

The beetle (Coleoptera) fauna of the Chatham Islands

ROWAN M. EMBERSON

Entomology Research Museum,
Soil, Plant, and Ecological Sciences Division,
P.O.Box 84, Lincoln University, New Zealand
emberson@lincoln.ac.nz

ABSTRACT

A total of 286 beetle species is reported from the Chatham Is. For each species the following data are given: whether the species is a Chatham Is endemic, also found in mainland New Zealand, or introduced from outside New Zealand; a reference to the first record of the species in the Chatham Is; collecting methods and habitat; distribution outside the Chatham Is; and for the 249 species represented by specimens in the Entomology Research Museum, Lincoln University, distribution on the various islands of the Chathams group, abundance and months of collection. 131 species are newly recorded from the Chatham Is. A brief history of studies of the Chatham Is beetle fauna is provided. The size of the known fauna on the different islands of the Chathams group does not follow usual species area relationships, probably due to predation, disturbance and forest clearance on the larger islands. The small outer islands of the group are shown to be important sanctuaries for many larger flightless species.

Replacement names are proposed for the homonyms *Aeschyntelus* Waterhouse, 1876 (Bothrididae) and *Catoptes brevicornis* (Broun, 1904) (Curculionidae). Taxonomic notes are provided for some Chatham Is species.

Keywords: beetles, Coleoptera, Chatham Islands, species area relationships, insect conservation, homonyms, taxonomy.

INTRODUCTION

The first record of a beetle species from the Chatham Is seems to be that of H. C. Deyrolle (1873), who published a description of the endemic lucanid now known as *Geodorcus capito* (Deyrolle). Further records, including descriptions of newly discovered endemic species, are found in the works of Francis Pascoe (Pascoe 1875, 1876a, 1876b), in which he described seven new species from material sent to him by Henry Travers from Pitt I. The first publication specifically on the insects of the Chatham Is appears to have been by Captain F. W. Hutton (Hutton 1898) who listed a number of new records of species in various insect orders and described two new species of beetles. Hutton recorded several European and New Zealand beetle species that have not been noted since. These were probably misidentifications, so some doubt remains as to what he actually had before him. Papers by Schwarz (1901), Sharp (1903), and Alfken (1904) soon followed, based on material collected by Prof. Schauinsland on an expedition to New Zealand and Hawai'i in 1896-1897, that included a visit to the Chatham Is.

A series of papers by Major Thomas Broun (Broun 1909, 1910, 1911) brought together some of the previous information on Chatham Is Coleoptera and described many new species, bringing the total known beetle fauna to 111 species, including five introduced species. Broun's 1911 paper is particularly noteworthy in adding 61 new records, including 26 newly described species. Nearly all of this material was collected by Thomas Hall on Pitt I. between June 1906 and January 1908. This paper also marked the start of the most productive partnership Broun had with any of his collectors. Over the next few years, Thomas Hall collected hundreds of new species from many New Zealand localities for Broun to describe (Watt 1977). Broun's Chatham Is collection, including the types of most of the new species he described, is housed separately from the rest of his collection in the Natural History Museum, London.

In 1925, Albert Brookes reported on a collection of beetles from the Chatham Is made by Stewart Lindsay in 1923-1924. Brookes (1925) added several new records and reinterpreted some material from Hutton's collection. After this there was a lull in the publication of material from the Chatham Is, but considerable new material was amassed in collections, as a result of a visit by E. S. Gourlay in 1942, an expedition from the Canterbury Museum in 1954, and then a major expedition by Entomology Division (of the D.S.I.R.) in 1967, in which most of the main islands and some of the smaller islands, including the Sisters Is, were visited. An important feature of the latter expedition was much more specialised collecting, including numerous litter samples, which led to the discovery of many additional species. Collections were also made by Wildlife Service personnel visiting the islands in connection with bird research in the 1970s and 1980s. Most of this material is housed in the New Zealand Arthropod Collection (NZAC). Specimens collected from these different sources have contributed significantly to revisions of many groups of beetles over the last thirty years, but no comprehensive account of the Chatham Is beetle fauna was ever published. More recently, Macfarlane (1979) and Macfarlane *et al.* (1991) reported on insects of the Chatham Is and included a number of new records of beetle species.

My own interest in the Chatham Is beetle fauna began through two visits in 1990 and 1992 to the Chatham Is by groups from the Department of Entomology at Lincoln University. These visits were funded by the Department of Conservation to investigate and report on the status of legally protected invertebrates (Ramsay *et al.* 1988) on the Chatham Is (Early *et al.* 1991 unpublished; Emberson *et al.* 1996). During these visits, insects were collected as widely as possible, but as all the invertebrates on the Chatham Is protected by the Seventh Schedule to the Wildlife Amendment Act 1980 are beetles, this led to us focusing strongly on them and to study the whole beetle fauna.

MATERIALS AND METHODS

The known beetle fauna is treated by way of an annotated list of species. A list of species incorrectly reported from the Chatham Is, based on misidentifications, is also given. The core of the annotated list is a record of all the beetle material collected on a series of extended visits to the Chatham Is by staff associated with the Entomology Research Museum at Lincoln University and on several shorter visits by the author for other purposes, together with very valuable material donated to the Museum.

Personnel and times involved in the major visits were:

10-24 January 1990 J.W. Early, R.M. Emberson, C.A. Muir, B.I.P. Barratt

21 November-5 December 1992 J.W. Early, R.M. Emberson, J.W.M. Marris, P. Syrett

13-26 January 1997 R.M. Emberson, J.W.M. Marris

13-24 January 1998 R.M. Emberson, J.W.M. Marris

This amounts to nearly 150 person days, excluding travel time.

Visits were made to all of the main islands (Fig. 1): Chatham (×4), Pitt (×4), Rangitira (×3) and Mangere. Star Keys was also visited for half a day and a significant collection of material has been received from Little Mangere. A wide range of collecting methods was employed, including intensive night collecting, hand collecting, turning logs and rocks, stripping bark and breaking up rotten logs, sweeping and beating vegetation, beating branch traps, pitfall and yellow pan trapping, Malaise trapping, rearing larvae, sieving leaf litter and collecting litter samples for extraction with Berlese funnels. Particular attention was paid to discrete habitats such as dung, ponds, kelp on beaches, fungal fructifications and carrion.

Material was curated, sorted and identified, where possible, to genus and species. The material is stored separately in the Entomology Research Museum,

Lincoln University (LUNZ), in about 70 standard storage boxes. Expert help was sought with identification for many different groups, but species identifications were not always possible, and a number of apparently undescribed species were found. In several cases, there is doubt concerning the generic placement, usually due to inappropriate use of generic names in the past. In these cases, generic names are enclosed in inverted commas. An unidentified residue of species remains, these are included in the list as 'Genus indet. sp.1' etc.

In addition to species represented in our collection, published records of other species reported from the Chatham Is and a few species known only from material in NZAC have been included in the list. No attempt has been made to locate every species represented by specimens in NZAC, but a group of separately stored boxes containing Chatham Is material has been searched for species not recorded elsewhere.

The list contains records of all species of beetles known to me from the Chatham Is, arranged systematically by family (following Klimaszewski & Watt (1997) and Lawrence & Britton (1991)), and alphabetically by genus and species. The family names follow those used by Lawrence & Newton (1995). The larger families are further broken down into subfamilies or tribes, as appropriate (also based on Klimaszewski & Watt (1997)). One major change to the family classification of New Zealand beetles that has occurred since Klimaszewski & Watt's (1997) treatment is that former family Colydiidae is now reduced to subfamily status within an expanded Zopheridae (Ślipiński & Lawrence 1997).

For each species the following information is given: an indication of whether the species is a Chatham Is endemic, also present in New Zealand, or is introduced to the New Zealand region; a reference to the first record of the species from the islands; references to other names used for Chatham Is records of the species. Then for species represented in our collection: new records for the Chatham Is, remarks on the habitat and collecting methods, distribution outside the Chatham Is, and any comments on the taxonomic status and biology. The following additional information is given, in an abbreviated form: records of island distribution in the Chathams group, an indication of abundance in our collection, and the months of collection. For species not represented in our collection, the nature of the record, whether based on the literature or on specimens in NZAC is given.

I have taken a conservative approach in determining which species are introduced to the New Zealand region. To be listed as introduced there had to be some evidence of introduction or establishment since European settlement. A distribution shared with Australia, or perhaps more widely, was not considered enough to indicate introduction. For example, the common diving beetle *Rhantus suturalis* (Macleay) is found continuously from the Chatham Is westward to western Europe and I am not aware that there is any evidence that this distribution is not entirely natural. This diving beetle is a very mobile species.

Abbreviations used in the list:

*	endemic to the Chathams group
+	introduced to the New Zealand region.
BMNH	Natural History Museum, London
LUNZ	Entomology Research Museum, Lincoln University
NZAC	New Zealand Arthropod Collection, Landcare Research, Auckland
lit	record based on literature reference only
nzac	record based on specimens in New Zealand Arthropod Collection

Islands of the Chathams group

C	Chatham I. (Main Chatham I., Rekohu, Wharekauri)
P	Pitt I. (Rangiauria)

R	Rangatira (South East I.)
M	Mangere (Mangere I.)
LM	Little Mangere (Tapuaenuku)
SK	Star Keys (Motuhope)
SS	The Sisters (Rangitatahi)
MS	Middle Sister I.
FF	The Forty Fours (Motuhara)

Abundance in LUNZ collections

p	present, 1 specimen only
r	rare, 2-3 specimens
u	uncommon, 4-9 specimens
f	frequent, 10-16 specimens
c	common, 17-27 specimens
a	abundant, 28 or more specimens

Months of collection are indicated by the first three letters of each month.
The area codes of Crosby *et al.* (1976) are used throughout.

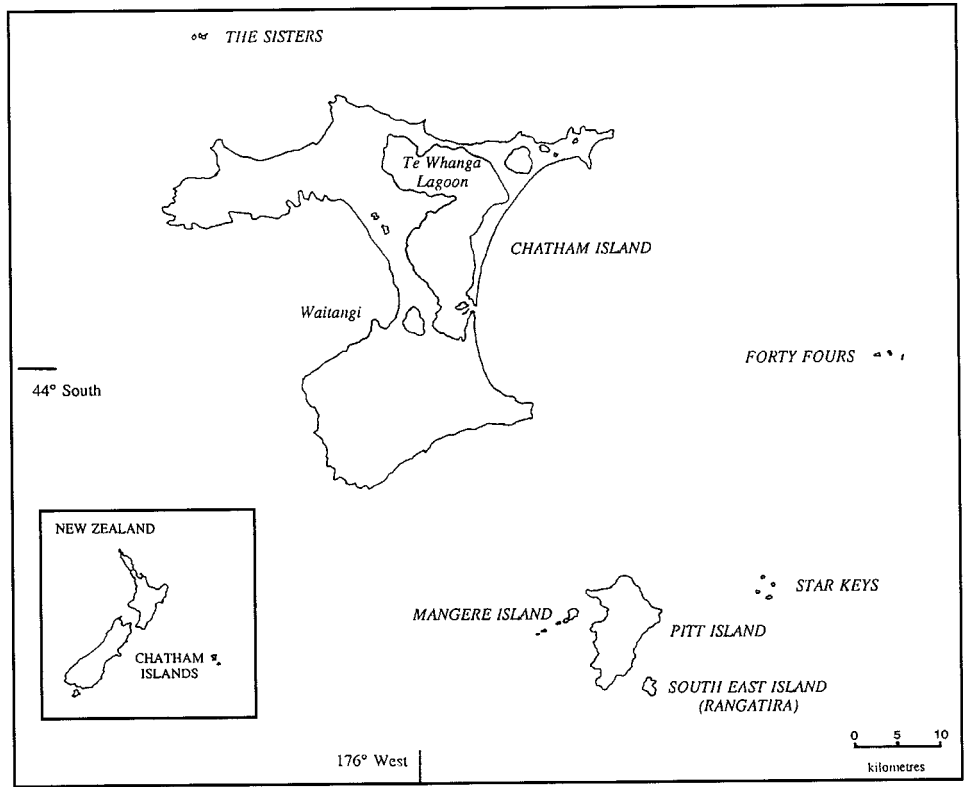


Fig. 1: Islands of the Chathams Archipelago.

ANNOTATED LIST OF CHATHAM ISLANDS BEETLE SPECIES

CARABIDAE: Broscini

Mecodema alternans alternans Castelnau, 1867

FIRST RECORDED: Broun, 1911.

REMARKS: On Pitt I. restricted to the more intact forest remnants; widespread and common on the forest floor and in coastal vegetation on the smaller islands. No known records from Chatham I. Probably vulnerable to rat and mouse predation. The population on the Chathams is apparently indistinguishable from that on the Otago Coast. A geographic subspecies, *M. alternans hudsoni* Broun, occurs on The Snares (Townsend 1971).

DISTRIBUTION & ABUNDANCE: P,R,M,SK,LM a Jan, Nov, Dec

CARABIDAE: Bembidiini

Bembidion rotundicolle rotundicolle Bates, 1894

FIRST RECORDED: Lindroth, 1976.

REMARKS: Under debris and freshwater algal mats, in pasture and around lakes, ponds and damp places on the larger islands. Widespread in New Zealand, the nominotypical form is found in the east of the South I.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Dec

Zecilenus albescens (Bates, 1878)FIRST RECORDED: Alfken, 1904 (as *Cillenius*)

REMARKS: Alfken (1904) recorded a single female specimen from Chatham I. Lindroth (1980) was evidently unaware of the record and no further specimens have been seen. This is the species of the Whangarei to Coromandel region of the east coast of the North I. (ND, AK, CL).

DISTRIBUTION & ABUNDANCE: C lit

CARABIDAE: Psydriini

Mecyclothorax rotundicolle (White, 1846)FIRST RECORDED: Broun, 1911 (as *Cyclothorax insularis* Motschulsky).

REMARKS: Widespread, mainly in open areas on the larger islands. Widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Nov, Dec

**Mecyclothorax n.sp.*

REMARKS: New record. In closed forest on Chatham and Pitt Is, and under rocks and logs next to a forest stream on Rangatira. This Chathams endemic is flightless and not closely related to other *Mecyclothorax* species in New Zealand, Australia or the Pacific (Moore *in litt.*).

DISTRIBUTION & ABUNDANCE: C,P,R c Jan, Dec

CARABIDAE: Platynini

+Laemostenus complanatus (Dejean, 1828)

cosmopolitan ground beetle

REMARKS: New record. A Palaearctic species now widely distributed through commerce, usually quite synanthropic, found in disturbed areas and gardens, as well as sheds and outbuildings. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Aug, Oct, Nov

**Notagonum chathamensis* (Broun, 1909)FIRST RECORDED: Broun, 1909 (as *Anchomenus*).

REMARKS: Widespread, mostly in forest, often in damper patches, under logs and stones. The record by Broun (1911) of *Anchomenus lawsoni* Broun almost certainly also refers to this species as the two species are very similar and no specimens of *A. lawsoni* are present in the Broun Chatham Is Collection (BMNH).

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Oct, Nov

Notagonum submetallicum (White, 1846)

submetallic ground beetle

FIRST RECORDED: Hutton, 1897 (as *Anchomenus*).

REMARKS: Found in wet places on the larger islands. Widely distributed in damp places in New Zealand, southern and eastern Australia, and Norfolk I.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Nov

CARABIDAE: Harpalini****Allocinopus latitarsis* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Common and widespread throughout.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Jul, Oct-Dec

***Euthenarus brevicollis* Bates, 1874**FIRST RECORDED: Alfken, 1904 (as *E. puncticollis* Bates).REMARKS: Under logs and debris, damp places in coastal habitats, beside creeks, on trees at night. Widespread in New Zealand. The records by Alfken (1904) and Broun (1911) of *E. puncticollis* almost certainly refer to this species. No specimens having the distinctive features of *E. puncticollis* have been seen, but there is considerable variation within the Chatham Is populations and the two species are not easy to separate without comparative material. The genus is in need of careful revision.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Oct, Nov

+*Haplanister crypticus* Moore, 1997

FIRST RECORDED: Moore, 1997.

