

**Fauna of  
New Zealand**  
**Ko te Aitanga Pepeke  
o Aotearoa**

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Ko te Aitanga Pepeke o Aotearoa**

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# **Heteroptera**

**(Insecta: Hemiptera) :  
catalogue**

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**with colour photographs by B. E. Rhode**

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## POPULAR SUMMARY

### Class Insecta

### Order Hemiptera

### Suborder Heteroptera

#### True bugs (Heteroptera)

Heteroptera, or true bugs, are generally regarded as a suborder of the Hemiptera. There may be around 37 000 described species worldwide, and possibly another 25 000 species remaining to be described. The world fauna is divided into roughly 75 families. The number of species of better known continental faunas such as North America, Europe, or Australia, may be around 2 000 or 5 000 species. Compared with these larger regions the New Zealand fauna – currently comprising 29 families, 136 genera, and 305 species – may appear relatively small, but what it lacks in size it makes up in uniqueness, e.g., 82% of known species do not occur anywhere else in the world. From this point of view New Zealand can be regarded as a biodiversity “hot spot” for true bugs. Once described, the New Zealand fauna will probably reach 400 to 500 species. Faunal affinities are greatest with southeastern Australia.

The question of what is a true bug is not necessarily easy to answer since there may not be one unique defining character shared by all species. Nevertheless, it is probably possible to recognise most true bugs on the basis of three main characteristics: sucking mouthparts in the form of a segmented beak extending from the front of the head and running backward along its underside; slightly overlapping forewings lying almost flat over the abdomen; and each forewing base being much thicker than the tip (hence the name Heteroptera, derived from the Greek words *heteros* (different or other) and *pteron* (wing), referring to the nonuniform texture of the forewings).

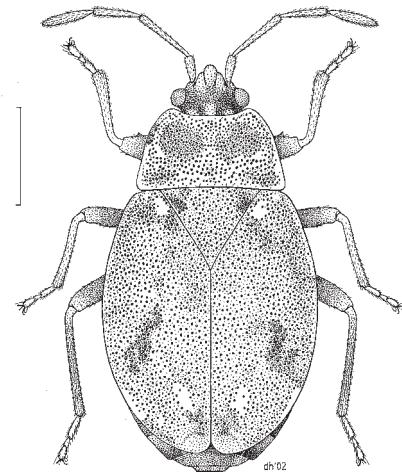
While it is relatively easy to recognise a true bug, it may be more difficult to identify it at the species level. Heteroptera often show a high degree of morphological similarity within genera, high taxonomic diversity overall, and striking ecological preferences.

The Heteroptera are the largest and most diverse group of insects with incomplete metamorphosis. As such, their life cycle involves an egg stage, a series of nymphs (usually 5) or growing stages that look progressively similar to the adult, and finally an adult stage.

True bugs are a highly adaptable group that has managed to occupy most terrestrial as well as many aquatic and semi-aquatic habitats and to adopt remarkably diverse life habits on nearly all continents and most islands, suggesting a long evolutionary history for the group.

As a result, Heteroptera are well represented in New Zealand entomological museums and collections. Despite this, no up-to-date catalogue has been published following Wise's

#### HE WHAKARAPOPOTOTANGA



**Illustration / Whakaahua:** *Nothochromus maoricus* Slater, Woodward & Sweet, 1962 (Artheneidae) (Illustrator / Kaiwhakaahua: D. W. Helmore).

E whakaetia wh-nuitia ana he pātoi iti a Heteroptera (ng~ pepeke wahangote tāuru) nōng-i Hemiptera. Kei te hua 37,000 pea ng~ momo kua whakaahuatia ~kupu, huri i te ao, me t' tahi atu 25,000 k~ore anç i whakaahuatia. Kua wehewehe ng~ momo ki 'tahi wh~nau ~hua 75 nei. Ko te maha o ng~ momo i ng~ k~hui e kaha ake ana te mçiotia, p'r~i Çamerika ki te Raki, i Çaropi, i ÇAhitereiria, ko tçä 2 000–2 500 pea. He tokooti tonu te k~hui Heteroptera ki Aotearoa ina whakatairitea ki Ç'r~ whenua rahi, in~r~ e 29 noa ng~ wh~nau, 136 ng~ puninga, e 305 ng~ momo, engari me kçero tçä ahurei ka tika. Hei tauira, ko t' tahi 82% o ng~ momo o konei e mçiotia ana, k~ore e kitea i whenua k~. Me kç'nei ake, he ~huru mçvai tonu a Aotearoa mçng~ pepeke wahangote. Ina oti katoa ng~ mea o Aotearoa te whakaahua ~kupu, t' r~ te eke ki te 400–500 momo. Ko çä k~wai torokaha, ki ng~ momo i te tonga-m~r~whiti o Ahitereiria.

He uaua te whakautu i te p~tai he aha koia t'nei mea te pepeke wahangote tāuru, i te mea karekau pea he ~huatanga motuhake kotahi e kitea ana i ng~ momo katoa. Heoi anç e toru ng~ ~huatanga tinana matua e mçiotia ai te nuinga o ng~ pepeke wahangote: he whai w~hanganga ngote te waha, ar~, he ngutu w~hanganga-maha ka rere mai i mua o te apoko ki raro r~anç ko ng~ parirau o mua ka ~hua Sakanaki, me te tatao ançki te puku; he m~totoru noa ake te pāake o te parirau o mua, t'n~i te pito (nçreira mai hoki te ingoa Heteroptera, i ahu mai i ng~ kupu Kariki *heteros* (ar~, he rerek\*) me te *pteron* (parirau), e tohu ana i te rerek\* o te m~totoru i t'n~ w~hi, i t'n~ w~hi o te parirau o mua).

Ahakoa m~m~ pea te whakatau ~e, he pepeke wahangote t'r~, k~ore r~nei, ka uaua ake te ~a wehewehe i ng~ momo, t' tahi i t' tahi. He kaha tonu te rite o te hanga i roto i ia puninga, engari ina tiro wh~nui ki ng~ puninga katoa, he matahuhua tonu te hanga, ~, he tino rerek\* ng~ ~huatanga taupuhi kaia e pai ana ki t'n~, ki t'n~

(continued overleaf)

(haere tonu)

(1977) "...synonymic checklist of the Hexapoda of the New Zealand sub-region...", which enumerated 100 genera and 170 species. Numerous name changes and new genera and species (over 160) have been published since then, and although the above checklist is still useful, it no longer reflects current knowledge of the fauna. Hence the reason for writing this new catalogue, which aims to answer the questions commonly asked about any group of insects: What, where, when, and how? What Heteroptera occur in New Zealand? What is their status (e.g., native, introduced from elsewhere, pests, beneficial predators)? What are the resources available to identify and study them? Where do species and genera occur (e.g., geographic distribution in New Zealand and overseas, habitats, dispersal abilities)? When are they active (e.g., seasonal activity, mating, egg-laying, wintering)? How do they live (e.g., food preferences, host plants, natural enemies)?

The majority of Heteroptera families occurring in New Zealand are terrestrial. Less than 7% of the fauna is semi-aquatic (living on or near water) or aquatic (living in water). Terrestrial species can be either mostly epigean (living on the ground), planticolous (living on low-growing, non-woody plants), or arboreal (living on trees and shrubs). The two native terrestrial habitats harbouring the greatest number of species are forests and shrublands (in the lowlands and on mountains). Tussock grasslands and open subalpine environments also harbour their own suites of unique species. In general, native species tend to live within the confines of native habitats, but many species also survive in modified environments. Introduced species seem to be able to invade natural habitats but, in general, only to a slight degree.

Very few native species live almost exclusively in coastal lowlands. On the other hand, most coastal sand dunes, estuarine habitats, and coastal wetlands are typically inhabited by introduced species. Some introduced species are synanthropic (living around human dwellings).

Very little is known about the life history of native true bugs. Host plants, or the plants on which true bugs breed and develop, have been confirmed for less than 25% of species, mainly in the seed bug and plant bug families. The seasonal activity of species, especially in the adult stage, is only becoming clearer in this catalogue with more data gathered from New Zealand collections. Adults are probably diurnal in most families, and although they may be active for most of the year, their peaks of activity are between November and March, that is, the end of spring (September–November), summer (December–February), and early autumn (March–May). The seasonal activity of immature stages as well as the breeding type of most species, i.e. the time of the year when they reproduce, are mostly unknown. Population biology and means of dispersal remain virtually undocumented.

The majority of Heteroptera found in New Zealand are phytophagous (plant-feeding) extracting sap directly from the plant vascular system (in most families), feeding on seeds, developing fruits or flowers, or sometimes pollen. The majority of species of the flat bug family are thought to feed on the mycelia or fruiting body of various wood-rotting fungi. Almost all families of Heteroptera also include species that are predacious on insects and other arthropods. There are also entire families that are predominantly predacious. Only

O ng~ pepeke k~huarau pahara, ko ng~i Heteroptera te huinga pepeke nui katoa, matahuhua katoa. Mai i te wh~nautanga ki te matenga, kotahi te tātipu hua, he maha ng~tātipu punua (e 5 Čte nuinga), ng~tātipu r~nei ka rite haere ki tČte pakeke te ~hua, ~ ko te k~hua whakamutunga, ko te pakeke tonu.

He k~hui kaha te urutau ng~ pepeke wahangote. Kua tomo atu r~tou i te nuinga o ng~ripoinga whenua, me te maha atu o ng~ripoinga wai, kua tino matahuhua anČ~ r~tou kawenga e ora ai r~tou i te tini o ng~whenua rahi me ng~moutere, e tohu ana kua aua atu pea te w~e kukune haere ana ng~ pepeke wahangote nei ki te mata o te whenua.

Me te aha, kei te kaha te kitea o ng~i Heteroptera i ng~kohinga me ng~whare pupuri pepeke o Aotearoa. Engari ahakoa t~nei, k~ore anČi whakaputaina t~tahi r~rangi hou ake i t~Wise (1977) "...synonymic checklist of the Hexapoda of the New Zealand sub-region...", i whakahua r~i ng~puninga 100 me ng~momo 170. E hia k~ng~huringa ingoa, tae atu ki ng~puninga me ng~momo hou (neke atu i te 160) kua whakaputaina mai i t~r~w~. Ahakoa he whai take tonu te r~rangi a Wise, k~ore e whakaata ana i ng~m~tauranga o n~ianei mČng~ pepeke wahangote. Koinei i tuhia ai t~nei r~rangi hou, e whai ana ki te whakautu i ng~p~tai e uia nūitia ana ahakoa te huinga pepeke, ar~he aha, kei hea, ~hea, p~hea? He aha ng~Heteroptera e kitea ana i Aotearoa? He p~hea tČr~tou tāranga (hei tauira, he momo m~ori, he r~waho, he riha, he whaihua ki te tangata i te mea he hoariri nČ~tahi hanga kino)? He aha ng~rauem e w~tea ana hei tautuhi, hei rangahau i ng~mea nei? Kei hea ake ng~momo me ng~puninga (hei tauira, te tohangā ki Aotearoa, ki t~w~hi r~nei, Čr~tou ripoinga, he p~hea r~nei te ~hua o t~r~tou whakamarara i a r~tou anČ? ~hea korikori ai (hei tauira, ~r~tou korikori ~kaupape, te ai, te wh~nau hua, te w~hi noho i te takuru)? P~hea ai t~r~tou noho (hei tauira, ~r~tou tino kai, ng~tipu ka nohoia e r~tou, me Čr~tou hoariri)?

Ko te nuinga o ng~wh~nau Heteroptera e noho ana ki Aotearoa, he noho whenua. He iti ake i te 7% kei te noho ki te mata, ki te taha r~nei o te wai, ki roto tonu r~nei i te wai. Ko ng~momo noho whenua, ka noho ki te papa tonu, ki ng~tipu weku-kore r~nei e piri tonu ana ki a Papa, ki ng~r~kau r~nei. Ko ng~ripoinga m~ori noho whenua e rua kei reira te tino maha o ng~momo, ko ng~ngahere me ng~whenua mauwha (i ng~whenua t~potupotu me ng~maunga). Me kČero anČng~momo ahurei e noho ana ki ng~raorao p~SS me ng~koraha ~hua teitei. Noho ai te nuinga o ng~momo m~ori ki ng~ripoinga m~ori, engari ko 'tahi e ora ana i ng~taiao kua rawekehia. Ka tomo atu hoki ng~momo r~waho i ng~ripoinga m~ori, engari ka noho ki ng~taitapa noa.

He ruarua rawa atu ng~momo m~ori ko ng~takutai t~potupotu anake tČr~tou k~inga. Engari ko ng~t~huahua, ng~wahapāme ng~w~hi kČeporepo o te takutai ng~tino k~inga o ng~r~waho. Ar~anČokī 'tahi momo ka piri tata ki ng~k~inga tangata.

He tino wh~iti te mČhio ki te koiora o ng~ pepeke wahangote m~ori. E mČiotia ana te momo tipu e ~ta nohoia ana e t~tahi 25% kau o ng~momo, ~ ko te nuinga o 'nei, nČng~wh~nau wahangote kai k~kano, kai tipu r~nei. I te kohinga haeretanga o ng~raraunga mČ~nei r~rangi mai i ng~kohinga o Aotearoa, kei te m~rama haere ng~oreore ~kaupeka a 'tahi momo, tae atu ki ng~pakeke tonu. E whakapaeia ana

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(haere tonu)

the introduced bed bug is haematophagous (feeding on the blood of vertebrates, including humans); there does not appear to be any evidence of disease transmission.

Little is known about the natural enemies of New Zealand Heteroptera. Hymenopteran egg-parasites, some birds (e.g., pipits, rooks, starlings), spiders, damsel bugs, ground beetles, and mites have been observed as enemies of some true bugs in New Zealand, but published observations are few. The authors' field experience suggests spiders could be the most important predators, especially in open habitats such as tussock grasslands and alpine environments.

Economic importance, as generally perceived in terms of direct damage to crops or disease transmission by a single species, may be lower in Heteroptera than in other major insect orders, but it is documented for some native and introduced species in New Zealand (e.g., on various seed and vegetable crops, and tobacco). In addition, species with pest status in other parts of the world, including neighbouring island countries and other parts of Australasia, represent potential biosecurity risks for countries like New Zealand that rely heavily on primary industry for their economy. For example, chinch bugs and other species in the seed bug family have historically been among the most destructive plant-feeding pests in several countries of the world, hence the need to update the inventory of the New Zealand and neighbouring faunas through sustained fieldwork and taxonomic re-assessments.

As a group, Heteroptera can also serve humans and the environment in positive ways, especially those predacious species that can be useful biological control agents (e.g., in integrated pest-management programmes). In general, most predacious and zoophytophagous species native to New Zealand have not been investigated for use as biocontrol agents, although such true bugs have been used overseas to control thrips, mites, moth eggs and caterpillars, leafhoppers, mosquitoes, and planthoppers. In addition, seemingly economically unimportant groups of true bugs may be important to humans or to nature conservation. Aquatic Heteroptera, for example, may prove important both as foodstuffs for fish and as indicators of water quality.

Overall, about 25% of the fauna is flightless, but in flat bugs and a family of seed bugs flightlessness reaches 65–70%. Consequently, a large proportion of New Zealand species is limited in its dispersal abilities; many species are restricted in distribution not only to New Zealand but also to specific areas of the country, e.g., Fiordland, Northland, or northwest Nelson.

Little information is currently available on the abundance and distribution of supposedly rare species to establish their conservation status, but 65 species have now been identified that might be of conservation interest. However, it is only through quantitative investigations that more meaningful conservation assessments will be possible for these species; relying on casual observations or collections prevents any realistic approximation of population dynamics and distribution.

Information on New Zealand true bugs accumulated over the last 150 years is not easily accessible. It is most often scattered through the literature or still associated with specimens in biological collections. With this catalogue, the

he moepCng~ pakeke o te nuinga o ng~ wh~nau, ~, ahakoa kei te oreore pea mCte nuinga o te tau, ko ng~ w~e kaha ai te korikori, mai i Whiringa-~rangi ki Pouta~te-rangi, ar~, mai i te hiku o te kQnga (Mahuru-Whiringa-~rangi), te raumati (Hakihea-Hui-tanguru), ki te t~matanga o te ngahuru (Pouta~te-rangi-Haratua). Heoi, k~ore e tino mQiotia ana ng~ oreore ~kaupeka o ng~ kQungahunga, te w~ r~nei e whakaputa uri ai te nuinga o ng~ momo. He tata ki te kore ng~ kQero kua tuhia mCte koiora taupori me ng~ tikanga titari.

He kai tipu te nuinga o ng~ Heteroptera e noho ana ki Aotearoa. Ko t~te nuinga o ng~ wh~nau, he ngote i te pia mai i ng~ iaia tonu o te tipu, ka kainga r~nei ko ng~ k~kano, ng~ hua e pakari haere ana, ng~ pua, tae atu pea ki te hae. Ko te whakapae, kai ai te nuinga o ng~ momo o te wh~nau pepeke wahangote papatahi i te kiko o ng~ harore whakapirau r~kau. I te tino nuinga o ng~ wh~nau, ar~ 'tahi momo kai ai i 'tahi atu pepeke, angawaho r~nei. Ar~ anC 'tahi wh~nau ko te pepeke t~ r~tou tino kai. Ko te wahangote r~waho noho moenga anake te mea ka kai i ng~ toto o ng~ hanga whai tuar~, tae atu ki te tangata; heoi, e whakaarotia ana k~ore e tutuna he mate i t~nei mahi ~na.

He iti te mQio ki ng~ hoariri t~aru o ng~ Heteroptera o Aotearoa. Ki t~ ng~ kitenga o 'tahi, he pirinoa Hymenoptera kai hua, he manu (ng~ pipit, ng~ rook me ng~ t~ringi), he p~ng~werewere, he pepeke wahangote damsel, he p~ara noho papa, me te p~avereriki 'tahi o Qa hoariri i Aotearoa, engari he ruarua ng~ tuhinga kua puta mCt~nei ~hua. I runga i ng~ kitenga o ng~ kaituhi, ko ng~ p~ng~werewere pea ng~ tino hoariri, ~, e tino h~ngai ana t~nei ki ng~ ripoinga m~rakerake p~r~i ng~ whenua p~SSme ng~ maunga.

He iti ake pea ng~ p~nga ohaoha (hei tauira, te kaikainga o ng~ m~ra me te tuku mate) o ng~i Heteroptera i 'r~ atu p~aoi pepeke m~t~mua, engari ar~ tonu 'tahi momo m~ori me 'tahi r~waho i Aotearoa kua tuhia he kQero mC~r~tou mahi p~nei (hei tauira, i ng~ m~ra k~kano, huawhenua, me te tupeka). I tua atu i t~nei, ar~ ng~ momo e k~sa ana he hoariri i 'tahi atu whenua o te ao, tae atu ki ng~ moutere p~tata ki Aotearoa me Te P~paka a M~ui, t~r~ka patu i te koiora o ng~ whenua p~nei i Aotearoa ko te ahumahi m~t~mua te t~huhu o tQa Qanga. Hei tauira, mai r~ anC kua noho ko te pepeke wahangote chinch me 'tahi atu o te wh~nau kai k~kano hei riha kai tipu kino rawa atu i ng~ whenua maha o te ao. NC reira, me whakahou haere te r~rangi o ng~ pepeke wahangote i Aotearoa me ng~ whenua p~tata ka tika, m~ te whakahaere rangahautanga t~a~nuku ka tahi, m~ te tirotiro anCi ng~ whakarQa~anga ka rua.

Heoi, he ~whina anCkei ng~ Heteroptera mCte tangata me te taoia. Ar~ hoki ng~ momo ka kai i 'tahi atu rauropi kino, ~, ka taea pea 'nei te kuhu atu ki ng~ kaupapa hei here i aua rauropi. K~ore anCi rangahaua te nuinga o ng~ momo m~ori o Aotearoa he kai pepeke, he kaikiota r~nei, mCte pai o t~ r~tou here o ng~ rauropi kino, engari kua whakamahia 'tahi i t~w~hi hei here i ng~ thrip, ng~ p~avereriki, ng~ hua p~a~hua, ng~ torong~a ng~ pekerau, ng~ waeroa me ng~ peketipu. Waihoki, he painga anCpea C 'tahi huina pepeke wahangote ki te tangata, i roto r~nei i ng~ mahi tiaki taoia. Hei tauira, ar~ ng~ Heteroptera noho wai koia pea te tino kai a 'tahi ika, ka pai anChei waitohu i te pai o te wai.

He rerekore t~tahi 25% o ng~i Heteroptera nui tonu,

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(haere tonu)

authors wish to provide specialist as well as non-specialist readers with a detailed overview of all available knowledge on the taxonomy, distribution, biology, and dispersal of New Zealand Heteroptera. The format of the catalogue has been developed with the interests of systematists and other biologists in mind. It should allow easy information retrieval, comparison between genera and species, and synthesis of data. The authors believe such a comprehensive database is necessary before testing hypotheses about environmental and other relationships in Heteroptera.

Contributor **Marie-Claude Larivière** was born and educated in Québec, graduating with a PhD in systematic entomology from McGill University in 1990. For the following two years she did postdoctoral research at Agriculture Canada, Ottawa. In 1992, Marie-Claude moved to New Zealand to work as a full-time Hemiptera biosystematist with Landcare Research. From 1994 to 1997 she led the Biosystematics of New Zealand Land Invertebrates programme, and from 1999 to 2004, the Koiora-BioAssist™ project (Biodiversity Assessment using Information Technology and Taxonomy). Marie-Claude is the author of over 70 papers and monographs, including three *Fauna of New Zealand* contributions, on the taxonomy, distribution and natural history of Hemiptera and Carabidae (Coleoptera). She has also published on North American Orthoptera and Carabidae. Many of her publications were written in collaboration with her husband André with whom she hopes to soon publish new works on New Zealand Hemiptera and Carabidae. Marie-Claude has a keen interest in biodiversity informatics, especially digital taxonomy, computer imaging, interactive identification, and web-publishing.



engari i waenga i ng~ wahangote papatahi me t‘tahi wh~nau kai k~kano, ka piki te rerekore ki te 65–70%. N~ kon~, he maha tonu ng~ momo o Aotearoa k~ore e tino tawhiti te t~aringa: he huhua ng~ momo ka noho wh~iti ki Aotearoa anake, ~, ki ‘tahi takiw~ wh~iti, p‘r~ i Piopiotahi, i Te Tai Tokerau, i Whakatāki te Uru-m~raki.

K~ore e tino m~giotia ana p‘hea te huhua, te t~aringa r~nei o ng~ momo e whakapaetia ana kua m~garea te noho, e m~giotia ai me p‘hea rawa te kaho o te tiaki. E 65 ng~ momo kua kitea e whakapaetia ana t‘r~ pea me ~ta rahu~ engari m~ng~ rangahautanga rawa e ine ana i te nui e taea ai te whakaputa whakatau whai tikanga m~ng~ momo nei; k~ore e pai te m~takitaki noa, te kohikohi noa hei whakatau i te hauora me te t~aringa o t‘tahi taupori.

K~ore e tino w~tea ana ng~ k~ero kua haupāhaere m~ng~ pepeke wahangote o Aotearoa i te 150 tau ka taha. He maramara k~ero kei k~he maramara an~cke i k~e T‘r~ r~nei kei te herea ki t‘tahi kohinga koiora kotahi. Ko te t~amanako, m~t~nei r~rangia ka ~hei ng~ tohunga pepeke me ng~ihu hāp~ an~cki ng~ k~ero katoa e w~tea ana m~cte whakar~āanga, te tohangā, te koiora me te t~aringa o ng~ Heteroptera o Aotearoa. Kua whakaritea kia tino h~ngai te takoto o ng~ k~ero ki te hunga t~tai whakapapa me ‘tahi atu tohunga koiora. Ko te tikanga, ka m~m~ te kimi p~rongo, te whakatairite i ng~ puninga me ng~ momo, me te tuitui haere i ng~ raraunga. Ki t~ ng~ kaitihi, me p‘nei rawa te m~totoru o te putunga raraunga e taea ai te whakam~tau ‘tahi whakapae m~ng~ hononga taiao me ‘tahi atu hononga i waenga i a ng~i Heteroptera.

I wh~nau mai a **Marie-Claude Larivière** i Québec. I reira an~cia e rapu ana i te m~tauranga ~, riro noa i a ia tana Tohu T~kutatanga mai i te Whare W~nanga o McGill, i te tau 1990. M~cte rua tau i muri mai, kei Agriculture Canada, i Ottawa, ia e wh~wh~ ana i ‘tahi atu rangahautanga. I te tau 1992, ka neke mai a Marie-Claude ki Aotearoa, ka mahi hei kait~tai i ng~ whakapapa o ng~i Hemiptera i Manaaki Whenua. N~na i ~rahi Te T~tainga o ng~ Whakapapa o ng~ Aitanga Tuar~Kore a T~ne mai i te tau 1994 ki te 1997, me te kaupapa Koiora-BioAssist™ (Te Aromataawai i ng~ Koiora i runga i te Whakamahi i te Hangarau M~giohio me te Whakar~āanga) mai i te tau 1999 ki te 2004. He neke atu i te 70 ng~ tuhinga kua puta i a ia, tae atu ki ‘tahi putanga e toru o Te Aitanga Pepeke o Aotearoa, e p~ ana ki te whakar~āanga, te tohangā me te h~ori m~ori o ng~ Hemiptera me ng~ Carabidae (Coleoptera). He tuhinga an~ckua puta i a ia m~ng~ Orthoptera me ng~ Carabidae o Amerika ki te Raki. Kua mahi tahi an~cr~ua ko tana hoa t~ne, a André, ki te whakaputa i ng~ tuhinga huhua. Ko te t~amanako, taihoa ka puta i a r~ua he tuhinga hou m~ng~ Hemiptera me ng~ Carabidae o Aotearoa. Kei te ng~kaunui an~ca Marie-Claude ki te p~rongo-koiora, tae atu ki te whakar~āanga ~mati, te t~rai whakaahua ki te rorohiko, te tautuhi i runga i te mahi p~hekoheko, me te p~nui k~ero ki te pae tutukutu.

Contributor **André Laroche** was born and educated in Québec, graduating in 1974 with a Brevet d'Enseignement spécialisé from the Université du Québec à Montréal. He has been teaching ecology at the Collège Bourget, Rigaud, Québec, up to 1990. With the encouragement of the late carabid specialist Carl H. Lindroth, André very quickly became interested to the study of ground-beetles. From 1975 to 1979 he was the co-editor of two entomological journals, *Cordulia* and *Bulletin d'inventaire des insectes du Québec*. From 1986 to 1992, he was honorary curator to the Lyman Entomological Museum and Research Laboratory, McGill University, Québec. In 1992, André moved to New Zealand to work as a research scientist. Currently, he is a Research Associate with the New Zealand Arthropod Collection, Landcare Research, Auckland. André has written over 400 papers on the distribution, ecology, biology, and dispersal power of North American carabids and other insects (including two handbooks on the Heteroptera of Québec). In 1993 he was co-author of a "Catalogue of Carabidae of America north of Mexico", and in 2003, with his wife Marie-Claude, he published "A Natural History of Carabidae" for the same region. His current main research interest is the faunistics and taxonomy of New Zealand ground-beetles, especially a soon-to-be-published revision of the tribe Harpalini.



