

ON THE TERRESTRIAL INVERTEBRATE FAUNA OF WHITE ISLAND, NEW ZEALAND

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Abstract. White Island is a small active volcano off the east coast of the North Island, New Zealand. The active crater is barren but outer lower-slopes and the shore support a restricted flora and fauna of *Metrosideros* forest, bird colonies, and smaller animals and plants. 162 species of terrestrial invertebrates are listed; the fauna is found to be derived from the New Zealand mainland fauna. Associations in various localities and habitats are also listed and discussed. Leaf litter and other samples were catalogued in a 'Plant/soil samples' series and invertebrates extracted per cold and top-heated funnels; comparative results are discussed.

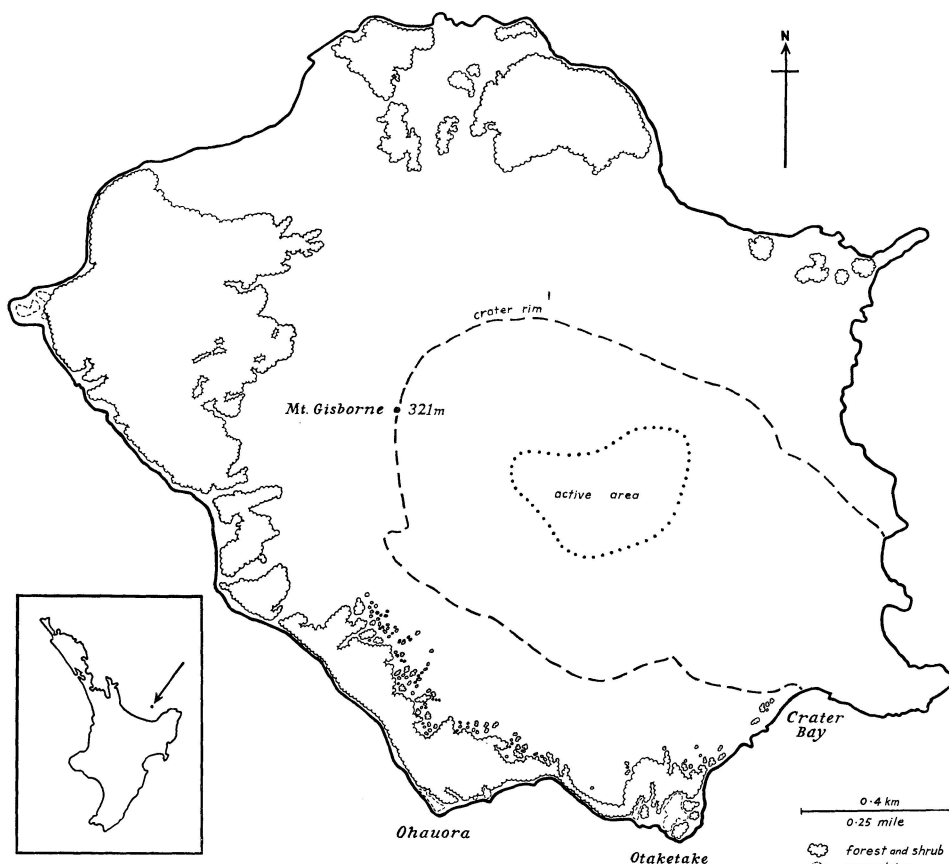


Fig. 1. White Island. (Based on N.Z.D.S.I.R. Map, 1957). Insert shows North I., N.Z., with position of White I. (arrowed).

White Island is an active volcano (Fig. 1) lying off the eastern coast of the North Island, New Zealand, in the Bay of Plenty, 48-96 km (30-60 miles) north and east of the adjacent coast. The island is more or less circular, *ca.* 2 km (*ca.* 1.25 miles) in diameter with a nearly central active volcanic crater (Fig. 2). The crater walls, which are up to 321 m (1053 ft.) above sea level, are breached on the south-eastern side, the consequent valley floor being little above sea level. Outside the



Fig. 2. Active volcanic crater.

crater valley (Fig. 3) there is a radial topography with steep upper slopes and stable lower slopes extending to sea-cliffs or the shore. Because of the obvious volcanism, it is not generally realised that the lower slopes are sufficiently stable, and unaffected by volcanic activity, to support pohutukawa (*Metrosideros excelsa*) forest, smaller plants, continuing bird colonies, Maori rats, and small invertebrate animals.

The island has been fully described by Hamilton and Baumgart *et al* (In Hamilton & Baumgart, 1959), but only 1 species of marine Mollusca and 4 species of Insecta were recorded in a list of invertebrates. During a visit to the island, by the present author, it was obvious that the terrestrial invertebrates are much better represented than that list suggests. The purpose of this paper is to present a more substantial list in order to make it apparent that further collecting and study would be worthwhile. Some information on collecting methods is also given and the composition of the fauna in various localities and habitats is indicated in an ecological section.

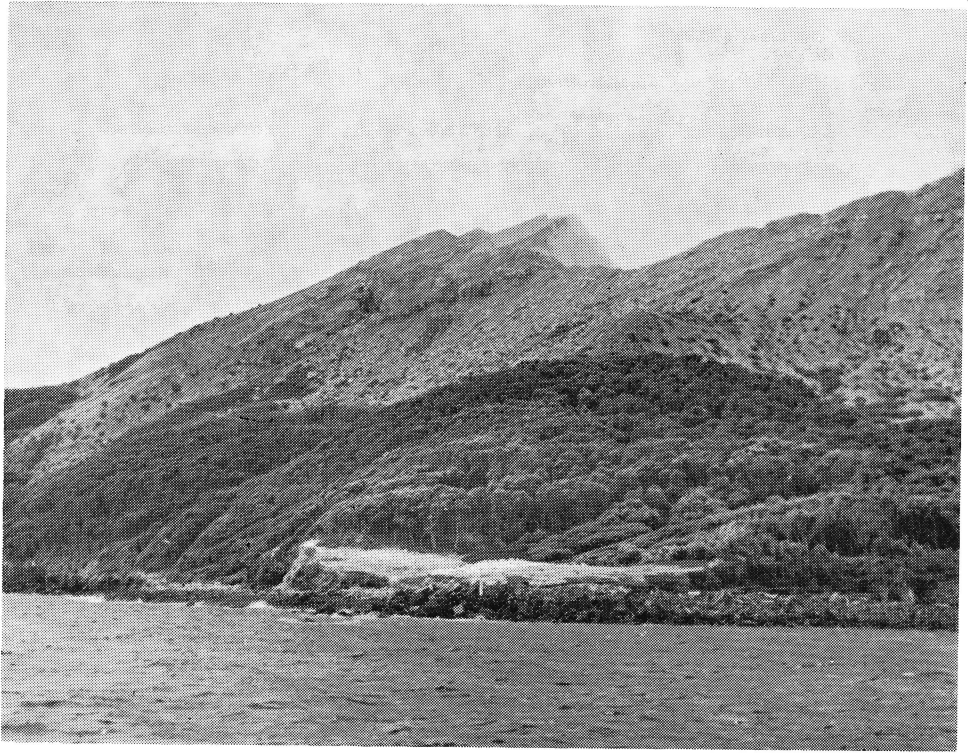


Fig. 3. Western coast, showing white gannetry, pohutukawa forest, pohutukawa shrubland, and crater rim.

Collecting was carried out by the author only during a few hours at Crater Bay and for a day at Ohauora. Some specimens collected by an earlier expedition, mostly at Otaketake, are also recorded.

METHODS

In addition to observation and collection on the island, samples were taken and the fauna extracted in the Museum. It is as well to record here the system now adopted in the Entomology Department of this Museum. All samples, whether plant, soil, or any grade in between (leaf litter, rotting wood, etc.), are given a number in one catalogue series known as 'Plant/soil samples'. The method of extraction is noted in the catalogue but is not made a principal feature of the record. The present author does not now recognise the use of the term 'Berlese funnel', which puts an unnecessary stress on the extraction method and is, in fact, a misleading and often incorrect usage. The main point is that specimens have been extracted from a sample of a particular composition, e.g., moss, or of a particular kind, e.g., leaf litter. Frequently, the author takes two samples of the same material, simultaneously. Subsequently, the fauna is extracted from one of these per a funnel with top heat applied for 1-5 days, the fauna in the other being extracted per a cold funnel at unheated room temperatures over a period of 2 - 3 months. The top-heated

funnel method is thought to produce a sample of the most mobile fauna, while the unheated funnel usually produces more specimens of more species, including adults bred from larvae or pupae, and also adult parasites.

LIST OF SPECIES

Unless otherwise stated in the following list, all specimens were collected by the author on 5.XII.1966 at Crater Bay, or on 6.XII.1966 at Ohauora. Numbers in parenthesis after familial and higher taxon names are numbers of species; numbers in parenthesis amongst locality data are numbers of specimens. Plant names used are those recorded by Hamilton (*In* Hamilton & Baumgart, 1959).

Specimens have been sorted and determined by many specialists and the present author, as indicated for various groups. It has not been possible to specifically identify many of the specimens where groups are little known; numbers of specimens are not available for all species.

Phylum ANNELIDA (1) (Det. by K. E. Lee)

Class CHAETOPODA (1)

Order OLIGOCHAETA (1)

Family MEGASCOLECIDAE (1)

Subfamily MEGASCOLECINAE (1)

Diporochaeta obtusa Lee

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (1 clitellate, 7 a clitellate); rotten pohutukawa log, P/s sample 127 (2 a clitellate).

(Two lots broken in transit may have been the same species. Ohauora: pohutukawa leaf litter near landing, P/s sample 118; *Histiopteris* leaf litter, P/s sample 121. —K.A.J.W.)

Phylum ARTHROPODA (161)

Class DIPLOPODA (2) (Det. by P. M. Johns)

Order PLATYDESMIFORMIA (1)

Family SIPHONOPHORIDAE (1)

Siphonophora sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (several); pohutukawa leaf litter near landing, P/s sample 118 (1).