REMARKS: In open areas on the larger islands. This introduced species, of unknown origin, is also widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Oct-Dec

+*Hypharfax australis* (Dejean, 1829)

FIRST RECORDED: Kuschel, 1990.

REMARKS: Single specimens from Chatham and Pitt Is., running in the sun, on rocks by river. An Australian species widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P r Jan

***Lecanomerus fuliginosus* Broun, 1880**

REMARKS: New record. Under garden debris, Te One. This species is known from scattered localities in the east of the South I. (MC,CO,DN).

DISTRIBUTION & ABUNDANCE: C p Jan

***Lecanomerus* sp. 1**

REMARKS: New record. Under stones, by beach, Ohira Bay.

DISTRIBUTION & ABUNDANCE: C p Oct

CARABIDAE: Pentagonicipini***Pentagonica vittipennis* Chaudoir, 1877**

REMARKS: New record. One specimen in NZAC, from litter.

DISTRIBUTION & ABUNDANCE: C nzac

***Scopodes edwardsi* Bates, 1878**

REMARKS: New record. On moss, moorland. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C u Nov

DYTISCIDAE***Antiporus strigosus* (Broun, 1880)**

REMARKS: New record. In lakes and ponds. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Nov, Dec

****Rhantus schauinslandi* Ordish, 1989**FIRST RECORDED: Alfken, 1904 (as *R. schauinslandi* Regimb. n.sp.).REMARKS: Known from several localities on Chatham I., including Lake Huro. It is more closely related to Pacific Is species, particularly *R. vitiensis* Balfour-Brown, than to New Zealand species (Ordish 1989). The species was never described by Regimbart, in spite of Alfken's (1904) listing.

DISTRIBUTION & ABUNDANCE: C lit

Rhantus suturalis* (Macleay, 1825)*cosmopolitan diving beetle**FIRST RECORDED: Hutton, 1897 (as *Colymbetes rufimanus* White). Also recorded by Alfken (1904), as *R. punctatus* (Fourc.) var. *chathamensis* Regimb. n. var.

REMARKS: Lakes and ponds. Widely distributed from New Zealand to Western Europe. The new variety ascribed to Regimbart was never described and is unnecessary (Ordish 1989).

DISTRIBUTION & ABUNDANCE: C,P c Jan, Nov, Dec

HYDROPHILIDAE

Cercyodes nr laevigatus Broun, 1886REMARKS: New record. Rotting *Durvillea*, under beach wrack.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov

+*Cercyon haemorrhoidalis* (Fabricius, 1775)

REMARKS: New record. In rotting kelp, under cow dung, and beaten from various shrubs. A European species widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P c Jan

Enochrus tritus (Broun, 1880)

scavenging water beetle

REMARKS: New record. Muddy pool. Widespread on islands in the western Pacific (Kuschel, 1990).

DISTRIBUTION & ABUNDANCE: P p Jan

HISTERIDAE

Saprinus detritus (Fabricius, 1775)

REMARKS: New record. Commonly associated with petrel burrows and carcasses, but also on trees and ground at night, under vegetation, and in a rubbish pit. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R,M c Jan, Nov, Dec

Saprinus n. sp. 1 (n. sp. 1 NZAC)

REMARKS: New record. Under rotting pilot whales on sandy beach.

DISTRIBUTION & ABUNDANCE: P c Jan

Saprinus n. sp. 2 (n. sp. 2 NZAC)

REMARKS: New record. Commonly associated with petrel burrows, but also found in leaf litter in areas where petrels are nesting, on ground at night, under rocks in coastal vegetation, and in pitfall traps in coastal forest.

DISTRIBUTION & ABUNDANCE: C,R,M,SK a Jan, May, Nov, Dec

Tomogenius n. sp.

REMARKS: New record. Specimens in NZAC, from Chatham Is tomtit nest and under log.

DISTRIBUTION & ABUNDANCE: C,R nzac

HYDRAENIDAE

Meropathus zealandicus Ordish, 1984FIRST RECORDED: Ordish, 1971 (as *Meropathus* n.sp.).

REMARKS: The type locality is Middle Sister I., where it was collected from fern litter. In our collection the species has usually been found associated with coastal vegetation. Outside the Chathams known from several localities in the south of the South I. (DN, SI) (Ordish 1984).

DISTRIBUTION & ABUNDANCE: P,R,M,SK,LM f Jan, Dec

PTILIIDAE

+*Acrotrichis insularis* (Maklin, 1852)

FIRST RECORDED: Johnson, 1982.

REMARKS: Widespread in forest litter. Originally from north-western U.S.A., but now widespread in Western Europe, as well as New Zealand (Johnson 1982).

DISTRIBUTION & ABUNDANCE: C,M c Jan, Dec

Notoptenidium kuscheli Johnson, 1982

FIRST RECORDED: Johnson, 1982.

REMARKS: Specimens in NZAC were reared from *Embergia grandiflora*. Elsewhere known from several localities in the South I. (NN, MB, WD).

DISTRIBUTION & ABUNDANCE: C lit

+*Ptenidium laevigatum* Erichson, 1845

REMARKS: New record. Forest leaf litter. A European species, previously only known in New Zealand from Lynfield, Auckland (Johnson 1982).

DISTRIBUTION & ABUNDANCE: C r Jan

***Ptenidium* sp. 1**

REMARKS: New record. Litter in *Corynocarpus* forest. Not previously reported from New Zealand (Johnson *in litt.*).

DISTRIBUTION & ABUNDANCE: C r Jan, Dec

****Ptinella bitumida* Johnson, 1982**

FIRST RECORDED: Johnson, 1982.

REMARKS: Widespread in forest leaf litter and under bark.

DISTRIBUTION & ABUNDANCE: P,R,M u Jan, Jul

****Ptinella brunescens* Johnson, 1982**

FIRST RECORDED: Johnson, 1982.

REMARKS: In forest leaf litter.

DISTRIBUTION & ABUNDANCE: P,M,LM f Jan, Dec

****Ptinella chathamensis* Johnson, 1982**

FIRST RECORDED: Johnson, 1982.

REMARKS: Under bark of dead *Corynocarpus* and *Myrsine*. Previously known from a single female from Chatham I. (Johnson 1982).

DISTRIBUTION & ABUNDANCE: C,P a Jan

LEIODIDAE***Mesocolon* n. sp.**

REMARKS: New record. Widespread in leaf litter from forest and coastal scrub, also on dead broad-billed prion.

DISTRIBUTION & ABUNDANCE: P,R,M,SK,LM a Jan, May, Oct-Dec

****Paracatops brumeipes* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Choleva brunneipes*).

REMARKS: Originally described from Pitt I. In our material in forest litter on Rangatira and Mangere, also on dead broad-billed prion.

DISTRIBUTION & ABUNDANCE: R,M c Jan, Nov, Dec

SCYDMAENIDAE****Chathamneus chathamensis* Franz, 1980**

FIRST RECORDED: Franz, 1980.

REMARKS: Under *Myrsine* bark. Additional specimens in NZAC, from leaf litter, Chatham I. *Chathamneus* is a Chatham Is endemic genus.

DISTRIBUTION & ABUNDANCE: R p Jan

STAPHYLINIDAE: Omaliinae***Ischnoderus genalis* (Broun, 1880)**

REMARKS: New record. Under bark of dead *Corynocarpus*, in dead nikau fronds, beating dead trees, malaise trap in *Dracophyllum arboreum* forest, etc. Elsewhere in New Zealand beaten from shrubs and trees or caught in Malaise traps (Kuschel 1990), widespread.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Aug, Nov

***Ischnoderus* sp. 1**

REMARKS: New record. Under bark of dead *Myrsine*.

DISTRIBUTION & ABUNDANCE: R p Jan

***Macralymma punctiventre* Cameron, 1945**

REMARKS: New record. Under rotting kelp on sandy beaches. Widespread in the South I. of New Zealand (NN,DN,SL,SI) on sandy beaches and lakeshores.

DISTRIBUTION & ABUNDANCE: P c Jan

***Metacorneolabium minus* Steel, 1950**

FIRST RECORDED: Thayer, 1985.

REMARKS: A single male specimen in NZAC (Thayer 1985). Widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

****Omaliomimus* 'robustus' (Broun, 1911)**FIRST RECORDED: Broun, 1911 (as *Omalium robustum*).

REMARKS: A seashore species associated with rotting kelp.

DISTRIBUTION & ABUNDANCE: C,P a Jan

****Omaliomimus* 'n. sp. 1**

REMARKS: New record. Under rotting kelp on sandy beaches, under driftwood and anaerobic organic debris by lagoon.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Nov

****Omaliomimus* 'n. sp. 2**REMARKS: New record. Another species associated with rotting *Durvillea* kelp and beach wrack. This species of '*Omaliomimus*' is much larger than any other known species at 6-7 mm in length.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Nov

****Stenomalium* 'n. sp. 1**FIRST RECORDED: Broun, 1911 (as *Omalium fossigerum* Eppelsheim, apparently a manuscript name that was never published (Thayer *in litt.*)).REMARKS: Under bark of dead *Corynocarpus*, beaten from dead *Plagianthus* branches, pitfall traps in *Dracophyllum*/broadleaf forest, forest and coastal scrub leaf litter. According to Thayer (*in litt.*) the two species included in *Stenomalium* require a new genus, along with several other described species.

DISTRIBUTION & ABUNDANCE: P,R,M,SK,LM u Jan, Nov

****Stenomalium* 'n. sp. 2**REMARKS: New record. In forest leaf litter, beaten from dead *Myrsine* and *Plagianthus* branches. Very similar to '*Stenomalium*' n. sp. 1, but with more costate elytra.

DISTRIBUTION & ABUNDANCE: R,M a Jan, Nov, Dec

STAPHYLINIDAE: Pselaphinae***Pselaphaulax* sp. 1**REMARKS: New record. Leaf litter in *Corynocarpus*/*Melicetus* forest.

DISTRIBUTION & ABUNDANCE: C u Dec

***Pselaphophus* sp. 1**REMARKS: New record. Pitfall trap in *Olearia*/*Macropiper*/*Plagianthus* forest, leaf litter.

DISTRIBUTION & ABUNDANCE: R,LM r Nov

***Pselaphophus* sp. 2**

REMARKS: New record. Beaten from coastal vegetation.

DISTRIBUTION & ABUNDANCE: P p Jan

***Sagola* sp. 1**

REMARKS: New record. Leaf litter and pitfall traps, under rocks in coastal vegetation.

DISTRIBUTION & ABUNDANCE: M,SK f Jan, Oct-Dec

STAPHYLINIDAE: Tachyporinae***Sepedophilus helmsi* (Bernhauer, 1941)**REMARKS: New record. Under bark of dead *Corynocarpus*, in pitfall traps in *Dracophyllum*/broadleaved forest, and on bracket fungi.

DISTRIBUTION & ABUNDANCE: C,P c Jan, Dec

+*Tachyporus nitidulus* (Fabricius, 1781)

REMARKS: New record. Forest leaf litter, coastal vegetation and rotting kelp. A European species now widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P u Jan, Dec

STAPHYLINIDAE: Aleocharinae***Aleochara subaenea* Fauvel, 1877**

FIRST RECORDED: Klimaszewski & Crosby, 1997.

REMARKS: In our collections only from Rangitira, but also known from Chatham I. Found

throughout New Zealand, except the Kaikoura Coast and Canterbury. Larvae of this genus are ectoparasitoids on calliphorid fly pupae and adults are usually found in habitats where blowflies occur.

DISTRIBUTION & ABUNDANCE: R r Nov

+*Amischa analis* (Gravenhorst, 1802)

REMARKS: New record. Under rocks. A European species widespread in New Zealand, often associated with compost heaps.

DISTRIBUTION & ABUNDANCE: P p Jan

+*Atheta fungi* (Gravenhorst, 1806)

REMARKS: New record. Beaten from vegetation, also in leaf litter and under driftwood and anaerobic organic debris by lagoon. A widely distributed European species.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Nov

***Atheta* sp. 1**

REMARKS: New record. *Dracophyllum* and tree fern litter.

DISTRIBUTION & ABUNDANCE: P r Jan

***Atheta* sp. 2**

REMARKS: New record. Forest leaf litter.

DISTRIBUTION & ABUNDANCE: C,LM u Jan, Dec

***Botromana* sp. nr *vulcanica* (Broun, 1894)**

REMARKS: New record. Widespread in all types of forest leaf litter, in dead nikau fronds, etc.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Aug, Nov, Dec

***Botromana* sp. 1**

REMARKS: New record. Under bark of dead *Corynocarpus*, and in malaise trap.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov, Dec

***Homalota* sp. 1**

REMARKS: New record. Under bark of dead *Corynocarpus* and *Myrsine*, forest leaf litter.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Dec

***Ischnoglossa bituberculata* (Broun, 1894)**

REMARKS: New record. Under bark of dead *Corynocarpus*, *Myrsine*, and *Plagianthus*.

DISTRIBUTION & ABUNDANCE: C,P,R f Jan, Nov, Dec

***Leptusa* sp. 1**

REMARKS: New record. Leaf litter in forest and coastal scrub.

DISTRIBUTION & ABUNDANCE: R,M,SK f Jan, Nov, Dec

?*Leptusa* sp. 2

REMARKS: New record. Under rock in coastal scrub. A smaller depigmented species.

DISTRIBUTION & ABUNDANCE: SK p Jan

***Oligota inconspicua* Williams, 1976**

FIRST RECORDED: Williams, 1976.

REMARKS: Originally described from Motunau I. (NC), Nelson (NN), and Little Mangere.

DISTRIBUTION & ABUNDANCE: LM lit

Genus indet. sp. 1

REMARKS: New record. Under rotting kelp.

DISTRIBUTION & ABUNDANCE: P p Nov

Genus indet. sp. 2

REMARKS: New record. Pitfall traps in *Olearia/Plagianthus/Macropiper* forest.

DISTRIBUTION & ABUNDANCE: R,LM u Jan, Nov

Genus indet. sp. 3

REMARKS: New record. Under bark of dead *Corynocarpus*, on toadstools, beaten from *Melicytus* branch trap.

DISTRIBUTION & ABUNDANCE: P,R f Jan, Dec

Genus indet. sp. 4

REMARKS: New record. Under rocks in short coastal sward.

DISTRIBUTION & ABUNDANCE: C p Jan

Genus indet. sp. 5

REMARKS: New record. Under beach wrack and rocks in short coastal sward.

DISTRIBUTION & ABUNDANCE: C,R u Jan

Genus indet. sp. 6

REMARKS: New record. On lichen covered rocks.

DISTRIBUTION & ABUNDANCE: R p Jan

Genus indet. sp. 7

REMARKS: New record. Under rocks in coastal sward.

DISTRIBUTION & ABUNDANCE: SK p Jan

STAPHYLINIDAE: Scaphidiinae**Scaphisomatini n. genus sp. 1**

REMARKS: New record. Under bark, on trees at night, forest leaf litter, and on bracket fungi.

DISTRIBUTION & ABUNDANCE: C,R a Jan, Nov, Dec

STAPHYLINIDAE: Osoriinae***Zeoleusis virgula* (Fauvel, 1889)**REMARKS: New record. Under bark of dead *Corynocarpus* and *Myrsine*. Widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R c Jan

STAPHYLINIDAE: Oxytelinae***Anotylus rugosus* (Fabricius, 1775)**

REMARKS: New record. Specimens in NZAC, from pasture.

DISTRIBUTION & ABUNDANCE: C nzac

***Blediotrogus cordicollis* (Broun, 1904)**

REMARKS: New record. Under rotting kelp on sandy beaches.

DISTRIBUTION & ABUNDANCE: P a Jan

***Carpelimus zealandicus* (Sharp, 1900)**

REMARKS: New record. Under rotting kelp, beach wrack, and rocks in coastal sward.

DISTRIBUTION & ABUNDANCE: P,R,SK c Jan

****Teropalpus* n. sp.**

REMARKS: New record. Under rotting kelp on sandy beach, and organic debris and driftwood beside lagoon.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Nov

STAPHYLINIDAE: Staphylininae***Cafius algophilus* (Broun, 1894)**

REMARKS: New record. Under stones on beach. Widespread on beaches in New Zealand.

