Terrestrial arthropods from the Poor Knights Islands, New Zealand

J. Charles Watt

The paper lists records of adult and immature stages of terrestrial arthropods so far collected from the Poor Knights Islands, to the east of the North Auckland Peninsula. Most collections are from Tawhiti Rahi; 24 orders and 273 species are recorded for the first time.

Five new combinations are made within the Coleoptera. A biogeographic analysis indicates that 16% of the species recorded are either probably or possibly endemic, owing to the lack of a mainland link in the last glaciation.

Ecological data are summarised, certain and possible plant associations are recorded, and suggestions for further research are made.

INTRODUCTION

This paper has two purposes: firstly, to record all terrestrial arthropods collected during the Offshore Islands Research Group (OIRG) expedition to Tawhiti Rahi, Poor Knights Islands, during 6-12 September 1980. The second aim is to provide an account of the collecting methods used and the sites examined during this expedition.

The Poor Knights Islands lie approximately 26 km northeast of Tutukaka, Northland, New Zealand. Tawhiti Rahi, the northern-most and largest island, has an area of approximately 145 ha, rises to 204 m, and is almost completely girt by cliffs.

Since 1937, when pigs were exterminated on Aorangi, the Poor Knights have been completely free of mammals. The vegetation was extensively modified by Maoris in pre-European times, but the islands were abandoned early last century and have had no permanent residents since. They are now clothed in fairly diverse native coastal forest and scrub. Biologically, they are well known as the only nesting place of Buller’s shearwater, Puffinus bulleri, the original home of the spectacular lily, Xeromema callistemon, and as an important refuge for the tuatara, Sphenodon punctatus, as well as for other reptiles and large, flightless vertebrates. See Hayward and McCallum (in press) for an account of the OIRG Expedition and of the history and topography of the Poor Knights.

All terrestrial arthropods, except some spiders, are held in the N.Z. Arthropod Collection (NZAC), Entomology Division, DSIR, Auckland. In order to make records of beetles as complete as possible, all accessible Poor Knights specimens collected on earlier expeditions and also deposited in NZAC have been recorded. With the exception of type material and of ants from the National Museum, Wellington (NMNZ), the latter already identified and recorded by A. W. Don, the following categories have not been included: material held in the NZAC but not covered in Somerfield (1973) and Poor Knights material held in the Auckland Institute and Museum (AMNZ) and the National Museum.

During 30 November-12 December 1980, a party of five entomologists from Entomology Division, DSIR, and Mr K. A. J. Wise from the Auckland Museum, visited Tawhiti Rahi. As all material from that and from the November 1981 visit to Aorangi has not been processed at the time of preparing this account, records from these visits are excluded. All orders known to occur on the Poor Knights Islands are listed in Table 1, to give an idea of the total fauna. The table lists 24 orders for the first time, although the

* Entomology Division, DSIR, Private Bag, Auckland, New Zealand.
presence of some (e.g., Lepidoptera and Chilopoda) was obvious to many previous visitors to the islands. The 348 species now known from the islands (a more than ten-fold increase over previous records) are still unlikely to represent more than half the total fauna and may be a considerably smaller proportion. Previous records of insects from the Poor Knights are the descriptions of wasps by Salmon (1950) and Richards (1962), of a giant weevil by Spiller (1942), and a list of 27 species of insect by Somerfield (1973). For the sake of completeness, all previous published records are included in the account below.

METHODS, CONVENTIONS, AND ABBREVIATIONS

Original data are all recorded in full at Entomology Division. In the list below, they are summarised and partly abbreviated. Where a collecting period spans parts of two months, all records are arbitrarily assigned to one month, as noted. Records are from Tawhitirahi unless specifically stated as from Aorangi or Motu Kapiti. Apparently there has been no collecting on any of the other islands of the group.

Summary of collecting

March 1934; A. W. B. Powell; Tawhitirahi.
20-29 November 1940; E. G. Turbott; Aorangi; AMNZ.
15-24 January 1943; Majors Budle and Wilson; Tawhitirahi.
28 December 1955-12 January 1956 ("Jan. 1956"); J. C. Watt; Tawhitirahi, with one day (9 January) on Aorangi; collecting by beating, turning logs and stones, and cutting up dead wood; almost exclusively adult Coleoptera collected.
24 April 1961; F. J. Newhook; Aorangi, Tawhitirahi.
28 October-3 November 1965 ("Nov. 1965"); K. G. Somerfield; Tawhitirahi, Motu Kapiti; collecting mainly by hand; larger insects (see Somerfield, 1973).
28 April 1970, 10 August 1970; B. M. May; Tawhitirahi; mostly specialised collecting for beetle larvae.
18-23 November 1973; L. C. Hudson; Aorangi; NMNZ.
December 1973; C. R. Veitch; Tawhitirahi; litter samples (see below).
6-12 September 1980; most specimens collected by J. C. Watt; others by I. A. E. Atkinson, F. Brook, D. H. Court, R. V. Grace, B. W. Hayward, J. McCallum, A. E. Wright; Tawhitirahi; two malaise traps, 12 pit traps, five pan traps, seven unsifted litter samples (see below); beating, turning logs and stones, digging in soil, stripping dead bark and cutting dead wood, examining ground and tree trunks at night, examining foliage.

All specimens are in the N.Z. Arthropod Collection unless stated otherwise.

Malaise traps

These were first used on the Poor Knights during the OIRG expedition as far as we know. Despite the generally cool, windy and frequently wet weather experienced, reasonable catches were obtained. Both traps were "Townes" type, with lower parts painted black with spray paint. One was erected in a clearing in Shag Bay, near Charles Stream, 35 m, surrounded by low, scrubby Metrosideros excelsa, Cassinia leptophylla and Phormium tenax, with Scorpus nodosus, Hypochoeris manicata and other herbs in the clearing itself. The other was erected in a small clearing created by a windfall in Metrosideros excelsa forest, on a flat area of the ridge leading from Shag Bay to the Summit Plateau, at about 130 m (see pit trap 80/84 below for further information).

Litter samples

These were taken in standard canvas bags, about 400 × 500 mm, which hold about 9 l (0.009 m³) of material (allowing room to tie the top of the bag). Dry weight of samples is 200-500 g. Leaf litter and the humus-rich surface layer of the soil were taken. As none of the individual sample code numbers coincide, year abbreviations are omitted in lists of
material examined. All were collected on Tawhiti Rahi; collectors’ names are abbreviated.

73/153: Dec. 1973; leaf litter; CRV.
80/67: Summit Plateau; 200 m; 10 Sept. 1980; JCW. Litter under Metrosideros excelsa (canopy), Coprosma macrocarpa, Pittosporum crassifolium and Carmichaelia arborea.
80/68: Summit Plateau; 200 m; 10 Sept. 1980; JCW. Litter under Xeromema callistemon clump, under Metrosideros excelsa canopy.
80/69: side of rockfall; 160 m; 11 Sept. 1980; JCW; shearwater burrowing area. Litter under Metrosideros excelsa (15 m), Dysoxylum spectabile, Melicytus ramiflorus, Macroipiper excelsum, Paratrophis banksii — ground bare.
80/70: Summit Plateau; 200 m; 11 Sept. 1980; JCW. Litter under Metrosideros excelsa (10 m); understorey — Melicytus ramiflorus, Myrsine divaricata, Paratrophis banksii; ferns on ground.
80/71: east side of Summit Plateau; 170 m; 11 Sept. 1980; JCW. Litter at edge of shearwater burrowing area, under Metrosideros excelsa (15 m); understorey — Melicytus ramiflorus; ground bare.
80/72: Shag Bay; 30 m; 12 Sept. 1980; JCW. Litter under Metrosideros excelsa (4 m), Myoporum laetum (2 m), Phormium tenax, Coprosma macrocarpa; ground bare.
80/73: Shag Bay; 40 m; 12 Sept. 1980; JCW. Litter under Pittosporum crassifolium (3-5 m), Coprosma macrocarpa juv., Macroipiper excelsum, Melicytus ramiflorus, Hebe bulloni; ground cover sedge, Arthropodium cirratum.

Pit traps (Pitfall traps)

These were polythene pottles, 650 ml capacity, 100 mm top internal diameter. Each was filled about one-third full with equal amounts of colourless ethylen glycol and brown, peaty stream water. All traps on Tawhiti Rahi were installed and collected by J. C. Watt. Both pit traps and litter samples covered a range of vegetation and altitude from Shag Bay to the Summit Plateau.

80/75: Shag Bay; 30 m; 6-12 Sept. 1980. Under Metrosideros excelsa (4 m), Myoporum laetum (2 m), Phormium tenax (2 m), Coprosma macrocarpa (1.5 m); ground almost bare.
80/76: Shag Bay; 35 m; 6-12 Sept. 1980. Under Pittosporum crassifolium (2 m); amongst Scirpus nodosus and seedling Coprosma macrocarpa.
80/77: Shag Bay; 35 m; 6-12 Sept. 1980. Same clearing as malaise trap, amongst Scirpus nodosus and Hypochoeris manicata.
80/78: Shag Bay; 35 m; 2 m from Charles Stream; 6-12 Sept. 1980. Under Pittosporum crassifolium (3 m), Coprosma macrocarpa (3 m), Carmichaelia arborea (3 m); ground bare.
80/79: Shag Bay; 40 m; 7-12 Sept. 1980. Under Pittosporum crassifolium (3.5 m), Coprosma macrocarpa (3.5 m), juvenile Macroipiper excelsum, Melicytus ramiflorus, Hebe bulloni; ground cover sedge and Arthropodium cirratum.
80/80: ridge [from Shag Bay to Summit Plateau]; 60 m; 7-12 Sept. 1980. Under Macroipiper excelsum (3.5 m), Coprosma macrocarpa (3.5 m), Melicytus ramiflorus (3.5 m), seedling Planchonella novozelandica, no ground cover.
80/81: ridge; 100 m; 7-12 Sept. 1980. Under large, spreading Planchonella novozelandica (approx. 6 m); understorey — Coprosma macrocarpa, Macroipiper excelsum, Melicytus ramiflorus.
80/82: ridge; 110 m; 7-12 Sept. 1980. Under Myrsine divaricata (5 m) Coprosma macrocarpa (5 m), seedling Vitis lucens, Macroipiper excelsum; ground cover sparse Asplenium lucidum.
80/83: ridge; 120 m; 7-12 Sept. 1980. Under larger, spreading Metrosideros excelsa (10 m); understorey — Melicytus ramiflorus, Coprosma macrocarpa; ground cover sparse sedge.
80/84: ridge; flat area; 130 m; 7-12 Sept. 1980. On edge of clearing created by windfall. Canopy large, old Metrosideros excelsa, sapling Dysoxylum spectabile underneath, also a few Paratrophis banksii; ground cover Asplenium lucidum.
80/85: Side of rockfall; 160 m; 9-12 Sept. 1980; shearwater burrowing area. Under Metrosideros excelsa (15 m), Dysoxylum spectabile, Melicytus ramiflorus, Macroipiper excelsum, Paratrophis banksii; ground bare.
80/86: Summit Plateau; 200 m; 9-12 Sept. 1980. Under Metrosideros excelsa (10 m); understorey — Myrsine divaricata, Pseudopanax lessoni, Coprosma macrocarpa, Pittosporum crassifolium, Geniostoma ligustrifolium; ground cover Phymatodes diversifolium, Asplenium lucidum, sedge.
Pan traps

These were plastic trays, c. 300 mm in diameter and painted bright yellow inside. The bright colour attracts many flying insects, and other ground- and foliage-inhabiting insects jump or fall into them. The bottom of each tray was covered with water to which a few drops of detergent were added. Pan traps were set near pit traps 76, 77, 81, and 84 as well as 3 m from Charles Stream, under low open Metrosideros excelsa, amongst Phormium tenax. Specimens from pan traps near pit traps 81 and 84 were recorded as "pan traps in forest".

TAXONOMY AND NOMENCLATURE

Orders and families are listed in systematic sequence. For ease of reference, genera are listed alphabetically within each family, and species are listed alphabetically within each genus. Within the Coleoptera, the weevil families Apionidae and Curculionidae are recorded and discussed by Kuschel (1982); these are included in the biogeographical analysis.