Order POLYDESMIDA (1)

Family DALODESMIDAE (= SPHAEROTRICHOPIDAE) (1)

sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (1), P/s sample 119 (several); *Histiopteris* leaf litter, P/s sample 120 (several), P/s sample 121 (several); rotten pohutukawa log, P/s sample 127 (several); wet pohutukawa leaf litter at top of forest, P/s sample 131 (2).

Class CHILOPODA (3) (Det. by author)
 Order GEOPHILOMORPHA (1)
 Family GEOPHILIDAE (1)

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1); rotten pohutukawa log, P/s sample 127 (1).

Order LITHOBIOMORPHA (2)
 Family HENICOPIDAE (2)
 Subfamily HENICOPINAE (1)

sp.

Ohauora: landing (2); pohutukawa leaf litter near landing, P/s sample 119 (1); wet pohutukawa leaf litter at top of forest, P/s sample 130 (1).

Subfamily ANOPSOBIINAE (1)

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (8), P/s sample 121 (13); low plants and grass above gannetry, P/s sample 124 (1); rotten pohutukawa log, P/s sample 127 (2); wet pohutukawa leaf litter at top of forest, P/s sample 131 (2).

Class INSECTA (111)
 Subclass APTERYGOTA (12) (Det. by author)
 Order COLLEMBOLA (11)
 Suborder ARTHROPLEONA (10)
 Section PODUROMORPHA (4)
 Family NEANURIDAE (3)
 Subfamily NEANURINAE (2)

Neanura novaezealandiae (Salmon, 1941)

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (4); *Histiopteris* leaf litter, P/s sample 121 (6); rotten pohutukawa log, P/s sample 127 (5).

Gnatholonche sensilla Salmon, 1948

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (1).

Subfamily PSEUDACHORUTINAE (1)

Pseudachorutes sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (2); rotten pohutukawa log, P/s sample 127 (4); wet pohutukawa leaf litter at top of forest, P/s sample 131 (4).

Family HYPOGASTRURIDAE (1)

Hypogastrura rossi (Salmon, 1941)

Crater Bay: *Disphyma australe* litter, P/s sample 117 (8).

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (3); wet pohutukawa leaf litter at top of forest, P/s sample 131 (4); *Coprosma* leaf litter, P/s sample 132 (2), P/s sample 133 (35); soil and debris at rock fall, P/s sample 134 (3).

Section ENTOMOBRYOMORPHA (6)

Family ISOTOMIDAE (4)

Subfamily PROISOTOMINAE (3)

Folsomina onychiurina Denis, 1931

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1).

Proisotoma sp.

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (1).

Parafolsomia sp.

Ohauora: rotten pohutukawa log, P/s sample 127 (1).

Subfamily ISOTOMINAE (1)

? **Isotoma** sp.

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (1).

Family ENTOMOBRYIDAE (2)

Subfamily ENTOMOBRYINAE (2)

Entomobrya sp. A

Ohauora: (1); bark on rotting pohutukawa log, P/s sample 126 (9); rotten pohutukawa log, P/s sample 127 (12); wet pohutukawa leaf litter at top of forest, P/s sample 131 (3); soil and debris at rock fall, P/s sample 134 (3).

A species with blue markings.

Entomobrya sp. B

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (2); *Histiopteris* leaf litter, P/s sample 121 (3); wet pohutukawa leaf litter at top of forest, P/s sample 131 (4); *Coprosma* leaf litter, P/s sample 133 (2).

Suborder SYMPHYPLEONA (1)

Family SMINTHURIDAE (1)

Subfamily SMINTHURINAE (1)

Tribe KATIANNINI

Sminthurinus granulatus Salmon, 1941

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (4).

Order DIPLURA (1)
Family CAMPODEIDAE (1)

Metriocampa sp.

Ohauora: rotten pohutukawa log, P/s sample 127 (2).

Subclass PTERYGOTA (99)
Order DERMAPTERA (1) (Det. by author)
Family LABIDURIDAE (1)

Anisolabis littorea (White)

Crater Bay: under *Disphyma* (1); under wood (2).
Otaketake: (1), 19-22.XI.1964, C. J. Robertson.
Ohauora: gannetry, under stones (6).

Order PSOCOPTERA (5) (Det. by C. N. Smithers)
Family LIPOSCELIDAE (3)

Liposcelis sp. A

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (2).

Liposcelis sp. B

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1).

Liposcelis sp. C

Ohauora: bark on rotting pohutukawa log, P/s sample 126 (2).

Family TROGIDAE ? (1)

sp.

Ohauora: bark on rotting pohutukawa log, P/s sample 126 (1)

Family CAECILIIDAE (1)
Subfamily PERIPSOCINAE (1)

Peripsocus sp. ? **morulops** (Till., 1923)

Ohauora: pohutukawa forest, swept (1)

Order HEMIPTERA (6)
Suborder HOMOPTERA (6)
Family CICADIDAE (1)

Melampsalta sericea

Recorded by Wodzicki & Robertson (*In* Hamilton & Baumgart, 1959). Many cicadas were heard and several seen by the author in the pohutukawa forest at Ohauora.

Family APHIDIDAE (2)

sp. A (Det. by author)

Ohauora: low plants and grass above gannetry, P/s sample 124 (1 nymph), P/s sample 125 (1 nymph).

sp. B (Det. by L. J. Dumbleton)

Crater Bay: under *Disphyma* (5♀♀); *Disphyma australe* and litter, P/s sample 117 (1 nymph).

Probably a root-infesting species.

Family PSYLLIDAE (1) (Det. by L. J. Dumbleton)

Trioza curta (Ferris & Klyver)

Ohauora: on undersides of leaves of juvenile pohutukawa in forest, immatures in pit galls (1♂, 13 nymphs).

Family PSEUDOCOCCIDAE (1) (Det. by L. J. Dumbleton)

sp.

Ohauora: in pit galls on undersides of leaves of juvenile pohutukawa in forest (1); pohutukawa leaf litter near landing, P/s sample 118 (1); pohutukawa leaf litter in shrubland, P/s sample 129 (1); wet pohutukawa leaf litter at top of forest, P/s sample 131 (2).

Family ERIOCOCCIDAE (1) (Det. by E. W. Valentine)

***Eriococcus* sp.**

Ohauora: on underside of leaves from tops of trees at top of pohutukawa forest (1♂, several ♂ tests).

Order THYSANOPTERA (3) (Det. by Anne Ward)

Family PHLAEOTHIRIPIDAE (1)

***Amphibolothrips (Verrucothrips)* sp.**

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1).

An undescribed New Zealand species.

Family THIRIPIDAE (2)

Aptinothrips rufus (Gmelin)

Ohauora: low plants and grass above gannetry, P/s sample 125 (4); pohutukawa leaf litter in shrubland, P/s sample 129 (1).

A cosmopolitan grass-species.

sp.

Crater Bay: *Disphyma australe* and litter, P/s sample 117 (1 immature).

Order TRICHOPTERA (1) (Det. by author)
 Family PHILANISIDAE (1)

Philanisus plebeius Walker

Crater Bay: at light (1 ♀).
 The common australasian marine caddis-fly.

Order LEPIDOPTERA (8) (Det. by J. S. Dugdale)
 Family TINEIDAE (1)

Monopis ethelella Newman

Otaketake: (1 ♀), 17.XI.1964, C. J. Robertson.

Family OECOPHORIDAE (1)

Borkhausenia sp. ?

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (3 larvae).

Family TORTRICIDAE (1)
 Subfamily TORTRICINAE (1)

Sperchia intractana Walker

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1 ♂).
 An Australian species known to occur in New Zealand.

Family PYRALIDAE (3)
 Subfamily NYMPHULINAE (1)

Musotima sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (1 larva).
 Larvae feed on *Histiopteris* in New Zealand.

Subfamily SCOPARIINAE (1)

Scoparia sp.

Ohauora: pohutukawa forest, swept (1 ♂).

Subfamily PYRAUSTINAE (1)

Proternia philocapna Meyrick

Ohauora: low plants and grass above gannetry, P/s sample 125 (1).
 A common New Zealand species.

Family GEOMETRIDAE (2)
 Subfamily LARENTIINAE (2)

Xanthorhoe rosearia (Doubleday)

Crater Bay: under *Disphyma* (1 ♀, 1 pupa); *Disphyma australe* and litter,
 P/s sample 117 (7 larvae).

A New Zealand species, also occurring in similar halophyte communities on Chatham I.

Phrissogonus testulatus (Walker)

Ohauora: pohutukawa forest, swept (1 ♀).

A species common to Australia and New Zealand.

Order DIPTERA (36)

(Det. by R. A. Harrison)

Family TIPULIDAE (2)

sp.

Otaketake: (1), 19-22.XI.1964, C. J. Robertson.

sp.

Crater Bay: flying at dusk (2); at light on boat (3), 6.XII.1966.

Otaketake: from inside tent (2), 19-22.XI.1964, C. J. Robertson; (2), 22.XI.1964, M. A. Crozier.

Family PSYCHODIDAE (1)

sp.

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (3).

Family CULICIDAE (1)

Opifex fuscus Hutt.

Ohauora Bay: F.W. pool (2, 6 pupae, 3 larvae), 21.XI.1964, M. A. Crozier.

Family MYCETOPHILIDAE (1)

sp.

Ohauora: pohutukawa forest, swept (1).

Family SCIARIDAE (3)

spp.

Otaketake: (1), 19-22.XI.1964, C. J. Robertson; inside tent (2), 22.XI.1964, M. A. Crozier.

Ohauora: pohutukawa forest, swept (2); swept above gannetry (1); landing (2); pohutukawa leaf litter near landing, P/s sample 118 (5), P/s sample 119 (2); *Histiopteris* leaf litter, P/s sample 124 (2); rotten pohutukawa log, P/s sample 127 (6); wet pohutukawa leaf litter at top of forest, P/s sample 131 (17).