DISTRIBUTION & ABUNDANCE: P p Jan

***Cafius quadriimpressus* (White, 1846)**

REMARKS: New record. Under beach wrack, in rotting kelp, and in tidal drift beside river. Widespread on beaches in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P c Jan, Aug, Nov, Dec

***Cafius* sp. 1**

REMARKS: New record. Under rotting kelp on sandy beaches.

DISTRIBUTION & ABUNDANCE: C,P f Jan

Creophilus oculatus* (Fabricius, 1775)*devil's coachhorse**FIRST RECORDED: Hutton, 1897 (as *Staphylinus oculatus*).

REMARKS: In rubbish pit and under rotting kelp. Widespread on both main islands of New

Zealand, but tending to be replaced by another species in the south of the South I. May also occur in Australia (Steel 1949b).

DISTRIBUTION & ABUNDANCE: P u Jan

Creophilus n. sp.

REMARKS: New record. Petrel burrow entrance, leaf litter, under logs and rocks, and pitfall traps in coastal forest. This species is very similar or identical to the one found in the southern South I. (SL) and Stewart I. Hammond (*in litt.*) points out that the *Creophilus* of New Zealand are quite variable and several species may be present.

DISTRIBUTION & ABUNDANCE: R,M,SK u Jan, Oct, Nov

+*Gyrophypnus fracticornis* (Mueller, 1776)

FIRST RECORDED: Alfken, 1904 (as *Xantholinus punctulatus* Paykull).

REMARKS: Beaten from dead *Muehlenbeckia/Rhipogonum* tangle and in rubbish pit.

DISTRIBUTION & ABUNDANCE: P u Jan

***Neoxantholinus brouni* (Sharp, 1876)**

REMARKS: New record. Specimens in NZAC, reared from *Myrsine* log.

DISTRIBUTION & ABUNDANCE: P nzac

+*Notolimus socius* (Fauvel, 1877)

REMARKS: New record. Under logs and dried fresh water algal mats. An Australian species, widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R,LM f Jan, Nov, Dec

+*Philonthus politus* (Linnaeus, 1758)

REMARKS: New record. Around house. A European species widespread in New Zealand on farms and in compost heaps.

DISTRIBUTION & ABUNDANCE: C p Feb

+*Philonthus sordidus* (Gravenhorst, 1802)

FIRST RECORDED: Alfken, 1904.

REMARKS: A European species, widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

***Quedius antipodum* Sharp, 1886**

FIRST RECORDED: Broun, 1911.

REMARKS: Pitfall traps, under log, and on tree trunks and the ground at night, sometimes associated with litter in empty petrel burrows. Broun's (1911) record was presumably from Pitt I., but our records are from only the outer islands. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: R,M a Jan, May, Jul, Nov, Dec

+*Quedius fulgidus* (Fabricius, 1792)

FIRST RECORDED: Alfken, 1904.

DISTRIBUTION & ABUNDANCE: C lit

****Thinocafius insularis* Steel, 1949**

FIRST RECORDED: Steel, 1949a.

REMARKS: Under rotting kelp on sandy beaches. *Thinocafius* is an endemic genus of unknown relationships.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Aug

***Xantholinus labralis* Broun, 1880**

REMARKS: New record. Under rocks by stream, rotten log.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Oct

***Xantholini*, genus indet. sp. 1**

REMARKS: New record. Coastal vegetation.

DISTRIBUTION & ABUNDANCE: P p Jan

***Xantholini*, genus indet. sp. 2**

REMARKS: New record. Under log, wet bark, and dried freshwater algal mat.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Nov, Dec

SCIRTIDAE

Cyphon sp. 1

REMARKS: New record. Beaten from *Brachyglottis*, *Corynocarpus*, and *Dracophyllum*, in leaf litter and malaise trap. Broun (1911) reported *Cyphon acerbus* Broun from Pitt I. It almost certainly represented one of the *Cyphon* species recorded here, but no material is present in the Broun Chatham Is Collection (BMNH), or in NZAC.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Nov

Cyphon sp. 2

REMARKS: New record. Very common on all kinds of shrubs, such as *Brachyglottis*, *Dracophyllum*, *Hebe*, *Hymenanthera*, *Macropiper*, *Melicytus*, *Myrsine*, and *Olearia*; also in branch traps and leaf litter.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Oct-Dec

Cyphon sp. 3

REMARKS: New record. Under log, Tuku Valley.

DISTRIBUTION & ABUNDANCE: C p Dec

Cyphon sp. 4

REMARKS: New record. Coastal vegetation and *Dracophyllum arboreum*.

DISTRIBUTION & ABUNDANCE: P,R f Nov

LUCANIDAE

Ceratognathus helotoides Thomson, 1862

FIRST RECORDED: Hutton, 1897.

REMARKS: In dead trees, logs and branches. Common and widespread throughout New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Jul, Nov, Dec

**Ceratognathus reflexus* (Broun, 1909)

FIRST RECORDED: Broun, 1909 (as *Mitophyllus*). This is probably the species referred to as *Ceratognathus* n.sp. by Alfken (1904).

REMARKS: Widespread in dead trees, logs, and branches, on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Mar, Jul, Nov

**Geodorcus capito* (Deyrolle, 1873)

FIRST RECORDED: Deyrolle, in Parry, 1873 (as *Lissotes*). This species was redescribed by Broun (1910) as *Lissotes dispar* Broun.

REMARKS: On Rangatira and the bush covered parts of Mangere, under logs and on the forest floor at night, under rocks in coastal vegetation on the smaller islands. Much less common on Pitt I. and apparently now confined to the southern end of Chatham I., though formerly also in the north east (Holloway 1961). Probably vulnerable to rodent and pig predation.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM c Jan, Jun, Nov, Dec

**Geodorcus* n. sp. (Sisters)

FIRST RECORDED: Holloway, 1961, as a large variety of *G. capito*.

REMARKS: Apparently confined to the Sisters Is and now regarded as a separate species by Holloway (*in litt.*).

DISTRIBUTION & ABUNDANCE: MS r

+Syndesus cornutus (Fabricius, 1801)

FIRST RECORDED: Macfarlane *et al.*, 1991.

REMARKS: An Australian species found once in a hardwood power pole in Waitangi, Chatham I. Well established in New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

SCARABAEIDAE

+Aphodius granarius (Linnaeus, 1767)

REPORTED: Hutton, 1897.

REMARKS: A European species widely established in New Zealand, but not reported from the Chathams since Hutton (1897). However, there is a recent specimen in NZAC; Point Weeding, sweeping *Apium*.

DISTRIBUTION & ABUNDANCE: C lit

Costelytra zealandica* (White, 1846)*grass grub**

FIRST RECORDED: Broun, 1909 (as *Odontria*). Alfken's (1904) record of *Odontria* sp. could also refer to this species.

REMARKS: Widespread on all main islands of the group. Very common and widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Oct-Dec

***Odontria varicolorata* Given, 1952**

REMARKS: New record. Widespread and common on all main islands of the group, mostly on trees at night and in pitfall traps. Most New Zealand records are from Canterbury, and it may be introduced to the Chatham Is.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Jul, Oct-Dec

***Phycochus graniceps* Broun, 1886**

FIRST RECORDED: Watt, 1984.

REMARKS: Collected from Waitangi Beach, Chatham I. Known from scattered localities around New Zealand and Tasmania on sandy beaches.

DISTRIBUTION & ABUNDANCE: C lit

****Saprosites sulcatissimus* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Aphodius*).

REMARKS: Widespread in leaf litter on all main islands.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Oct

EUCNEMIDAE***Agalba cylindrata* (Broun, 1886)**

REMARKS: New record. One specimen in NZAC, from *Asplenium*.

DISTRIBUTION & ABUNDANCE: C nzac

***Neocharis* sp. nr *concolor* Sharp, 1877**

REMARKS: New record. Malaise and pitfall traps, on mossy log at night, under rotting log in pasture.

DISTRIBUTION & ABUNDANCE: C,P u Jan

ELATERIDAE****Amychus candezei* Pascoe, 1876****Chatham Islands click beetle**

FIRST RECORDED: Pascoe, 1876. This species was redescribed by Schwarz (1901) as *A. schauinslandi* Schwarz and *A. rotundicollis* Schwarz.

REMARKS: Originally described from Pitt I., where it has not been seen for many years; it survived at Hapupu on Chatham I., at least until 1967, but could not be found in the same locality in 1992. Widespread on the smaller, rodent free islands, usually found on tree trunks at night, but also under logs and rocks, in rock crevices under tussocks and in pitfall traps.

DISTRIBUTION & ABUNDANCE: R,M,SK,LM c Jan, Nov, Dec

Conoderus exsul* (Sharp, 1877)*pasture wireworm**

REMARKS: New record. Under a rotten log, in spider web. Widespread and common in New Zealand. Hutton's (1897) record of *Monocrepidius subrufus* Broun may refer to this species.

DISTRIBUTION & ABUNDANCE: C,P r Jan

'*Ctenicera*' *agrioides* (Sharp, 1877)

FIRST RECORDED: Schwarz, 1901 (as *Corymbites*).

DISTRIBUTION & ABUNDANCE: C lit

'*Ctenicera*' *olivascens* (White, 1846)

REMARKS: New record. On rocks by river. Additional specimens in NZAC. It is possible that Schwarz's (1901) record of *C. agrioides* also refers to this species as they are very similar, and *C. agrioides* has not been recollected from the Chatham Is.

DISTRIBUTION & ABUNDANCE: C r Jan

***Mecastrus convexus* Sharp, 1877**

FIRST RECORDED: Hutton, 1897, also recorded by Schwarz (1901) and Brookes (1925).

REMARKS: Under bark and in rotten logs. Apparently widely distributed in the South I. of New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Dec

***Thoramus laevithorax* (White, 1846)**

FIRST RECORDED: Hutton, 1897, also recorded by Schwarz (1901) and Brookes (1925).
REMARKS: Under bark, in rotten logs, on trees at night, at light, reared from rotten *Myrsine* logs. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Mar, Nov

***Thoramus perblandus* Broun, 1880**

REMARKS: New record. Less common than *T. laevithorax*, but in similar habitats. Widespread in New Zealand. Not previously recorded from the Chatham Is, but Brookes (1925) records a variety of *T. laevithorax* that may be this species, "Thorax more finely and closely punctate, and has a little in front of the middle, on either side, a sub-circular glabrous spot. Elytra, and especially the head and thorax densely clothed with fine, light tawny, vestiture." This fairly describes the most obvious features that distinguish *T. perblandus* from *T. laevithorax*.

DISTRIBUTION & ABUNDANCE: C,P,R f Jan

DERMESTIDAE

****Trogoderma pictulum* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Specimens in Broun Chatham Is Collection (BMNH) and NZAC. Originally described from Pitt I. No known specimens since the original collection.

DISTRIBUTION & ABUNDANCE: P lit

***Trogoderma signatum* Sharp, 1877**

FIRST RECORDED: Broun, 1911.

REMARKS: In huts on Mangere and Rangatira, with scattered records elsewhere. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R,M c Jan, Nov

ANOBIIDAE

+*Anobium punctatum* (DeGeer, 1774)

house borer

FIRST RECORDED: Alfken, 1904 (by the synonym *A. striatum* (Oliver)).

REMARKS: In house, additional specimen in NZAC. A European species widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C p Jan

***Cyphanobium illustre* (Broun, 1880)**

REMARKS: New record. Reared from bracket fungi, beaten from tree fern skirts.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov, Dec

***Microsternomorpha oblongus* (Broun, 1880)**

REMARKS: New record. In huts, one specimen crawling on a sandy bank.

DISTRIBUTION & ABUNDANCE: P,R u Jan

+*Ptinus tectus* Boieldieu, 1856

Australian spider beetle

FIRST RECORDED: Alfken, 1904.

REMARKS: Not collected in recent years from the Chathams (Wise 1964a). The record by Broun (1911) of *P. fur* (L.) almost certainly refers to this species, as all known specimens identified by Broun as *P. fur* are in fact *P. tectus* (see Wise 1964a, 1964b). Widespread in New Zealand, where it is a pest of stored products.

DISTRIBUTION & ABUNDANCE: C,P lit

+*Ptinus* sp. 1

REMARKS: New record. Specimens in NZAC, from Chatham Is tomtit nest.

DISTRIBUTION & ABUNDANCE: R nzac

TROGOSSITIDAE

****Lepidopteryx shandi* (Broun, 1910)**

FIRST RECORDED: Hutton, 1897 (as *Leperina wakefieldi* Sharp). Also recorded from both

Chatham and Pitt Is as *Leperina sobrina* White (Alfken 1904). Broun (1910) established *Leperina shandi* Broun as a separate Chatham Is species.

REMARKS: Very common everywhere in forested habitats, on trees at night, under dead bark, reared from rotten *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,P,R,M,LM a Jan, Jul, Nov, Dec

CHAETOSOMATIDAE

Chaetosoma scaritides Westwood, 1851

FIRST RECORDED: Broun, 1911.

REMARKS: Under bark and in dead wood of *Corynocarpus*, *Myrsine*, and *Pseudopanax* on tree trunk at night. Widespread, though not usually numerous, in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R f Jan, Jul, Nov, Dec

CLERIDAE

Necrobia ruficollis (Fabricius, 1775)

redshouldered ham beetle

FIRST RECORDED: Macfarlane *et al.*, 1991.

REMARKS: On dry sheep carcass. A European species widespread on carrion in New Zealand.

DISTRIBUTION & ABUNDANCE: C f Jan

Necrobia rufipes (Degeer, 1775)

redlegged ham beetle

FIRST RECORDED: Macfarlane *et al.* 1991.

REMARKS: Similar in origin and habitat to *N. ruficollis*.

DISTRIBUTION & ABUNDANCE: C lit

Phymatophoea sp. 1

REMARKS: New record. Beaten from various shrubs, malaise traps.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Nov

Phymatophoea sp. 2

REMARKS: New record. Very similar to *Phymatophoea* sp. 1, but more greeny bronze and shiny. Swept from shrubs, beaten from dead *Pseudopanax*, on dead log. Only from Chatham I. in our collection. Additional specimens in NZAC. The record by Hutton (1897) of *P. electa* Pascoe from Chatham I. probably refers to this species.

DISTRIBUTION & ABUNDANCE: C r Jan

PHYCOSECIDAE

Phycosecis limbata (Fabricius, 1781)

FIRST RECORDED: Broun, 1911 (as *P. atomaria* Pascoe).

REMARKS: On sandy beaches. Widespread all round New Zealand on sandy beaches.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Dec

MELYRIDAE

**Dasytes pittensis* Broun, 1911

FIRST RECORDED: Broun, 1911. Alfken's (1904) record of *Dasytes* n.sp. presumably refers to this species.

REMARKS: Very common everywhere on flowers and all sorts of vegetation.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK a Jan, Oct-Dec

NITIDULIDAE

Epuraea antarctica (White, 1846)

FIRST RECORDED: Broun, 1911.

REMARKS: In hut at night, beating in forest, and sieved litter. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,R r Jan, Nov

Epuraea signata Broun, 1880

REMARKS: New record. Mostly from dead nikau fronds, but also on dead *Pseudopanax* at night. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P u Jan

+Omosita colon (Linnaeus, 1758)

FIRST RECORDED: Alfken, 1904.

REMARKS: Dry sheep horn, mutton bones, in rubbish pit and under rotting kelp. A European species widespread in New Zealand on dry carrion.

DISTRIBUTION & ABUNDANCE: P f Jan

CAVOGNATHIDAE

**Zeonidicola chathamensis* Watt, 1980

FIRST RECORDED: Watt, 1980.

REMARKS: Mainly from petrel burrows, but also found in leaf litter and pitfall traps in areas that are strongly burrowed. According to Watt (1980) it is associated with the nests of seabirds, *Puffinus griseus*, *Pachyptila turtur*, *Macronectes giganteus*, *Diomedea sanfordi* etc., on Rangatira, Mangere, Little Mangere, Mid Sister and East Sister.

DISTRIBUTION & ABUNDANCE: R a Jan, May, Jun

CRYPTOPHAGIDAE

Paratomaria n. sp. 1

REMARKS: New record. Beating coastal vegetation, *Coprosma* and *Corynocarpus* branch traps.