I wh-nau mai t'r~ atu o ng~ kaituhi, a **André Laroche**, i Québec. I reira anCia e kura ana, ~, nCte tau 1974 ka whakawhiwhia ki tana tohu Brevet d'Enseignement spécialisé, mai i te Whare W-nanga o Québec ki Montreal. Taka mai ki te tau 1990, e whakaako ana ia i te m-tauranga taupuhi kaiao i te K-reti o Bourget, i Rigaud, Québec. I ng~ akiaki a 't'r~ tohunga carabid kua riro nei i te tirohanga kanohi, a Carl H. Lindroth, ka tere tupu tana hiahia ki te rangahau i ng~ pSara noho papa. Mai i te 1975 ki te 1979 ko ia t'tahi o ng~ 'tita o 'tahi hautaka m-tai pepeke, ar~, o *Cordulia* me te *Bulletin d'inventaire des insectes du Quebec*. Mai i te 1986 ki te 1992, ko ia te kaitiaki utu-kore o te Whare Rokiroki, Rangahau Pepeke o Lyman, i te Whare W-nanga o McGill, i Québec. I te tau 1992, ka neke mai a André ki Aotearoa, ka mahi hei kaipaataiao rangahau. I t'nei w~, kua noho ia hei Kairangahau i te Kohinga Angawaho o Aotearoa, i Manaaki Whenua ki T-maki-makau-rau. He nui ake i te 400 ng~ kCero kua tuhia e André mCte tohanga, te taupuhi kaiao, te koiora, me te tsaringa o ng~ carabid me 'tahi atu aitanga pepeke o Amerika ki te Raki (tae atu ki 'tahi pukapuka whakam-rama i ng~ Heteroptera o Québec). I te tau 1993 ko ia 'tahi o ng~ kaituhi i te 'R-rangi o ng~ Carabidae o Amerika ki te raki o M'hiko", ~, i te tau 2003, ka whakaputaina e r-ua ko tana hoa wahine "Ng~ H\$ori M~ori o ng~ Carabidae" mCtaua takiw~ anC. Ko te aronga nui o ~na rangahau i t'nei w~, ko te ~hua me te whakar\$atanga o ng~ pSara noho papa o Aotearoa, tae atu ki t'tahi tirohanga hou ki te iwi Harpalini, taihoa nei ka puta.

Ko Tiamana te **ākaipCo Birgit E. Rhode**, i kuraina anCia ki reira. NCte tau 1987 ka whakawhiwhia ia ki tana Tohu T-kutatanga koiora moana e te Whare W-nanga o Hamburg, Mai i te tau 1980 ki te 1993, ko ng~ taupuhi kaiao o te wahapāme te takutai 'tahi kaupapa i ~ta tirohia e ia (i te Pāahi M-tai i ng~ Wai o Papatāuku, Moutere o Norderney, Moana Raki), ka tirohia anCie hanga o ng~ w-hanga rongo o ng~ noke polychaete, ~ he pākenga anCia mCte m-tauranga kararehe wh-nui me te koiora moana (i te Pāahi M-tauranga Kararehe, Te Whare W-nanga Utu-kore o Berlin). I te tau 1993 ka neke mai a Birgit ki Aotearoa. He rawe ki te wahine nei ng~ m-t-taki hou. Whakar~rea atu ana ng~ mahi ki tai, tahuri mai ana ki uta, me te noho hei Kai~whina Rangahau m~ Marie-Claude Larivière i ~na mahi tirotiro i ng~ Hemiptera o Aotearoa. He tino kaupapa p~rekareka ki a ia te tango whakaahua me te hanga o ng~ mea ora ~, i te urunga mai o ng~ whakaahua ~mati ki te ao rangahau, ka kaha ake tana whakapau kaha ki te t~rai whakaahua me ng~ mahi whakairoiro. In-ianei, ko ia kei te whakaea i te nuinga o ng~ tono t~rai whakaahua a ng~ kait~tai whakapapa pepeke a Manaaki Whenua.

Translation by **H. Jacob Levin**

**Birgit E. Rhode** was born and educated in Germany where she graduated with a PhD in marine biology from the University of Hamburg in 1987. Between 1980 and 1993 she worked in estuarine and coastal marine ecology (Institute of Hydrology, Island of Norderney, North Sea), studied the developmental morphology of polychaete sense organs, and lectured in general zoology and marine biology (Zoological Institute, Free University of Berlin). In 1993, Birgit moved to New Zealand. Always open to new challenges, she abandoned the marine environment and moved on to drier grounds becoming a Research Assistant to Marie-Claude Larivière's work on New Zealand Hemiptera. Birgit has always been fascinated with photography and structural details, so it was almost inevitable that with the introduction of digital imaging into the research environment she became more and more involved in imaging and graphics work. She is now fulfilling most of the imaging requirements of entomological systematists at Landcare Research.



### DEDICATION

*"We are like dwarfs on the shoulders of giants, so that we can see more than they, and things at a greater distance, not by virtue of any sharpness of sight on our part, or any physical distinction, but because we are carried high and raised up by their giant size."*

Bernard de Chartres (c. 1130) *De Mundi Universitate*

It would have been impossible to catalogue the New Zealand Heteroptera so comprehensively without access to the work of many researchers and collectors who studied the fauna before us. We take great pleasure in dedicating this work to two people in particular, Keith A. J. Wise (Research Associate, Auckland Institute and Museum) and Gordon F. Gross (Emeritus Curator, South Australian Museum, Adelaide). The task of writing the catalogue would have been much more difficult to accomplish without their previous efforts at cataloguing the Heteroptera of New Zealand and Australia. Since her arrival in New Zealand in 1992, G. F. Gross has repeatedly encouraged Marie-Claude to write this catalogue. He has generously provided indispensable collegial support, including access to important manuscripts and personal notes. His open-mindedness, enthusiasm, and friendly guidance have been inspirational to this research.

## ABSTRACT

The Heteroptera, or true bugs, are the largest and most diverse group of hemimetabolous insects. They are a highly adaptable group that has managed to occupy most terrestrial as well as many aquatic and semi-aquatic habitats, and to adopt remarkably diverse life habits, on nearly all continents and most islands. They include a number of phytophagous pests and some predacious species that are useful biocontrol agents. They have been collected extensively and are well represented in New Zealand entomological museums and collections.

Despite this, no up-to-date catalogue has been published following Wise's (1977) "...synonymic checklist of the Hexapoda of the New Zealand sub-region ..." which enumerated 100 genera and 170 species. Numerous nomenclatural changes and new taxa have been published since then, and the fauna now totals 136 genera and 305 species in 29 families.

In this biosystematic catalogue, the species-group names of all New Zealand Heteroptera, or true bugs, are catalogued with distribution records and information on biology and dispersal power. Valid names are listed in their current and original combinations with the author(s), publication date, page citation, type status, type repository, type locality, and biostatus. Synonyms are given in their original combinations. Other existing combinations are also provided. Genus-group names are listed with the author(s), publication date, page citation, and type species (including method of fixation), and biostatus. The catalogue is arranged alphabetically by families, subfamilies, tribes, genus-group, and species-group names. Under each species, the geographic distribution, biology, and dispersal power are given. Selected references dealing with taxonomy (including keys and revisions), distribution, biology, and dispersal power, are also provided as appropriate.

The catalogue also includes a bibliography of over 1000 references (including all original taxonomic descriptions), colour photographs of nearly 200 primary types deposited in New Zealand collections (covering about 60% of all described taxa), 305 maps showing species distributions, 4 maps describing patterns of taxonomic diversity and of species endemism, and also a full taxonomic index. Finally, a number of appendices are provided: glossary of technical terms, list of over 350 plants associated with Heteroptera, acronyms of entomological collections and museums, list of taxa incorrectly or erroneously recorded from New Zealand, geographical coordinates of over 500 collecting localities, alphabetical lists of valid taxa by areas of New Zealand, type localities of valid Heteroptera taxa from New Zealand, and a list of about 130 taxa with limited distribution including over 65 species of potential conservation importance. This catalogue brings together the available literature and collection-based information on New Zealand Heteroptera for use by biosystematists, identifiers, biosecurity and conservation managers, ecologists, and other biologists as well as members of the public.

The composition of the New Zealand Heteroptera fauna and its affinities with Australia, Lord Howe Island, Norfolk Island, and New Caledonia are analysed and discussed. It is estimated that, once described, the fauna will reach 400 to 500 species. Endemism is high with 82% of species and 40% of genera currently recognised as being endemic; New Zealand is regarded as a biodiversity "hot spot". The fauna shows greatest affinity to that of eastern Australia. Adventive taxa, some with pest status, account for 33 species. The following taxa have been incorrectly or doubtfully recorded from New Zealand: *Diemenia immarginata* (Dallas, 1851) (Pentatomidae), *Dindymus versicolor* (Herrick-Schaeffer, 1853) (Pyrrhocoridae), *Eurystylus* Stål, 1871 (Miridae), *Leptocoris tagalicus* Burmeister, 1834 (Rhopalidae), *Melanacanthus margineguttatus* Distant, 1911 (Alydidae), *Peirates ephippiger* White, 1843 (Reduviidae), *Poecilometis gravis* (Fabricius,

1781) (Pentatomidae), *Scolopostethus forticornis* Gross, 1965 (Rhyparochromidae), *Spilostethus hospes* (Fabricius, 1794), and *S. pacificus* (Boisduval, 1835) (Lygaeidae).

The presence of the family Ceratocombidae in New Zealand is confirmed with the description of 2 species: *Ceratocombus aotearoae* sp. nov., and *Ceratocombus novaezelandiae* sp. nov.

A first record is given for New Zealand: *Mesovelia hackeri* Harris & Drake, 1941 (Mesovelidae), from Auckland.

The areas of New Zealand showing the highest taxonomic diversity are Northwest Nelson (141 species), Northland (123 species), Auckland (124 species), and Mid Canterbury (111 species). The areas with the highest numbers of endemics are Northland (10 species), Fiordland (8 species), Northwest Nelson (5 species), and Wellington (4 species). Heteroptera have not been recorded from the Antipodes Islands, Bounty Islands, Campbell Island, and Snares Islands.

The New Zealand fauna is mostly terrestrial, with about 20 species belonging to aquatic or semi-aquatic families. In general, species are diurnal and live in lowland to mountain forests and shrublands, although some groups are found typically in tussock grasslands and subalpine environments. Indigenous species usually live within the confines of their natural habitats, but a few species also live in modified ecosystems and exotic tree plantations. Depending on family, species can be predominantly epigean, planticolous, or even arboreal. The majority of species are phytophagous. The host plants of less than 25% of taxa are known with certainty. The biology of immature stages is almost unknown and these remain undescribed for the majority of taxa. Hymenopteran egg-parasites, birds, spiders, damsel-bugs, ground-beetles, and mites are among the major natural enemies of New Zealand Heteroptera. Overall, about 25% of the fauna is flightless; in Aradidae and Rhyparochromidae flightlessness reaches 65–70%.

**Keywords.** Heteroptera, true bugs, New Zealand, catalogue, classification, distribution, biology, dispersal power, species endemism, fauna.

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## CONTENTS

Checklist of taxa .....	13
Acknowledgments .....	20
Introduction .....	21
Methods and conventions .....	38
Catalogue .....	41
Bibliography .....	142
Appendix A. Glossary of technical terms .....	180
Appendix B. Plants associated with Heteroptera in New Zealand .....	182
Appendix C. Acronyms of entomological collections and museums .....	190

Appendix D. Alphabetical list of taxa incorrectly or doubtfully recorded from New Zealand .....	190
Appendix E. Geographical coordinates of main localities .....	192
Appendix F. Alphabetical list of valid taxa for New Zealand .....	197
Appendix G. Alphabetical list of valid taxa by areas of New Zealand .....	199
Appendix H. Type localities of valid Heteroptera taxa described from New Zealand .....	216
Appendix I. New Zealand species currently known from 10 populations or fewer .....	221

Illustrations .....	222
Map 1. The New Zealand subregion with area codes ....	276
Map 2. Area codes and collecting localities from mainland New Zealand: North Island .....	277
Map 3. Area codes and collecting localities from mainland New Zealand: South Island and Stewart Island .	278
Map 4. Total number of known taxa by areas .....	279
Map 5. Number of known New Zealand endemics by areas .....	280
Map 6. Number of native taxa known to be restricted to single areas .....	281
Map 7. Number of known adventive taxa by areas .	282
Species distribution maps .....	283
Taxonomic index .....	319

## CHECKLIST OF TAXA

[Notes: Synonyms of adventive taxa (A) from outside the Australian Region, are not included. An alphabetical list of valid genus- and species-group names is provided in Appendix F, p. 197]

### Order HEMIPTERA

Suborder HETEROPTERA .....	41
Family ACANTHOSOMATIDAE .....	41
Subfamily ACANTHOSOMATINAE .....	41
Genus <i>Oncacontias</i> Breddin, 1903 .....	41
<i>vittatus</i> (Fabricius, 1781) .....	41
<i>brunneipennis</i> Breddin, 1903	
Genus <i>Rhopalimorpha</i> Dallas, 1851 .....	42
Subgenus <i>Lentimorpha</i> Woodward, 1953 .....	42
<i>alpina</i> Woodward, 1953 .....	42
Subgenus <i>Rhopalimorpha</i> Dallas, 1851 .....	42
<i>lineolaris</i> Pendergrast, 1950 .....	42
<i>obscura</i> White, 1851 .....	43
<i>similis</i> Mayr, 1864	
<i>ignota</i> Hutton, 1898	
Family AENICTOPECHEIDAE .....	43
Subfamily MAORISTOLINAE .....	43
Genus <i>Maoristolus</i> Woodward, 1956 .....	43
<i>parvulus</i> Woodward, 1956 .....	43
<i>tonnoiri</i> (Bergroth, 1927) .....	44
Subfamily NYMPHOCORINAE .....	44
Genus <i>Nymphocoris</i> Woodward, 1956 .....	44
<i>maoricus</i> Woodward, 1956 .....	44
Subfamily (Uncertain) .....	44
Genus <i>Aenictocoris</i> Woodward, 1956 .....	44
<i>powelli</i> Woodward, 1956 .....	44

Family ANTHOCORIDAE .....	44
Subfamily ANTHOCORINAE .....	45
Tribe DUFOURIELLINI .....	45
Genus <i>Buchananiella</i> Reuter, 1884 .....	45
<i>whitei</i> Reuter, 1884 .....	45
Genus <i>Cardiastethus</i> Fieber, 1860 .....	45
<i>Dasypterus</i> Reuter, 1871	
<i>Orthosolenia</i> Reuter, 1884	
<i>brounianus</i> White, 1878 .....	45
<i>censors</i> White, 1879 .....	45
<i>poweri</i> White, 1879 .....	46
Tribe ORIINI .....	46
Genus <i>Orius</i> Wolff, 1811 <sup>A</sup> .....	46
Subgenus <i>Heterorius</i> Wagner, 1952 <sup>A</sup> .....	46
<i>vicinus</i> (Ribaut, 1923) <sup>A</sup> .....	46
Tribe SCOLOPINI .....	47
Genus <i>Maoricoris</i> China, 1933 .....	47
<i>benefactor</i> China, 1933 .....	47
Tribe XYLOCORINI .....	47
Genus <i>Xylocoris</i> Dufour, 1831 <sup>A</sup> .....	47
Subgenus <i>Proxylocoris</i> Carayon, 1972 <sup>A</sup> .....	47
<i>galactinus</i> (Fieber, 1836) <sup>A</sup> .....	47
Subfamily LYCTOCORINAE .....	47
Tribe LYCTOCORINI .....	47
Genus <i>Lyctocoris</i> Hahn, 1836 <sup>A</sup> .....	47
Subgenus <i>Lyctocoris</i> Hahn, 1836 <sup>A</sup> .....	48
<i>campestris</i> (Fabricius, 1794) <sup>A</sup> .....	48
Family ARADIDAE .....	48
Subfamily ANEURINAЕ .....	48
Genus <i>Aneuraptera</i> Usinger & Matsuda, 1959 .....	48
<i>cimiciformis</i> Usinger & Matsuda, 1959 .....	48
Genus <i>Aneurus</i> Curtis, 1825 .....	49
Subgenus <i>Aneurodellus</i> Heiss, 1998 .....	49
<i>brevipennis</i> Heiss, 1998 .....	49
<i>brouni</i> White, 1876 .....	49
<i>maoricus</i> Heiss, 1998 .....	49
<i>prominens</i> Pendergrast, 1965 .....	49
<i>salmoni</i> Pendergrast, 1965 .....	50
<i>zealandensis</i> Heiss, 1998 .....	50
Subfamily ARADINAE .....	50
Genus <i>Aradus</i> Fabricius, 1803 .....	50
<i>Piestosoma</i> Laporte de Castelnau, 1833	
<i>australis</i> Erichson, 1842 .....	50
Subfamily CALISIINAE .....	51
Genus <i>Calisius</i> Stål, 1860 .....	51
<i>Aradosyrtis</i> A. Costa, 1864	
<i>zealandicus</i> Pendergrast, 1968 .....	51
Subfamily CARVENTINAE .....	51
Genus <i>Acaraptera</i> Usinger & Matsuda, 1959 .....	51
<i>myersi</i> Usinger & Matsuda, 1959 .....	51
<i>waipouensis</i> Heiss, 1990 .....	51

Genus <i>Carventaptera</i> Usinger & Matsuda, 1959 .....	52
<i>spinifera</i> Usinger & Matsuda, 1959 .....	52
Genus <i>Clavaptera</i> Kirman, 1985 .....	52
<i>ornata</i> Kirman, 1985 .....	52
Genus <i>Leuraptera</i> Usinger & Matsuda, 1959 .....	52
<i>yakasi</i> Heiss, 1990 .....	52
<i>zealandica</i> Usinger & Matsuda, 1959 .....	52
Genus <i>Lissaptera</i> Usinger & Matsuda, 1959 .....	52
<i>completa</i> (Usinger & Matsuda, 1959) .....	53
Genus <i>Modicarventus</i> Kirman, 1989 .....	53
<i>wisei</i> Kirman, 1989 .....	53
Genus <i>Neocarventus</i> Usinger & Matsuda, 1959 .....	53
<i>angulatus</i> Usinger & Matsuda, 1959 .....	53
<i>uncus</i> Kirman, 1989 .....	53
Subfamily CHINAMYERSIINAE .....	53
Tribe CHINAMYERSIINI .....	54
Genus <i>Chinamyersia</i> Usinger, 1943 .....	54
<i>Pseudaradus</i> Myers & China, 1928. Preoccupied.	
<i>cinerea</i> (Myers & China, 1928) .....	54
<i>viridis</i> (Myers & China, 1928) .....	54
Tribe TRETOCORINI .....	54
Genus <i>Tretocoris</i> Usinger & Matsuda, 1959 .....	54
<i>grandis</i> Usinger & Matsuda, 1959 .....	54
Subfamily ISODERMINAE .....	54
Genus <i>Isodermus</i> Erichson, 1842 .....	54
<i>Anchomichon</i> Spinola, 1852	
<i>Ecpiestocoris</i> Blanchard, 1852	
<i>crassicornis</i> Usinger & Matsuda, 1959 .....	55
<i>maculosus</i> Pendergrast, 1965 .....	55
<i>tenuicornis</i> Usinger & Matsuda, 1959 .....	55
Subfamily MEZIRINAЕ .....	55
Genus <i>Ctenoneurus</i> Bergroth, 1887 .....	55
<i>hochstetteri</i> (Mayr, 1866) .....	55
<i>attenuata</i> Walker, 1873, <i>Crimia</i>	
<i>maorica</i> Walker, 1873, <i>Mezira</i>	
<i>myersi</i> Kormilev, 1953 .....	56
<i>pendegrasti</i> Kormilev, 1971 .....	56
<i>setosus</i> Lee & Pendergrast, 1977 .....	56
Genus <i>Woodwardiessa</i> Usinger & Matsuda, 1959 ....	56
<i>quadrata</i> Usinger & Matsuda, 1959 .....	56
Subfamily PROSYMPIESTINAE .....	57
Tribe PROSYMPIESTINI .....	57
Genus <i>Adenocoris</i> Usinger & Matsuda, 1959 .....	57
<i>brachypterus</i> Usinger & Matsuda, 1959 .....	57
<i>spiniventris</i> Usinger & Matsuda, 1959 .....	57
Genus <i>Mesadenocoris</i> Kirman, 1985 .....	57
<i>robustus</i> Kirman, 1985 .....	57
Genus <i>Neadenocoris</i> Usinger & Matsuda, 1959 .....	57
<i>abdominalis</i> Usinger & Matsuda, 1959 .....	57
<i>acutus</i> Usinger & Matsuda, 1959 .....	58
<i>glaber</i> Usinger & Matsuda, 1959 .....	58
<i>ovatus</i> Usinger & Matsuda, 1959 .....	58
reflexus	58
<i>spinicornis</i> Usinger & Matsuda, 1959 .....	58
Family ARTHENEIDAE .....	59
Subfamily NOTHOCHROMINAE .....	59
Genus <i>Nothochromus</i> Slater, Woodward & Sweet, 1962 .....	59
<i>maoricus</i> Slater, Woodward & Sweet, 1962 .....	59
Family BERYTIDAE .....	59
Subfamily BERYTINAE .....	60
Tribe BERYTINI .....	60
Genus <i>Bezu</i> Štusák, 1989 .....	60
<i>wakefieldi</i> (White, 1878) .....	60
Family CANTACADERIDAE .....	60
Subfamily CARLDRAKEANINAE .....	60
Genus <i>Carldrakeana</i> Froeschner, 1968 .....	60
<i>socia</i> (Drake & Ruhoff, 1961) .....	60
Genus <i>Cyperobia</i> Bergroth, 1927 .....	60
<i>carectorum</i> Bergroth, 1927 .....	61
Family CERATOCOMBIDAE .....	61
Subfamily CERATOCOMBINAE .....	61
Tribe CERATOCOMBINI .....	61
Genus <i>Ceratocombus</i> Signoret, 1852 .....	61
<i>aotearoae</i> sp. nov. .....	61
<i>novaezelandiae</i> sp. nov. .....	62
Family CIMICIDAE .....	63
Genus <i>Cimer</i> Linnaeus, 1758 <sup>A</sup> .....	63
<i>lectularius</i> Linnaeus, 1758 <sup>A</sup> .....	63
Family COREIDAE .....	63
Subfamily COREINAE .....	63
Tribe COLPURINI .....	63
Genus <i>Acantholybas</i> Breddin, 1899 <sup>A</sup> .....	64
<i>Acanthocolpura</i> Breddin, 1900	
<i>brunneus</i> (Breddin, 1900) <sup>A</sup> .....	64
Family CORIXIDAE .....	64
Subfamily CORIXINAE .....	64
Tribe CORIXINI .....	64
Genus <i>Sigara</i> Fabricius, 1775 .....	64
<i>Basileocorixa</i> Kirkaldy, 1898	
Subgenus <i>Tropocorixa</i> Hutchinson, 1940	
<i>arguta</i> (White, 1878) .....	65
<i>zealandica</i> Hudson, 1892, <i>Corixa</i>	
<i>infrequens</i> Young, 1962 .....	65
<i>limnocharis</i> Young, 1962 .....	65
<i>potamius</i> Young, 1962 .....	65
<i>uruana</i> Young, 1962 .....	66

<b>Subfamily DIAPREPOCORINAE</b>	66
Genus <i>Diaprepocoris</i> Kirkaldy, 1897	66
<i>Corixanecta</i> Walton, 1940	
<i>zealandiae</i> Hale, 1924	66
<b>Family CYDNIDAE</b>	66
<b>Subfamily CYDNINAE</b>	66
<b>Tribe CYDNINI</b>	66
Genus <i>Chilocoris</i> Mayr, 1865	66
<i>Macroporus</i> Uhler, 1876	
<i>Amnestoides</i> Signoret, 1880	
<i>Statanus</i> Distant, 1908	
<i>Chilocoristoides</i> Distant, 1913	
<i>neozelandicus</i> Larivière & Froeschner, 1994	67
<b>Tribe GEOTOMINI</b>	67
Genus <i>Cydnochoerus</i> Lis, 1996	67
<i>nigrosignatus</i> (White, 1878)	67
Genus <i>Macroscytus</i> Fieber, 1860	68
<i>Hahnia</i> Ellenrieder, 1862. Preoccupied.	
<i>Philapodemus</i> Kirkaldy, 1910. Replacement name.	
<i>australis</i> (Erichson, 1842)	68
<i>lifuanus</i> Montrouzier, 1861, <i>Aethus</i>	
<i>leptospermi</i> Butler, 1874, <i>Aethus</i>	
<i>landsbergi</i> Signoret, 1883, <i>Geotomus</i>	
Genus <i>Microporus</i> Uhler, 1872 <sup>A</sup>	68
<i>thoreyi</i> (Signoret, 1882) <sup>A</sup>	68
<b>Family CYMIDAE</b>	69
<b>Subfamily CYMINAE</b>	69
Genus <i>Cymus</i> Hahn, 1832	69
<i>Arphnus</i> Stål, 1874	
<i>novaezelandiae</i> Woodward, 1954	69
<b>Family ENICOCEPHALIDAE</b>	69
<b>Subfamily ENICOCEPHALINAE</b>	70
<b>Tribe SYSTELLODERINI</b>	70
Genus <i>Systelloderes</i> Blanchard, 1852	70
<i>Hymenodectes</i> Uhler, 1892	
<i>Compsoderes</i> Jeannel, 1943	
<i>maclachlani</i> (Kirkaldy, 1901)	70
<i>notialis</i> Woodward, 1956	70
<b>Subfamily PHTHIROCORINAE</b>	70
<b>Tribe PHTHIROCORINI</b>	70
Genus <i>Gourlayocoris</i> Štys, 2002	70
<i>mirabilis</i> (Gourlay, 1952)	70
Genus <i>Phthirostenus</i> Štys, 2002	71
<i>magnus</i> (Woodward, 1956)	71
<b>Family GERRIDAE</b>	71
<b>Subfamily HALOBATINAE</b>	71
Genus <i>Halobates</i> Eschscholtz, 1822	71
Subgenus <i>Halobates</i> Eschscholtz, 1822	71
<i>Euratas</i> Distant, 1910	
<i>Fabatus</i> Distant, 1910	
<i>sericeus</i> Eschscholtz, 1822	71
<b>Family HETEROGASTRIDAE</b>	72
Genus <i>Heterogaster</i> Schilling, 1829 <sup>A</sup>	72
<i>urticae</i> (Fabricius, 1775) <sup>A</sup>	72
<b>Family HYDROMETRIDAE</b>	73
<b>Subfamily HYDROMETRINAE</b>	73
Genus <i>Hydrometra</i> Latreille, 1796	73
<i>Limnobates</i> Burmeister, 1835	
<i>strigosa</i> (Skuse, 1893)	73
<i>risbeci</i> Hungerford, 1938	
<b>Family LYGAEIDAE</b>	73
<b>Subfamily LYGAEINAE</b>	73
Genus <i>Arocatus</i> Spinola, 1837 <sup>A</sup>	74
<i>Tetralaccus</i> Fieber, 1860	
<i>Microcaenocoris</i> Breddin, 1900	
<i>rusticus</i> (Stål, 1867) <sup>A</sup>	74
<i>caligatus</i> Walker, 1872, <i>Astacops</i>	
<i>subjectus</i> Walker, 1872, <i>Lygaeus</i>	
<i>singularis</i> Walker, 1872, <i>Lygaeus</i>	
<i>ruficollis</i> Walker, 1872, <i>Lygaeus</i>	
<b>Subfamily ORSILLINAE</b>	74
<b>Tribe NYSIINI</b>	74
Genus <i>Lepiorsillus</i> Malipatil, 1979	74
<i>tekapoensis</i> Malipatil, 1979	74
Genus <i>Nysius</i> Dallas, 1852	74
<i>Macroparius</i> Stål, 1872	
<i>Anorthus</i> Horváth, 1890. Preoccupied.	
<i>Hemidiptera</i> Leon, 1890	
<i>Anorthuna</i> Strand, 1928. Replacement name.	
<i>Brachynysius</i> Usinger, 1942	
<i>Tropinysius</i> Wagner, 1958	
<i>convexus</i> (Usinger, 1942)	75
<i>huttoni</i> White, 1878	75
<i>liliputanus</i> Eyles & Ashlock, 1969	75
Genus <i>Rhypodes</i> Stål, 1868	76
<i>Hudsona</i> Evans, 1929	
<i>Myersia</i> Evans, 1929	
<i>anceps</i> (White, 1878)	76
<i>argenteus</i> Eyles, 1990	76
<i>atricornis</i> Eyles, 1990	76
<i>brachypterus</i> Eyles, 1990	76

