cryptolechia apocrypta	30/12 to 21/1	10/2 to 26/4	
Cryptolechia aposema	Not established	One specimen	
Endrosis lacteella	3/11 to 1/12	6/12 to 16/5	
Heliostibes electrica	Not established	One specimen	
Izatha acomnias	Not established	Two specimens	
Leptocroca asphaltis	Not established	One specimen	
Leptocroca sp.	Not established	One specimen	
Proteodes carnifex	Not established	Specimens 25-6/4/71 20-21-22 and 26/2/72 and 22/4/72	
Trachypepla euryleucota	Not established	Specimens 15/11/71, 1-2 and 14/12/71, 9 and 15/1/72	
PTEROPHORIDAE			
Alucita innotalis	8/9 to 18/2	11/2 to 5/4	
PYRALIDAE			
Argyria pendactyla	Not established	One specimen 1971 and one March 1972	
Crambus cyclopicus	22/1 to 23/2	10/4 to 26/4	
Crambus flexuosellus	21/10 to 23/11	19/5 to 9/6	

	Commence	Finish	Comments
Crambus sp. nr. **lectus**	Not established	Identified 31/5/72	
Crambus ramosellus	16/11 to 22/12	14/4 to 13/6	
Crambus scitulus	13/2 to 9/3	3/3 to 14/3	3 seasons' records
Crambus simplex	19/11 to 2/3	30/12 to 4/5	
Crambus vittellus	14/11 to 9/1	27/2 to 6/4	
Crambus vulgaris	3/2 to 18/12	2/4 to 25/4	
Crambus xanthogrammis	Not established	One specimen 1970	
Crocydopora cinigerella	Not established	One specimen 18/4/72	
Diasema grammalis	Not established	Recorded 26/12/71 and 10-18/1/72	
Ephestia kuehniella	Not established	Identified 13/471	
Mecyna flavidalis	20/9 to 17/11	13/4 to 1/5	
Nesarcha hybrealis	Not established	Identified 14/3/72	
Pareromene lepidella	Not established	Identified 14/3/72	
Sceloides cordalis	Not established	One specimen 3/4/72	
Scoparia cataxesta	Not established	Identified 31/5/72	
Scoparia meliturga	Not established		
Scoparia minisculalis	Not established	Two specimens 10/2/72 and 10/4/72	
Scoparia nr. **philerga**	Not established		
Scoparia rotuella	Not established	From December to February	
Scoparia submarginalis	2/1 to 9/1	20/3/25	Two seasons records
Uresiphyta polygonalis maorialis	1st taken 25/3/68	Intermittant specimens since then, identified 14/3/72	
Witlesia sabulosellus	5/10 to 7/11	1/2 to 23/3	
GEOMETRIDAE			
Asaphodes abrogata	Not established	Two specimens 25-26/3/71	
Asaphodes oraria	25/9 to 6/12	21/5 to 29/6	Did not appear in November 1969 and 1970
Epirrhanthis alectoraria	Not established	Two specimens 1/2/72	
Helastia cinerearia	19/9 to 1/11	6/4 to 6/6	
Helastia cymozeucta	14/11 to	9/2 and 10 specimens since 17/12/67	
Helastia rosearia	Year round, except February		