DISTRIBUTION & ABUNDANCE: R a Jan, Nov

Paratomaria n. sp. 2

REMARKS: New record. Beaten from shrubby vegetation and dead *Myoporum*, *Myrsine*, and *Plagianthus*.

DISTRIBUTION & ABUNDANCE: R f Jan, Nov

EROTYLIDAE

Cryptodacne sp. 1

REMARKS: New record. Under bark of dead *Corynocarpus*.

DISTRIBUTION & ABUNDANCE: P p Dec

BOTHRIDERIDAE

**Ascetoderes paynteri* (Broun, 1911), new combination

FIRST RECORDED: Broun, 1911 (as *Bothrideres*).

REMARKS: Under bark, in dead wood, on tree trunks at night, reared from rotten *Myrsine* logs and pupae of *Xuthodes punctipennis* (Cerambycidae). Larvae are ectoparasitoids of the pupae, and perhaps larvae, of wood boring insects. This species has previously been known as *Aeschyntelus paynteri* (Broun) (Ślipiński *et al.* 1989), but *Aeschyntelus* Waterhouse, 1876 is a junior homonym of *Aeschyntelus* Stål, 1872 (Hemiptera). The next available name is *Ascetoderes* Pope, 1961. I am indebted to Adam Ślipiński and John Lawrence for drawing this to my attention.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Jul, Nov

CERYLIDAE

Hypodacnella rubripes (Reitter, 1880)

FIRST RECORDED: Alfken, 1904 (as *Tritomidea rubripes* Motschulsky).

REMARKS: The most commonly collected beetle in the Chatham Is. In forest habitats everywhere, under logs, under dead bark, in dead nikau fronds, forest litter, beating woody vegetation etc., also under logs and debris in more open habitats. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, May, Jul, Aug, Oct-Dec

COCCINELLIDAE

+Coccinella undecimpunctata Linnaeus, 1758

eleven-spotted ladybird

FIRST RECORDED: Hutton, 1897.

REMARKS: Open habitats on the larger islands. A European species widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Nov, Dec

**Veronicobius macrostictus* (Broun, 1911)

FIRST RECORDED: Broun, 1911 (as *Scymnus*).

REMARKS: Very common everywhere, mostly collected by beating woody vegetation, but also in branch, Malaise, and pitfall traps, and on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Jun, Oct, Nov

****Veronicobius* n. sp. 1**REMARKS: New record. Very similar to *V. macrostictus* but smaller.

DISTRIBUTION & ABUNDANCE: P a Jan, Nov

****Veronicobius* n. sp. 2**

REMARKS: New record. Another similar species, but usually lacking pale markings on the elytra, and with long setae. Mostly found on coastal vegetation, but also in Malaise trap on bush edge.

DISTRIBUTION & ABUNDANCE: P,R,M,SK f Jan, Oct, Nov

CORYLOPHIDAE***Anisomeristes thoracicus* (Erichson, 1842)**

FIRST RECORDED: Kuschel, 1990.

REMARKS: In leaf litter from coastal scrub and Chatham I. shag nest. An Australian species widely distributed in New Zealand (Kuschel 1990).

DISTRIBUTION & ABUNDANCE: SK r Jan

***Anisomeristes* sp. 1**

FIRST RECORDED: Kuschel, 1990.

REMARKS: A smaller, more glossy species.

DISTRIBUTION & ABUNDANCE: lit

***Holopsis* nr *lawsoni* Broun, 1886**REMARKS: New record. Mostly in leaf litter from forests and coastal scrub, but also in *Corynocarpus* and *Myoporum* branch traps, under rocks in coastal sward and one in a flight intercept trap.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Oct, Nov

***Sacium* sp.**

REMARKS: New record. Beaten from coastal vegetation, leaf litter from coastal scrub, under rocks in coastal sward and under drift wood.

DISTRIBUTION & ABUNDANCE: C,P,SK f Jan, Aug

LATRIDIIDAE**+*Aridius bifasciatus* (Reitter, 1877)**

FIRST RECORDED: Watt, 1969.

REMARKS: Beaten from trees and shrubs. An Australian species now widely distributed through commerce, widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R f Jan, Nov

+*Aridius nodifer* (Westwood, 1839)

FIRST RECORDED: Watt, 1969.

REMARKS: In similar habitats to *A. bifasciata*, but also in Malaise traps and dead nikau fronds. An introduced species of unknown origin now very widely distributed through commerce (Watt 1969), widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R c Jan, Aug

+*Corticaria fenestralis* (Linnaeus, 1758)

REMARKS: New record. Beaten from tree ferns. A European species widespread in New Zealand, though not usually numerous.

DISTRIBUTION & ABUNDANCE: P p Nov

+*Corticaria hirtalis* (Broun, 1880)**minute scavenger beetle**

FIRST RECORDED: Johnson, 1975.

REMARKS: Mostly beaten from a wide variety of vegetation, but also under dead bark and in a Malaise trap. Although originally described from New Zealand the species is also known from Australia and possibly originates from there (Kuschel 1990). Very widespread and common in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Oct-Dec

***Lithostygnus* sp. nr *minor* Broun, 1893**REMARKS: New record. Reared from rotten *Myrsine* logs. Watt (1969) reported *L. minor*

from a number of localities in New Zealand, but was unable to decide whether the material represented one species or several.

DISTRIBUTION & ABUNDANCE: R u Jan

***Bicava* sp. 1**

REMARKS: New record. Mostly beaten from a variety of vegetation and dead branches, but also in *Coprosma*, *Myoporum*, and *Plagianthus* branch traps, on a dead *Melicytus* log, and in pitfall and Malaise traps, very common everywhere.

DISTRIBUTION & ABUNDANCE: P,R,M a Jan, Jul, Oct, Nov

***Bicava* sp. 2**

REMARKS: New record. Beaten from coastal vegetation and *Plagianthus* branch traps.

DISTRIBUTION & ABUNDANCE: P,R f Jan, Nov

***Bicava* sp. 3**

REMARKS: New record. Under bark.

DISTRIBUTION & ABUNDANCE: C p Oct

***Bicava* sp. 4**

REMARKS: New record. Beaten from shrubs and dead *Pseudopanax*.

DISTRIBUTION & ABUNDANCE: C,M r Jan, Oct

MYCETOPHAGIDAE

***'Triphyllus' hispidellus* (Broun, 1880)**

REMARKS: New record. Beaten from *Brachyglottis huntii* and *Dracophyllum arboreum*, also in litter and pitfall traps in *Dracophyllum* forest.

DISTRIBUTION & ABUNDANCE: P a Jan, Nov

'Triphyllus' sp. 1

REMARKS: New record. On fungal fruiting bodies, beating dead *Myrsine* and *Plagianthus* branches.

DISTRIBUTION & ABUNDANCE: P,R a Jan

'Triphyllus' sp. 2

REMARKS: New record. On fungal fruiting bodies.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Dec

CIIDAE

***Cis boettgeri* (Reitter, 1880)**

REMARKS: New record. Mostly on bracket fungi, but also under bark, in rotten logs, beating dead *Corynocarpus*, in leaf litter etc. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Oct-Dec

****Cis fulgens* Broun, 1895**

REMARKS: New record. Litter in *Dracophyllum*/tree fern forest and in *Corynocarpus*/*Melicytus* forest, in pitfall trap and on *Fomes* fructification.

DISTRIBUTION & ABUNDANCE: C,P,R u Jan, Dec

***Cis zealandicus* Reitter, 1880**

REMARKS: New record. On bracket fungi. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Nov, Dec

***Cis* sp. 1**

REMARKS: New record. Woody bracket fungus on *Olearia*.

DISTRIBUTION & ABUNDANCE: M c Nov

***Orthocis undulatus* (Broun, 1880)**

FIRST RECORDED: Broun, 1911 (as *Cis*).

REMARKS: Under bark, beating tree ferns.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Oct

MELANDRYIDAE

***Ctenoplectron vittatum* Broun, 1886**

FIRST RECORDED: Broun, 1911.

REMARKS: Beaten from dead *Muehlenbeckia* and *Rhipogonum*, Malaise trap on bush edge, on tree trunk at night. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov

***Hylobia* sp. 1**

REMARKS: New record. On trees at night, Malaise trap in *Dracophyllum* forest.

DISTRIBUTION & ABUNDANCE: C,P u Jan

MORDELLIDAE

***Mordella detracta* Pascoe, 1876**

REMARKS: New record. Under log in forest remnant.

DISTRIBUTION & ABUNDANCE: P p Jan

ZOPHERIDAE

***Coxelus mucronatus* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Under bark of dead *Corynocarpus* and *Olearia traversi*, in basidiomycete fungus growing on *Corynocarpus*, beating vegetation, pitfall traps, reared from rotten *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Nov, Dec

***Coxelus* n. sp. 1**

REMARKS: New record. Very similar to *C. mucronatus* but smaller and less rugose. Pitfall traps, leaf litter from forest and coastal scrub, under bark.

DISTRIBUTION & ABUNDANCE: P,R,M,SK,LM a Jan, May, Jul, Aug, Nov, Dec

***Coxelus* n. sp. 2**

REMARKS: New record. Litter from coastal scrub and *Olearia/Melicytus/Muehlenbeckia* forest, pitfall traps. Known only from the smaller islands. Specimens in NZAC from Middle Sister I.

DISTRIBUTION & ABUNDANCE: R,M,SK c Jan, Oct

***Pristoderus acuminatus* (Broun, 1880)**

FIRST RECORDED: Broun, 1911 (as *Tarphiomimus*).

REMARKS: On trees and logs at night, from branch traps and reared from rotten *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,R u Jan, Dec

***Pristoderus asper* (Sharp, 1876)**

FIRST RECORDED: Broun, 1911 (as *Ulonotus*).

REMARKS: Mostly beaten from dead vegetation, tree fern skirts, *Muehlenbeckia* and *Rhipogonum*, branches of dead *Corynocarpus*, *Melicytus*, *Olearia traversi*, and *Plagianthus*, *Melicytus* and *Myrsine* branch traps, but also on tree trunks at night. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R,M a Jan, Jul, Nov, Dec

***Pristoderus bakewelli* (Pascoe, 1866)**

FIRST RECORDED: Broun, 1911 (as *Enarsus*).

REMARKS: Originally recorded from Pitt I., our records are from Rangatira. Under logs, under bark of dead *Plagianthus*, pitfall traps. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: R a Jan, Jul, Nov

***Pristoderus plagiatus* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Ulonotus*).

REMARKS: On trees and logs at night, pitfall and Malaise traps in forest, *Coprosma*, *Corynocarpus*, *Myoporum* and *Plagianthus* branch traps.

DISTRIBUTION & ABUNDANCE: P,R,M a Jan, Jul, Nov, Dec

***Pycnomerus mediocris* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Pitfall traps in *Dracophyllum*/broadleaved forest and *Olearia/Plagianthus*/

Macropiper forest, under dead bark of *Corynocarpus*, *Myrsine*, and *Plagianthus*, in rotten logs, reared from rotten *Myrsine* logs, on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Jul, Nov, Dec

***Rhitidinotus squamulosus* (Broun, 1880)**

FIRST RECORDED: Hutton, 1897.

REMARKS: Under bark of dead *Corynocarpus*, on tree trunks at night. Fairly widespread in the North I. of New Zealand.

DISTRIBUTION & ABUNDANCE: P r Jan

TENEBRIONIDAE

***Mimopeus pascoei* (Bates, 1873)**

FIRST RECORDED: Bates, 1873 (as *Cilibe*).

REMARKS: This is the *Mimopeus* of the southern part of the Chathams group (Pitt I., Rangatira, Mangere, Star Keys, Forty Fours), very common in a wide variety of habitats, under logs and rocks, and on the outer islands, on the forest floor at night.

DISTRIBUTION & ABUNDANCE: P,R,M,SK,I,M,MS,FF a Jan, Jul, Aug, Oct-Dec

***Mimopeus subcostatus* (Sharp, 1903)**

FIRST RECORDED: Sharp, 1903 (as *Cilibe*).

REMARKS: Described from Chatham I., Watt (1992) also records it from The Sisters and Pitt I. Our material from Middle Sister I. is more like *M. pascoei*, and none of our specimens from Pitt I. have the key features of *M. subcostatus*, but some of our material from Rangatira apparently tends in that direction. More work is clearly required on these species. Our specimens came from tree trunks at night, under dead marram grass, under logs in pasture.

DISTRIBUTION & ABUNDANCE: C c Jan, Dec

***Omedes substriatus* (Broun, 1880)**

FIRST RECORDED: Watt, 1992.

REMARKS: Under rocks, pitfall traps, *Myrsine* branch trap. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R u Nov

***Pheloneis simulans* (Redtenbacher, 1868)**

FIRST RECORDED: Macfarlane, 1979 (as *Amerosoma*). This is probably the species mentioned by Brookes (1925) as *Pheloneis* sp.

REMARKS: Under rocks in coastal sward. Otherwise, only known from northern New Zealand (ND, AK) (Watt 1992).

DISTRIBUTION & ABUNDANCE: C u Jan

***Pseudhelops chathamensis* Watt, 1992**

FIRST RECORDED: Watt, 1992.

REMARKS: Only known from The Sisters Is.

DISTRIBUTION & ABUNDANCE: SS lit

OEDEMERIDAE

***Baculipalpus rarus* Broun, 1880**

FIRST RECORDED: Hudson, 1975.

REMARKS: Under logs and seaweed on beach. The record by Hutton (1897) of *Sessinia strigipennis* White (now *Baculipalpus*) possibly refers to this species.

DISTRIBUTION & ABUNDANCE: C p Jan

***Thelyphassa brouni* Hudson, 1975**

REMARKS: New record. Scattered specimens mostly at night. Distributed in the southern part of the North I. and throughout the South I. and Stewart I., mostly on beaches.

DISTRIBUTION & ABUNDANCE: P,M u Jan, Nov, Dec

***Thelyphassa diaphana* (Pascoe, 1876)**

FIRST RECORDED: Hutton, 1897.

REMARKS: Under shells and kelp at drift line on sandy beach, under bark on driftwood. Found on sandy beaches all around New Zealand, including Stewart I.

DISTRIBUTION & ABUNDANCE: C f Jan

***Thelyphassa lineata* (Fabricius, 1775)**

FIRST RECORDED: Alfken, 1904 (as *Sessinia*).

REMARKS: Mostly on tree trunks at night, but also under bark of *Corynocarpus*, and in dead wood. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Nov, Dec

****Thelyphassa pauperata* (Pascoe, 1876)**

FIRST RECORDED: Brookes, 1925 (as *T. chathamensis* Brookes).

REMARKS: The type locality is Christchurch, but this is thought to be a mistake as all other known specimens are from the Chathams (Hudson 1975), where it is very abundant in all sorts of mainly forested habitats, in pitfall and Malaise traps, on tree trunks at night, reared from dead *Olearia* branch.

DISTRIBUTION & ABUNDANCE: C,P,R,M,LM a Jan, Jul, Nov, Dec

SALPINGIDAE

****Antarcticodomus* n. sp.**

REMARKS: New record. Under coastal rocks, on lichen covered coastal rocks and under rotting kelp. Other species of *Antarcticodomus* are known from New Zealand subantarctic islands and Stewart I.

DISTRIBUTION & ABUNDANCE: P,R,SK a Jan, Nov

***Diagrypnodes wakefieldi* Waterhouse, 1876**

FIRST RECORDED: Hutton, 1897.

REMARKS: Under dead bark on trees and rotten logs including *Corynocarpus* and *Myrsine*. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Feb, Aug, Oct-Dec

ANTHICIDAE

***Anthicus minor* Broun, 1886**

FIRST RECORDED: Werner and Chandler, 1995.

REMARKS: On coastal lichen covered rocks, beaten from vegetation. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov

***Lagrioida brouni* Pascoe, 1876**

Broun's sand beetle

FIRST RECORDED: Broun, 1911.

REMARKS: Under bark on driftwood. On sandy beaches throughout New Zealand.

