

**Lincoln University  
Entomological Expedition to Pitt Island**

**10-24 January 1990**

A Report Prepared for

**Lincoln University**

and

**Department of Conservation, Canterbury Conservancy**

by

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**REPORT ON LINCOLN UNIVERSITY ENTOMOLOGICAL EXPEDITION TO PITT ISLAND**

**10-24 JANUARY 1990**

**A. EXPEDITION MEMBERS**

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 Ms C.A. Muir, Department of Entomology, Lincoln University  
 Dr B.I.P. Barratt, MAF, Invermay

**B. OBJECTIVES**

The expedition had two objectives:

1. To search for the Pitt Island longhorn beetle, *Xylotoles costatus* and determine its distribution, abundance and conservation status.
2. To undertake general entomological survey work, particularly in the orders Coleoptera, Diptera, Lepidoptera and Hymenoptera by using trapping methods (Malaise, pan, pitfall, see Figs 1,2) not previously used on Pitt Island.

**C. ITINERARY AND ACTIVITIES**

- 10 January: Christchurch - Chatham Island - Pitt Island (Glory Bay).  
 11 January: Waipaua Scenic Reserve - 2 Malaise traps, 30 pitfall traps and 19 yellow pan traps set up.  
 12 January: Canister Cove Scientific Reserve - 1 Malaise trap erected.  
 13 January: Half Chain (Waipaua Scenic Reserve) - 1 Malaise and 20 yellow pan traps set up.  
                   Canister Cove Scientific Reserve - 19 pitfall traps installed.  
 14 January: Glory Bay to Waipaua River mouth coastline;  
                   Canister Cove Scientific Reserve - night collecting.  
 15 January: Canister Cove Scientific Reserve.  
                   Half Chain - night collecting.  
 16 January: Half Chain.  
                   Glory Bay - night collecting.  
 17 January: Rangiauria Scenic Reserve.  
 18 January: Glory Scenic Reserve.  
                   Canister Cove Beach.  
 19 January: Barbara Barratt returned to Christchurch.

Waipaua River.

Waipaua - Glory Bay coast.

20 January: North Head, night collecting.

21 January: Waipaua Scenic Reserve - all traps collected including Half Chain site.

22 January: Canister Cove Scientific Reserve - all traps collected.

23 January: Glory Bay to Chatham Island  
Henga Reserve.

24 January: Chatham Island to Christchurch.

## D. RESULTS

### 1. The Pitt Island longhorn

We knew *Xylotoles costatus* to be not extinct before visiting Pitt Island: a single specimen was collected on Rangatira in 1987 by Mr J.S. Dugdale from a branch of *Myoporum laetum* (ngaio) suspended in a thick tangle of *Muehlenbeckia* vines. We searched by beating all species of woody shrubs and trees, live and dead, with emphasis on ngaio and *Muehlenbeckia*. Many specimens of the related *X. traversii* (Fig. 3), probably the most common longhorn beetle on the Chatham Islands, and several other species were collected, but no *X. costatus* was found.

A large, recently severed branch of *Corynocarpus laevigatus* was found at North Head. In the summer heat, it was emitting a strong pungent odour from the dying leaves and wood. Longhorn beetles are usually attracted by this as they seek out freshly dead wood in which to lay eggs. This branch yielded large numbers of *Xylotoles traversii*, along with two other species of longhorn beetles, (*Xuthodes* and *Zorion*). More individuals were collected from it two hours later, attesting to its active attractive qualities to longhorns. We believe that had *X. costatus* been present in the area there was the greatest chance of capturing it on that occasion.

No opinion can be offered on its conservation status on Pitt Island. The possibilities are:

- (i) It is locally extinct on Pitt Island. If so, more work needs to be done on Rangatira to determine its conservation status there, its biology and distribution.
- (ii) It survives, but due to a combination of factors, e.g., low population numbers, secretive/cryptic habits and localised distribution, we did not find it. That the species may have always only existed in low numbers, even when a greater proportion of the island was bush covered, can be deduced from the small number of specimens in insect collections made more than 50 years ago. Should *X. costatus* survive on Pitt Island and be

polyphagous as *X. traversii* appears to be, then its survival is probably not endangered and is enhanced as each storm to sweep the island provides a new supply of freshly dead wood for it to attack. In the unlikely event that it is monophagous, perhaps restricted to ngaio (although evidence for this is both limited and circumstantial), then its survival is more tenuous.

