

**The beetle fauna (Coleoptera) of the Chatham Islands,
with additional species, corrections, and updated taxonomic, biological and
distributional information to end 2002**

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

Records are given for 318 species of beetles known from the Chatham Islands, however, at least four of these records are doubtful. 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; other names used for Chatham Is records; collecting methods and habitat; distribution outside the Chatham Is. For the 281 species represented by specimens in the Entomology Research Museum, Lincoln University, the following additional information is listed in abbreviated form: distribution on the different islands of the Chathams group, abundance in LUNZ and months of collection. A list of the species mistakenly reported from the Chatham Is is also given. 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 the usual species area relationships, probably due to predation, disturbance, forest clearance, and lack of collecting effort, on the larger islands. The small outer islands of the group are shown to be important sanctuaries for many larger flightless species and are minor areas of endemism.

Taxonomic notes are provided for a number of Chatham Is species.

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

INTRODUCTION

The first record of a beetle species from the Chatham Islands 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 mostly misidentifications. 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 5 introduced species. Broun's 1911 paper is particularly noteworthy in adding 61 new records, including 26 newly described species. Thomas Hall collected nearly all of this material 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 1944, an expedition from the Canterbury Museum in 1954, and 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 Islands, 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. Wildlife Service personnel visiting the islands in connection with bird research in the 1970s and 1980s also made collections. 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. Watt (1980), in a paper describing a new species of nest inhabiting beetle from the Chathams, provided a list of 20 species of beetles thought to be endemic to the islands. Macfarlane (1979) and Macfarlane *et al.* (1991) also 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. The initial results of these and subsequent visits in 1997 and 1998 were published as an annotated list of species (Emberson 1998), but additions and corrections have been incorporated as further collections and information have come to hand.

MATERIALS AND METHODS

The known beetle fauna is treated by way of an annotated list of species. A list of species mistakenly reported from the Chatham Is, based on known misidentifications and partly on a re-examination of the Hutton Chatham Is material in the Canterbury Museum (CMNZ), is also given. The core of the annotated list is a record of all the beetle material collected on six 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. Very valuable material, donated to the Museum, from several different sources has been included.

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
- 29 December 1998-8 January 1999 R.M. Emberson
- 28 November-5 December 2000 R.M. Emberson, J.B. Johnson

This amounts to over 170 person days, excluding travel time.

Visits were made to all of the main islands (Fig. 1): Chatham (×6), Pitt (×6), Rangatira (×4) 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 into species and identified, where possible, to genus and species. The material is stored separately in the Entomology Research Museum, Lincoln University (LUNZ), in about 80 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 included within an expanded Zopheridae (Ślipiński & Lawrence 1997), as the subfamilies Colydiinae and Pycnomerinae. The tribal classification of the Staphylinidae follows Klimaszewski *et al.* (1996) and that of the Curculionidae follows Kuschel (*in litt.*).

For each species the following information is given: an indication of whether the species is thought to be a doubtful record, a Chatham Is endemic, also present in New Zealand, or is introduced to the New Zealand region; the name, author and date as currently understood; the common name if appropriate (Scott & Emberson 1999); 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: remarks on the habitat and collecting methods, distribution outside the Chatham Is, and any comments on the taxonomic status and wider distribution. The following additional information is given, in an abbreviated form: records of island distribution in the Chathams group, abundance in LUNZ, based on number of specimens in categories arranged in powers of three, 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. Some island records in the Chathams group,

based on material not in LUNZ are also noted, though again no special search has been made for these records, but all material in a small collection made by G.A. Knox, in CMNZ, on the rarely visited Forty Fours has been included.

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:

- * thought to be endemic to the Chathams group
- + introduced to the New Zealand region
- doubtful record, either as to provenience or species

BMNH Natural History Museum, London

CMNZ Canterbury Museum, Christchurch

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 Island (Main Chatham Island, Rekohu, Wharekauri)

P Pitt Island (Rangiauria)

R Rangatira (South East Island)

M Mangere (Mangere Island)

LM Little Mangere (Tapuaenuku)

SK Star Keys (Motuhope)

SS The Sisters (Rangitatahi)

MS Middle Sister Island

FF The Forty Fours (Motuhara)

lower case letters refer to records based on material not held in LUNZ

Abundance in LUNZ collections

p present, 1 specimen only

r rare, 2-3 specimens

u uncommon, 4-9 specimens

f frequent, 10-27 specimens

c common, 28-81specimens

a abundant, 82-243 specimens

s superabundant, 244, 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.

ANNOTATED LIST OF CHATHAM ISLANDS BEETLE SPECIES

CARABIDAE: Cicindelini

-Neocicindela latecincta (White, 1846)

FIRST RECORDED: Savill, 1999.

REMARKS: Savill (1999) records a specimen of this species from Pitt I. (CMNZ). There is considerable doubt as to the reliability of the record, as no other tiger beetles have ever been collected, or recorded, from the Chathams. There is apparently plenty of suitable habitat for the larvae, with extensive clay banks on both Chatham and Pitt Is. None of the characteristic larval burrows have been seen by experienced observers. *N. latecincta* is a widespread eastern South I. species, common around Christchurch and the Port of Lyttleton.

DISTRIBUTION & ABUNDANCE: p lit

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 c 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 Island.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Dec

-Zecillenus albescens (Bates, 1878)

FIRST RECORDED: Alfken, 1904 (as *Cillenus*)

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 Island (ND, AK, CL).

There is no reason to doubt that Alfken (1904) saw a specimen of *Zecillenus*, until recently they have been only rarely collected in New Zealand, but it is perhaps unlikely it was *Z. albescens*.

DISTRIBUTION & ABUNDANCE: c lit

CARABIDAE: Psydrini

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 c Jan, Nov, Dec

**Mecyclothorax* n.sp.

FIRST RECORDED: Emberson, 1998.

REMARKS: Generally in closed forest, in pitfall traps and leaf litter, also under rocks and logs next to a forest stream. This Chatham Is 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 f Jan, Dec

CARABIDAE: Pterostichini

-Megadromus antarcticus (Chaudoir, 1865)

metallic green ground beetle

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

REMARKS: Not represented in the Broun Chatham Islands Collection (BMNH). This species has not been reported from the Chatham Is since Broun's original record, in spite of being a large, conspicuous ground beetle that tends to attract attention where it occurs. The record is most likely a case of mislabelling, or an introduction that failed to establish. There is a specimen in NZAC, from the A.E. Brookes collection, labelled 'Chath', that could be a part of the material on which this record was based. Broun exchanged specimens with Brookes,

however, there is nothing specific to link the specimen to material collected by T. Hall on Pitt I. *M. antarcticus* is a widespread Canterbury species, common around Christchurch and the Port of Lyttleton.

DISTRIBUTION & ABUNDANCE: p lit

CARABIDAE: Platynini

+*Laemostenus complanatus* (Dejean, 1828)

cosmopolitan ground beetle

FIRST RECORDED: Emberson, 1998.

REMARKS: 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, stones, and mat vegetation, but also on trees at night.

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 Islands Collection (BMNH).

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

***Notagonum submetallicum* (White, 1846)**

submetallic ground beetle

FIRST RECORDED: Hutton, 1898 (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 Island.

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

CARABIDAE: Harpalini

****Allocinopus latitarsis* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Common and widespread throughout, under rocks, rotten logs, and garden debris, on tree trunks at night, pitfall traps, attracted to rodent baits. Most often in forested habitats.

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-Dec

+*Haplanister crypticus* Moore, 1997

FIRST RECORDED: Moore, 1997.

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

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

+*Hypharpax australis* (Dejean, 1829)

FIRST RECORDED: Kuschel, 1990.

REMARKS: Running in the sun, on rocks by river, in sand dunes. An Australian species widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Dec

***Lecanomerus fuliginosus* Broun, 1880**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under garden debris, under stones by beach, pitfall traps in grass at forest edge. *L. fuliginosus* is known from scattered localities in the east of the South Island (MC,CO,DN).

The genus *Lecanomerus* is in need of careful revision both in New Zealand and Australia. The identity of this, and the following species, remain in doubt pending a revision and the availability of more Chatham Is material.
DISTRIBUTION & ABUNDANCE: C r Jan, Oct, Dec

***Lecanomerus* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: In grass at bush edge.

DISTRIBUTION & ABUNDANCE: C r Dec

CARABIDAE: Pentagonicini

***Pentagonica vittipennis* Chaudoir, 1877**

FIRST RECORDED: Emberson, 1998.

REMARKS: One specimen in NZAC, from litter.

DISTRIBUTION & ABUNDANCE: c nzac

***Scopodes edwardsi* Bates, 1878**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C u Nov

DYTISCIDAE

***Antiporus strigosulus* (Broun, 1880)**

FIRST RECORDED: Emberson, 1998.

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

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

****Liodessus* n. sp.1**

FIRST RECORDED: Emberson, 2003.

REMARKS: In pitfall traps beside Lake Rotokawau. This species is smaller (1.9 mm in length) than other species known from the New Zealand region. It is also uniformly pale and has slightly reduced eyes. It has the appearance of a semi-terrestrial, swamp inhabiting species.

DISTRIBUTION & ABUNDANCE: C r Feb

****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. *R. schauinslandi* is known from only 7 specimens (Ordish 1989) collected over a period of 70 years. Lincoln University collectors, and other recent visitors have not found it, in spite of extensive searches in apparently suitable habitat. Either, the preferred habitat is very specialised; Ordish (1989) suggested it might be found in slightly saline water, or, it has become rare and possibly threatened.

The species is more closely related to Pacific Islands species, particularly *R. vitiensis* Balfour-Brown, than to New Zealand species (Ordish 1989). Regimbart never described the species, in spite of Alfken's (1904) listing.

DISTRIBUTION & ABUNDANCE: c lit

***Rhantus suturalis* (Macleay, 1825)**

cosmopolitan diving beetle

FIRST RECORDED: Hutton, 1898 (as *Colymbetes rufimanus* White). Also recorded by Alfken (1904), as *R. punctatus* (Fourc.) var. *chathamensis* Regimb. n. var., and by Ordish (1989) as *R. pulverosus* (Stephens).

REMARKS: Lakes, ponds, and temporary pools, sometimes brackish. 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,R c Jan, Nov, Dec

HYDROPHILIDAE

***Cercyodes laevigatus* Broun, 1886**

FIRST RECORDED: Emberson, 1998.

REMARKS: Rotting *Durvillea*, under beach wrack. This species is known from scattered records around New Zealand, at least as far south as Christchurch, usually on beaches.

DISTRIBUTION & ABUNDANCE: P,R u Jan, Nov

+*Cercyon analis* (Paykull, 1798)

FIRST RECORDED: Emberson, 2003.

REMARKS: In compost heap. A European species, often found in compost heaps in New Zealand (Kuschel 1990).

DISTRIBUTION & ABUNDANCE: P p Dec

+*Cercyon haemorrhoidalis* (Fabricius, 1775)

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P c Jan, Dec

***Enochrus tritus* (Broun, 1880)**

scavenging water beetle

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: P f Jan, Dec

***Limnoxenus zealandicus* (Broun, 1880)**

FIRST RECORDED: Emberson, 2003.