Family CECIDOMYIIDAE (3)

spp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (2), P/s sample 119 (8); *Histiopteris* leaf litter, P/s sample 121 (7); guano and debris under stones in gannetry, P/s sample 122 (1); rotten pohutukawa log, P/s sample 127 (1); wet pohutukawa leaf litter at top of forest, P/s sample 131 (10); *Coprosma* leaf litter, P/s sample 133 (1).

Family DOLICHOPODIDAE (3)

(Det. by D. J. Allan)

Tetrachaetus simplex Parent

Ohauora: pohutukawa forest, swept (5).

Abatetia sp.

Ohauora: shore landing, swept (10).

sp.

Crater Bay: (1).

Family PHORIDAE (2)

(Det. by H. A. Oliver)

Antipodophora sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (6); *Histiopteris* leaf litter, P/s sample 121 (3); rotten pohutukawa log, P/s sample 127 (3).

Diponevra sp. nr. **caudata**

Ohauora: guano and debris under stones in gannetry, P/s sample 123 (2); *Coprosma* leaf litter, P/s sample 133 (1).

Family LONCHOPTERIDAE (1)

Lonchoptera dubia Curr.

Crater Bay: (1).

Family SYRPHIDAE (2)

Eristalis tenax (L.)

Otaketake: (1), 19-22.XI.1964, C. J. Robertson.

Syrphus novaezealandiae Macq.

Crater Bay; swept (1).

Family HELOMYZIDAE (1)

Heloclusia aristata Harr.

Ohauora: landing (2); *Coprosma* leaf litter, P/s sample 133 (1).

Family AGROMYZIDAE (1)

Haplomyza (?) sp.

Crater Bay: (1).

Family PHYCOTROMIDAE (1)

Chaetocoelopa littoralis (Hutt.)

Crater Bay: (1); at light (1).

Otaketake: inside tent (1), 22.XI.1964, M. A. Crozier.

Ohauora: high tidal pools, drowned (2), 19.XI.1964, M. A. Crozier; landing (2).

Family CHLOROPIDAE (1)

Lasiopleura wisei Harr.

Crater Bay: (3).

Otaketake: (3), 19-22.XI.1964, C. J. Robertson.

Ohauora: landing, swept (29); pohutukawa forest, swept (1).

Family EPHYDRIDAE (3)

Hecamede femoralis Mall.

Crater Bay: (2).

Hydrellia tritici Coq.

Ohauora: landing (2).

Neoscatella vittithorax (Mall.)

Crater Bay: (4).

Ohauora: shore landing, swept (2).

Family ASTEIIDAE (1)

Asteia levis Hutt.

Ohauora: landing (1).

Family DROSOPHILIDAE (1)

Scaptomyza flavella Harr.

Ohauora: landing (4).

Family BORBORIDAE (2)

Leptocera heteroneura (Hal.)

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1).

Leptocera knightae Harr.

Crater Bay: (21).

Family CALLIPHORIDAE (2)

Calliphora laemica (White)

Crater Bay: (1).

Ohauora: (1).

Calliphora icela (Walk.)

Ohauora: landing, swept (1); swept above gannetry (1).

Family MUSCIDAE (3)

Calliphoroides antennatis (Hutt.)

Otaketake: (1), 19-22.XI.1964, C. J. Robertson.

spp.

Crater Bay: (1).

Otaketake: (3), 19-22.XI.1964, C. J. Robertson; inside tent (1), 22.XI.1964,

M. A. Crozier.

Ohauora: high tidal pools, drowned (1), 19.XI.1964, M. A. Crozier; landing (1).

Family ? (1)

sp.

Ohauora: landing, swept (8).

Immatures

(Probably of various species and families recorded above —K.A.J.W.)

sp.

Ohauora: (1 larva).

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (7 larvae).

sp.

Ohauora: gannetry, under stone (1 pupa).

Order HYMENOPTERA (14)

(Det. by E. W. Valentine)

Family FORMICIDAE (3)

(Det. by R. W. Taylor)

Subfamily PONERINAE (1)

Amblyopone saundersi

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (1 worker), P/s sample 121 (1 worker); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1 queen).

Known from both main islands of New Zealand and Little Barrier I.

Subfamily MYRMICINAE (2)

Strumigenys perplexa

Ohauora: low plants and grass above gannetry, P/s sample 124 (1 worker).

Widespread in North Island and northern off-shore islands.

Chelaner antarcticus (White)

Crater Bay: under *Disphyma* (15 workers).

Otaketake: (2 workers), 19-22.XI.1964, C. J. Robertson.

Ohauora: guano and debris under stones in gannetry, P/s sample 122 (1 worker).

Present in the North I. and elsewhere.

Family COLLETIDAE (1)

Paracolletes sp. (? **boltoni**)

Crater Bay: swept (1); at light (1).

Ohauora: landing, at *Disphyma* flowers (3).

The native bee *Paracolletes boltoni*, was recorded on White I. by Wodzicki & Robertson (*In* Hamilton & Baumgart, 1959).

Family CRABRONIDAE (1)

Crabro sp.

Ohauora: landing (1).

Family EULOPHIDAE (1)

Chrysocharis sp.

Ohauora: landing (1).

Family DIAPRIDIDAE (3)

sp.

Ohauora: low plants and grass above gannetry, P/s sample 125 (1 ♀).

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (1 ♀).

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1 ♂, 2 ♀♀).

Family MYMARIDAE (3)

Mymar pulchellum Curtis

Ohauora: low plants and grass above gannetry, P/s sample 124 (1).

Camptoptera sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (5 ♀♀); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1 ♂); *Coprosma* leaf litter, P/s sample 133 (1 ♀).

Camptoptera sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1 ♂).

Family CERAPHRONIDAE (1)

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (3 ♂♂, 6 ♀♀); rotten pohutukawa log, P/s sample 127 (1 ♂, 2 ♀♀); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1 ♂).

Family EULOPHIDAE (1)

Hemiptarsenus sp.

Ohauora: low plants and grass above gannetry, P/s sample 124 (1 ♂).

Order COLEOPTERA (25)

(Det. by J. C. Watt)

Family CARABIDAE (2)

Nemaglossa atriceps (Macleay)

Ohauora: *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; wet pohutukawa leaf litter at top of forest, P/s sample 131; landing.

Mecyclothorax rotundicollis (White)

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (1); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1).

Immatures

spp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (larvae); wet pohutukawa leaf litter at top of forest, P/s sample 131 (larvae).

Family HISTERIDAE (1)

Saprinus sp. aff. **pseudocyaneus**

Mt. Gisborne: 244 m (800 ft) (1), 19-22.XI.1964, C. J. Robertson.

Family PTILIDAE (1)

sp.

Ohauora: bark on rotten pohutukawa log, P/s sample 126 (1).

Family ANISOTOMIDAE (1)

Subfamily CATOPINAE (1)

Mesocolon nesobium Jeannel

Ohauora: gannetry, under debris and stones (2); landing, swept (1); pohutukawa leaf litter near landing, P/s sample 119, *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; rotten pohutukawa log, P/s sample 127; *Coprosma* leaf litter, P/s sample 132, P/s sample 133.

Family SCYDMAENIDAE (1)

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1).

Family STAPHYLINIDAE (1)

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (2).

Immatures

sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (larvae), P/s sample 119 (larvae); rotten pohutukawa log, P/s sample 127 (larvae); wet pohutukawa leaf litter at top of forest, P/s sample 130 (larvae), P/s sample 131 (larvae); *Coprosma* leaf litter, P/s sample 133 (larvae).

Family PSELAPHIDAE (1)

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (2).

Family CLAMBIDAE (1)

Clambus sp.

Ohauora: rotten pohutukawa log, P/s sample 127 (1).

Family ELATERIDAE (1)

Immatures

sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (1 larva); *Histiopteris* leaf litter, P/s sample 120 (1 larva).

Family LYCIDAE (1)

Metriorhynchus erraticus

Recorded by Wodzicki & Robertson (*In* Hamilton & Baumgart, 1959).

Family NITIDULIDAE (1)

Epuraea sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (2); soil and debris at rock fall, P/s sample 134 (1).

Immatures

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 132 (larvae); P/s sample 133 (larvae).

Family CORYLOPHIDAE (1)

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1).

Immatures

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1 larva).

Family COCCINELLIDAE (1)

Coccinella undecimpunctata L.

Ohauora: swept above gannetry (1).

This species was recorded on White I. by Wodzicki & Robertson (*In* Hamilton & Baumgart, 1959); it was abundant on the crater rim on 13.I.1947.

Family MEROPHYSIIDAE (2)

Holoparamesus spp.

Crater Bay: *Disphyma australe* and litter, P/s sample 117.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; bark on rotting pohutukawa log, P/s sample 126; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 131.

Immatures

spp.

Ohauora: rotten pohutukawa log, P/s sample 127 (larvae); wet pohutukawa leaf litter at top of forest, P/s sample 131 (larvae).

Family LATHRIDIIDAE (3)

Lathridius spp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1); *Coprosma* leaf litter, P/s sample 133 (1).

Melanophthalma sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (1); low plants and grass above gannetry, P/s sample 124 (1); wet pohutukawa leaf litter at top of forest, P/s sample 131 (1); *Coprosma* leaf litter, P/s sample 133 (1).

Immatures

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (3 larvae).

Family COLYDIIDAE (3)

Coxelus spp.

Ohauora: under bark rotting pohutukawa logs; pohutukawa leaf litter near landing, P/s sample 119; *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; low plants and grass above gannetry, P/s sample 124; wet pohutukawa leaf litter at top of forest, P/s sample 131; *Coprosma* leaf litter, P/s sample 133.

sp.

Ohauora: bark on rotting pohutukawa log, P/s sample 126 (2).

Immatures

spp.