## 2. Insect Survey

Appendices 1-4 contain lists of the species of Coleoptera, Hymenoptera, Lepidoptera and some Diptera collected. Most specimens are in the Entomology Museum, Lincoln University (LCNZ); others are held in the New Zealand Arthropod Collection, Auckland (NZAC) or by Barbara Barratt (BIPB). These appendices are not checklists; our collecting methods and time were restricted and therefore the species collected are a far from complete record of the total insect fauna. The lists do not include published records. Nevertheless, some useful comment can be made.

- (i) Hymenoptera: Hymenoptera are one of the best indicators of environmental quality. Most Hymenoptera are predators or parasites of other insects and so occur at the apex of ecological food webs. Because of this trophic position, they are susceptible to changes lower in the food chain on which their existence depends, and are often one of the first major groups of insects to disappear following environmental perturbation. A rich parasitic Hymenoptera fauna may be taken as a good indicator of the entomological health of an area. We found the highest species diversity in the Glory Scenic Reserve and several species were collected only from this site. This is perhaps correlated with less evidence of pig damage than we found in the Waipaua Scenic Reserve, allowing regeneration to occur and a richer ground cover flora and undisturbed leaf litter layer to establish. *Styloclistus* species E50 was found only here. It is a wingless species, a phenomenon rarely found in the genus *Styloclistus*, endemic to the Chatham Islands. By contrast, the parasitic Hymenoptera fauna of the Waipaua Scenic Reserve bush was disappointing in its diversity.

It was encouraging to find the Hymenoptera well represented in the herb/grass community of coastal rocks and cliffs inaccessible to livestock (Fig 6). This habitat supports healthy populations of *Antarctopria rekohua* (endemic to Chatham Islands) and *Trichomalopsis* sp.

- (ii) Coleoptera: The insect order Coleoptera in New Zealand includes a number of species that are exceptionally vulnerable to extinction because they are large, ground dwelling and flightless. This combination of characters makes them susceptible to vertebrate predation. It is significant that recent records of these beetles on Pitt Island are pitifully few. Within this group of large flightless beetles we did not find the Coxella weevil, *Hadramphus spinipennis*, or the large Chathams click beetle, *Amychus candezei*. We found only one

larva and three small adults of the large stag beetle, *Dorcus capito*, and one live and one dead specimen of the predaceous ground beetle *Mecodema alternans*. Although destruction of its food plant, *Aciphylla dieffenbachii*, may have contributed to the present parlous state of the Coxella weevil population, the same can not be said of the others. Their demise must be due to predation and general habitat destruction.

On a more positive note it is interesting to find that, in spite of over 100 years of collecting Pitt Island beetles, there are still interesting new species to be found, even in relatively well known groups like the Carabidae. The discovery of a new species of *Mecyclothorax* is one such case. The genus *Mecyclothorax* appears to be Australian in origin with local radiations on several Pacific Islands. The widespread New Zealand species, also on the Chathams, is almost identical to species in Eastern Australia and possibly represents a relatively recent colonisation of New Zealand. The new species is flightless and very different from any species known in Australia; it is evidently an old endemic inhabitant of the Chatham Islands.

There are several other very notable records among the Coleoptera including a number of known species, previously unrecorded from the Chathams group. The *Omaliomimus* "giant species", although so named, is less than 10 mm in length. It appears to be a new species, known from only two specimens (NZAC & LCNZ) and quite unlike anything else in New Zealand. There are probably still other beetle species yet to be found and documented on the Chatham Islands.

#### **E. RECOMMENDATION FOR FURTHER RESEARCH**

Continued efforts should be made to find the protected invertebrates listed in the seventh schedule to the Wildlife Amendment Act 1980: *Xylotoles costatus*, *Hadramphus spinipennis* and *Amychus candezei*.