REMARKS: In muddy pools. Widespread in weed choked pools in New Zealand (Winterbourn *et al.* 2000), and also abundant in Australia (Sharp 1884).

DISTRIBUTION & ABUNDANCE: P r Dec

HISTERIDAE

***Saprinus detritus* (Fabricius, 1775)**

carrion pill beetle

FIRST RECORDED: Emberson, 1998.

REMARKS: 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.

The Hutton Collection (CMNZ) includes a specimen of this species labelled 'Cht. Is.' (probably in Hutton's hand), '*Saprinus pseudocyanus*' (unknown hand), that is probably the specimen Hutton (1898) referred to as *Sternaulax zealandicus* [sic] Marseul. He noted that it was smaller than New Zealand specimens of *S. zealandicus* and had the front tibiae missing. The CMNZ specimen is only 5mm in length (versus 9-10mm for typical *S. zealandicus*) and lacks the front tibiae.

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

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rotting pilot whales on sandy beach.

DISTRIBUTION & ABUNDANCE: c,P f Jan

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Commonly associated with petrel burrows and carcasses, but also found in leaf litter in areas where petrels are nesting, on ground and on trees 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 latipes* (Broun, 1881)**

broadlegged pill beetle

FIRST RECORDED: Emberson, 1998 (as *Tomogenius* n. sp.).

REMARKS: On tree trunk at night, in sieved forest litter. There are additional specimens in NZAC.

DISTRIBUTION & ABUNDANCE: R u Jan, Dec

HYDRAENIDAE

***Meropathus zealandicus* Ordish, 1984**

FIRST 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 Island (DN, SI) (Ordish 1984).

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

PTILIIDAE

+*Acrotrichis insularis* (Maklin, 1852)

FIRST RECORDED: Johnson, 1982.

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

DISTRIBUTION & ABUNDANCE: C,R,M c Jan, May, Jun, Dec

+*Acrotrichis josephi* (Matthews)

FIRST RECORDED: Emberson, 2003.

REMARKS: Under rotten grass clippings. A synanthropic North American species previously known as *A. subcognata* Johnson in New Zealand (Johnson 1992). *A. subcognata* has been reported from Lynfield (AK) and Wadestown (WN) (Johnson 1982, Kuschel 1990).

DISTRIBUTION & ABUNDANCE: P f Jan

***Actidium lineare* Matthews, 1874**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under logs on sandy beaches. A halophilous species, probably widespread in New Zealand, although only previously recorded from ND, AK, BR (Johnson 1982, Kuschel 1990).

DISTRIBUTION & ABUNDANCE: C,P c Nov, 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 Island (NN, MB, WD).

DISTRIBUTION & ABUNDANCE: c lit

+*Ptenidium laevigatum* Erichson, 1845

FIRST RECORDED: Emberson, 1998.

REMARKS: 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**

FIRST RECORDED: Emberson, 1998.

REMARKS: Litter in *Corynocarpus* forest, on dead nikau frond. Possibly an adventive species, not previously reported from New Zealand (Johnson *in litt.*)

DISTRIBUTION & ABUNDANCE: C u Jan, Dec

***Ptiliodes austerus* Johnson, 1982**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under logs on sandy beaches. A halophilous species, previously known only from around Auckland (AK) (Johnson 1982, Kuschel 1990).

DISTRIBUTION & ABUNDANCE: P f 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 brunnescens* 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*, *Myrsine* and *Plagianthus*. Previously known from a single female from Chatham I. (Johnson 1982).

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

****Ptinella* n. sp., ?*cavelli* species group**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under *Corynocarpus* and *Plagianthus* bark. This winged species appears to belong to the *cavelli* species group (Johnson pers. comm.).

DISTRIBUTION & ABUNDANCE: C,R u Jan, Dec

****Ptinella* n. sp., *taylori* species group**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under *Corynocarpus* bark. This species is close to *P. taylori* Johnson, and is only known from two apterous individuals (Johnson pers. comm.).

DISTRIBUTION & ABUNDANCE: C r Jan

LEIODIDAE

***Mesocolon* n. sp.**

FIRST RECORDED: Emberson, 1998.

REMARKS: Widespread in leaf litter from forest and coastal scrub, also on dead broad-billed prion, in petrel burrow litter and on rodent baits.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM c Jan, May, Jun, Oct-Dec

****Paracatops brunneipes* (Broun, 1911)**

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

REMARKS: Originally described from Pitt I., but all our material is from forest litter and pitfall traps on Rangatira and Mangere.

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

***Paracatops* sp. 1**

FIRST RECORDED: Emberson, 2003.

REMARKS: On moss at night, on dead broad-billed prion and in pitfall trap. Similar to *P. brunneipes*, but lacking the distinctive brown legs and golden pubescence, male fore legs distinctive, femora with median ventral tooth instead of trochanteral tooth and more distal femoral tooth, tibiae and tarsi broader.

DISTRIBUTION & ABUNDANCE: R r Jan, Nov

SCYDMAENIDAE

****Chathamaenus chathamensis* Franz, 1980**

FIRST RECORDED: Franz, 1980.

REMARKS: Under *Myrsine* bark. There are additional specimens in NZAC, from leaf litter, Chatham I. *Chathamaenus* is a Chatham Is endemic genus.

DISTRIBUTION & ABUNDANCE: c,R p Jan

STAPHYLINIDAE: Omaliinae: Omaliini

***Ischnoderus genalis* (Broun, 1880)**

FIRST RECORDED: Emberson, 1998.

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

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

***Ischnoderus* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Myrsine* and *Pseudopanax*.

DISTRIBUTION & ABUNDANCE: P,R r Jan, Dec

***Macralymma punctiventre* Cameron, 1945**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: P f Jan

****Omaliomimus* 'robustus' (Broun, 1911)**

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

REMARKS: A seashore species associated with rotting kelp and driftline debris, also on dead pilot whale.

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

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P c Jan, Nov

****Omaliomimus* 'n. sp. 2'**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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 c Jan, Nov

'*Stenomaliomimus*' cf. *cognatum* (Broun, 1893)

FIRST RECORDED: Broun, 1911 (as *Omaliomimus fossigerum* Eppelsheim, apparently a manuscript name that was never published (Thayer *in litt.*)).

REMARKS: Under bark of dead *Corynocarpus*, in dead nikau fronds, under rotten grass clippings, pitfall traps in *Dracophyllum*/broadleaved forest, fungal fructifications, dry cattle carcass and maggoty meat.

According to Thayer (*in litt.*) the three species here included in '*Stenomaliomimus*' require a new genus, along with several other described species (see Thayer *in* Klimaszewski *et al.* 1996).

DISTRIBUTION & ABUNDANCE: P,M f Jan

'*Stenomaliomimus*' cf. *helmsi* (Cameron, 1945)

FIRST RECORDED: Emberson, 2003 (as '*Stenomaliomimus*' n. sp. 3).

REMARKS: Beaten from dead *Plagianthus* branch, bird (Chatham I. petrel, Chatham I. shag) nest litter, rodent baits, litter from coastal forest and scrub. This species is very similar to '*Stenomaliomimus*' cf. *cognatum*, but the head and pronotum are alutaceous and the elytral punctures are more distinct.

DISTRIBUTION & ABUNDANCE: R,SK,LM f Jan, May, Jun, Nov

****Stenomaliomimus* 'n. sp. 2'**

FIRST RECORDED: Emberson, 1998.

REMARKS: In forest leaf litter, beaten from dead *Myrsine* and *Plagianthus* branches. Superficially similar to '*Stenomaliomimus*' cf. *cognatum*, but with more costate elytra, and a broad head, which has raised lateral margins encompassing the antennal tubercles. This latter character is very reminiscent of the genus *Nesomaliomimus* Steel, 1964, to which the species might be better assigned.

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

STAPHYLINIDAE: Omaliinae: Corneolabiini

***Metacorneolabium minus* Steel, 1950**

FIRST RECORDED: Thayer, 1985.

REMARKS: In leaf litter. Widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: P r Jan

STAPHYLINIDAE: Pselaphinae: Faronini

***Sagola* sp. 1**

FIRST RECORDED: Emberson, 1998.

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

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

STAPHYLINIDAE: Pselaphinae: Pselaphini

****Pselaphaulax* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Leaf litter in *Corynocarpus*/*Meliccytus* forest.

Pselaphaulax Reitter is not included in the list of New Zealand Pselaphine genera in Klimaszewski *et al.*'s. (1996) review of the Staphylinidae.

DISTRIBUTION & ABUNDANCE: C,LM u Jan, Dec

****Pselaphaulax* sp. 2**

FIRST RECORDED: Emberson, 1998 (as ?*Pselaphophus* sp. 2).

REMARKS: Beaten from coastal vegetation.

Although tentatively identified as a *Pselaphophus* species, (Chandler *in lit.*) this species, the only specimen of which is damaged, may be better grouped with *Pselaphaulax*. It differs from *Pselaphaulax* sp. 1 most obviously in the proportions of the terminal maxillary palpomere.

DISTRIBUTION & ABUNDANCE: P p Jan

+*Pselaphophus atriventris* (Westwood)

FIRST RECORDED: Emberson, 1998 (as *Pselaphophus* sp. 1).

REMARKS: Pitfall trap in *Olearia/Macropiper/Plagianthus* forest, leaf litter. *P. atriventris* is apparently widely established in New Zealand.

DISTRIBUTION & ABUNDANCE: R p Nov

***Pselaphinae*, genus indet. sp. 1**

FIRST RECORDED: Emberson, 2003.

REMARKS: In damp litter of *Coprosma*, *Myrsine*, and *Olearia*.

DISTRIBUTION & ABUNDANCE: R p Jan

STAPHYLINIDAE: Tachyporinae: Tachyporini

***Sepedophilus helmsi* (Bernhauer, 1941)**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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)

FIRST RECORDED: Emberson, 1998.

REMARKS: Forest leaf litter, coastal vegetation and rotting kelp, also under rotten grass clippings. A European species that is widespread in New Zealand.

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

STAPHYLINIDAE: Aleocharinae: Aleocharini

***Aleochara subaenea* Fauvel, 1877**

FIRST RECORDED: Klimaszewski & Crosby, 1997.

REMARKS: With maggoty meat, under dead weka on beach, and in flight intercept trap. 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: C,P,R f Jan, Nov, Dec

STAPHYLINIDAE: Aleocharinae: Athetini

+*Amischa analis* (Gravenhorst, 1802)

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rocks in coastal turf, under beach wrack, yellow pan trap. A European species widespread in New Zealand, often associated with compost heaps.

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

+*Atheta fungi* (Gravenhorst, 1806)

FIRST RECORDED: Emberson, 1998.

REMARKS: Beaten from vegetation, also in leaf litter and under rotten grass clippings. A widely distributed European species.

DISTRIBUTION & ABUNDANCE: P u Jan, Nov

***Atheta* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: *Dracophyllum* and tree fern litter, dead nikau fronds.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Dec

***Atheta* sp. 2**

FIRST RECORDED: Emberson, 1998.

REMARKS: Forest leaf litter, and under vegetation on beach.

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

***Atheta* sp. 3**

FIRST RECORDED: Emberson, 2003.

REMARKS: On basidiomycete fructification and under rotten grass clippings.

