

# LIST OF LEPIDOPTERA COLLECTED IN AREAS SURROUNDING HASTINGS AND NAPIER

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All the species in the following list have been collected by me over the past seventeen years. The observations on the level of abundance, although subjective, may be of some significance.

The following methods of collecting were used: beating, sweeping, the use of sugar, and light. Two types of light were used, (a) 125 Mercury Vapour lamp, and (b) 15 Watt Black Light, the latter being the best for catching Micro-Lepidoptera. Beating and sweeping has proved valuable in obtaining species not found at light.

All the species named in the list are in my collection.

Abbreviations used are as follows:—

M/V .....	Mercury Vapour lamp.
B/L .....	Black Light.
L.B. ....	Little Bush, Puketitiri, Hawke's Bay.
W.P.B. ....	White Pine Bush, Napier/Wairoa Rd.
H. ....	Haumoana, on the coast, 8 miles from Hastings.

Where used, the term to light, refers to household light, otherwise the type of light used is noted.

Sub Order Zeugloptera.

Family Micropterygidae.

**Micropardalis dorozena** Meyr. 1, at W.P.B.; 2, at L.B.; all by sweeping, scarce.

**Sabatinca zonodoxa** Meyr. At L.B., by sweeping, scarce.

**Sabatinca incongruella** Walk. 1, at L.B., scarce.

**Sabatinca ianthina** Philp. By beating out of Rangiora flowers, L.B., scarce.

**Sabatinca rosicoma** Meyr. By sweeping, L.B., scarce.

**Sabatinca demissa** Philp. 1, by sweeping, W.P.B., scarce.

Sub Order Monotrysia.

Superfamily Eriocranoidea.

Family Mnesarchaeidae.

**Mnesarchaea loxoscia** Meyr. By sweeping, W.P.B., was plentiful Nov. 1970.

Superfamily Hepialoidea.

Family Hepialidae.

**Aenetus virescens** Dbl. Extremely common at L.B., and Balls Clearing, Puketitiri. Is present also at W.P.B., Elsthorpe Reserve, and Clifton.

**Trioxycanus enysii** Butl. Not plentiful, but widespread.

**Wisena umbraculata** Guen. Fairly common.

**Wisena cervinata** Walk. Extremely common at L.B., numerous at H.

Sub Order Ditrysia.  
Superfamily Psychoidea.  
Family Psychidae.

*Oiketicus omnivorus* Meyr. Very common everywhere.

Superfamily Tineoidea.  
Family Tineidae.

*Archyala terranea* Butl. To B/L, L.B., 1.i.70, rare.

*Crypsitricha mesotypa* Meyr. 1, to M/L, L.B., 30.1.66, rare.

*Endopthora tylogramma* Meyr. To light, H., 20.ii.65, scarce.

*Habrophila compseuta* Meyr. By beating, W.P.B., scarce.

*Lindera tessellatella* Blanch. To light, H., not common.

*Lysiphragma mixochlora* Meyr. To B/L, L.B., common.

*Monopis ethelella* Newm. L.B., and H., not common.

*Monopis crocicapitella* Clem. Common.

*Sagephora felix* Meyr. W.P.B., scarce.

*Sagephora phortegella* Meyr. To B/L, W.P.B., and L.B.

*Tinea margaritis* Meyr. 2, by beating, W.P.B., scarce.

*Trichophaga tapetiella* Lin. 1, on wall of house, H., 1960, rare.

Family Gracillariidae.

*Acrocerops cyanospila* Meyr. To light, W.P.B., H., and L.B.

*Cracilaria chalcodelta* Meyr. 2, by sweeping, W.P.B., scarce.

*Gracilaria linearis* Butl. 2, by sweeping, W.P.H., scarce.

*Lithocolletis messaniella* Zell. Hastings, not common.

*Parectopa aëllomacha* Meyr. To B/L, L.B., scarce.

*Parectopa citharoda* Meyr. Havelock North, not common.

Family Lyonetidae.

*Erechthias externella* Walk. To B/L, Y.B., not common.

*Erechthias charadrota* Meyr. To B/L, L.B., not common.

*Erechthias fulguritella* Walk. To light, H., 6.xi.69, rare.

*Erechthias hemiclistra* Meyr. To light, H., scarce.

*Eschatotypa derogatella* Walk. Not common in bush areas.

*Hectacma chasmatias* Meyr. W.P.M., L.B., and H., not common.

*Hectacma chionodira* Meyr. To light, H., scarce.

*Hectacma stilbella* Dbld. L.B., and H., not common.

*Ogogona comptella* Walk. 1, in garden H., 25.xii.69; 1, to B/L, L.B., 29.xii.69, rare.

Superfamily Yponomeutoidea.

Family Yponomeutidae.