DISTRIBUTION & ABUNDANCE: C p Jan

ADERIDAE

***Xylophilus* sp. 1**

REMARKS: New record. Beaten from coastal vegetation and dead *Plagianthus* branch, *Macropiper* branch trap, swept in *Dracophyllum* forest.

DISTRIBUTION & ABUNDANCE: C,P,R f Jan, Nov

SCRAPTIIDAE

***Nothotelus* sp. 1**

REMARKS: New record. Beaten from woody vegetation.

DISTRIBUTION & ABUNDANCE: P,R,M c Jan, Oct, Nov

CERAMBYCIDAE: Cerambycinae

***Xuthodes punctipennis* Pascoe, 1875**

FIRST RECORDED: Pascoe, 1875. Hutton (1897) and Brookes (1925) recorded this species under its synonym, *X. divergens* Broun and Alfken (1904) recorded it as *X. apicalis* Sharp.

REMARKS: Associated with freshly broken *Corynocarpus* branches and in rotten logs, but also reared from *Myoporum laetum* and rotten *Myrsine*. Pupae are parasitized by *Ascetoderes paynteri* (Bothrideridae). Although originally described from Pitt I., the species is found widely in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R c Jan

****Zorion opacum* Sharp, 1903**

FIRST RECORDED: Sharp, 1903, though Hutton's (1897) record of *Z. minutum* (Fabricius) probably refers to this species.

REMARKS: Mostly collected by beating woody vegetation, also in flowers, Malaise traps, and

branch traps of *Melicytus*, *Myoporum*, and *Myrsine*, reared from rotten *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Nov

CERAMBYCIDAE: Lamiinae

**Adrioepa* n. sp. 1

REMARKS: New record. On *Plagianthus*, on tree trunks at night, beaten from dead *Myrsine* branch, and in leaf litter from coastal scrub.

DISTRIBUTION & ABUNDANCE: R,SK,LM u Jan, Nov

**Adrioepa* n. sp. 2

REMARKS: New record. On tree trunk at night.

DISTRIBUTION & ABUNDANCE: R p Jan

Psilocnaeia asteliae Kuschel, 1990

FIRST RECORDED: Kuschel, 1990.

REMARKS: Associated with *Phormium*, often found in the rolled up tips of frayed leaves. Widespread throughout New Zealand.

DISTRIBUTION & ABUNDANCE: P,R c Jan, Nov

Psilocnaeia ?bullata (Bates, 1876)

REMARKS: New record. Very common everywhere, mostly collected by beating woody vegetation and dead branches of *Brachyglottis*, *Hymenanthera*, *Myoporum*, *Myrsine*, *Plagianthus*, and tree ferns, also from *Coprosma*, *Myoporum*, *Myrsine*, and *Plagianthus* branch traps, in leaf litter, on logs and tree trunks at night, in Malaise traps.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK a Jan, Jul, Oct-Dec

**Ptinostoma waitei* (Broun, 1911)

FIRST RECORDED: Broun, 1911 (as *Somatidia*).

REMARKS: On logs, tree trunks, and fungi at night, pitfall traps, beaten from woody vegetation and dead branches of *Myrsine* and *Plagianthus*, litter from coastal scrub. Originally described from Pitt I., our specimens are all from the smaller islands. *Somatidia vicinus* Broun is assumed to be a synonym, but no material of either species is present in the Broun Chatham Is Collection (BMNH).

DISTRIBUTION & ABUNDANCE: R,M,SK c Jan, Jul, Oct-Dec

**Ptinostoma* n. sp.

REMARKS: New record. Pitfall traps in *Olearia*/*Plagianthus*/*Macropiper* forest. Similar to *P. waitei* but lacking erect setae on elytra.

DISTRIBUTION & ABUNDANCE: R u Nov

Tetrorea cilipes White, 1846

hissing longhorn

FIRST RECORDED: Hutton, 1897.

REMARKS: Widespread in New Zealand, often associated with species of *Pseudopanax*.

DISTRIBUTION & ABUNDANCE: C lit

**Xylotoles costatus* Pascoe, 1875

Pitt Island longhorn

FIRST RECORDED: Pascoe, 1875.

REMARKS: Early records are all from Pitt I. (Pascoe 1875, Hutton 1897), but recent specimens (NZAC, LUNZ) are from Rangatira and extensive searching has failed to relocate the species on Pitt I. On *Coprosma chathamica* tree trunks at night, dead *Coprosma* branch, *Coprosma* branch trap, dead log at night. Apparently associated with *Coprosma chathamica*.

DISTRIBUTION & ABUNDANCE: R u Jan, Nov

**Xylotoles traversi* Pascoe, 1876

FIRST RECORDED: Pascoe, 1876, also recorded by Sharp (1903) and Alfken (1904) by the synonym *X. schauinslandi* Sharp.

REMARKS: Very common everywhere on all sorts of woody vegetation, from broken *Corynocarpus* branches, beaten from *Corynocarpus*, *Griselinia*, *Melicytus*, *Myoporum*, *Myrsine*, *Olearia*, *Plagianthus*, tree ferns, also from *Plagianthus* branch trap, on logs and tree trunks at night, reared from dead *Lepidium oleraceum* stems.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Jul, Aug, Oct-Dec

****Xylotoloides trigonellaris* (Hutton, 1897)**

FIRST RECORDED: Hutton, 1897 (as *Hybolasius*). The species was redescribed by Sharp (1903) as *Xylotoles abnormalis* Sharp.

REMARKS: Mostly associated with dead branches and foliage of *Corynocarpus*, *Myoporum*, *Myrsine*, *Muehlenbeckia/Rhipogonum*, *Plagianthus*, and tree ferns; also from *Coprosma*, *Pseudopanax* and *Melicytus* branch traps and yellow pan trap.

DISTRIBUTION & ABUNDANCE: C,P,R,LM a Jan, Jul, Oct-Dec

CHRYSEMELIDAE****Chaetocnema moriori* Samuelson, 1973**

FIRST RECORDED: Broun, 1911 (as *Phyllotreta nitida* Broun).

REMARKS: Beating coastal vegetation, sweeping grass in coastal sward by creek, flight intercept trap and litter from coastal scrub. *Phyllotreta nitida* (now *Chaetocnema*) is a separate species widespread in the South I. (Samuelson, 1973).

DISTRIBUTION & ABUNDANCE: P,R,SK c Jan, Nov

ANTHRIBIDAE: Anthribinae****Cacephatus propinquus* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Anthribus*).

REMARKS: On trees at night, under bark, pitfall traps in *Dracophyllum*/broadleaved forest, beaten from dead *Myrsine* and *Plagianthus*, reared from *Melicytus* log, Malaise traps in coastal forest.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Aug, Oct-Dec

***Dasyanthribus purpureus* (Broun, 1880)**

REMARKS: New record. Malaise trap in coastal forest. Not recorded from the Chatham Is by Holloway (1982), and otherwise only known from the northern part of the North I. (Three Kings Is, ND, AK, CL, WO).

DISTRIBUTION & ABUNDANCE: R p Jan

***Hoplorhaphus spinifer* (Sharp, 1876)**

FIRST RECORDED: Holloway, 1982.

REMARKS: Throughout the North I. and north-western South I.

DISTRIBUTION & ABUNDANCE: C lit

****Lichenobius silvicola* Holloway, 1970**

FIRST RECORDED: Holloway, 1970.

REMARKS: Beating woody vegetation and dead *Olearia*, on tree trunks at night, Malaise traps. Apparently associated with lichens growing on tree trunks (Holloway, 1982).

DISTRIBUTION & ABUNDANCE: C,P,R,M f Jan, Oct-Dec

****Lophus cristellatus* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Anthribus*).

REMARKS: Beaten from dead *Myrsine*, *Olearia* and other woody vegetation, reared from *Melicytus* log, under *Myrsine* bark, on dead *Pseudopanax* at night.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Jul, Nov

***Lophus rudis* (Sharp, 1876)**

FIRST RECORDED: Holloway, 1982.

REMARKS: On dead *Pseudopanax* at night. Widespread from Northland to Stewart I.

DISTRIBUTION & ABUNDANCE: P p Jan

***Phymatus hetaera* (Sharp, 1876)**

FIRST RECORDED: Holloway, 1982.

REMARKS: Widespread in the North I. and extreme north of the South I., in a wide variety of habitats, associated with dead wood of all kinds.

DISTRIBUTION & ABUNDANCE: C lit

****Sharpius chathamensis* Holloway, 1982**

FIRST RECORDED: Holloway, 1982.

REMARKS: Beaten from a variety of woody vegetation and tree ferns, Malaise, pan, and branch traps, sieved litter.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Nov

ANTHRIBIDAE: Choraginae****Dysnocryptus pilicornis* (Broun, 1911)**FIRST RECORDED: Broun, 1911 (as *Anthribus*).REMARKS: Very common everywhere, mostly beaten from coastal shrubs, also from dead branches, *Corynocarpus*, *Macropiper*, *Myoporum*, and *Plagianthus* branch traps, pitfall and Malaise traps, on trees at night, and in leaf litter from coastal scrub.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Oct-Dec

****Notochoragus chathamensis* Holloway, 1982**

FIRST RECORDED: Holloway, 1982.

REMARKS: Pitfall trap in *Olearia/Plagianthus/Macropiper* forest, flight intercept trap, yellow pan trap.

DISTRIBUTION & ABUNDANCE: R r Jan, Nov

***Notochoragus nanus* (Sharp, 1876)**

FIRST RECORDED: Holloway, 1982.

REMARKS: Only scattered records from Coromandel, Nelson, and Dunedin (LUNZ).

DISTRIBUTION & ABUNDANCE: C lit

CURCULIONIDAE: Brachycerinae: Entimini***Catoptes versicolor versicolor* (Broun, 1911), reinstated name**FIRST RECORDED: Broun, 1911 (as *Platyomidia*).REMARKS: Mostly beaten from *Brachyglottis huntii*. Also known from the extreme south of the South I. and Stewart I. (FD,SL,SI). A geographical subspecies *C. versicolor australis* (Kuschel) (as *C. brevicornis australis*) has been described from The Snares (Kuschel 1964). The nomenclatorial history of this species is complex. Kuschel (1969) synonymised *Platyomidia versicolor* Broun, 1911 with *P. brevicornis* Broun, 1904 and transferred them to the genus *Catoptes* Schönherr, but he overlooked the description of *Catoptes brevicornis* Sharp, 1886, which is a senior homonym of *C. brevicornis* (Broun).

DISTRIBUTION & ABUNDANCE: P f Jan

***Catoptes* sp. 1**REMARKS: New record. *Dracophyllum* and tree fern litter, under rocks.

DISTRIBUTION & ABUNDANCE: P,SK f Jan, Nov

***Cecyropa tychioides* Pascoe, 1875**

FIRST RECORDED: Pascoe, 1875.

REMARKS: Originally described from Pitt I. and Wellington. On sandy beaches all round New Zealand.

DISTRIBUTION & ABUNDANCE: C,P lit

****Inophloeus traversi* Pascoe, 1875**

FIRST RECORDED: Pascoe, 1875.

REMARKS: Mostly feeding on *Myoporum* at night, also on *Hebe*, *Melicytus*, *Myrsine* and *Plagianthus* tree trunks at night, and in litter. Originally described from Pitt I., our material is from Rangitira. Sometimes placed in the genus *Brachyolus*.

DISTRIBUTION & ABUNDANCE: R a Jan, Jul, Nov

***Irenimus aequalis* (Broun, 1895)**

FIRST RECORDED: Kuschel, 1969.

REMARKS: Open areas. Most New Zealand records are from Canterbury, with scattered records in the North I. and Nelson (Kuschel 1969).

DISTRIBUTION & ABUNDANCE: P f Jan

Irenimus compressus* (Broun, 1880)*compressed weevil**

FIRST RECORDED: Kuschel, 1969.

REMARKS: Throughout New Zealand, but perhaps introduced to the South I. (Kuschel 1969), also found on the Kermadec Is.

DISTRIBUTION & ABUNDANCE: C lit

****Irenimus* n. sp. 1**

REMARKS: New record. Forested habitats and scrub, in pitfall traps and leaf litter.

DISTRIBUTION & ABUNDANCE: R f Jan, Nov

***Irenimus n. sp. 2**

REMARKS: New record. In similar habitats to the previous species.

DISTRIBUTION & ABUNDANCE: C,R,M a Jan, Nov, Dec

***Irenimus n. sp. 3**

REMARKS: New record. Widespread in forested and scrub habitats, mainly in pitfall traps, but also in leaf litter.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Nov, Dec

+Otiiorhynchus ovatus (Linnaeus, 1758)**strawberry weevil**

REMARKS: New record. A European species, widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C nzac

+Otiiorhynchus sulcatus (Fabricius, 1775)**black vine weevil**

FIRST RECORDED: Alfken, 1904.

REMARKS: Beating tree fern skirts, Malaise trap, leaf litter in coastal scrub. A European species widely distributed through commerce, throughout New Zealand, mostly in gardens and associated with horticulture.

DISTRIBUTION & ABUNDANCE: P,SK u Jan

+Phlyctinus callosus Boheman, 1834**garden weevil**FIRST RECORDED: Macfarlane *et al.*, 1991.

REMARKS: A European species widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

***Thotmus halli Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Only known from the type specimen, in the Broun Chatham Is Collection (BMNH), collected on Pitt I., presumed to be associated with sand dunes. *Thotmus* is a Chatham Is endemic genus.

DISTRIBUTION & ABUNDANCE: P lit

CURCULIONIDAE: Brachycerinae: Aterpini**Rhadinomus acuminatus (Fabricius, 1775)**

FIRST RECORDED: Kuschel, 1970.

REMARKS: On *Haloragis erecta*. Widespread on *Haloragis erecta* in New Zealand, the larvae mine the stems.

DISTRIBUTION & ABUNDANCE: M u Nov

CURCULIONIDAE: Brachycerinae: Rhytirhinini**+Steriphus diversipes lineata (Pascoe, 1873)**FIRST RECORDED: Macfarlane *et al.*, 1991 (as *Desiantha diversipes* Pascoe).REMARKS: Lichen covered rocks in coastal sward at night. Macfarlane *et al.* (1991) reported it from pastures on Chatham I. An Australian species widespread in pastures in New Zealand.

DISTRIBUTION & ABUNDANCE: P u Jan

CURCULIONIDAE: Curculioninae: Eriirhinini**Bryocatus sp. 1**FIRST RECORDED: Kuschel, 1964 (as *Baeosomus* sp.)

REMARKS: Associated with moss swards.

DISTRIBUTION & ABUNDANCE: C lit

CURCULIONIDAE: Curculioninae: Eugnomini***Pactolotypus n. sp.**

FIRST RECORDED: Kuschel, 1964.

REMARKS: Widespread in forest leaf litter, in pitfall and pan traps, also beating coastal vegetation and dead branches of *Muehlenbeckia*, *Myoporum*, *Myrsine* and *Olearia*, *Pseudopanax* branch trap.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Jul, Oct-Dec

Stephanorhynchus curvipes White, 1846

FIRST RECORDED: Broun, 1911.

REMARKS: Malaise trap in *Dracophyllum* forest, on dead *Pseudopanax* at night, beating tree

ferns and dead *Plagianthus* branch, on tree trunks at night. Widespread in New Zealand.
 DISTRIBUTION & ABUNDANCE: C,P,R f Jan

****Stephanorhynchus purus* Pascoe, 1876**

FIRST RECORDED: Pascoe, 1876.

REMARKS: Originally believed to be associated with *Embergia*, but also found on various other Asteraceae, we have a large series reared from *Sonchus oleareaceae*, also common on *Aciphylla* flowers and on *Urtica*.

DISTRIBUTION & ABUNDANCE: P,R,M a Jan, Oct-Dec

CURCULIONIDAE: Curculioninae: Curculionini

***Praeolepra squamosa* Broun, 1880**

FIRST RECORDED: Broun, 1911.

REMARKS: Malaise traps in various forest types, also beating in forest, *Coprosma* branch traps. Widely distributed in New Zealand on *Coprosma* spp.

DISTRIBUTION & ABUNDANCE: P,R c Jan, Nov

CURCULIONIDAE: Curculioninae: Cryptorhynchini

****Adstantes* n. sp.**

FIRST RECORDED: Lyal, 1993.