<i>brevifissas</i> Eyles, 1990 .....	77
<i>brevipilis</i> Eyles, 1990 .....	77
<i>bucculentus</i> Eyles, 1990 .....	77
<i>celmisiae</i> Eyles, 1990 .....	77
<i>chinai</i> Usinger, 1942 .....	77
<i>clavicornis</i> (Fabricius, 1794) .....	78
<i>zealandicus</i> Dallas, 1852, <i>Nysius</i>	
<i>cognatus</i> Eyles, 1990 .....	78
<i>crinitus</i> Eyles, 1990 .....	78
<i>depilis</i> Eyles, 1990 .....	79
<i>eminens</i> Eyles, 1990 .....	79
<i>gracilis</i> Eyles, 1990 .....	79
<i>hirsutus</i> Eyles, 1990 .....	79
<i>jugatus</i> Eyles, 1990 .....	79
<i>koebelei</i> Eyles, 1990 .....	80
<i>longiceps</i> Eyles, 1990 .....	80
<i>longirostris</i> Eyles, 1990 .....	80
<i>myersi</i> Usinger, 1942 .....	80
<i>rupestris</i> Eyles, 1990 .....	80
<i>russatus</i> Eyles, 1990 .....	81
<i>sericatus</i> Usinger, 1942 .....	81
<i>spadix</i> Eyles, 1990 .....	81
<i>stewartensis</i> Usinger, 1942 .....	81
<i>townsendi</i> Eyles, 1990 .....	82
<i>triangulus</i> Eyles, 1990 .....	82
 Family MESOVELIIDAE .....	82
Subfamily MESOVELIINAE .....	82
Genus <i>Mesovelia</i> Mulsant & Rey, 1852 <sup>A</sup> .....	82
<i>Fieberia</i> Jakovlev, 1874	
<i>hackeri</i> Harris & Drake, 1941 <sup>A</sup> .....	82
Genus <i>Mniovelia</i> Andersen & Polhemus, 1980 .....	82
<i>kuscheli</i> Andersen & Polhemus, 1980 .....	82
 Family MIRIDAE .....	83
Subfamily BRYOCORINAE .....	83
Tribe DICYPHINI .....	83
Genus <i>Engytatus</i> Reuter, 1876 <sup>A</sup> .....	83
<i>nicotianae</i> (Koningsberger, 1903) <sup>A</sup> .....	83
Genus <i>Felisacus</i> Distant, 1904 .....	83
<i>Liocoris</i> Motschulsky, 1863. Preoccupied.	
<i>Hyaloscytus</i> Reuter, 1904	
<i>elegantulus</i> (Reuter, 1904) .....	83
Subfamily CYLAPINAE .....	84
Tribe CYLAPINI .....	84
Genus <i>Peritropis</i> Uhler, 1891 .....	84
<i>Mevius</i> Distant, 1904	
<i>aotearoae</i> Gorczyca & Eyles, 1997 .....	84
Subfamily DERAEOCORINAE .....	84
Tribe DERAEOCORINI .....	84
Genus <i>Deraeocoris</i> Kirschbaum, 1856 .....	84
<i>Camptobrochis</i> Fieber, 1858	
 <i>Macrocapsus</i> Reuter, 1875	
<i>Callicapsus</i> Reuter, 1876	
<i>Euarmosus</i> Reuter, 1876	
<i>Cimathian</i> Distant, 1884	
<i>Plexaris</i> Kirkaldy, 1902	
<i>Mycterochoris</i> Uhler, 1904	
<i>Platycapsus</i> Reuter, 1904	
<i>Lamprolygus</i> Poppius, 1910	
<i>maoricus</i> Woodward, 1950 .....	85
Genus <i>Reuda</i> White, 1878 .....	85
<i>mayri</i> White, 1878 .....	85
Genus <i>Romna</i> Kirkaldy, 1906 .....	85
<i>Morna</i> White, 1878. Preoccupied.	
 <i>Oxychilophora</i> Reuter, 1908	
<i>albata</i> Eyles & Carvalho, 1988 .....	85
<i>bicolor</i> Eyles & Carvalho, 1988 .....	85
<i>capsoidea</i> (White, 1878) .....	86
<i>marginicollis</i> Reuter, 1908, <i>Oxychilophora</i>	
<i>cuneata</i> Eyles & Carvalho, 1988 .....	86
<i>nigrovenosa</i> Eyles & Carvalho, 1988 .....	86
<i>oculata</i> Eyles & Carvalho, 1988 .....	86
<i>ornata</i> Eyles & Carvalho, 1988 .....	86
<i>pallida</i> Eyles & Carvalho, 1988 .....	87
<i>scotti</i> (White, 1878) .....	87
<i>tenera</i> Eyles, 1998 .....	87
<i>uniformis</i> Eyles & Carvalho, 1988 .....	87
<i>variegata</i> Eyles & Carvalho, 1988 .....	87
Subfamily MIRINAE .....	87
Tribe MIRINI .....	87
Genus <i>Anexochus</i> Eyles, 2001 .....	87
<i>crassicornis</i> Eyles, 2001 .....	88
Genus <i>Bipuncticoris</i> Eyles & Carvalho, 1995 .....	88
<i>cassinianus</i> Eyles & Carvalho, 1995 .....	88
<i>chlorus</i> Eyles & Carvalho, 1995 .....	88
<i>convexus</i> Eyles & Carvalho, 1995 .....	88
<i>gurri</i> Eyles & Carvalho, 1995 .....	88
<i>irroratus</i> Eyles & Carvalho, 1995 .....	88
<i>lineatus</i> Eyles & Carvalho, 1995 .....	89
<i>longicerus</i> Eyles & Carvalho, 1995 .....	89
<i>minor</i> Eyles & Carvalho, 1995 .....	89
<i>olearinus</i> Eyles & Carvalho, 1995 .....	89
<i>planus</i> Eyles & Carvalho, 1995 .....	89
<i>robustus</i> Eyles & Carvalho, 1995 .....	89
<i>triplex</i> Eyles & Carvalho, 1995 .....	90
<i>vescus</i> Eyles & Carvalho, 1995 .....	90
<i>xestus</i> Eyles & Carvalho, 1995 .....	90
Genus <i>Chinamiris</i> Woodward, 1950 .....	90
<i>acutospinosus</i> Eyles & Carvalho, 1991 .....	90
<i>aurantiacus</i> Eyles & Carvalho, 1991 .....	91
<i>brachycerus</i> Eyles & Carvalho, 1991 .....	91
<i>citrinus</i> Eyles & Carvalho, 1991 .....	91
<i>cumberi</i> Eyles & Carvalho, 1991 .....	91

<i>daviesi</i> Eyles & Carvalho, 1991 .....	91
<i>dracophylloides</i> Eyles & Carvalho, 1991 .....	91
<i>elongatus</i> Eyles & Carvalho, 1991 .....	92
<i>fascinans</i> Eyles & Carvalho, 1991 .....	92
<i>guttatus</i> Eyles & Carvalho, 1991 .....	92
<i>hamus</i> Eyles & Carvalho, 1991 .....	92
<i>indeclivis</i> Eyles & Carvalho, 1991 .....	92
<i>juvans</i> Eyles & Carvalho, 1991 .....	93
<i>laticinctus</i> (Walker, 1873) .....	93
<i>ustulatus</i> Walker, 1873, <i>Capsus</i>	
<i>marmoratus</i> Eyles & Carvalho, 1991 .....	93
<i>minutus</i> Eyles & Carvalho, 1991 .....	93
<i>muehlenbeckiae</i> Woodward, 1950 .....	93
<i>niculatus</i> Eyles & Carvalho, 1991 .....	94
<i>nigrifrons</i> Eyles & Carvalho, 1991 .....	94
<i>opacus</i> Eyles & Carvalho, 1991 .....	94
<i>ovatus</i> Eyles & Carvalho, 1991 .....	94
<i>punctatus</i> Eyles & Carvalho, 1991 .....	94
<i>quadratus</i> Eyles & Carvalho, 1991 .....	94
<i>rufescens</i> Eyles & Carvalho, 1991 .....	95
<i>secundus</i> Eyles & Carvalho, 1991 .....	95
<i>testaceus</i> Eyles & Carvalho, 1991 .....	95
<i>unicolor</i> Eyles & Carvalho, 1991 .....	95
<i>virescens</i> Eyles & Carvalho, 1991 .....	95
<i>viridicans</i> Eyles & Carvalho, 1991 .....	95
<i>whakapapae</i> Eyles & Carvalho, 1991 .....	96
<i>zygotus</i> Eyles & Carvalho, 1991 .....	96
Genus <i>Closterotomus</i> Fieber, 1858 <sup>A</sup> .....	96
<i>norwegicus</i> (Gmelin, 1790) <sup>A</sup> .....	96
Genus <i>Diomocoris</i> Eyles, 2000 .....	97
<i>fasciatus</i> Eyles, 2000 .....	97
<i>granosus</i> Eyles, 2000 .....	97
<i>maoricus</i> (Walker, 1873) .....	98
<i>plebejus</i> Reuter, 1908, <i>Lygus</i>	
<i>ostiolum</i> Eyles, 2000 .....	98
<i>punctatus</i> Eyles, 2000 .....	98
<i>raoulensis</i> Eyles, 2000 .....	98
<i>russatus</i> Eyles, 2000 .....	98
<i>sexcoloratus</i> Eyles, 2000 .....	99
<i>woodwardi</i> Eyles, 2000 .....	99
Genus <i>Kiwimiris</i> Eyles & Carvalho, 1995 .....	99
<i>bipunctatus</i> Eyles & Carvalho, 1995 .....	99
<i>coloratus</i> Eyles & Carvalho, 1995 .....	99
<i>concavus</i> Eyles & Carvalho, 1995 .....	99
<i>melanocerus</i> Eyles & Carvalho, 1995 .....	99
<i>niger</i> Eyles & Carvalho, 1995 .....	100
Genus <i>Lincolnia</i> Eyles & Carvalho, 1988 .....	100
<i>lucernina</i> Eyles & Carvalho, 1988 .....	100
Genus <i>Monopharsus</i> Eyles & Carvalho, 1995 .....	100
<i>annulatus</i> Eyles & Carvalho, 1995 .....	100
Genus <i>Sidnia</i> Reuter, 1905 <sup>A</sup> .....	101
<i>kinbergi</i> (Stål, 1859) <sup>A</sup> .....	101
Genus <i>Stenotus</i> Jakovlev, 1877 <sup>A</sup> .....	101
<i>binotatus</i> (Fabricius, 1794) <sup>A</sup> .....	102
Genus <i>Taylorilygus</i> Leston, 1952 <sup>A</sup> .....	102
<i>apicalis</i> (Fieber, 1861) <sup>A</sup> .....	102
Genus <i>Tinginotum</i> Kirkaldy, 1902 .....	102
<i>Hermotinus</i> Distant, 1904	
<i>Nesodaphne</i> Kirkaldy, 1908	
<i>Eutinginotum</i> Cheesman, 1926	
<i>minutum</i> Eyles, 2000 .....	103
Genus <i>Tuicoris</i> Eyles & Carvalho, 1995 .....	103
<i>excelsus</i> Eyles & Carvalho, 1995 .....	103
<i>lipurus</i> Eyles, 2001 .....	103
Genus <i>Webamiris</i> Eyles & Carvalho, 1995 .....	103
<i>europilosus</i> Eyles & Carvalho, 1995 .....	103
<b>Tribe STENODEMINI</b> .....	104
Genus <i>Chaetedus</i> Eyles, 1975 .....	104
<i>longiceps</i> Eyles, 1975 .....	104
<i>plumalis</i> Eyles, 1975 .....	104
<i>reuterianus</i> (White, 1878) .....	104
Genus <i>Megaloceroea</i> Fieber, 1858 <sup>A</sup> .....	104
<i>recticornis</i> (Geoffroy, 1785) <sup>A</sup> .....	104
Genus <i>Trigonotylus</i> Fieber, 1858 <sup>A</sup> .....	105
<i>tenuis</i> Reuter, 1893 <sup>A</sup> .....	105
<b>Subfamily ORTHOTYLINAE</b> .....	105
<b>Tribe HALTICINI</b> .....	105
Genus <i>Coridromius</i> Signoret, 1862 <sup>A</sup> .....	105
<i>Ocypus</i> Montrouzier, 1861. Preoccupied.	
<i>Neocypus</i> Distant, 1914. Unjustified replacement name.	
<i>variegatus</i> (Montrouzier, 1861) <sup>A</sup> .....	105
Genus <i>Halticus</i> Hahn, 1832 <sup>A</sup> .....	106
<i>minutus</i> Reuter, 1885 <sup>A</sup> .....	106
<b>Tribe ORTHOTYLIINI</b> .....	106
Genus <i>Cyrtorhinus</i> Fieber, 1858 .....	106
<i>Chlorosomella</i> Reuter, 1904	
<i>Reuteriessa</i> Usinger, 1951	
<i>cumberi</i> Woodward, 1950 .....	106
Genus <i>Josemiris</i> Eyles, 1996 .....	106
<i>carvalhoi</i> Eyles, 1996 .....	107
<b>Subfamily PHYLINAE</b> .....	107
<b>Tribe LEUCOPHOROPTERINI</b> .....	107
Genus <i>Sejanus</i> Distant, 1910 .....	107
<i>Idatius</i> Distant, 1910. Preoccupied.	
<i>Eosthenarus</i> Poppius, 1915	
<i>Idatiella</i> China, 1926. Replacement name.	
<i>albisignatus</i> (Knight, 1938) .....	107
Genus <i>Tytthus</i> Fieber, 1864 <sup>A</sup> .....	108
<i>chinensis</i> (Stål, 1859) <sup>A</sup> .....	108
<b>Tribe PHYLINI</b> .....	108
Genus <i>Basileobius</i> Eyles & Schuh, 2003 .....	108
<i>gilviceps</i> Eyles & Schuh, 2003 .....	108

Genus <i>Campylomma</i> Reuter, 1878 <sup>A</sup>	108
<i>Alluaudiella</i> Poppius, 1914. Preoccupied.	
<i>Stenocapsus</i> Bergroth, 1926	
<i>Stigmocorista</i> Lindberg, 1959	
<i>Sthenaromma</i> Linnauvori, 1961	
<i>novocaledonica</i> Schuh, 1984 <sup>A</sup>	108
Genus <i>Cyrtodiridius</i> Eyles & Schuh, 2003	109
<i>aurantiacus</i> Eyles & Schuh, 2003	109
Genus <i>Halormus</i> Eyles & Schuh, 2003	109
<i>velifer</i> Eyles & Schuh, 2003	109
Genus <i>Lopus</i> Hahn, 1833 <sup>A</sup>	109
<i>decolor</i> (Fallén, 1807) <sup>A</sup>	109
Genus <i>Mecenopa</i> Eyles & Schuh, 2003	110
<i>albiapex</i> Eyles & Schuh, 2003	110
Genus <i>Monospatha</i> Eyles & Schuh, 2003	110
<i>distincta</i> Eyles & Schuh, 2003	110
Genus <i>Pimeleocoris</i> Eyles & Schuh, 2003	110
<i>luteus</i> Eyles & Schuh, 2003	110
<i>roseus</i> Eyles & Schuh, 2003	111
<i>viridis</i> Eyles & Schuh, 2003	111
Genus <i>Polyozus</i> Eyles & Schuh, 2003	111
<i>galbanus</i> Eyles & Schuh, 2003	111
Genus <i>Xiphoides</i> Eyles & Schuh, 2003	111
<i>badius</i> Eyles & Schuh, 2003	111
<i>luteolus</i> Eyles & Schuh, 2003	112
<i>multicolor</i> Eyles & Schuh, 2003	112
<i>myersi</i> (Woodward, 1950)	112
<i>regis</i> Eyles & Schuh, 2003	112
<i>vacans</i> Eyles & Schuh, 2003	112
<b>Family NABIDAE</b>	113
<b>Subfamily NABINAE</b>	113
<b>Tribe NABINI</b>	113
Genus <i>Nabis</i> Latreille, 1802	113
<i>Coriscus</i> Schrank, 1796. Suppressed by ICNZ.	
Subgenus <i>Australonabis</i> Strommer, 1988	113
<i>biformis</i> (Bergroth, 1927)	113
Subgenus <i>Tropiconabis</i> Kerzhner, 1968 <sup>A</sup>	113
<i>kinbergii</i> Reuter, 1872 <sup>A</sup>	113
<i>nigrolineata</i> Distant, 1920, <i>Sastrapada</i>	
<i>tasmanicus</i> Remane, 1964, <i>Nabis</i>	
<i>maoricus</i> Walker, 1873	114
<i>saunderi</i> White, 1878, <i>Nabis</i>	
<i>quadripunctatus</i> Bergroth, 1927, <i>Reduviolus</i>	
<b>Subfamily PROSTEMMATINAE</b>	114
<b>Tribe PROSTEMMATINI</b>	114
Genus <i>Alloeorrhynchus</i> Fieber, 1860	114
Subgenus <i>Alloeorrhynchus</i> Fieber, 1860	114
<i>Falda</i> Gross, 1954	
<i>myersi</i> Bergroth, 1927	114
<b>Family NOTONECTIDAE</b>	114
<b>Subfamily ANISOPINAE</b>	114
Genus <i>Anisops</i> Spinola, 1837	114
<i>Micranisops</i> Hutchinson, 1929	
<i>Anisopoides</i> Hutchinson, 1929	
<i>assimilis</i> White, 1878	115
<i>wakefieldi</i> White, 1878	115
<b>Family PENTATOMIDAE</b>	115
<b>Subfamily ASOPINAE</b>	115
Genus <i>Cermatulus</i> Dallas, 1851	115
<i>nasalis hudsoni</i> Woodward, 1953	116
<i>nasalis nasalis</i> (Westwood, 1837)	116
<i>nummularis</i> Erichson, 1842, <i>Asopus</i>	
<i>binotatus</i> Walker, 1867, <i>Asopus</i>	
<i>pentatomoides</i> Walker, 1867, <i>Rhaphigaster</i>	
<i>nasalis turbotti</i> Woodward, 1950	116
Genus <i>Oechalia</i> Stål, 1862	116
<i>Hawaicola</i> Kirkaldy, 1909	
<i>schellenbergii</i> (Guérin, 1831)	117
<i>consociale</i> Boisduval, 1835, <i>Pentatoma</i>	
<i>perfectus</i> Walker, 1867, <i>Rhaphigaster</i>	
<b>Subfamily PENTATOMINAE</b>	117
<b>Tribe CARPOCORINI</b>	117
Genus <i>Monteithiella</i> Gross, 1976 <sup>A</sup>	117
<i>humeralis</i> (Walker, 1868) <sup>A</sup>	117
<i>pallipes</i> Dallas, 1851, <i>Pentatoma</i> . Preoccupied.	
<i>orbona</i> Kirkaldy, 1909, <i>Antestia</i> . Replacement name.	
<b>Tribe MYROCHEINI</b>	118
Genus <i>Dictyotus</i> Dallas, 1851 <sup>A</sup>	118
<i>caenosus</i> (Westwood, 1837) <sup>A</sup>	118
<i>bipunctatus</i> Dallas, 1851	
<i>plebejus</i> Stål, 1859	
<i>tibialis</i> Walker, 1867, <i>Pentatoma</i>	
<i>vilis</i> Walker, 1867, <i>Pentatoma</i>	
<i>latifrons</i> Walker, 1868, <i>Pentatoma</i>	
<i>polystictica</i> Butler, 1874, <i>Sciocoris</i>	
<b>Tribe NEZARINI</b>	118
Genus <i>Glaucias</i> Kirkaldy, 1908	118
<i>Zangis</i> Stål, 1867. Preoccupied.	
<i>amyoti</i> (Dallas, 1851)	118
<i>stali</i> Schouteden, 1906, <i>Zangis</i>	
Genus <i>Nezara</i> Amyot & Audinet-Serville, 1843 <sup>A</sup>	119
<i>viridula</i> (Linnaeus, 1758) <sup>A</sup>	119
<b>Tribe RHYNCHOCORINI</b>	119
Genus <i>Cuspicona</i> Dallas, 1851 <sup>A</sup>	119
<i>simplex</i> Walker, 1867 <sup>A</sup>	120
<b>Tribe (Uncertain)</b>	120
Genus <i>Hypsithocus</i> Bergroth, 1927	120
<i>hudsonae</i> Bergroth, 1927	120

<b>Family REDUVIIDAE</b> .....	120
<b>Subfamily EMESINAE</b> .....	120
<b>Tribe EMESINI</b> .....	121
Genus <i>Stenolemus</i> Signoret, 1858 <sup>A</sup> .....	121
<i>Phantasmatophanes</i> Kirkaldy, 1908 <i>fraterculus</i> Wygodzinsky, 1956 <sup>A</sup> .....	121
<b>Tribe LEISTARCHINI</b> .....	121
Genus <i>Ploaria</i> Scopoli, 1786 .....	121
<i>Cerascopus</i> Heineken, 1830	
<i>Emesodema</i> Spinola, 1837	
<i>Luteva</i> Dohrn, 1860	
<i>Ploiaropsis</i> Champion, 1898	
<i>Elymas</i> Distant, 1909	
<i>Culicimimus</i> Villiers, 1948	
<i>Wahrmania</i> Dispons, 1964 <i>antipodum</i> Bergroth, 1927 .....	121
<i>chilensis</i> (Philippi, 1862) .....	122
<i>dohrni</i> Signoret, 1863, <i>Emesella</i> <i>huttoni</i> Scott, 1874, <i>Emesodema</i> <i>canariensis</i> Noualhier, 1895	
<b>Tribe PLOARIOLINI</b> .....	122
Genus <i>Empicoris</i> Wolff, 1811 .....	122
<i>Ploiaroides</i> White, 1881	
<i>Ploariola</i> Reuter, 1888	
<i>Corempis</i> Dispons, 1959	
<i>Empicorella</i> Dispons, 1959 <i>aculeatus</i> (Bergroth, 1927) .....	122
<i>angulipennis</i> (Bergroth, 1927) .....	122
<i>rubromaculatus</i> (Blackburn, 1889) .....	122
<i>uryale</i> Kirkaldy, 1908, <i>Ploiaroides</i> <i>californica</i> Banks, 1909, <i>Ploiaroides</i> <i>scotti</i> Distant, 1913, <i>Ploariola</i> <i>sagax</i> Horváth, 1914, <i>Ploariola</i> <i>froggatti</i> Horváth, 1914, <i>Ploariola</i> <i>vitticollis</i> Horváth, 1914, <i>Ploariola</i> <i>rubromaculatus</i> var. <i>obsoletus</i> McAtee & Malloch, 1926 <i>tingitanus</i> Dispons, 1955 <i>microcephalus</i> Villiers, 1960 <i>barcinonis</i> Dispons, 1965, <i>Empicorella</i> <i>barcinonis balearicus</i> Dispons, 1965, <i>Empicorella</i> <i>seorsus</i> (Bergroth, 1927) .....	123
<b>Family RHYPAROCHROMIDAE</b> .....	123
<b>Subfamily PLINTHISINAE</b> .....	124
<b>Tribe PLINTHISINI</b> .....	124
Genus <i>Plinthisus</i> Stephens, 1829 <sup>A</sup> .....	124
Subgenus <i>Locutius</i> Distant, 1918 <sup>A</sup> <i>woodwardi</i> Slater & Sweet, 1977 <sup>A</sup> .....	124
<b>Subfamily RHYPAROCHROMINAE</b> .....	124
<b>Tribe ANTILLOCORINI</b> .....	124
Genus <i>Tomocoris</i> Woodward, 1953 .....	124
<i>Longihaustrum</i> Woodward, 1953 <i>ornatus</i> (Woodward, 1953) .....	125
<i>truncatus</i> Woodward, 1953 .....	125
<b>Tribe DRYMINI</b> .....	125
Genus <i>Brentiscerus</i> Scudder, 1962 .....	125
<i>Isopeltus</i> Gross, 1965 <i>putoni</i> (White, 1878) .....	125
Genus <i>Grossander</i> Slater, 1976 <sup>A</sup> .....	125
<i>major</i> (Gross, 1965) <sup>A</sup> .....	126
Genus <i>Paradrymus</i> Bergroth, 1916 <sup>A</sup> .....	126
<i>exilirostris</i> Bergroth, 1916 <sup>A</sup> .....	126
<b>Tribe LETHAEINI</b> .....	126
Genus <i>Paramyocara</i> Woodward & Malipatil, 1977 .....	126
<i>iridescens</i> Woodward & Malipatil, 1977 .....	126
<b>Tribe MYODOCHINI</b> .....	127
Genus <i>Horridotipamera</i> Malipatil, 1978 <sup>A</sup> .....	127
<i>robusta</i> Malipatil, 1978 <sup>A</sup> .....	127
Genus <i>Remaudiereana</i> Hoberlandt, 1954 .....	127
<i>inornata</i> (Walker, 1872) .....	127
<i>sidnica</i> Kirkaldy, 1908, <i>Orthoea</i> <i>palauensis</i> Barber, 1958, <i>Pachybrachius</i> <i>nigriceps</i> (Dallas, 1852) <sup>A</sup> .....	128
<i>douglasi</i> White, 1876, <i>Ploociomerus</i>	
<b>Tribe RHYPAROCHROMINI</b> .....	128
Genus <i>Dieuches</i> Dohrn, 1860 <sup>A</sup> .....	128
<i>Ischnotarsus</i> Fieber, 1860	
<i>Critobulus</i> Distant, 1903	
<i>Abanus</i> Distant, 1909	
<i>Maxaphanus</i> Distant, 1918 <i>notatus</i> (Dallas, 1852) <sup>A</sup> .....	129
Genus <i>Stizocephalus</i> Eyles, 1970 .....	129
<i>brevirostris</i> Eyles, 1970 .....	129
<b>Tribe STYGNOCORINI</b> .....	129
Genus <i>Margareta</i> White, 1878 .....	129
<i>dominica</i> White, 1878 .....	129
<b>Tribe TARGAREMINI</b> .....	130
Genus <i>Forsterocoris</i> Woodward, 1953 .....	130
<i>bisinuatus</i> Woodward, 1953 .....	130
<i>salmoni</i> (Woodward, 1953) .....	130
<i>sinuatus</i> Woodward, 1953 .....	130
<i>stewartensis</i> Malipatil, 1977 .....	130
Genus <i>Geratarma</i> Malipatil, 1977 .....	131
<i>eylesi</i> Malipatil, 1977 .....	131
<i>manapourensis</i> Malipatil, 1977 .....	131
Genus <i>Metagerra</i> White, 1878 .....	131
<i>angusta</i> Eyles, 1967 .....	131
<i>helmsi</i> (Reuter, 1890) .....	131
<i>kaikourica</i> Eyles, 1967 .....	132
<i>obscura</i> White, 1878 .....	132
<i>distincta</i> Eyles, 1967 .....	132
<i>truncata</i> Malipatil, 1976 .....	132

Genus <i>Millerocoris</i> Eyles, 1967 .....	133
<i>Eminocoris</i> Eyles, 1967	
<i>conus</i> (Eyles, 1967) .....	133
<i>ductus</i> Eyles, 1967 .....	133
Genus <i>Paratruncala</i> Malipatil, 1977 .....	133
<i>insularis</i> (Woodward, 1953) .....	133
Genus <i>Regatarma</i> Woodward, 1953 .....	133
<i>forsteri</i> Woodward, 1953 .....	134
<i>forsteri obsolescens</i> Woodward, 1953	
<i>forsteri stephenensis</i> Woodward, 1953	
Genus <i>Targarema</i> White, 1878 .....	134
<i>electa</i> White, 1878 .....	134
<i>stali</i> White, 1878 .....	134
Genus <i>Truncala</i> Woodward, 1953 .....	135
<i>Arrategma</i> Woodward, 1953	
<i>hirsuta</i> Woodward, 1953 .....	135
<i>hirta</i> Woodward, 1953 .....	135
<i>insularis</i> Malipatil, 1977 .....	135
<i>sulcata</i> Woodward, 1953 .....	135
Genus <i>Trypetocoris</i> Woodward, 1953 .....	136
<i>aucklandensis</i> Woodward, 1953 .....	136
<i>rudis</i> Woodward, 1953 .....	136
<i>separatus</i> Woodward, 1953 .....	136
Genus <i>Woodwardiana</i> Malipatil, 1977 .....	136
<i>evagorata</i> (Woodward, 1953) .....	136
<i>nelsonensis</i> (Woodward, 1953) .....	137
<i>notialis</i> (Woodward, 1953) .....	137
<i>paparia</i> Malipatil, 1977 .....	137
Tribe UDEOCORINI .....	137
Genus <i>Udeocoris</i> Bergroth, 1918 .....	137
<i>levis</i> Eyles, 1971 .....	137
<b>Family SALDIDAE .....</b>	<b>138</b>
Subfamily SALDINAE .....	138
Tribe SALDOIDINI .....	138
Genus <i>Saldula</i> Van Duzee, 1914 .....	138
<i>australis</i> (White, 1876) .....	138
<i>butleri</i> (White, 1878) .....	138
<i>laelaps</i> (White, 1878) .....	138
<i>maculipennis</i> Cobben, 1961 .....	139
<i>parvula</i> Cobben, 1961 .....	139
<i>stoneri</i> Drake & Hoberlandt, 1950 .....	139
<i>trivialis</i> Cobben, 1961 .....	139
<b>Family SCHIZOPTERIDAE .....</b>	<b>139</b>
Subfamily HYPSELOSOMATINAE .....	139
Genus <i>Hypselosoma</i> Reuter, 1891 .....	139
<i>acantheen</i> Hill, 1991 .....	140
<b>Family TINGIDAE .....</b>	<b>140</b>
Subfamily TINGINAE .....	140
Genus <i>Stephanitis</i> Stål, 1873 <sup>A</sup> .....	140
Subgenus <i>Stephanitis</i> Stål, 1873 <sup>A</sup> .....	140
<i>rhododendri</i> Horváth, 1905 <sup>A</sup> .....	140
Genus <i>Tanybyrsa</i> Drake, 1942 .....	140
<i>cumberi</i> Drake, 1959 .....	141
<b>Family VELIIDAE .....</b>	<b>141</b>
Subfamily MICROVELIINAE .....	141
Genus <i>Microvelia</i> Westwood, 1834 .....	141
<i>Hydroessa</i> Burmeister, 1835	
<i>Veliomorpha</i> Carlini, 1895	
<i>Picaultia</i> Distant, 1913	
<i>macgregori</i> (Kirkaldy, 1899) .....	141

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## INTRODUCTION

The Heteroptera, or true bugs, are the largest and most diverse group of hemimetabolous insects. They are here treated, as is generally accepted, as a suborder of the Hemiptera. There may be some 37,000 described species of Heteroptera worldwide and possibly another 25,000 species remaining to be described (Schaefer & Panizzi 2000).