*Dolichernis chloroleuca* Meyr. 1, to B/L, L.B., 1, by sweeping, W.P.B., 17.xi.68, scarce.

*Orthenches virgata* Philp. To B/L, L.B., and to light, H., scarce.

*Plutella maculipennis* Curt. L.B., and H., not common.

*Plutella sera* Meyr. 1, to B/L, L.B., 4.iii.71, rare.

*Protosynaema quaestuosa* Meyr. 1, to light, H., 4.iv.65, rare.

*Protosynaema steropucha* Meyr. W.P.B., and L.B., by beating, scarce.

*Zelleria copidota* Meyr. 1, by beating, W.P.B., rare.

Family Glyphipterigidae.

- Coridomorpha stella* Meyr. 1, to B/L, L.B., 7.i.64, rare.  
*Glyphipteryx achlyoessa* Meyr. W.P.B., and L.B., not common.  
*Glyphipteryx asteronota* Meyr. By beating, W.P.B., to light, H., not common.  
*Glyphipteryx iocheaera* Meyr. By beating, Rabbit Gulley, Clifton, 21.xi.64, scarce.  
*Glyphipteryx oxymachaera* Meyr. 2, by sweeping, W.P.B., 17.xi.68.  
*Glyphipteryx transversella* Walk. To B/L, L.B., by beating, W.P.B., not common.  
*Glyphipteryx zelota* Meyr. In bush areas, not common.  
*Heliostibes atychiodes* Butl. T B/L, L.B., 30.xii.69, rare.  
*Heliostibes illita* Feld. W.P.B., and L.B., scarce.  
*Simaethis colpota* Meyr. By beating, W.P.B., scarce.  
*Simaethis combinata* Walk. By beating, W.P.B., scarce.  
*Tebenna bradleyi* Clarke. Type locality, H., 13.xi.65 (T. H. Davies).

Family Aegeriidae.

- Synanthedon tipuliforme* Clerck. Emerged from black currant bush, H., 17.i.62, scarce.

Superfamily Gelechioidea.

Family Stathmopodidae.

- Stathmopoda aposema* Meyr. To B/L, L.B., scarce.  
*Stathmopoda caminora* Meyr. By beating, W.P.B., scarce.  
*Stathmopoda mysteriasia* Meyr. To light, H., rare.  
*Stathmopoda phlegyra* Meyr. Common in bush areas, taken by beating only.  
*Stathmopoda skelloni* Butl. 2, W.P.B., by beating, 27.xii.63, scarce.  
*Thylacosecles acridomina* Meyr. Common, L.B.  
*Vanicella disjunctella* Walk. All bush areas, very common.

Family Oecophoridae.

- Barea confusella* Walk. To light, H., not common.  
*Barea dinocosma* Meyr. W.P.B., by beating, scarce.  
*Barea exarcha* Meyr. 1, to light, H., 20.ii.63, rare.  
*Borkhausenia amnopis* Meyr. To B/L, L.B., scarce.  
*Borkhausenia chlorodelpha* Meyr. By beating, W.P.B., scarce.  
*Borkhausenia hemimochla* Meyr. By beating, W.P.B., scarce.  
*Borkhausenia innotella* Walk. 1, by beating, W.P.B., scarce.  
*Borkhausenia plagiata* Walk. W.P.B., and L.B., scarce.  
*Borkhausenia politis* Meyr. By beating, W.P.B., scarce.  
*Borkhausenia siderodeta* Meyr. 1, Rabbit Gulley, Clifton, 21.ii.65, and 1, W.P.B., 28.xi, 65, rare.  
*Borkhausenia armigerella* Walk. Common in bush areas, 1, to light, H., 1.xi.66.  
*Compsistis bifaciella* Walk. By beating, W.P.B., to B/L, L.B., not common.  
*Cryptolechia compsotpya* Meyr. To light, H.; to B/L, L.B.,  
*Endrosia lacteela* Lin. H. common at times.