1. Further searching for *Xylotoles costatus* on Pitt Island is warranted. This should include trapping, by cutting and hanging branches of likely trees, i.e., ngaio (*Myoporum laetum*) and karaka (*Corynocarpus laevigatus*). The search should be extended to Rangatira, where a specimen was collected in 1987, and to Mangere. If populations are found, threats to their continued existence should be identified and efforts made to elucidate any host associations.
2. The likelihood of finding *Hadramphus spinipennis* on Pitt Island must be fairly small, because of the woeful condition of the remaining *Aciphylla dieffenbachii* plants, its only food supply. However, it would still be worth checking *Aciphylla* populations on cliffs inaccessible to sheep, particularly at Rangiauria, Muru Muru, and Kaingaroa.

It appears that there still are populations of *Hadramphus* on both Rangatira and Mangere. They should be surveyed and any threats to their continued existence identified.

3. *Amychus candezei* is known from relatively recent collections on Rangatira, The Sisters, and Hapupu on the main Chatham Island. These populations need to be checked and threats to their survival identified.

#### **F. ACKNOWLEDGEMENTS**

We thank James Moffet for base camp facilities at Glory Bary, Ken and Eva Lanauze for hospitality, transport of equipment on Pitt I. and blue cod, ably assisted by Tama Gaye. DoC Canterbury Conservancy staff provided financial and logistical support and advice. In particular we thank Rob Chappell for his efforts on our behalf on the Chatham Islands. Assistance with insect identification was provided by John Dugdale (Lepidoptera), Barry Donovan (bees), Hugh Oliver and Rod Macfarlane (some Diptera) and Robin Crow (Coleoptera).

Fig. 1: Installing pitfall traps on coastal cliffs south of Glory Bay.



Fig. 2: Malaise trap in operation at the Half Chain, Waipaua Scenic Reserve.



Fig. 3: *Xylotoles traversii*, probably the commonest longhorn beetle on Pitt Island.



Fig. 4: The Half Chain, Waipaua Scenic Reserve. The white roof of a Malaise trap is visible in the centre.



Fig. 5: *Olearia chathamica*. The flower heads are the habitat of larvae of the geometrid moth *Chloroclystis nereis*.



Fig. 6: Coastal herbs and grasses near Glory Bay, habitat of the Chathams endemic parasitic wasp *Antarctopria rekohua*.





## APPENDIX 1: PITT ISLAND COLEOPTERA IN LCNZ

\* denotes species in LCNZ from Chathams group but not Pitt Island.

## CARABIDAE

- Allocinopus latitarsis* Broun also Chatham I.  
*Euthenarus* c.f. *brevicollis* Bates  
*Euthenarus* sp.  
*Haplaner* n. sp.  
*Hypharpax australis* (Dejean)  
*Laemostenus complanatus* (Dejean)  
*Mecodema alternans* Castelnau also Rangatira  
*Mecylcothorax rotundicollis* (White) also Chatham I.  
*Mecylcothorax* n. sp.  
*Notogonum chathamensis* (Broun)  
*Notogonum submetallicum* (White)

## DYTISCIDAE

- Antiporus strigulosus* (Broun)  
*Rhantus suturalis* (Macleay)

## HYDRAENIDAE

- Meropathus zealandicus* Ordish

## HYDROPHILIDAE

- Enochrus tritus* (Broun)  
*Cercyon haemorrhoidalis* Fabricius

## PTILIIDAE

- sp. 1  
 sp. 2

## LEIODIDAE

- sp. 1

## STAPHYLINIDAE

- Omaliomimus robustum* (Broun)  
*Omaliomimus* sp.  
*Omaliomimus* "giant species"  
*Macralymma punctiventre* Cameron, Rangatira  
*Stenomaliium* sp. 1 (like The Sisters & Rangatira material  
 det P. Hammond, NZAC)  
*Ischnoderus* sp.  
*Bledius* sp. (NZAC sp. 2)  
*Blediotrogus cordicollis* (Broun)  
*Zeoleusius virgula* (Fauvel)  
*Cafius quadriimpressus* White  
*Thinocafius insularis* Steel  
 Xantholinini sp. 1  
 Xantholinini sp. 2  
 Xantholinini sp. 3  
 Xantholinini sp. 4  
 Xantholinini sp. 5  
*Sepedophilus* sp. 1  
*Sepedophilus* sp. 2  
 Aleocharinae sp. 1