The taxonomic status of Poor Knights populations reflects a range from morphological identity with mainland populations, through consistent but minor differences indicating a geographic form (which may merit subspecific rank) to differences distinctive enough morphologically and ecologically to merit specific rank. Of the last, only three have been described as species — the giant weta Deinacrida fallai, the giant cave weta Gymnoscelion giganteum, and the giant weevil Phaophanus turbolit. (The latter has since been found on the Three Kings Islands.)

While a faunistic paper is an inappropriate place to describe new species — except in groups for which comprehensive revisions exist — there is no point in perpetuating usage of a name, combination, or status known to be wrong but which can be easily corrected; thus, several nomenclatural changes are made below by R. R. Forster, G. Kuschel, and J. C. Watt. The authority for each recombination, change of status, and synonymy is quoted in the appropriate place.

GEOGRAPHICAL DISTRIBUTION

A list of arthropods known to occur on the Poor Knights is only of biogeographic use when seen in the context of known distributions of the species or their close relatives elsewhere. Table 2 summarises such data for groups other than Coleoptera; except for Lepidoptera and Psocoptera, few unpublished records are available, and all distributions must be regarded as minimum ranges. Distribution and biological information for weevils is included in Kuschel (1982); data on thrips were provided by A. K. Walker. In neither group were the data sufficiently detailed for tabulation.

Table 3 summarises data on the distribution of Coleoptera, except Apionidae and Curculionidae; it is based on published records and on specimens in the NZAC. The column indicating island occurrence does not include records from the Three Kings; while there is a high degree of endemism on them, the status of their populations has not been critically examined. The few records from Cuvier also do not justify inclusion.

BIOGEOGRAPHY

Examination of broad patterns of distribution is more instructive than comparing distributions over islands and mainland areas, which have not been collected uniformly. The following analysis was done on 251 species and is based on data held on file in the NZAC. Distribution patterns are discussed in order of dominance.

Of the samples collected, 43.8% represented species widespread in the North Island and occurring also in the South Island. The 110 species collected are mostly dispersible, with a broad ecological tolerance or occurring on widely-spread host plants. As noted earlier, many of these do not extend farther than the northern coastal parts of the South Island. A few are probably genuinely disjunct. Of particular interest are species such as Coccinella lemina, which do not occur on the northern part of the mainland.

16% of the species were either probably or possibly endemic ones. Apparently
endemism is virtually confined to Coleoptera (14% of the samples) and to the orthopteroid orders (53%). Most are flightless; a few appear to be fully winged. Some may eventually be found in Northland, on other northern islands, or on both, but as about half are large, conspicuous, well-collected insects (e.g., *Deinacrida fallai*, *Mimopeus* sp.) this is not true in all cases.

North Island species — those which extend into the southern half of the North Island but which do not reach the South Island — accounted for 10.4%.

The overseas species, 7.6%, were generally unusually dispersible species such as aphids.

Northern North Island species, those which extend as far south as Waikato or the Bay of Plenty, accounted for 5.6%.

Species common to both Northland and Auckland areas totalled 5.2%.

Species common to Northland, Auckland, and Coromandel totalled 3.2%.

Two per cent of the species (e.g. *Mecodema* sp. and *Baeocera* sp.) have previously been recorded from Northland only.

Species collected earlier from northern islands only (e.g. *Truncula insularis*, *Clypeolus veratus*) amounted to 1.6%, 1.2% each represented Moko Hinau only (*Zealandius sandageri*, *Omedes nitidus*, *Notocalles florcola*) and the Three Kings only (e.g., *Arthracanthus* sp., *Anagotus turbottii*). The same percentage represented species common to Northland and Coromandel together.

Auckland-only species totalled 0.8%; Coromandel only, 0.4% (*Navamorpha neglecta*).

Previous analyses of beetle faunas of northern islands (Watt, 1957, 1962), although based on inadequate samples and fragmentary data on distributions, came to similar conclusions about the dominance of widely-distributed species and about the general relationships of the faunas with nearby mainland areas. Hen Island has no known endemics. Great Barrier Island has at least one apparent endemic (*Sericostilus watti* Given), but as several species of this genus have very limited ranges on the northern mainland, it is doubtful whether isolation by sea played any part in its speciation. Mayor Island is a young, Pleistocene island, with endemics neither known nor expected. Further collecting will certainly show that some species have more extensive ranges than is now known, although it seems unlikely that the relative proportions of the first six categories listed above will change much. Inclusion of members of highly-dispersible groups such as Collembola, Diptera, Hymenoptera, and Acari would no doubt increase percentages in the widely distributed categories, even though there could be endemism within the flightless Diptera and Hymenoptera. Lepidoptera are mostly very widespread, though an apparently-endemic Poor Knights tortricid was collected in December 1980 (J. S. Dugdale, pers. comm.).

The Poor Knights and Three Kings were the only northern island groups separated from the mainland when the sea level fell 100 m during the last glaciation. This correlates well with the endemism documented for the terrestrial fauna and flora of the two groups. As the Poor Knights (unlike the Three Kings) were probably part of the mainland during the further-lowered sea levels of the previous glaciations, speciation evident now has probably occurred since the penultimate glaciation.

Moko Hinau Islands have a single certainly-endemic insect, the stag beetle *Dorcas ithaginus* Broun (which, regrettably, is probably extinct). That these beetles formerly thought to be confined to Moko Hinau are known now from the Poor Knights as well may be significant. Similarly, three species are known only from the Three Kings and the Poor Knights, and other Poor Knights endemics appear to be most closely related to Three Kings species. The reason for these relationships is obscure, unless the species, or their common ancestor, once occurred on the Northland Peninsula as well and later became extinct there. Four further species occur on the Poor Knights and other northern islands but not on the mainland.

Poor Knights endemism is probably mainly primary — that is, a result of evolution in isolation on the islands. This is certainly the case with such species as *Deinacrida fallai*,

Материал, защищенный авторским правом
*Mimopeus* sp. nov., and *Gastrostomus* sp. nov., whose closest relatives (sister species) occur on the mainland and on other northern islands. However, some large flightless species may have become extinct on the mainland because of predation by rats, cats, mustelids, and the like. A possible example is *Anagotus* sp. nov., which, because giant weevils seem to be particularly susceptible to predation by mammals (Kuschel, 1971; Watt, 1975), would not have survived in a mainland environment.

Why some species (especially small insects, which could not themselves be prey to mammals) are largely or entirely confined to islands may not be explained by adventive mammalian predator pressure. Some of these species are usually or exclusively associated with nesting sea birds, themselves mostly confined to islands. In other cases, the island environment is in some way more favourable than that of the mainland — for example, a milder climate without frosts. Certain insects — e.g., several *Holoparametes* species — are abundant on islands but rare on the mainland.

**ECOLOGY**

A special search was made for insects possibly associated with the endemic Poor Knights Lily, *Xeronema callistemon*. The only visible damage of the plants was frequent scraping on the surface of the thick, fleshy leaves by an unidentified slug. Litter sample 68 was taken under a large clump of *Xeronema* and contained (among other things) a new species of *Anagotus*. Some species of the latter feed on the edges of leaves of *Phormium* (*A. fairburni*) or *Astelia*, but the characteristic type of damage was not seen on *Xeronema*. Kuschel (1982) says that the *Anagotus* is likely to be associated with some kind of grass. Nothing was found attacking the flowers or the leaf bases of *Xeronema*.

The ecological information summarised below covers all groups but Diptera and Lepidoptera, nearly all of which were caught in malaise or pan traps, flying, or resting on tents. A complete listing of ecological information is available in manuscript at Entomology Division. As details from pan and malaise traps have limited ecological value, these data have been excluded.

**Litter samples**

67: 25 spp.: 4 Diplopoda, 1 Chilopoda, 1 Orthoptera, 4 Hemiptera, 10 Coleoptera, 3 Hymenoptera, 1 Opiliones, 1 Acari.

68: 34 spp.: 3 Isopoda, 4 Diplopoda, 3 Chilopoda, 1 Psocoptera, 1 Hemiptera, 19 Coleoptera, 2 Hymenoptera, 1 Opiliones.

69: 29 spp.: 3 Isopoda, 2 Diplopoda, 21 Coleoptera, 1 Hymenoptera, 2 Acari.

70: 13 spp.: 1 Diplopoda, 1 Chilopoda, 1 Hemiptera, 8 Coleoptera, 1 Hymenoptera, 1 Opiliones.

71: 28 spp.: 2 Isopoda, 3 Diplopoda, 1 Chilopoda, 1 Psocoptera, 18 Coleoptera, 2 Hymenoptera, 1 Opiliones.

72: 36 spp.: 3 Isopoda, 6 Diplopoda, 4 Chilopoda, 3 Hemiptera, 1 Thysanoptera, 17 Coleoptera, 2 Opiliones, 1 Acari.

73: 45 spp.: 3 Isopoda, 5 Diplopoda, 3 Chilopoda, 1 Orthoptera, 2 Hemiptera, 1 Thysanoptera, 25 Coleoptera, 1 Hymenoptera, 1 Opiliones, 3 Acari.

**Pit traps**

75: *Ctenognathus novaezeelandiae*, *Liodes* sp., *Siphonothrus* sp., *Weta* sp.

76: *Chelanae antarcticus*, "Omaliun" spadix, *Tafilopsis* sp.

77: *Chelanae antarcticus*, *Lissotes* sp. nov., *Sphaerillo danae*.

78: unidentified Colorado, Acari, etc.

79: *Heteroptera brunii*, *Mesoponera castanea*, "Omaliun" spadix.

80: *Heteroptera brunii*, *Odontria* sp. nov.

81: *Crotonia* sp., *Hemiandrus* sp., *Heteroptera brunii*, *Megalopsis* sp., "Omaliun" spadix.

82: *Acosmetus* sp.

83: unidentified Colorado, etc.
Other locations

Under stones in clearing: Eumastigonus sp., Lissotes sp. nov., Platyzastera novaeezealandiae.

Under stones in forest: Celatoblabta undulivitta, Cryptos sp., Ctenognathus novaeezealandiae, Deinacrida fallai, Demetrida nasuta, Moaenella macrostigma, Meedoma sp., Mimopeus elongatus, Soerenrenella prehensor, Trogoderma maestum.

Under logs: Anisolabis sp., Mecodema sp., Platyzastera novaeezealandiae, Triregia sp.

On rock exposures at night, Shag Bay: Gymnoplectron giganteum, Scutigera smithi.

On ground at night: Celatoblabta undulivitta, Chrysopeplus expoliatus, Cornocephalus rubriceps, Cryptops sp., Ctenognathus novaeezealandiae, Mimopeus elongatus, Mimopeus sp. nov.

On ground amongst dead twigs: Anisolabis sp.

Ex soil: Amphisalata cingulata (nymph), Cornocephalus rubriceps, Ctenicera sp. (larva), Odontria sp. nov. (larva).

On ground under Muehlenbeckia complexa: Chelanev antarcticus, Ctenognathus novaeezealandiae.

Remains near harrier roosting place: Deinacrida fallai.

On roof of cave; on land; western side of Tawhihi Rahi: Gymnoplectron giganteum.

Under bark of standing dead tree trunk: Sternaclis zealandica.

On tree trunks and branches at night: Artystiana erichsoni (incl. larva), Chrysopeplus expoliatus, Ctenognathus novaeezealandiae, Cubaris murina, Deinacrida fallai, Geminoplectron giganteum, Hemiandrus sp., Leperta brouni, Mimopeus sp. nov., Ornithoblabta moari, Taliotropis sp. sp. aff. Taliotropis, Weta sp.

Ex rotten wood: Ceratognathus irroratus, Mimopeus sp. nov.

Ex dead but not entirely rotten wood: Chrysopeplus expoliatus, Pachyops dubius, Pentarthrum zealandicum.

In saline pools: Opifex fuscus larvae; adults nearby.

At light: Odontria sp. nov.; also various Diptera and Lepidoptera.

Insects collected from specific plants

The following list includes beetle records, which provide only an indicator of possible plant associations; further evidence is needed to document reliable plant associations in such cases.

Agavaceae — Phormium tenax: on leaves at night, Deinacrida fallai; feeding on edges of leaves at night, Anagotaus farbium (larvae in green leaf bases); in dead rhizome, Hadracalles fuliginosus.