- Eutorna Symmorpha** Meyr. 1, to B/L, L.B., 30.xii.69, scarce.  
**Eutorna caryochroa** Meyr. By beating, W.P.B., scarce.  
**Gymnobathra flavidella** Walk. Common in bush areas.  
**Gymnobathra hamatella** Walk. By beating, W.P.B.; to B/L, L.B., scarce.  
**Gymnobathra tholodella** Meyr. 1, to light, H., 7.iii.65, rare.  
**Hofmannophila pseudospretella** Meyr. Common.  
**Izatha acmonias** Philp. To light, H., rare.  
**Izatha attactella** Walk. 1, by beating, W.P.B., 1i.x.67, rare.  
**Izatha caustopa** Meyr. To B/L, scarce.  
**Izatha epiphanes** Meyr. By beating, W.P.B., scarce.  
**Izatha huttoni** Butl. Reared from dead Wineberry, emerged 17.i.65.  
**Izatha metadelta** Meyr. Emerged from dead Wineberry, ex W.P.B., 2.i.64, scarce.  
**Izatha peroneanella** Walk. Common in bush areas.  
**Izatha picarella** Walk. To B/L, L.B., not common.  
**Lathicrossa leucocentra** Meyr. By sweeping, W.P.B., scarce.  
**Nymphostola galactina** Feld. By sweeping, W.P.B., scarce.  
**Trachypepla aspidophora** Meyr. 1, to B/L, L.B., rare.  
**Trachypepla amphileuca** Meyr. To B/L, L.B., scarce.  
**Trachypepla euryleucota** Meyr. 2, to light, H., 1966, rare.  
**Trachypepla galaxias** Meyr. 1, from L.B., and 1, from W.P.B., 12.xii.67; and 2, again from L.B., 27.xii.67, scarce.  
**Trachypepla leucoplanetis** Meyr. 1, by beating, W.P.B., 28.xi.71., rare.  
**Trachypepla protochlora** Meyr. 2, by beating, W.P.B., 12.xi.67, scarce.  
**Leptocroca asphaltis** Meyr. To light, H.; to B/L, L.B.  
**Leptocroca scholaea** Meyr. 1, Bluff Hill, Napier, 5.i.67.  
 Family Gelechiidae.  
**Anisoplaca achyrota** Meyr. To B/L, L.B., scarce.  
**Anisoplaca ptyoptera** Meyr. To B/L, L.B.; 1, by beating, W.P.B., 7.xii.69, scarce.  
**Aristotelia paradesma** Meyr. 1, to B/L, L.B., 30.xii.71, rare.  
**Gelechia monophragma** Meyr. To light, H., scarce.  
**Gelechia parvula** Philp. Makahu Saddle, Kaweka Range, 3,000 ft., by beating, 31.xii.71.  
**Megacraspedus calamogona** Meyr. By beating, L.B., to light, H., not common.  
**Scrobipalpa plaesiosema** Turner. To light, H.  
**Phthorimaea opercula** Zell. To light, H.  
**Thiotricha thorybodes** Meyr. Very common in all areas.  
 Family Cosmopterigidae.  
**Batrachedra agaura** Meyr. By beating, W.P.B., scarce.  
**Batrachedra arenosella** Walk. 1, to light, H., 23.xi.64, rare.  
**Batrachedra filicicola** Meyr. Very common, to light, H.  
**Batrachedra psathyra** Meyr. 1, W.P.B., by beating, scarce.

*Pyroderces apparitella* Walk. W.P.B., and H., not common.  
*Zayprasta calliphana* Meyr. 1, by sweeping, W.P.B., 20.ii.68, rare.

Family Timyridae.

*Lecithocera micromela* Low. 1, to light, H., 24.ii.66.

Superfamily Tortricoidea.

Family Tortricidae.

"*Batodes*" *jactatana* Walk. Common to light, H., taken at L.B.,  
at B/L.

*Bactra noteraula* Meyr. 1, to light, 1962, 2, to light, H., 1966, rare.

*Catamacta gavisana* Walk. W.P.B., and L.B., not common.

"*Capua*" *semiferana* Walk. L.B., and H.

"*Cnephasia*" *incessana* Walk. W.P.B., by sweeping, common.

*Crociosema plebeiana* Zell. Common to light, H.

*Cryptasasma querula* Meyr. W.P.B., and L.B., not common.

*Ctenopseustis obliquana* Walk. To light, H., scarce.

*Cydia pomonella* Lin. 2, to light, H., a specimen emerged from  
walnut taken from Havelock North, 15.iv.68.

*Dipterina imbriferana* Meyr. Common in bush areas, 1, emerged  
from dead Wineberry ex W.P.B., 10.xiii.68.

*Epalxiphora axenana* Meyr. W.P.B., and L.B., common.

*Epiphyas postvittana* Walk. Very common.

*Harmoloba aplexana* Meyr. W.P.B., by beating, not common.

*Maoritenes cyclobathra* Meyr. 1, to M/V light, L.B., 22.ii.68, rare.

*Merophyas leucaniana* Walk. To M/V light, L.B., by beating,  
W.P.B., not common.

*Planotortrix excessana* Walk. Common.

*Planotortrix conditana* Walk. W.P.B., and L.B., scarce.

*Planotortrix orthocopa* Meyr. By sweeping, W.P.B., scarce.

*Prothelymna niphostrota* Meyr. W.P.B., 1, at window, H., 13.xii.68,  
not common.

*Pyrgotis arcuta* Philp. To B/L, L.B., 1.i.70, rare.

*Pyrgotis eudorana* Meyr. To B/L, W.P.B., and L.B., rare.