Aleocharinae sp. 2  
 Aleocharinae sp. 3  
 Aleocharinae sp. 4  
 Aleocharinae sp. 5  
 Aleocharinae sp. 6  
 Aleocharinae sp. 7  
 Aleocharinae sp. 8  
 Aleocharinae sp. 9

PSELAPHIDAE

sp. 1

LUCANIDAE

*Ceratognathus helotoides* Thomson

*C. reflexus* (Broun)

*Dorcus capito* (Deyrolle)

\* *Dorcus* n. sp.

also Chatham Is. and Rangatira  
 The Sisters only

SCARABAEIDAE

*Costelytra zealandica* White

*Odontria varicolorata* Given

*Saprosites sulcatissimus* Broun

also Chatham I.

SCIRTIDAE

sp. 1

sp. 2

ELATERIDAE

*Thoramus laevithorax* (White)

*Thoramus perblandus* Broun

\* *Conoderus exsul* Sharp

*Lomenus convexus* Sharp

Chatham I. only

EUCNEMIDAE

*Neocharis* sp.

DERMESTIDAE

*Trogoderma signatum* Sharp

ANOBIIDAE

*Cyphanobium illustre* (Broun)

*Mirosternomorphus oblongus* (Broun)

TROGOSSITIDAE

*Leperina shandi* (Broun)

CHAETOSOMATIDAE

*Chaetosoma scaritides* Westwood

CLERIDAE

*Phymatophloea* sp.

also Chatham I.

PHYCOSECIDAE

*Phycosecis limbata* (F.)

MELYRIDAE

*Dasytes pittensis* Broun

## NITIDULIDAE

*Eपुरaea ? signata* Broun  
*Omosita colon* (Linneus)

## CRYPTOPHAGIDAE

sp. 1  
 sp. 2

## CERYLIIDAE

*Hypodacne rubripes* (Reitter)

## CORYLOPHIDAE

*Holopsis* sp.  
*Arthrolips* sp.

may be an additional pale sp.

## COCCINELLIDAE

*Coccinella undecimpunctata* L.  
*Veronicobius macrostictus* (Broun)  
*Veronicobius* n.sp. 1 nr *macrostictus* Broun  
*Veronicobius* n.sp. 2  
*Veronicobius* sp. 3

in BIPB. collection only

## LATHRIDIIDAE

*Aridius bifasciata* (Reitter)  
*Aridius nodifera* (Westwood)  
*Corticara hirtalis* (Broun)  
*Melanophthalma* sp. 1  
*Melanophthalma* sp. 2

also Chatham I.

## CIIDAE

*Cis boettgeri* (Reitter)  
*Cis fulgens* Broun  
*Cis zealandica* Reitter  
*Orthocis undulatus* (Broun)

## BOTHRIDERIDAE

*Aeschyntelus paynteri* (Broun)

## COLYDIIDAE

*Pycnomerus mediocrus* Broun  
*Rhitidinotus squamulosus* (Broun)  
*Coxelus mucronatus* Broun  
*Pristoderus asper* (Sharp)

## MYCETOPHAGIDAE

*Triphyllus hispidellus* (Broun)

## TENEBRIONIDAE

*Mimopeus pascoei* (Bates)  
 \* *Mimopeus subcostatus* (Sharp)

Chatham I. only

## INOPEPLIDAE

*Diagrypnodes wakefieldi* Waterhouse

## SALPINGIDAE

*Antarcticodomus* n. sp.

## MELANDRYIDAE

*Ctenoplectron vittatum* Broun  
*Hylobia* sp.

## MORDELLIDAE

*Mordella ? detracta* Pascoe

## OEDEMERIDAE

*Thelyphassa diaphana* (Pascoe)  
*Thelyphassa lineata* (Fabricius)  
*Thelyphassa pauperata* (Pascoe)

also Chatham I.

## ANTHICIDAE

*Cotes* sp.

## EUGLENIDAE

*Xylophilus* sp.