True bugs are a highly adaptable group that has managed to occupy most terrestrial as well as many aquatic and semi-aquatic habitats, and to adopt remarkably diverse life habits, on nearly all continents and most islands, suggesting a long evolutionary history for the group.

The world fauna comprises approximately 75 families. The number of species of better known continental faunas such as North America, Europe, or Australia, may be around 2,000 or 5,000 species. Compared with these larger regions of the world the New Zealand fauna, currently comprising 29 families, 136 genera, and 305 species, may appear relatively small, but what it lacks in size it makes up in uniqueness, e.g., 82% of known species are endemic. From this point of view New Zealand can be regarded as a biodiversity "hot spot" for this group.

True bugs have been collected extensively in New Zealand and are well represented in entomological museums and collections. Despite this, no up-to-date catalogue has been published following Wise's (1977) "...synonymic checklist of the Hexapoda of the New Zealand sub-region ..." which enumerated 100 genera and 170 species.

Numerous nomenclatural changes and new taxa have been published since then and although the aforementioned checklist is still useful, it no longer reflects the current knowledge of the fauna.

The present catalogue attempts to answer the four questions most commonly asked about a group of insects by users of biosystematics information: What, where, when, and how? What Heteroptera occur in New Zealand, what is their status (e.g., endemic, native but not endemic, adventive, pests, beneficial predators), and what are the resources available to identify and study them? Where do species and genera occur (e.g., geographic distribution in New Zealand and overseas, habitats, dispersal abilities)? When are they active (e.g., seasonality, mating, oviposition, overwintering)? How do they live (e.g., food preferences, natural enemies)?

To answer these questions, the present catalogue brings together the available literature and collection-based information on extant taxa recorded from New Zealand's main islands and its offshore islands. It has been written with the needs of biosystematists, identifiers, biosecurity and conservation managers, ecologists, other biologists, and members of the public in mind, hence the sections summarising for all species the geographic distribution, biology, dispersal power, and the citation of main references to available identification tools, taxonomic revisions, and natural history treatments. A species checklist, a full bibliography, a taxonomic index, several appendices, species distributions maps, and primary type photographs are also provided.

All attempts have been made to report information as accurately as possible, but none are more aware than the authors of the inevitability of errors or omissions in this type of work. Therefore, the authors ask the indulgence of readers and can only hope that the usefulness of this catalogue will outweigh any shortcomings.

**Brief history of Heteroptera taxonomy in New Zealand.** The first member of the Heteroptera described from New Zealand was the acanthosomatid *Oncacontias vittatus* (Fabricius, 1781). Subsequently, until the 1930s, the majority of taxa were described by European workers, especially White (1876–1879) and Bergroth (1918–1927).

Several early attempts at cataloguing the fauna were made during that same period, especially by Butler (1874), Hutton (1874, 1898, 1904), White (1878–1879), Kirkaldy (1909a), and Myers & China (1928). Such early checklists were most often straightforward compilations, but Hutton's (1904) *Index Faunae Novae Zealandiae* was probably the most comprehensive and well documented, although his 1898 checklist was also very useful because it included keys to most known genera. Kirkaldy's (1909a) *List of the*

*Hemiptera (excluding Sternorrhyncha) of the Maorian Subregion, with Notes on a Few of the Species* was largely based on Hutton (1904), with a few additional critical comments such as new synonymies or deletions from the fauna.

In 1928, Myers & China provided a more critical inventory of the fauna by reviewing earlier checklists, recording subsequent nomenclatural changes and newly described taxa, and by listing species according to three faunal categories (indigenous, introduced, and erroneously recorded or strongly needing confirmation). Myers & China's work would be long-standing as there would not be another comprehensive faunal list until the publication of *A synoptic checklist of the Hexapoda of the New Zealand sub-region, the smaller orders* by Wise in 1977. The latter recorded 22 families, 100 genera, and 170 species for the fauna, together with their synonyms, nomenclatural combinations, associated references, and basic distributional information. The majority of taxonomic changes that followed Wise (1977) have been reported by Larivière (1997, 2002), and the New Zealand checklist is continually being updated and made available on the internet (see Larivière, 2002a, [http://www.landcareresearch.co.nz/...](http://www.landcareresearch.co.nz/), New Zealand Hemiptera website).

The period from 1950 to 1970 yielded several new taxa and important taxonomic revisions, mainly due to the efforts of Woodward (especially 1950, 1953, 1954, 1956) and Usinger & Matsuda (1959). These workers described over 20 genera and 45 species in several families, and provided good keys and very detailed taxonomic descriptions. In addition, various other workers described individual taxa from a range of families which meant that by the end of the 1960s there were twice as many taxa known as had been listed in Myers & China's (1928) checklist. Eyles (1970a) reported 89 genera and 148 species for the fauna, but he did not provide an updated checklist.

Much of the taxonomic effort between 1970 and 1977 went into the family Lygaeidae *sensu lato* (Artheneidae, Cymidae, Heterogastridae, Lygaeidae, Rhyparochromidae, in this catalogue). The solid contributions of Malipatil (especially 1976–1979), particularly on the tribe Targaremini, deserve special mention.

The most active period of taxonomic work, however, was still to come. The last 25 years or so have seen the description of more than 100 new species and several new genera. Most of this represents the highly prolific work of one New Zealander, A. C. Eyles, especially on the families Lygaeidae and Miridae (e.g., Eyles, 1990–2003 and collaborations with overseas workers).

In addition to the sharp increase in the number of described taxa in recent years, the Australasian and world heteropterological scene has also substantially changed.

Most of these historical developments have been summarised by Schuh & Slater (1995: *True Bugs of the World*).

For example, the last 25 years have seen the publication of modern catalogues (e.g., Froeschner 1981, Heteroptera of Ecuador; Kormilev & Froeschner 1987, world Aradidae; Henry & Froeschner 1988, Nearctic Heteroptera; Maldonado-Capriles 1990, world Reduviidae; Aukema & Rieger 1995–2001, Palearctic Heteroptera; Cassis & Gross 1995 and 2002, Heteroptera of Australia; Schuh 1995, world Miridae; Slater & O'Donnell 1995, world Lygaeidae *sensu lato*; Henry & Froeschner, 1998, world Berytidae; Froeschner 1999, Heteroptera of Panama; Maw *et al.* 2000, Heteroptera of Canada), electronic lists (e.g., The True Bugs of South Africa website by Villet; Australian Biodiversity Information Facility), world revisions and treatments on higher classification (e.g., Henry 1997a–b Pentatomomorpha and Berytidae), and Hemiptera phylogeny (e.g., Schaefer, 1996a), and other advances in heteropterology.

These scientific developments have resulted in significant contextual changes in which to consider the New Zealand fauna and, together with the urgent need to catalogue taxonomic changes and new descriptions since 1977, provided much of the impetus for preparing the present catalogue.

As far as comprehensive taxonomic revisions are concerned — those including all available nomenclatural data, examination of all types, and detailed comparative study of male genitalia and other morphological features across and within all known populations — these currently cover approximately 160 species or about 50% of the described fauna. Consequently, apart from the Miridae, Lygaeidae, Pentatomoidea, and part of the Rhyparochromidae, all other families (at least 20) occurring in New Zealand are in great need of modern revisionary treatment.

Furthermore, so much new material has been collected and deposited in New Zealand collections in the last 25 years — one of the most dynamic insect surveying periods in New Zealand — that numerous new taxa remain to be described even in families worked on by previous researchers. The authors estimate that the fauna may reach 400 to 500 species when totally described.

Potential revisers of the fauna may find it useful to note that over 65% of primary types of New Zealand Heteroptera (see type photographs, pp. 225–275) have been deposited in this country's entomological museums and collections (see Early & Gilbert 1993; Larivière 2000 and 2002b; Larivière & Rhode 2002; Nicholls *et al.* 1998; Palma *et al.* 1989). Approximately 15% of types can also be located in the Museum of Natural History (London),

which leaves around 20% of types scattered among other overseas collections. The high proportion of primarily local or readily accessible type repositories means that specimens can be more easily studied, making the process of revising taxa much easier in Heteroptera than in many other insect groups with most New Zealand types scattered through several overseas collections. “Virtual collections” of New Zealand types are being made available on the internet (see Larivière & Rhode 2002, <http://www.landcareresearch.co.nz>, New Zealand Hemiptera website).

Taxonomic works published until now generally deal with the adult stage. Less than 15% of described New Zealand Heteroptera have had immature stages described. Among all families, only the last instar nymphs of Acanthosomatidae, Cydnidae, and Pentatomidae have been better documented, together with a few species of the superfamily Enicocephaloidea and the families Lygaeidae, Miridae, Rhyparochromidae, and Veliidae.

Identification keys are also few. The most up-to-date keys to identify New Zealand Heteroptera at the family level are *The Insects of Australia, Chapter 26. Hemiptera* (Carver *et al.* 1991) and *A key to the bugs of Australia* (Elliott & Cassis 2001; LUCID key, <http://www faunanet.gov.au/>).

Below the family level, identification is problematic and one has to rely mostly on original taxonomic descriptions, when available, and apart from some recent works that include keys to taxa of Lygaeidae, Miridae, Pentatomoidea, and Rhyparochromidae, the literature is scattered. In addition, Eyles (2000b) provided an overview of introduced Mirinae and Deitz (1979) published a very useful paper listing selected references for identifying New Zealand Hemiptera. Much of Deitz's information on Heteroptera has been included and updated here with bibliographic resources listed under the appropriate taxa in the catalogue.

The authors are preparing keys to Heteroptera so far recorded from New Zealand. Electronic versions of these keys will be made available on the internet (<http://www.landcareresearch.co.nz>, New Zealand Hemiptera website), and printed in the *Fauna of New Zealand* series.

**Higher classification.** The historical developments leading to the current higher classification of Heteroptera have been well summarised by Schuh & Slater (1995) for the world, and by Cassis & Gross (1995, 2002) for Australia and neighbouring areas.

The higher classification used in the present catalogue (Table 1) is based on Cassis & Gross (1995, 2002). In particular, this involves the adoption of Henry's (1997a) classification for the Lygaeoidea which, as far as New Zealand is concerned, gives family rank to the Artheneidae

**Table 1.** Higher classification of Heteroptera according to Cassis & Gross (1995 and 2002) as applied to taxa occurring in New Zealand. \*, family status follows Lis (1999).

<b>ENICOCEPHALOMORPHA</b>	<b>CIMICOMORPHA</b>	Chinamyersiinae Chinamyersiini Tretocorini Isoderminae Mezirinae Prosympiestinae Prosympiestini
<b>Enicocephaloidea</b>	<b>Reduviidea</b>	
<b>Enicocephalidae</b>	<b>Reduviidae</b>	
Enicocephalinae	Emesinae	
Systelloderini	Emesini	
Phthirocorinae	Leistarchini	
Phthirocorini	Ploiariolini	
<b>Aenictopecheidae</b>	<b>Miroidea</b>	
Maoristolinae	<b>Miridae</b>	
Nymphocorinae	Bryocorinae	
<b>DIPSOCOROMORPHA</b>	Dicyphini	
<b>Dipsocoroidea</b>	Cylapinae	
<b>Ceratocombidae</b>	Cylapini	
Ceratocombinae	Deraeocorinae	
Ceratocombini	Deraeocorini	
<b>Schizopteridae</b>	Mirinae	
Hypselosomatinae	Mirini	
<b>GERROMORPHA</b>	Stenodemini	
<b>Mesovelioidea</b>	Orthotylinae	
<b>Mesoveliidae</b>	Orthotylini	
Mesoveliinae	Halticini	
<b>Hydrometroidea</b>	Orthotylini	
<b>Hydrometridae</b>	Phylinae	
Hydrometrinae	Leucophoropterini	
<b>Gerroidea</b>	Phylini	
<b>Veliidae</b>	<b>Cantacaderidae*</b>	
Microveliinae	Carldrakeaninae	
<b>Gerridae</b>	<b>Tingidae</b>	
Halobatinae	Tinginae	
<b>LEPTOPODOMORPHA</b>	<b>Naboidea</b>	
<b>Saldoidea</b>	<b>Nabidae</b>	
<b>Salidae</b>	Nabinae	
Saldinae	Nabini	
Saldoidini	Prostemmatinae	
<b>NEPOMORPHA</b>	Prostemmatini	
<b>Corixoidea</b>	<b>Cimicoidea</b>	
<b>Corixidae</b>	<b>Anthocoridae</b>	
Corixinae	Anthocorinae	
Corixini	Dufouriellini	
Diaprepocorinae	Oriini	
<b>Notonectoidea</b>	Scolopini	
<b>Notonectidae</b>	Xylocorini	
Anisopinae	Lyctocorinae	
	Lyctocorini	
	<b>Cimicidae</b>	
	<b>PENTATOMOMORPHA</b>	
	<b>Aradoidea</b>	
	<b>Aradidae</b>	
	Aneurinae	
	Aradinae	
	Calisiinae	
	Carventinae	

and restores the family status of the Cymidae, Heterogastridae, and Rhyparochromidae. In addition Lis' (1999) proposed higher classification for the Tingoidea is adopted, resulting into the classification of New Zealand taxa into two families (Tingidae and Cantacaderidae).

On a world basis, there may be more agreement on the phylogenetic classification of infraorders, superfamilies, and families of Heteroptera (represented in Table 1) than on the classification of suprageneric taxa within families.

The following references are the main sources of information on infraordinal and superfamilial classification in general, and on existing alternative arrangements to the ones adopted here: China & Miller (1959, world families); Štys & Kerzhner (1975, classification for whole suborder, full synonymous list for higher taxa); Schuh (1986b, review of infraorders and their included families, morphological cladistics); Slater (1982, descriptions of superfamilies); Štys (1985, additional categories and sister-group relationships of infraorders); Štys & Jansson (1988, classification of Nepomorpha); Schuh & Štys (1991, phylogeny of Cimicomorpha); Schaeffer (1993, outline of Pentatomomorpha systematics); Wheeler *et al.* (1993, morphological and molecular cladistics of higher taxa); Henry (1997a, phylogeny of Pentatomomorpha, especially Lygaeoidea), and Lis (1999, phylogeny of Tingoidea).

The subfamilial and tribal classifications used in the present catalogue also follow Cassis & Gross (1995, 2002) who provided overviews of existing alternative classifications for a number of families. The reference section under each family in the present catalogue gives the major reference sources dealing with family-group classification on a world basis.

**Geographic distribution.** The New Zealand fauna is highly insular, with 40% of genera and 82% of species presently recorded as being endemic (Table 2).

The maps on pages 283–318 summarise the geographic distribution of Heteroptera taxa (species and subspecies) occurring in New Zealand, based on the areas and codes of Crosby *et al.* (1976, 1998). This catalogue is the first attempt at presenting a synopsis of species distributions across all families of Heteroptera for New Zealand, based on information scattered through entomological collections as well as the literature. Consequently, most species now appear to be more widely distributed than originally perceived in the literature; even reputedly well-studied species have been shown to occur in more areas of New Zealand. Nevertheless, roughly 130 taxa (42% of the total fauna) are currently known from 10 populations or fewer, and many of these species are known from the type locality only.

A greater number of taxa (224) occurs on the South

Island, although 79 native species are actually restricted to it. A slightly lower number of taxa (206) occurs on the North Island, including 61 native species restricted to this island. As many as 137 taxa are shared between the North and the South Island.

Patterns of taxonomic diversity and the number of taxa restricted or endemic to areas of New Zealand are illustrated on Maps 4–7 (pp. 279–282). The areas so far known to contain the highest diversity are (from north to south): ND (123: 84 endemics, 16 other natives, 23 adventives), AK (124: 80 endemics, 18 other natives, 26 adventives), WN (109: 84 endemics, 13 other natives, 12 adventives), NN (147: 114 endemics, 14 other natives, 19 adventives), and MC (111: 87 endemics, 7 other natives, 17 adventives).

Several native species are restricted or endemic to a single area (Map 6, p. 281). Currently, the areas known to have the greatest number of such taxa are: ND (10), WN (4), NN (5), and FD (8). Most Heteroptera families found in New Zealand include taxa that are primarily forest-dwellers and these areas have relatively large remnants of native bush.

The areas that include the largest number of adventive taxa (Map 7, p. 282) are: North Island – ND (23), AK (26), GB (18), BP (16); South Island – NN (19), MC (17). Generally, these are the warmest areas of New Zealand as well as its main trading ports or agricultural regions. Many of the adventive taxa are also known to fly to artificial lights on warm nights.

Finally, no true bugs have been recorded from the Antipodes Islands, Bounty Islands, Campbell Island, and Snares Islands.

**Faunal composition and affinities.** Cassis & Gross (1995, 2002) and Schuh & Slater (1995) published up-to-date faunal overviews for Australia and the world respectively. Larivière (1997) provided a preliminary analysis of the composition and affinities of New Zealand Heteroptera based on generic and suprageneric data. Parts of this treatment are updated and expanded here.

Table 2 shows the number of genera and species occurring in New Zealand compared to Australia and the rest of the world. Table 3 provides a more detailed overview of the New Zealand fauna, by families and genera. The New Zealand fauna (305 species) is about 14% the size of the Australian fauna which, according to Cassis & Gross (1995 & 2002), is around 2,100 species. Currently, thirty-eight (38) families occurring in Australia are not represented in New Zealand.

The number of recognised adventive species in New Zealand is currently thirty-three (33) or about 11% of the total fauna. No family of Heteroptera is endemic to New Zealand, but all eight (8) subfamilies of world Aradidae are

**Table 2.** Families and number of taxa of Heteroptera occurring in New Zealand, Australia, and the world. Familial classification and numbers outside New Zealand follow Cassis & Gross(1995, 2002).

(Bold = groups in New Zealand; [ ] = groups absent from New Zealand;( ) = number of endemic taxa).

**ENICOCEPHALOMORPHA TO CIMICOMORPHA**

	New Zealand Genera	Australia Genera	World Genera	New Zealand Species	Australia Species	World Species
<b>ENICOCEPHALOMORPHA</b>						
Enicocephaloidea						
<b>Enicocephalidae</b>	<b>3(2)</b>	<b>3(1)</b>	<b>50</b>	<b>4(4)</b>	<b>5(5)</b>	<b>180</b>
<b>Aenictopecheidae</b>	<b>3(2)</b>	<b>2(1)</b>	<b>10</b>	<b>4(4)</b>	<b>2(2)</b>	<b>20</b>
<b>DIPSOCOROMORPHA</b>						
Dipsocoroidea						
<b>Ceratocombidae</b>	<b>1(0)</b>	<b>1(0)</b>	<b>7</b>	<b>2(2)</b>	<b>1(1)</b>	<b>35</b>
[Dipsocoridae]	0	1(0)	2	0	4(4)	40
[Hypsipterygidae]	0	0	1	0	0	3
<b>Schizopteridae</b>	<b>1(0)</b>	<b>13(9)</b>	<b>42</b>	<b>1(1)</b>	<b>61(61)</b>	<b>221</b>
[Stemmocryptidae]	0	0	1	0	0	1
<b>GERROMORPHA</b>						
Mesovelioidea						
<b>Mesoveliidae</b>	<b>2(1)</b>	<b>2(0)</b>	<b>11</b>	<b>2(1)</b>	<b>5(3)</b>	<b>41</b>
[Hebroidea]						
[Hebridae]	0	2(0)	7	0	5(5)	163
Hydrometroidea						
[Paraphrynoveliidae]	0	0	1	0	0	2
[Macroveliidae]	0	0	3	0	0	3
<b>Hydrometridae</b>	<b>1(0)</b>	<b>1(0)</b>	<b>7</b>	<b>1(0)</b>	<b>6(4)</b>	<b>119</b>
Gerroidea						
[Hermatobatidae]	0	1(0)	1	0	2(1)	8
<b>Veliidae</b>	<b>1(0)</b>	<b>4(0)</b>	<b>46</b>	<b>1(1)</b>	<b>17(14)</b>	<b>673</b>
<b>Gerridae</b>	<b>1(0)</b>	<b>10(3)</b>	<b>69</b>	<b>1(0)</b>	<b>29(17)</b>	<b>586</b>
<b>LEPTOPODOMORPHA</b>						
[Leptopodoidea]						
[Leptopodidae]	0	1(0)	9	0	2(2)	37
[Omaniidae]	0	1(0)	2	0	1(0)	5
Saldoidea						
[Aepophilidae]		0	1	0	0	1
<b>Saldidae</b>	<b>1(0)</b>	<b>3(0)</b>	<b>28</b>	<b>7(7)</b>	<b>10(9)</b>	<b>274</b>
<b>NEPOMORPHA</b>						
[Nepoidea]						
[Nepidae]	0	5(1)	14	0	9(7)	229
[Belostomatidae]	0	2(0)	9	0	4(2)	143
[Ochteroidea]						
[Ochteridae]	0	2(1)	3	0	11(9)	61
[Gelastocoridae]	0	1(0)	3	0	21(20)	103
Corixoidea						
<b>Corixidae</b>	<b>2(0)</b>	<b>5(0)</b>	<b>36</b>	<b>6(6)</b>	<b>31(25)</b>	<b>556</b>
[Naucoroidea]						
[Naucoridae]	0	4(0)	39	0	9(6)	391
Notonectoidea						
<b>Notonectidae</b>	<b>1(0)</b>	<b>6(2)</b>	<b>11</b>	<b>2(2)</b>	<b>39(25)</b>	<b>350</b>

**Table 2** Enicocephalomorpha to Cimicomorpha (continued)

	New Zealand Genera	Australia Genera	World Genera	New Zealand Species	Australia Species	World Species
[Pleidae]	0	1(0)	3	0	3(1)	36
[Helotrehidae]	0	0	16	0	0	47
<b>CIMICOMORPHA</b>						
Reduviodea						
[Pachynomidae]	0	0	4	0	0	15
<b>Reduviidae</b>	3(0)	100(62)	961	7(4)	226(198)	6601
[Velocipedoidea]						
[Velocipedidae]	0	0	1	0	0	4
[Microphysoidae]						
[Microphysidae]	0	0	7	0	0	25
[Joppeicoidea]						
[Joppeicidae]	0	0	1	0	0	1
Miroidea						
[Thaumastacoridae]	0	3(3)	6	0	11(11)	17
<b>Miridae</b>	39(28)	91(40)	1300	115(98)	186(148)	9800
Tingidae s.l. (incl. Cantacaderidae)	4(1)	56(25)	250	4(1)	147(133)	2025
Naboidea						
[Medocostidae]	0	0	1	0	0	1
<b>Nabidae</b>	2(0)	7(0)	31	4(2)	22(16)	380
Cimicoidea						
[Plokiophilidae]	0	0	4	0	0	13
<b>Anthocoridae</b>	6(1)	16(5)	81	8(4)	29(19)	523
<b>Cimicidae</b>	1(0)	1(0)	23	1(0)	1(0)	108
[Polyctenidae]	0	2(0)	5	0	2(1)	32
<b>Totals</b>	72(27)	352(158)	3120	170(137)	909(757)	23898

**PENTATOMOMORPHA**

Aradoidea						
<b>Aradidae</b>	19(12)	38(19)	230	39(38)	143(127)	1909
[Termitaphididae]	0	1(0)	2	0	1(1)	9
<b>Idiostoloidea</b>						
[Henicocoridae]	0	1(1)	1	0	1(1)	1
[Idiostolidae]	0	2(2)	3	0	3(3)	4
Lygaeoidea						
<b>Artheneidae</b>	1(1)	1(1)	8	1(1)	2(2)	20
<b>Berytidae</b>	1(0)	6(0)	36	1(1)	7(6)	172
[Blissidae]	0	9(4)	50	0	15(11)	435
[Colobathristidae]	0	1(0)	23	0	1(1)	83
[Cryptoramphidae]	0	2(2)	2	0	4(4)	4
<b>Cymidae</b>	1(0)	4(0)	9	1(0)	10(6)	54
[Geocoridae]	0	4(2)	25	0	20(18)	275
<b>Heterogastridae</b>	1(0)	3(1)	23	1(0)	5(4)	97
<b>Lygaeidae</b>	4(2)	22(7)	101	33(32)	81(70)	972
[Malcidae]	0	0	1	0	0	19
[Ninidae]	0	2(0)	5	0	2(0)	13
[Oxycarenidae]	0	1(0)	23	0	4(2)	147
[Pachygronthidae]	0	6(3)	13	0	10(5)	78

**Table 2** Pentatomomorpha (continued)

	New Zealand Genera	Australia Genera	World Genera	New Zealand Species	Australia Species	World Species
[Piesmatidae]	0	1(1)	7	0	4(4)	44
<b>Rhyparochromidae</b>	<b>22(10)</b>	<b>75(32)</b>	<b>368</b>	<b>42(34)</b>	<b>185(142)</b>	<b>1824</b>
Coreoidea						
[Alydidae]	0	7(2)	42	0	16(5)	250
<b>Coreidae</b>	<b>1(0)</b>	<b>43(26)</b>	<b>252</b>	<b>1(0)</b>	<b>83(59)</b>	<b>1802</b>
[Hyocephalidae]	0	2(2)	2	0	3(3)	3
[Rhopalidae]	0	2(0)	18	0	6(4)	209
[Stenocephalidae]	0	1(0)	1	0	1(1)	16
Pentatomoidae						
<b>Acanthosomatidae</b>	<b>2(1)</b>	<b>17(12)</b>	<b>47</b>	<b>4(4)</b>	<b>45(43)</b>	<b>180</b>
[Aphyllidae]	0	2(2)	2	0	3(3)	3
[Canopidae]	0	0	1	0	0	8
<b>Cydnidae</b>	<b>4(1)</b>	<b>21(9)</b>	<b>120</b>	<b>4(1)</b>	<b>83(76)</b>	<b>751</b>
[Dinidoridae]	0	4(0)	16	0	6(0)	95
[Lestoniidae]	0	1(1)	1	0	2(2)	2
[Megarididae]	0	0	1	0	0	16
<b>Pentatomidae</b>	<b>8(1)</b>	<b>134(94)</b>	<b>642</b>	<b>8(1)</b>	<b>363(333)</b>	<b>4110</b>
[Phloeidae]	0	0	2	0	0	3
[Plataspididae]	0	2(0)	56	0	20(11)	530
[Scutelleridae]	0	1 0(3)	80	0	22(10)	450
[Tessaratomidae]	0	12(6)	49	0	18(11)	235
[Thaumastellidae]	0	0	1	0	0	3
[Urostylididae]	0	0	7	0	0	84
[Pyrrhocoroidea]						
[Largidae]	0	2(0)	15	0	4(1)	100
[Pyrrhocoridae]	0	3(0)	65	0	11(8)	400
<b>Totals</b>	<b>64(28)</b>	<b>442(232)</b>	<b>2350</b>	<b>135(112)</b>	<b>1184(977)</b>	<b>15410</b>
<b>TOTAL FAUNA</b>						
Enico-Cimicomorpha	72(27)	352(158)	3120	170(137)	909(757)	23898
Pentatomomorpha	64(28)	442(232)	2350	135(112)	1184(977)	15410
<b>TOTALS</b>	<b>136(55)</b>	<b>794(390)</b>	<b>5470</b>	<b>305(249)</b>	<b>2093(1734)</b>	<b>39308</b>

**Table 3.** Number of genera and species of Heteroptera occurring in New Zealand. ( ), number of endemic taxa; [ ], number of adventive taxa.