Metrosideros excelsa, under loose bark and feeding on bark or algae on bark at night: Leperta brouni; ex dead wood, melandryid larvae, Strongylopterus hyloblidus (including larvae); beating: "Anthribus" brouni, Neocyba metrosideros, Notagonum lassoni, Philothogasosma pedatum, Tarphionius sp.


Sapotaceae — Planchonella new-zealandica, ex dead standing trunk: Eumastigonus sp., Lamemus sp. (larva), Sphaerillo danae, Strongylopterus hylobioides (larva), Thoranus lacteothorax (larva).

Loganiaceae — Geniostoma ligustrifolium, beating: Aeneus sp., Anostylus brunneipennis, Artystoma erichsoni, Dasytes sp. 2, Didymus intulus, Metascales sp. 2, Psepholox femoratus, P. sulcatus, Triaca vitreoradiata.


Asteraceae — Olearia sp., beating: Hybolasius vegetus.

Scrophulariaceae — Hebe sp. in flower, beating: Arthracanthus sp. 2, Dasytes sp. 2, Navomorpha sulcata, Nothotetua nigellus, Salpingis bilunatus, S. sp. nov., Simachus montanus, Tysius bicornis.

Myoporaceae — Myoporux lacertum, beating: Arthracanthus sp. 2, Dasytes sp. 2, Navomorpha lineata.

FURTHER RESEARCH

While the expedition of December 1980 collected species of insect previously unknown from the Poor Knights, we still can not be confident that even the beetle fauna of Tawhiti Rahi alone will be adequately known after all the material has been studied and recorded. A single specimen of a giant weevil, apparently representing a new genus, was discovered near the Tawa Grove by Dr Kuschel. Another giant, and probably endemic, weevil — Anagotus sp. nov. — is still known from only one specimen, and one wonders how many secretive, strongly seasonal, or genuinely rare species are yet to be discovered. We know about as much of the terrestrial arthropod fauna of the Poor Knights as we knew of birds and higher plants of the area forty years ago, and the need for more research is obvious. The fields of ecology and life-history studies provide even more scope for research: Immature stages of relatively few species are known, and little work has been done on life histories. We do not know the host plants of many of the phytophagous species. The larger endemic arthropods would be good subjects for detailed ecological field studies. In short, the area as a whole holds out many opportunities for present and future workers.

ORDER ISOPODA (Det. J. Playfair)

In addition to the four species listed below, three others occur on the Poor Knights, but they require further study.

FAMILY LIGIIDAE

Ligia novaeezelandiae Dana, 1853

1 specimen: Sept. 1980; Shag Bay.

FAMILY STYLONISCIDAE

Styloiscus sp.

8 specimens: Sept. 1980; lit. 68, 69, 71, 72, 73; 30-200 m.

FAMILY ARCADILLIDAE

Cubaris murina Brandt, 1833

19 adults, 35 juveniles: Sept. 1980; lit. 68, 69, 72, 73; on tree trunks at night; beaten at night.

Sphaerillo danae Heller, 1868

18 adults, 8 juveniles: Sept. 1980; lit. 68, 69, 71, 72, 73; pit 77; under stones, ridge; ex dead standing Planchanella novaeezelandica.

ORDER DIPLOPODA (Det. P. M. Johns)

Mr. Johns writes "As yet I cannot say whether or not Poor Knights has any endemics"
— so little is known of the adjacent mainland fauna, and of course many species are undescribed. I would expect some endemics and perhaps Schedotrigona; the Dalodesmids and Cryptodesmids are the most likely candidates.”

**FAMILY POLYXENIDAE**

*Propolyxenus* sp.
1 specimen: Sept. 1980; lit. 72; 30 m.

**FAMILY DALODESMIDAE**

Genus nov. A sp.
13 specimens: Sept. 1980; lit. 67, 68, 70, 71; 170-200 m.

*Genus B* sp.
1 specimen: Sept. 1980; lit. 71; 170 m.

**FAMILY CRYPTODESMIDAE**

*Genus et species indet.*
86 specimens: Sept. 1980; lit. 67, 69, 71, 72, 73; 40-200 m.

**FAMILY SCEDOTRIGONIDAE**

*Schedotrigona* sp. A
48 specimens: Sept. 1980; lit. 67, 68, 71, 72, 73; 30-200 m.

*Schedotrigona* sp. B
53 specimens: Sept. 1980; lit. 67, 68, 69, 70, 71, 73; pit 85; 40-200 m.

**FAMILY CAMPALIDAE**

*Eumastigonus* sp.
5 specimens: Sept. 1980; lit. 68; under stones in clearing; ex dead standing *Planchonella novo-zelandica*.

**FAMILY SIPHONOPHORIDAE**

*Siphonophora* sp.
5 specimens: Sept. 1980; lit. 67, 68, 72; 30-200 m.

**FAMILY POLYZONIDAE**

*Siphonethus* sp.
74 specimens: Sept. 1980; lit. 72, 73; pit 75; 30-40 m.

**FAMILY SPIROBOLELLIDAE**

*Spirobolellus antipodaros* (Newport, 1844)
3 specimens: Sept. 1980; lit. 72, 73; 30-40 m. This species is endemic in the northern North Island, where its distribution almost coincides with that of *Agathis australis*. The genus is widespread in the Indonesian-Australian area. The closest relative of *S. antipodaros* is a New Caledonian species (P. M. Johns, pers. comm.).

**ORDER CHILOPODA** (Det. P. M. Johns)

**FAMILY SCUTIGERIDAE**

*Scutiger smithii* (Newport, 1844)
2 specimens: Sept. 1980; running rapidly on rock outcrops at night, Shag Bay (near camp).

**FAMILY SCOLOPENDRIDAE**

*Cormiceps rubriceps* (Newport, 1844)
2 adults, 1 juvenile: Sept. 1980; Shag Bay; on ground at night; ex soil. Others seen at
night, but not captured. This large centipede is reputed to have a very painful bite. In Jan. 1956, a tuatara (Sphenodon puncticatus Gray), while being photographed, regurgitated the unmistakable remains of a full-grown specimen. The centipedes are apparently eaten also by rats, as they do not occur on small rat-inhabited islands, although co-existing with rats on the mainland.

FAMILY SCHENDYLIDAE
Ballophilus hounselfi Archey, 1936
7 specimens: Sept. 1980; lit. 68, 72, 73; 30-200 m.

FAMILY CRYPTOPIDAE
Cryptops sp.
2 specimens: Sept. 1980; on ground near camp; under stones, ridge.

FAMILY CHILENOPHILIDAE
Maoriella macrostigma Attems, 1903
2 specimens: Sept. 1980; on ground and under stones.

Maoriella zelanicus (Chamberlin, 1920)
4 specimens: Sept. 1980; lit. 70, 72; 30-200 m.

FAMILY LITHOBIIDAE
Lamyctes emarginatus (Newport, 1844)
9 specimens: Sept. 1980; lit. 68, 72, 73; 30-200 m.

FAMILY HENICOPIDAE
Anopsobius neozelanicus Silvestri, 1909
28 specimens: Sept. 1980; lit. 67, 68, 69, 71, 72, 73; 30-200 m.

ORDER BLATTODEA (Det. G. W. Ramsay)
FAMILY BLATTIDAE
Celatoblatta undulivitta (Walker, 1868)
7 specimens: Sept. 1980; beaten and on ground at night; under stones.

Platyzosteria novaseelandiae (Brunner von Wattenwyl, 1865)
4 specimens: Nov. 1965, 3; Sept. 1980, 1; in grass and under rotten logs; under stone in clearing.

FAMILY BLATTELLIDAE
Ornatiblatta maori (Rhen, 1904)
4 adults, 5 nymphs: Sept. 1980; lit. 68; pan traps in forest; on tree trunks and beaten at night; 30-200 m.

Parellipsidion latipennis (Brunner von Wattenwyl, 1865)
1 adult: Sept. 1980, beaten at night.

ORDER DERMAPTERA (Det. G. W. Ramsay)
FAMILY LABIDURIDAE
Anisolabis sp. aff. kaspar Hudson, 1973
3 adults: Sept. 1980; under log; on ground. This is either a geographical race of A. kaspar, previously known only from the Three Kings Islands, or a closely related, Poor Knights endemic species (G. W. Ramsay, pers. comm.). The common coastal earwig Anisolabis littorea (White, 1846) has not, so far, been found on the Poor Knights.
ORDER ORTHOPTERA (Det. G. W. Ramsay)
FAMILY STENOPELMATIDAE

Deinacrida fallai Salmon, 1950 (Geissler MS)

8 adults: Jan. 1956, 1 (AMNZ); Jan. 1958, 2; Feb. 1959, 2; Sept. 1980, 3. 4 small nymphs: Sept. 1980. On tree trunks at night; under stone; beaten at night (nymphs); pan trap (nymph). Other adults seen on tree trunks and Phormium tenax at night, but not collected. 30-170 m, not seen on Plateau.


R. G. Ordish writes: “The reason for the choice of the specific name, incidentally, would seem to lie in an old MS by Carl Geissler, “read before the Auckland Institute 2nd October 1935” but not published. This was entitled “A new species of Giant Weta from the Poor Knights Island” and described Deinacrida fallai. A letter from F. J. Turner, Editor TRSNZ, suggested it be resubmitted with more details as suggested by the referee, but presumably this was not done. This also explains Geissler’s name appearing on labels of the AMNZ pinned specimens.

Deinacrida fallai is undoubtedly the largest and best known Poor Knights insect. Adult females weigh up to 40 g and measure up to 73 mm in body length. Only the closely related Wetapunga Deinacrida heteracantha White, 1846 is larger in New Zealand. Both species were the subject of a detailed study by Richards (1973), and there is little I can add to her account. Observations of predation by harriers Circus approximans Gouldi Bonaparte, 1850 were further substantiated by J. McCallum, who found remains of several giant wasps amongst other food remains near harrier roosting places.

Harriers are diurnal feeders, so wasps on which they feed must be visible and accessible during daylight. Although one D. fallai was found under a stone during daylight, this is unusual, and most of them probably hide in trees during the day. Their nocturnal activity is mostly arboreal, and they are not often seen on the ground. Mating apparently takes place in daylight (Richards, 1973).

Although there are no definite specimen records from Aorangi, it is certain that some of them were collected there. On the basis of our limited observations on Tawhitirahia Rahi, it is not possible to give any population estimate, although there is no reason to question Richards’ statement that D. fallai is “reasonably plentiful”.

A pair of adults were brought back alive to the laboratory. Although they were observed to copulate, and the female later went through the motions of ovipositing, no eggs were found. The male died on 11 February 1981, and the female in October 1981; both have been preserved.

Hemiandrus sp. nov. aff. anomalus Salmon, 1950

4 adults: Sept. 1980; on tree trunks at night; pit 81; pan trap. Apparently a Poor Knights endemic.

FAMILY RHAPHIDOPHORIDAE

Gymnoelectron giganteum Richards, 1962

Type material: Holotype ♀ “Poor Knights Is., E. G. Turbott, 22-29 Nov. 1940” (in alcohol, AMNZ), Allotype ♀ “Poor Knights Is., Tawhitirahia Rahi, 24 Apr. 1961, F. J. Newhook, in cave”. Paratypes 3♂ (1 pinned), ♀, with same data as allotype.

Other records: Jan. 1956, 2 (AMNZ); Apr. 1961, 3; Sept. 1980, 3. In cave; on tree trunks at night; on rock outcrop at night.

This is another Poor Knights endemic, and the largest rhaphidophorid in New Zealand, males measuring about 450 mm from tip of antennae to apex of hind tarsi, but
the actual body length is only one tenth of this. Apparently it is most closely related to
Gymnolectron spinosa Richards, 1962, from near Rotorua but is much larger and differs in
several structural characters. Apart from the cave, it is not uncommon near the rockfall
area, which provides deep crevices for shelter during daylight. Individuals are
surprisingly active and difficult to catch, except in cold weather.

*Neonetus* sp.
1 specimen: Oct. 1965. Said by Somerfield (1973) to be fairly prevalent, especially
towards the northern end of Tawhitiri Rahi, but not found during the OIRG expedition.
Occurs also on the mainland.

*Talitropsis* sp. nov.
9 specimens: Sept. 1980; on tree trunks and beaten at night; pan traps in forest; malaise
trap; 40-150 m. Probably a Poor Knights endemic.