*Pyrgotis plagiata* Walk. W.P.B., L.B., and H., common.

*Pyrgotis plinthoglypta* Meyr. 1, to M/V light, L.B.

*Pyrgotis pyramidias* Meyr. 1, to B/L, L.B., 24.x.65, rare.

*Pyrgotis variegata* Walk. By sweeping, W.P.B., scarce.

*Sperchia intractana* Walk. Very common everywhere.

*Strepsicrates chaophila* Meyr. To B/L, L.B., also W.P.B., by beat-  
ing.

*Strepsicrates dolopaea* Meyr. To B/L, L.B., scarce.

*Strepsicrates ejectana* Walk. By beating, L.B., 2, to light, H.,  
27.iii.69.

*Strepsicrates macropetana* Meyr. Reared from Gum tree foliage,  
emerged, 20.xi.60, H.

*Strepsicrates zopherana* Meyr. By beating, L.B., scarce.

Superfamily Copromorpoidea.

Family Carposinidae.

- Carposina adreptella** Walk. W.P.B., and H., not common.  
**Carposina charaxias** Meyr. By beating, W.P.B., common.  
**Carposina eriphylla** Meyr. To M/V light, L.B., not common.  
**Carposina exochana** Meyr. W.P.B., by sweeping, 1, to B/L, L.B., scarce.  
**Carposina gonosemana** Meyr. W.P.B., 1, taken 26.i.64, scarce.  
**Carposina thalamota** Meyr. L.B., and H., not common.  
**Carposina iophaea** Walk. 1, to light, H., rare.

Superfamily Pyraloidea.

Family Thyrididae.

- Morova subfasciata** Walk. To B/L, L.B., not common.

Family Pterophoridae.

- Alucita furcatalis** Walk. To light of all kinds, and by sweeping, common.  
**Alucita innotatalis** Walk. By beating, L.B., not common.  
**Alucita monospilalis** Walk. By beating, L.B., larvae, reared from Five Finger tree, imagines emerged 14.xi.68.  
**Platyptilis celidota** Meyr. L.B., by beating, common.  
**Platyptilis deprivatilis** Walk. By beating, L.B., not common.  
**Platyptilis falcatalis** Walk. By beating, L.B., not common.  
**Stenoptilia zophodactyla** Dup. 1, to B/L, L.B., 12.iv.66, rare.

Family Phycitidae.

- Crocydopora cinigerella** Walk. To light, H., not common.  
**Plodia interpunctella** Meyr. To light, H., a specimen was reared from a walnut off a tree in Havelock North, emerged 16.vii.64.  
**Homoesoma vagella** Zell. To light, H., common.  
**Salebria sublignalis** Walk. 2, to B/L, L.B., 1, H., 30.iv.68.  
**Ephestia kuehniella** Meyr. Bred from walnuts bought locally, source, either Havelock North of Hastings; of 478 nuts, 293 were infested.

Family Crambidae.

- Argyria pentadactyla** Zell. To light, H., scarce, taken at Bridge Pa, Hastings.  
**Argyria stropea** Meyr. 1, taken on Bluff Hill, Napier, rare, 5.xi.67.  
**Crambus angustipennis** Zell. 1, to light, Hi., 10.i.62, rare.  
**Crambus apicellus** Meyr. 1, to B/L, L.B., 5.i.65, rare.  
**Crambus apicellus** Meyr. 1, to B/L, L.B., 5.i.65, rare.  
**Crambus cyclopicus** Meyr. Not a common species.  
**Crambus flexuosellus** Dbld. The most abundant species to light.  
**Crambus pedias** Meyr. Common.  
**Crambus ramosellus** Dbld. Common.  
**Crambus simplex** Butl. 3, to B/L, L.B., 30.i.66, scarce.  
**Crambus siriellus** Meyr. 1, by beating, L.B., 3.i.63, rare.  
**Crambus vulgaris** Butl. H., scarce.  
**Crambus xanthogrammus** Meyr. Shingle banks, Mohaka River, Puketitiri, scarce.