Families	Number of genera and status	Number of species
Subfamilies		
Tribes		
Genera		
<b>Acanthosomatidae</b>	<b>2(1)[0]</b>	<b>4(4)[0]</b>
Acanthosomatinae		
<i>Oncacontias</i>	Endemic	1(1)[0]
<i>Rhopalimorpha</i>	Native	3(3)[0]
<b>Aenictopechidae</b>	<b>3(2)[0]</b>	<b>4(4)[0]</b>
Maoristolinae		
<i>Maoristolus</i>	Endemic	2(2)[0]
Nymphocorinae		
<i>Nymphocoris</i>	Native	1(1)[0]
Subfamily (Uncertain)		
<i>Aenictocoris</i>	Endemic	1(1)[0]
<b>Anthocoridae</b>	<b>6(1)[3]</b>	<b>8(4)[3]</b>
Anthocorinae		
Dufouriellini		
<i>Buchananiella</i>	Native	1(0)[0]
<i>Cardiastethus</i>	Native	3(3)[0]
Oriini		
<i>Orius</i>	Adventive	1(0)[1]
Scolopini		
<i>Maoricoris</i>	Endemic	1(1)[0]
Xylocorini		
<i>Xylocoris</i>	Adventive	1(0)[1]
Lyctocorinae		
Lyctocorini		
<i>Lyctocoris</i>	Adventive	1(0)[1]
<b>Aradidae</b>	<b>19(12)[0]</b>	<b>39(38)[0]</b>
Aneurinae		
<i>Aneuraptera</i>	Endemic	1(1)[0]
<i>Aneurus</i>	Native	6(6)[0]
Aradinae		
<i>Aradus</i>	Native	1(0)[0]
Calisiinae		
<i>Calisius</i>	Native	1(1)[0]
Carventinae		
<i>Acaraptera</i>	Native	2(2)[0]
<i>Carventaptera</i>	Endemic	1(1)[0]
<i>Clavaptera</i>	Endemic	1(1)[0]
<i>Leuraptera</i>	Endemic	2(2)[0]
<i>Lissaptera</i>	Native	1(1)[0]
<i>Modicaventus</i>	Endemic	1(1)[0]
<i>Neocarventus</i>	Endemic	2(2)[0]

<b>Chinamyersinae</b>			
<b>Chinamyersiini</b>			
<i>Chinamyersia</i>	Endemic	2(2)[0]	
<b>Tretocorini</b>			
<i>Tretocoris</i>	Endemic	1(1)[0]	
<b>Isoderminae</b>			
<i>Isodermus</i>	Native	3(3)[0]	
<b>Mezirinae</b>			
<i>Ctenoneurus</i>	Native	4(4)[0]	
<i>Woodwardiessa</i>	Endemic	1(1)[0]	
<b>Prosympiestinae</b>			
<b>Prosympiestini</b>			
<i>Adenocoris</i>	Endemic	2(2)[0]	
<i>Mesadenocoris</i>	Endemic	1(1)[0]	
<i>Neadenocoris</i>	Endemic	6(6)[0]	
<b>Artheneidae</b>		<b>1(1)[0]</b>	<b>1(1)[0]</b>
Nothochrominae			
<i>Nothochromus</i>	Endemic	1(1)[0]	
<b>Berytidae</b>		<b>1(0)[0]</b>	<b>1(1)[0]</b>
Berytinae			
<i>Berytini</i>			
<i>Bezu</i>	Native	1(1)[0]	
<b>Cantacaderidae</b>		<b>2(1)[0]</b>	<b>2(1)[0]</b>
Carldrakeaninae			
<i>Carldrakeana</i>	Native	1(0)[0]	
<i>Cyperobia</i>	Endemic	1(1)[0]	
<b>Ceratocombidae</b>		<b>1(0)[0]</b>	<b>2(2)[0]</b>
Ceratocombinae			
<i>Ceratocombini</i>			
<i>Ceratocombus</i>	Native	2(2)[0]	
<b>Cimicidae</b>		<b>1(0)[1]</b>	<b>1(0)[1]</b>
<i>Cimex</i>	Adventive	1(0)[1]	
<b>Coreidae</b>		<b>1(0)[1]</b>	<b>1(0)[1]</b>
Coreinae			
<i>Colpurini</i>			
<i>Acantholybas</i>	Adventive	1(0)[1]	
<b>Corixidae</b>		<b>2(0)[0]</b>	<b>6(6)[0]</b>
Corixinae			
<i>Corixini</i>			
<i>Sigara</i>	Native	5(5)[0]	
Diaprepocorinae			
<i>Diaprepocoris</i>	Native	1(1)[0]	
<b>Cydniidae</b>		<b>4(1)[1]</b>	<b>4(1)[1]</b>
Cydininae			
<i>Cydnini</i>			
<i>Chilocoris</i>	Native	1(0)[0]	
Geotomini			
<i>Cydnochoerus</i>	Endemic	1(1)[0]	
<i>Macroscytus</i>	Native	1(0)[0]	
<i>Microporus</i>	Adventive	1(0)[1]	

**Table 3 (continued)**

Families	Number of genera and status	Number of species
Subfamilies		
Tribes		
Genera		
<b>Cymidae</b>	<b>1(0)[0]</b>	<b>1(0)[0]</b>
Cyminae		
<i>Cymus</i>	Native	1(0)[0]
<b>Enicocephalidae</b>	<b>3(2)[0]</b>	<b>4(4)[0]</b>
Enicocephalinae		
<i>Systelloderini</i>		
<i>Systelloderes</i>	Native	2(2)[0]
Phthirocorinae		
<i>Phthirocorini</i>		
<i>Gourlayocoris</i>	Endemic	1(1)[0]
<i>Phthirostenus</i>	Endemic	1(1)[0]
<b>Gerridae</b>	<b>1(0)[0]</b>	<b>1(0)[0]</b>
Halobatinae		
<i>Halobates</i>	Native	1(0)[0]
<b>Heterogastridae</b>	<b>1(0)[1]</b>	<b>1(0)[1]</b>
<i>Heterogaster</i>	Adventive	1(0)[1]
<b>Hydrometridae</b>	<b>1(0)[0]</b>	<b>1(0)[0]</b>
<i>Hydrometrinae</i>		
<i>Hydrometra</i>	Native	1(0)[0]
<b>Lygaeidae</b>	<b>4(2)[1]</b>	<b>33(32)[1]</b>
<i>Lygaeinae</i>		
<i>Arocatus</i>	Adventive	1(0)[1]
<i>Orsillinae</i>		
<i>Nysiini</i>		
<i>Lepiorsillus</i>	Endemic	1(1)[0]
<i>Nysius</i>	Native	3(3)[0]
<i>Rhypodes</i>	Endemic	28(28)[0]
<b>Mesovelidiidae</b>	<b>2(1)[1]</b>	<b>2(1)[1]</b>
<i>Mesovelidiinae</i>		
<i>Mesovelia</i>	Adventive	1(0)[1]
<i>Mniovelia</i>	Endemic	1(1)[0]
<b>Miridae</b>	<b>39(20)[12]115(98)[12]</b>	
<i>Bryocorinae</i>		
<i>Dicyphini</i>		
<i>Enzytatus</i>	Adventive	1(0)[1]
<i>Felisacus</i>	Native	1(0)[0]
<i>Cylapinae</i>		
<i>Cylapini</i>		
<i>Peritropis</i>	Native	1(1)[0]
<i>Deraeocorinae</i>		
<i>Deraeocorini</i>		
<i>Deraeocoris</i>	Native	1(1)[0]
<i>Reuda</i>	Endemic	1(1)[0]
<i>Romna</i>	Endemic	12(12)[0]

Mirinae			
Mirini			
<i>Anexochus</i>	Endemic	1(1)[0]	
<i>Bipuncticoris</i>	Endemic	14(14)[0]	
<i>Chinamiris</i>	Endemic	31(31)[0]	
<i>Closterotomus</i>	Adventive	1(0)[1]	
<i>Diomocoris</i>	Endemic	9(9)[0]	
<i>Kiwimiris</i>	Endemic	5(5)[0]	
<i>Lincolnia</i>	Endemic	1(1)[0]	
<i>Monopharsus</i>	Endemic	1(1)[0]	
<i>Sidnia</i>	Adventive	1(0)[1]	
<i>Stenotus</i>	Adventive	1(0)[1]	
<i>Taylorilygus</i>	Adventive	1(0)[1]	
<i>Tinginotum</i>	Native	1(0)[0]	
<i>Tuicoris</i>	Endemic	2(2)[0]	
<i>Wekamiris</i>	Endemic	1(1)[0]	
<i>Stenodemini</i>			
<i>Chaetedus</i>	Native	3(1)[0]	
<i>Megaloceroea</i>	Adventive	1(0)[1]	
<i>Trigonotylus</i>	Adventive	1(0)[1]	
<i>Orthotylinae</i>			
<i>Halticini</i>			
<i>Coridromius</i>	Adventive	1(0)[1]	
<i>Halticus</i>	Adventive	1(0)[1]	
<i>Orthotylini</i>			
<i>Cyrtorhinus</i>	Native	1(1)[0]	
<i>Josemiris</i>	Endemic	1(1)[0]	
<i>Phylinae</i>			
<i>Leucophoropterini</i>			
<i>Sejanus</i>	Native	1(0)[0]	
<i>Tytthus</i>	Adventive	1(0)[1]	
<i>Phylini</i>			
<i>Basileobius</i>	Endemic	1(1)[0]	
<i>Campylomma</i>	Adventive	1(0)[1]	
<i>Cyrtodiridius</i>	Endemic	1(1)[0]	
<i>Halormus</i>	Endemic	1(1)[0]	
<i>Lopus</i>	Adventive	1(0)[1]	
<i>Mecenopa</i>	Endemic	1(1)[0]	
<i>Monospatha</i>	Endemic	1(1)[0]	
<i>Pimeleocoris</i>	Endemic	3(3)[0]	
<i>Polyozus</i>	Endemic	1(1)[0]	
<i>Xiphoides</i>	Endemic	6(6)[0]	
<b>Nabidae</b>	<b>2(0)[0]</b>	<b>4(2)[1]</b>	
<i>Nabinae</i>			
<i>Nabini</i>			
<i>Nabis</i>	Native	3(1)[1]	
<i>Prostemmatinae</i>			
<i>Prostemmatini</i>			
<i>Alloeorhynchus</i>	Native	1(1)[0]	
<b>Notonectidae</b>	<b>1(0)[0]</b>	<b>2(2)[0]</b>	
<i>Anisopinae</i>			
<i>Anisops</i>	Native	2(2)[0]	

**Table 3 (continued)**

Families	Number of genera and status	Number of species			
<b>Pentatomidae</b>	<b>8(1)[4]</b>	<b>8(1)[4]</b>			
Asopinae					
<i>Cermatulus</i>	Native	1(0)[0]			
<i>Oechalia</i>	Native	1(0)[0]			
Pentatominae					
Carpocorini					
<i>Monteithiella</i>	Adventive	1(0)[1]			
Myrocheini					
<i>Dictyotus</i>	Adventive	1(0)[1]			
Nezarini					
<i>Glaucias</i>	Native	1(0)[0]			
<i>Nezara</i>	Adventive	1(0)[1]			
Rhychocorini					
<i>Cuspicona</i>	Adventive	1(0)[1]			
Tribe (Uncertain)					
<i>Hypsithocus</i>	Endemic	1(1)[0]			
<b>Reduviidae</b>	<b>3(0)[1]</b>	<b>7(4)[1]</b>			
Emesinae					
<i>Emesini</i>					
<i>Stenolemus</i>	Adventive	1(0)[1]			
Leistarchini					
<i>Ploaria</i>	Native	2(1)[0]			
Ploariolini					
<i>Empicoris</i>	Native	4(3)[0]			
<b>Rhyparochromidae</b>	<b>22(10)[5]</b>	<b>42(34)[5]</b>			
Plinthisinae					
<i>Plinthisini</i>					
<i>Plinthisus</i>	Adventive	1(0)[1]			
Rhyparochrominae					
Antilocorini					
<i>Tomocoris</i>	Native	2(2)[0]			
Drymini					
<i>Brentiscerus</i>	Native	1(1)[0]			
<i>Grossander</i>					
<i>Paradrymus</i>					
Lethaeini					
<i>Paramyocara</i>			Native		1(0)[0]
Myodochini					
<i>Horridipamera</i>					
<i>Remaudiereana</i>			Adventive		1(0)[1]
Rhyparochromini			Native		2(0)[0]
<i>Dieuches</i>					
<i>Stizocephalus</i>			Adventive		1(0)[1]
Stygnocorini			Native		1(1)[0]
<i>Margareta</i>			Endemic		
Targaremini					
<i>Forsterocoris</i>			Endemic		4(4)[0]
<i>Geratarma</i>			Native		2(2)[0]
<i>Metagerra</i>			Endemic		5(5)[0]
<i>Millerocoris</i>			Endemic		2(2)[0]
<i>Paratruncala</i>			Endemic		1(1)[0]
<i>Regatarma</i>			Endemic		1(1)[0]
<i>Targarema</i>			Endemic		2(2)[0]
<i>Truncala</i>			Endemic		4(4)[0]
<i>Trypetocoris</i>			Endemic		3(3)[0]
<i>Woodwardiana</i>			Endemic		4(4)[0]
Udeocorini					
<i>Udeocoris</i>			Native		1(1)[0]
<b>Saldidae</b>			<b>1(0)[0]</b>		<b>7(7)[0]</b>
Saldinae					
<i>Saldoidini</i>					
<i>Saldula</i>			Native		7(7)[0]
<b>Schizopteridae</b>			<b>1(0)[0]</b>		<b>1(1)[0]</b>
Hypselosomatinae					
<i>Hypselosoma</i>					
Tingidae					
Tinginae					
<i>Stephanitis</i>			Adventive		1(0)[1]
<i>Tanybyrsa</i>			Native		1(1)[0]
<b>Veliidae</b>			<b>1(0)[0]</b>		<b>1(1)[0]</b>
Microveliinae					
<i>Microvelia</i>					

**Table 4.** Native taxa shared with Australia, Norfolk Island, Lord Howe Island, and New Caledonia. X, present. AU = Auckland Islands; KE = Kermadec Islands

Family	Subfamily, tribe Genus, species	New Zealand	Australia (continental)	Tasmania	Norfolk Island	Lord Howe Island	New Caledonia	South America	Other Regions
<b>Acanthosomatidae</b>									
	<i>Acanthosomatinae</i>								
	<i>Rhopalimorpha</i>	X	X						
	<b>Aenictopechidae</b>								
	<i>Nymphocorinae</i>								
	<i>Nymphocoris</i>	X				X			
	<b>Anthocoridae</b>								
	<i>Anthocorinae</i> , <i>Dufouriellini</i>								
	<i>Buchananella whitei</i>	X	X	X	X	X			
	<b>Aradidae</b>								
	<i>Aradinae</i>								
	<i>Aradus australis</i>	X	X	X					
	<i>Carventinae</i>								
	<i>Acaraptera</i>	X	X	X					
	<i>Lissaptera</i>								
	<i>Chinamyersiinae</i>	X	X	X					
	<i>Isoderminae</i>	X	X	X					
	<i>Isodermus</i>	X	X	X					
	<i>Propsympestinae</i>	X	X	X					
	<b>Berytidae</b>								
	<i>Berytiniae</i> , <i>Berytini</i>								
	<i>Bezu</i>	X	X	X					
	<b>Corixidae</b>								
	<i>Diaprepocorinae</i>								
	<i>Diaprepocoris</i>	X	X	X					
	<b>Cydnidae</b>								
	<i>Cydninae</i> , <i>Cydnini</i>								
	<i>Chilocoris neozealandicus</i>	X	X						
	<i>Geotomini</i>								
	<i>Macroscytus australis</i>	X	X	X					
	<b>Cymidae</b>								
	<i>Cyminae</i>								
	<i>Cymus novaezealandiae</i>	X	X						
	<b>Enicocephalidae</b>								
	<i>Phthirocorinae</i>								
	<b>Hydrometridae</b>								
	<i>Hydrometra strigosa</i>	X	X	X	X	X	X	X	X

x(Argentina, Chile)  
x(Argentina, Chile)  
x(Chile)

Solomon Islands

x

x

Indonesia (Java)

Crozet Island, New Guinea

x

New Hebrides, Tahiti

Family	Subfamily, tribe Genus, species	New Zealand	Australia (continental)	Tasmania	Norfolk Island	Lord Howe Island	New Caledonia	South America	Other Regions
<b>Miridae</b>	Bryocorinae, Dicyphini <i>Felisacus elegantulus</i>	x	x		x				
	Mirinae, Mirini <i>Tinginotum minutum</i>	x	x						Papua New Guinea
	Mirinae, Stenodemini <i>Chaetedus</i>	x (incl. KE)	x	x	x				
	<i>Chaetedus longiceps</i>	x	x						
	<i>Chaetedus plumalis</i>	x(KE)							
	Phylinae, Leucophoropterini <i>Sejanus albisignatus</i>	x	x						
<b>Nabidae</b>	Nabinae, Nabini <i>Nabis biformis</i>	x	x	x					
<b>Pentatomidae</b>	Asopinae <i>Cermatulus nasalis</i>		x	x					East Timor
	Oechalia schellenbergii	x	x	x					South Pacific, Philippines
	Pentatominae, Nezarini <i>Glaucias amyoti</i>	x	x		x				East Timor, Indonesia, Palau, Papua New Guinea
<b>Rhyparochromidae</b>	Rhyparochrominae <i>Drymini</i>		x	x		x			
	<i>Brentiscerus</i>	x	x			x			
	Lethaeini								
	<i>Paramyocara</i>	x	x						
	<i>Paramyocara iridescentis</i>	x	x						
	Myodochini								
	<i>Remaudiereana inornata</i>	x	x			x			
	<i>Remaudiereana nigriceps</i>	x(KE)	x			x			
	Rhyparochromini								
	<i>Stizocerphalus</i>	x	x			x			
	Targaremini	x	x			x			
	<i>Geratarma</i>	x	x			x			
	Udeocorini	x	x			x			
	<i>Udeocoris</i>								East Timor, Indonesia (West Timor)
<b>Tingidae sensu lato</b>									New Guinea
	Caridrakeaninae	x	x			x			
	<i>Caridrakeana socia</i>	x	x			x			
	Tinginae								
	<i>Tanybyrsa</i>	x	x			x			

represented. The native Heteroptera fauna is characterised by a large proportion of ground-dwelling or litter-inhabiting species, and 25% of species are flightless (approximately 65% of Aradidae and 70% of Rhyparochromidae). The largest Heteroptera families in New Zealand are the Miridae (115 species or 38% of the fauna), Rhyparochromidae (42 species or 15%), Aradidae (39 species or 14%), and Lygaeidae (33 species or 11%). In Australia, the four largest families are the Pentatomidae (363 species or 17%), Reduviidae (226 species or 11%), Miridae (186 species or 9%), and Rhyparochromidae (185 species or 9%), but these numbers will change as large portions of the Australian fauna are still unrevised. The Tingidae *sensu lato* (147 species) and Aradidae (143 species) are also well represented in Australia. The largest Heteroptera genus in New Zealand is *Chinamiris* (Miridae, 31 species). Many (over 30) unrevised Heteroptera genera are currently represented by a single species in New Zealand.

Most taxa shared with Australia and other parts of the world are cosmopolitan and probably introduced, except those listed in Table 4, with distribution ranges including southern Australia, Tasmania, New Zealand, and in three instances southern Chile, and for which a Gondwanan origin is more likely.

In Acanthosomatidae, the subfamilies Ditomotarsinae and Blaudusinae are dominated by elements from the southern landmasses of southern Africa, Chile, and Australia. These subfamilies are not represented in New Zealand, although *Rhopalimorpha* (Acanthosomatinae) is found in this country and southern Australia, while *Oncacontias* is restricted to New Zealand. The nature of the relationship between *Rhopalimorpha* and other acanthosomatine genera is unclear. Southwood & Leston (1959) hypothesized that this old austral lineage has "revived" in the Oriental and Palearctic regions during the Tertiary. This, however, remains to be tested cladistically.

The New Zealand and southern Pacific Enicocephalomorpha are diverse and include a number of typically austral taxa. In the Aenictopechidae, the tribe Nymphocorini comprises only *Nymphocoris*, with two species, one from New Zealand and one from Tasmania. In the Enicocephalidae, the subfamily Phthirocorinae includes two tribes from the southwest Pacific and the subantarctic islands. The Phthirocorini include four genera, two of which are monobasic and endemic to New Zealand (*Gourlayocoris*, North and South Islands; *Phthirostenus*, South Island and Auckland Islands).

Nearly half of all Aradidae occur in the Oriental-Pacific area. Degrees of generic endemism vary throughout this region, reaching a peak in the old land masses of Australia, New Zealand, New Caledonia, and mainland Asia (Monteith, 1982). All eight subfamilies are represented in

New Zealand and Australia. The Chinamyersiinae are restricted to the south-west Pacific, and the Isoderminae and Prosympiestinae have a classic east Gondwana distribution in Chile, New Zealand, and south-east Australia.

In the Corixidae, the subfamily Diaprepocorinae contains only *Diaprepocoris* which is restricted to Australia and New Zealand.

As in many other parts of the world the family Rhyparochromidae is taxonomically diverse. The main faunal relationships with other parts of the Southern Hemisphere are in the tribes Drymini (*Brentiscerus*), Lethaeini (*Paramyocara*), Myodochini (*Remaudiereana*), Rhyparochromini (*Stizocephalus*), Targaremini (*Geratarma*), and Udeocorini (*Udeocoris*). New Zealand shares only one genus of Targaremini (*Geratarma*) with Australia. Extensive radiation of the Targaremini has, however, occurred in New Zealand, which has nine (9) endemic genera representing about 40% of the world genera. All but 3 genera of Targaremini have a typical southwest Pacific distribution (Eyles 1967). The tribe is known from 23 genera and 57 species found in Australia, New Guinea, New Caledonia, Vanuatu, and New Zealand (Slater 1986; Slater & O'Donnell 1995). They appear to be an ancient group, probably of New Zealand-Australian origin, and occur in mesic forests (including *Nothofagus*) on both sides of the Tasman sea.

In the Miridae, the genus *Chaetedus* is known from four species in New Zealand, Australia, and New Guinea. *Chaetedus longiceps* is shared by New Zealand, continental Australia, and Tasmania. *Chaetedus plumalis* is known from the Kermadec Islands and Norfolk Island.

Two genera of Tingidae *sensu lato* (Cantacaderidae and Tingidae in this catalogue) are shared with other areas of the Southern Hemisphere. The genus *Carldrakeana* belongs to the primarily austral family Cantacaderidae, which includes at least another 19 genera. *Tanybyrsa* belongs to the cosmopolitan subfamily Tinginae of the Tingidae.

At the generic level New Zealand shares with Australia about 10% of its native fauna. At the species level, this is approximately 5%. Most faunal relationships are of a trans-Tasman nature. The composition of the shared fauna has not varied much over the past several decades to 100 years, which may suggest that overseas dispersal may not have made a major contribution to the New Zealand fauna.

As for the island groups in the Tasman Sea between Australia and New Zealand, only Norfolk Island has one taxon (*Lissaptera*, Aradidae) with solely a New Zealand relationship. Close relationships are not shown with New Caledonia; the few generic and subgeneric affinities documented in Table 4 may or may not represent natural distributions, except perhaps for *Aradus australis* (Aradidae). Most taxa recorded from the Kermadecs are

either adventive, widely distributed in the subtropical South Pacific, or (sometimes) shared with New Zealand and Australia. Not one species has a sole relationship with New Zealand. Only one species (*Diomocoris raoulensis*, Miridae) is currently recorded as being endemic to the Kermadec Islands.

**Biology and dispersal.** Schuh & Slater (1995) and Wheeler (2001) provided up-to-date overviews on the biology of world Heteroptera and Miridae, respectively.

The majority of Heteroptera families occurring in New Zealand are terrestrial. Some families are semiaquatic (Gerridae, Hydrometridae, Saldidae, Veliidae) or aquatic (Corixidae, Notonectidae), but these represent only 20 species or so (less than 7% of the fauna). Lentic habitats are not a major feature of the New Zealand environment and the majority of lakes and ponds are of volcanic or of relatively recent glacial origin.