REMARKS: Mostly beaten from coastal shrubs and other low vegetation, *Olearia* branch trap, flight intercept trap.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov

***Clypeolus* sp. 1**

REMARKS: New record. Pitfall traps in *Olearia/Plagianthus/Macropiper* forest, on tree trunks at night, leaf litter from coastal scrub, Malaise trap in coastal forest.

DISTRIBUTION & ABUNDANCE: C,P,R,SK u Jan, Nov, Dec

****Crisius lineirostris* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Acalles*).

REMARKS: In a wide variety of forest habitats, leaf litter in *Olearia/Melicytus/Muehlenbeckia* forest and *Corynocarpus/Melicytus* forest, beaten from *Plagianthus* and coastal scrub, *Plagianthus* and *Myrsine* branch traps, pitfall, yellow pan, and Malaise traps, on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK a Jan, Oct-Dec

****Crisius subcarinatus* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Acalles*).

REMARKS: On tree trunks at night, in leaf litter, and in pitfall traps. There are two specimens collected at Lyttelton (Lyal 1993), but these are assumed to be imports.

DISTRIBUTION & ABUNDANCE: C,R,M f Jan, Nov, Dec

****Crisius* n. sp.**

REMARKS: New record. Leaf litter from coastal scrub. Superficially similar to *C. subcarinatus*, but differing in pattern of elytral tubercles and development of metasternal pit.

DISTRIBUTION & ABUNDANCE: SK u Jan

***Ectopsis ferrugalis* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Usually associated with *Pseudopanax* species, widespread in the North I. of New Zealand.

DISTRIBUTION & ABUNDANCE: P lit

****Homoreda flavisetosa* (Broun, 1911)**

FIRST RECORDED: Broun, 1911 (as *Kentraulax*).

REMARKS: Pitfall trap in *Olearia/Plagianthus/Macropiper* forest, on dead logs and *Olearia* buttress roots at night.

DISTRIBUTION & ABUNDANCE: R,LM u Jan, Nov

***Homoreda murina* (Broun, 1911)**

FIRST RECORDED: Lyal, 1993.

REMARKS: From scattered localities throughout New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

***Mecistostylus douei* Lacordaire, 1866**FIRST RECORDED: Broun, 1911 by the synonym *Paranomocerus spiculus* Redtenbacher.

REMARKS: Beaten from dead branches, North Head. Throughout New Zealand, including Stewart I.

DISTRIBUTION & ABUNDANCE: P p Nov

***Mesoreda sulcifrons* Broun, 1909**FIRST RECORDED: Broun, 1911 (as *M. setigera* Broun).REMARKS: Dead *Pseudopanax* at night, *Melicytus* branch trap, Malaise traps, etc. Throughout New Zealand, including, Stewart I. Most rearing records are from *Pseudopanax* spp.

DISTRIBUTION & ABUNDANCE: P c Jan, Nov

****Microcryptorhynchus* sp. nr *latitarsis* (Kuschel, 1964)**REMARKS: New record. Very abundant in forest habitats everywhere, beaten from woody vegetation, tree ferns, and *Dracophyllum* branch trap, in pitfall traps, leaf litter, etc. *M. latitarsis* is known from the Auckland Is, Stewart I., and the extreme south of the South I. (FD) (Kuschel 1964). The status of the Chatham Is specimens has not been investigated.

DISTRIBUTION & ABUNDANCE: C,P,R,SK,LM a Jan, Oct, Nov

***Microcryptorhynchus suillus* (Kuschel, 1964)**FIRST RECORDED: Kuschel, 1971 (as *Notacalles*).REMARKS: Beaten from *Brachyglottis*, *Dracophyllum*, *Olearia* and tree ferns, also in Malaise traps. Originally described from the Auckland Is, also known from Campbell I., Codfish I. (SI), and Northland (ND) (Lyal 1993).

DISTRIBUTION & ABUNDANCE: P a Jan, Nov

***Notacalles* sp. 1**REMARKS: New record. Leaf litter near the Mangere hut. Kuschel (1997) restored *Notacalles* to full generic status, rather than regarding it as a subgenus of *Microcryptorhynchus*.

DISTRIBUTION & ABUNDANCE: M r Jan

****Pachyderris squamiventris* (Broun, 1911)**FIRST RECORDED: Broun, 1911 (as *Xenacalles*).REMARKS: *Melicytus*, *Myrsine*, *Olearia*, and *Pseudopanax* branch traps, beaten from dead branches, Malaise traps, on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R,M a Jan, Jul, Oct-Dec

****Patellitergum rectirostris* Lyal, 1993**

FIRST RECORDED: Lyal, 1993.

REMARKS: Mostly in Malaise and pitfall traps, also beaten from coastal vegetation and from *Plagianthus*, in flight intercept trap. A Chatham Is endemic genus without obvious close relatives (Lyal 1993).

DISTRIBUTION & ABUNDANCE: P,R c Jan, Nov

***Psepholax coronatus* White, 1846**

FIRST RECORDED: Alfken, 1904.

REMARKS: Under dead bark of dead trees, on tree trunks at night. Throughout New Zealand, including Stewart I..

DISTRIBUTION & ABUNDANCE: P,R f Nov

***Psepholax crassicornis* Broun, 1895**FIRST RECORDED: Broun, 1911, by the synonym *Aphocoelus* [sic] *versicolor* Broun.REMARKS: Dead *Pseudopanax* at night, beaten from *Melicytus* and *Pseudopanax*. Throughout New Zealand, including Stewart I.

DISTRIBUTION & ABUNDANCE: P c Jan, Nov

***Psepholax sulcatus* White, 1843**FIRST RECORDED: Hutton, 1897. Also recorded by Broun (1911) and Brookes (1925) by the synonym *P. barbifrons* White.REMARKS: Mostly on tree trunks at night and in rotten logs, but also reared from *Myrsine* logs, attracted to light and in a Malaise trap. Throughout New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Dec

Rhyncodes ursus* White, 1846*elephant weevil**

FIRST RECORDED: Broun, 1911.

REMARKS: Throughout New Zealand, including Stewart I. and perhaps the Kermadec Is (Lyal 1993). There are no recent records of this species from the Chatham Is.

DISTRIBUTION & ABUNDANCE: C lit

****Scelodolichus* n.sp.**

REMARKS: New record. Specimens in NZAC, from sand dunes and beaches.

DISTRIBUTION & ABUNDANCE: C nzac

****Strongylopterus chathamensis* (Sharp, 1903)**FIRST RECORDED: Sharp, 1903 (as *Aldonus*). This species was redescribed by Broun (1910) as *Aldonus misturatus* Broun and *A. lineifer* Broun.REMARKS: Very common everywhere, associated with dead wood, under dead bark, on dead trees and logs at night, in rotting logs, reared from rotten *Plagianthus* and *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, Aug, Nov, Dec

***Strongylopterus hylobioides* (White, 1846)**FIRST RECORDED: Hutton, 1897 (as *Aldonus*).REMARKS: In coastal forest according to Lyal (1993), but no specimens have been seen in over 100 specimens of *Strongylopterus* in LUNZ. Throughout the North I. and in the northern part of the South I. (SD,NN,MB), Stewart I. and the Kermadec Is.

DISTRIBUTION & ABUNDANCE: C lit

****Sympedius* sp. nr *bufo* (Sharp, 1883)**REMARKS: New record. Pitfall traps in forest. Broun (1911) reported *S. costatus* (Broun) (as *Tychanus costatus* n.sp.) from the Chathams, but when he eventually described the species (Broun 1913), only mainland New Zealand specimens were mentioned and no specimens from the Chathams are now known to exist (see Lyal 1993). The specimens in LUNZ are more like *S. bufo* than *S. costatus*.

DISTRIBUTION & ABUNDANCE: R,M r Jan, Dec

***Tychanopais fougeri* (Hutton, 1897)**FIRST RECORDED: Hutton, 1897 (as *Acalles*).REMARKS: In rotten log. Originally described from Chatham I., but also known from scattered localities from the Bay of Plenty to Canterbury. There are no other recent records of this species from the Chatham Is. The specific epithet was originally spelt *fougeri*, in spite of the species being named after the collector Mr J.J. Fougère (Hutton 1897).

DISTRIBUTION & ABUNDANCE: C p Jan

CURCULIONIDAE: Curculioninae: Molytini***Arecophaga varia* Broun, 1880**

FIRST RECORDED: Broun, 1911.

REMARKS: Dead *Rhopalostylis* fronds. Found wherever nikau palms grow.

DISTRIBUTION & ABUNDANCE: P f Jan

****Exeiratus* n. sp.**

FIRST RECORDED: Kuschel, 1964.

REMARKS: Leaf litter and pitfall traps in *Olearia*/*Macropiper*/*Melicystus* forest, Rangatira. Other species of *Exeiratus* are known from the south of the South I. (DN,FD,SL), Stewart I., The Snares, Auckland Is, and Tasmania (Kuschel 1971, Craw 1990).

DISTRIBUTION & ABUNDANCE: R,LM u Nov

****Hadramphus spinipennis* Broun, 1911****coxella weevil**

FIRST RECORDED: Broun, 1911.

REMARKS: On *Aciphylla dieffenbachii*, particularly on flowers at night, one specimen on *Pseudopanax*. Abundant on Mangere. Originally described from Pitt I., but probably now extinct there due to habitat destruction and mouse predation.

DISTRIBUTION & ABUNDANCE: R,M,LM a Jan, Nov, Dec

***Paedaretus hispidus* Pascoe, 1876**REMARKS: New record. On tree trunks at night, under bark of dead *Corynocarpus*. Generally associated with decaying wood.

DISTRIBUTION & ABUNDANCE: C u Jan, Dec

***Phrynixus asper Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Mostly in pitfall traps in a variety of forest types, also in leaf litter and reared from rotten *Myrsine* logs.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK a Jan, Nov, Dec

CURCULIONIDAE: Rhynchophorinae**+Sitophilus oryzae (Linnaeus, 1763)**

rice weevil

FIRST RECORDED: Macfarlane, 1979.

REMARKS: A cosmopolitan pest of stored products, widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C lit

CURCULIONIDAE: Cossoninae***Agastegnus ornatus Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Leaf litter in *Dracophyllum*/tree fern forest and *Olearia*/*Macropiper*/*Melicytus* forest, pitfall traps in *Dracophyllum*/broadleaved forest, *Coprosma* branch trap.

DISTRIBUTION & ABUNDANCE: P,R a Jan, Nov

***Euophryum confine* (Broun, 1881)**

FIRST RECORDED: Thompson, 1989.

REMARKS: Under dead bark, beating tree ferns, *Coprosma* branch trap, litter in *Olearia*/*Macropiper*/*Melicytus* forest. Widespread in the south of the North I., throughout the South I., and Stewart I. Widely established in Britain and sporadically in Europe (Thompson 1989).

DISTRIBUTION & ABUNDANCE: C,P,R u Jan, Nov, Dec

***Heteropsis* sp. nr *lawsoni* Wollaston, 1873**REMARKS: New record. Pitfall trap in *Dracophyllum*/broadleaved forest, beaten from dead *Melicytus* branch. *H. lawsoni* is widespread in New Zealand and is often associated with tree ferns.

DISTRIBUTION & ABUNDANCE: P r Jan

+*Macrorhyncholus littoralis* (Broun, 1880)

small driftwood beetle

REMARKS: New record. Under rotting kelp on sandy beach and under driftwood in dunes. Kuschel (1990) considers this to be an introduced species, possibly of Australian origin. It is widespread in New Zealand, associated with driftwood.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Aug

***Macroscytalus* sp. nr *parvicornis* (Sharp, 1878)**REMARKS: New record. In dead *Aciphylla* flower stem, beaten from coastal vegetation. *M. parvicornis* is widespread in new Zealand.

DISTRIBUTION & ABUNDANCE: R,M c Oct, Nov

***Microtribus huttoni* Wollaston, 1873**REMARKS: New record. Beaten from coastal vegetation. Widespread in New Zealand, often associated with *Phormium* spp.

DISTRIBUTION & ABUNDANCE: P,SK u Jan

****Pentarthrum auripilum* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Abundant in all sorts of forest habitats, under dead bark, in leaf litter, in pitfall traps, *Coprosma* and *Macropiper* branch traps, reared from *Myrsine*, *Olearia traversii*, and *Plagianthus* logs. This species has also been referred to as *P. spadiceum auripilum* (Kuschel 1964), but more work is evidently needed to sort out the exact relationship of material from the south of the South I. (DN), Stewart I., The Snares, Auckland Is, and the Chathams. Thompson (1989) synonymised *P. spadiceum* Broun with *P. carmichaeli* Waterhouse, but did not consider *P. auripilum*, so in the meantime I have chosen to maintain *P. auripilum* as a separate species.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK a Jan, Jul, Oct-Dec

****Pentarthrum dissimile* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Less common than *P. auripilum*, but in similar habitats, under dead bark, in pitfall traps, on trees and logs at night, and reared from dead *Plagianthus* log.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Aug, Nov, Dec

***Pentarthrum zealandicum* Wollaston, 1873**

FIRST RECORDED: Broun, 1911.

REMARKS: Under dead bark, on trees at night, in rotten logs. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P a Jan, Jul, Nov, Dec

***Phloeophagosoma* cf. *corvinum* Wollaston, 1873**FIRST RECORDED: Broun, 1911 recorded *P. corvinum*, which is assumed to refer to this species.REMARKS: Leaf litter in coastal scrub, and under dead *Corynocarpus* bark.

DISTRIBUTION & ABUNDANCE: C,M u Jan, Oct

***Phloeophagosoma dilutum* Wollaston, 1874**

FIRST RECORDED: Broun, 1911.

DISTRIBUTION & ABUNDANCE: P lit

***Phloeophagosoma pedatum* Wollaston, 1874**REMARKS: New record. Under bracts and in dead *Phormium* flower stems everywhere. Widespread in New Zealand, associated with *Phormium*.

DISTRIBUTION & ABUNDANCE: C,P,R a Jan, Aug

***Torostoma apicale* (Broun, 1880)**

FIRST RECORDED: Broun, 1911.

REMARKS: In rotten logs, on tree trunks at night, under bark of dead trees and logs, reared from rotten *Myrsine* logs. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R c Jan, Nov, Dec

****Torostoma* n. sp.**REMARKS: New record. Under bark of dead *Corynocarpus laevigatus*. Additional specimens of this species are present in NZAC, where they are identified as '*Pentarthrum* cf. *servulum* sp. 2'. As pointed out by Thompson (1989) *P. servulum* Broun is a species of *Zenoteratus* Broun, but the specimens listed here lack the specific character of *Zenoteratus*, namely the carinate apical end of interstria 9 fusing with interstria 3. Rather, interstria 9 fuses with interstria 7 to produce an apical flange, which then fuses with the elytral margin, which is exactly the condition found in *Torostoma* Broun.

DISTRIBUTION & ABUNDANCE: P u Jan

****Zenoteratus* n. sp.**REMARKS: New record. Pitfall traps in *Olearia/Plagianthus/Macropiper* forest. Additional specimens of this species are present in NZAC, where they are identified as '*Pentarthrum* n. sp.' In fact these have the carinate apical end of interstria 9 fusing with interstria 3, which is typical of the genus *Zenoteratus* Broun (Thompson 1989).

DISTRIBUTION & ABUNDANCE: R r Nov

Genus indet. sp. 1

REMARKS: New record. Under dead bark.

DISTRIBUTION & ABUNDANCE: P p Jan

Genus indet. sp. 2REMARKS: New record. On *Corynocarpus* trees and logs at night.

DISTRIBUTION & ABUNDANCE: C p Jan

CURCULIONIDAE: Scolytinae***Dendrotrupes vestitus* Broun, 1881**REMARKS: New record. Sweeping pasture, under dead bark, beaten from woody vegetation, beaten from dead *Pseudopanax* branches. Widely distributed in New Zealand, associated with *Pseudopanax* spp.

DISTRIBUTION & ABUNDANCE: C,P c Jan, Oct

CURCULIONIDAE: Platypodinae***Platypus apicalis* White, 1846**

FIRST RECORDED: Hutton, 1897.