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (larvae); low plants and grass above gannetry, P/s sample 125 (larvae).

Family TENEBRIONIDAE (1)

Tenebrio obscurus (Fab.)

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (1).

Family CURCULIONIDAE (2)

Subfamily COSSONINAE (1)

Euophryum rufum (Broun)

(Det. by G. Kuschel)

Ohauora: under bark rotting pohutukawa logs (1); rotten pohutukawa log, P/s sample 127 (1).

(Two lots lost in transit, one was probably *Euophryum*.)

Ohauora: under bark rotting pohutukawa logs (2); gannetry, under debris and stones (1). —K.A.J.W.).

Immatures

(Det. by B. M. May)

Subfamily ERIRRHINAE (1)

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1 larva).

Class CRUSTACEA (1) (Det. by author)

Subclass MALACOSTRACA (1)

Order Amphipoda (1)

sp.

Otaketake: (1), 19-22.XI.1964, C. J. Robertson.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (1); low plants and grass above gannetry, P/s sample 124 (2); rotten pohutukawa log, P/s sample 127 (1); wet pohutukawa leaf litter at top of forest, P/s sample 130 (1), P/s sample 131 (2).

Class ARACHNIDA (44)

Order PSEUDOSCORPIONIDEA (3) (Det. by M. Beier)

Family CHTHONIIDAE (1)

Austrochthonius inversus Beier

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (2 ♂♂, 1 ♀, 1 nymph), P/s sample 119 (6 ♂♂, 5 ♀♀); *Histiopteris* leaf litter, P/s sample 120 (13 ♂♂, 2 ♀♀), P/s sample 121 (10 ♂♂, 11 ♀♀, 10 nymphs); low plants and grass above gannetry, P/s sample 124 (1 ♂, 1 nymph); rotten pohutukawa log, P/s sample 127 (1 nymph); wet pohutukawa leaf litter at top of forest, P/s sample 131 (5 ♂♂, 11 ♀♀, 8 nymphs).

Family OLPIIIDAE (1)

Euryolpium (Antiolpium) zealandiense (Hoff.)

Ohauora: pohutukawa shrubland, under stones (2); under bark rotting pohutukawa logs (5); pohutukawa leaf litter near landing, P/s sample 119 (1 ♂).

Family IDEOBISIIDAE (1)

Ideobisium peregrinum Chamb.

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (2 ♂♂, 2 ♀♀, 2 nymphs).

Order ARANEAE (10) (Det. by R. R. Forster)

Family EPEIRIDAE (2)

Aranea sp.

Ohauora: landing (1); pohutukawa forest (1).

Aranea pustulosa

Ohauora: (1), 21.XI.1964, M. A. Crozier; pohutukawa forest (2).

Family CLUBIONIDAE (1)

Clubiona sp.

Otaketake: inside tent (1), 22.XI.1964, M. A. Crozier.

Family LINYPHIIDAE (1)

sp.

Otaketake: (1), 17.XI.1964, C. J. Robertson.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (several), P/s sample 119 (several); *Histiopteris* leaf litter, P/s sample 120 (several), P/s sample 121 (several).

Family AGALENIDAE (1)

sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (several); *Histiopteris* leaf litter, P/s sample 120 (several), P/s sample 121 (several); wet pohutukawa leaf litter at top of forest, P/s sample 131 (3).

Family DICTYNIDAE (2)

sp. A

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (several); *Histiopteris* leaf litter, P/s sample 120 (several), P/s sample 121 (several); pohutukawa leaf litter in shrubland, P/s sample 128 (1).

sp. B

Otaketake: (1), 17.XI.1964, C. J. Robertson.

Family SALTICIDAE (1)

sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133 (1).

Family LYCOSIDAE (1)

sp.

Crater Bay: under *Disphyma* (1).

Otaketake: (3), 19-22.XI.1964, C. J. Robertson.

Ohauora: low plants and grass above gannetry, P/s sample 124 (2).

Crater rim: S.W. side, 244 m (800 ft) (1), 6.XII.1966, L. Carter.

Family THERIDIIDAE (1)

Pholcomma sp.

Ohauora: bark on rotting pohutukawa log, P/s sample 126 (1).

Subclass ACARI (31)

(Det. by M. Luxton)

Order CRYPTOSTIGMATA (15)

Family CAMISIIDAE (1)

Platynothrus tenuiclava Hammer, 1966Ohauora: *Coprosma* leaf litter, P/s sample 132, P/s sample 133.

Family TRHYPOCHTHONIIDAE (1)

Allonothrus n. sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127; *Coprosma* leaf litter, P/s sample 133.

Family CARABODIDAE (1)

Austrocarabodes nodosus Hammer, 1966

Ohauora: *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127.

Family PHTHIRACARIDAE (1)

Holophorella n. sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 118; *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 131.

Family ORIBATULIDAE (3)

Ingella n. sp.

Ohauora: bark on rotting pohutukawa log, P/s sample 126; *Coprosma* leaf litter, P/s sample 133.

Totobates ovalis Hammer, 1967

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131.

Scheloribates conjuges Hammer, 1967

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131.

Family MYCOBATIDAE (1)

Anellozetes longicaulis Hammer, 1967

Ohauora: rotten pohutukawa log, P/s sample 127.

Family METRIOPPIIDAE (1)

Pseudoceratoppia microsetosa Hammer, 1967

Ohauora: rotten pohutukawa log, P/s sample 127.

Family SUCTOBELBIDAE (1)

Zeasuctobelba trinodosa Hammer, 1966

Ohauora: *Histiopteris* leaf litter, P/s sample 121.

Family OPPIIDAE (5)

Amerioppia n. sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; rotten pohutukawa log, P/s sample 127; *Coprosma* leaf litter, P/s sample 133.

Oppia n. sp. 1

Ohauora: pohutukawa leaf litter near landing, P/s sample 118, P/s sample 119; *Histiopteris* leaf litter, P/s sample 121; wet pohutukawa leaf litter at top of forest, P/s sample 131.

Oppia n. sp. 2

Ohauora: *Histiopteris* leaf litter, P/s sample 121.

Globoppia n. sp. 1

Ohauora: pohutukawa leaf litter near landing, P/s sample 118, P/s sample 119; *Histiopteris* leaf litter, P/s sample 121; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 130, P/s sample 131; *Coprosma* leaf litter, P/s sample 132.

Globoppia n. sp. 2

Ohauora: pohutukawa leaf litter near landing, P/s sample 118; *Histiopteris* leaf litter, P/s sample 120; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 131; *Coprosma* leaf litter, P/s sample 133.

Order METASTIGMATA (1)

Family IXODIDAE (1) (Det. by L. J. Dumbleton)

Ixodes eudyptidis Mask.

Ohauora: gannetry, under stone (4♂♂, 2♀♀, 3 nymphs); rotten pohutukawa log, P/s sample 127.

Order MESOSTIGMATA (12)

Family LIROASPIDAE (1)

Epicroseius n. sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; *Histiopteris* leaf litter, P/s sample 121; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 131; *Coprosma* leaf litter, P/s sample 133.

Family UROPODIDAE (2)

sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; guano and debris under stones in gannetry, P/s sample 122; low plants and grass above gannetry, P/s sample 124, P/s sample 125; bark on rotting pohutukawa log, P/s sample 126; rotten pohutukawa log, P/s sample 127; pohutukawa leaf litter in shrubland, P/s sample 129; wet pohutukawa leaf litter at top of forest, P/s sample 131.

sp.

Ohauora: *Histiopteris* leaf litter, P/s sample 120.

Family RHODACARIDAE (2)

Digamasellus n. sp.

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131.

Cyrtolaelaps n. sp.

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; *Histiopteris* leaf litter, P/s sample 120, P/s sample 121; low plants and grass above gannetry, P/s sample 124; rotten pohutukawa log, P/s sample 127; wet pohutukawa leaf litter at top of forest, P/s sample 131.

Family PHYTOSEIIDAE (1)

Amblyseius sp.

Ohauora: low plants and grass above gannetry, P/s sample 125.

Family MACROCHELIDAE (1)

Macrocheles aff. **matrius** (Hull, 1925)

Ohauora: guano and debris under stones in gannetry, P/s sample 122.

Family BLATTISOCIIDAE (1)

Lasioseius n. sp.

Ohauora: bark on rotting pohutukawa log, P/s sample 126.

Family AMEROSEIIDAE (1)

Ameroseius aff. **ornatus** Womersley, 1956

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131; *Coprosma* leaf litter, P/s sample 133.

Family DERMANYSSIDAE (3)

Cosmolaelaps n. sp. 1

Ohauora: *Coprosma* leaf litter, P/s sample 132, P/s sample 133.

Cosmolaelaps n. sp. 2

Ohauora: bark on rotting pohutukawa log, P/s sample 126; rotten pohutukawa log, P/s sample 127.

? **Gaeolaelaps** sp.

Ohauora: *Coprosma* leaf litter, P/s sample 133.

Order PROSTIGMATA (1)

Family PYEMOTIDAE (1)

Pyemotes sp.

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131.

Order ASTIGMATA (2)

Family TYROGLYPHIDAE (1)

Tyrophagus longior (Gervais, 1844)

Ohauora: pohutukawa leaf litter near landing, P/s sample 119; *Coprosma* leaf litter, P/s sample 133.

Superfamily CANESTRINIOIDEA (1)

sp.

Ohauora: guano and debris under stones in gannetry, P/s sample 122, P/s sample 123.

ECOLOGY

Only a brief examination of communities and associations was possible in the time available on White Island. However, because of the nature of the island, the information gained is collated here. The Otaketake collections were made by a previous expedition.