	Commence	Finish	Comments
Helastia semifissata	Not established	Identified 14/3/72	
Homodotis megaspilata	Not established	One specimen	
"Hydriomena" deltoidata	Not established	5 specimens since 17/5/67	
Hybernia indocilis	Not established	5 specimens since 8/10/67	
Orthocyclodon praefectata	Not established	One specimen 25/11/68	
Pasiphila inductata	Not established	Identified 14/3/72	
Pasiphila punicea	Not established	One specimen	
Phrissogonus testulatus	Not established	Two specimens 22/12/71 and 6/1/72	
Scopula rubraria	28/11 to 21/2	30/3 to 25/4	
Selidosema suavis	13/10 to 22/12	4/5 to 16/8	
Selidosema leucelaea	Not established	One specimen 4/3/68	
Theoxena scissaria	Not established	One specimen	
NOCTUIDAE			
Agrotis ypsilon	11/8 to 16/1	22/5 to 22/6	Early appearances often consist of a single specimen
Aletia lacustris	26/10 to 27/11	27/1 to 4/5	
Aletia moderata	28/9 to 17/10	7/4 to 12/5	
Aletia nobilia	Not established	One specimen 20/3/72	
Aletia nullifera	Not established		
Ariathisa comma	31/10 to 30/11	7/2 to 20/5	
Bityla defigurata	Has been taken in Jan., Mar., June, July, Aug., Nov. and Dec.		
Euxoa ceraphachoides	Not established	One specimen	
Graphania disjungens	1/11 to 25/11	2/12 to 8/1	
Graphania sp. nr. **insignis**	Not established	One specimen 23/4/72	
Graphania homoscia	Not established	One specimen 23/8/67	
Graphania infensa	1/10 to 2/11	17/12 to 20/12	Three seasons records
Graphania insignis	23/3 to 18/4	8/6 to 8/7	
Graphania lignana	31/1 to 19/3	15/4 to 8/5	
Graphania mollis	Not established	Two specimens 1970, and two others on 5/3/71 and 20/12/71	
Graphania morosa	12/9 to 11/10	18/10 to 12/11	

	Commence	Finish	Comments
Graphania mutans	All year round		
Graphania olivea	7/11 to 21/12	26/12 to 24/1	
Graphania omolpaca	29/10 to 28/11	4/1 to 23/2	
Graphania plena	Taken in all months except February		
Graphania prionistis	Not established	Three specimens 1/10/69, 22/10/70 and 4/2/71	
Graphania sequens	Not established	Two specimens 11/4/70 and 22/2/71	
Graphania ustistriga	Taken in all months except June and July		
Helicoverpa armigera	4/2 to 18/4	9/3 to 4/5	
Leucania acontistis	6/11 to 27/12	10/12 to 4/1	No flight 1970 (scarce)
Leucania semivittata	15/11	26/3	First specimens 1971
Leucania toroneura	Not established	Identified 1972, four specimens, 3 male, 1 female	
Leucania unica	8/9 to 27/9	30/10 to 8/1	
Melanchra stipata	Not established	Two specimens 1/10/70 and 2/12/71	
Othreis materna	Not established	One vagrant specimen 28/1/70	
Persectania arotis	1/10 to 16/11	4/12 to 3/1	
Persectania atristriga	1/11 to 11/2	2/5 to 15/5	
Persectania aversa	1/9 to 21/10	27/4 to 16/6	
Persectania propria	18/12 to 28/2	24/4 to 8/5	
Persectania steropastis	24/11 to 5/1	22/1 to 30/1	
Plusia chalcites	Not established	Two specimens 6 and 25/4/71	
Pseudaletia separata	Not established	Specimens 4-18/5 and 3/6/71, 18/4/72	
Rhapsa scotosialis	Not established	Two specimens	

N.B.: All species marked "not established" are either intermittent visitor or recent identifications and data to establish a flight pattern is still being collected.

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RELATIVE TOXICITY OF THIRTEEN INSECTICIDES APPLIED TOPICALLY TO ADULTS OF THE GRASS GRUB BEETLE COSTELYTRA ZEALANDICA (SCARABAEIDAE)

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INTRODUCTION

In October-November 1970, field collected adult grass grub, **Costelytra zealandica** (White) (Scarabaeidae) were tested for their susceptibility to a range of commercial and experimental insecticides using a topical application method. Adult grass grub screens have been run by others; Perrott (1964), Fenemore (1970), Fenemore and Perrott (1970); using a microloop topical application technique or a contact exposure method. This paper presents results confirming earlier screens and also shows the relative effectiveness of some new compounds.

METHOD

Adult grass grub beetles were field collected during evening flights by shaking the beetles off shrubs and small trees onto a plastic sheet and then transferring into fibre drums with a nylon gauze lid. These were stored over night at a room temperature of 13°C.

Topical applications were made the following day with an ISCO model M electrically time micro applicator calibrated to deliver one microlitre of insecticide solution per dose. The beetles were not anaesthetised, as they were easily manipulated during treatment with a vacuum pencil. Beetles were individually dosed with one microlitre of insecticide solution in acetone, applied to the posterio-ventral surface of the abdomen.

To determine dosage—mortality response, mortalities in the 4-96% range from up to seven concentrations per compound were recorded. After treatment beetles were kept in paper cups, with