DISTRIBUTION & ABUNDANCE: P u Jan

***Atheta* sp. 4**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under driftwood and anaerobic organic debris on lagoon shore.

DISTRIBUTION & ABUNDANCE: C u Jan

Athetini genus indet. sp. 1

FIRST RECORDED: Emberson, 1998 (as Aleocharinae genus indet. sp. 7).

REMARKS: Under rocks in coastal sward.

DISTRIBUTION & ABUNDANCE: SK p Jan

STAPHYLINIDAE: Aleocharinae: Homalotini

***Gyrophæna* sp. 1**

FIRST RECORDED: Emberson, 1998 (as Aleocharinae genus indet. sp. 3).

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

DISTRIBUTION & ABUNDANCE: P,R f Jan, Dec

'Homalota' sp. 1

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Corynocarpus Myrsine*, and *Plagianthus*, in forest leaf litter.

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

***Leptusa* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Leaf litter in forest and coastal scrub, under vegetation on beach.

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

?*Leptusa* sp. 2

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: SK p Jan

STAPHYLINIDAE: Aleocharinae: Myllaenini

+*Myllaena intermedia* (Erichson, 1837)

FIRST RECORDED: Emberson, 1998 (as Aleocharinae genus indet. sp. 6).

REMARKS: On lichen covered rocks. A European species, widely distributed in New Zealand, often in damp places. There are additional specimens in NZAC.

DISTRIBUTION & ABUNDANCE: c,R p Jan

STAPHYLINIDAE: Aleocharinae: Hypocyphtini

***Oligota inconspicua* Williams, 1976**

FIRST RECORDED: Williams, 1976.

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

DISTRIBUTION & ABUNDANCE: lm lit

STAPHYLINIDAE: Aleocharinae: Oxypodini

***Botromana vulcanica* (Broun, 1894)**

FIRST RECORDED: Emberson, 1998.

REMARKS: In all types of forest leaf litter, under bark, in dead nikau fronds, under rotten grass clippings and vegetation on beach, in petrel burrows. Widespread in New Zealand.

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

***Botromana* sp. 1**

FIRST RECORDED: Emberson, 1998.

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

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

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Corynocarpus*, *Myrsine*, and *Plagianthus*, on tree trunks at night.

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

***Sytus* sp. 1**

FIRST RECORDED: Emberson, 1998 (as Aleocharinae genus indet. sp. 2).

REMARKS: Pitfall traps in *Olearia/Plagianthus/Macropiper* forest, damp leaf litter and under vegetation on beach.

DISTRIBUTION & ABUNDANCE: R,LM f Jan, Nov

Aleocharinae, genus indet. sp. 1

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rotting kelp.

DISTRIBUTION & ABUNDANCE: P r Jan, Nov

Aleocharinae, genus indet. sp. 2

FIRST RECORDED: Emberson, 2003.

REMARKS: Under *Olearia* bark.

DISTRIBUTION & ABUNDANCE: C p Aug

STAPHYLINIDAE: Scaphidiinae: Scaphisomatini

Scaphisomatini, n. genus sp. 1

FIRST RECORDED: Emberson, 1998.

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

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

STAPHYLINIDAE: Osoriinae: Eleusinini

***Zeoleusis virgula* (Fauvel, 1889)**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Corynocarpus* and *Myrsine*. Widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P,R c Jan

STAPHYLINIDAE: Osoriinae: Osoriini

***Paratorchus* sp. nr *microphthalmus* (Fauvel, 1900)**

FIRST RECORDED: Emberson, 2003.

REMARKS: Sieved forest litter. This is the only record of New Zealand Osoriini outside the tNorth and South islands of New Zealand (McColl1982, 1984).

DISTRIBUTION & ABUNDANCE: C p Dec

STAPHYLINIDAE: Oxytelinae: Coprophilini

***Bledius* sp. 1**

FIRST RECORDED: Emberson, 2003.

REMARKS: Splashing sandy banks at creek mouths. Species of *Bledius* are widespread in New Zealand, often at the edge of sandy streams. There are specimens in NZAC from Waitangi Beach, Chatham I.

DISTRIBUTION & ABUNDANCE: c,P f Jan, Dec

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rotting kelp on sandy beaches.

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

+*Carpelimus corticinus* (Gravenhorst, 1806)

FIRST RECORDED: Emberson, 2003.

REMARKS: Pan traps in lakeside vegetation. A European species, widely distributed in New Zealand.

DISTRIBUTION & ABUNDANCE: c nzac

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rotting kelp, beach wrack, yellow pan trap, and rocks in coastal sward.

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

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P c Jan, Nov

STAPHYLINIDAE: Oxytelinae: Oxytelini

+*Anotylus rugosus* (Fabricius, 1775)

FIRST RECORDED: Hammond, 1976.

REMARKS: Specimens in NZAC, from pasture. A Palaearctic, or Holarctic species, widely distributed in New Zealand and North America (Hammond 1976).

DISTRIBUTION & ABUNDANCE: c lit

STAPHYLINIDAE: Staphylininae: Xantholinini

+*Gyrophypnus fracticornis* (Mueller, 1776)

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

REMARKS: Beaten from dead *Muehlenbeckia/Rhipogonum* tangle, in rubbish pit, under cow dung and sheep carcass.

DISTRIBUTION & ABUNDANCE: P f Jan, Dec

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: p nzac

+*Notolinus socius* (Fauvel, 1877)

FIRST RECORDED: Emberson, 1998.

REMARKS: Under rocks and logs, rotten grass clippings, compost, and dried fresh water algal mats. An Australian species, widely distributed in New Zealand.

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

Xantholini, n. genus, n. sp. 1

FIRST RECORDED: Emberson, 1998 (as *Xantholinus labralis* Broun, 1880).

REMARKS: Under rocks by stream, rotten logs, wet bark, dried freshwater algal mat, cow dung, and driftline debris, pitfall traps in pasture and coastal vegetation. This species is being described by A. Bordoni (Museo Zoologico dell'Università Firenze, Italy) in a new genus of Xantholini endemic to the New Zealand region.

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

STAPHYLINIDAE: Staphylininae: Staphylinini

***Cafius algophilus* (Broun, 1894)**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: P p Jan

****Cafius* sp. nr *litoreus* (Broun, 1880)**

FIRST RECORDED: Emberson, 2003.

REMARKS: Under rotting kelp on sandy beach. This species has more swollen tibiae than *C. litoreus*, but apparently occurs in similar habitats.

DISTRIBUTION & ABUNDANCE: P p Jan

***Cafius maritimus* (Broun, 1880)**

FIRST RECORDED: Emberson, 1998 (as *Cafius* sp. 1).

REMARKS: Under rotting kelp and driftline debris on sandy beaches.

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

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

FIRST RECORDED: Emberson, 1998.

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

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

***Creophilus oculatus* (Fabricius, 1775)**

devil's coachhorse

FIRST RECORDED: Hutton, 1898 (as *Staphylinus oculatus*).

REMARKS: In rubbish pit, rotting cow carcass and under rotting kelp. Widespread on both main islands of New Zealand, but tending to be replaced by *C. huttoni* (Broun) in the south of the South Island. May also occur in Australia (Steel 1949b).

DISTRIBUTION & ABUNDANCE: P u Jan

****Creophilus* n. sp.**

FIRST RECORDED: Emberson, 1998.

REMARKS: Petrel burrow entrances, leaf litter, under logs and rocks, and pitfall traps in coastal forest. This species is very similar to *C. huttoni* (Broun), found in the southern South Island (SL) and Stewart Island (SI). Hammond (*in litt.*) points out that the *Creophilus* of New Zealand are quite variable and several species may be present. The Chatham Is species differs from *C. huttoni* in having silvery instead of golden pubescence and in the proportions of the male fore tarsi.

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

+*Philonthus politus* (Linnaeus, 1758)

FIRST RECORDED: Emberson, 1998.

REMARKS: Around house, in cow carcass and compost heap. A European species widespread in New Zealand on farms and in compost heaps.

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

+*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 only from the outer islands. Widespread in New Zealand.

DISTRIBUTION & ABUNDANCE: R,M c 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, driftwood, and tidal drift on sandy beaches. *Thinocafius* is an endemic genus of unknown relationships.

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

SCIRTIDAE

***Cyphon* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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 none of the original material is present in the Broun Chatham Islands Collection (BMNH), or in NZAC.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Nov

***Cyphon* sp. 2**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under log, yellow pan trap.

DISTRIBUTION & ABUNDANCE: C u Dec

***Cyphon* sp. 4**

FIRST RECORDED: Emberson, 1998.

REMARKS: Coastal vegetation and *Dracophyllum arboreum*.

DISTRIBUTION & ABUNDANCE: P,R f Nov

LUCANIDAE

****Geodorcus capito* (Deyrolle, 1873)**

FIRST RECORDED: Deyrolle, in Parry, 1873 (as *Lissotes*). Broun (1910) redescribed this species 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 northeast (Holloway 1961). It is 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 *Dorcus capito*, now *Geodorcus*).

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

DISTRIBUTION & ABUNDANCE: MS r

***Holloceratognathus helotoides* (Thomson, 1862)**

FIRST RECORDED: Hutton, 1898 (as *Ceratognathus*).

REMARKS: In dead trees, logs and branches. A common and widespread species found throughout New Zealand.

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

****Mitophyllus reflexus* Broun, 1909**

FIRST RECORDED: Broun, 1909. This is also probably the species referred to as *Ceratognathus* n.sp. by Alfken (1904), as the genus *Mitophyllus* was often regarded as a synonym of *Ceratognathus*.

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

DISTRIBUTION & ABUNDANCE: P,R c Jan, Mar, Jul, Aug, Nov

+*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, 1898.

REMARKS: A European species widely established in New Zealand. Under dung and carcasses of sheep and cattle, sometimes numerous in dung on bare soil.

According to Watt (1984), *A. granarius* was first recorded from New Zealand by Hudson (1923), but Hutton (1898) reported it from the Chatham Islands and Canterbury. At least the former record is confirmed by specimens labelled 'Cht. I.' in Hutton's collection (CMNZ).

DISTRIBUTION & ABUNDANCE: C,P c Jan, Dec

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

grass grub

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

REMARKS: Widespread on all main islands of the group, in pan, pit, and Malaise traps and on sand at night. Very common and widely distributed in New Zealand.

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

***Odontria varicolorata* Given, 1952**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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, it may be introduced to the Chatham Is.

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

***Phycocus graniceps* Broun, 1883**

FIRST RECORDED: Watt, 1984 (as *Phycochus graniceps* Broun, 1886).

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, also in Chatham Is petrel burrows.

DISTRIBUTION & ABUNDANCE: C,P,R,M c Jan, Apr, May, Oct, Dec

+*Tesarius sulcipennis* (Lea, 1904)

FIRST RECORDED: Stebnicka, 2001

REMARKS: Sand dunes at night. The genus is only known from the Chatham Is in the New Zealand region. Species of *Tesarius* are also known from Australia (*T. sulcipennis* Lea) and western North America.

DISTRIBUTION & ABUNDANCE: C u Jan, Nov, Dec

BYRRHIDAE

***Curimus zealandica* Redtenbacher, 1868**

FIRST RECORDED: Emberson, 2003.