## CHRYSOMELIDAE

*Chaetocnema moriori* Samuelson

## CERAMBYCIDAE

*Xuthodes punctipennis* Bates  
*Xylotoles traversii* Pascoe  
*Zorion opacum* Sharp  
*Psilocnaeia asteliae* Kuschel  
*Psilocnaeia ? bullata* (Bates)  
*Xylotoides trigonellaris* (Hutton)

also Chatham I.

also Chatham I.

also Chatham I.

also Chatham I.

## ANTHRIBIDAE

*Cacephatus propinquus* (Broun)  
*Dysnocryptus pilicornis* (Broun)  
*Lichenobius silvicola* Holloway  
*Lophus cristatellus* (Broun)  
*Lophus rudis* (Sharp)  
*Sharpius chathamensis* Holloway

## CURCULIONIDAE

*Otiorynchus sulcatus* (F.)  
*Catoptes brevicornis* (Broun)  
*Catoptes* sp.  
*Steriphus diversipes lineata* (Pascoe)  
*Irenimus aequalis* (Broun)  
*Irenimus compressus* (Broun)  
*Stephanorhynchus purus* Pascoe  
*Stephanorhynchus curvipes* White  
*Pactolotypus* n. sp.  
*Praeolepra squamosa* Broun  
*Strongylopterus chathamensis* (Sharp)  
*Psepholax coronatus* White  
*Psepholax sulcatus* White  
*Psepholax crassicornis* Broun  
*Microcryptorhynchus* sp. nr. *latitarsis*  
*Pachyderris squamiventris* (Broun)  
*Crisius lineirostris* (Broun)  
*Cryptorhynchinae* sp. 1

also Chatham I.

in BIPB collection only

*Phrynixus asper* (Broun)

Cossoninae sp. 1

Cossoninae sp. 2

Cossoninae sp. 3

Cossoninae sp. 4

Cossoninae sp. 5

Cossoninae sp. 6

also Chatham I.

Cossoninae sp. 7

Cossoninae sp. 8

Cossoninae sp. 9

Cossoninae sp. 10

Cossoninae sp. 11

Cossoninae sp. 12

Cossoninae sp. 13

also Chatham I.

Cossoninae sp. 14

Cossoninae sp. 15

Cossoninae sp. 16

Scolytinae sp.

*Dendrotrupes vestitus* Broun

*Platypus apicallis* White

156 species

## APPENDIX 2: PITT ISLAND HYMENOPTERA IN LCNZ

Species denoted by E followed by a number are undescribed species to which this provisional species number has been assigned by JWE. They may be referred to by these numbers in publications.

## ICHNEUMONIDAE

*Aucklandella-Degithina* complex: 3 spp.  
*Ichneumon promissorius* Erichson  
*Netelia ehippiata* (Smith)  
 c 20 spp, genera indet.

## BRACONIDAE

Alysiinae: 2 spp.  
 Aphidiinae: 1 sp.  
 Cheloniinae: *Ascogaster parrotti* Walker & Huddleston  
 Doryctinae: *Doryctomorpha antipoda* Ashmead  
 Euphorinae: *Dinocampus coccinellae* (Schrank)  
 : 1 sp, genus indet.  
 Helconinae: 1 sp, genus indet.  
 Microgastrinae: 4 spp, genera indet.  
 Opiinae: 1 sp, genus indet.  
 Rogadinae: 1 sp, genus indet.

## CERAPHRONIDAE

4 spp, genera indet.

## MEGASPILIDAE

1 sp, genus indet.

## DIAPRIIDAE

*Antarctopria coelopae* Early  
*Antarctopria rekohua* Early  
*Entomacis* 3 spp.  
*Gladicauda* sp.  
*Hemilexomyia* sp E49  
*Spilomicrus* sp E45  
*Spilomicrus* sp E46  
*Spilomicrus* sp E47  
*Spilomicrus* sp E48  
*Stylaclista* sp E50  
*Stylaclista* sp.  
*Trichopria* sp.

## SCELIONIDAE

*Baeus* sp.  
*Idris* sp.  
*Trimorus* sp.

## PLATYGASTRIDAE

5 spp, genera indet.

## CHARIPIDAE

1 sp, genus indet.

## EUCOILIDAE

*Kleidotoma subantarctica* Yoshimoto  
 1 sp, genus indet.