*Genus* aff. *Talitropsis* sp. nov.
8 specimens: Sept. 1980; beaten and on tree trunks at night; pit 76. Probably a Poor
Knights endemic.

*Weta* sp. nov.
10 specimens: Sept. 1980; on tree trunk at night; pan traps in forest; lit. 67, 73; pit 75,
85, 86. Probably a Poor Knights endemic.

**FAMILY GRYLLIDAE**

*Metioche maoricum* (Walker, 1869)

*Pteronomobius bigelouei* Swan, 1972
2 specimens: Sept. 1980; Shag Bay; pan traps. Also a common native cricket.

**ORDER PHASMATODEA** (Det. G. W. Ramsay)

**FAMILY PHASMIDAE**

*Glitarianus* sp. aff. *hookeri* (White, 1846)
3 specimens: Sept. 1980; at night. Possibly an endemic species; if not, then certainly a
definable geographical race.

**ORDER PSOCOPTERA** (Det. S. K. Wong)

**FAMILY LEPIDOSOCIDAE**

*Ectopsocus* hamiltoni (Tillyard, 1923)
2 adults: Sept. 1980; malaise trap; beaten at night.

**FAMILY CAECILIIDAE**

*Caecilius flavus* Smithers, 1969
1 adult: Sept. 1980; malaise trap; Shag Bay.

**FAMILY ECTOPSOCIDAE**

*Ectopsocus briggsii* McLachlan, 1889
2 adults: Sept. 1980; malaise trap; beaten at night.

*Ectopsocus punctatus* Thornton and Wong, 1968
2 adults: Sept. 1980; lit. 68; pan traps in forest.

**FAMILY ELIPSOCIDAE**

*Spilopsocus annulatus* Smithers, 1969
1 adult: Sept. 1980; malaise trap; 130 m.

**FAMILY PHILOTARSIDAE**

*Zelandopocus kuscheli* Thornton, Wong and Smithers, 1977
10 adults: Sept. 1980; pan traps, Shag Bay; malaise trap; lit. 71; 40-150 m.
ORDER HEMIPTERA (Det. C. F. Butcher, except Aphididae, Cicadidae)

FAMILY CIXIIDAE

Cixius sp. cf. aspilus Walker, 1858
5 specimens: Sept. 1980; pan traps; beaten at night.

FAMILY DELPHACIDAE

Ugyops rhadamanthus Fennah, 1965
4 specimens: Nov. 1965, 2; Sept. 1980, 2. On low vegetation; pan trap; lit. 73.

FAMILY CICADIDAE

Amphipsalta cingulata (Fabricius, 1775) (Det. J. S. Dugdale)
8 nymphs: Sept. 1980; Shag Bay; ex soil.

FAMILY CICADELLIDAE

Myerslophia sp. aff. trirega Knight, 1973 (Ulopinae)
14 specimens: Sept. 1980; lit. 67, 68, 72, 73; 30-200 m. This may be a Poor Knights endemic. It is closely related to M. trirega from the Three Kings Islands. Members of this genus are flightless and confined to litter.

Paracephalus sp. cf. hudsoni (Myers, 1923) (Ulopinae)
1 female: Sept. 1980; Shag Bay; pan trap. Males are needed for certain identification in this genus. This genus occurs on the mainland on rushes.

Xestocephalus ovalis Evans, 1966 (Xestocephalinae)
4 specimens: Sept. 1980; pan trap.

FAMILY PSYLLIDAE

Trioxa vitrearadiata (Maskell, 1879)
7 specimens: Sept. 1980; pan traps; on Geniostoma ligustrifolium

FAMILY APHIDIDAE (Det. R. Sunde)

Hyperomyzus lactucae (Linnaeus, 1758)
1 alate: Sept. 1980, malaise trap; 130 m.

Rhopalosiphum padi (Linnaeus, 1758)
1 alate: Sept. 1980; malaise trap; 130 m.

Toxoptera aurantii (Boyder de Fonsecolome, 1841)
1 alate: Sept. 1980; pan trap.

FAMILY COCCIDAE

Ctenocithon viridis Maskell, 1879

FAMILY ANTHOCORIDAE

Cardiastethus sp.
3 specimens: Sept. 1980; beaten at night.

FAMILY MIRIDAE

Genus species indet. (Tribe Phylini)
1 specimen: Sept. 1980; beating.

FAMILY REDUVIIDAE

Ploearia sp.
1 nymph: Sept. 1980; lit. 69; 160 m.
FAMILY ARADIDAE

*Anueus sp.*
1 nymph: Sept. 1980; on *Geniostoma ligustrifolium.*

FAMILY LYGAEIDAE

*Targarema stali* White, 1878 (Rhyparochrominae)
9 specimens: Sept. 1980; lit. 67, 70, 72; beating; 180-200 m.

*Tomocoris ornatus* (Woodward, 1953) (Rhyparochrominae)
2 specimens: Sept. 1980; lit. 67; 200 m.

*Truncula insularis* Malipati, 1977 (Rhyparochrominae)
6 specimens: Sept. 1980; lit. 67, 72; 30-200 m. This species has so far been found only on northern islands.

FAMILY ACANTHOSOMATIDAE

*Rhopalimorpha lineolaris* Pendergrast, 1950
1 specimen: Nov. 1965; on low vegetation.

ORDER THYSANOPTERA (Det. L. A. Mound and A. K. Walker)

The information given below on distribution and ecology was kindly supplied by A. Walker (letter of 25 July 1981).

FAMILY THRIPIDAE

*Apterorthris secticornis* (Trybom, 1896)
Sept. 1980; lit. 73; 40 m. Widespread in New Zealand, Sept-Mar, mainly in pasture, but has occurred in birds' nests on the Chatham Islands.

*Thrips australis* (Bagnall, 1915)
Sept. 1980; Shag Bay, malaise trap. The eucalyptus thrips; widespread in New Zealand, occurs throughout the year, but collected infrequently; has been collected on *Eucalyptus* leaves at Rotorua, and occurs on a wide variety of other adventive and native plants.

*Thrips obscuratus* (Crawford, 1941)
Sept. 1980; malaise trap; 130 m; Shag Bay. The N.Z. flower thrips; the most common and widespread thrips in New Zealand, an endemic species found throughout the year on flowers and leaves of both native and introduced plants.

FAMILY PHLAEOORTHRIPIDAE

*Baenothrips moudii* (Stannard, 1970)
Sept. 1980; lit. 72; 30 m. The most common litter-inhabiting thrips in New Zealand; also occurs in Australia.

*Cartothrips manukae* Stannard, 1962
Sept. 1980; beaten at night. Found throughout New Zealand, common on *Leptospermum scoparium.*

ORDER COLEOPTERA (Det. J. C. Watt, unless otherwise stated)

FAMILY CARABIDAE

*Ctenognathus novaezealandiae* Fairmaire, 1843 (Agoninae)
41 adults; Jan. 1956; 9; Nov. 1965; 13; Sept. 1980; 19; pit 75; under stones; on ground, tree trunks and vegetation at night; 20-40 m. 2 larvae; lit. 72, 73. Found only at lower elevations near coastline, common at night (many others seen but not collected). Exclusively coastal.

*Demetrida nasuta* White, 1846 (Lebiinae)
1 adult; Jan. 1956; Aorangi; under stone.
Mecodema sp. (Brosicinae)
15 adults: Jan. 1956, 8; Nov. 1965, 2; Aug. 1970, 2; Sept. 1980, 3. Under stones on higher parts of island, especially near rockfall, and under rotten logs near Puffinus bulleri burrows. Mr J. I. Townsend writes that Poor Knights specimens are distinct from all others, but closest to, and probably conspecific with, an un-named taxon of the curvidens group from Whangarei Heads.

Notagonum lawsoni (Bates, 1874) (Agoninae)
1 adult: Jan. 1956; beaten from Metrosideros excelsa.

Pelodictoides prominentis Moore, 1980 (Bembidiinae)

Pentagonica vittipennis Chaudoir, 1877 (Pentagonicinae)
1 adult: Sept. 1980; lit. 72; 30 m.

FAMILY HISTERIDAE

"Abraeus" brouni Lewis, 1879
6 adults, 3 larvae: Sept. 1980; lit. 69; 160 m.

Sternaulax zealandicus Marseul, 1862
1 adult: Jan. 1956; under bark on dead standing tree trunk.

FAMILY LEIODIDAE

Mesocolon nesobium Jeannel, 1936
2 adults: Sept. 1980; lit. 69, 71. 12 larvae: Sept. 1980, lit. 73. 40-170 m. This species is found almost exclusively on islands, usually in association with nesting sea birds.

FAMILY SCYDMAENIDAE (Det. G. Kuschel)

Euconus calvus (Broun, 1880)

Neuraphococnus relatus (Broun, 1893)

Neuraphococnus sp. nov. (ambiguus group)
1 adult: Sept. 1980; lit. 71; 30 m. Probably a Poor Knights endemic.

Sciacharis allocora (Broun, 1893)
5 adults: Dec. 1971; 2; Sept. 1980, 3; lit. 153, 67, 71; 170-200 m.

FAMILY SCAPHIDIIDAE

Baecocera sp. 2
1 adult: Sept. 1980; lit. 70; 200 m.

FAMILY STAPHYLINIDAE

Amriathaea sp. 17 (Aleocharinae)
2 adults: Sept. 1980; lit. 71, 170 m. This species appears to lack functional eyes, is weakly pigmented and unusually elongate, and is probably primarily a soil dweller. Its nearest known relative is Amriathaea sp. 14 from Old Man Range, Central Otago.

Anotylus brunneipennis (Macleay, 1873) (Oxytelinae)
1 adult: Sept. 1980, on Geniostoma ligustrifolium. Originally an Australian species, it was first found in garden rubbish at Mt Roskill, Auckland in Mar. 1948, and has since been collected at Mt Smart Domain, Auckland, and on the Noisies Islands.

Anotylus winsoni (Cameron, 1936)
1 adult: Sept. 1980; lit. 71; 170 m. Also introduced, first described from Mauritius, but widely distributed elsewhere.

Anotylus sp. nov.
7 adults: Sept. 1980; lit. 71; 170 m. Apparently endemic to Northland and Auckland; identified under a manuscript name by Mr P. M. Hammond, British Museum (Natural History).
Coleoptera occurring on the Poor Knights Islands. Fig 1 — Crenognathus novaeezlandiae, Fig 2 — Tragoderma maestum.
“Dasynotus” sp. (Aleocharinae)
5 adults: Sept. 1980; lit. 68, 70; pan traps in forest; pit 81. Possibly a Poor Knights endemic.

Ocalea socialis (Broun, 1880) (Aleocharinae)
7 adults: Sept. 1980; lit. 70, 71; pan traps in open and in forest. 30-200 m.

“Omalium” spadix (Broun, 1880) (Omaliiinae)
59 adults: Sept. 1980; lit. 67, 69, 71, 73; pit 76, 79, 81, 84; pan traps in forest; 35-170 m. This species was labelled in 1949 by W. O. Steel as "Omalionimus spadix". It does not agree with Steel's (1964) description of Omalionimus, so in the meantime, it is best retained in its original genus.

Sepeophilus acerbus (Broun, 1880) (Tachyporinae)
2 adults: Sept. 1980; lit. 69; 71; 160-170 m.

Thamiaraea sp. nov. (Aleocharinae)
48 adults: Sept. 1980; lit. 69, 70, 71, 73; pan traps in forest and open; 40-200 m. Possibly a Poor Knights endemic.

FAMILY PSELAPHIDAE

Dalma sp.
2 adults: Sept. 1980; lit. 67, 68; 200 m.

Eupines sp.
16 adults: Sept. 1980; lit. 68, 72; 30-200 m.

Eupines sp.
1 adult: Sept. 1980; lit. 72; 30 m.

Sagola insignis Broun, 1893
4 adults: Sept. 1980; lit. 72, 73; 30-40 m.

Zeatyrus lawsoni Sharp, 1881
5 adults: Sept. 1980, lit. 68, 200 m.

Zelandius sandageri (Broun, 1893)
8 adults: Sept. 1980; lit. 69, 73; 40-160 m.

FAMILY LUCANIDAE

Ceratognathus irritatus (Parry, 1845)
1 adult: Jan. 1956, ex rotten wood.