The Mesoveliidae include one native taxon *Mniovelia kuscheli* which is terrestrial, and one (probably adventive) taxon, *Mesovelia hackeri*, recorded here for the first time for New Zealand, which is semiaquatic. There are no freshwater waterstriders (Gerridae) recorded from New Zealand; the only gerrid species occurring in this country's territorial waters is the oceanic species *Halobates sericeus*.

The introduced representative of the Cimicidae (*Cimex lectularius*, the bed bug) is a well known cosmopolitan mammal ectoparasite.

Terrestrial species can be either predominantly epigean (e.g., Enicocephaloidea, Aradidae, Rhyparochromidae), planticolous (e.g., Anthocoridae, most Miridae, Reduviidae, Pentatomidae, Tingidae *sensu lato*), or arboreal (most Deraeocorinae, *Chinamiris* species, many *Bipuncticoris* species (Miridae)). The Lygaeidae are an epigean group, except for the genus *Rhypodes* which has most species living both on the ground and on plants, and at least three species living on trees. The Rhyparochromidae are also predominantly epigean, but a number of species live on the ground as well as on plants and trees (e.g., *Paramyocara*, *Remaudiereana*, *Woodwardiana evagorata*, *Metagerra helmsi*, *Metagerra obscura*, *Targarema electa*). The endemic rhyparochromid *Margareta dominica* lives strictly on sedge (*Gahnia* spp.). A number of families include corticolous species (e.g., Anthocoridae, many Aradidae, Enicocephalidae, and the endemic clypine *Peritropis aotearoae* (Miridae)).

The two native habitats harbouring the greatest number of species are forests and shrublands (in the lowlands and on mountains). Tussock grasslands and open subalpine environments also harbour their own special suites of taxa (e.g., *Kiwimiris* (Miridae) or *Rhypodes* (Lygaeidae) species). In general, native species tend to live within the confines of

native habitats, but many species also survive in modified environments. Adventive species seem to be able to invade natural habitats but, in general, only to a slight degree. *Clasterotomus norwegicus*, *Stenotus binotatus*, *Halticus minutus*, *Lopus decolor* (Miridae), *Nabis kinbergii* (Nabidae), *Cuspicona simplex*, *Dictyotus caenosus*, and *Nezara viridula* (Pentatomidae) are notable exceptions with wide-ranging distributions across all kinds of habitats from sea level to high elevations. On the other hand, some native species also dwell successfully in exotic or highly modified ecosystems. Some of the most commonly encountered examples are: *Oncacontias vittatus* (Acanthosomatidae), *Ctenoneurus hochstetteri* (Aradidae), some *Rhypodes* species (Lygaeidae), *Cermatulus nasalis nasalis*, *Oechalia schellenbergii* (Pentatomidae), and *Targarema stali* (Rhyparochromidae), in exotic forests; *Rhopalimorpha lineolaris* and *R. obscura* (Acanthosomatidae), *Cymus novaezelandiae* (Cymidae), *Deraeocoris mauricus*, *Lincolnia lucernina* (Miridae), in pastures; *Chaetedus longiceps*, some *Diomocoris* species, *Romna scotti*, *Sejanus albesignatus* (Miridae), in cultivated fields; and *Nysius huttoni* (Lygaeidae) in grassy habitats.

Very few native species live almost exclusively in coastal lowlands. Some species more characteristic of these areas are: *Clavaptera ornata*, *Modicarventus wisei* (Aradidae), *Chilocoris neozelandicus* (Cydnidae), *Chinamiris aurantiacus* (Miridae), in coastal lowland forests and shrublands; *Chaetedus longiceps* (Miridae), in coastal grassy habitats; and many Saldidae (some undescribed), in intertidal habitats in estuaries. On the other hand, most coastal sand dunes, estuarine habitats, and coastal wetlands are typically inhabited by adventive species; these habitats are of relatively recent origin (Quaternary era) in New Zealand.

Most New Zealand families, however, are characterised by a majority of lowland-montane species, the altitudinal range of which more or less matches that of most forested areas in New Zealand, with a few species more widely distributed from the lowlands to the subalpine zone. A number of native taxa seem to have radiated extensively in high mountain or subalpine habitats (e.g., many *Rhypodes* (Lygaeidae), most Deraeocorinae, many *Bipuncticoris* species, and the genus *Kiwimiris* (Miridae)). The only endemic pentatomid, *Hypsithocus hudsonae*, is restricted to subalpine-alpine habitats. The evolution of these taxa may have followed that of the bulk of New Zealand shrubby and herbaceous plants; these have evolved in response to new environments of the Quaternary era (Wardle 1991). The majority of Targaremini species (Rhyparochromidae) occur from the lowland to the subalpine zones although most species are brachypterous, hence limited in their ability to disperse.

Some adventive species can be regarded as being synanthropic, i.e., living around human dwellings, e.g., *Xylocoris galactinus*, *Lyctocoris campestris* (Anthocoridae), *Cimex lectularius* (Cimicidae), *Stenolemus fraterculus* (Reduviidae), and, to some extent, *Dieuches notatus* (Rhyparochromidae).

Relatively little is known about the natural history of native Heteroptera. Host plants have been confirmed for less than 25% of species, mainly in the families Lygaeidae and Miridae. However, Appendix B lists over 350 plants recorded in association with New Zealand Heteroptera. Practically no life-cycle study has been published so far. The seasonality of species, especially the adult stage, is only becoming clearer in this catalogue with more data gathered from New Zealand collections. Adults are probably diurnal in most families, and although they may be active for most of the year, their peaks of activity are between November and March, that is, the end of spring (September–November), summer (December–February), and early autumn (March–May). The seasonality of immature stages as well as the breeding type of most species, i.e., the time of the year at which they reproduce, are mostly unknown. Population biology and locomotory activity remain virtually undocumented, although the present catalogue attempts to fill parts of this knowledge gap by providing observations on wing development which may be indicative of dispersal abilities. Current knowledge about feeding strategies is mostly extrapolated from what is known of family trends worldwide rather than based on direct observations of New Zealand species. The majority of Heteroptera found in New Zealand are phytophagous (plant-feeding) extracting sap directly from the plant vascular system (most families), feeding on seeds, developing fruits, or flowers (e.g., Lygaeidae, Pentatomidae, Rhyparochromidae), or sometimes pollen (e.g., some Miridae). The majority of species of the family Aradidae are thought to feed on the mycelia or fruiting body of various wood-rotting fungi. Almost all families of Heteroptera also include species that are predaceous on insects and other arthropods (e.g., subfamily Deraeocorinae in the Miridae), and there are entire families that are predominantly predaceous (e.g., Anthocoridae, Ceratocombidae, Nabidae, Enicocephaloidea). Some predaceous species may also at times have to feed on plant substances for moisture or to make up for lack of suitable prey (e.g., some Nabidae, Anthocoridae, Reduviidae). Only the introduced cimicid *Cimex lectularius* is haematophagous, feeding on the blood of vertebrates; there does not appear to be any evidence of disease transmission.

Little is known about the natural enemies of New Zealand Heteroptera. Hymenopteran egg-parasites, some birds (e.g., pipit, rook, starling), spiders, damsel bugs

(Nabidae), ground-beetles, and mites have been observed as enemies of some Heteroptera in New Zealand, but published observations are few and far between. The authors' field experience suggests that spiders could be the most important predators, especially in open habitats such as tussock grasslands and alpine environments.

**Economic importance.** Schuh & Slater (1995) and especially Schaefer & Panizzi (2000: *Heteroptera of economic importance*) gave thorough up-to-date reviews on the economic importance of Heteroptera on a world basis.

Economic importance, as generally perceived in terms of direct damage to crops or disease transmission by a single species, is probably lower in Heteroptera than in other major insect orders.

In New Zealand, this is currently documented for a limited number of adventive species, e.g., Miridae—*Enzytatus nicotianae* (vector of velvet tobacco virus), *Closterotomus norwegicus* (pest on various seed and vegetable crops), *Sidnia kinbergi* (pest on seed crops, strawberries, carrots); Pentatomidae—*Cuspicona simplex* (pest on solanaceous plants), *Dictyotus caenosus* (pest on boysenberries, lucerne), *Nezara viridula* (pest on a wide range of vegetable crops). In addition, species with pest status in other parts of the world, including neighbouring island countries and other parts of Australasia, represent potential biosecurity risks for countries like New Zealand that rely heavily on primary industry for their economy. For example, chinch bugs and other species of Lygaeidae have historically been among the most destructive plant-feeding pests in several countries of the world, hence the need to update the inventory of the New Zealand and neighbouring faunas continually through sustained fieldwork and taxonomic re-assessments.

Crop damage is also documented for some endemic species, e.g., Lygaeidae—*Nysius huttoni* (mostly crucifers and wheat); Miridae — *Diomocoris maoricus* (peach), *Lincolnia lucernina* (lucerne).

As a group, Heteroptera can serve humans and the environment in positive ways, especially predaceous species which can be useful biological control agents. The importance of zoophagous Heteroptera for integrated pest management programmes has been reviewed by Alomar & Wiedemann (1996) and Schaefer & Panizzi (2000). In general, this issue has received more attention in overseas countries with larger faunas than in New Zealand. For example, Anthocoridae have been identified as important predators of thrips, mites, and Lepidoptera eggs. Predatory Miridae have been successfully used to control leafhoppers. Predatory Pentatomidae of the subfamily Pentatominae have acted as biocontrol agents against lepidopterous caterpillars. Some species of *Microvelia* (Veliidae) have

been used for mosquito or rice planthopper control.

The subject of beneficial Heteroptera has received limited attention in New Zealand, e.g., *Orius vicinus* (adventive Anthocoridae, in orchards), *Cermatulus nasalis* and *Oechalia schellenbergii* (native Asopinae, in a range of situations). In general, most native predacious and zoophytophagous species have not been investigated for use as biocontrol agents.

Finally, other seemingly economically unimportant groups of Heteroptera may also be important to humans or to nature conservation. Notonectidae and Corixidae, for example, may have positive importance as foodstuffs for fish, as good indicators of water quality, or as biological control agents against the larvae of disease vector mosquitoes.

**Conservation status.** The Department of Conservation has responsibility for protecting and conserving New Zealand's native plants and animals. The Department's Species Priority Ranking System established by Molloy *et al.* (1994) provides criteria for scoring species according to various levels of threat, so that management and/or recovery plans can be subsequently established. A list of priority invertebrate species for conservation was established in this way by Molloy *et al.* (1994). McGuinness (2001) developed species profiles for species on the list, providing additional descriptive information to initiate or support key conservation actions. In addition, McGuinness (2001) added a number of invertebrates of potential conservation interest to the original list.

The Department of Conservation's Species Ranking System is summarised in Table 5. Criteria in bold are thought to be more readily applicable to Heteroptera given current levels of taxonomic and biological knowledge. Four species of Heteroptera were profiled by McGuinness (2001): *Rhopalimorpha alpina* (Acanthosomatidae, conservation category X), *Hypsithocus hudsonae* (Pentatomidae, conservation category I), *Empicoris aculeatus*, and *E. seorsus* (Reduviidae, conservation category I).

The conservation status of these species is reviewed here. The current status of *Hypsithocus hudsonae* seems appropriate. *Rhopalimorpha alpina* could be more appropriately regarded as a category I species. As far as the authors know, it has never been 'presumed extinct'. Although this species has not been sighted for a number of years, this is probably due to a lack of active surveying, a low knowledge of its biological requirements, or to a localised or disjunct geographic distribution.

The authors also think that the *Empicoris* species should both be removed from the list of threatened species. Information on this genus in New Zealand is simply too

scanty for any serious evaluation. The situation of *Empicoris* species could apply to several other Heteroptera genera not well revised taxonomically, little known biologically, or not yet targeted by specialised field surveys.

When the above criteria are applied, new knowledge brought forward in the present catalogue suggests that over sixty-five (65) endemic Heteroptera may, however, be of potential conservation concern. These species are listed in Appendix I (names preceded by an asterisk).

**Table 5. Department of Conservation Species Priority Ranking System (Molloy & Davis, 1994; McGuinness, 2001).** Designed to categorise threatened species according to their urgency for conservation. **bold** = more reliable criteria for Heteroptera, based on current taxonomic and biological knowledge

Plants and animals are scored using 5 factors, encompassing 17 criteria.

1. **Distinctiveness:** taxonomic distinctiveness.
  2. **Status:** number of populations; mean population size; size of largest population; **geographic distribution;** condition of largest population; and the population decline rate.
  3. **Threats:** legal protection of habitat; **habitat loss rate;** predators/harvest impact; competition; and other factors affecting survival.
  4. Vulnerability: habitat and/or diet specificity; reproductive and/or behavioural specialisation; and cultivation/captive breeding potential.
  5. Values: Maori cultural values; Pakeha cultural values. Invertebrates are then grouped into 3 categories depending on the score they receive from the ranking system.
- A: Highest priority threatened species for conservation action.
- B: Second priority threatened species for conservation action.
- C: Third priority threatened species for conservation action.
- In addition, 4 other specialist categories are used:
- X: Species that have not been sighted for a number of years and are presumed extinct.
- I: Species about which little is known, but based on existing knowledge are considered to be under threat.
- O: Species that are threatened in New Zealand but are known to be secure in parts of their range outside New Zealand (no invertebrate so far listed in this category).
- M: **Species that are [apparently] rare or localised, and of cultural importance to Maori.**

## METHODS AND CONVENTIONS

This catalogue is based on an exhaustive survey of the literature published between 1777 and September 2003 (over 1000 publications), 11 years of extensive fieldwork by the authors in over 500 localities, and the recording of information associated with authoritatively identified specimens deposited in the following New Zealand entomological museums and collections:

- AMNZ Auckland Institute and Museum, Auckland.
- CMNZ Canterbury Museum, Christchurch.
- LUNZ Entomological Museum, Lincoln University, Lincoln.
- MONZ Museum of New Zealand Te Papa Tongarewa, Wellington.
- NZAC New Zealand Arthropod Collection, Landcare Research, Auckland.
- OMNZ Otago Museum, Dunedin [now including BPNZ, Brian Patrick Private Collection].
- UCNZ Department of Zoology, University of Canterbury, Christchurch.

**Field surveys and collecting techniques.** Most areas of New Zealand have been visited by true bug collectors. This has provided a basic inventory of taxa and resulted in New Zealand collections having representatives of most species, either described or undescribed. The South Island has generally received the closest attention while the North Island has been somewhat neglected by collectors, except for the Northland, Auckland, and Wellington areas. Coastal habitats (estuaries, sand dunes, salt marshes, mangroves), flaxlands, edges of streams crossing forests, the underside of loose tree bark, and rotten logs are among the macro- and microhabitats least surveyed.

The material collected so far is rich in geographic information but often poor in biological data. Furthermore, the majority of species are represented only by a few specimens, impeding the ability of taxonomists to assess morphological variations within and between populations.

As field entomologists the authors believe that species should first be recognised in the field. This is why an extensive field survey has been carried out in order to complete a more detailed picture of geographic distribution and to increase our knowledge of the natural history of as many species as possible. One to three months a year were spent in the field from 1992 to 2003. Over 500 localities were surveyed mostly on the North Island, but also in the South and the West of the South Island. Visits lasting about one week were made to relatively larger areas, e.g., the Catlins or the Ruahines. A mixture of collecting techniques

were used at any given collecting site, e.g., hand-collecting, leaf litter and rotten wood sifting, extraction from decomposing debris using Berlese funnels, beating and sweeping of individual host plants, some pitfall trapping, treading of emergent aquatic vegetation, and waternet raking of substrate of water bodies.

Geographic and biological data associated with all samples and specimens collected were recorded in as much detail as possible in field notebooks. This information was subsequently transferred to mounted specimens on 2 labels (Fig. 1), one detailing the locality information, the other one the biological observations. More recently, most locality information has also been georeferenced (attributed longitude and latitude data). All material has been deposited in the research material section of the New Zealand Arthropod Collection (NZAC, Auckland) and label data partly recorded in NZAC's associated databases.

The authors plan to continue their surveys for years to come as there is still a lot of information to be gathered in order to complete their taxonomic revisions and to gain a better understanding of the biogeography and natural history of New Zealand species.

**Taxonomic information.** The appropriate taxonomic literature was checked to obtain original spellings, years of publication, page citation, type-species designations, type-locality information, and the nomenclatural acts and changes affecting the status of New Zealand taxa.

The catalogue is arranged alphabetically by family, subfamily, tribe, genus, subgenus, species, and subspecies. This arrangement is thought to provide the quickest access to information and easiest use of the catalogue by non-specialists as well as specialists. A table showing the higher classification of Heteroptera is also provided (Table 1).

The nomenclature adopted in this catalogue adheres to the provisions established in the *International Code of Zoological Nomenclature*, Fourth Edition (1999).

**Family-group names.** Valid names of families, subfamilies, and tribes (when available) are given as bold centred headings. Treatment of nomenclature of family-group names is not included.

The familial classification used in this catalogue follows Cassis & Gross (1995 and 2002, see also Checklist of taxa, Introduction and Table 1). This facilitates comparison between the faunas of Australia and New Zealand, and consideration of the New Zealand fauna within the wider context of Australasia.

**Genus-group names.** Valid names are given with author and year as bold centred headings. The biostatus of each taxon is indicated (A=adventive; E=endemic; N=native,

not endemic). Under this heading the valid name and its synonyms, in chronological order, are given with citation of the original authority, year of publication, and page reference. Information on original rank, availability, homonymy, and synonymy, or changes of rank are also included. Incorrect subsequent spellings are not usually given. The full synonymy of adventive taxa from outside the Australian Region is omitted, except in some cases for added clarity. Instead, literature references providing access to the complete synonymy are given. Type species (in their original combination) and method of fixation are given for valid native genus-group names as well as synonyms.

Strict adherence is given to the definition of “available name” by the *International Code of Zoological Nomenclature* (1999).

**Species-group names.** Valid names are given in their current combination with author and year as bold left justified headings. The biostatus of each taxon is indicated (A=adventive; E=endemic; N=native, not endemic). Under this heading valid names of native species, subspecies and their synonyms are given in chronological order as for genus-group names. Information on original rank, availability, homonymy, and synonymy, or changes of rank are also included. Incorrect spellings are not usually given. The full synonymy of adventive taxa from outside the Australian Region is omitted, except in some cases for added clarity. Instead, literature references providing access to the complete synonymy are given. New combinations are listed chronologically and followed by a colon (:) and the bibliographic reference of the combination. Type data are provided for available names of native species and subspecies.

**Biostatus.** This (A=adventive; E=endemic; N=native, not endemic) is indicated for all genera, species, and subspecies. The biostatus categories used are defined in the glossary (Appendix A). A combination of criteria was used to assess whether taxa were adventive including: recency of first New Zealand record in the literature and collections (these date back to 1875); fit of current geographical and ecological distribution with recognised natural patterns, or similarity of such distribution with that of other adventive arthropods; and dispersal ability, especially in relation to flightlessness and distance from the nearest overseas populations.

**Type data.** These are listed in the following format: Type, Holotype, Lectotype, Syntypes, or Neotype followed by sex (accompanied by number of specimens in the case of syntypes), acronym of entomological collection or mu-

seum (repository; see Appendix C for list of acronyms), area code (Crosby *et al.* 1998) of type locality, and name of type locality. An asterisk indicates type specimen(s) not seen by the authors.

Photographs of primary types deposited in New Zealand collections and museums were captured through a Leica MZ-12 stereomicroscope and the increased depth-of-field computer system Auto-Montage (Synoptics U.K.). Type label information was digitised using a flat bed scanner (Microtek ArtixScan 1100). Further photoprocessing and figure layouts were done with the software packages PhotoShop and CorelDRAW graphics suite. The type photographs in this catalogue (pp. 000-000) and photos of other types are available on the Landcare Research website (<http://www.landcareresearch.co.nz>, New Zealand Hemiptera website).

**Geographic distribution.** The catalogue contains distributional information for genera, subgenera, species and subspecies, based on literature and specimen label data. The distribution of supraspecific groups is usually given as broad geographical regions or in slightly more detail if the taxon is widely known within the Australian Region.

For species and subspecies, the area codes of Crosby *et al.* (1976, 1998) are given in alphabetical order for the North Island, South Island, Stewart Island, and the Offshore Islands, respectively. When appropriate, the extrazonal distribution (outside New Zealand and its offshore islands) is also included, as well as first New Zealand records of adventive species. Full distributional information is given for species and subspecies known from ten (10) localities or fewer with the collection acronym or literature reference supporting each record. Appendix E contains a list of the main collecting localities and their geographic coordinates.

Two-letter abbreviations for the area codes of Crosby *et al.* (1976, 1998) used in this catalogue are as follows (see maps 1–3, pp. 276–278):

**New Zealand. North Island:** AK, Auckland; BP, Bay of Plenty; CL, Coromandel; GB, Gisborne; HB, Hawke's Bay; ND, Northland; RI, Rangitikei; TK, Taranaki; TO, Taupo; WA, Wairarapa; WI, Wanganui; WN, Wellington; WO, Waikato. **South Island:** BR, Buller; CO, Central Otago; DN, Dunedin; FD, Fiordland; KA, Kaikoura; MC, Mid Canterbury; MK, Mackenzie; NC, North Canterbury; NN, Nelson; OL, Otago Lakes; SC, South Canterbury; SD, Marlborough Sounds; SL, Southland; WD, Westland. **Stewart Island, SI. Offshore Islands:** AN, Antipodes Islands; AU, Auckland Islands; BO, Bounty Islands; CA, Campbell Island; CH, Chatham Islands; KE, Kermadec Islands; SN, Snares Islands; TH, Three Kings Islands.

The authors are aware of the arbitrary nature of the Crosby *et al.* (1976, 1998) system for recording specimen

localities, as well as its obvious limitations when it comes to uncovering biogeographic patterns. Nevertheless, recording geographic information in this way is a useful, well established approach adopted by most New Zealand entomological collections, museums, and publication series. It has the advantages of allowing distributional information to be uniformly recorded and easily compared. Broad biogeographic trends can still be observed, and it remains relatively easy to relate species distributions to any one of a range of 'more natural' land or ecosystem classifications (e.g., Department of Conservation's Ecological Regions and Districts of New Zealand), especially when georeferenced point-data are also available.

During the course of this research species-level geographic information and type-locality data were maintained in a Microsoft Access database. This database was used to prepare the species distribution maps (pp. 283–318, presented alphabetically by taxa), the maps on taxonomic diversity (pp. 279–282), and the appendices listing type localities (Appendix H) and species by areas of New Zealand (Appendices F, G). All maps were prepared using the software CorelDRAW graphics suite.

Appendix D provides a list of taxa incorrectly or erroneously recorded from New Zealand.

**Biological and dispersal information.** The information provided is based on the literature and specimen label data. In order to eliminate spurious records, an effort was made to summarise available information by using the smallest common denominator representing the essentials of each species' requirements. Information given between square brackets, e.g., [ ], is assumed from available knowledge on related taxa.

Data sheets were prepared to compile information on biology and dispersal power (Fig. 2) and compose the species treatments for the catalogue. Biological trends were summarised for each species, using a series of standardised terms following the approach taken by previous workers dealing with other faunas (e.g., Cassis & Gross, 1995 and 2002). The terms used in this catalogue are defined in the glossary (Appendix A).

Altitudinal distribution, or distribution related to altitude or elevation, is expressed as coastal, lowland, montane, subalpine, and alpine, following the categories used by Brownsey & Smith-Dodsworth (2000).

Vertical distribution, or distribution related to the horizon (terrestrial taxa), is expressed as epigean, planticolous, or arboreal.

Plant associations are listed from most commonly encountered to least commonly encountered associations. When this is not known, plants are listed alphabetically.

Seasonality, or the period of year when an animal is active, is expressed as months from September (start of spring) to August (end of winter). Because this information was gathered mostly from collection data, it may only be loosely indicative of the actual seasonality.

Dispersal power, or the capability of dispersal, has been assessed when possible, using wing condition and flight data (including light-trapping observations). Wing condition is expressed as apterous, micropterous, brachypterous, submacropterous, or macropterous, and was evaluated for each species using the literature and personal observations made in the field and in the laboratory.

**References.** Under Reference(s), only the most important references are given for valid taxa, with an indication of their contents between parentheses. In general the authors aimed to limit the number of references to no more than five to ten for each species or subspecies. Page numbers are only provided for taxonomic citations from recent catalogues.

**Notes.** Additional information is given as Notes under each valid taxon.

## CATALOGUE

Taxa are listed in alphabetical order from families to subspecies. Valid family-group names are presented without authorship and date of publication; such information can readily be obtained from recent world catalogues and revisions. Each genus-group name or species-group name is listed with its author(s), date, and page of publication. Valid species-group names are listed alphabetically in ***bold italics*** in their *current combinations*; they are also recorded in *italics* in their *original combinations*. Synonyms are presented chronologically and in *italics* in their *original combinations*. Synonyms of adventive species from outside the Australian Region are omitted, except in some cases for more clarity. The New Zealand biostatus of each genus- and species-group taxon is indicated in ***bold*** superscript font following valid names (**A**=adventive; **E**=endemic; **N**=native, non-endemic).

### Order HEMIPTERA

#### Suborder HETEROPTERA

#### Family ACANTHOSOMATIDAE

##### Stink bugs

**References.** Cachan, 1952 (Madagascar, taxonomy). Leston, 1953 (Ethiopian Region, taxonomy, world classification). Woodward, 1953a (New Zealand, revision). Kumar, 1974 (key and review of genera, world). Rolston & Kumar, 1974 (key to genera, Western Hemisphere). McPherson, 1982 (Nearctic Region, revision). Jacobs, 1985 (list, South Africa). Schaefer & Ahmad, 1987 (food plants, world). Ahmad & Moizuddin, 1990 (cladistics of world genera, Indo-Pakistan revision). Gapud, 1991 (cladistics, classification, world). Gross, 1991c (Australia, keys, overview). Thomas, 1991 (Nearctic Region, revision). Larivière, 1995 (key to taxa, New Zealand, revision). Schuh & Slater, 1995: 215–217 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Kaitala & Mappes, 1997 (biology, parental care, world). Tallamy & Schaefer, 1997 (maternal care, world). Cassis & Gross, 2002: 357–376 (Australia, catalogue, introduction to family).

#### Subfamily ACANTHOSOMATINAE

##### Genus *Oncacontias* Breddin, 1903<sup>E</sup>

*Oncacontias* Breddin, 1903: 219. Type species: *Oncacontias brunneipennis* Breddin, 1903 (= *Cimex vittatus* Fabricius, 1781), by monotypy.

**Geographic distribution.** New Zealand.

**References.** Kumar, 1974: 52–53 (catalogue, taxonomy, world). Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (revision).

##### *Oncacontias vittatus* (Fabricius, 1781)<sup>E</sup>

*Cimex vittatus* Fabricius, 1781: 349. Lectotype\* male (designated by Kumar, 1974; BMNH); New Zealand.

*Acanthosoma vittatum*: Dallas, 1851: 307.

*Anubis vittatus*: White, 1878a: 277.

*Oncacontias brunneipennis* Breddin, 1903: 220. Type locality: "Neu Seeland." Synonymised by Kirkaldy, 1906c: 61.

*Oncacontias vittatus*: Kirkaldy, 1906c: 61.