## FIGITIDAE

*Anacharis zealandica* Ashmead

## ENCYRTIDAE

*Austrochoreia antipodis* Noyes

*Adelencyrtoides ?novaezealandiae* Tachikawa & Valentine

## EULOPHIDAE

*Hemiptarsenus* sp.

*Sympiesis* sp.

7 spp, genera indet.

## MYMARIDAE

*Ischiodasys* sp.

?*Ischiodasys* sp.

1 sp, genus indet.

## PTEROMALIDAE

*Ophelosia* sp.

*Trichomalopsis* sp.

1 sp, genus indet.

## FORMICIDAE

*Amblyopone saundersi* Forel

*Monomorium antarcticum* (Smith)

## POMPILIDAE

*Epipompilus insularis* Kohl

*Sphictostethus fugax* (Fabricius)

## APIDAE

*Apis mellifera* Linnaeus

## COLLETIDAE

*Hylaeus relegatus* (Smith)

*Hylaeus* sp.

## SPHECIDAE

*Pison morosum* F. Smith

*Spilomena nozela* Vardy

*Spilomena* sp E24

*Tachysphex nigerrimus* (F. Smith)

## APPENDIX 3:

## PITT ISLAND LEPIDOPTERA

Names in quotation marks are unpublished manuscript names of Mr J.S. Dugdale and must not be used in any publication.

(\*) denotes a visual record only - no specimen taken.

## TINEIDAE

*"Hectacma" decoranda* (Meyrick)  
*Monopis typhlopa* (Meyrick)  
*Proterodesma chathamica* Dugdale

## PSYCHIDAE

*Scoriodyta "chathamica"* ms name

## YPONOMEUTIDAE

*Orthenches "dracophyllum"* ms name (\*)  
*Plutella antiphona* Meyrick

## GELECHIIDAE

*Kiwaia monophragma* Meyrick

## BATRACHEDRIDAE

*Batrachedra agaura* Meyrick  
*Batrachedra arenosella* (Walker)  
*Batrachedra filicola* Meyrick

## COLEOPHORIDAE

*Coleophora mayrella* Huebner

## COSMOPTERIGIDAE

*Microcolona limodes* Meyrick  
*Syntomactis deamatella* (Walker)

## OECOPHORIDAE

*Eutorna symmorpha* Meyrick  
*Endrosis sarcitrella* Linnaeus

## ELACHISTIDAE

*Cosmiotes ombrodoca* (Meyrick)  
*Elachista gerasmia* Meyrick

## TORTRICIDAE

*Bactra xystrata* Meyrick  
*"Crociosemoides"* sp.  
*Strepsicrates parthenia* (Meyrick)  
*Ctenopseustis ropeana* (F&R)  
*Epichorista siriana* (Meyrick)  
*Ericodesma "nigra"* ms name  
*"Huroa isolata"* ms name  
*Merophyas "bilineata"* ms name  
*Merophyas "flava"* ms name  
*Merophyas "hebe"* ms name  
*Planotortrix octoides* ms name



*Prothelymna antiquana* (Walker)  
*Apoctena tigris* (Philpott)

#### CARPOSINIDAE

*Heterocrossa "morbida" grp*  
*Heterocrossa rubophaga* Dugdale

#### NYMPHALIDAE

*Bassaris gonerilla ida* (Alfken)

#### PIERIDAE

*Pieris rapae* Linnaeus (\*)

#### CRAMBIDAE

*Eudonia philerga* Meyrick  
*Eudonia sabulosella* (Walker)  
*Eudonia steropaea* Meyrick  
*Mnesictena flavidalis* (Doubleday)  
*Mnesictena pantheropa* (Meyrick)  
*Musotima nitidalis* (Walker)  
*Orocrambus apicellus* Zeller  
*Orocrambus horistes* (Meyrick)  
*Orocrambus ramosellus* (Doubleday)  
*Orocrambus siriellus* (Meyrick)  
*Orocrambus vitellus* (Doubleday)  
*Scoparia halopis* Meyrick  
*Scoparia minusculalis* (Walker)