Lissotes sp. nov.
2 adults: Sept. 1980; pit 77; under stone in clearing. This is a Poor Knights endemic, apparently most closely related to L. 0concinnus Holloway, 1961, from the Spirits Bay area, and L. irrregius Holloway, 1963, from the Three Kings Islands, at least on superficial characters. This species is probably the most significant entomological find of the expedition. Strangely, both specimens were found in a small clearing, which had apparently been used previously as a camp site, near Charles Stream. It is one of the most modified sites on Tawhiti Rahi (see notes on malaise trap and pit 77).

FAMILY SCARABAEIDAE

Odontria sp. nov.
9 adults; Jan. 1956, 1; Sept. 1980, 8; at light, in or near camp; pit 80. 4 larvae: Shag Bay; ex soil. Found so far only near Shag Bay, but probably widely distributed. Another Poor Knights endemic, apparently most closely related to Odontria xanthosticta (White, 1846), which occurs on most of the northern islands.

FAMILY ELATERIDAE

Amphiplatya lawsoni Sharp, 1877
Cteniceria sp. nov.
3 adults: Sept. 1980; near camp, beaten at night; lit. 73. 1 larva: Sept. 1980, ex soil in forest. 30-50 m. Appears to be closest to Cteniceria antipoda (White, 1846); possibly a Poor Knights endemic.

Lomenus sp.
1 larva: 11 Sept. 1980; ex dead standing Planchnella novo-zelandica.

Ochosternus zealandicus (White, 1846)
1 larva: Sept. 1980; lit. 68; 200 m. A common coastal and lowland species in rotten wood: adults come to light in summer.

Thoramus laevithorax White, 1846

FAMILY CANTHARIDAE

Asitis sp.
1 larva: Sept. 1980; lit. 69; 160 m.

FAMILY DERMESTIDAE

Trichelodes vulgata (Broun, 1880)
6 larvae: Sept. 1980; lit. 68; 200 m. These larvae are virtually identical with larvae of this species from the mainland. As dermestid larvae are as easily distinguished specifically as the adults, and only one species of the genus is known in New Zealand, I am confident in the identification.

Trogoderma maestum Broun, 1880
1 adult: Sept. 1980; under stone. Fig. 2

FAMILY TROGOSSITIDAE

Leperina brouni Pascoe, 1876
8 adults: Jan. 1943, 3; Jan. 1956, 4; Sept. 1980, 1. Under Metrosideros excelsa bark, beaten from dead foliage. Found on virtually all the northern islands; strictly coastal on the mainland. Adults are frequently found on tree trunks at night, and have been observed feeding there, probably on green algae rather than on the bark itself. Larvae are apparently predators of wood-boring larvae.

FAMILY CLERIDAE

Phymatophaca opiloides Pascoe, 1876

Phymatophaca testacea Broun, 1881
1 adult: Jan. 1956, beaten from Melicytus ramiflorus.

FAMILY MELYRIDAE

Arthracanthus sp. 2
9 adults: Jan. 1956; beaten from flowering Myoporum laetum and flowering Hebe sp. Apparently an undescribed species, occurring also on the Three Kings Islands.

Dasites laticeps Broun, 1880
3 adults: Nov. 1965, 1; Sept. 1980, 2; beaten from shrubs.

Dasites sp. 2

Halyles semidilitus Broun, 1886
FAMILY CUCUJIDAE

*Cryptamorpha brevicornis* (White, 1846)

FAMILY CRYPTOPHAGIDAE

"Cryptophagus" sp. aff. rutilus Broun, 1880
5 adults: Sept. 1980; pan trap, Shag Bay; beaten at night. This apparently undescribed species occurs also on the mainland (Auckland, Taranaki). No native New Zealand species are genuine *Cryptophagus*. Although Crowson and Sen Gupta proposed over ten years ago to erect new genera, these have not yet been published.

*Salltius ruficeps* (Broun, 1880)
3 adults: Sept. 1980; lit. 73, 40 m.

FAMILY LANGURIIDAE

*Loberus nitens* (Sharp, 1876) Watt, comb. nov. (from *Telmatophilus*)
21 adults: Jan. 1956; beaten from *Coptosma repens, Pittosporum crassifolium, Melicytus ramiflorus, Carmichaelia* sp. 8 larvae: Sept. 1980; lit. 69; 30-160 m. This species and *Loberus depressus* (Sharp, 1876) Grouvelle, 1919 were originally described in *Telmatophilus* Heer, 1841, a strictly Palearctic genus (Crowson, 1955) belonging in Cryptophasagidae. Both species agree with the genus *Loberus* Leconte, 1861, as defined by Sen Gupta and Crowson (1971).

FAMILY CERYLIDAE

*Hypospilax rubripes* (Reitter, 1880)
3 adults: Sept. 1980, lit. 73, 40 m.

FAMILY CORYLOPSISIDAE

*Anidomeris sharpi* Matthews, 1886
20 adults: Sept. 1980; lit. 67, 72, 73. 8 larvae: Sept. 1980; lit. 68, 72, 73. 30-200 m.

*Holopsis rotundatus* Broun, 1893
1 adult: Sept. 1980; lit. 69, 160 m.

*Holopsis* sp. 2
8 adults: Sept. 1980; lit. 72, 73. 25 larvae: Sept. 1980, lit. 73. 30-40 m.

*Holopsis* sp. 3
1 adult: Sept. 1980, lit. 72, 30 m. Possibly a Poor Knights endemic, but more likely occurs elsewhere but yet to be recognised.

FAMILY COCCINELLIDAE

*Coccinellaleonina* Fabricius, 1775
(Fig. 3)
8 adults: Jan. 1943, 1; Jan. 1956, 3; Nov. 1965, 2; Sept. 1980, 2. beaten from *Leptospermum scoparium* and *Coptosma repens*, shrubs at night; in tent. This common native ladybird does not occur on the mainland in Northland, Auckland, or Coromandel although it occurs on several northern islands. It appears to be a general feeder on aphids, and occurs frequently in pastures and adventive crops, as well as native habitats, in the southern North Island and in the South Island. As it is a common, conspicuous beetle where it occurs, it is unlikely that it has been overlooked in northern areas of the mainland. Its restriction to islands in the north cannot be explained by either climate alone or habitat modification. It seems most likely that it extended to the far north in pre-European times, although it was better adapted to the climate farther south. The European ladybird *Coccinella undecimpunctata* Linnaeus, 1758 was introduced to New Zealand in the first half of the nineteenth century. This species, which is also a general predator on aphids, is climatically versatile. Apparently, *Coccinella leonina* was unable to compete successfully with *C. undecimpunctata* in the north, although it has held its own further south. This hypothesis
Fig 3 — Coccinella leonina  
Fig 4 — Salpingus hitamatus  
Figs 3, 4 del. D W Helmore  
Fig 3 del. A C. Harris.
is supported by the absence of the European species on northern islands where C. leonina occurs, and vice versa.

Harmonia conformis (Boisduval, 1835)  
1 adult: Jan. 1956. The only island record of this introduced Australian species.

"Scymnus" consors Broun, 1880  
1 adult: Aorangi; 9 Jan. 1956; beaten from Coprosma repens. None of the native ladybirds belong in Scymnus. Some fall under Veronicobius Broun, 1893, but all require further study.

"Scymnus" minutulus Broun, 1880  
1 adult: Jan. 1956; beaten from Pseudopanax lessonii.

"Scymnus" tristis Broun, 1880  
3 adults: Jan. 1956; beaten from Coprosma repens; Aorangi, beaten from Pittosporum crassifolium.

"Scymnus" sp. aff. rarus Broun, 1880  
1 adult: Sept. 1980; lit. 72; 30 m.

FAMILY MEROPHYSIIDAE

Holoparamus sp. 4  
27 adults: Sept. 1980; lit. 68, 71, 72, 73; 30-200 m. Apparently a Poor Knights endemic, closest to Holoparamus sp. 2, an undescribed species from the Three Kings Islands.

Holoparamus sp. 8  
5 adults: Sept. 1980; lit. 68, 72; 30-200 m. A Poor Knights endemic, or a geographical race of Holoparamus sp. 6 from other northern islands.

FAMILY LATHRIDIIDAE

Lithostygnus sinusus (Belon, 1884)  
8 adults: Sept. 1980; lit. 68, 73; 40-200 m. MacKechnie-Jarvis (1972) reinstated Lithostygnus Broun, 1886, which had previously been synonymised with Metophthalmus Motshulsky, 1850. This reinstatement seems to be soundly based, so the three New Zealand species recognised by Watt (1969) should be known as L. sinusus, Lithostygnus minor Broun, 1893, and Lithostygnus serripennis Broun, 1914.

"Melanophthalma" zealandica Belon, 1884  

FAMILY COLYDIIDAE

Acosmetus sp. nov. aff. granulatus Broun, 1880  
1 adult: Sept. 1980; pit 82; 110 m. Possibly a Poor Knights endemic.

Bitoma vicina Sharp, 1876  
1 adult: Sept. 1980; beating.

Coxulus sp.  
10 adults: Sept. 1980; lit. 73; 40 m.

Epistratus sp. aff. humeralis Broun, 1880  
1 adult: Sept. 1980; lit. 73, 40 m. Possibly a Poor Knights endemic.

Ithris gracilis Sharp, 1876  
1 adult: Jan. 1956; beaten from Carmichaelia sp. There are very few specimens of this widely distributed species in collections.

Pristoderus sp. nov. aff. asper (Sharp, 1876)  
1 adult: Sept. 1980; beaten at night. Possibly a Poor Knights endemic.

Pycnemosus simplex Broun, 1880  
1 adult: Sept. 1980; lit. 69; 200 m.

Syncalus sp. nov.  
3 adults: Sept. 1980; lit. 69, 70; 160-200 m.
Tarphionimus sp. nov. aff. indentatus Wollaston, 1873
7 adults: Jan. 1956, 1; Sept. 1960, 6. Beaten from Metrosideros excelsa, at night; pan trap in forest. Probably a Poor Knights endemic.

FAMILY TENEBRIONIDAE

Artystoma erichsoni (White, 1846) (Tenebrioninae)
29 adults: Jan. 1943, 10; Jan. 1956, 4; Apr. 1961, 1 (Aorangi); Nov. 1965, 9; Sept. 1960, 5; on tree trunks and branches at night. 2 larvae: Sept. 1980; on tree trunk and on foliage of Geniostoma ligustrifolium at night.

Chrysopeolus expolitus (Broun, 1880) (Tenebrioninae)
34 adults: Jan. 1943, 2, Jan. 1956, 5 (incl. Aorangi); Nov. 1965, 16 (incl. Motu Kapiti); Aug. 1970, 9; Sept. 1980, 17. Cut from dead wood; in forest litter; on trunks, branches and ground at night. 1 larva: Sept. 1980; lit. 73. This is a strictly coastal species, on the mainland restricted to the east coast of Northland, Auckland, and Coromandel and occurring on almost all northern islands.

Mimopeus elongatus (Brême, 1842) (Tenebrioninae)
19 adults: Jan. 1943, 2, Jan. 1956, 2 (incl. Aorangi); Nov. 1965, 15 (incl. Motu Kapiti); under stones; on ground at night. 1 larva: Sept. 1980, under log. A common coastal species in most parts of New Zealand, abundant on islets without rats (e.g. Bream Islets). Apparently much more common on Tawhiti Rahi during late spring and summer than in September, when no adults were seen.

Mimopeus sp. nov. aff. opaculus (Bates, 1873)
44 adults: Mar. 1934, 2; Jan. 1943, 8; Jan. 1956, 6; Nov. 1965, 13; Apr. 1961, 2 (Aorangi); Aug. 1970, 1; Sept. 1980, 12. Under stones; in rotten logs and stumps; on ground at night; pit 75, 78. 30-150 m (not seen on Plateau). This is a Poor Knights endemic. Its closest relative M. opaculus, is the common large Mimopeus of the southern North Island and much of the South Island. Its northernmost mainland occurrence is Hamilton, Waikato; but it extends farther north on islands (Aldermen and Cuvier). The Poor Knights species is readily kept in captivity: 6 adults collected in Sept. 1980 were still alive and active in Aug. 1981, together with a single large larva reared totally in captivity. They were fed with a mixture of "Sanitarium" Muesli and brewer's yeast.