In Crater Bay, debris on the shore, clumps of iceplant (*Disphyma australe* (Sol.) J. M. Black), and the crater floor, were examined. At Ohauora, several different communities and associations were examined. Schematic diagrams of the area are presented in Figs. 4-6, and approximate sites where samples were taken are indicated. Collecting and sampling were carried out from the rocky shore landing place via a gannetry (of the australasian gannet, *Sula bassana serrator*) and pohutukawa forest to the pohutukawa shrubland and back by a different route. The Ohauora data, in the following lists, are arranged more or less from the shore, inland.

Near the landing, samples were taken from debris in a small rock fall, from leaf litter under pohutukawa trees (*Metrosideros excelsa* Sol.), and from leaf litter under fern (*Histiopteris incisa* J. Sm.) in a small glade. Beside the gannetry, which was on a small headland, was a thicket of *Coprosma repens* Rich. (Fig. 7); this and the gannetry were sampled. Samples were also taken from a narrow strip of grass and low plants between the gannetry and the pohutukawa forest, and from rotting pohutukawa logs at the edge of the forest (Fig. 8). The trees in the forest are up to 14 m (45 ft) in height, with fern and rotting branches beneath (Fig. 9), and the forest extends over most of the lower slopes as far inland as a sharp rise, which in one place is a 9 m (30 ft) cliff. Above this is the pohutukawa shrubland on the lower part of the upper slopes (Fig. 10). Leaf litter samples were taken in the shrubland and in a small wet patch of deep litter in a channel in the upper part of the forest.

Crater Bay.

sp.	(Diptera: Dolichopodidae)	(1)
<i>Lonchoptera dubia</i>	(Diptera: Lonchopteridae)	(1)
<i>Syrphus novaezealandiae</i>	(Diptera: Syrphidae)	(1)
<i>Haplomyza</i> (?) sp.	(Diptera: Agromyzidae)	(1)
<i>Chaetocoelopa littoralis</i>	(Diptera: Phycodromidae)	(1)
<i>Lasiopleura wisei</i>	(Diptera: Chloropidae)	(3)
<i>Hecamede femoralis</i>	(Diptera: Ephydriidae)	(2)
<i>Neoscatella vittithorax</i>	(Diptera: Ephydriidae)	(4)
<i>Leptocera knightae</i>	(Diptera: Borboridae)	(21)
<i>Calliphora laemica</i>	(Diptera: Calliphoridae)	(1)
spp.	(Diptera: Muscidae)	(1)
<i>Paracolletes</i> sp. (? <i>boltoni</i>)	(Hymenoptera: Colletidae)	(1)

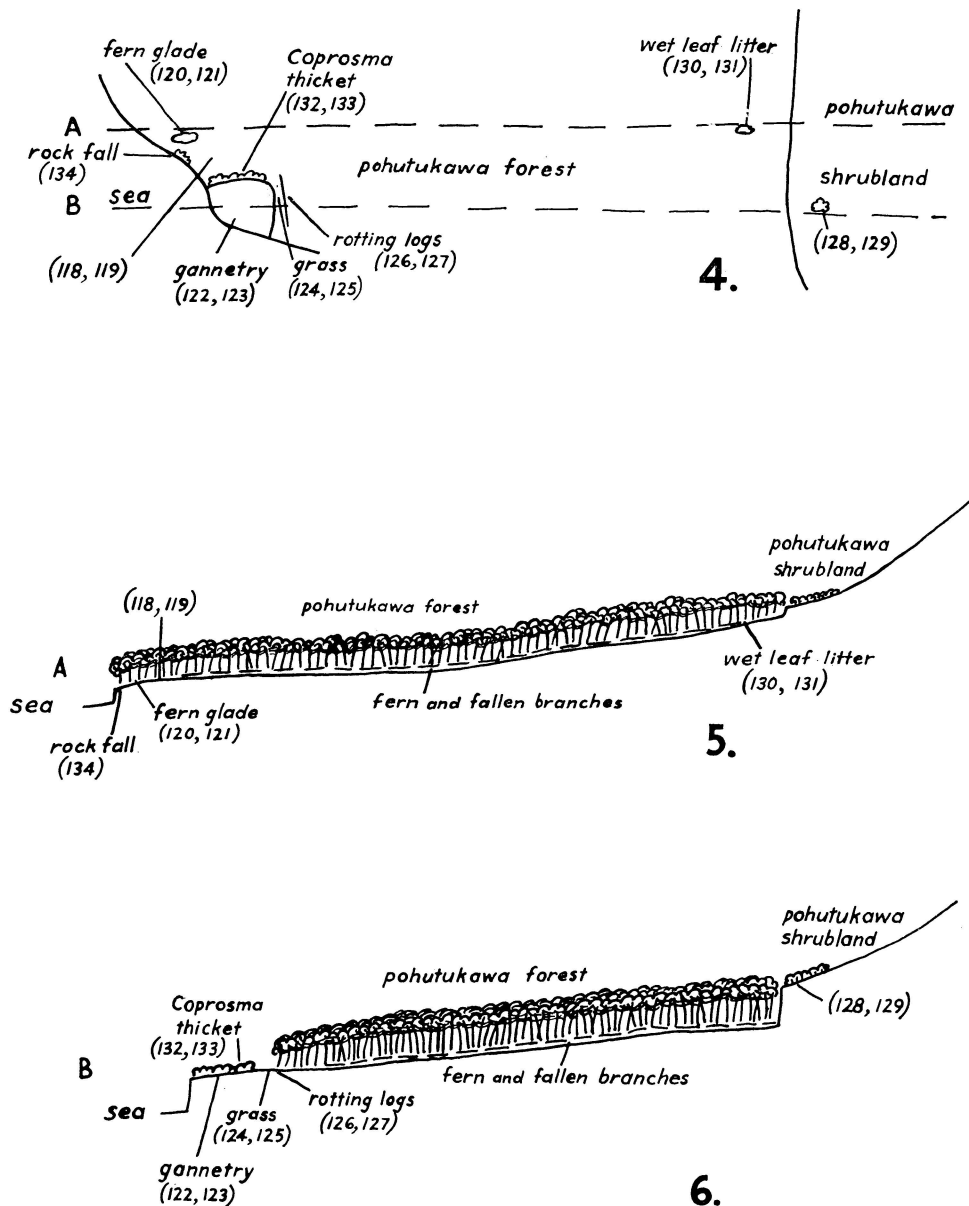


Fig. 4-6. Schematic diagrams of Ohauora. (Numbers in brackets are P/s sample numbers.)
4. Map view, positions of profiles A, B, shown. 5. Profile A. 6. Profile B.



Fig. 7. *Coprosma repens* thicket beside ganetry.



Fig. 8. Grass strip above ganetry, rotting logs and branches at edge of pohutukawa forest.



F'g. 9. Pohutukawa forest with rotting branches and fern beneath.

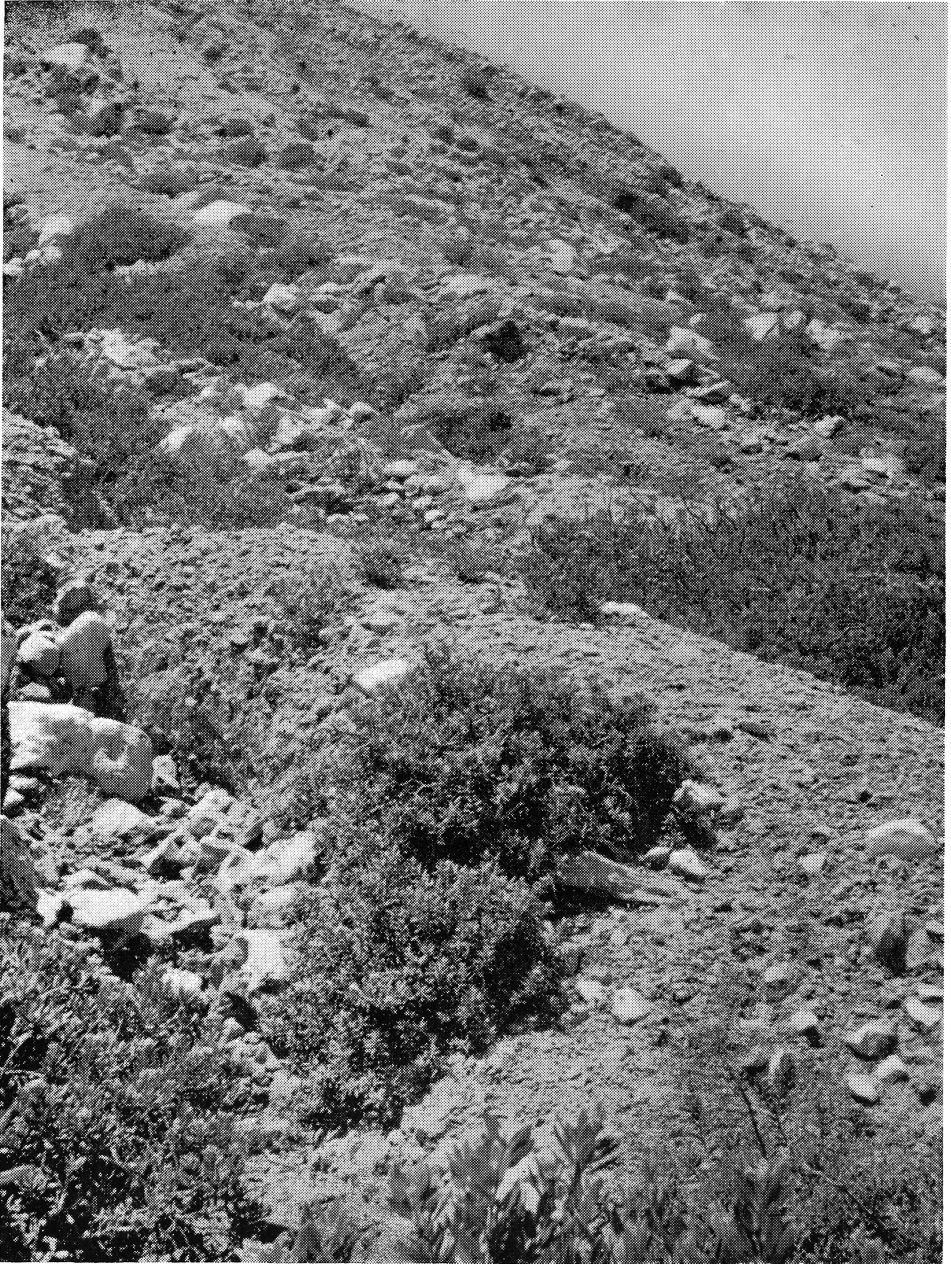


Fig. 10. Pohutukawa shrubland.