REMARKS: Sand dunes at night. This is the only record of a byrrhid from the Chatham Is. The species is known from scattered localities throughout New Zealand, but is not common in collections. Most byrrhids are associated with mosses and liverworts, but a few, perhaps including *Curimus*, occur among roots of higher plants (Klimaszewski & Watt 1997).

DISTRIBUTION & ABUNDANCE: C p Dec

EUCNEMIDAE

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

FIRST RECORDED: Emberson, 1998.

REMARKS: One specimen in NZAC, from *Asplenium*, Waitangi. Known from scattered collections in New Zealand (TO, HB, BR).

DISTRIBUTION & ABUNDANCE: c nzac

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P u Jan

***Neocharis* sp. 1**

FIRST RECORDED: Emberson, 2003.

REMARKS: Malaise trap in mixed forest. Similar to *N. concolor* Sharp, but with pale elytral apices and paler legs. This may be an undescribed species, nothing similar has been found in NZAC.

DISTRIBUTION & ABUNDANCE: C p Dec

ELATERIDAE

Acritelater barbatus (Candèze, 1865)

FIRST RECORDED: Emberson, 2003.

REMARKS: Under rock by lake. Widely distributed in New Zealand from ND to SI (Calder 1984).

DISTRIBUTION & ABUNDANCE: C p Nov

**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, and was not collected by Thomas Hall in 1906-1907. It was present on Chatham I., at Hapupu in 1967 (NZAC) and still survives there, in low numbers (Townsend pers. com. 2001) but we were unable to find it in 1992. It also survived at Kaiangaroa until 1954 (CMNZ). Widespread on the smaller, rodent free islands usually found on trees trunks at night, but also under logs and rocks, in rock crevices under tussocks and in pitfall traps.

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

Conoderus exsul (Sharp, 1877)

pasture wireworm

FIRST RECORDED: Emberson, 1998.

REMARKS: Malaise trap in lowland forest, under a rotten log, in sand dunes at night, in spider web. Widespread and common in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P u Jan, Dec

-'*Ctenicera*' *agriotides* (Sharp, 1877)

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

REMARKS: It is possible that Schwarz's (1901) record of *C. agriotides* was actually based on specimens of *C. olivascens*, as they are very similar, and *C. agriotides* has not been recollected from the Chatham Is.

DISTRIBUTION & ABUNDANCE: c lit

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

FIRST RECORDED: Hutton, 1898, (as *Monocrepidius subrufus* Broun).

REMARKS: Malaise trap in lowland forest, on rocks by river and on carrot flowers.

There are four specimens of *C. olivascens*, identified as *Monocrepidius subrufus* and labelled 'Cht. I.' or 'Chatham Islands' in the Hutton Collection, (CMNZ).

DISTRIBUTION & ABUNDANCE: C u Jan, Dec

Mecastrus convexus Sharp, 1877

FIRST RECORDED: Hutton, 1898, also recorded by Schwarz (1901) and Brookes (1925).

REMARKS: Under bark and in rotten logs, on trees at night, and under kelp and driftwood. Apparently widely distributed in the South Island of New Zealand.

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

Thoramus laevithorax (White, 1846)

FIRST RECORDED: Hutton, 1898, and listed by Schwarz (1901) and Brookes (1925). Also recorded by Hutton (1898) as *T. obscurus* Sharp.

REMARKS: Under bark, in rotten logs, on trees at night, at light, reared from rotten *Corynocarpus* and *Myrsine* logs. Widespread in New Zealand.

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

Thoramus perblandus Broun, 1880

FIRST RECORDED: Brookes, 1925, as a variety of *T. laevithorax*.

REMARKS: Less common than *T. laevithorax*, but in similar habitats. Widespread in New Zealand, from AK to SI. Brookes (1925) records a variety of *T. laevithorax* that is 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* and specimens in Lindsay's Collection (CMNZ), that formed the basis for Brookes' (1925) record, are *T. perblandus*.

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

DERMESTIDAE

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

FIRST RECORDED: Broun, 1911.

REMARKS: Specimens in Broun Chatham Islands 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: Mainly in huts on Mangere and Rangatira, with scattered records elsewhere. Widespread in New Zealand.

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

ANOBIIDAE

+*Anobium punctatum* (DeGeer, 1774)

house borer

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

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

DISTRIBUTION & ABUNDANCE: C p Jan

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Reared from bracket fungi, beaten from tree fern skirts, Malaise trap.

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

***Mirosternomorphus oblongus* (Broun, 1880)**

FIRST RECORDED: Emberson, 1998 (as *Microsternomorphus*).

REMARKS: 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). Originally described from Tasmania, but now almost cosmopolitan. Widespread in New Zealand, where it is a pest of stored products.

DISTRIBUTION & ABUNDANCE: c,p lit

+*Ptinus* sp. 1

FIRST RECORDED: Emberson, 1998.

REMARKS: Specimens in NZAC, from Chatham Islands tomtit nest.

DISTRIBUTION & ABUNDANCE: r nzac

TROGOSSITIDAE

***Australiodes vestitus* (Broun, 1883)**

REMARKS: New record. Specimen in NZAC from Pitt.

DISTRIBUTION & ABUNDANCE: p nzac

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

FIRST RECORDED: Hutton, 1898 (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 trunks 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, cattle, and pilot whale carcasses. A European species that is widespread on carrion in New Zealand.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Dec

+*Necrobia rufipes* (Degeer, 1775)

redlegged ham beetle

FIRST RECORDED: Macfarlane *et al.* 1991.

REMARKS: On dry sheep carcass. *N. rufipes* is similar in origin and habitat to *N. ruficollis*.

DISTRIBUTION & ABUNDANCE: C p Jan

Phymatophaea sp. 1

FIRST RECORDED: Emberson, 1998 (as *Phymatophoea*).

REMARKS: Beaten from various shrubs, malaise traps.

DISTRIBUTION & ABUNDANCE: P,R c Jan, Nov

Phymatophaea sp. 2

FIRST RECORDED: Emberson, 1998 (as *Phymatophoea*).

REMARKS: Very similar to *Phymatophaea* sp. 1, but more greeny bronze and shiny. Swept from shrubs and beaten from dead *Pseudopanax*, on dead log. Only from Chatham I. in our collection. There are additional specimens in NZAC.

The record by Hutton (1898) of *P. electa* Pascoe from Chatham I. probably refers to this species, but no specimens were found in the Hutton collection (CMNZ).

DISTRIBUTION & ABUNDANCE: C u Jan, Dec

PHYCOSECIDAE

Phycosecis limbata (Fabricius, 1781)

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

REMARKS: On sandy beaches. Widespread all around 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, also on sand at night.

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, yellow pan trap, on rodent baits, under dead prions, and in sieved litter. Widespread in New Zealand.

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

+*Epuraea imperialis* Reitter, 1877

FIRST RECORDED: Emberson, 2002.

REMARKS: Leaf litter in lowland forest. An Australian species widely established in New Zealand from ND to NN, also on the Kermadec Islands (Kuschel 1990).

DISTRIBUTION & ABUNDANCE: C,R r Jan

Epuraea signata Broun, 1880

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P u Jan, Dec

+*Omosita colon* (Linnaeus, 1758)

FIRST RECORDED: Alfken, 1904.

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

DISTRIBUTION & ABUNDANCE: C,P c Jan, Dec

CAVOGNATHIDAE

****Zeonidicola chathamensis* Watt, 1980**

FIRST RECORDED: Watt, 1980.

REMARKS: Mainly from petrel burrows, but also found under dead prions, 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,ff a Jan, May, Jun, Dec

CRYPTOPHAGIDAE

***Paratomaria* n. sp. 1**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: R c Jan, Nov

***Paratomaria* n. sp. 2**

FIRST RECORDED: Emberson, 1998.

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

Very similar to *Paratomaria* n. sp. 1, but with longer setae on the elytra, so that the setae are distinctly longer than the distance between them.

DISTRIBUTION & ABUNDANCE: R,ff f Jan, Nov

EROTYLIDAE

***Cryptodacne* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Corynocarpus*.

DISTRIBUTION & ABUNDANCE: P p Dec

BOTHRIDERIDAE

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

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.

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

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, under logs; also in petrel burrow litter, under debris and in carrion in more open habitats. Widespread in New Zealand.

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

COCCINELLIDAE

+*Coccinella undecimpunctata* Linnaeus, 1758

elevenspotted ladybird

FIRST RECORDED: Hutton, 1898.

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

DISTRIBUTION & ABUNDANCE: C,P,R 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, Mar, Jun, Oct, Nov

****Veronicobius* n. sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Very similar to *V. macrostictus* but smaller.

DISTRIBUTION & ABUNDANCE: P c Jan, Nov

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Another similar species, but with long setae. Mostly found on coastal vegetation, but also in Malaise traps and in sand dunes at night.

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

CORYLOPHIDAE

***Arthrolips* sp. 1**

FIRST RECORDED: Emberson, 1998 (as *Sacium* sp. 1).

REMARKS: Beaten from coastal vegetation, leaf litter from coastal scrub, under rocks in coastal sward and under drift wood, very common in sand dunes at night.

This species agrees with material in NZAC previously identified as *Sacina* sp., but Bowstead (1999) has synonymised *Sacina* Broun, 1895 with *Arthrolips* Wollaston, 1854.

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

***Holopsis* nr *lawsoni* Broun, 1886**

FIRST RECORDED: Emberson, 1998.

REMARKS: Mostly in leaf litter from forests and coastal scrub, but also in *Corynocarpus* and *Myoporum* branch traps, in dead nikau frond, on bracket fungi, under rocks in coastal sward, and in a flight-intercept trap.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM c Jan, May, Jun, Oct-Dec

+*Sericoderus thoracicus* (Erichson, 1842)

FIRST RECORDED: Kuschel, 1990 (as *Anisomeristes*).

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

Anisomeristes Matthews, 1886 was synonymised with *Sericoderus* Stephens, 1829, by Bowstead (1999).

DISTRIBUTION & ABUNDANCE: C,R,SK f Jan, May, Dec

***Sericoderus* sp. 1**

FIRST RECORDED: Kuschel, 1990 (as *Anisomeristes*).

REMARKS: A smaller, glossier species.

DISTRIBUTION & ABUNDANCE: c lit

LATRIDIIDAE

+*Aridius bifasciatus* (Reitter, 1877)

FIRST RECORDED: Watt, 1969.

REMARKS: Beaten from trees and shrubs, coastal forest litter. An Australian species, that has been widely distributed through commerce. It is widespread in New Zealand.

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

+*Aridius nodifer* (Westwood, 1839)

FIRST RECORDED: Watt, 1969.

REMARKS: In similar habitats to *A. bifasciata*, but also in pit and pan traps, Malaise traps *Coprosma* branch traps, dead nikau fronds, and sieved litter. An introduced species of unknown origin, that has been widely distributed through commerce (Watt 1969). It is widespread in New Zealand.

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

***Bicava* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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**

FIRST RECORDED: Emberson, 1998.

REMARKS: Beaten from coastal vegetation and *Plagianthus* branch traps. A globose species with long setae on the elytra.

DISTRIBUTION & ABUNDANCE: P,R f Jan, Nov

***Bicava* sp. 3**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark.

DISTRIBUTION & ABUNDANCE: C p Oct

***Bicava* sp. 4**

FIRST RECORDED: Emberson, 1998.