Omedes nitidus Broun, 1893 (Alleculinae)
1 adult: Nov. 1965. This is the only specimen collected since the original series from Moko Hinau.

Tanychilus metallicus White, 1846 (Alleculinae)
1 adult: Jan. 1956, beaten from Melicytus ramiflorus.

Xylochus sp. cf. spinifer Broun, 1893 (Alleculinae)
1 adult: Jan. 1956, Aorangi. This specimen is a female, and in the present state of knowledge of this genus, only males can be identified with certainty. However, the Poor Knights female more closely resembles specimens of X. spinifer than it does either of the other two species. X. spinifer is known with certainty only from the Moko Hinau group.

FAMILY SALPINGIDAE

Salpingus bilunatus Pascoe, 1876

Salpingus sp. nov.
1 adult: Jan. 1956, beaten from flowering Hebe sp. Possibly a Poor Knights endemic.

FAMILY MELANDRYIDAE

Hylobia sp.
1 adult: Sept. 1980, lit. 70; 200 m.

Genus species indet.
1 larva: Sept. 1980, ex dead Metrosideros excelsa wood. This larva has very short, small
urogomphi borne on the high, prominent, upcurved sclerotised apex of segment 9. Similar larvae have been collected (rarely) on the mainland, but they have not yet been associated with adults.

FAMILY SCAPTIIIDAE

The genus *Nothotelus* Broun, 1914, was established for a single species *ocularius* Broun, 1914, from Wallacetown, Southland, and referred to Melandryidae. This species is close to *Hylobia usitata* Broun, 1880. These species, and *Hylobia nigella* Broun, 1880 are undoubtedly Scaptiidae as defined by Boving and Craighead (1931) and Crowson (1955). Adults have pubescent tibial spurs, and larvae have the "body terminating in a deciduous ovate appendage".

Mr R. D. Pope, British Museum (Natural History), kindly permitted me to examine the type specimens of these three species. Lectotypes for the two northern species are designated below (*N. ocularius* is based on the unique holotype).

*Nothotelus usitatus* (Broun, 1880) Watt, comb. nov.
Broun, 1880, Man. N.Z. Col. 1: 407 (*Hylobia*). Lectotype ♀, BMNH, is the left-hand syntype of two mounted on a single card, which bears the following labels: "719 [green]/New Zealand. Broun Coll. Brit. Mus. 1922-482 [printed]/Tairua/Hylobia usitata [Broun's hand]". 2.6 × 0.9 mm. Poor Knights records: 6 adults: Sept. 1980; beaten at night; pan trap in forest. Larvae in lit. 70, 72 and 73 may be this or the following species.

*Nothotelus nigella* (Broun, 1880) Watt, comb. nov.
Broun, 1880, Man. N.Z. Col. 1: 407 (*Hylobia*). Lectotype ♀, BMNH, is the right-hand specimen of two mounted on a single card, which bears the following labels: "720 [green]/New Zealand. Brit. Mus. 1922-482 [printed]/Hylobia nigella [Broun's hand]". 2.0 × 0.8 mm. Poor Knights records: 6 adults: Jan. 1956; beaten from *Hebe* sp. and *Carmichaelia* sp.

FAMILY OEDEMERIDAE

*Thelyphassa latiuscula* (Broun, 1880) subsp. nov.
12 adults: Jan. 1956, 8; Nov. 1965, 4. Beaten from *Coprosma macrocarpa* and *Pittosporum crassifolium* Hudson (1975) notes that specimens from the Poor Knights Islands are allfuscous in colour (compared with specimens from elsewhere, which are testaceous or fulvous). There are numerous less obvious differences in shape, sculpture and colouring which warrant recognition of the Poor Knights population as a 'strong' subspecies, or possibly a separate species.

FAMILY CERAMBYCIDAE

*Gastrocarus* sp. nov. (Cerambycinae)
3 adults: Jan. 1956, 2; Dec. 1980. Beaten from *Melicytus ramiflorus*. A Poor Knights endemic. The common mainland species *G. nigricollis* is a twig girdler in a wide range of host species, but especially *Leptospermum scoparium*.

*Hylobasius vegetus* Broun, 1881 (Lamiinae)
9 specimens: Jan. 1956, 6 (incl. Aorangi); Nov. 1965, 1; Sept. 1980, 2. Beaten from *Melicytus ramiflorus*, *Olearia* sp., *Carmichaelia* sp.

*Hylobasius viridescens* Bates, 1874
1 adult: Sept. 1980, pan trap in forest.

*Navomorpha lineata* (Fabricius, 1775) (Cerambycinae)
2 adults: Jan. 1956; beaten from *Melicytus ramiflorus* and *Myoporum laetum*.

*Navomorpha neglecta* Broun, 1880
1 adult: Jan. 1956, beaten from *Melicytus ramiflorus*. This is the only specimen of this species in a New Zealand collection, it previously being known only from the unique holotype (from Tairua, Coromandel) in London.
Navomorpha sulcata (Fabricius, 1775)
2 adults: Jan. 1956; beaten from flowering Hebe sp.

Stenellipsis aegrotis (Bates, 1874) Kuschel, comb. nov. (Lamiinae)

Stenellipsis nana (Bates, 1874) Kuschel, comb. nov.

Somatidia (Tenebrosoma) sp. nov. (Lamiinae)

Xylotoles griseus (Fabricius, 1775) (Lamiinae)
39 adults: Jan. 1943, 1; Jan. 1956, 6; Nov. 1965, 3; Sept. 1980, 18. Beaten from many species of woody plants, including Coprosma macrocarpa, Pseudopanax lessonii, Pittosporum crassifolium and Melicytus ramiflorus, especially at night. In Poor Knights specimens, the patches of orange or yellow pubescence on the elytra are much larger than in any other population.

Xylotoles inornatus Broun, 1880
5 adults: Jan. 1956, 3 (incl. Aorangi); Sept. 1980, 2. Beaten from Melicytus ramiflorus; beaten at night.

Xylotoles laetus (White, 1846) subsp. nov.
4 adults: Jan. 1956; beaten from Melicytus ramiflorus and Carmichaelia arborea. The Poor Knights specimens are larger than any mainland specimens (10.4-11.8 D 3.5-4.0 mm, compared with 6.1-8.7 D 2.0-3.1 mm). Mainland specimens have small, dense, orange patches of pubescence on head, pronotum and elytra. In Poor Knights specimens, the patches are much less dense, and pale yellow in colour. Poor Knights specimens have stronger and more numerous transverse wrinkles on the pronotum, and stronger dorsal microsculpture than mainland specimens. The Poor Knights population is certainly a “strong” subspecies and is perhaps specifically distinct.

FAMILY CHRYSOMELIDAE

Eurolaspius sp. nov. aff. vittiger Broun, 1893 (Eumolpinae)
25 specimens: Jan. 1956, 8 (incl. Aorangi); Nov. 1965, 12; Sept. 1980, 5. Eurolaspius brunneus of Shaw (1957) appears to be a complex of several species. The Poor Knights specimens have much stronger microsculpture than any of the complex, but they appear to be closest to E. vittiger.

FAMILY ANTHRIBIDAE (Det. B. A. Holloway)

“Anthribus” brouni Sharp, 1876
6 adults: Jan. 1956, 5; Sept. 1980, 1. Beaten from Carmichaelia arborea and Metrosideros excelsa; beaten at night.

“Anthribus” hetaera Sharp, 1876
1 adult: Jan. 1956; beaten from Carmichaelia arborea.

Cacephatus huttoni (Sharp, 1876)
1 adult: Jan. 1956; beaten from Pittosporum crassifolium.

Dysmecryptus inflatus (Sharp, 1876)
5 adults: Jan. 1956, 1; Sept. 1980, 4. Lit. 72, 73; beaten from Carmichaelia arborea.

Exilis lawsoni (Sharp, 1873)
FAMILY APIONIDAE

\textit{Neocyba metrosideros} (Broun, 1880)

See Kuschel (1982) for details.

FAMILY CURCULIONIDAE

See Kuschel (1982). The following list is in alphabetical order. Subfamily names are given by Kuschel.

\textit{Agacalles sp. nov.}
\textit{Allanalcis sp. nov.}
\textit{Anagotus fairburni} (Brookes, 1932)
\textit{Anagotus rugosus} (Broun, 1883)
\textit{Anagotus tertiobelli} (Spiller, 1942)
\textit{Anagotus sp.}
\textit{Andruaalcalis sp. nov.}
\textit{Aneuma rubicale} (Broun, 1880)
\textit{Chlaeopitelius munitus} (Broun, 1881)
\textit{Clupeolus pascoci} (Broun, 1880)
\textit{Clupeolus signatus} (Broun, 1880)
\textit{Clupeolus veratrus} (Broun, 1893)
\textit{Crius gremiatus} Broun, 1880
\textit{Crius sp. nov.}
\textit{Didymus intusus} (Pascoe, 1876)
\textit{Didymus sp. nov.}
\textit{Ectopis sp. nov.}
\textit{Eiraphus parrulus} Pascoe, 1877
\textit{Exomesites sp. nov.}
\textit{Getaacalles ventralis} (Broun, 1883)
\textit{Gymnaestron pascorum} (Gyllenhal, 1813)
\textit{Haddracalles fuliginosus} Broun, 1893
\textit{Irenimus compressus} (Broun, 1880)
\textit{Macrosteleus remotus} (Sharp, 1878)
\textit{Mandalotus irritus} (Pascoe, 1877)
\textit{Metacalles sp. 1}
\textit{Metacalles sp. 2}
\textit{Microtribus huttoni} Wollaston, 1873
\textit{Microtribus sp. nov.}
\textit{Neomecyla rubida} Broun, 1880
\textit{Notacalles floricolus} (Broun, 1886)
\textit{Notacalles sp.}
\textit{Novitas dispers} Broun, 1893
\textit{Nyctetes bidens} (Fabricius, 1775)
\textit{Pachyops dubius} (Wollaston, 1873)
\textit{Pactola variabilis} (Pascoe, 1876)
\textit{Paedochares clarius} (Broun, 1880)
\textit{Pentarhynus brevicorni} (Broun, 1914)
\textit{Pentarhynus zealandicus} (Wollaston, 1873)
\textit{Peristoreus gilotti} (Pascoe, 1877)
\textit{Peristoreus sexmaculatus} (Broun, 1881)
\textit{Peristoreus stramineus} (Broun, 1881)
\textit{Peristoreus sudus} (Broun, 1881)
\textit{Phloeophagoidea brouni} (Kuschel, 1982)
\textit{Phloeophagoidea pedata} (Wollaston, 1874)
\textit{Phyrinxus sp. nov.}
\textit{Praoëla thalinae} Broun, 1886
\textit{Praoëla sp. nov.}
\textit{Pspholax femoratus} (Broun, 1880)
\textit{Pspholax mediocris} (Broun, 1886)
\textit{Pspholax sulphatus} White, 1846
\textit{Scolodichus sp. nov.}
\textit{Sericotrogus subaenosus} Wollaston, 1873
\textit{Simuchus montanus} Broun, 1886
\textit{Stephanorhynchus lauiwoni} Sharp, 1876
\textit{Strongylopterus hystoloides} (White, 1846)
\textit{Touropis brevirostris} (Sharp, 1878)
\textit{Tychanopis sp. nov.}
\textit{Tysius bicornis} (Fabricius, 1781)

ORDER DIPTERA

FAMILY CULICIDAE

\textit{Opisops fuscus} Hutton, 1902

2 adults; Nov. 1965; larvae very common in high tidal saltwater pool [none collected]; adults common in vicinity. The saltpool mosquito; common on rocky coasts throughout New Zealand.

FAMILY ASILIDAE

\textit{Neoitamus varius} (Walker, 1849)

2 adults: Nov. 1965; on larger vegetation of ground cover; in tent.

FAMILY LAUXANIIDAE

\textit{Sapromyza neozelandica} Tonnoir and Malloch, 1926

3 adults: Nov. 1965; on vegetation; on walls of tent.