Crater Bay: under *Disphyma*.

<i>Anisolabis littorea</i>	(Dermaptera: Labiduridae)	(1)
<i>Xanthorhoe rosearia</i>	(Lepidoptera: Geometridae)	(1 ♀, 1 pupa)
<i>Chelaner antarcticus</i>	(Hymenoptera: Formicidae)	(15 workers)
sp.	(Araneae: Lycosidae)	(1)

Crater Bay: under wood.

<i>Anisolabis littorea</i>	(Dermaptera: Labiduridae)	(2)
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Crater Bay: *Disphyma australe* and litter, P/s sample 117 (funnel extraction with top heat).

<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(8)
sp. B	(Hemiptera: Aphididae)	(1 nymph)
sp.	(Thysanoptera: Thripidae)	(1)
<i>Xanthorhoe rosearia</i>	(Lepidoptera: Geometridae)	(7 larvae)
<i>Holoparamesus</i> spp.	(Coleoptera: Microphysiidae)	

Crater Bay: flying at night.

<i>Philanisus plebeius</i>	(Trichoptera: Philanisiidae)	(1 ♀)
sp.	(Diptera: Tipulidae)	(5)
<i>Chaetocoelopa littoralis</i>	(Diptera: Phycodromidae)	(1)
<i>Paracolletes</i> sp. (? <i>boltoni</i>)	(Hymenoptera: Colletidae)	(1)

Otaketake.

<i>Anisolabis littorea</i>	(Dermaptera: Labiduridae)	(1)
<i>Monopsis ethelella</i>	(Lepidoptera: Tineidae)	(1 ♀)
sp.	(Diptera: Tipulidae)	(1)
sp.	(Diptera: Tipulidae)	(4)
sp.	(Diptera: Sciaridae)	(3)
<i>Eristalis tenax</i>	(Diptera: Syrphidae)	(1)
<i>Chaetocoelopa littoralis</i>	(Diptera: Phycodromidae)	(1)
<i>Lasiopleura wisei</i>	(Diptera: Chloropidae)	(3)
<i>Calliphoroides antennatus</i>	(Diptera: Muscidae)	(1)
spp.	(Diptera: Muscidae)	(4)
<i>Chelaner antarcticus</i>	(Hymenoptera: Formicidae)	(2 workers)
sp.	(Amphipoda: ?)	(1)
<i>Clubiona</i> sp.	(Araneae: Clubionidae)	(1)
sp.	(Araneae: Linyphiidae)	(1)
sp. B	(Araneae: Dictynidae)	(1)
sp.	(Araneae: Lycosidae)	(3)

Ohauora.

<i>Entomobrya</i> sp. A	(Collembola: Entomobryidae)	(1)
<i>Calliphora laemica</i>	(Diptera: Calliphoridae)	(1)
sp.	(Diptera: ?)	(1 larva)
<i>Aranea pustulosa</i>	(Araneae: Epeiridae)	(1)

Ohauora: shore.

<i>Opifex fuscus</i>	(Diptera: Culicidae)	(2, 6 pupae, 3 larvae)
sp.	(Diptera: Sciaridae)	(2)
<i>Abatetia</i> sp.	(Diptera: Dolichopodidae)	(10)
<i>Heloclusia aristata</i>	(Diptera: Helomyzidae)	(2)
<i>Chaetocoelopa littoralis</i>	(Diptera: Phycodromidae)	(4)
<i>Lasiopleura wisei</i>	(Diptera: Chloropidae)	(29)
<i>Hydrellia tritici</i>	(Diptera: Ephydriidae)	(2)
<i>Neoscatella vittithorax</i>	(Diptera: Ephydriidae)	(2)
<i>Asteia levis</i>	(Diptera: Asteiidae)	(1)
<i>Scaptomyza flavella</i>	(Diptera: Drosophilidae)	(4)

<i>Calliphora icela</i>	(Diptera: Calliphoridae)	(1)
sp.	(Diptera: Muscidae)	(2)
sp.	(Diptera: ?)	(8)
<i>Crabro</i> sp.	(Hymenoptera: Crabronidae)	(1)
<i>Chrysocharis</i> sp.	(Hymenoptera: Eulophidae)	(1)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	(1)
<i>Aranea</i> sp.	(Araneae: Epeiridae)	(1)

Ohauora: landing, at *Disphyma* flowers.

<i>Paracolletes</i> sp. (? <i>boltoni</i>)	(Hymenoptera: Colletidae)	(3)
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Ohauora: soil and debris at rock fall, P/s sample 134 (cold funnel extraction).

<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(3)
<i>Entomobrya</i> sp. A	(Collembola: Entomobryidae)	(3)
<i>Eपुरaea</i> sp.	(Coleoptera: Nitidulidae)	(1)

Ohauora: pohutukawa leaf litter near landing, P/s sample 118 (funnel extraction with top heat).

sp.	(Oligochaeta: ?)	
<i>Siphonophora</i> sp.	(Platydesmiformia: Siphonophoridae)	
sp.	(Polydesmida: Dalodesmidae)	
<i>Neanura novaezealandiae</i>	(Collembola: Neanuridae)	(4)
<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(3)
sp.	(Hemiptera: Pseudococcidae)	(1)
sp.	(Diptera: Sciaridae)	(5)
sp.	(Diptera: Cecidomyiidae)	(2)
spp.	(Coleoptera: Carabidae)	(larvae)
sp.	(Coleoptera: Staphylinidae)	(larvae)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(2 ♂ ♂, 1 ♀, 1 nymph)
sp.	(Araneae: Linyphiidae)	(several)
sp.	(Araneae: Agelenidae)	(several)
sp. A	(Araneae: Dictynidae)	(several)
<i>Holophorella</i> n. sp.	(Cryptostigmata: Phthiracaridae)	
<i>Oppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	

Ohauora: pohutukawa leaf litter near landing, P/s sample 119 (cold funnel extraction).

<i>Diporochaeta obtusa</i>	(Oligochaeta: Megascolecidae)	(1 clitellate, 1 aclitellate)
sp.	(Polydesmida: Dalodesmidae)	
sp.	(Lithobiomorpha: Henicopidae)	(1)
<i>Entomobrya</i> sp. B	(Collembola: Entomobryidae)	(2)
sp.	(Diptera: Sciaridae)	(2)
sp.	(Diptera: Cecidomyiidae)	(8)
<i>Antipodophora</i> sp.	(Diptera: Phoridae)	(6)
<i>Mecyclothorax rotundicollis</i>	(Coleoptera: Carabidae)	(1)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Staphylinidae)	(larvae)
sp.	(Coleoptera: Elateridae)	(1 larva)
<i>Holoparamesus</i> spp.	(Coleoptera: Merophsidae)	
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	
sp.	(Amphipoda: ?)	(1)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(6 ♂ ♂, 5 ♀ ♀)
<i>Euryolpium</i> (<i>Antiolpium</i>) <i>zealandense</i>	(Pseudoscorpiones: Olpiidae)	(1 ♂)
sp.	(Araneae: Linyphiidae)	(several)
<i>Amerioppia</i> n. sp.	(Cryptostigmata: Oppiidae)	
<i>Oppia</i> sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspididae)	
sp.	(Mesostigmata: Europodidae)	
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)	
<i>Tyrophagus longior</i>	(Astigmata: Tyroglyphidae)	

Ohauora: *Histiopteris* leaf litter, P/s sample 120 (funnel extraction with top heat).

sp.	(Polydesmida: Dalodesmidae)	
sp.	(Lithobiomorpha: Henicopidae)	(8)
<i>Musotima</i> sp.	(Lepidoptera: Pyralidae)	(1 larva)
<i>Amblyopone saundersi</i>	(Hymenoptera: Formicidae)	(1 worker)
sp.	(Hymenoptera: Diaprididae)	(1 ♀)
<i>Nemaglossa atriceps</i>	(Coleoptera: Carabidae)	
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Elateridae)	(1 larva)
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(13 ♂♂, 2 ♀♀)
<i>Ideobisium peregrinum</i>	(Pseudoscorpiones: Ideobisiidae)	(2 ♂♂, 2 ♀♀, 2 nymphs)
sp.	(Araneae: Linyphiidae)	(several)
sp.	(Araneae: Agalenidae)	(several)
sp. A	(Araneae: Dictynidae)	(several)
<i>Allonothrus</i> n. sp.	(Cryptostigmata: Trhypochthoniidae)	
<i>Austrocarabodes nodosus</i>	(Cryptostigmata: Carabodidae)	
<i>Holophorella</i> n. sp.	(Cryptostigmata: Phthiracaridae)	
<i>Amerioppia</i> n. sp.	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	
sp.	(Mesostigmata: Uropodidae)	
sp.	(Mesostigmata: Uropodidae)	
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)	

Ohauora: *Histiopteris* leaf litter, P/s sample 121 (cold funnel extraction).