REMARKS: Beaten from shrubs and dead *Pseudopanax*, sweeping in marshy area, in Malaise and yellow pan trap.

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

***Bicava* sp. 5**

FIRST RECORDED: Emberson, 2003.

REMARKS: Malaise trap in regenerating lowland forest. A pale species with dark vittae on the elytra.

DISTRIBUTION & ABUNDANCE: C p Dec

+*Corticaria fenestralis* (Linnaeus, 1758)

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: P p Nov

+*Corticicara 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**

FIRST RECORDED: Emberson, 1998.

REMARKS: Reared from rotten *Myrsine* logs, in leaf litter in coastal forest. Watt (1969) reported *L. minor* (as *Metophthalmus*) from a number of localities in New Zealand, but was unable to decide whether the material represented one species or several.

DISTRIBUTION & ABUNDANCE: P,R u Jan

MYCETOPHAGIDAE

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

FIRST RECORDED: Emberson, 1998.

REMARKS: Beaten from *Brachyglottis huntii* and *Dracophyllum arboreum*, also in litter and pitfall traps in *Dracophyllum* forest. There is a specimen from Chatham I. in NZAC. Widespread in the North Island and the northern part of the South Island (NN, MB, BR).

DISTRIBUTION & ABUNDANCE: c,P c Jan, Nov

'Triphyllus' substriatus (Broun, 1880)

FIRST RECORDED: Emberson, 1998.

REMARKS: On fungal fruiting bodies, in Malaise, pit and pan traps, and on rodent baits. There are specimens in NZAC from Chatham I.

Very similar to 'Triphyllus' sp. 1, but with adpressed setae and regular rows of punctures on the basal half of the elytra.

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

'Triphyllus' sp. 1

FIRST RECORDED: Emberson, 1998.

REMARKS: On fungal fruiting bodies and dead nikau fronds, beating dead *Myrsine* and *Plagianthus* branches, on tree trunks at night and on rodent baits.

'Triphyllus' sp. 1 is distinguished from the other species by its glossy integument, pale humeri, covering of erect setae, and irregular elytral punctures.

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

CIIDAE

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

FIRST RECORDED: Emberson, 1998.

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

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

***Cis fulgens* Broun, 1895**

FIRST RECORDED: Emberson, 1998.

REMARKS: Forest leaf litter, in pitfall trap and on *Fomes* fructification. Originally described from Te Aroha (BP), but otherwise apparently only known from the Chatham Is.

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

***Cis zeelandicus* Reitter, 1880**

FIRST RECORDED: Emberson, 1998.

REMARKS: On bracket fungi and tree trunks at night. Widespread in New Zealand, often on woody bracket fungi.

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

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

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

REMARKS: Under bark, beating tree ferns. Widespread throughout New Zealand, often found under bark of dead trees, or by beating.

Abdullah (1973) synonymised the genus *Orthocis* Casey 1898 with *Cis* Latreille 1796, but this synonymy has not been generally accepted.

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

***Xylographus fultoni* (Broun, 1886)**

FIRST RECORDED: Emberson, 1998 (as *Cis* sp. 1).

REMARKS: Woody bracket fungus on *Olearia*. Widespread throughout New Zealand, usually associated with woody bracket fungi.

DISTRIBUTION & ABUNDANCE: M f Nov

MELANDRYIDAE

***Axylita cylindrata* (Broun, 1880)**

FIRST RECORDED: Emberson, 1998 (as *Hylobia* sp. 1).

REMARKS: On trees at night, Malaise trap in *Dracophyllum* forest. There is a specimen in NZAC from Rangitira. Mostly known from northern New Zealand (ND, AK, BP, GB), but also from OL.

Hylobia spp. have short broad hind tibiae with long tibial spurs, in contrast to the long slender tibiae and short tibial spurs of *Axylita* spp.

DISTRIBUTION & ABUNDANCE: C,P,r f Jan

***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. There are specimens in NZAC from Chatham I. Widespread in New Zealand.

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

MORDELLIDAE

***Mordella detracta* Pascoe, 1876**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under log in forest remnant. Common and widespread in New Zealand from AK to FD.

DISTRIBUTION & ABUNDANCE: P p Jan

***Mordella jucunda* (Broun, 1880)**

FIRST RECORDED: Emberson, 2003.

REMARKS: Malaise trap in regenerating lowland forest. Widespread in the North Island and the north east of the South Island (SD, KA).

DISTRIBUTION & ABUNDANCE: C f Jan

ZOPHERIDAE

****Notocoxelus mucronatus* (Broun, 1911), new combination**

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

REMARKS: Under bark of dead *Corynocarpus* and *Olearia traversi*, in basidiomycete fungus growing on *Corynocarpus*, beating vegetation, pitfall traps, reared from rotten *Myrsine* logs, litter in coastal forest, on tree trunks at night.

Ślipiński & Lawrence (1997) established *Notocoxelus* for *Coxelus helmsi* Reitter, but it is evident from their description and keys that the other New Zealand species previously placed in *Coxelus* should also be assigned to the new genus.

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

****Notocoxelus* n. sp. 1**

FIRST RECORDED: Emberson, 1998 (as *Coxelus*).

REMARKS: 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, Jun, Nov, Dec

****Notocoxelus* n. sp. 2**

FIRST RECORDED: Emberson, 1998 (as *Coxelus*).

REMARKS: Litter from coastal scrub and *Olearia/Melicytus/Muehlenbeckia* forest, pitfall traps. Mostly from the smaller islands, but also on sand at night on Chatham I. There are specimens in NZAC from Middle Sister I. and in CMNZ from the Forty Fours.

Notocoxelus n. sp. 2 is less elongate and more squat and rounded than either of the other two species.

DISTRIBUTION & ABUNDANCE: C,R,M,ms,ff f 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 c Jan, Jul, Nov, Dec

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

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

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

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

****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, leaf litter in coastal forest.

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

***Rytinotus squamulosus* Broun, 1880**

FIRST RECORDED: Hutton, 1898 (as *Rhytinotus*) and subsequently by Broun (1909) and Emberson (1998) (as *Rhitidinotus*).

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

Emberson (2000) discussed the confused history of the generic name of this species.

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,LM,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 f Jan, Nov, Dec

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

FIRST RECORDED: Watt, 1992.

REMARKS: Under rocks, pitfall traps, *Myrsine* branch trap, on tree trunks at night, under logs on beach, and on rodent baits. Widespread in New Zealand.

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

***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). Thorpe (*in litt.*) has reported that he is unable to distinguish *P. simulans* from *P. amaroides* Lacordaire reliably, and has suggested there is only one widely distributed, variable species in coastal turf around New Zealand and the Chathams.

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 sandy beaches. Although not numerous in collections this is one of the most widespread New Zealand oedemerids. It is mostly found on sandy beaches and is known from the Kermadec Is, throughout the North and South Is, Stewart I., and Chatham I.

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

Thelyphassa brouni Hudson, 1975

FIRST RECORDED: Emberson, 1998.

REMARKS: Scattered specimens mostly at night, on rotten logs, *Phormium*, also under drift wood and tidal drift. Distributed in the southern part of the North Island and throughout the South Island and Stewart Island, mostly on beaches.

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

Thelyphassa diaphana (Pascoe, 1876)

FIRST RECORDED: Hutton, 1898.

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

DISTRIBUTION & ABUNDANCE: C f Jan, Nov

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 c 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. Found in pitfall, yellow pan, and Malaise traps, on tree trunks at night, and reared from dead *Olearia* branch.

Hutton's (1898) record of *Sessinia strigipennis* White refers to this species (specimen in CMNZ determined by Logan Hudson).

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

SALPINGIDAE

***Antarcticodomus n. sp.**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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 Island.

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

Diagrypnodes wakefieldi Waterhouse, 1876

FIRST RECORDED: Hutton, 1898.

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, 1885

FIRST RECORDED: Werner and Chandler, 1995 (as *Anthicus minor* Broun, 1886).

REMARKS: On coastal lichen covered rocks, beaten from vegetation, and in sand dunes at night. Widespread in New Zealand.

Contrary to the date of publication given in Werner and Chandler (1995), the species name was first published in 1885 (Broun 1885: 386).

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

***Lagrioida brouni* Pascoe, 1876**

Broun's sand beetle

FIRST RECORDED: Broun, 1911.

REMARKS: Under bark on driftwood, in sand dunes at night. Found on sandy beaches throughout New Zealand (Werner and Chandler 1995).

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

ADERIDAE

'*Xylophilus*' *brouni* Pic, 1901

FIRST RECORDED: Emberson, 2003.

REMARKS: There is a single male specimen identified as this species in NZAC collected by E.S. Gourlay on Pitt I. It agrees well with specimens compared with the type by J.C. Watt.

DISTRIBUTION & ABUNDANCE: p nzac

'*Xylophilus*' *coloratus* Broun, 1893

FIRST RECORDED: Emberson, 1998 (as *Xylophilus* sp. 1).

REMARKS: Beaten from coastal vegetation and dead *Plagianthus* branch, *Coprosma* and *Macropiper* branch traps, swept in *Dracophyllum* forest. '*X*'. *coloratus* is widely distributed in New Zealand from ND to NN and SD.

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

SCRAPTIIDAE

***Nothotelus* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Beaten from woody vegetation.

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

CERAMBYCIDAE: Cerambycinae

***Xuthodes punctipennis* Pascoe, 1875**

FIRST RECORDED: Pascoe, 1875. Hutton (1898) 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* (Bothriideridae). Although originally described from Pitt I. the species is found widely in New Zealand.

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

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

FIRST RECORDED: Sharp, 1903, though Hutton's (1898) record of *Z. minutum* (Fabricius) 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 c Jan, Nov, Dec

CERAMBYCIDAE: Lamiinae

****Hybolasiopsis trigonellaris* (Hutton, 1898)**

FIRST RECORDED: Hutton, 1898 (as *Hybolasius*). The species was redescribed by Sharp (1903) as *Xylotoles abnormalis* Sharp. It was recorded by Breuning (1962) as *Hybolasiopsis abnormalis* (Sharp) and by Watt (1980) and Emberson (1998) as *Xylotoloides trigonellaris*.

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, yellow pan traps, and in forest litter.

The type locality for *H. trigonellaris*, given by Breuning (1962) is incorrect, it is clearly stated by Hutton (1898) to be Chatham I. not Christchurch.

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

***Hybolasius vegetus* Broun, 1881**

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

FIRST RECORDED: Holloway, 1982.

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

DISTRIBUTION & ABUNDANCE: P p Jan

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

FIRST RECORDED: Holloway, 1982.

REMARKS: Malaise trap in lowland forest. Widespread in the North Island and extreme north of the South Island, in a wide variety of habitats, associated with dead wood of all kinds.

DISTRIBUTION & ABUNDANCE: C p Jan

****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: C,P,R c Jan, Nov

ANTHRIBIDAE: Choraginae

****Dynocryptus pilicornis* (Broun, 1911)**

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

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 lowland forest and coastal scrub. Adults and larvae have been found in the axils of dead *Phormium* flower stalks.