ORDER LEPIDOPTERA (Det. J. S. Dugdale)

FAMILY MICROPTERYGIDAE

\textit{"Sabatinca" zonodoxa} Meyrick, 1888

3 adults: Sept. 1980; pan traps; pan trap in forest. This appears to be the first record of Micropterygidae from a long-isolated island around New Zealand.
FAMILY TINEIDAE

_Cryptisitricha pharotoma_ (Meyrick, 1888)
2 adults: Sept. 1980; pan trap; pan trap in forest.

_Dryadula myrrhina_ Meyrick, 1905
2 adults: Sept. 1980; pan trap in forest.

_Endophthora pallacopia_ Meyrick, 1918
1 adult: Sept. 1980, Shag Bay, malaise trap.

_Erechthias exospila_ Meyrick, 1901
2 adults: Sept. 1980; Shag Bay, malaise trap; malaise trap, 130 m.

_Eschatotypha_ sp. _cf._ _derogatella_ Walker, 1863
1 adult: Sept. 1980, Shag Bay, malaise trap.

_Monopis dimorphella_ Dugdale, 1971
3 adults: Sept. 1980; Shag Bay, malaise trap, pan trap.

_Trihamnora certella_ Walker, 1863
3 adults: Sept. 1980; Shag Bay; malaise trap.

FAMILY PSYCHIDAE

_Scoriidyla conisalia_ Meyrick, 1888
1 adult: Sept. 1980; Shag Bay; malaise trap.

FAMILY CARPOSINIDAE

_Paramorpha marginata_ Philpott, 1931
1 adult: Sept. 1980; Shag Bay; malaise trap.

FAMILY GLYPHIPTERIGIDAE

_"Glyphipteryx" tungella_ Felder, 1875
1 adult: Sept. 1980; Shag Bay; malaise trap.

FAMILY CHOREUTIDAE

_Tebenna bradleyi_ Clarke, 1971
1 adult: Sept. 1980; Shag Bay; malaise trap. This species occurs throughout New Zealand, and also from India to Rapa. Its larvae feed on Compositae, especially herbaceous species (J. S. Dugdale).

FAMILY TORTRICIDAE

_"Argyroplece" chlorosaris_ Meyrick, 1914
1 adult: Sept. 1980; pan trap in forest.

_Capua semiferana_ complex, sp. A
1 adult: Sept. 1980; Shag Bay; pan trap. Larvae live in forest litter (J. S. Dugdale).

_"Ctenophasia" jactatana_ (Walker, 1863)
5 adults: Sept. 1980; Shag Bay, malaise trap, pan trap; pan trap in forest; lit. 73.

_Ctenophassus servana_ (Walker, 1863)
2 adults: Sept. 1980; Shag Bay, malaise trap; malaise trap, 130 m. This species has a patchy coastal distribution from the Three Kings Islands to Wellington (J. S. Dugdale).

_Prothelymina antiquana_ (Walker, 1863)
2 adults: Sept. 1980; malaise trap; 130 m. The larva makes galls in twigs of _Myoporum laetum_ (J. S. Dugdale).

_Strepsicrates parthenia_ Meyrick, 1888
1 adult: Sept. 1980; Shag Bay; malaise trap.

_Strepsicrates zopherana_ Meyrick, 1881
1 adult: Sept. 1980; Shag Bay; pan trap. Larvae feed on _Leptospermum_.

Matериал, защищенный авторским правом
FAMILY GELECHIIDAE

"Athrips" zophocala (Meyrick, 1918)
1 adult: Sept. 1980; Shag Bay; malaise trap. The larva mines young stems of Carmichaelia (J. S. Dugdale).

FAMILY MOMPHIDAE

Zaprystra calliphana Meyrick, 1889
1 adult: Sept. 1980; Shag Bay; malaise trap. The larva mines leaves of Muehlenbeckia (J. S. Dugdale).

FAMILY COLEOPHORIDAE

Batrachedra arenosella (Walker, 1864).
2 adults: Sept. 1980; Shag Bay; malaise trap.

FAMILY OECOPHORIDAE

Stathmopoda sp. cf. skelloni auct.
15 adults: Sept. 1980; Shag Bay; malaise trap; pan trap.

Tingena armigerella (Walker, 1864)
1 adult: Sept. 1980; lit. 73; 40 m.

Tingena basella (Walker, 1863)
3 adults: Sept. 1980; lit. 71; 170 m.

Tingena chloradephla (Meyrick, 1905)
1 adult: Sept. 1980; pit 75; 30 m.

Tingena sp. (12 mm wingspan, speckled)
1 adult: Sept. 1980; Shag Bay; malaise trap.

Tingena sp. (17 mm wingspan, patterned with brown)
3 adults: Sept. 1980; lit. 72; Shag Bay; malaise trap.

FAMILY PTEROPHORIDAE

Acipitilia monospilata Walker, 1864
1 adult: Sept. 1980; Shag Bay; pan trap. Larvae feed on Araliaceae (J. S. Dugdale).

Platypilta repletalis repletalis Walker, 1864
1 adult: Sept. 1980; Shag Bay; malaise trap. Larvae feed on Plantago (J. S. Dugdale).

FAMILY PYRALIDAE

Pareromene sp.
1 adult: Sept. 1980; Shag Bay; pan trap.

Genus species indet. (Pyraustinae)
1 adult: Sept. 1980; Shag Bay; pan trap.

Scoparia sp. (philerga group)
1 adult: Sept. 1980; Shag Bay; malaise trap.

FAMILY GEOMETRIDAE

Gellonia dejectaria (Walker, 1860)
2 adults: Sept. 1980; Shag Bay.

Homoditis megasipilata (Walker, 1862)
1 adult: Sept. 1980; pan trap. Larvae feed on forest litter.

"Horisme" bipartita Prout, 1958 (nomen nudum)
1 adult: Sept. 1980; pan trap in forest. Larvae feed on Coprosma.

FAMILY ARCTIIDAE

Nyctemera annulata annulata (Boisduval, 1832)
FAMILY NOCTUIDAE

*Graphania lignana* (Walker, 1857)
- 1 adult: Sept. 1980; Shag Bay; malaise trap.

*Homohadena fortís* (Butler, 1879)

FAMILY LYCAENIDAE

*Lycéea rauparaha* (Fereday, 1877)
- 1 adult: Sept. 1980, on *Muehlenbeckia complexa*, the larval food plant.

ORDER HYMENOPTERA

FAMILY ICHNEUMONIDAE

*Diadegma* sp.
- 1 adult: Nov. 1965.

Genus *species* indet.
- 1 adult: Nov. 1965.

FAMILY FORMICIDAE (Det. A. W. Don)

*Amblyopone australis* Erichson, 1842
- 11 adults: Nov. 1973, 10 (Aorangi, NMNZ); Sept. 1980, 1; lit. 68; 200 m.

*Chelaner antarcticus* (White, 1848)
- 138 adults: Nov. 1973; 123 (Aorangi, NMNZ); Sept. 1980, 15; pit 76, 77; under *Muehlenbeckia complexa*.

*Chelaner smithi* (Forel, 1892)
- 1 adult: Nov. 1973; Aorangi, NMNZ.

*Discothyrea antarctica* Emery, 1895
- 2 adults: Sept. 1980; lit. 68, 69; 160-200 m.

*Heteroponera brouni* (Forel, 1892)
- 38 adults: Nov. 1973, 12 (Aorangi, NMNZ); Sept. 1980, 26; lit. 67, 71, 73; pit 79, 80, 81, 86; 30-200 m.

*Mesoponera castanea* (Mayr, 1865)
- 6 adults: Sept. 1980; lit. 67, 69, 71; pit 79; 40-200 m.

*Strumigenys perplexa* (Fr. Smith, 1876)
- 2 adults: Sept. 1980; lit. 67, 70; 200 m.

FAMILY VESPIDAE

*Polistes humilis humilis* (Fabricius, 1781)
- 3 adults: Nov. 1965. Recorded under the synonymous name *Polistes tasmaniensis* Saussure, 1833, by Somerfield (1973), who states: “Fairly common in sunny situations. A nest 2.5 cm in diameter, attached to a flax leaf, was found by D. Merton.”

ORDER OPILIONES (Det. R. R. Forster)

FAMILY PHALANGIDAE

*Megalopsalis* sp.
- 7 specimens: Sept. 1980; lit. 70, 71; pit 81; pan traps in forest; 100-200 m.

FAMILY TRIAENONYCHIDAE

*Nuncia sulcata* Forster, 1954
- 4 specimens: Sept. 1980; lit. 67, 72; 30-200 m.
Pristobunus hilus (Forster, 1954) Forster, stat. nov.
28 specimens: Sept. 1980; lit. 68, 72, 73; 30-200 m. This species was originally given
the rank of subspecies of Pristobunus acentrus Forster, 1954.

Soerensella prehensor Pocock, 1903
3 specimens: Sept. 1980; under stones, Metrosideros excelsa forest.

Triegia sp. cf. fairburni Forster, 1954
1 specimen: Sept. 1980; under log.

ORDER ACARI (Det. G. W. Ramsay)
FAMILY PHTHIRACARIDAE
Genus species indet.
Sept. 1980; lit. 72, 73; 30-40 m.

FAMILY EUPHTHIRACARIDAE
Genus species indet.
Sept. 1980; lit. 67, 68, 69, 73; 40-200 m.

FAMILY CROTONIIDAE
Crotonia sp.
Sept. 1980; lit. 69, 72, 73; pit 81.

FAMILY LIODIDAE
Liodes sp.
Sept. 1980; pit 75; pan traps; beaten.

<table>
<thead>
<tr>
<th></th>
<th>Poor Knights</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRUSTACEA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopoda</td>
<td>7</td>
<td>68</td>
</tr>
<tr>
<td>Amphipoda</td>
<td>+</td>
<td>14</td>
</tr>
<tr>
<td><strong>MYRIAPODA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diplopoda</td>
<td>10</td>
<td>81</td>
</tr>
<tr>
<td>Chilopoda</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td>Symphyla</td>
<td>+</td>
<td>14</td>
</tr>
<tr>
<td><strong>HEXAPODA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collembola</td>
<td>+</td>
<td>354</td>
</tr>
<tr>
<td>Diplura</td>
<td>+</td>
<td>10</td>
</tr>
<tr>
<td>Archaeognatha</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Thysanura</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Odonata</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Blattodea</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>Isoptera</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Dermaptera</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Orthoptera</td>
<td>8</td>
<td>102</td>
</tr>
<tr>
<td>Phasmatoidea</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Psocoptera</td>
<td>6</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Poor Knights</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAPODA (continued)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phthiraptera</td>
<td>+</td>
<td>192</td>
</tr>
<tr>
<td>Hemiptera</td>
<td>18</td>
<td>754</td>
</tr>
<tr>
<td>Thysanoptera</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>Neuroptera</td>
<td>+</td>
<td>12</td>
</tr>
<tr>
<td>Coleoptera</td>
<td>167</td>
<td>4822</td>
</tr>
<tr>
<td>Siphonaptera</td>
<td>+</td>
<td>28</td>
</tr>
<tr>
<td>Diptera</td>
<td>3+</td>
<td>1870</td>
</tr>
<tr>
<td>Trichoptera</td>
<td>1</td>
<td>141</td>
</tr>
<tr>
<td>Lepidoptera</td>
<td>40</td>
<td>1490</td>
</tr>
<tr>
<td>Hymenoptera</td>
<td>10+</td>
<td>407</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Poor Knights</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTHROPODA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudoscorpiones</td>
<td>+</td>
<td>67</td>
</tr>
<tr>
<td>Opiliones</td>
<td>5</td>
<td>169</td>
</tr>
<tr>
<td>Araneae</td>
<td>46</td>
<td>1200</td>
</tr>
<tr>
<td>Acari</td>
<td>4+</td>
<td>697</td>
</tr>
</tbody>
</table>

|                      |              |             |
| TOTAL                | 348+         | 12 750      |

+ = present; number of species not known. Totals of species for New Zealand are from various sources—primarily Wise (1977) and Johns (1981).