sp.	(Oligochaeta: ?)	
<i>Siphonophora</i> sp.	(Platydesmiformia: Siphonophoridae)	
sp.	(Polydesmida: Dalodesmidae)	
sp.	(Geophilomorpha: Geophilidae)	
sp.	(Lithobiomorpha: Henicopidae)	(13)
<i>Pseudachorutes</i> sp.	(Collembola: Neanuridae)	(2)
<i>Neanura novaezealandiae</i>	(Collembola: Neanuridae)	(6)
<i>Folsomia onychiurina</i>	(Collembola: Isotomidae)	(1)
<i>Entomobrya</i> sp. B	(Collembola: Entomobryidae)	(3)
<i>Liposcelis</i> sp. A	(Psocoptera: Liposcelidae)	(2)
<i>Liposcelis</i> sp. B	(Psocoptera: Liposcelidae)	(1)
<i>Amphibolothrips (Verrucothrips)</i> sp.	(Thysanoptera: Phlaeothripidae)	(1)
<i>Borkhausenia</i> sp. ?	(Lepidoptera: Oecophoridae)	(3 larvae)
sp.	(Diptera: Sciaridae)	(7)
sp.	(Diptera: Cecidomyiidae)	(7)
<i>Antipodophora</i> sp.	(Diptera: Phoridae)	(3)
sp.	(Diptera: ?)	(7 larvae)
<i>Amblyopone saundersi</i>	(Hymenoptera: Formicidae)	(1 worker)
<i>Camptoptera</i> sp.	(Hymenoptera: Mymaridae)	(5 ♀♀)
sp.	(Hymenoptera: Ceraphronidae)	(3 ♂♂, 6 ♀♀)
<i>Nemaglossa atriceps</i>	(Coleoptera: Carabidae)	
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Scydmaenidae)	(1)
sp.	(Coleoptera: Pselaphidae)	(2)
<i>Lathridius</i> spp.	(Coleoptera: Lathridiidae)	(1)
<i>Melanophthalma</i> sp.	(Coleoptera: Lathridiidae)	(1)
sp.	(Coleoptera: Lathridiidae)	(3 larvae)
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	
spp.	(Coleoptera: Colydiidae)	(larvae)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(10 ♂♂, 11 ♀♀, 10 nymphs)
sp.	(Araneae: Linyphiidae)	(several)
sp.	(Araneae: Agalenidae)	(several)
sp. A	(Araneae: Dictynidae)	(several)
<i>Allonothrus</i> n. sp.	(Cryptostigmata: Trhypochthoniidae)	
<i>Austrocarabodes nodosus</i>	(Cryptostigmata: Carabodidae)	
<i>Holophorella</i> n. sp.	(Cryptostigmata: Phthiracaridae)	
<i>Zeasuctobelba trinodosa</i>	(Cryptostigmata: Suctobelbidae)	

<i>Ameriopppia</i> n. sp.	(Cryptostigmata: Oppiidae)
<i>Oppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)
<i>Oppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspididae)
sp.	(Mesostigmata: Europodidae)
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)

Ohauora: *Coprosma* leaf litter, P/s sample 132 (funnel extraction with top heat).

<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(2)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Nitidulidae)	(larvae)
<i>Platynothrurus tenuiclava</i>	(Cryptostigmata: Camisiidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Cosmolaelaps</i> n. sp. 1	(Mesostigmata: Dermanyssidae)	

Ohauora: *Coprosma* leaf litter, P/s sample 133 (cold funnel extraction).

<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(35)
<i>Entomobrya</i> sp. B	(Collembola: Entomobryidae)	(2)
<i>Sperchia intractana</i>	(Lepidoptera: Tortricidae)	(1 ♂)
sp.	(Diptera: Cecidomyiidae)	(1)
<i>Diponevra</i> sp. nr. <i>caudata</i>	(Diptera: Phoridae)	(1)
<i>Heloclusia aristata</i>	(Diptera: Helomyzidae)	(1)
<i>Leptocera heteroneura</i>	(Diptera: Borboridae)	(1)
sp.	(Hymenoptera: Diapriidae)	(1 ♂, 2 ♀ ♀)
<i>Camptoptera</i> sp.	(Hymenoptera: Mymaridae)	(1 ♀)
<i>Camptoptera</i> sp.	(Hymenoptera: Mymaridae)	(1 ♂)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Staphylinidae)	(2)
sp.	(Coleoptera: Staphylinidae)	(larvae)
<i>Epuraea</i> sp.	(Coleoptera: Nitidulidae)	(2)
sp.	(Coleoptera: Nitidulidae)	(larvae)
sp.	(Coleoptera: Corylophidae)	(1)
sp.	(Coleoptera: Corylophidae)	(1 larva)
<i>Lathridius</i> spp.	(Coleoptera: Lathridiidae)	(1)
<i>Melanophthalma</i> sp.	(Coleoptera: Lathridiidae)	(1)
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	
sp.	(Coleoptera: Curculionidae)	(1 larva)
sp.	(Araneae: Salticidae)	(1)
<i>Platynothrurus tenuiclava</i>	(Cryptostigmata: Camisiidae)	
<i>Allonothrus</i> n. sp.	(Cryptostigmata: Trhypochthoniidae)	
<i>Ingeila</i> n. sp.	(Cryptostigmata: Oribatulidae)	
<i>Ameriopppia</i> n. sp.	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspididae)	
<i>Ameroseius</i> aff. <i>ornatus</i>	(Mesostigmata: Ameroseiidae)	
<i>Cosmolaelaps</i> n. sp. 1	(Mesostigmata: Dermanyssidae)	
? <i>Gaeolaelaps</i> sp.	(Mesostigmata: Dermanyssidae)	
<i>Tyrophagus longior</i>	(Astigmata: Tyroglyphidae)	

Ohauora: gannetry, swept.

sp.	(Diptera: Sciaridae)	(1)
<i>Calliphora icela</i>	(Diptera: Calliphoridae)	(1)
<i>Coccinella undecimpunctata</i>	(Coleoptera: Coccinellidae)	(1)

Ohauora: gannetry, under stones.

<i>Anisolabis littorea</i>	(Dermaptera: Labiduridae)	(6)
sp.	(Diptera: ?)	(1 pupa)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	(2)
sp.	(Coleoptera: Curculionidae)	(1)
<i>Ixodes eudyptidis</i>	(Megastigmata: Ixodidae)	(4 ♂ ♂, 2 ♀ ♀, 3 nymphs)

Ohauora: guano and debris under stones in gannetry, P/s sample 122 (funnel extraction with top heat).

sp.	(Diptera: Cecidomyiidae)	(1)
<i>Chelaner antarcticus</i>	(Hymenoptera: Formicidae)	(1 worker)
sp.	(Mesostigmata: Uropodidae)	
<i>Macrocheles</i> aff. <i>matrius</i>	(Mesostigmata: Macrochelidae)	
sp.	(Astigmata: ?)	

Ohauora: guano and debris under stones in gannetry, P/s sample 123 (cold funnel extraction).

<i>Diponevra</i> sp. nr. <i>caudata</i>	(Diptera: Phoridae)	(2)
sp.	(Astigmata:)	

Ohauora: low plants and grass above gannetry, P/s sample 124 (funnel extraction with top heat).

sp.	(Lithobiomorpha: Henicopidae)	(1)
sp. A	(Hemiptera: Aphididae)	(1 nymph)
sp.	(Diptera: Sciaridae)	(2)
<i>Strumigenys perplexa</i>	(Hymenoptera: Formicidae)	(1 worker)
<i>Mymar pulchellum</i>	(Hymenoptera: Mymaridae)	(1)
<i>Hemiptarsenus</i> sp.	(Hymenoptera: Eulophidae)	(1 ♂)
<i>Melanophthalma</i> sp.	(Coleoptera: Lathridiidae)	(1)
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	
sp.	(Amphipoda: ?)	(2)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(1 ♂, 1 nymph)
sp.	(Araneae: Lycosidae)	(2)
<i>Allonothrus</i> n. sp.	(Cryptostigmata: Trhypochthoniidae)	
<i>Austrocarabodes nodosus</i>	(Cryptostigmata: Carabodidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspidae)	
sp.	(Mesostigmata: Uropodidae)	
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)	

Ohauora: low plants and grass above gannetry, P/s sample 125 (cold funnel extraction).

sp. A	(Hemiptera: Aphididae)	(1 nymph)
<i>Aptinothrips rufus</i>	(Thysanoptera: Thripidae)	(4)
<i>Proternia philocapna</i>	(Lepidoptera: Pyralidae)	(1)
sp.	(Hymenoptera: Diapriidae)	(1 ♀)
spp.	(Coleoptera: Colydiidae)	(larvae)
sp.	(Mesostigmata: Uropodidae)	
<i>Amblyseius</i> sp.	(Mesostigmata: Phytoseiidae)	

Ohauora: under bark of rotting pohutukawa logs.

<i>Euophryum rufum</i>	(Coleoptera: Curculionidae)	(1)
? <i>Euophryum</i>	(Coleoptera: Curculionidae)	(2)
<i>Euryolpium</i> (<i>Antiolpium</i>) <i>zealandiense</i>	(Pseudoscorpiones: Olpiidae)	(5)

Ohauora: bark on rotting pohutukawa log, P/s sample 126 (funnel extraction with top heat).

<i>Entomobrya</i> sp. A	(Collembola: Entomobryidae)	(9)
<i>Liposcelis</i> sp. C	(Psocoptera: Liposcelidae)	(2)
sp.	(Psocoptera: Trogidae)	(1)
sd.	(Coleoptera: Ptilidae)	(1)
<i>Holoparamesus</i> spp.	(Coleoptera: Merophysiidae)	
sp.	(Coleoptera: Colydiidae)	(2)
<i>Pholcomma</i> sp.	(Araneae: Theridiidae)	(1)
<i>Ingella</i> n. sp.	(Cryptostigmata: Oribatulidae)	
sp.	(Mesostigmata: Uropodidae)	
<i>Lasioseius</i> n. sp.	(Mesostigmata: Blattsociidae)	
<i>Cosmolaelaps</i> n. sp. 2	(Mesostigmata: Dermanyssidae)	

Ohauora: rotten pohutukawa log. P/s sample 127 (cold funnel extraction).