- Gadira acerella** Walk. L.B., common.
- Pareromene auriscriptella** Meyr. W.P.B., and L.B., common.
- Pareromene auriscriptella** Meyr. W.P.B., and L.B., common.
- Pareromene elaina** Meyr. W.P.B., by sweeping, scarce.
- Pareromene harmonica** Meyr. By sweeping, Rabbit Gulley, Clifton, 21.xi.64.
- Pareromene lepidella** Walk. To B/L, L.B., 30.xii.69, rare.
- Pareromene metalifera** Butl. W.P.B., and L.B., common.
- Pareromene pyrsophanes** Meyr. Common, W.P.B., and L.B.
- Pareromene selenaea** Meyr. By beating, L.B., 7.i.64, by sweeping, Rabbit Gulley, Clifton, 24.xi.64, scarce.
- Family Galleriidae.
- Galleria mellonella** Lin. 1, to light, H., 7.i.63, and 1, to light, H., 28.iv.64, scarce.
- Family Pyralidae.
- Aglessa cuprealis** Hubn. 2, to light, H., scarce.
- Gauna aegalis** Turn. To light, H., reared from galls on Wattle tree, Havelock North.
- Pyralis farinalis** Lin. L.B., and H., not common.
- Family Pyraustidae.
- Antiscopa epicomia** Meyr. 2, by beating, W.P.B., 17.xi.63; 2, same locality, 20.ii.68; and 1, 7.xi.70, scarce.
- Diasema grammalis** Dbld. Common to light and sweeping.
- Mecyna diaclealis** Walk. 1, to B/L, L.B., 2.xi.71, rare.
- Mecyna flavidalis** Dbld. Very common.
- Mecyna marmarina** Meyr. Common.
- Musotima aduncalis** Feld. W.P.B., and L.B., not common.
- Musotima nitidalis** Walk. L.B., not common.
- Nesarcha hybrealis** Walk. Very common W.P.B., scarce elsewhere.
- Nymphula nitens** Butl. Common to light, H., and L.B.
- Proternia philocapna** Meyr. 1, to light, 13.i.62, rare, H.
- Sceloides cordalis** Dbld. H., not common.
- Scoparia animosa** Meyr. 1, to B/L, L.B., 30.xii.71, rare.
- Scoparia aspidota** Meyr. Common to M/V and B/L, L.B.
- Scoparia asterisca** Meyr. 2, to B/L, L.B., 3.i.70, scarce.
- Scoparia autochroa** Meyr. 2, to B/L, 1, on 1.i.70, the other, 30.xii.71, L.B., rare.
- Scoparia autumnata** Philp. 1, to B/L, L.B., 29.xii.71, rare.
- Scoparia cataxesta** Meyr. To B/L, L.B., also sweeping banks Mohaka River, Puketitiri.
- Scoparia chalicodes** Meyr. To light, H., common.
- Scoparia characta** Meyr. Elsthorpe Reserve by beating, to B/L, L.B., not common.
- Scoparia chimeria** Meyr. By beating, W.P.B., to B/L, L.B., not common.
- Scoparia chlamydota** Meyr. To B/L, L.B., not common.
- Scoparia cyameuta** Meyr. 1, by sweeping, W.P.B., 3, to B/L, L.B., scarce.

- Scoparia cymatias** Meyr. 1, by beating, W.P.B., 11.i.71, rare.
- Scoparia dinodes** Meyr. By beating, W.P.B., scarce.
- Scoparia diphtheralis** Walk. Common, except H., where scarce.
- Scopario ergatis** Meyr. W.P.B., 1, 15.xi.64, and 1, same locality, 6.ii.66, scarce.
- Scoparia feredayi** Knaggs. 1, by sweeping, W.P.B., 12.xi.67, rare.
- Scoparia halopis** Meyr. By beating, W.P.B., and L.B., common to light, H.
- Scoparia indistinctalis** Meyr. By sweeping, L.B., scarce.
- Scoparia hemiplaca** Meyr. 1, to B/L, 1.i.70, and 1, by sweeping, 30.xii.71, L.B., rare.
- Scoparia luminatrix** Meyr. To B/L, L.B., scarce.
- Scoparia meliturga** Meyr. Taken by sweeping, L.B., common.
- Scoparia minualis** Meyr. W.P.B., by beating, scarce.
- Scoparia minusculalis** Walk. Common, W.P.B., L.B.
- Scoparia periphanes** Meyr. ,2, to B/L, L.B., 1.i.70, scarce.
- Scoparia phalerias** Meyr. 1, taken Littles Clearing, Kaweka Range, 17.xii.62; 2, at L.B., and 1, at W.P.B., scarce.
- Scoparia philerga** Meyr. To light, H., also L.B., common.
- Scoparia pongalis** Feld. W.P.B., not common.
- Scoparia steropaea** Meyr. W.P.B., and L.B., not common.
- Scoparia submarginalis** Walk. Common.
- Scoparia trivirgata** Meyr. 1, Littles Clearing, Kaweka Range, 10.ii.62, scarce.
- Scoparia ustimaculata** Feld. W.P.B., L.B., and H., not common.
- Scoparia zophochlaena** Meyr. 1, to B/L, L.B., 30.xii.71, rare.
- Witlesia psammitis** Meyr. W.P.B., L.B., and H., common to all lights.
- Witlesia sabulosella** Meyr. L.B., and H., not common.
- Uresipita polygonalis maoralis** Feld. Common.  
Superfamily Bombycoidea.  
Family Saturniidae.
- Antheraea eucalypti** Scott. Common in the Hastings, Napier, Tara-dale, and Haumoana areas.  
Superfamily Papilionoidea.  
Family Nymphalidae.
- Bassaris gonerilla gonerilla** Fabr. Common in the Puketitiri area, scarce elsewhere.
- Bassaris itea** Fabr. Not common.
- Cynthia kershawi** McCoy. 2, only in garden H., 1, 30.iii.64, the other, 20.iii.69, scarce.
- Hypolimnas bolina nerina** Butl. Seen at Whakatu, Mangateretere, 3.iii.66, same locality, 27.ii.65, Bluff Hill Napier, Feb., 1969.
- Danaus plexippus** Lin. Common around cities.
- Precis vellida calybe** Godart. 1, in garden H., 24.xi.68, rare.  
Family Lycaenidae.
- Lycaena boldenarum** White. Very common at Mohaka River, 1, taken on beach, H., 13.x.67.