Table 1 — Orders occurring on the Poor Knights Islands.
<table>
<thead>
<tr>
<th></th>
<th>E</th>
<th>ND</th>
<th>AK</th>
<th>CL</th>
<th>BP</th>
<th>WO</th>
<th>SN</th>
<th>SO</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ISOPODA : Lygidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lygia novaeezealandiae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Armadillidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cubaris marina</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Sphaerillo danae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>CHILOPODA : Scutigeridae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scutigera smithi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scolopendridae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cormosephus rubriceps</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Schendyliidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ballophilus howselli</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chilenophilidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maoriella maorrostigma</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Maoriella zelanious</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lithobiidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamycates emarginatus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hemicopidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anopsobius neozelanious</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>BLATTODEA : Blattidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Celatoblatta undulivitta</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Platypocera novaeezealandiae</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Blattellidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omatoblatta maori</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Parellipsidion latipennis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>DERMAPTERA : Labiduridae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anisolabis sp. aff. kaspar</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>ORTHOPTERA : Stenopelmatidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deinaacrida fallai</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hemiandrus sp. aff. anomalous</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rhaphidophoridae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gymnoplectron giganteum</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Neocnetus sp.</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Talitropsis sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gen.aff. Talitropsis sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weta sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gryllidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maticoche maoricorn</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pteronemobius bigelovi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>PHASMATODEA : Phasmdidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clitarchus sp. aff. hookeri</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>PSOCOPTERA : Lepidopsocidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eohmepteryx hamiltoni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Caeciliidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caecilius flavus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 2 — Known distribution of some species of terrestrial arthropods from the Poor Knights Islands.
<table>
<thead>
<tr>
<th>E</th>
<th>ND</th>
<th>AK</th>
<th>CL</th>
<th>BP</th>
<th>WO</th>
<th>SN</th>
<th>SO</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ectopsocidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ectopsocus briggesi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ectopsocus punctatus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><strong>Elipsocidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spilopsocus annulatus</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Philotarsidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zelenopsocus kuscheli</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>HEMIPTERA: Delphacidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ugyops rhadamantus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Cicadidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphipsalta cingulata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Cicadellidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myerelopia sp. aff. triregia</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Xestocephalus ovalis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Psyllidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trionza vitreoradiata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Aphididae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperomyza lactucae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Rhopalosiphum padi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Toxoptera aurantii</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Coccidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ctenochiton viridis</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Lygaeidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targarea etali</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Tomocoris ornatus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Truncula insularis [islands only]</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Acanthosomatidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhopalimorpha lineolaris</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>LEPIDOPTERA: Micropterigidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Sabatina&quot; nonodaza</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tineidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryadaula myrrhina</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Endophthora pallacopis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Erechthias ezoepila</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Monopis dimorphella</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Trithamnora certella</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Psychidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scoiolodyta conisalata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Carpocinidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paramorpha marginata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Glyphipterigidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Glyphipterix&quot; tungella</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Choreutidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tebenna bradleyi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tortricidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Argyroloce&quot; chlorosarid</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Capua sp. A</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>ND</td>
<td>AK</td>
<td>CL</td>
<td>BP</td>
<td>WO</td>
<td>SN</td>
<td>SO</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>&quot;Oniphasia&quot; jactatana</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ctenopseustia servana [coastal]</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prothelymma antiquana</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Strepsicrates parthenia</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Strepsicrates zopherana</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Gelechiidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>&quot;Athripe&quot; zophochalca</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Momphidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Zapyrastes calliphana</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Coleophoridae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Batrachedra arenosella</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Oecophoridae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Stathomora sp.</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Tingena armigerella</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tingena basella</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tingena chloralophila</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Pterophoridae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Actiptilia monospilalis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Platyptilia r. releptalis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Geometridae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Gellonia dejectaria</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Homodotis megaspilata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>&quot;Hormie&quot; bipartita</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Arctiidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Nyctemera a. annulata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Noctuidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Graphania lignana</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Homohadena fortie</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Lycaenidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Lycaena rauparaha</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>HYMENOPTERA : Formicidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Amblyopone australis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Chelanera antarcticus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Chelanera smithi</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Discothyrea antarctica</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Heteroponera brouni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Mesoponera castanea</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Strumigenys perplexa</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Vespidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Polistes h. humilis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OPILIONES : Triaenonychidae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nuxoria sulcata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pristoborus hilus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scoerenesella prehensor</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTALS (88 spp.)</td>
<td>742</td>
<td>73</td>
<td>75</td>
<td>46</td>
<td>56</td>
<td>46</td>
<td>62</td>
<td>46</td>
</tr>
<tr>
<td>PERCENTAGES</td>
<td>10</td>
<td>83</td>
<td>85</td>
<td>52</td>
<td>64</td>
<td>52</td>
<td>70</td>
<td>52</td>
</tr>
</tbody>
</table>
Abbreviations: E+ = species present or probably endemic; ND = Northland; AK = Auckland area; CL = Coromandel area; BP = Bay of Plenty area; WO = Waikato area; SN = southern North Island, including islands; OS = overseas (i.e., anywhere outside New Zealand plus offshore islands). Area abbreviations include islands (see Crosby, Dugdale, and Watt, 1976).
<table>
<thead>
<tr>
<th>Family</th>
<th>Species</th>
<th>E</th>
<th>Is</th>
<th>ND</th>
<th>AK</th>
<th>CL</th>
<th>BP</th>
<th>WO</th>
<th>SN</th>
<th>SO</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carabidae</td>
<td>Ctenognathus novaezealandiae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dometrida nasuta</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mecodema sp.</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Notagonium lawsoni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Pelodiscotes prominens</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Pentagonica vittipennis</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Histeridae</td>
<td>&quot;Abraea&quot; browni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Stemnulax zealandicus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Leiodidae</td>
<td>Mesocolon nesobium</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Scydmaenidae</td>
<td>Eucommus calvus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Neuraphococcus velutus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Neuraphococcus sp. nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Satascharis allocera</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Scaphidiidae</td>
<td>Basosera sp.</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Staphylinidae</td>
<td>Anriathaea sp. 17</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Anotylus brunneipennis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Anotylus vineoni</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Anotylus sp. nov.</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dasynotus sp.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Oculea socialis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>&quot;Omalium&quot; spadix</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Sepedophilus acerbus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Thamicarca sp. nov.</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pselaphidae</td>
<td>Sagola insignis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Zeatylus lawsoni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Zealandius sandageri</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lucanidae</td>
<td>Ceratognatus irroratus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Lissotes sp. nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scarabaeeidae</td>
<td>Odontria sp. nov.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Elateridae</td>
<td>Amphiplatyia lawsoni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Centipora sp. nov.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Ochosterus zealandicus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Thoramus laevithorax</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Derستidae</td>
<td>Tricholeodes vulgata</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Trogoderma maestum</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Trogoossitidae</td>
<td>Luperina browni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Cleridae</td>
<td>Phylactophora opiloides</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Phylactophora testacea</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3 — Known distribution of some species of Coleoptera from the Poor Knights Islands.
<table>
<thead>
<tr>
<th>Family</th>
<th>Species/Species Group</th>
<th>E</th>
<th>Is</th>
<th>ND</th>
<th>AK</th>
<th>CL</th>
<th>BP</th>
<th>WO</th>
<th>SN</th>
<th>SO</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MELYRIDA</td>
<td>Anarthraconthus sp.nov.</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dasylites laticeps</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dasylites sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Helylea semidilutus</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CUCUJIDAE</td>
<td>Cryptomorpha brevicornis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CRYPTOPHAGIDAE</td>
<td>&quot;Cryptophagus&quot; sp.aff. rutilus</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Salitius ruficeps</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LANGURIDAE</td>
<td>Loburus nitens</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CERYLIDAE</td>
<td>Hypoxone rubripes</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CORYLOPHIDAE</td>
<td>Anisomerides sharpi</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Holopasis rotundatus</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Holopasis sp. 2</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Holopasis sp. 3</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>COCCINELLIDAE</td>
<td>Cocinella leonina</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Harmonia conformis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>&quot;Scymnus&quot; concorae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>&quot;Scymnus&quot; minutulus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>&quot;Scymnus&quot; trietic</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>&quot;Scymnus&quot; sp.aff. rarus</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MEROPHYSIIDAE</td>
<td>Holoparamicus sp. 4</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Holoparamicus sp. 8</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LATHRIDIDAE</td>
<td>Lithostygmus sinuosus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>&quot;Melanophthalma&quot; sealandica</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>COLYOIDAE</td>
<td>Acosmius sp.nov.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Bitoma vicina</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Coelius sp.</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Epiastreus sp.nov.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Ithrius gracilis</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Pristoderus sp.nov.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Pycnomerus simplex</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Syncladius sp.nov.</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Tarphiiomimus sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TENEBRIONIDAE</td>
<td>Artystiona erichsoni</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Chrysopoeplius expolitis</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mimopoeplius elongatus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mimopoeplius sp.nov.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Omedee nitidus</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Tanychilus metallicus</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>Is</td>
<td>ND</td>
<td>AK</td>
<td>CL</td>
<td>BP</td>
<td>WO</td>
<td>SN</td>
<td>SO</td>
<td>OS</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td><strong>SALPINGIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Salpingus bilunatus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Salpingus sp. nov.</em></td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>SCAPTIIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Notothelus nigellus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Notothelus usitatus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>OEDEMERIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Thelephassa laticeps</em></td>
<td>(+)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>CERAMBYCIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Gastrocarus sp. nov.</em></td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Hybolasius vegetus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Hybolasius viridescens</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Navomorpha lineata</em></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Navomorpha neglecta</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Navomorpha sulcata</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Stenellipia aegrotia</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Stenellipia nanu</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Stenellipia parvula</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Tenebrusoma sp. nov.</em></td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><em>Xylotoles griseus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Xylotoles inornatus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Xylotoles laetus</em></td>
<td>(+)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>CHRYSOMELIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bucolopsis sp. nov.</em></td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>ANTHRIBIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;*Anthribus&quot; browni&quot;</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>&quot;*Anthribus&quot; hetaera&quot;</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Casephatus huttoni</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Dyantorquatus inflatus</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td><em>Exilis lawsoni</em></td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS (Poor Knights 100 spp.)</strong></td>
<td>58</td>
<td>63</td>
<td>65</td>
<td>36</td>
<td>34</td>
<td>34</td>
<td>14</td>
<td>36</td>
<td>3</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

+ = species present or probably endemic (first column); (+) = endemic subspecies. Is = occurs on at least one of the following islands: Hen I., Chicken Is., Moko Hinou Is., Great Barrier I., Little Barrier I., Noisies Is., inner Hauraki Gulf islands, Mercury Is., Aldermen Is., Mayor I. ND = Northland area; AK = Auckland area; CL = Coromandel; BP = Bay of Plenty; WO = Waikato; SN = southern North Island area; SO = South Island; OS = overseas.
ACKNOWLEDGEMENTS

I thank Mr B. D. Heather and Mr R. Moyrnan (leader and organiser of the first expedition in which I participated) and the then Commissioner of Crown Lands, Auckland, for the opportunity to visit and work on Tawhiti Rahi during Dec 1955-Jan 1956. I am indebted to the Hauraki Gulf Maritime Park Board and Dr B. W. Hayward for the opportunity to work on Tawhiti Rahi and participate in the OIRG expedition in Sep 1980; and to the Board for permission to work on the island again during 30 Nov-12 Dec 1980.

Contributions of the various collectors listed in the introduction is acknowledged. Dr K. G. Somerfield deposited his Poor Knights specimens in NZAC and provided additional information on his visit to Tawhiti Rahi.

I am indebted to Dr G. Kuschel, who identified Scydmaenidae, and the general NZAC collection of Cerambicidae so that it was a relatively easy matter to identify Poor Knights specimens of that family. I thank other specialists who identified material of various groups, and often provided information on distribution and ecology, i.e. Ms C. F. Butcher (most Hemiptera), Mr A. W. Don (Formicidae), Mr J. S. Dugdale (Cicadidae, Lepidoptera), Dr R. R. Forster (Ophionidae), Dr B. A. Holloway (Anthrizidae), Mr P. M. Johns (Chilopoda and Diplopoda), Dr L. A. Mound and Ms A. K. Walker (Thysanoptera), Ms J. Playfair (Isopoda), Dr G. W. Ramsay (Orthopteroidea orders, some Acari), Mr R. G. Sunde (Aphididae), Mr J. I. Townsend (Mecoptera), Dr S. K. Wong (Psocoptera).

Mr R. G. Ordish and Mr K. A. J. Wise kindly provided information about type specimens of Poor Knights species in NMNZ and AMNZ respectively.

REFERENCES


Received, 28 October 1981