REMARKS: Under bark of dead *Corynocarpus*, Malaise traps in *Dracophyllum* forest, pitfall traps in *Dracophyllum*/broadleaved forest.

DISTRIBUTION & ABUNDANCE: P f Jan

BEETLE SPECIES MISTAKENLY REPORTED FROM THE CHATHAM ISLANDS

CARABIDAE

Megadromus antarcticus (Chaudoir, 1865)

metallic green ground beetle

REPORTED: Broun, 1911 (as *Trichosternus*).

REMARKS: Not represented in the Broun Chatham Is Collection (BMNH). This species has never been reported from the Chatham Is since Broun's original record, in spite of being a large, conspicuous ground beetle that usually attracts attention where it occurs. It is most likely a case of mislabelling, or an introduction that failed to establish. *M. antarcticus* is a widespread Canterbury species, common around Christchurch and Lyttelton.

Notagonum lawsoni (Bates, 1874)

REPORTED: Broun, 1911 (as *Anchomenus*).

REMARKS: This record seems to be a case of confusion with *N. chathamensis*, which Broun (1909) had previously described. No Chatham Is specimens referable to *N. lawsoni* are present in the Broun Chatham Is Collection (BMNH), or in other collections examined.

HISTERIDAE

Saprinus pseudocyanus (White, 1846)

REPORTED: Alfken, 1904 (as *Hister*).

REMARKS: The record of this species, now regarded as an Australian species, almost certainly refers to one of the three *Saprinus* species known from the Chatham Is, but in the absence of Alfken's specimens it is not possible to say which one. *Saprinus antipodus* Dahlgren, 1971 was established for New Zealand specimens of *S. pseudocyanus* auctt. but this name was later synonymised with *S. detritus* (Fabricius) by Kuschel (1987).

Sternaulax zealandicus Marseul, 1862

REPORTED: Hutton, 1897.

REMARKS: This record almost certainly refers to one or other of the three Chatham Is *Saprinus* species. Hutton (1897) refers to their small size, 5 mm, as against 9-10 mm for New Zealand specimens of *Sternaulax*. No specimens of *S. zealandicus* have been recorded since from the Chatham Is.

ELATERIDAE

Agrypnus murinus (Linnaeus, 1758)

REPORTED: Hutton, 1897 (as *Lacon*).

REMARKS: A European species not known to be established in New Zealand. In the absence of Hutton's specimens it is impossible to be sure what he had before him. He could have had specimens of the Australian *Agrypnus variabilis* (Candeze), which is very common in New Zealand, but which has not been reported from the Chatham Is.

Conoderus subrufus (Broun, 1880)

REPORTED: Hutton, 1897 (as *Monocrepidius*).

REMARKS: Only one species of *Conoderus* has been seen from the Chatham Is, here regarded as the widespread *C. exsul* (Sharp). *C. subrufus* has not been recorded from the Chatham Is since Hutton (1897).

Thoramus obscurus Sharp, 1877

REPORTED: Hutton, 1897.

REMARKS: *T. obscurus* is generally regarded as a synonym of *T. wakefieldi* Sharp, a superficially similar species to *T. laevithorax* (White) and it is most likely that this is what Hutton had before him. Neither *T. obscurus* or *T. wakefieldi* have been reported from the Chatham Is since, and no specimens of *T. wakefieldi* have been seen among more than forty specimens of *Thoramus* examined.

ANOBIIDAE

Ptinus fur (Linnaeus, 1758)

REPORTED: Broun, 1911.

REMARKS: All known specimens identified by Broun as *P. fur* are *P. tectus* Boieldieu (see Wise, 1964a, 1964b). *P. fur* has not been recorded from the Chatham Is since.

CLERIDAE

Phymatophoea electa Pascoe, 1876

REPORTED: Hutton, 1897.

REMARKS: This is almost certainly the species referred to here as *Phymatophoea* sp. 2, which appears different from New Zealand specimens of *P. electa*, but the genus needs careful revision.

OEDEMERIDAE

Baculipalpus strigipennis (White, 1846)

REPORTED: Hutton, 1897 (as *Sessinia*).

REMARKS: *B. strigipennis* has never been reported since from the Chatham Is and no specimens were recorded by Hudson (1975). *B. rarus* Broun and several superficially similar species of *Thelyphassa* Pascoe are well known on the islands. It is most likely that it was one of these species that Hutton had before him.

CERAMBYCIDAE

Zorion minutum (Fabricius, 1775)

flower longhorn

REPORTED: Hutton, 1897.

REMARKS: The Chatham Is species of *Zorion* was not recognised as a separate species, *Z. opacum*, until described by Sharp (1903).

CHRYSOMELIDAE

Chaetocnema nitida (Broun, 1880)

REPORTED: Broun, 1911 (as *Phyllotreta*).

REMARKS: The Chatham Is species of *Chaetocnema* was not recognised as a separate species, *C. moriori*, until described by Samuelson (1973).

CURCULIONIDAE

Listronotus bonariensis (Kuschel, 1955)

Argentine stem weevil

REPORTED: Macfarlane, 1979 (as *Hyperodes*), from specimens collected by Kuschel in 1967.

REMARKS: Argentine stem weevil has not been recollected from the Chatham Is, and Kuschel, (quoted in Macfarlane *et al.* (1991)) suggested it may have been a contaminant entering samples processed in Nelson. A similar explanation has been given for specimens extracted from an Auckland I. litter sample (Kuschel 1971).

Psepholax femoratus Broun, 1880

REPORTED: Hutton, 1897.

REMARKS: Not recorded from the Chatham Is by Lyal (1993), or in NZAC Chatham Is material. Known in New Zealand from scattered localities in the North I. (ND, AK, CL, WN).

Psepholax tibialis (Broun, 1880)

REPORTED: Broun, 1909 (as *Pseudoreda tibiale* Broun).

REMARKS: Not recorded from the Chatham Is by Lyal (1993), or in NZAC Chatham Is material. Known in New Zealand from the north of the North I. (ND, AK, CL) and from Nelson (NN) in the South I. (Lyal 1993). This could have been a misidentification for *Homoreda flavisetosa* (Broun), as the two species are superficially similar.

Sympedius costatus (Broun, 1913)

REPORTED: Broun, 1911 (as *Tychanus costatus* n. sp.).

REMARKS: When Broun (1913) eventually described *Tychanus costatus* only mainland specimens were mentioned and no specimens from the Chatham Is are known to exist (see Lyal 1993).

RESULTS AND DISCUSSION

Biogeography

Craw (1989, 1990) discussed the biogeography of the Chatham Is using a panbiogeographic approach, illustrated through examples drawn from his studies of molytine weevils. He concluded that there was evidence of a northern element in the fauna, with relationships to northern New Zealand and a southern element, with relationships to the extreme south of the South I., Stewart I. and the subantarctic islands. These ideas were supported by an interpretation of the geology of the islands in which the presence of a suture zone between two separate geological terranes was hypothesized to occur in the northern part of Chatham I.

I have previously discussed the size and biogeography of the Chatham Is beetle fauna in connection with the hypothesised age of separation of the Chatham Is from New Zealand (Emberson 1995). I argued that the Chatham Is must have been connected to New Zealand in the relatively recent past, as the fauna did not have the characteristics that would indicate that it had been isolated from direct land contact with New Zealand for 70 million years, as has been suggested (Campbell *et al.* 1993), or that all the fauna had reached the Chatham Is over water.

My original analysis was based on records of 214 species in our collection and a total beetle fauna of 234 species. Since then a more complete survey of the existing literature, investigation of specimens held in NZAC, and additional collecting, have increased the size of the currently known fauna to the 286 species included in the annotated list. These include 249 species in our own collection, 29 species reported in the literature but not collected by us, and 8 species known from specimens in NZAC but not collected by us or recorded in the literature. 123 of the species in our collection and the 8 species listed from NZAC have not been recorded from the Chatham Is previously.

The additional species have not changed the main conclusions of the paper. A strong relationship with the fauna of southern New Zealand and flightlessness continue to be the dominant features of the endemic part of the fauna. The rate of endemism at 27.6% (79 species) has increased slightly from the 25% reported previously and is likely to increase further with taxonomic revisions of several families. As predicted, the proportion of introduced or adventive species has increased substantially, from 8% to 11.5% (33 species), with more collecting of synanthropic species and inclusion of additional literature records. A previously overlooked endemic genus, *Chathamneus* Franz (Scydmaenidae), is noted, increasing the number of monotypic, endemic genera from 3 to 4, but the proportion of endemic genera is unchanged, with the number of recognised nominal genera in the Chatham Is beetle fauna increasing from 159 to 202.

Island faunas

The number of species in our collection at Lincoln University, from each of the islands of the group that we have visited and Little Mangere, is shown in Table 1.

Table 1: Number of beetle species in LUNZ Chatham Is Collection, island areas, and person collecting days for each of the Chatham Is visited

Island	beetle species number	area (ha)	person collecting days
Chatham	121	90650	18
Pitt	174	6203	74
Rangatira	139	219	30
Mangere	65	113	8
Little Mangere	29	17	¹
Star Keys	41	15	1

¹ The material from Little Mangere was collected by a party from the Department of Conservation which was mainly engaged in other activities, so is not comparable in terms of collecting days.

The relatively large number of species collected from Rangatira, in spite of its small size and limited range of habitats, e.g., lack of sandy beaches and restricted freshwater habitats, is probably a reflection of its lack of introduced predators (particularly rodents), its areas of relatively intact forest, and the nutrient-rich

habitats associated with abundant burrowing seabirds. Our group has collected over 30 species from Rangatira that we have not yet collected from the much larger Pitt I., in spite of considerably greater collecting effort on Pitt I. These species fall into three main groups: relatively large, ground inhabiting species, that might be vulnerable to mouse predation e.g., *Amychus candezei*, *Pristoderus bakewelli*, *Hadramphus spinipennis*; forest litter inhabiting species e.g., the cerambycids, *Adrioepa* spp. and *Plinosoma waitei*; and species often associated with burrow nesting birds and bird carrion e.g., *Saprinus* sp. 2 and *Quedius antipodum*. Some of these species may occur on Pitt I. but they are evidently much more numerous and thus more readily collected on Rangatira. The impact of vertebrate predators on beetles (Bremner *et al.* 1984), and the lack of intact forest habitats with well developed leaf litter, probably explain most of these differences. Similar explanations can be advanced for the poor representation of beetle species from Chatham I. in our collections, though collecting effort has also been substantially lower on Chatham I. than on either Pitt I. or Rangatira.

The data suggest that the beetle faunas of the different islands are still incompletely known. Fig. 2 shows a strong correlation between species number and collecting effort, as measured by the logarithm of person collecting days ($r^2=0.906$, $p<0.05$), rather than island area (Fig. 3). The logarithmic relationship accounts for the normal decline in collecting success with continuing effort.

The inclusion of historic records of species would change the view of the fauna presented here, but the issue is complicated because some species may have become extinct on the inhabited islands (see below). For this reason I have limited the analysis to material we have collected, or had donated, in the last ten years in order to give a picture of the current distribution of species on islands, rather than an historic one.

The number of species on each island of the Chathams Archipelago (Fig. 3) does not conform to the classic species-area relationship (MacArthur & Wilson 1967). There is probably a variety of reasons why Fig. 3 does not show the usual linear relationship, including uneven collecting effort, varying levels of predation and disturbance, and prevalence of intact forest. The beetle fauna of the Chatham Is may have been characterised by the expected species area relationship before the extensive habitat degradation that has taken place, particularly in the last 150 years, and the introduction of a suite of vertebrate predators. The beetle faunas of Pitt I. and Chatham I. in particular, have evidently been significantly depleted in relation to their size (Fig. 3).

Smaller predator-free islands

Of the vegetated smaller outer islands of the Chathams group (The Sisters, The Forty Fours, Star Keys, Little Mangere, The Castle, The Pyramid), which have all remained predator-free, we have only visited Star Keys. The faunas of these islands are very poorly known. The Sisters have been visited by several groups, including the 1954 Canterbury Museum Expedition and the 1967 Entomology Division Expedition to the Chatham Is., but the results of the collecting have never been published. Wildlife Service and Department of Conservation personnel have visited all these islands and made occasional collections, with most of the material going either to NZAC or to LUNZ. All the material we have received, primarily from Little Mangere, is included in the annotated list. On the basis of published records and our material it is clear that the small outer islands are extremely valuable sanctuaries, at least for many of the larger flightless species.

The Sisters Is have two known endemic beetle species, *Geodorcus* n.sp. and *Pseudhelops chathamensis*. The endangered *Hadramphus spinipennis* has recently been found on Little Mangere, which establishes that there is a third surviving population of this species in addition to those on Rangatira and Mangere. *Amychus candezei*, another species thought to be endangered, has populations on The Sisters, Star

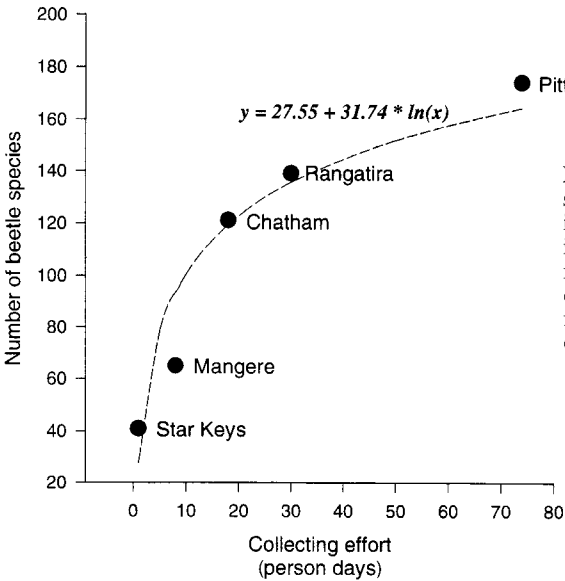


Fig. 2: Relationship of number of species of beetles from each of the islands of the Chathams Archipelago in LUNZ to collecting effort, measured in person days. The line expresses the expected species number in relation to the logarithm of the collecting effort.

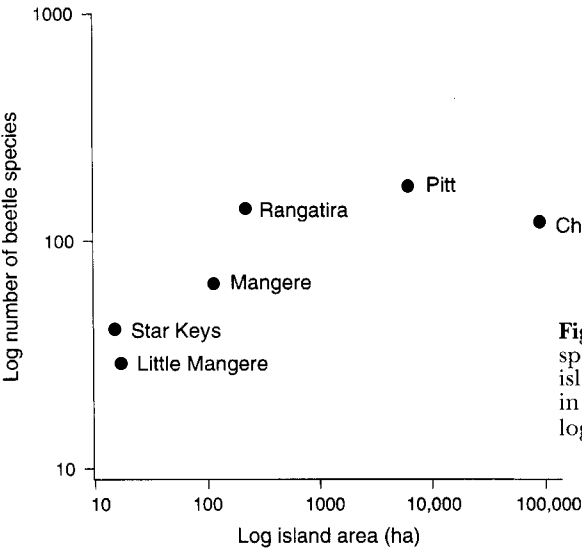


Fig. 3: Relationship of number of species of beetles from each of the islands of the Chathams Archipelago in LUNZ to island area, plotted on a log vs log scale.

Keys and Little Mangere as well as on Rangatira and Mangere. Similarly, *Geodorcus capito* and *Mecodema alternans*, both flightless species which are evidently becoming more restricted on the inhabited islands, have populations on Star Keys and Little Mangere as well as on Rangatira and Mangere.

The small outer islands of the Chathams group provide important sanctuaries for many endemic Chatham Is species, but because the faunas of these islands are still poorly known and their longer term security is uncertain, urgent efforts should be

made to establish the extent of their contribution to the conservation of the terrestrial invertebrate fauna of the Chatham Is.