DISTRIBUTION & ABUNDANCE: C,P,R,M,SK,LM a Jan, May, Jun, 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 crassus* (Sharp, 1876)**

FIRST RECORDED: Emberson, 2003.

REMARKS: Malaise trap in lowland forest. Holloway (1982) did not record this species from the Chatham Is. Widely distributed in New Zealand from ND to BR and MC (Holloway 1982).

DISTRIBUTION & ABUNDANCE: C p Jan

***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 brevicornis brevicornis* (Broun, 1904)**

FIRST RECORDED: Broun, 1911 (as *Platyomidia versicolor* Broun).

REMARKS: Mostly beaten from *Brachyglottis huntii*, but one collected on a cereal bait. Also known from the extreme south of the South Island and Stewart Island (FD,SL,SI). A geographical subspecies *C. brevicornis australis* (Kuschel) has been described from The Snares (Kuschel 1964).

Kuschel (1969) synonymised *Platyomidia versicolor* Broun, 1911 with *P. brevicornis* Broun, 1904 and transferred them to the genus *Catoptes* Schönherr. At the same time he transferred the species described in *Catoptes* by Broun and Sharp to *Irenimus* Pascoe. Due to a misunderstanding of the application of homonymy Emberson (1998) believed that the combination *Catoptes brevicornis* was unavailable and replaced it with the next available name, *Catoptes versicolor* (Broun).

DISTRIBUTION & ABUNDANCE: C,P f Jan, Feb

***Cecyropa tychioides* Pascoe, 1875**

FIRST RECORDED: Pascoe, 1875.

REMARKS: In sand dunes, sifted from sand and on sand at night. Originally described from Pitt I. and Wellington. On sandy beaches all round New Zealand.

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

****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 f Jan, Jul, Nov

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

FIRST RECORDED: Kuschel, 1969.

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

DISTRIBUTION & ABUNDANCE: C,P f Jan, Dec

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

compressed weevil

FIRST RECORDED: Kuschel, 1969.

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

DISTRIBUTION & ABUNDANCE: c lit

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: R f Jan, Nov

****Irenimus* n. sp. 2**

FIRST RECORDED: Emberson, 1998.

REMARKS: In similar habitats to the previous species.

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

****Irenimus* n. sp. 3**

FIRST RECORDED: Emberson, 1998.

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

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

+*Otiorhynchus ovatus* (Linnaeus, 1758)

strawberry weevil

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C p Dec

+*Otiorhynchus 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: An African 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 Islands 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

***Rhadinosomus acuminatus* (Fabricius, 1775)**

FIRST RECORDED: Kuschel, 1970.

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

DISTRIBUTION & ABUNDANCE: M u Nov

CURCULIONIDAE: Brachycerinae: Rhytirhinini

+*Listronotus bonariensis* (Kuschel, 1955)

Argentine stem weevil

FIRST RECORDED: Macfarlane, 1979 (as *Hyperodes*).

REMARKS: In sand dunes at night. A species of South American origin, widespread in New Zealand. Recent unequivocal collections of *L. bonariensis* make it seem likely that Macfarlane's (1979) record, based on specimens collected by Kuschel in 1967, was correct, rather than a contaminant of samples extracted in Nelson, as subsequently suggested by Kuschel in Macfarlane *et al.* (1991), and accepted by Emberson (1998).

DISTRIBUTION & ABUNDANCE: C r Dec

+*Steriphus diversipes lineata* (Pascoe, 1873)

Victoria weevil

FIRST RECORDED: Macfarlane *et al.*, 1991 (as *Desiantha diversipes*).

REMARKS: Lichen covered rocks in coastal sward at night, under bark on driftwood. Macfarlane *et al.* (1991) reported it from pastures on Chatham I. An Australian species widespread in pastures in New Zealand.

DISTRIBUTION & ABUNDANCE: C,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 *Coprosma*, *Muhlenbeckia*, *Myoporum*, *Myrsine* and *Olearia*, *Pseudopanax* branch trap.

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

***Stephanorhynchus curvipes* White, 1846**

FIRST RECORDED: Broun, 1911.

REMARKS: Malaise traps, on dead *Pseudopanax* at night, beating tree ferns and dead *Plagianthus* branch, *Pseudopanax* branch trap, on tree trunks at night. Widespread in New Zealand.

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

****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 c Jan, Oct-Dec

CURCULIONIDAE: Curculioninae: Curculionini

***Praolepra squamosa* Broun, 1880**

FIRST RECORDED: Broun, 1911.

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

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

CURCULIONIDAE: Curculioninae: Cryptorhynchini

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

FIRST RECORDED: Lyal, 1993.

REMARKS: Mostly beaten from coastal shrubs and other low vegetation, *Olearia* branch traps, flight intercept trap. Perhaps particularly associated with *Olearia*.

DISTRIBUTION & ABUNDANCE: P,R f Jan, Nov

***Clypeolus* sp. 1**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,P,R,SK f Jan, Jun, 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, May, Jun, Oct-Dec

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

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

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

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

***Crisius ventralis* (Broun, 1885)**

FIRST RECORDED: Kuschel, 1982 (as *Getacalles*).

REMARKS: Throughout the North Island and the northern part of the South Island (SD, NN, WD). This species was not recorded by Lyal (1993) or Emberson (1998) from the Chatham Is, and Chatham Is specimens have not been located in NZAC. It is most often associated with coastal leaf litter and bird nest material (Kuschel 1982)

DISTRIBUTION & ABUNDANCE: c lit

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

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: R,SK u Jan, Dec

***Ectopsis ferrugalis* Broun, 1911**

FIRST RECORDED: Broun, 1911.

REMARKS: Usually associated with *Pseudopanax* species, widespread in the North Island 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. Throughout New Zealand, including Stewart Island.

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 Island. Most rearing records are from *Pseudopanax* spp.

DISTRIBUTION & ABUNDANCE: P f Jan, Nov, Dec

****Microcryptorhynchus* sp. nr *latitarsis* (Kuschel, 1964)**

FIRST RECORDED: Emberson, 1998.

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

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

***Microcryptorhynchus* *suillus* (Kuschel, 1964)**

FIRST RECORDED: Kuschel, 1971 (as *Notacalles*).

REMARKS: Beaten from *Brachyglottis*, *Coprosma*, *Dracophyllum*, *Olearia*, *Pseudopanax* and tree ferns, also in Malaise traps. Originally described from the Auckland Islands, also known from Campbell Island, Codfish Island (SI), and Northland (ND) (Lyal 1993).

DISTRIBUTION & ABUNDANCE: P c Jan, Nov

***Notacalles* sp. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Leaf litter, in live leaf sheaves of *Carex* spp. Larvae apparently mine in the live leaf sheaves of *Carex* tillers. Kuschel (1997) restored *Notacalles* to full generic status, rather than regarding it as a subgenus of *Microcryptorhynchus*.

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

****Pachyderris* *squamiventris* (Broun, 1911)**

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

REMARKS: *Coprosma*, *Melicytus*, *Myrsine*, *Olearia*, and *Pseudopanax* branch traps, beaten from dead branches, Malaise traps, on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P,R,M c 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 f 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 Island.

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*, *Pseudopanax* branch traps. Throughout New Zealand, including Stewart Island.

DISTRIBUTION & ABUNDANCE: P f Jan, Nov

***Psepholax* *sulcatus* White, 1843**

FIRST RECORDED: Hutton, 1898. 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, in dead *Corynocarpus*, attracted to light and in a Malaise trap. Found throughout New Zealand.

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

***Rhynchodes* *ursus* White, 1846**

elephant weevil

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

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

DISTRIBUTION & ABUNDANCE: c lit

***Scelodolichus n.sp.**

FIRST RECORDED: Emberson, 1998.

REMARKS: On sand dunes at night. This genus was not recorded from the Chatham Is by Lyal (1993), but there are many specimens from Chatham I. in NZAC.

DISTRIBUTION & ABUNDANCE: C p Dec

***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, also on sand dunes at night.

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

-Strongylopterus hylobioides (White, 1846)

FIRST RECORDED: Hutton, 1898 (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 Island and in the northern part of the South Island (SD,NN,MB), Stewart Island and the Kermadec Islands.

It is probable that Hutton's (1898) record of this species actually refers to *S. chathamensis* as he specifically mentions the lack of black patches on the elytra, which are characteristic of this species, but Hutton's (1898) original material has not been relocated.

DISTRIBUTION & ABUNDANCE: c lit

***Sympedius sp. nr bufo (Sharp, 1883)**

FIRST RECORDED: Emberson, 1998.

REMARKS: 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, 1898)**

FIRST RECORDED: Hutton, 1898 (as *Acalles*).

REMARKS: On 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* [sic], in spite of the species being named after the collector Mr J.J. Fougère (Hutton 1898).

DISTRIBUTION & ABUNDANCE: C p Jan

CURCULIONIDAE: Curculioninae: Molytini

***Hadramphus spinipennis Broun, 1911**

coxella weevil

FIRST RECORDED: Broun, 1911.

REMARKS: On *Aciphylla dieffenbachii*, particularly on flowers at night, occasionally on *Pseudopanax* tree trunks at night. 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

***Phrynixus asper Broun, 1911**

FIRST RECORDED: Broun, 1911.

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

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

CURCULIONIDAE: Dryophthorinae

+*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: Drottribini

***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/Melicytus* forest, Chatham Is petrel burrow litter, and in rotten log. Specimens of *Exeiratus* from the Chatham Is are extremely variable in external characters. It is possible that more than one species is represented in this material. Other species of *Exeiratus* are known from the south of the South Island (DN,FD,SL), Stewart Island, The Snares, Auckland Islands, and Tasmania (Kuschel 1971, Craw 1990).

DISTRIBUTION & ABUNDANCE: C,R,LM f Jan, Jun, Nov

+*Macrorhyncolus littoralis* (Broun, 1880)

driftwood beetle

FIRST RECORDED: Emberson, 1998.

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

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

***Paedaretus hispidus* Pascoe, 1876**

FIRST RECORDED: Emberson, 1998.

REMARKS: On tree trunks at night, under bark of dead *Corynocarpus*, yellow pan trap. Generally associated with decaying wood.

DISTRIBUTION & ABUNDANCE: C u Jan, Dec

CURCULIONIDAE: Cossoninae: Pentarthrini

****Agastegnus ornatus* Broun, 1911**

FIRST RECORDED: Broun, 1911.

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

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

***Camptoscopus planiusculus* (Broun, 1880)**

FIRST RECORDED: Emberson, 2003.

REMARKS: In dead nikau fronds. There are additional specimens in NZAC.

DISTRIBUTION & ABUNDANCE: c,P p Jan

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

FIRST RECORDED: Thompson, 1989.

REMARKS: Under bark of dead *Corynocarpus*, beating tree ferns, rachis of dead tree fern fronds, *Coprosma* branch trap, litter in *Olearia/Macropiper/Melicytus* forest. It is widespread in the south of the North Island, throughout the South Island, and Stewart Island. Widely established in Britain and sporadically in Europe (Thompson 1989).

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

***Macroscytalus* sp. nr *parvicornis* (Sharp, 1878)**

FIRST RECORDED: Emberson, 1998.

REMARKS: In dead *Aciphylla* flower stem, in dead, rolled *Phormium* leaves, beaten from coastal vegetation. *M. parvicornis* is widespread in New Zealand. This may be the species Macfarlane (1979) reported as *Rhinanisus* sp.