<i>Diporochaeta obtusa</i>	(Oligochaeta: Megascolecidae)	(2 acitellate)
sp.	(Polydesmida: Dalodesmidae)	
sp.	(Geophilomorpha: Geophilidae)	(1)
sp.	(Lithobiomorpha: Henicopidae)	(2)
<i>Pseudachorutes</i> sp.	(Collembola: Neanuridae)	(4)
<i>Neanura novaezealandiae</i>	(Collembola: Neanuridae)	(5)
<i>Parafolsomia</i> sp.	(Collembola: Isotomidae)	(1)
<i>Entomobrya</i> sp. A	(Collembola: Entomobryidae)	(12)
<i>Metriocampa</i> sp.	(Diplura: Campodeidae)	(2)
sp.	(Diptera: Sciaridae)	(6)
sp.	(Diptera: Cecidomyiidae)	(1)
<i>Antipodophora</i> sp.	(Diptera: Phoridae)	(3)
sp.	(Hymenoptera: Ceraphronidae)	(1 ♂, 2 ♀ ♀)
<i>Mesocolon nesobium</i>	(Coleoptera: Anisotomidae)	
sp.	(Coleoptera: Staphylinidae)	(larvae)
<i>Clambus</i> sp.	(Coleoptera: Clambidae)	(1)
<i>Holoparamesus</i> spp.	(Coleoptera: Merophysiidae)	
spp.	(Coleoptera: Merophysiidae)	(larvae)
<i>Europhryum rufum</i>	(Coleoptera: Curculionidae)	(1)
sp.	(Amphipoda: ?)	(1)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(1 nymph)
<i>Allonothrus</i> n. sp.	(Cryptostigmata: Trhypochthoniidae)	
<i>Austrocarabodes nodosus</i>	(Cryptostigmata: Carabodidae)	
<i>Holophorella</i> n. sp.	(Cryptostigmata: Phthiracaridae)	
<i>Anellozetes longicaulis</i>	(Cryptostigmata: Mycobatidae)	
<i>Pseudoceratoppia microsetosa</i>	(Cryptostigmata: Metrioppiidae)	
<i>Amerioppia</i> n. sp.	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	
<i>Ixodes eudyptidis</i>	(Megastigmata: Ixodidae)	
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspidae)	
sp.	(Mesostigmata: Uropodidae)	
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)	
<i>Cosmolaelaps</i> n. sp. 2	(Mesostigmata: Dermanyssidae)	

Ohauora: pohutukawa forest, swept.

<i>Peripsocus</i> sp. ? <i>morulops</i>	(Psocoptera: Caeciliidae)	(1)
<i>Scoparia</i> sp.	(Lepidoptera: Pyralidae)	(1 ♂)
<i>Phrissogonus testulatus</i>	(Lepidoptera: Geometridae)	(1 ♀)
sp.	(Diptera: Mycetophilidae)	(1)
sp.	(Diptera: Sciaridae)	(2)
<i>Tetrachaetus simplex</i>	(Diptera: Dolichopodidae)	(5)
<i>Lasiopleura wisei</i>	(Diptera: Chloropidae)	(1)
<i>Aranea</i> sp.	(Araneae: Epeiridae)	(1)
<i>Aranea pustulosa</i>	(Araneae: Epeiridae)	(2)

Ohauora: pohutukawa forest, on pohutukawa.

sp.	(Hemiptera: Cicadidae)	
<i>Trioxa curta</i>	(Hemiptera: Psyllidae)	(1 ♂, 13 nymphs)
sp.	(Hemiptera: Pseudococcidae)	(1)
<i>Eriococcus</i> sp.	(Hemiptera: Eriococcidae)	(1 ♂, several ♂ tests)

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 130 (funnel extraction with top heat).

sp.	(Lithobiomorpha: Henicopidae)	(1)
sp.	(Coleoptera: Staphylinidae)	(larvae)
sp.	(Amphipoda: ?)	(1)
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	

Ohauora: wet pohutukawa leaf litter at top of forest, P/s sample 131 (cold funnel extraction).

sp.	(Polydesmida: Dalodesmidae)	
sp.	(Lithobiomorpha: Henicopidae)	(2)
<i>Gnatholonche sensilla</i>	(Collembola: Neanuridae)	(1)
<i>Pseudachorutes</i> sp.	(Collembola: Neanuridae)	(4)
<i>Hypogastrura rossi</i>	(Collembola: Hypogastruridae)	(4)
<i>Proisotoma</i> sp.	(Collembola: Isotomidae)	(1)
? <i>Isotoma</i> sp.	(Collembola: Isotomidae)	(1)
<i>Entomobrya</i> sp. A	(Collembola: Entomobryidae)	(3)
<i>Entomobrya</i> sp. B	(Collembola: Entomobryidae)	(4)
<i>Sminthurinus granulatus</i>	(Collembola: Sminthuridae)	(4)
sp.	(Hemiptera: Pseudococcidae)	(2)
sp.	(Diptera: Psychodidae)	(3)
sp.	(Diptera: Sciaridae)	(17)
sp.	(Diptera: Cecidomyiidae)	(10)
<i>Amblyopone saundersi</i>	(Hymenoptera: Formicidae)	(1 queen)
<i>Campioptera</i> sp.	(Hymenoptera: Mymaridae)	(1 ♂)
sp.	(Hymenoptera: Ceraphronidae)	(1 ♂)
<i>Nemaglossa atriceps</i>	(Coleoptera: Carabidae)	
<i>Mecyclothorax rotundicollis</i>	(Coleoptera: Carabidae)	(1)
spp.	(Coleoptera: Carabidae)	(larvae)
sp.	(Coleoptera: Staphylinidae)	(larvae)
<i>Holoparamesus</i> spp.	(Coleoptera: Merophysiidae)	
spp.	(Coleoptera: Merophysiidae)	(larvae)
<i>Lathridius</i> spp.	(Coleoptera: Lathridiidae)	(1)
<i>Melanophthalma</i> sp.	(Coleoptera: Lathridiidae)	(1)
<i>Coxelus</i> spp.	(Coleoptera: Colydiidae)	(1)
<i>Tenebrio obscurus</i>	(Coleoptera: Tenebrionidae)	(1)
sp.	(Amphipoda: ?)	(2)
<i>Austrochthonius inversus</i>	(Pseudoscorpiones: Chthoniidae)	(5 ♂ ♂, 11 ♀ ♀, 8 nymphs)
sp.	(Araneae: Agalenidae)	(3)
<i>Holophorella</i> n. sp.	(Cryptostigmata: Phthiracaridae)	
<i>Totobates ovalis</i>	(Cryptostigmata: Oribatulidae)	
<i>Scheloribates conjuges</i>	(Cryptostigmata: Oribatulidae)	
<i>Oppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 1	(Cryptostigmata: Oppiidae)	
<i>Globoppia</i> n. sp. 2	(Cryptostigmata: Oppiidae)	
<i>Epicroseius</i> n. sp.	(Mesostigmata: Liroaspidae)	
sp.	(Mesostigmata: Uropodidae)	
<i>Digamasellus</i> n. sp.	(Mesostigmata: Rhodacaridae)	
<i>Cyrtolaelaps</i> n. sp.	(Mesostigmata: Rhodacaridae)	
<i>Ameroseius</i> aff. <i>ornatus</i>	(Mesostigmata: Ameroseiidae)	
<i>Pyemotes</i> sp.	(Prostigmata: Pyemotidae)	

Ohauora: pohutukawa shrubland, under stones.

<i>Euryolpium (Antiolpium) zealandiense</i>	(Pseudoscorpiones: Olpiidae)	(2)
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Ohauora: pohutukawa leaf litter in shrubland, P/s sample 128 (funnel extraction with top heat).

sp. A	(Araneae: Dictynidae)	(1)
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Ohauora: pohutukawa leaf litter in shrubland, P/s sample 129 (cold funnel extraction).

sp.	(Hemiptera: Pseudococcidae)	(1)
<i>Aptinothrips rufus</i>	(Thysanoptera: Thripidae)	(1)
sp.	(Mesostigmata: Uropodidae)	

Crater rim.

<i>Saprinus</i> sp. aff. <i>pseudocyaneus</i>	(Coleoptera: Histeridae)	(1)
<i>Coccinella undecimpunctata</i>	(Coleoptera: Coccinellidae)	
sp.	(Araneae: Lycosidae)	(1)

DISCUSSION

General indications, from specialists and from personal knowledge of the author, are that the White Island fauna is derived from the New Zealand mainland. As there is a west-wind drift over New Zealand, this is to be expected. Although some of the White Island specimens belong to undescribed species, this is probably because of insufficient knowledge of mainland faunas or, as is known for other off-shore islands, the island is a refuge for species now rare on, or absent from, the mainland. Only a very small area of the island was examined for a brief period and it is expected that the fauna contains many more terrestrial invertebrate species than the 162 listed here. A marine littoral caddis-fly and a supra-littoral mosquito have been retained in the above lists, as they belong to essentially terrestrial groups.

From direct observation, two occurrences are most interesting. The only non-flying insect found to penetrate the crater valley, beyond the shore line, was an immature earwig. This may have been living on wind-blown debris. At Ohauora, pseudoscorpions were found, together with remains of beetles, under stones in the pohutukawa shrubland. The pseudoscorpions may be the dominant animals of this zone, living on stray or wind-blown insects from the adjacent forest, although it is possible that they share this food supply with scavenging or predatory beetles.

The 18 Plant/soil samples, taken on the island, yielded most of the specimens recorded here. In some cases, e.g., samples 130, 131, the difference between the two extraction methods is marked and the top-heat extraction has removed only the most mobile forms, as expected. However, in others, e.g., samples 118, 119, this has not happened to such a marked degree, and in some, e.g., samples 124, 125, the cold funnel has extracted fewer species although some are different from those taken per the top-heated funnel. It appears, in fact, that the two extraction methods complement each other.

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