- Lycaena salustius** Fabr. Common at H., and Mohaka River, scarce at L.B., and W.P.B.
- Lycaena feredayi** Bates. Scarce species, a large swarm encountered at W.P.B., 5.iii.67 (approx. 80 specimens).  
Family Pieridae.
- Pieris rapae** Lin. Very common.  
Superfamily Geometroidea.  
Family Geometridae.
- Anacloris subochraria** Dbld. To M/V light, L.B., to light H., not common.
- Asaphodes aegrota** Butl. L.B., common.
- Asaphodes chlamydota** Meyr. Common at L.B.
- Asaphodes clarata** Walk. 2, by beating, L.B., Jan. 1954, rare.
- Asaphodes obarata** Feld. 1, by sweeping, L.B., 3.i.63, 1, same locality, 2.ii.69, scarce.
- Asaphodes prasinias** Meyr. To M/V light, and by beating L.B.
- Asaphodes stinaria** Gn. 1, at edge of Beech forest, Kaweka Range, El. 3,200 ft., 3.iii.64, scarce.
- Austrocidaria callichlora** Butl. To B/L, L.B., 4.i.i70, rare.
- Austrocidaria lithurga** Meyr. 1, to B/L, L.B., 29.xii.69, 1, to M/V, L.B., 21.?.70, rare.
- Austrocidaria similata** Walk. Common.
- Cleora scriptaria** Walk. Common.
- Declana atronivea** Walk. W.P.B., and L.B., scarce.
- Declana flocossa** Walk. Common.
- Declana griseata** Huds. 1, to B/L, Oct. 1965, and 1, again in Oct. 1966, L.B., rare.
- Declana hermione** Huds. To M/V light, L.B., scarce.
- Declana junctilinea** Walk. To M/V light and B/L, L.B., common.
- Declana leptomera** Walk. To M/V light, L.B., common.
- Elvia glaucata** Walk. 2, to light, H., 1961, 1, to light, 1969, and 1, to B/L, L.B., 1968, scarce.
- Eucymatoge anguligera** Butl. 1, to M/V light, L.B., 6.i.63, rare.
- Eucymatoge gobiata** Feld. 1, by beating, W.P.B., 21.i.66, rare.
- Epicyme rubropunctaria** Dbld. To M/V light, L.B., scarce.
- Epiphyryne verriculata** Feld. Common in bush areas.
- Epiphyryne undosata** Feld. Common, reared from Thousand jacket ex L.B., pupated 4.iii72, emerged 15.iii72.
- Epirranthis alectoraria** Walk. To M/V light, L.B., scarce.
- Epirranthis ustaria** Walk. To light, H., to B/L, W.P.B., scarce.
- Garpaphia muriferata** Walk. To B/L, W.P.B. and L.B., and by beating.
- Gellonia dejectaria** Walk. To all lights and beating, common.
- Helastia cineraria** Dbld. Rabbit Gulley, Clifton, and W.P.B., not common.
- Helastia lucidata** Walk. H., scarce.
- Helastia rosearia** Dbld. Common, H. and L.B.
- Helastia semifissata** Walk. H., and L.B., common.