#### GEOMETRIDAE

*Pseudocoremia ombrodes* (Meyrick)  
*Austrocidaria haemophaea* (Meyrick)  
*Austrocidaria similata* (Walker)  
*Chloroclystis inductata* (Walker)  
*Chloroclystis nereis* Meyrick  
*Chloroclystis testulatus* (Guenee)  
*Elvia glaucata* Walker  
*Epyaxa homalocyma* (Meyrick)  
*Epyaxa venipunctata* (Walker)  
*Helastia cinerearia* (Doubleday)  
*Microdes epicryptis* Meyrick  
*Hydriomena deltoidata* (Walker)

#### ARCTIIDAE

*Nyctemera annulata* (Boisd.) (\*)

#### NOCTUIDAE

*Agrotis ipsilon aneituma* Walker  
*Diarsia intermixta* (Guenee)  
*Homohadena fortis* (Butler)  
*Graphania bromias* (Meyrick)  
*Persectania aversa* (Walker)  
 ? n.sp.

## APPENDIX 4: PITT ISLAND DIPTERA IN LCNZ

## ANISOPODIDAE

*Sylvicola notatus* (Hutton)

## MYCETOPHILIDAE

*Mycetophila* sp. nr *subtilis* Tonnoir

*Mycetophila* sp. nr *nitens* Tonnoir

1 sp., genus indet.

## DITOMYIIDAE

*Nervijuncta* sp.

## SCIARIDAE

1 sp, genus indet.

## SCATOPSIDAE

1 sp, genus indet.

## ASILIDAE

*Saropogon chathamensis* Hutton

## DOLICHOPODIDAE

*Hercostomus philpotti* Parent

*Parentia chathamensis* Bickel

*Tetrachaetus simplex* Parent

?*Tetrachaetus* sp.

1 sp., genus indet.

## EMPIDIDAE

1 sp, genus indet.

## STRATIOMYIIDAE

*Beris* n. sp.

*Eulalia chathamensis* (Hutton)

## PHORIDAE (specimens now in collection of H.A. Oliver, M.A.F. Ruakura)

*Antipodiphora* sp.

*Aphiochaeta* sp.

*Megaselia* sp.

*Tonnoirana* sp.

## SYRPHIDAE

*Helophilus antipodus* Schiner

*Melangyna novaezealandiae* (Macquart)

*Melanostoma fasciatum* (Macquart)

## AGROMYZIDAE

*Cerodontha australis* Malloch

*Liriomyza chenopodii* (Watt)

*Liriomyza citreifemorata* (Watt)

*Phytomyza syngenesiae* (Hardy)

1 sp, genus indet.

## COELOPIDAE

- Chaetocoelopa littoralis* (Hutton)  
*Coelopella curvipes* (Hutton)  
*Icaridion debile* (Lamb)  
*Protoceolopa philpotti* Malloch

## DROSOPHILIDAE

- Drosophila neozelandica* Harrison  
*Scaptomyza flavella* Harrison

## EPHYDRIDAE

- Hydrellia tritici* Coquillet  
*Hydrellia velutinifrons* Tonnoir & Malloch  
*Parahydina lacustris* Tonnoir & Malloch  
*Scatella ?nitidifrons* Tonnoir & Malloch  
*Scatella* sp.

## HELCOMYZIDAE

- Maorimyia bipunctata* (Hutton)

## HELOMYZIDAE

- Allophylopsis chathamensis* Tonnoir & Malloch  
*Fenwickia hirsuta* Malloch

## PALLOPTERIDAE

- Neomaorina lamellata* Harrison  
*Neomaorina* ?n.sp.

## SAPROMYZIDAE

- Poecilohetaerella bilineata* (Hutton)

## SCIOMYZIDAE

- Neolimnia* sp. (Chatham I. only)

## SPHAEROCERIDAE

- Leptocera thomasi* Harrison

## TERATOMYZIDAE

- Teratomyza ?neozelandica* Malloch

## CALLIPHORIDAE

- Calliphora quadrimaculata* (Swederus)  
*Xenocalliphora hortona* (Walker)

## MUSCIDAE

- Hydrotaea rostrata* Robineau-Desvoidy  
 5 spp, genera indet.

## SARCOPHAGIDAE

- Hybopygia varia* Walker

## TACHINIDAE

- 5 spp, genera indet.