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

***Microtribus huttoni* Wollaston, 1873**

FIRST RECORDED: Kuschel, 1982.

REMARKS: Beaten from coastal vegetation, under driftwood in dunes. Widespread in New Zealand, often associated with *Phormium* spp.

DISTRIBUTION & ABUNDANCE: C,P,SK u Jan

***Morronea* sp. nr *lawsoni* (Wollaston, 1873)**

FIRST RECORDED: Emberson, 1998 (as *Heteropsis*).

REMARKS: Pitfall trap in *Dracophyllum*/broadleaved forest, beaten from dead *Meliccytus* branch, Malaise trap in coastal forest. *H. lawsoni* is widespread in New Zealand and is often associated with tree ferns.

DISTRIBUTION & ABUNDANCE: P r Jan

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

FIRST RECORDED: Broun, 1911.

REMARKS: Abundant in all sorts of forest habitats, under dead bark, in leaf litter, in curled *Phormium* leaves, in pitfall and Malaise 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 Island (DN), Stewart Island, The Snares, Auckland Islands, 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, May-Jul, Oct-Dec

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

FIRST RECORDED: Broun, 1911.

REMARKS: Less common than *P. auripilum*, but in similar habitats, under dead *Corynocarpus* bark, on dead nikau fronds, in pitfall and Malaise 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, Malaise and pan traps. Widespread in New Zealand.

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

***Pentarthrum* sp. 1**

FIRST RECORDED: Emberson, 1998 (as Genus indet. sp. 1).

REMARKS: Under dead bark.

DISTRIBUTION & ABUNDANCE: P p Jan

***Pentarthrum* sp. 2**

FIRST RECORDED: Emberson, 1998 (as Genus indet. sp. 2).

REMARKS: On *Corynocarpus* trees and logs at night.

DISTRIBUTION & ABUNDANCE: C p Jan

***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. 1**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bark of dead *Corynocarpus*, on *Corynocarpus* trees and logs at night. Associated with *Corynocarpus* in our collections. Additional specimens of this species are present in NZAC, where they are identified as '*Pentarthrum* cf *servulum* sp. 2'. Thompson (1989) has pointed out that *P. servulum* Broun is a species of *Zenoteratus* Broun, but in these specimens interstria 9 does not fuse with interstria 3 as in *Zenoteratus*. Interstria 9 joins interstria 7 to produce an apical flange, which then fuses with the elytral margin,

this is exactly the condition found in *Torostoma* Broun. However, the apices of the elytra are separately rounded, rather than conjointly rounded, and males lack the modification of ventrite 2 seen in *T. apicale*, so the generic placement is tentative pending a full review.

DISTRIBUTION & ABUNDANCE: C,P f Jan

****Zenoteratus* n. sp.**

FIRST RECORDED: Emberson, 1998.

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

DISTRIBUTION & ABUNDANCE: C,R u Jan, Nov

***Pentarthrini*, genus indet. sp. 1**

FIRST RECORDED: Emberson, 2003.

REMARKS: Pitfall trap in *Dracophyllum* forest.

DISTRIBUTION & ABUNDANCE: P r Jan

CURCULIONIDAE: Cossoninae: Rhyncolini

***Phloeophagosoma corvinum* Wollaston, 1873**

FIRST RECORDED: Broun, 1911.

REMARKS: Leaf litter in coastal scrub, under dead *Corynocarpus* bark, under driftwood in dunes, and in sand dunes at night.

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

***Phloeophagosoma dilutum* Wollaston, 1874**

FIRST RECORDED: Broun, 1911.

REMARKS: No Chatham Is specimens of this species have been seen in NZAC.

DISTRIBUTION & ABUNDANCE: p lit

***Phloeophagosoma pedatum* Wollaston, 1874**

FIRST RECORDED: Emberson, 1998.

REMARKS: Under bracts and in dead *Phormium* flower stems everywhere. Widespread in New Zealand, associated with *Phormium*.

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

CURCULIONIDAE: Scolytinae: Hylesinini

***Dendrotrupes vestitus* Broun, 1881**

FIRST RECORDED: Emberson, 1998.

REMARKS: Sweeping pasture, beaten from woody vegetation, under *Pseudopanax* bark, beaten from dead *Pseudopanax* branches and branch traps. Widely distributed in New Zealand, associated with *Pseudopanax* spp.

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

CURCULIONIDAE: Scolytinae: Scolytini

***Mesoscolytus inurbanus* (Broun, 1880)**

FIRST RECORDED: Emberson, 2003.

REMARKS: There is a single male specimen in NZAC, from leaf litter. The species is widespread in New Zealand, but uncommon in collections. It is usually associated with *Metrosideros* spp.

DISTRIBUTION & ABUNDANCE: c nzac

CURCULIONIDAE: Scolytinae: Platypodini

***Platypus apicalis* White, 1846**

FIRST RECORDED: Hutton, 1898.

REMARKS: Under bark of dead *Corynocarpus*, Malaise traps in *Dracophyllum* forest, pitfall traps in *Dracophyllum*/broadleaved forest, and on tree trunks at night.

DISTRIBUTION & ABUNDANCE: C,P f Jan, Dec

BEEBLE SPECIES MISTAKENLY REPORTED FROM THE CHATHAM ISLANDS

CARABIDAE

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 Islands 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 zelandicus (Marseul, 1862)

REPORTED: Hutton, 1898.

REMARKS: This record almost certainly refers to *Saprinus detritus* (Fabricius). Hutton (1898) refers to its small size, 5mm, as against 9-10mm for New Zealand specimens of *Sternaulax* and notes that the front tibiae are missing. There is a specimen of *S. detritus* in the Hutton collection (CMNZ) which matches Hutton's description, labelled 'Chat. Is', in Hutton's hand. No specimens of *S. zelandicus* have been recorded since from the Chatham Is.

According to Thorpe (*in lit.*) *Sternaulax zelandicus* should be known as *Aulacosternus zelandicus* Marseul, 1853, as Marseul (1862) treated *Aulacosternus* as a homonym of *Aulacosternum* and replaced it with *Sternaulax*.

ELATERIDAE

Agrypnus murinus (Linnaeus, 1758)

REPORTED: Hutton, 1898 (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. No unequivocal Chatham Is specimens of *Agrypnus* have been found amongst the Hutton material in CMNZ.

Conoderus subrufus (Broun, 1880)

REPORTED: Hutton, 1898 (as *Monocrepidius*).

REMARKS: There are four specimens in the Hutton collection (CMNZ) identified as *Monocrepidius subrufus* and labelled either 'Cht. I.' or 'Chatham Islands'. These are all '*Ctenicera*' *olivascens* (White), as understood here.

Thoramus obscurus Sharp, 1877

REPORTED: Hutton, 1898.

REMARKS: *T. obscurus* is generally regarded as a synonym of *T. wakefieldi* Sharp, a species superficially similar to *T. laevithorax* (White). The Chatham Is specimens labelled *T. obscurus* in the Hutton collection (CMNZ) are all *T. laevithorax*.

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, 1898.

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. Specimens were not found in the Hutton collection (CMNZ).

OEDEMERIDAE

***Baculipalpus strigipennis* (White, 1846)**

REPORTED: Hutton, 1898 (as *Sessinia*).

REMARKS: *B. strigipennis* has not been reported since from the Chatham Is and Hudson (1975) did not record any Chatham Is specimens. A specimen labelled *Sessinia strigipennis*, 'Cht. I.' in the Hutton collection (CMNZ) has been identified by Hudson (1975) as *Thelyphassa pauperata* (Pascoe).

CERAMBYCIDAE

***Calliprason pallidum* (Pascoe, 1875)**

pallid longhorn

REPORTED: Song & Wang, 2001.

REMARKS: Song & Wang (2001) recorded a female specimen (NZAC) of this conifer feeding species from Maunganui and drew attention to the substantial range extension this represented. However, there is nothing on the label of the specimen to suggest that it is the Chatham I. Maunganui, rather than one of several more accessible North Island localities of the same name, within the previously known distribution of the species. The absence of conifers on the Chathams, with the exception of mostly recent plantings of *Pinus radiata* and *Cupressus macrocarpa*, must further cast doubt on this record.

***Zorion minutum* (Fabricius, 1775)**

flower longhorn

REPORTED: Hutton, 1898.

REMARKS: The Chatham Is species of *Zorion* was not recognised as a separate species, *Z. opacum*, until described by Sharp (1903). Chatham Is specimens of *Zorion* in the Hutton collection (CMNZ) are now labelled *Z. opacum*.

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

***Psepholax femoratus* Broun, 1880**

REPORTED: Hutton, 1898.

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 Island (ND, AK, CL, WN). Not found in the Hutton collection, CMNZ.

***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 Island (ND, AK, CL) and from Nelson (NN) in the South Island (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 Island, Stewart Island 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. While supported geologically, the timing of the accretionary phase of this tectonic plate building, 140-199 Myrs ago, makes its role in current insect biogeography doubtful (Cooper 1990).

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 had been suggested (Campbell *et al.* 1993), or that all the fauna had reached the Chatham Is over water.

It now appears (Campbell 1998) that the fauna of the Chatham Is may be even younger than expected. The presence of outcrops of an early Pliocene biogenic limestone with a complete absence of any clastic material in the central part of Chatham I. suggests that there was no emergent land in the vicinity at the time they were deposited, about 4 Myrs ago. One of the outcrops is directly overlain by a late Pliocene beach deposit, which indicates a period of fairly rapid uplift in Pliocene times, perhaps leading to the emergent Chatham Is in something like today's configuration.

If these interpretations are confirmed, they will have a profound impact on all reconstructions of the history of the Chatham Is flora and fauna and make it more likely that over-water dispersal to the Chatham Is, rather than vicariance, was the dominant force leading to their population. This view, of a recent origin of the Chatham Is fauna, has been strengthened by Trewick (2000), based on analysis of the mitochondrial COI gene in Chatham Is populations of four genera of insects and their New Zealand congeners. The analysis included two genera of beetles, *Geodorcus* Holloway and *Mecodema* Blanchard. The range of values of genetic distances between the Chatham Is and New Zealand mainland members of each genus strongly suggests divergence during the Pleistocene (2-6 Ma).

My original analysis of the biogeographical history of the Chatham Is beetle fauna (Emberson 1995) was based on records of 214 species in our collection and a total beetle fauna of 234 species. Additional collecting, a more complete survey of the existing literature, and investigation of specimens held in NZAC, increased the size of the fauna to 286 species of which 249 were represented in the Entomology Research Museum collection (Emberson 1998). Currently 318 species are known from the Chatham Is, including 281 species in the Entomology Research Museum collection (Emberson 2003).

The additional species have not changed my previous conclusions (Emberson 1995) on the composition of the fauna. 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 27.4% (93 species) is slightly higher than the 25% reported originally (Emberson 1995) and is likely to increase further with taxonomic revisions of several families, although some species currently regarded as endemic could also turn out to be more widespread. As predicted, the proportion of introduced or adventive species has increased substantially, from 8% to 13.5% (43 species), with more collecting of synanthropic species and inclusion of additional literature records. A previously overlooked endemic genus, *Chathamneus* Franz (Scydmaenidae), was noted (Emberson 1998), 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 218.