- Helastia venipunctata** Walk. Common at H.
- Homodotis megaspilata** Walk. Very common in bush areas.
- Hybernia indocilis** Meyr. Clifton Domain, and H., scarce.
- "Hydiomena canescens"** Philp. To B/L, L.B., scarce.
- "Hydiomena" deltoidata** Walk. W.P.B., and L.B., common.
- "Hydiomena" rixata** Feld. By sweeping over water cress, L.B.
- Lythria perornata** Walk. 1, at L.B., 29.xii.63, rare.
- Microdes epicryptis** Meyr. 2, to light H., 24.xi.62, rare.
- Microdes quadristrigata** Walk. 2, to light H., 1.vii.62, rare.
- Orthoclydon praefectata** Walk. 1, by sweeping, W.P.B., rare.
- Paradotis porphyrias** Meyr. 1, to M/V light, L.B., 30.xii.71, rare.
- Pasiphila dryas** Meyr. Elsthorpe Reserve, 2,2 to light, H., scarce.
- Pasiphila fumipadpata** Feld. 1, to B/L, L.B., 24.iv.67, rare.
- Pasiphila lacustris** Meyr. 1, to M/V light, L.B., 24.iv.67, rare.
- Pasiphila lunata** Philp. H., 1962, 1963, and 1964, not taken since, never plentiful.
- Pasiphila muscosata** Walk. H., 1961 and 1963, 1, to B/L, L.B. 1965, scarce.
- Pasiphila paralodes** Meyr. 1, at H., 10.iv.66, 3 to B/L, L.B., 27.x.69, scarce.
- Pasiphila sandycias** Meyr. 1, to light, H., 6.i.62, and 2, to B/L, L.B., 1.i.70, rare.
- Pasiphila sphragitis** Meyr. 2, to B/L, L.B., 4.ii.68, rare.
- Phrissogonus laticostatus** Walk. Commonest geometrid at H., first to appear in Spring and last to be seen in the Autumn.
- Phrissogonus testulatus** Guen. 2, to B/L, L.B., 12.iv.62, rare.
- Poecilasthena pulchraria** Dbld. Common to light and beating.
- Poecilasthena subpurpureata** Walk. W.P.B., L.B., and H., common.
- Samana falcata** Walk. 1, by sweeping, L.B., 3.i.63, rare.
- Scopula rubraria** Dbld. Common.
- Selidosema albifasciata** Philp. 2, by beating, 1, to B/L, L.B., rare.
- Selidosema aristarcha** Meyr. To M/V light, L.B., by beating, W.P.B., not common.
- Selidosema fasciata** Philp. By beating, W.P.B., and L.B.
- Selidosema fenerata** Feld. To light, H.
- Selidosema flava** Warr. Rare, taken only by beating, flies close to ground when disturbed and slowly.
- Selidosema indistincta** Butl. Common in bush areas.
- Selidosema leucelaea** Meyr. H., and L.B.
- Selidosema pelurgata** Walk. By beating, L.B., not common.
- Selidosema pergata** Walk. By beating, L.B., and W.P.B., scarce.
- Selidosema productata** Walk. To M/V light, L.B., by beating W.P.B.
- Selidosema rudisata** Walk. H., and L.B., scarce.
- Selidosema suavis** Butl. Common.
- Sestra flexata** Walk. Common in bush areas.
- Tatosoma agrionata** Walk. To B/L, L.B.
- Tatosoma lestevata** Walk. W.P.B., scarce.
- Tatosoma timora** Meyr. L.B., by beating, scarce.

- Tatosoma topia** Huds. 1, to B/L, L.B., 27.x.69, rare.  
 Superfamily Sphingoidea.  
 Family Springidae.
- Herse convolvuli** Lin. Taken in the Havelock North, Hastings, and Haumoana areas.  
 Superfamily Noctuoidea.  
 Family Hypsidae.
- Nyctemera annulata** Boisd. Common.  
 Family Noctuidae.
- Agrotis infusa** Boisd. 1, to M/V light, L.B., 2.ii.69, rare.
- Agrotis innominata** Huds. 2, to light, March 1959, and 2, again in March 1969, H., scarce.
- Agrotis radians** Guen. 1, to light, H., 23.i.66, rare.
- Agrotis ypsilon** Rottemburg. Very common.
- Aletia fibrata** Meyr. 2, L.B., 1, on the 15.xii.63, and 1 24.x.64, scarce.
- Ariathisa comma** Walk. H., scarce.
- Austramathes purpurea** Butl. Not common.
- Bityla defigurata** Walk. 4, taken at H. only, scarce.
- Bityla pallida** Hamps. 1, by beating, W.P.B., 25.iii.64, rare.
- Cosmodes elegans** Don. 3, at light H., one on each of the following dates: 21.i.64, 3.ii.64, and 17.ii.64; 1, at W.P.B., 24.iii.67, scarce.
- Dasypodia selenophora** Guen. 1, in shop window, Hastings, 20.1.64, 3, to light in house opposite Napier Botanical Gardens, 14.i.64, and 1, H., 20.i.64, scarce.
- Ectopatria aspera** Walk. 1, Taradale 23.1.66 (K. V. Fox) (Pers. Comms.), and 1, to light, H., 3.iv.66, rare.
- Erana graminosa** Walk. W.P.B., and L.B., common at the later locality.
- Graphiphora compta** Walk. 3, to light, H., plentiful to M/V light, L.B.
- Graphania chlorodonta** Hamps. 2, to B/L, L.B., 5.i.64, rare.
- Graphania homoscia** Walk. Clifton Domain, to light.
- Graphania insignis** Walk. Common.
- Graphania lignana** Walk. To M/V light, L.B., 1, to light, H., 1965, scarce.
- Graphania mollis** Howes. 2, to B/L, L.B., 4.x.68, scarce.
- Graphania mutans** Walk. Very common.
- Graphania paracausta** Meyr. To M/V light, L.B., scarce.
- Graphania plena** Walk. Taken at L.B., and W.P.B., to M/V light.
- Graphania prionistis** Meyr. Taken at H., 8.i.59, again on the 22.i.65; 2, taken at L.B., 9.i.65, not common.
- Graphania ustistriga** Walk. Common.
- Heliothis armigera** Hubn. Very common.
- Hyperodes anticlina** Meyr. Not common.
- Hyperodes costistrigalis** Steph. 1, to light H., 15.x.65, and 1, again 23.iii.67, scarce.