**Geographic distribution** (Map p.283). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Arboreal. Found on a wide range of trees and shrubs, usually near water, in or at the edge of native and mixed native or exotic forests. Sometimes collected on grasses in forest clearings or on lakeshores, river banks, and seashores, but always near forested areas, and more rarely in high-altitude scrubs, tussocklands, or subalpine vegetation. Often collected on *Coriaria*, *Dacrydium cupressinum*, *Nothofagus*, *Pinus radiata*, *Schefflera*, and tree ferns. Commonly seen basking around habitations, on wooden fences, walls, roads, paths, etc. Host plants: *Coriaria arborea*, possibly also *Fuchsia excorticata*, *Melicytus ramiflorus*, *Nothofagus*, and *Olearia*. Seasonality: Throughout the year, mostly October, January (adults); December to February (nymphs); January (eggs). Mating: October, November. Overwintering: In the adult stage; collected in leaf litter, moss, under logs, and at base of tussocks; can emerge from shelter on warmer, sunny winter days, and can be found on surrounding vegetation. Phytophagous (sap-sucking); nymphs may have a more restricted diet than adults, being more plentiful on grasses and allied plants than on trees and shrubs. Enemies: May be distasteful to spiders (collected fresh and untouched in web of *Araneus pustulosus* (Araneae: Epieridae); eggs parasitised by *Asolcus* (Hymenoptera: Scelionidae).

**Dispersal power:** Macropterous; good flier. Attracted to artificial lights.

**References.** Myers, 1926 (biology). Valentine, 1964 (biology, parasites). Wise 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, immature stages, key, taxonomy).

**Note.** Additional information on geographic distribution and biology can be found in Larivière (1995).

### Genus *Rhopalimorpha* Dallas, 1851<sup>N</sup>

*Rhopalimorpha* Dallas, 1851: 197. Type species: *Rhopalimorpha obscura* White, 1851, by monotypy.

**Geographic distribution.** Australia (continental), New Zealand.

**References.** Wise, 1977: 125 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key to taxa, New Zealand, taxonomy). Cassis & Gross, 2002: 369 (Australia, catalogue).

### Subgenus *Lentimorpha* Woodward, 1953<sup>E</sup>

*Lentimorpha* Woodward, 1953a: 302 (as a subgenus of *Rhopalimorpha*). Type species: *Rhopalimorpha (Lentimorpha) alpina* Woodward, 1953a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key to taxa, taxonomy).

### *Rhopalimorpha (L.) alpina* Woodward, 1953<sup>E</sup>

Type photograph p. 225.

*Rhopalimorpha (Lentimorpha) alpina* Woodward, 1953a: 304. Holotype female (AMNZ); FD, McKinnon Pass.

**Geographic distribution** (Map p.283). South Island: BR–Paparoa Range, Croesus Knob (LUNZ). Mount Dewar (NZAC). Mount Priestly–Mount Dewar basins, Lochnagar Ridge (NZAC). FD–Fiordland National Park, McKinnon Saddle, Milford Track (AMNZ). NN–Dun Mountain (NZAC). Matiri Range (MONZ). Mount Owen (NZAC).

**Biology.** Terrestrial. Montane, subalpine. [Epigean, planticolous.] Collected in sod (BR, December) and under a rock (BR, January). Host plant: Probably a monocotyledon. Seasonality: November to January. [Phytophagous (sap-sucking, granivorous).]

**Dispersal power.** Submacropterous, [probably unable to fly].

**References.** Wise 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, immature stages, key, taxonomy).

**Note.** Additional information on geographic distribution and biology can be found in Larivière (1995).

### Subgenus *Rhopalimorpha* Dallas, 1851<sup>N</sup>

*Rhopalimorpha* Dallas, 1851: 197. Type species: *Rhopalimorpha obscura* White, 1851, by monotypy.

**Geographic distribution.** Australia (continental), New Zealand.

**References.** Wise, 1977: 125 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key to taxa, New Zealand, taxonomy). Cassis & Gross, 2002: 369 (Australia, catalogue).

### *Rhopalimorpha (R.) lineolaris* Pendergrast, 1950<sup>E</sup>

Type photograph p. 225.

*Rhopalimorpha lineolaris* Pendergrast, 1950: 32. Holotype female (AMNZ); AK, Auckland.

*Rhopalimorpha (Rhopalimorpha) lineolaris*: Woodward, 1953a: 312.

**Geographic distribution** (Map p.283). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Found on grasses, rushes, and sedges in open habitats bordering streams, swamps, or marshes; often at forest edge, in open forest understorey, tussock grasslands, and modified habitats such as pastures and scrublands. Apparently favours monocotyledons, especially Cyperaceae. Mostly collected on *Carex*, *Gahnia*, *Cyperus ustulatus*, *Scirpus*, and *Dactylis glomerata*. Also collected on native Poaceae (see Host plants), on *D. glomerata* in pastures, and some dicotyledons (*Aciphylla* in flowers, *Cassinia*, *Hebe*, *Muehlenbeckia*, *Olearia*, *Ozothamnus*). Host plants: *D. glomerata*, *Carex*, and *Cyperus ustulatus*, perhaps also *Agrostis capillaris*, *Alopecurus pratensis*, *Chionochloa*, and *Festuca novae-zelandiae*; not believed to reproduce on dicotyledons. Sometimes gregarious. Associated taxa: Frequently found with *Rhopalimorpha obscura*. Seasonality: Throughout the year, mostly December to February (adults); November to February (nymphs); October, December (eggs). Mating: September to December, mostly November. Oviposition: October to December; eggs placed amongst developing seeds of *C. ustulatus* or on the upper surface of leaves of *Carex* and *D. glomerata*, in a single row along the midrib. Overwintering: In the adult stage; collected under stones or at base of plants, including host plants. Phytophagous (sap-sucking, granivorous); feeding on seeds (mostly) and leaves of host plants; cannibalistic on its own eggs (in captivity). Enemies: in the field, eggs parasitised by a small species of *Microphanurus* (Hymenoptera: Scelionidae).

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Pendergrast, 1950, 1952, 1960 (biology). Valentine, 1964 (biology, parasites). Wise 1977: 125 (checklist, New Zealand). Larivière, 1995 (biology, distribution, immature stages, key, taxonomy).

**Note.** Additional information on geographic distribution and biology can be found in Larivière (1995).

**Rhopalimorpha (R.) obscura White, 1851<sup>E</sup>**

*Rhopalimorpha obscura* White in Dallas, 1851: 293.  
Lectotype\* female (designated by Kumar, 1974; BMNH); New Zealand.

*Rhopalimorpha similis* Mayr, 1865: 912. Syntypes\*, one male, two females (NHMW); AK, Auckland (H. Zettle, personal communication). Synonymised by Kirkaldy, 1909b: 169.

*Rhombocoris similis*: Walker, 1867: 312.

*Rhopalimorpha ignota* Hutton, 1898a: 159. Holotype (CMNZ); CH, "Chat. I.". [=Chatham Islands].  
Synonymised by Myers, 1924: 175.

*Rhopalimorpha (Rhopalimorpha) obscura*: Woodward, 1953a: 312.

**Geographic distribution** (Map p. 283). North Island: AK, BP, CL, GB, HB, ND, TO, WA, WI, WN. South Island: BR, FD, MB, MC, NC, NN, SD, SL, WD. Stewart Island. Offshore Islands: CH.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Occurs in similar habitats to *Rhopalimorpha lineolaris*, but apparently not generally in native tussock grasslands. Like *R. lineolaris* it apparently favours monocotyledons; collected mostly on *Carex*, coastal sedges, and *Juncus*; not usually associated with Poaceae, except *Dactylis glomerata*. Also collected on the dicotyledons *Cassinia leptophylla* [=Ozothamnus leptophyllus] and *Muehlenbeckia axillaris*; sometimes in great numbers on *Medicago sativa* or *Trifolium*; occasionally on garden crops. Once found in the nest of fernbirds (*Bowdleria punctata*). Host plants: *Carex*, e.g., *C. virgata*; not believed to reproduce on dicotyledons. Sometimes gregarious. Associated taxa: Frequently found with *Rhopalimorpha lineolaris*, and reportedly found in association with nymphs of the tick *Haemaphysalis bispinosa* (= *H. longicornis*) in winter shelter at base of *Juncus effusus*. Seasonality: Throughout the year, mostly December to February (adults); November to February (nymphs); October to December (eggs). Mating: September to December, mostly November, December. Oviposition: October to December; eggs placed on plants as for *R. lineolaris*. Overwintering: In the adult stage, under similar conditions as *R. lineolaris*; once collected in early spring under bark. Phytophagous (sap-sucking, granivorous); feeding on seeds (mostly) and leaves of host plants; also predacious on *R. lineolaris* (in captivity). Enemies: Eggs parasitised by scelionid wasps (Hymenoptera: Scelionidae).

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Myers, 1926 (biology). Pendergrast, 1950, 1952, 1960 (biology). Evans, 1952 (biology). Valentine, 1964 (biology, parasites). Wise 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, immature stages, key, taxonomy).

**Notes.** Larivière (1995) credited the description of this species to Dallas. However, Dallas (1851: 293) quoted Adam White's manuscript in inverted commas and credited the description to the latter, hence giving standing to White's name. Additional information on geographic distribution and biology can be found in Larivière (1995).

**Family AENICTOPECHEIDAE**

**References.** Jeannel, 1942 (revision, World). Woodward, 1956a (distribution, key to taxa, New Zealand, revision). Štys, 1978 (genera, list, world), 1988 (Tasmania, taxonomy), 1989 (classification, phylogeny, world), 1990 (overview, West Palearctic Region). Usinger & Wygodzinsky, 1960 (Micronesia, taxonomy). Gross *et al.* 1991 (Australia, keys, overview). Wygodzinsky & Schmidt, 1991 (New World, revision). Cassis & Gross, 1995: 20–22 (Australia, catalogue, introduction to family). Kerzhner, 1995a: 1 (catalogue, Palearctic Region). Štys, 1995a: 68–70 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world), 2002a (taxonomy, world), 2002b (key to genera, list, taxonomy, world).

**Subfamily MAORISTOLINAE****Genus *Maoristolus* Woodward, 1956<sup>E</sup>**

*Maoristolus* Woodward, 1956a: 394. Type species: *Gamostolus tonnoiri* Bergroth, 1927, by original designation.

**Geographic distribution.** New Zealand.

**References.** Woodward, 1956a (distribution, key, revision). Wise, 1977: 114 (checklist, New Zealand). Štys, 2002b (key, list, world).

***Maoristolus parvulus* Woodward, 1956<sup>E</sup>**

*Maoristolus parvulus* Woodward, 1956a: 399. Holotype\* female (CMNZ; missing); FD, Lake Te Au, near South Arm of Lake Te Anau.

**Geographic distribution** (Map p. 283). South Island: FD—Lake Te Au, near South Arm of Lake Te Anau. SL—Sumner Hill (Woodward, 1956a; as Mount Sumner).

**Biology.** Terrestrial. Montane. Epigean, [corticolous]. Collected in leaf litter or moss. Seasonality: January, April (adults); April (nymphs). [Predacious.]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1956a (distribution, immatures, key, taxonomy). Wise, 1977: 114 (checklist, New Zealand).

***Maoristolus tonnoiri* (Bergroth, 1927)<sup>E</sup>**

*Gamostolus tonnoiri* Bergroth, 1927: 684. Syntypes\* (should be in BMNH; I.M. Kerzhner, personal communication); WN, Korokoro, Wellington; NN, Nelson.

*Maoristolus tonnoiri*: Woodward, 1956a: 396.

**Geographic distribution** (Map p. 283). North Island: BP–Whaka State Forest [=Whakarewarewa State Forest], Rotorua (Woodward, 1956a). TO–Kaimanawa North Forest Park (NZAC). WN–Korokoro. Wainuiomata (Woodward, 1956a). Wellington. South Island: BR–Greymouth, Marsden Reserve (NZAC). Reefton (NZAC). NN–Nelson. Stewart Island: Solomon Island (MONZ).

**Biology.** Terrestrial. Lowland. Epigean, corticolous. Found under bark of rotten trees, including native (e.g., *Dacrydium cupressinum*) and exotic species (e.g., *Eucalyptus*). Seasonality: January to April. [Predacious.]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1956a (distribution, key, taxonomy). Wise, 1977: 114 (checklist, New Zealand).

**Subfamily NYMPHOCORINAE**

**Note.** Although this could not be confirmed by data associated with New Zealand specimens, Nymphocorinae are said to live in soil and among tussocks of grass in addition to leaf litter (Štys, 1995a).

**Genus *Nymphocoris* Woodward, 1956<sup>N</sup>**

*Nymphocoris* Woodward, 1956a: 401. Type species: *Nymphocoris maoricus* Woodward, 1956a, by original designation.

**Geographic distribution.** Australia (Tasmania only), New Zealand.

**References.** Wise, 1977: 114 (checklist, New Zealand). Cassis & Gross, 1995: 21 (Australia, catalogue). Štys, 1988 (morphology, Tasmania, taxonomy), 2002b (key, list, world).

***Nymphocoris maoricus* Woodward, 1956<sup>E</sup>**

Type photograph p. 225

*Nymphocoris maoricus* Woodward, 1956a: 402. Holotype male (CMNZ); NC, Arthur's Pass.

**Geographic distribution** (Map p. 283). South Island: FD–Takahe Valley (CMNZ; as Notornis Valley). NC–Arthur's Pass.

**Biology.** Terrestrial. Montane. Epigean. Collected in leaf litter. Seasonality: December, January. [Predacious.]

**Dispersal power.** Micropterous, [unable to fly].

**References.** Woodward, 1956a (distribution, key, taxonomy). Wise, 1977: 114 (checklist, New Zealand). Štys, 1988 (morphology, Tasmania, taxonomy).

**Subfamily (Uncertain)****Genus *Aenictocoris* Woodward, 1956<sup>E</sup>**

*Aenictocoris* Woodward, 1956a: 404. Type species: *Aenictocoris powelli* Woodward, 1956a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 114 (checklist, New Zealand). Štys, 2002b (key, list, world).

**Note.** Subfamily position uncertain (Štys, 1989).

***Aenictocoris powelli* Woodward, 1956<sup>E</sup>**

Type photograph p. 225

*Aenictocoris powelli* Woodward, 1956a: 405. Holotype female (MONZ); NN, Seddonville.

**Geographic distribution** (Map p. 283). South Island: NN–Seddonville.

**Biology.** Terrestrial. Lowland. Epigean. Collected in leaf litter. Seasonality: April (adults, nymphs). [Predacious.]

**Dispersal power.** Micropterous, [unable to fly].

**References.** Woodward, 1956a (distribution, immatures, key, taxonomy). Wise, 1977: 114 (checklist, New Zealand).

**Family ANTHOCORIDAE****Flower bugs or minute pirate bugs**

**References.** Reuter, 1884 (revision, world). Knight, 1935 (Samoa, taxonomy). Gross, 1954, 1955, 1957 (Australia, Pacific Region, revision). Herring, 1967 (Micronesia, taxonomy). Carayon, 1972a (classification, morphology, world). Péricart, 1972 (revision, West Palearctic Region). Kelton, 1977a (Nearctic Region, revision). Gross & Cassis, 1991a (Australia, keys, overview). Cassis & Gross, 1995: 23–42 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 195–199 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Péricart, 1996a (catalogue, Palearctic Region). Carpintero *et al.*, 1997 (catalogue, Nicaragua). Lattin, 2000a (biology, economic importance, world).

## Subfamily ANTHOCORINAE

### Tribe DUFOURIELLINI

#### Genus *Buchananiella* Reuter, 1884<sup>N</sup>

*Buchananiella* Reuter, 1884: 680. Type species: *Cardiastethus continuus* White, 1879b, designated by Kirkaldy, 1906a: 121.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Herring, 1965 (Australia, taxonomy). Péricart, 1972 (key to adults and nymphs, taxonomy, West Palearctic Region). Cassis & Gross, 1995: 29 (Australia, catalogue). Péricart, 1996a: 130 (catalogue, Palearctic Region).

#### *Buchananiella whitei* Reuter, 1884<sup>N</sup>

*Buchananiella whitei* Reuter, 1884: 129. Holotype\* male (UZMH); Tasmania.

*Poronotellus whitei*: Gross, 1957: 133.

*Buchananiella whitei*: Postle & Woodward, 1988: 124.

**Geographic distribution** (Map p. 284). North Island: AK, CL, GB, ND, WA. South Island: MC, NN, SD. Offshore Islands: CH. Extralimital range: Australia (continental, Lord Howe Island, Tasmania).

**Biology.** Terrestrial. Lowland. Epigean, planticolous (mostly), [corticolous]. Found on the vegetation and in ground litter in broadleaf–podocarp and mixed beech forests. Collected on native trees (e.g., *Melicytus ramiflorus*, *Metrosideros excelsa*), in forest understorey (e.g., *Agathis australis* forest), and in leaf litter (especially in winter). Also recorded on *Vitis vinifera*, on “Polytricha-fungus” [=Auricularia polytricha], and on onion crops. Found in the winter on turnips (N.A. Martin, personal communication). In Australia, associated with *Casuarina cristata*. Can occur in great numbers in bird nests: blackbirds (*Turdus merula*), kokakos (*Callaeas cinerea wilsoni*), magpies (*Gymnorhina tibicen*), swallows (*Hirundo tahitica neoxena*), sparrows (*Passer domesticus*). Seasonality: September, November to April, June (adults); September, January, March, April (tenerals); March (nymphs). Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Gross, 1957 (Australia, distribution, Pacific Region, taxonomy; as *Poronotellus whitei*). Wise, 1977: 115 (checklist, New Zealand; as *Poronotellus whitei*). Cassis & Gross, 1995: 30 (Australia, catalogue). Workman & Martin, 2002 (biology, integrated pest management).

**Note.** Most earlier New Zealand literature refers to this species as *Poronotellus whitei*.

#### Genus *Cardiastethus* Fieber, 1860<sup>N</sup>

*Cardiastethus* Fieber, 1860b: 266. Type species: *Cardiastethus luridellus* Fieber, 1860, designated by Kirkaldy, 1906a: 121.

*Cardiostethus* [sic]: Fieber, 1860b: plate 6, figure R. Subsequent misspelling.

*Dasypterus* Reuter, 1871b: 564. Type species: *Xylocoris limbatus* Stål, 1858, designated by Kirkaldy, 1906a: 121. Synonymised by Reuter, 1884: 692.

*Orthosolenia* Reuter, 1884: 686. Type species: *Cardiastethus brounianus* White, 1878a, designated by Kirkaldy, 1906a: 121. Synonymised by China, 1943: 254.

**Geographic distribution.** Nearly worldwide.

**References.** Gross, 1955 (Australia, key to species, Pacific Region, taxonomy). Péricart, 1972 (key to adults and nymphs, taxonomy, West Palearctic Region). Kelton, 1977a (Nearctic Region, taxonomy). Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 30 (Australia, catalogue). Péricart, 1996a: 130 (catalogue, Palearctic Region).

#### *Cardiastethus brounianus* White, 1878<sup>E</sup>

*Cardiastethus brounianus* White, 1878a: 159. Holotype male (BMNH); New Zealand.

**Geographic distribution** (Map p. 284). North Island: AK, CL, ND (NZAC), WN (Gross, 1955). South Island: MC–Hilltop (NZAC). Offshore Islands: TH (Gross, 1955).

**Biology.** Terrestrial. Lowland. Planticolous, [corticolous]. Collected on native vegetation, e.g., *Asplenium*, *Carmichaelia*, *Muehlenbeckia australis*. Also found in bird nests: magpies (*Gymnorhina tibicen*), sparrows (*Passer domesticus*). Seasonality: November to April. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Gross, 1955 (distribution, key, taxonomy). Wise, 1977: 115 (checklist, New Zealand).

**Notes.** All specimens in NZAC are identified as *Cardiastethus* ?*brounianus*. New Zealand species of *Cardiastethus* are in great need of revision.

#### *Cardiastethus consors* White, 1879<sup>E</sup>

*Cardiastethus consors* White, 1879b: 143. Syntypes\*, apparently 3 specimens (presumably BMNH; specimens could not be located); New Zealand.

**Geographic distribution** (Map p. 284). North Island: AK, BP, CL, ND, RI, TO (NZAC), WN (Gross, 1955).

**Biology.** Terrestrial. Lowland. Arboreal, [corticolous]. Mostly found on shrubs and trees in broadleaf–podocarp forests, shrublands, and scrublands. Collected on live trees or dried branches of *Beilschmiedia tawa-roa*, *Cordyline indivisa*, *Hoheria*, *Myrsine australis*, *Olearia rani*, and

*Pittosporum tenuifolium*; also on *Rhopalostylis sapida* and *Pinus radiata* (branch and needle litter); occasionally in leaf litter. Seasonality: September to February, April to June. Predacious; reared on *Selidosema suavis* [= *Pseudocoremia suavis*] eggs and larvae, *S. panagrata* [= *Cleora scriptaria*] eggs and larvae, *S. dejectaria* [= *Gellonia dejectaria*] larvae, *Declana floccosa* eggs and larvae, *Chloroclystis semialbata* [= *C. inductata*] larvae, *Melananchra mutans* [= *Graphania mutans*] larvae, “*Oxycanus*” [probably *Wiseana*] larvae (Lepidoptera: Hepialidae: Oxycaninae), *Heliothrips haemorrhoidalis* nymphs (Thysanoptera), psocopteran nymphs, and *Onychiurus* adults (Collembola); also feeding on psocids; cannibalistic on its own eggs and nymphs (in captivity).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Gross, 1955 (distribution, key, taxonomy). Styles, 1962 (biology, diagnosis, immatures, rearing). Wise, 1977: 115 (checklist, New Zealand).

#### *Cardiastethus poweri* White, 1879<sup>E</sup>

*Cardiastethus poweri* White, 1879b: 144. Syntypes\*, apparently 5 specimens (BMNH; specimens could not be located); New Zealand.

**Geographic distribution** (Map p. 284). North Island: AK, BP, CL, HB, ND. South Island: BR, MB, MC, NN, SC, SD. Offshore Islands: CH, TH.

**Biology.** Terrestrial. Lowland, montane. Arboreal, [corticicolous]. Mostly found on shrubs and trees in native forests, shrublands and scrublands, e.g., *Carmichaelia*, *Cordyline australis*, *Dysoxylum*, *Hebe*–*Leptospermum* associations, *Leptospermum scoparium*, *Melicytus ramiflorus*, *Muehlenbeckia australis*, *Myoporum laetum*, *Nothofagus*–tree fern associations, *Pittosporum*; also on *Lonicera* and *Paratrophis*; sometimes on rushes and *Cortaderia*, tussock, *Pinus radiata* (branch and needle litter), or in rotten wood; once recorded in the nest of blackbirds (*Turdus merula*). Seasonality: September to February. Predacious; reared on *Selidosema suavis* [= *Pseudocoremia suavis*] eggs and larvae, *Melananchra* [= *Graphania*] eggs and larvae, “*Oxycanus*” [probably *Wiseana*] larvae (Lepidoptera: Hepialidae: Oxycaninae), *Heliothrips haemorrhoidalis* nymphs (Thysanoptera), psocopteran nymphs, and *Onychiurus* adults (Collembola); cannibalistic on its own eggs and nymphs (in captivity).

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Gross, 1955 (distribution, key, taxonomy). Styles, 1962 (biology, diagnosis, immatures, rearing). Wise, 1977: 115 (checklist, New Zealand).

#### Tribe ORIINI

##### Genus *Orius* Wolff, 1811<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart, 1996a).

**Geographic distribution.** Nearly worldwide.

**References.** Gross, 1954 (Australia, Pacific Region, taxonomy). Péricart, 1972 (taxonomy, West Palearctic Region). Kelton, 1977a (Nearctic Region, taxonomy). Woodward & Postle, 1986 (Australia, distribution, key to species, taxonomy). Cassis & Gross, 1995: 33 (Australia, catalogue). Péricart, 1996a: 122 (catalogue, Palearctic Region). Hernandez & Stonedahl, 1999 (economic importance, Ethiopian Region, natural history, taxonomy).

##### Subgenus *Heterorius* Wagner, 1952<sup>A</sup>

Synonymy (Péricart, 1996a).

**Geographic distribution.** Ethiopian Region, Palearctic Region; New Zealand.

**Reference.** Péricart, 1996a: 123 (catalogue, Palearctic Region).

##### *Orius (H.) vicinus* (Ribaut, 1923)<sup>A</sup>

Synonymy (Péricart, 1996a).

**Geographic distribution** (Map p. 284). South Island: CO–Clyde (NZAC). Conroys Road (OMNZ). Earnscleugh (NZAC). Muttontown (Larivière & Wearing, 1994). MC–Lincoln (NZAC). First New Zealand record: Earnscleugh, CO, 1992 (NZAC; Larivière & Wearing, 1994). Extralimital range: Palearctic Region.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal (mostly). Occurs on a number of plants, notably fruit trees (especially *Malus x domestica*). Seasonality: November to March (adults, nymphs). Oviposition: Spring. Overwintering: In the adult stage; collected under bark (Palearctic Region). Predacious; recorded feeding on *Panonychus ulmi* (Acar: Tetranychidae) and *Edwardsiana crataegi* (Hemiptera: Cicadellidae); possibly feeds also on thrips. Economic importance: Potential biological control agent.

**Dispersal power.** Macropterous, able to fly.

**References.** Péricart, 1972 (distribution, ecology, taxonomy, West Palearctic Region). Larivière & Wearing, 1994 (biology, distribution, New Zealand, taxonomy). Wearing & Larivière, 1994 ((biology, distribution, economic importance, New Zealand,)). Péricart, 1996a: 125 (catalogue, Palearctic Region). Lattin, 2000a (biology, economic importance).

**Note.** Additional information on biology and economic importance in Europe and New Zealand can be found in Péricart (1972), Lattin (2000a), and Larivière & Wearing (1994).

### Tribe SCOLOPINI

#### Genus *Maoricoris* China, 1933<sup>E</sup>

*Maoricoris* China, 1933: 514. Type species: *Maoricoris benefactor* China, 1933, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Gross, 1954 (Australia, key, Pacific Region, taxonomy). Carayon, 1972a (classification).

#### Maoricoris *benefactor* China, 1933<sup>E</sup>

*Maoricoris benefactor* China, 1933: 516. Holotype male (BMNH); NN, Nelson.

**Geographic distribution** (Map p. 284). North Island: AK–Lynfield (NZAC). Noises Islands, Motuhoropapa Island (NZAC). South Island: BR–Lake Rotoiti (NZAC). NN–Eves Valley (NZAC). Nelson (NZAC). Whangamoa [Saddle] (NZAC).

**Biology.** Terrestrial. Lowland, montane. [Arboreal, corticolous.] [Found in native forests.] Collected on *Pittosporum tenuifolium*; on medium-sized branches of *Pseudopanax crassifolius* and, in numbers, on medium-sized branches of dead *Pseudopanax arboreus*. Seasonality: November to January (adults, nymphs). Predacious; preying on the bark-beetle, *Acrantus opacus* Broun, living on *Pittosporum*.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** China, 1933 (food). Gross, 1954 (taxonomy). Wise, 1977: 115 (checklist, New Zealand).

### Tribe XYLOCORINI

#### Genus *Xylocoris* Dufour, 1831<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart, 1996a).

**Geographic distribution.** Nearly worldwide.

**References.** Gross, 1954 (Australia, Pacific Region, taxonomy). Péricart, 1972 (taxonomy, West Palearctic Region). Kelton, 1977a (Nearctic Region, taxonomy). Cassis & Gross, 1995: 36 (Australia, catalogue). Péricart, 1996a: 135 (catalogue, Palearctic Region).

#### Subgenus *Proxylocoris* Carayon, 1972b<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart, 1996a).

**Geographic distribution.** Nearly worldwide.

**References.** Péricart, 1972 (Palearctic Region, taxonomy). Cassis & Gross, 1995: 37 (Australia, catalogue). Péricart, 1996a: 136 (catalogue, Palearctic Region).