Island faunas

The number of species in our collection at Lincoln University, from each of the islands of the group that we have visited, together with donated material, is shown in Table 1.

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

Island	beetle species number	area (ha)	person collecting days
Chatham	155	90650	20
Pitt	185	6203	79
Rangatira	154	219	33
Mangere	65	113	8
Little Mangere	27	17	
Star Keys	38	15	1
The Forty Fours	1	10	
The Sisters	2	5	

The material from Little Mangere, The Forty-Fours, and The Sisters was collected by personnel from other organisations who were mainly engaged in non-entomological activities, and so is not comparable in terms of collecting days.

The relatively large number of species collected from Rangatira, in spite of its small size, 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 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, *Ptinusoma vicinus*, *P. waitei* and *Ptinusoma* n. sp. 1; and species often associated with burrow nesting birds and bird carrion including *Saprinus* sp. 2, *Paracatops* spp., *Quedius antipodum* and *Zeonidicola chathamensis*. 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 explains 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.

As is to be expected, the larger islands have a range of habitats not present on Rangitira or the smaller islands and this is reflected in their faunas. In terms of beetle diversity and its effect on the size of the faunas, the most important natural habitat absent on the smaller islands is sandy beaches and their associated wrack and driftwood. We have collected at least 24 apparently halophilous species in these habitats, which we have not found on the smaller islands, though some of these species could yet occur in the limited wrack habitats that are present. Similarly the range of aquatic habitats is very limited on the smaller islands and five species of dytiscids and hydrophilids, known from Chatham or Pitt, are apparently absent from the smaller islands. Both Chatham and Pitt have a wide range of heavily modified habitats not present on the smaller islands. These modified habitats, including pasture, mammalian dung, compost heaps, animal carcasses, houses, and gardens are important for introduced and synanthropic species. Of the 34 introduced species represented in our collections, 21 species have only been collected on Chatham or Pitt.

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

The inclusion of historic records of species would to some extent change the view of the fauna presented here, but the issue is complicated by issues of consistency when searching for records or material and because some species may have become extinct on the inhabited islands (see below). For these reasons I have limited the analysis to material we have collected, or had donated to the collection, in the last thirteen years, or so, 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 does not conform to the classic species area relationship (MacArthur & Wilson 1967). There are probably a variety of reasons why our data does not show the usual linear relationship, including uneven collecting effort, varying levels of predation and disturbance, and prevalence of relatively intact habitat. In relation to island areas the fauna of Chatham I. is badly under represented in

our collections, as the number of species recorded is considerably fewer than for the smaller Pitt I., but only one quarter as many collecting days have been spent on Chatham I. as on Pitt I.

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.

Species abundances

The numbers of individuals of each species from the Chatham Is in LUNZ have been grouped into six abundance classes, based on the series of increasing powers of 3. 39 species, or 14% of the 281 species in the collection, are only represented by one specimen. The distribution shows the usual skewness to the right of species abundance curves. These data are, however, obviously biased, in that once a series of 20 or so individuals have been collected, directed collecting effort tended to decrease, apart from that necessary to collect vouchers from each island. Additional specimens were mainly collected as the result of indirect techniques, such as pitfall trapping or litter extraction. Thus, there are no super abundant species with more than 243 specimens in our collection, though plainly, if all specimens seen had been collected, several species including *Hypodacnella rubripes* and *Spilotrogia nr pulchella* would have fallen into this category.

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 still 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. The Forty Fours were also visited by the 1954 Canterbury Museum Expedition and a small collection, of what appear to be mainly litter inhabiting beetles, has recently been located. Records of the species collected are included in the annotated list. Wildlife Service and Department of Conservation personnel have visited all these small 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, and surprisingly may also harbour a few species endemic to individual islands.

The Sisters Is have at least two known endemic beetle species, *Geodorcus* n.sp. and *Pseudhelops chathamensis*. An undescribed species of *Lichenobius*, not known from elsewhere, has also been seen (NZAC) from there. We have collected two aleo-carine staphylinids from Star Keys that have not been recorded from anywhere else. These latter species are probably not Star Keys endemics, but we would not be surprised if they turned out to be limited to some of the small outer islands.

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, Ding Johnson, John Marris, Carol Muir, Katrin Schöps and Pauline Syrett. Peter Dilks, Lindsay Smith, and Fiona Bancroft 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 and Brownwyn Thompson Conservation Officers, Pitt Island collected for us and provided generous hospitality and transport. Mike Bell, Dave Lumley, John Mason, Alan Munn, and other staff of the Chatham Islands 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 Islands to really get the project going after our first visit to the Chathams in 1990. Trevor Crosby and Rich Leschen, Landcare Research, Auckland have always made me welcome at the New Zealand Arthropod Collection. Trevor Crosby has generously given 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 Brown Chatham Islands Collection in the Natural History Museum, London. Simon Pollard arranged access to the Hutton Collection in the Canterbury Museum. 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 BC Research Inc., Vancouver, Canada) (Staphylinidae); Rich Leschen, Landcare Research, Auckland (Corylophidae, Cryptophagidae, Mycetophagidae, Staphylinidae: Aleocharinae); Ron Ordish, Museum of New Zealand, Wellington (Hydrophilidae); Margaret Thayer, Field Museum of Natural History, Chicago, USA (Staphylinidae: Omaliinae). Stephen Thorpe, Auckland Museum, gave me the benefit of his extensive knowledge of New Zealand beetle nomenclature, helped with the identification of several species, and hunted out obscure new records for me in NZAC.

Pauline Syrett, Trevor Crosby, John Early, Rich Leschen, Eric Scott, Stephen Thorpe and John Marris read earlier drafts of this manuscript and made many valuable suggestions and comments, which have greatly improved its readability, consistency, and accuracy.

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*, a species previously thought to be endangered, has populations on The Sisters, Star Keys, The Forty Fours and Little Mangere as well as on Rangatira and Mangere and a relict population on Chatham I. Similarly, *Geodorcus capito* and *Mecodema alternans*, both flightless species that are evidently becoming more restricted on the inhabited islands, have known 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. Because the faunas of these islands are still poorly known and their long-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, pigs, and weka, 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 *Rhynchodes 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. As a result, *Thotmus halli* may be globally extinct. *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. and only survive on the smaller uninhabited islands. *Geodorcus capito* and *A. candezei* have both suffered significant contractions of range on 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, as does the creation of corridors of protected vegetation between the existing reserves. 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 invertebrates, as well as the well-known avian species.

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.
- Bowstead, S. 1999: A revision of the Corylophidae (Coleoptera) of the West Palaearctic Region. *Instrumenta biodiversitatis* 3: 1-203.
- 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.
- Breuning, S. 1962: A contribution to the knowledge of the Lamiinae (Coleoptera, Cerambycidae) of New Zealand. *Transactions of the Royal Society of New Zealand, Zoology* 2:73-108.
- Brookes, A.E. 1925: Coleoptera of the Chatham Islands. *Records of the Canterbury Museum* 2: 285-293.
- Broun, T. 1885: Abstract of paper on New Zealand Scydmaenidae. *New Zealand Journal of Science* 2: 384-387.
- 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.
- Calder, A.A. 1984: *Acritelater* (Coleoptera: Elateridae), a new genus of click beetle from New Zealand. *New Zealand Journal of Zoology* 11: 35-42.
- Campbell, H. 1998: Fauna and flora of the Chatham Islands: less than 4 My old? *Geological Society of New Zealand, miscellaneous publications* 97: 15-16.
- Campbell, h., Andrews, P.B., Beu, A.G., Maxwell, P.A., Edwards, A.R., Laird, M.G., Hornibrook, N.deB., Mildenhall, D.C., Watters, W.A., Buckeridge, J.S., Lee, D.E., Strong, C.P., Wilson, G.J., Hayward, B.W. 1994: Cretaceous- Cenozoic geology and biostratigraphy of the Chatham Islands. *New Zealand Institute of Geological and Nuclear Sciences, monograph* 2:1-269.
- 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. 1998: The beetle fauna (Coleoptera) of the Chatham Islands. *New Zealand Entomologist* 21:25-64.

- Emberson, R.M. 2003: The beetle fauna (Coleoptera) of the Chatham Islands: additions and corrections. *New Zealand Entomologist* in press.
- 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.
- Franz, H. 1980: Weiterer Beitrag zur Kenntnis der Scydmaenidenfauna Neuseelands. *Sitzungsberichte der Oesterreichische Akademie der Wissenschaften, mathematisch-naturwissenschaftliche Klasse Abt. 1*, 189: 249-313.
- Hammond, P.M. 1976: A review of the genus *Anotylus* C. G. Thomson (Coleoptera: Staphylinidae). *Bulletin of the British Museum (Natural History) Entomology* 33:139-187.
- 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. 1898: 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: *Corticicara*, 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.
- Johnson, C. 1992: Additions and corrections to the British list of Coleoptera. *Entomologist's Record and Journal of Variation* 104: 305-310.
- 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.W. 1982: Apionidae and Curculionidae (Coleoptera) from the Poor Knights Islands, New Zealand. *Journal of the Royal Society of New Zealand* 12: 273-282.
- Kuschel, G. 1987: A New Zealand histerid 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.
- Marseul, S.A. de 1862: Supplement a la monographie des histerides (suite) (1). *Annales de la Société Entomologique de France* (4) 2: 437-720.
- McCull, H.P. 1982: Osoriinae (Insecta: Coleoptera: Staphylinidae). *Fauna of New Zealand* 2, 89 pp.
- McCull, H.P. 1984: Five new species of *Paratrochus* (Staphylinidae: Osoriinae), with a redescription of *P. anophthalmus* (Fauvel). *New Zealand Journal of Zoology* 11: 23-34.
- 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 Auckland 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.
- Savill, R.A. 1999: A key to the New Zealand tiger beetles, including distribution, habitat and new synonyms (Coleoptera: Carabidae: Cicindelinae). *Records of the Canterbury Museum* 13: 129-146.
- Schwarz, O. 1901: Elateriden von der Stephens-Insel und der Chatham-Inseln gesammelt von Hrn. Direktor Schauinsland. *Deutsche Entomologische Zeitschrift* 1901: 193-196.

- Scott, R.R., Emberson, R.M. 1999: *Handbook of New Zealand insect names. Common and scientific names for insects and allied organisms*. Bulletin of the Entomological Society of New Zealand 12, 97 pp.
- Sharp, D. 1884: Revision of the Hydrophilidae of New Zealand. *Transactions of the entomological Society of London 1884*: 465-480.
- 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.
- Stebnicka, Z.D. 2001: Aphodiinae (Insecta: Coleoptera: Scarabaeidae). *Fauna of New Zealand* 42: 1-61.
- 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.
- Waterhouse, C.O. 1880-1890: *Aid to the identification of insects*. Waterhouse, C.O. (ed.). Lithographs by E. Wilson & M. Horman-Fisher, London.. 2 vol.
- 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 pp.
- 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.
- Winterbourn, M.J., Gregson, K.L.D., Dolphin, C.H. 2000: Guide to the aquatic insects of New Zealand. 3rd ed. *Bulletin of the entomological Society of New Zealand* 13: 1-102.
- 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.