- "*Leucania*" *semivitta* Walk. 1, by beating, W.P.B., scarce.  
 "*Leucania*" *paraxysta* Meyr. 1, to light, L.B., 4.i.64, rare.  
 "*Melanchra*" *alcyone* Huds. 1, by beating, W.P.B., 10.i.63, rare.  
 "*Melanchra*" *coeleno* Huds. H., and L.B., not common.  
 "*Melanchra*" *decorata* Philp. 1, to M/V light, L.B., rare, 2.i.64.  
 "*Melanchra*" *diameta* Huds. 2, at L.B., 1, in Octo. 1964, and 1, in Nov. 1965, rare.  
 "*Melanchra*" *expisita* Philp. 1, to M/V light, L.B., 30.xii.63, rare.  
 "*Melanchra*" *inchoata* Philp. 3, to M/V light, L.B., 7.xi.71, rare.  
 "*Melanchra*" *levis* Philp. To M/V light, L.P., scarce.  
 "*Melanchra*" *merope* Hamps. L.B. only, not common.  
 "*Melanchra*" *octans* Huds. 1, by beating, W.P.B., 7.i.65, rare.  
 "*Melanchra*" *octhistic* Meyr. To sugar, W.P.B., to light, H.  
 "*Melanchra*" *pansicolor* Howes. 1, to M/V light, L.B., 8.i.63, rare.  
 "*Melanchra*" *rhodopleura* Meyr. 2, to B/L, L.B., 4.i.63, rare.  
 "*Melanchra*" *stipata* Walk. At L.B. only, scarce.  
 "*Melanchra*" *vitiosa* Butl. 2, to M/V light, 4.ii.68, and 3, to M/V light, 7.xii.71, all from L.B., scarce.  
*Persectania arotis* Meyr. To light, H., 6.x.67, and 17.ii.69, scarce.  
*Persectania atristriga* Walk. Obtained in bush areas by beating and light, scarce.  
*Persectania aversa* Walk. Very common.  
*Persectania steropastis* Meyr. All areas, common.  
*Pseudaletia separata* Walk. Very common.  
*Plusia argentifera* Guen. 1, to light, H., 30.iii.69, rare.  
*Plusia (Chrysoideixis) chalcites* Esp. Common.  
*Ophiusa melicerte* Drury. 1, to light, H., 20.iv.69, rare.  
*Rhapha scotosialis* Walk. Common.

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## VARIATION IN THE LIFE CYCLE OF THE SCARABAEID *COSTELYTRA ZEALANDICA*

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### SUMMARY

In latitudes south of 45°S larval instars of the scarabaeid *Costelytra zealandica* (White) have been found which do not fit the usual univoltine pattern of development.

Samples taken over four consecutive years at one site and incidental collections from other sites indicate a two year life cycle. In this, the first and second instars are extended, ecdysis from second to third instar takes place when univoltine strains are pupating, and the third instar occupies a whole year. No shift in time or protraction of the pupal, adult and egg stages has been observed.

Similar variations in length of life cycle have been noted in Scarabaeids in comparable latitudes in the Northern Hemisphere.

### INTRODUCTION

The Scarabaeid *Costelytra zealandica* (White) is found throughout much of New Zealand. Given (1952) states that "its range of temperature and rainfall tolerance embraces the extremes of New Zealand conditions, apart from those of alpine areas, and the only limiting factors seems to be the complete lack of humus or growing vegetation, the presence of dense forest or scrub, or very steep slopes." In spite of this versatility there had been no reason to suppose that *C. zealandica* was other than a univoltine species until an inspection in June 1964 of various sites in Otago and Southland where DDT had been ineffective as a soil insecticide. The stages of larval development found then did not fit the expected univoltine pattern and since that time one of the sites has been sampled at intervals over several consecutive years to determine what form of life-cycle exists in these strains.