Implications for Conservation

The Chatham Is have a beetle fauna that is of global significance because of the high degree of endemism at the species level and the four endemic genera. The fauna is vulnerable to losses caused by vertebrate predators and, on the larger, inhabited islands, land clearance. Predation, particularly by rodents and pigs, and loss of habitat are well known threats to endemic invertebrates, especially those that are large bodied, long lived and flightless (Bremner *et al.* 1984; Ramsay 1978; Watt 1976). Extinctions of Chatham Is beetles have probably already occurred. Two large weevils previously collected on Pitt I., the only species in the endemic genus *Thotmus* Broun and the more widespread *Rhyncodes ursus*, have not been seen on the Chatham Is since 1907 in spite of careful, targeted searches in suitable habitat on both Chatham I. and Pitt I. *Xylotoles costatus* and *Hadramphus spinipennis*, both originally described from Pitt I. (Pascoe 1875, Broun 1911), are examples of large flightless species that have probably been lost from Pitt I. *Geodorcus capito* and *A. candezei* have both suffered significant contractions of range and the latter has been lost from Chatham I. There are numerous other, less well documented, examples of suspected loss of diversity of beetle species on both the inhabited islands.

If the loss of species is to be halted, secure fencing of remnants of native vegetation must remain a priority for conservation on the inhabited islands of the group. In the longer term, selective control or elimination of introduced vertebrate predators needs to be seriously considered. All possible steps must also be taken to ensure that the smaller, uninhabited islands remain predator-free, as these currently provide the only safe haven for many unique Chatham Is species.

ACKNOWLEDGEMENTS

This project would have been impossible without the help of many friends and colleagues in the Chathams, New Zealand, and overseas. First, to the Chatham Islanders, my sincere thanks for making us welcome in their marvellous islands and their homes, for access to their land, for transport to the outer islands and for many kindnesses to me and the other entomologists who took part in collecting trips to the Islands.

Many people have contributed material for this project; I would like to thank them all. In particular the people who have accompanied me to the Chathams and have good naturedly put up with my obsession with beetles: Barbara Barratt, John Early, John Marris, Carol Muir, Katrin Schöps and Pauline Syrett. Peter Dilks and Lindsay Smith braved the Chatham Is winter to collect on Pitt I. and Rangatira. Mike and Dave Bell and Ian Atkinson collected on Little Mangere, whilst Ryan Lanauze helped collect on Pitt I. John Marris and Carol Muir expertly curated the several thousand specimens. I would also like to thank Euan Kennedy and Andy Grant, our liaison people in the Department of Conservation, Canterbury Conservancy and Hillary Aickman, in the Wellington Conservancy. Sandy King, Conservation Officer, Pitt I. collected for us and provided generous hospitality. Mike Bell, Dave Lumley, Alan Munn, and other staff of the Chatham Is Field Centre, Department of Conservation facilitated travel and accommodation on the islands, my thanks to all of you.

I am greatly indebted to the many people who have shared their knowledge with me by providing expert determinations for various obscure groups of beetles. Firstly I would like to thank Robin Craw, then of D.S.I.R., Plant Protection Division, and Landcare Research, Auckland, who used his wide knowledge of the New Zealand beetle fauna and that of the Chatham Is to really get the project going after our first visit to the Chathams in 1990. Trevor Crosby, Landcare Research, Auckland

has always made me welcome at the New Zealand Arthropod Collection. He also gave me permission to list records of species only represented in NZAC and facilitated the use of the material in his care. Chris Lyal and Jane Beard facilitated my access to the Broun Chatham Is Collection in the Natural History Museum, London. I am also indebted to the following people for help and determinations in specific groups: Barbara Barratt, AgResearch, Invermay (Curculionidae: Brachycerinae); Don Chandler, University of New Hampshire, Durham, USA (Anthicidae, Staphylinidae: Pselaphinae); Colin Johnson, Manchester Museum, Manchester, UK (Ptiliidae, Lathridiidae); Jan Klimaszewski, Landcare Research, Auckland (now at Natural Resources Canada, Quebec, Canada) (Staphylinidae); Rich Leschen, Landcare Research, Auckland (Corylophidae, Cryptophagidae, Mycetophagidae); Ron Ordish, Museum of New Zealand, Wellington (Hydrophilidae); Margaret Thayer, Field Museum of Natural History, Chicago, USA (Staphylinidae: Omaliinae).

Pauline Syrett, Trevor Crosby, John Early, Rich Leschen, and John Marris read drafts of the manuscript and made many valuable suggestions and comments, which have greatly improved its readability and consistency.

REFERENCES

- Alfken, J.D. 1904: Beitrag zur insectenfauna der Hawaiischen und Neuseelandischen Inseln. Ergebnisse einer reise nach dem Pacific. Schauinsland 1896-97. *Zoologische Jahrbucher. Abtheilung fur Systematik, Geographie und Biologie der Tiere* 19: 561-628.
- Bremner, A.G., Butcher, C.F., Patterson, G.B. 1984: The density of indigenous invertebrates on three islands in Breaksea Sound, Fiordland, in relation to the distribution of introduced mammals. *Journal of the Royal Society of New Zealand* 14: 379-386.
- Brookes, A.E. 1925: Coleoptera of the Chatham Islands. *Records of the Canterbury Museum* 2: 285-293.
- Broun, T. 1909: Notes on Coleoptera from the Chatham Islands. *Transactions of the New Zealand Institute* 41: 145-150.
- Broun, T. 1910: Additions to the coleopterous fauna of the Chatham Islands. *Transactions of the New Zealand Institute* 42: 306-310.
- Broun, T. 1911: Additions to the coleopterous fauna of the Chatham Islands. *Transactions of the New Zealand Institute* 43: 92-115.
- Craw, R. 1989: Continuing the synthesis between panbiogeography, phylogenetic systematics and geology as illustrated by empirical studies on the biogeography of New Zealand and the Chatham Islands. *Systematic Zoology* 37: 291-310.
- Craw, R. 1990: New Zealand biogeography: a panbiogeographic approach. *New Zealand Journal of Zoology* 16: 527-547.
- Dahlgren, G. 1977: The neglected genus *Tomogenius* Marseul (Coleoptera: Histeridae). *Journal of the Royal Society of New Zealand* 6: 407-411.
- Deyrolle, H.C. In Parry, F.J.S. 1873: Characters of seven nondescript lucanoid Coleoptera, and remarks upon the genera *Lissotes*, *Nigidus* and *Figulus*. *Transactions of the Entomological Society of London* 1873: 335-344.
- Early, J.W., Emberson, R.M., Muir, C.A., Barratt, B.I.P. 1991: Lincoln University Entomological Expedition to Pitt Island, 10-24 January 1990. Unpublished report to Canterbury Conservancy, Department of Conservation. 18pp.
- Emberson, R.M. 1995: The Chatham Islands beetle fauna and the age of separation of the Chatham Islands from New Zealand. *New Zealand Entomologist* 18: 1-7.
- Emberson, R.M., Early, J.W., Marris, J.W.M., Syrett, P. 1996: Research into the status and distribution of Chatham Islands endangered invertebrates. *Department of Conservation, Science for Conservation* 36: 1-35.
- Holloway, B.A. 1961: A systematic revision of the New Zealand Lucanidae (Insecta: Coleoptera). *Dominion Museum Bulletin* 20: 1-139.

- Holloway, B.A. 1970: A new genus of New Zealand Anthribidae associated with lichens (Insecta: Coleoptera). *New Zealand Journal of Science* 13: 435-446.
- Holloway, B.A. 1982: Anthribidae (Insecta: Coleoptera). *Fauna of New Zealand* 3: 1-264.
- Hudson, L. 1975: A systematic revision of the New Zealand Oedemeridae (Coleoptera, Insecta). *New Zealand Journal of Zoology* 5: 227-274.
- Hutton, F.W. 1897: On a collection of insects from the Chatham Islands, with descriptions of three new species. *Transactions of the New Zealand Institute* 30: 155-160.
- Johnson, C. 1975: *Cortinicara*, a new genus of Corticariinae (Coleoptera: Lathridiidae). *Entomologica Scandinavica* 6: 283-285.
- Johnson, C. 1982: An introduction to the Ptilidae (Coleoptera) of New Zealand. *New Zealand Journal of Zoology* 9: 333-376.
- Klimaszewski, J., Crosby, T.K. 1997: A revision of the New Zealand species of the parasitoid genus *Aleochara*, with description of four new species (Coleoptera: Staphylinidae). *Journal of the Royal Society of New Zealand* 27: 243-269.
- Klimaszewski, J., Newton, A.F., Thayer, M. 1996: A review of the New Zealand rove beetles (Coleoptera: Staphylinidae). *New Zealand Journal of Zoology* 23: 143-160.
- Klimaszewski, J., Watt, J.C. 1997: Coleoptera: family group review and keys to identification. *Fauna of New Zealand* 37: 1-194.
- Kuschel, G. 1964: Insects of Campbell Island. Coleoptera: Curculionidae of the subantarctic islands of New Zealand. *Pacific Insects Monograph* 7: 416-493.
- Kuschel, G. 1969: The genus *Catoptes* Schönherr and two species *oblitae* of Fabricius from New Zealand (Coleoptera: Curculionidae). *New Zealand Journal of Science* 12: 789-810.
- Kuschel, G. 1970: New Zealand Curculionoidea from Captain Cook's voyages (Coleoptera). *New Zealand Journal of Science* 13: 191-205.
- Kuschel, G. 1971: Entomology of the Aucklands and other islands south of New Zealand: Coleoptera: Curculionidae. *Pacific Insects Monograph* 27: 225-259.
- Kuschel, G. 1987: A New Zealand histereid beetle of Fabricius mistakenly described from Australia (Coleoptera: Histeridae). *New Zealand Entomologist* 9: 56-57.
- Kuschel, G. 1990: Beetles in a suburban environment: a New Zealand case study. *DSIR Plant Protection Report* 3: 1-118.
- Kuschel, G. 1997: Description of two new species of *Microcryptorhynchus* species from Lynfield, Auckland City, New Zealand (Coleoptera: Curculionidae). *New Zealand Entomologist* 20: 23-27.
- Lawrence, J.F., Britton, E.B. 1994: *Australian beetles*. Melbourne University Press, Victoria. 192 pp.
- Lindroth, C.H. 1976: Genus *Bembidion* Latreille (Coleoptera: Carabidae) in New Zealand: a revision. *New Zealand Journal of Zoology* 3: 161-198.
- Lindroth, C.H. 1980: A revisionary study of the taxon *Cillenus* Samouelle, 1819 and related forms (Coleoptera: Carabidae: Bembidiini). *Entomologica Scandinavica* 11: 177-205.
- Lyal, C. 1993: Cryptorhynchinae (Insecta: Coleoptera: Curculionidae). *Fauna of New Zealand* 29: 1-302.
- MacArthur, R.M., Wilson, E.O. 1967: *The Theory of Island Biogeography*. Princeton University Press, New Jersey. 203pp.
- Macfarlane, R.P. 1979: Notes on the insects of the Chatham Islands. *New Zealand Entomologist* 7: 64-70.
- Macfarlane, R.P., Morales, C.F., Craw, R.C. 1991: Chatham Island insect survey, March 1991. *DSIR Plant Protection, Research Report*. 47 pp.
- Moore, B.P. 1997: A new genus and species of Stenolophina (Coleoptera: Carabidae: Harpalini) from New Zealand. *Australian Entomologist* 23: 97-100.
- Ordish, R.G. 1971: Entomology of the Aucklands and other islands south of New Zealand: Coleoptera: Hydraenidae. *Pacific Insects Monograph* 27: 185-192.
- Ordish, R.G. 1984: Hydraenidae (Insecta: Coleoptera). *Fauna of New Zealand* 6: 1-56.

- Ordish, R.G. 1989: A new species of *Rhantus* from the Chatham Islands of New Zealand (Coleoptera: Dytiscidae). *New Zealand Journal of Zoology* 16: 147-150.
- Pascoe, F.P. 1875: Descriptions of new genera and species of New Zealand Coleoptera. Part I. *Annals and Magazine of Natural History Ser.4*, 16: 210-222.
- Pascoe, F.P. 1876: Descriptions of new genera and species of New Zealand Coleoptera. Part II. *Annals and Magazine of Natural History Ser.4*, 17: 48-60.
- Pascoe, F.P. 1876: Descriptions of new genera and species of New Zealand Coleoptera. Part III. *Annals and Magazine of Natural History Ser.4*, 18: 57-67.
- Ramsay, G.W. 1978: A review of the effect of rodents on the New Zealand invertebrate fauna. pp 89-97 In: Dingwall, P.R., Atkinson, I.A.E., Hay, C. (eds) *The ecology and control of rodents in New Zealand nature reserves*. New Zealand Department of Lands and Survey, Information Series 4, 237 pp.
- Ramsay, G.W., Meads, M.J., Sherley, G.H., Gibbs, G.W. 1988: Research on terrestrial insects of New Zealand. *WRLG Research Review* 10: 1-49.
- Schwarz, O. 1901: Elateriden von der Stephens-Insel und der Chatham-Inseln gesammelt von Hrn. Direktor Schauinsland. *Deutsche Entomologische Zeitschrift* 1901: 193-196.
- Sharp, D. 1903: Some new Coleoptera from the Chatham Islands and New Zealand. *Entomologist's Monthly Magazine* 35: 105-110.
- Ślipiński, S.A., Lawrence, J.F. 1997: Genera of Colydiinae (Coleoptera: Zopheridae) of the Australo-Pacific region. *Annales Zoologici* (Warsaw) 47: 341-440.
- Ślipiński, S.A., Pope, R.D., Aldridge, R.J.W. 1989: A review of the world Bothriderini (Coleoptera, Bothrideridae). *Polskie Pismo Entomologiczne* 59: 131-202.
- Steel, W.O. 1949a: A new genus and species of Pacific (Chatham Is.) Staphylinidae. *Entomologist's Monthly Magazine* 85: 309-310.
- Steel, W.O. 1949b: On the Australian species of *Creophilus* (Coleoptera: Staphylinidae). *Proceedings of the Linnean Society of New South Wales* 74: 57-61.
- Thayer, M.K. 1985: Revision, phylogeny and biogeography of the austral genus *Metacorneolabium* Steel (Coleoptera: Staphylinidae: Omaliinae). Pp113-179 In: Ball, G.E. *Taxonomy, Phylogeny and Zoogeography of Beetles and Ants*. Dr W. Junk Publishers, Dordrecht, The Netherlands.
- Thompson, R.T. 1989: A preliminary study of the weevil genus *Euophryum* Broun (Coleoptera: Curculionidae: Cossoninae). *New Zealand Journal of Zoology* 16: 65-79.
- Townsend, J.I. 1971: Entomology of the Aucklands and other islands south of New Zealand: Coleoptera: Carabidae: Broscini. *Pacific Insects Monograph* 27: 173-184.
- Watt, J.C. 1969: Keys to genera and some species of New Zealand Lathridiidae (Coleoptera). *New Zealand Entomologist* 4: 49-67.
- Watt, J.C. 1976: The terrestrial insects. Pp 507-535 In: Kuschel, G. (ed.) *Biogeography and Ecology in New Zealand*. Dr W. Junk B.V., The Hague. 689 p.
- Watt, J.C. 1977: Conservation and type localities of New Zealand Coleoptera, and notes on collectors 1770-1920. *Journal of the Royal Society of New Zealand* 7: 79-91.
- Watt, J.C. 1980: *Zeonidicola* (Coleoptera: Cavognathidae) - beetles inhabiting birds' nests. *Journal of the Royal Society of New Zealand* 10: 331-339.
- Watt, J.C. 1984: A review of some New Zealand Scarabaeidae (Coleoptera). *New Zealand Entomologist* 8: 4-24.
- Watt, J.C. 1992: Tenebrionidae (Insecta: Coleoptera): catalogue of types and keys to taxa. *Fauna of New Zealand* 26: 1-64.
- Werner, F.G., Chandler, D.S. 1995: Anthicidae (Insecta: Coleoptera). *Fauna of New Zealand* 34: 1-59.
- Williams, S.A. 1976: The genus *Oligota* (Coleoptera: Staphylinidae) in New Zealand. *New Zealand Journal of Zoology* 3: 247-255.
- Wise, K.A.J. 1964a: Pests of stored products in New Zealand. 3. Further records of Phycitidae (Lepidoptera) and Ptinidae (Coleoptera). *New Zealand Journal of Science* 4: 836-843.
- Wise, K.A.J. 1964b: Insects of Campbell Island. Coleoptera: Ptinidae. *Pacific Insects Monograph* 7: 395-396.