### *Xylocoris (P.) galactinus* (Fieber, 1836)<sup>A</sup>

Synonymy (Péricart, 1996a).

**Geographic distribution** (Map p. 284). North Island: AK–Auckland (CMNZ) (Lynfield (NZAC), Newmarket (AMNZ), Orakei (NZAC), Westfield (NZAC)). HB–Napier (Cumber, 1959). South Island: CO–Cromwell (NZAC). NC–Ohoka (NZAC). First New Zealand records: Auckland, AK (CMNZ, Hutton Collection); Cromwell, CO, 1927 (NZAC); Napier, HB, 1957 (Cumber, 1959; as *Xylocoris* sp. possibly *flavipes*). Extralimital range: World tropical and subtropical regions.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, corticolous. Usually found in fermented heaps of vegetable matter, e.g., grain bins, compost piles, old haystacks. Holarctic Region: often found under the bark of dead trees. Seasonality: November, April, June, July (New Zealand). Overwintering: six adults found in pile of tree mulch and prunings (AK, June). Predacious; feeding on beetle larvae, fly larvae, mites, and other small arthropods, including a variety of pests of stored grains (Holarctic Region); can also survive on mouldy grain.

**Dispersal power.** Macropterous; good flier.

**References.** Péricart, 1972 (distribution ecology, taxonomy, West Palearctic Region). Kelton, 1977a (Nearctic Region, taxonomy). Péricart, 1996a: 137 (catalogue, Palearctic Region). Lattin, 2000a (biology, economic importance, world).

**Notes.** Not recorded from Australia by Cassis & Gross (1995). More information on biology can be found in Péricart (1972). Hutton's specimens (CMNZ) erroneously identified as *Cardiastethus brounianus*.

### Subfamily LYCTOCORINAE

#### Tribe LYCTOCORINI

##### Genus *Lyctocoris* Hahn, 1836<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart, 1996a).

**Geographic distribution.** Nearly worldwide.

**References.** Gross, 1954 (Australia, Pacific Region, taxonomy). Kelton, 1967, 1977a (Nearctic Region, taxonomy). Péricart, 1972 (taxonomy, West Palearctic Region). Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 39 (Australia, catalogue). Péricart, 1996a: 132 (catalogue, Palearctic Region).

### Subgenus *Lyctocoris* Hahn, 1836<sup>A</sup>

Synonymy (Péricart 1996a).

**Geographic distribution.** Nearly worldwide.

**References.** Péricart, 1972 (taxonomy, West Palearctic Region). Cassis & Gross, 1995: 39–42 (Australia, catalogue). Péricart, 1996a: 132 (catalogue, Palearctic Region).

### *Lyctocoris (L.) campestris* (Fabricius, 1794)<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart, 1996a).

Common name: Debris bug.

**Geographic distribution** (Map p. 284). North Island: AK, BP, HB, ND, WI, WO. South Island: BR, CO, MB, MC, NC, NN, SC. First New Zealand records: Aramoho, WI, 1921 (NZAC); New Zealand (Myers, 1926). Extrazonal range: Nearly worldwide (native to the Northern Hemisphere, adventive elsewhere).

**Biology.** Terrestrial. Lowland, montane. Epigean, sometimes corticolous. Usually found in heaps of decaying vegetable matter, e.g., compost piles, old haystacks, mouldy stored grains, bird nests, animal burrows; occasionally also under the bark of dead trees. Seasonality: October to April. Predaceous: In the Palearctic Region, feeding on a wide range of soft-bodied arthropods, e.g., other anthocorids, psocids, or mites, occasionally noxious to silkworm larvae reared commercially, and sometimes ectoparasitic on warm-blooded animals, including humans.

**Dispersal power.** Macropterous; good flier.

**References.** Gross, 1954 (Australia, Pacific Region, taxonomy). Kelton, 1967 and 1977a (Nearctic Region, taxonomy). Péricart, 1972 (distribution, ecology, taxonomy, West Palearctic Region). Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 24, 40 (Australia, catalogue). Péricart, 1996a: 133 (catalogue, Palearctic Region). Lattin, 2000a (economic importance, world). Schaefer, 2000b (ectoparasitism). Throne *et al.*, 2000 (food, population dynamics, stored grains).

**Note.** More information on biology and economic importance can be found in Péricart (1972) and Lattin (2000a).

### Family ARADIDAE

#### Flat bugs or bark bugs

**References.** Matsuda & Usinger, 1957 (Micronesia, taxonomy). Usinger & Matsuda, 1959 (biology, classification, taxonomy, world). Pendergrast, 1965a–b, 1968 (New Zealand, revision). Kumar, 1967 (morphology, relationships, world). Monteith, 1966, 1967, 1969, 1980, 1982, 1997 (Australian Region, biogeography, classification, taxonomy). Lee & Pendergrast, 1983 (morphology, New Zealand, spermatheca). Kormilev & Froeschner, 1987: 22 (biology, catalogue, world). Vasárhelyi, 1987 (classification, world). Monteith & Gross, 1991 (Australia, keys, overview). Grozeva & Kerzhner, 1992 (classification, phylogeny, world). Schuh & Slater, 1995: 208–214 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Henry, 1997a (classification, phylogeny, world). Heiss, 1998c and 2000 (Baltic amber, fossils). Heliövaara, 2000 (biology, economic importance, world). Heiss, 2001: 3–34 (catalogue, Palearctic Region). Cassis & Gross, 2002: 25–72 (Australia, catalogue, introduction to family).

### Subfamily ANEURINAE

**References.** Kormilev, 1957b, 1965, 1966 (Australia, taxonomy). Usinger & Matsuda, 1959 (key to New Zealand genera, taxonomy). Pendergrast, 1965a (key to New Zealand genera, taxonomy). Heiss, 1998b (Palearctic Region, revision). Heiss, 1999 (Indo-Pacific, taxonomy).

#### Genus *Aneuraptera* Usinger & Matsuda, 1959<sup>E</sup>

*Aneuraptera* Usinger & Matsuda, 1959: 96. Type species: *Aneuraptera cimiciformis* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 22 (catalogue, world).

#### *Aneuraptera cimiciformis* Usinger & Matsuda, 1959<sup>E</sup>

*Aneuraptera cimiciformis* Usinger & Matsuda, 1959: 96. Holotype\* male (BMNH); New Zealand.

**Geographic distribution** (Map p. 285). North Island: ND–Whangarei (NZAC).

**Biology.** Terrestrial. [Lowland.] [Epigean.] [Found in leaf litter.] Seasonality: March. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Usinger & Matsuda, 1959 (classification, taxonomy). Wise, 1977: 120 (checklist, New Zealand).

Kormilev & Froeschner, 1987: 22 (catalogue, world).

**Note.** Holotype bears, in error, in pencilled label “*Aneurus brouni* F.B.W” written by F. Buchanan White.

### Genus *Aneurus* Curtis, 1825<sup>N</sup>

*Aneurus* Curtis, 1825: plate 86. Type species: *Acanthia laevis* Fabricius, 1775, by original designation.

**Geographic distribution.** Nearly worldwide.

**References.** Kormilev, 1965 (Australia, key to species). Kormilev, 1967a (key to species, South America). Kormilev & Heiss, 1973 (key to species, Oriental Region). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 24 (catalogue, world). Heiss, 1998a (New Zealand, revision). Heiss, 1999 (*Aneurillus*, Indo-Pacific, revision). Heiss, 2001: 4–6 (catalogue, Palearctic Region). Cassis & Gross, 2002: 29–31 (Australia, catalogue).

**Notes.** There is no direct evidence available on the feeding strategy of New Zealand *Aneurus* species although they are here hypothesised to be fungivorous based on information published on Australian species (Cassis & Gross, 2002). Species of *Aneurus* from the Palearctic Region have been observed to feed on the phloem of drying trees (fallen branches, cut trees, etc.) accessible through cracks in the bark or cuttings (I.M. Kerzhner, personal communication).

### Subgenus *Aneurodellus* Heiss, 1998<sup>E</sup>

*Aneurodellus* Heiss, 1998a: 30 (as subgenus of *Aneurus*).

Type species: *Aneurus zealandensis* Heiss, 1998, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Heiss, 1998a (revision).

### *Aneurus (A.) brevipennis* Heiss, 1998<sup>E</sup>

Type photograph p. 226.

*Aneurus (Aneurodellus) brevipennis* Heiss, 1998a: 36. Holotype male (NZAC); CO, [The] Remarkables, Nevis Burn.

**Geographic distribution** (Map p. 285). South Island: CO—The Remarkables, Nevis Burn.

**Biology.** Terrestrial. Subalpine. [Epigean.] Collected in *Chionochloa* plant debris. Seasonality: October. [Fungivorous.]

**Dispersal power.** Submacropterous, [probably unable to fly].

**Reference.** Heiss, 1998a (biology, distribution, taxonomy).

### *Aneurus (A.) brouni* White, 1876<sup>E</sup>

*Aneurus brouni* White, 1876: 106. Syntypes\*, 1 male, 1 female (BMNH; E. Heiss, personal communication); New Zealand (suggested by text of original description).

*Ctenoneurus brouni*: Kirkaldy, 1909a: 25.

*Aneurus brouni*: Myers & China, 1928: 379.

**Geographic distribution** (Map p. 285). North Island: AK, BP, CL, ND, WO. South Island: BR, FD, MB, MC, NC, NN, OL, SD, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. [Epigean], corticolous. Collected under bark of dead *Discaria* or *Nothofagus solandri*, in fine debris under bark of *N. solandri* logs, under the bark of fallen trunks and branches of *Nothofagus* lying on the ground. Found in association with *Aneurus salmoni* and *Ctenoneurus hochstetteri* (NC) (Heteroptera: Aradidae). Seasonality: September to November, February to April, July. [Fungivorous.]

**Dispersal power.** Submacropterous, [probably unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 25 (catalogue, world). Heiss, 1998a (biology, distribution, taxonomy).

### *Aneurus (A.) maoricus* Heiss, 1998<sup>E</sup>

Type photograph p. 226.

*Aneurus (Aneurodellus) maoricus* Heiss, 1998a: 35. Holotype male (NZAC); AK, Lynfield.

**Geographic distribution** (Map p. 285). North Island: AK—Lynfield (NZAC, TLMI). BP—Mamaku Range [=Plateau] (QM; Heiss, 1998a). CL—Kauaeranga Valley (NZAC, TLMI). WO—Waitomo [Caves] (AMNH, NHML, QM, TLMI, USNM).

**Biology.** Terrestrial. Lowland. Epigean, corticolous. Collected in rotten wood and under the bark of fallen branches (thicker and moister than those where *Aneurus zealandensis* are found); also in rotten wood and in leaf litter. Associated taxa: Found with *Ctenoneurus setosus* (Heteroptera: Aradidae) (CL). Seasonality: October to February. [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**Reference.** Heiss, 1998a (biology, distribution, taxonomy).

### *Aneurus (A.) prominens* Pendergrast, 1965<sup>E</sup>

Type photograph p. 226.

*Aneurus prominens* Pendergrast, 1965a: 57. Holotype female (NZAC); AK, Titirangi.

*Aneurus (Aneurodellus) prominens* (Pendergrast, 1965) [sic]: Heiss, 1998a: 39.

**Geographic distribution** (Map p. 285). North Island:

AK–Titirangi (NZAC). BP–Lake Tikitipu [=Tikitapu] Scenic Reserve (TLMI). TO–Ohakune (NZAC). Pureora [State] Forest Park (TLMI). WO–Pirongia State Forest [Park] (TLMI).

**Biology.** Terrestrial. Lowland, montane. [Epigean, corticolous.] Collected on logs of *Podocarpus*. Seasonality: November, January, February, June. [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Pendergrast, 1965a (taxonomy). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 29 (catalogue, world). Heiss, 1998a (biology, distribution, taxonomy).

### Aneurus (A.) salmoni Pendergrast, 1965<sup>E</sup>

*Aneurus salmoni* Pendergrast, 1965a: 61. Holotype\* male (MONZ; missing); NN, Mount Arthur.

*Aneurus (Aneurodellus) salmoni* (Pendergrast, 1965) [*sic*]: Heiss, 1998a: 39.

**Geographic distribution** (Map p. 286). North Island: HB, RI. South Island: BR, MC, NC, NN, WD.

**Biology.** Terrestrial. Montane, subalpine. [Epigean], corticolous. Collected under bark or on *Nothofagus* logs, e.g., *N. menziesii* and *N. solandri*. Associated taxa: Found with *Aneurus brouni* and *Ctenoneurus hochstetteri* (Heteroptera: Aradidae) (NC). Seasonality: November, February to April. [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 29 (catalogue, world). Heiss, 1998a (biology, distribution, taxonomy).

**Note.** The holotype could not be located in the Museum of New Zealand Te Papa Tongarewa, Wellington (MONZ).

### Aneurus (A.) zealandensis Heiss, 1998<sup>E</sup>

Type photograph p. 227.

*Aneurus (Aneurodellus) zealandensis* Heiss, 1998a: 31. Holotype male (NZAC); ND, Poor Knights Islands, Tawhiti Rahi.

**Geographic distribution** (Map p. 286). North Island: AK, BP, CL, ND, TO, WN. South Island: BR, NN, SD.

**Biology.** Terrestrial. Lowland, montane. Epigean, arboreal (mostly), corticolous. Collected on a range of trees and shrubs, e.g., *Alseuosmia macrophylla*, *Beilschmiedia tawa*, *Coprosma macrocarpa*–*Myoporum laetum* associations, *Dysoxylum spectabile*, flowering *Entelea arborescens*, *Leptospermum scoparium*, *Nestegis apetala*, *Pseudopanax lessonii*; on dead branches of *C. macrocarpa*, *D. spectabile*, *Myrsine divaricata*, *Phyllocladus trichomanoides*,

*Pseudopanax arboreus*, *Sophora*; also under bark, on fungus, in leaf litter, decayed wood, moss, and in pantraps amongst *Phormium tenax*. Heiss (1998a) found this species only under thin bark of fallen twigs and branches of leaf-bearing trees lying on the ground, or dry but still attached twigs of smaller bushes. Associated taxa: Found with *Carventaptera spinifera* (Heteroptera: Aradidae) on the South Island (BR). Seasonality: November to February (mostly), June to August (adults); October to February (nymphs). Overwintering: [In the adult stage, in leaf litter]. [Fungivorous.]

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Heiss, 1998a (biology, distribution, taxonomy).

## Subfamily ARADINAE

**References.** Kormilev, 1957b, 1965, 1966 (Australia, taxonomy). Pendergrast, 1968 (key to taxa, taxonomy, New Zealand).

### Genus *Aradus* Fabricius, 1803<sup>N</sup>

*Aradus* Fabricius, 1803 : 116. Type species: *Cimex betulae* Linnaeus, 1758, designated by Latreille, 1810: 433.

*Piestosoma* Laporte de Castelnau, 1833: 53. Type species: *Acanthia depressa* Fabricius, 1794, by monotypy. Synonymised by Herrich-Schaeffer, 1840: 93.

**Geographic distribution.** Nearly worldwide.

**References.** Parsley, 1921 (key to species, Western Hemisphere). Kormilev, 1951 (Argentina, key to species). Kormilev, 1966 (Australia, key to species). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 35 (catalogue, world). Heiss, 2001: 7–20 (catalogue, Palearctic Region). Cassis & Gross, 2002: 31–33 (Australia, catalogue).

### *Aradus australis* Erichson, 1842<sup>N</sup>

*Aradus australis* Erichson, 1842: 281. Holotype\*, sex undetermined (ZMBG; specimen damaged); Vandiemensland [=Tasmania]. A specimen in the Erichson Collection, labelled “typus”, should be the holotype (E. Heiss, personal communication).

**Geographic distribution** (Map p. 286). North Island: AK, BP, ND, RI, TO, WI, WN, WO. South Island: CO, NN, OL, SC, SD, SL, WD. Offshore Islands: CH. Extralimital range: Australia (continental, Tasmania), New Caledonia.

**Biology.** Terrestrial. Lowland, montane. Arboreal, corticolous. Found in mixed native forests. Collected on *Leptospermum scoparium*. Apparently not colonial. Seasonality: November to April, mostly January, February. Fungivorous.

**Dispersal power.** Macropterous, able to fly. Often found on sides of building and windows; may be attracted to artificial lights.

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 38 (catalogue, world). Cassis & Gross, 2002: 32 (Australia, catalogue).

### Subfamily CALISIINAE

**References.** Kormilev, 1958b, 1963, 1966, 1967b (Australia, revision). Pendergrast, 1968 (key to taxa, New Zealand, taxonomy).

#### Genus *Calisius* Stål, 1860<sup>N</sup>

*Calisius* Stål, 1860: 68. Type species: *Calisius pallipes* Stål, 1860, by monotypy.

*Aradosyrtis* A. Costa, 1864: 132. Type species: *Aradosyrtis ghiliani* A. Costa, 1864, by monotypy. Synonymised by Bergroth, 1894: 98.

**Geographic distribution.** Nearly worldwide.

**References.** Kormilev, 1967b (Australia and South Pacific, key to species). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 58 (catalogue, world). Heiss, 2000 (fossils), 2001: 21–22 (catalogue, Palearctic Region). Cassis & Gross, 2002: 33–36 (Australia, catalogue).

**Notes.** There is no direct evidence available on the feeding strategy of *Calisius zealandicus* although it is here hypothesised to be fungivorous based on information published on Australian *Calisius* species (Cassis & Gross, 2002). In the Palearctic Region *Calisius* has been observed feeding on the phloem of living trees with natural cracks in the bark (I.M. Kerzhner, personal communication).

#### *Calisius zealandicus* Pendergrast, 1968<sup>E</sup>

Type photograph p. 227.

*Calisius zealandicus* Pendergrast, 1968: 86. Holotype male (NZAC); MC, Mount Algidus.

**Geographic distribution** (Map p. 286). North Island: CL, HB, ND, WN. South Island: BR, MB, MC, NN, SD, WD.

**Biology.** Terrestrial. Lowland to subalpine. [Epigean, corticolous.] Collected on *Dacrydium cupressinum* logs, *Nothofagus*, *Aristotelia*, and in moss. Seasonality: September to February, May, July, August (adults); July (nymphs). [Fungivorous.]

**Dispersal power.** Submacropterous (usually with fused hemelytra), [probably unable to fly]. Attracted to artificial lights.

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 65 (catalogue, world).

### Subfamily CARVENTINAE

**References.** Kormilev, 1958a, 1965, 1966, 1969, 1972 (Australia, taxonomy). Monteith, 1967 (Australia, biogeography, taxonomy). Kirman, 1989a (key to genera, New Zealand). Heiss, 1990 (New Zealand, taxonomy). Jacobs, 1996 a, b (South Africa, taxonomy). Heiss, 1997 (New Guinea, taxonomy).

#### Genus *Acaraptera* Usinger & Matsuda, 1959<sup>N</sup>

*Acaraptera* Usinger & Matsuda, 1959: 148. Type species: *Acaraptera myersi* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** Australia (Lord Howe Island only), New Zealand, Solomon Islands.

**References.** Usinger & Matsuda, 1959 (classification, taxonomy). Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 65 (catalogue, world). Cassis & Gross, 2002: 36 (Australia, catalogue).

**Note.** Usinger & Matsuda (1959) described 2 subgenera, *Aracaptera* and *Lissaptera*, but in 1987 Kormilev & Froeschner elevated *Lissaptera* to full genus.

#### *Acaraptera myersi* Usinger & Matsuda, 1959<sup>E</sup>

*Acaraptera* (*Acaraptera*) *myersi* Usinger & Matsuda, 1959: 149. Holotype\* female (BMNH; E. Heiss, personal communication); TO, Ohakune.

*Acaraptera myersi*: Kormilev & Froeschner, 1987: 65.

**Geographic distribution** (Map p. 285). North Island: AK, BP, CL, GB, ND, RI, TK, TO, WA, WO.

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Found in broadleaf–podocarp forests. Collected mostly in leaf litter (adults, nymphs); also in moss, under logs, in *Dacrycarpus dacrydioides* branch traps (BP, November), in rotten *Agathis australis* leaf litter, and decaying mixed wood litter. Seasonality: Throughout the year, mostly September, November, January (adults); September to November, January, April (nymphs). [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 65 (catalogue, world).

#### *Acaraptera waipouensis* Heiss, 1990<sup>E</sup>

Type photograph p. 226.

*Acaraptera waipouensis* Heiss, 1990: 393. Holotype male (AMNH); ND, Waipoua State Forest [=Waipoua Forest], Toronui Track.

**Geographic distribution** (Map p. 285). North Island: ND–North Dargaville, Intamoe [=Tutamoe] Range (EH

collection; Heiss, 1990). Waipoua Forest (Kauri Ricker Track; Toronui Track; Wairau summit; Yakas Tree Track) (AMNH).

**Biology.** Terrestrial. Lowland. Epigean. Found in *Agathis australis* (Kauri), podocarp, broadleaf, *Rhopalostylis sapida* (Nikau palm) forests. Collected in leaf and log litter. Seasonality: April. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

### Genus *Carventaptera* Usinger & Matsuda, 1959<sup>E</sup>

*Carventaptera* Usinger & Matsuda, 1959: 161. Type species:

*Carventaptera spinifera* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 72 (catalogue, world).

### Genus *Carventaptera spinifera* Usinger & Matsuda, 1959<sup>E</sup>

*Carventaptera spinifera* Usinger & Matsuda, 1959: 162.

Holotype\* female (BMNH; E. Heiss, personal communication); DN, Port Chalmers.

**Geographic distribution** (Map p. 286). North Island: AK, CL, WN. South Island: DN, MB, MC, NN, SC.

**Biology.** Terrestrial. Lowland, montane. Epigean, [corticolous]. Found in broadleaf–podocarp, *Nothofagus*, or mixed native forests. Collected in leaf litter; also under bark of rotting *Rhopalostylis sapida* stems. Seasonality: September, October, April, July, August (adults); April, July (nymphs). [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 72 (catalogue, world).

### Genus *Clavaptera* Kirman, 1985<sup>E</sup>

*Clavaptera* Kirman, 1985a: 125. Type species: *Clavaptera ornata* Kirman, 1985, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Kormilev & Froeschner, 1987: 76 (catalogue, world).

### Genus *Clavaptera ornata* Kirman, 1985<sup>E</sup>

Type photograph p. 227.

*Clavaptera ornata* Kirman, 1985a: 126. Holotype male (AMNZ); ND, North Cape, 4 miles [=6.4 km] from Spirits Bay Rd [=Road], Serpentine Access Rd [=Road].

**Geographic distribution** (Map p. 286). North Island: ND–Cape Reinga, Tapotupotu Stream (NZAC). North Cape.

**Biology.** Terrestrial. Lowland. [Epigean.] Found in native coastal shrublands and scrublands. Collected in leaf litter (*Dysoxylum*–*Vitex*–*Brachyglottis*–*Sophora*–*Phormium* bush). Seasonality: November, April. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**Reference.** Kormilev & Froeschner, 1987: 76 (catalogue, world).

### Genus *Leuraptera* Usinger & Matsuda, 1959<sup>E</sup>

*Leuraptera* Usinger & Matsuda, 1959: 158. Type species:

*Leuraptera zealandica* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 82 (catalogue, world).

### Genus *Leuraptera yakasi* Heiss, 1990<sup>E</sup>

Type photograph p. 228.

*Leuraptera yakasi* Heiss, 1990: 399. Holotype male (NZAC); ND, Waipoua State Forest [=Waipoua Forest], Yakas Tree Track.

**Geographic distribution** (Map p. 287). North Island: ND–Dargaville (CEHI). Waipoua Forest, Yakas Tree Track.

**Biology.** Terrestrial. Lowland. [Epigean.] Found in a mixed broadleaf–podocarp forest. Collected in leaf and log litter. Seasonality: April. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

### Genus *Leuraptera zealandica* Usinger & Matsuda, 1959<sup>E</sup>

Type photograph p. 228.

*Leuraptera zealandica* Usinger & Matsuda, 1959: 160. Holotype male (CMNZ); AK, Titirangi.

**Geographic distribution** (Map p. 287). North Island: AK–Huia (NZAC). Lynfield, Tropicana Drive (NZAC). Titirangi. CL–Little Barrier Island (AMNZ), Awaroa Stream (NZAC). ND–Waimatenui (NZAC).

**Biology.** Terrestrial. Lowland. [Epigean.] Found in broadleaf–podocarp forests and shrublands. Collected in leaf litter (e.g., *Nothofagus*) and on fungus. Seasonality: October, January, March, May. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 82 (catalogue, world).

### Genus *Lissaptera* Usinger & Matsuda, 1959<sup>N</sup>

*Acaraptera* (*Lissaptera*) Usinger & Matsuda, 1959: 149. Type species: *Acaraptera completa* Usinger & Matsuda, 1959, by original designation.

*Lissaptera* Usinger & Matsuda, 1959. Elevated to generic status by Kormilev & Froeschner, 1987: 83.

**Geographic distribution.** Australia (Lord Howe Island only), New Zealand.

**References.** Wise, 1977: 121 (checklist, New Zealand; as *Acaraptera (Lissaptera)*). Kormilev & Froeschner, 1987: 83 (catalogue, world). Cassis & Gross, 2002: 40 (Australia, catalogue).

### ***Lissaptera completa* (Usinger & Matsuda, 1959) <sup>E</sup>**

Type photograph p. 229.

*Acaraptera (Lissaptera) completa* Usinger & Matsuda, 1959: 151. Holotype male (CMNZ); TH, South West Island.

*Lissaptera completa*: Kormilev & Froeschner, 1987: 83.

**Geographic distribution** (Map p. 287). North Island: ND–Mangamuka Range, summit (NZAC). Mitimiti (NZAC). Puketi [State] Forest (NZAC). Te Paki (NZAC). Waipoua Forest (near Headquarters; Te Matua Ngahere; Toronui Track; Waikohatu Bridge; Wairau Summit) (NZAC). Warawara State Forest (NZAC). Offshore Islands: TH.

**Biology.** Terrestrial. Lowland. [Epigean.] Found in native coastal forests and shrublands. Collected mostly in mixed broadleaf–podocarp forest leaf litter (adults, nymphs); also in wood debris, moss, and liverwort under *Beilschmiedia tawa* and *Dacrydium cupressinum*. Seasonality: October to February, April, June, July (adults); October (nymphs). [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Usinger & Matsuda, 1959 (taxonomy). Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 83 (catalogue, world).

### **Genus *Modicarventus* Kirman, 1989 <sup>E</sup>**

*Modicarventus* Kirman, 1989a: 26. Type species: *Modicarventus wisei* Kirman, 1989, by original designation.

**Geographic distribution.** New Zealand.

### ***Modicarventus wisei* Kirman, 1989 <sup>E</sup>**

Type photograph p. 229.

*Modicarventus wisei* Kirman, 1989a: 27. Holotype female (AMNZ); ND, North Cape Area, Unuwaho.

**Geographic distribution** (Map p. 288). North Island: ND–North Cape: Unuwaho; Whareana (AMNZ).

**Biology.** Terrestrial. Lowland. [Epigean.] Found in native forest remnants. Collected in leaf litter. Seasonality: December, February. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

### **Genus *Neocarventus* Usinger & Matsuda, 1959 <sup>E</sup>**

*Neocarventus* Usinger & Matsuda, 1959: 164. Type species: *Neocarventus angulatus* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 84 (catalogue, world). Kirman, 1989b (redescription, taxonomy).

### ***Neocarventus angulatus* Usinger & Matsuda, 1959 <sup>E</sup>**

Type photograph p. 231.

*Neocarventus angulatus* Usinger & Matsuda, 1959: 166. Holotype male (CMNZ); HB, Wallingford.

**Geographic distribution** (Map p. 288). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WN, WO. South Island: KA–Puhipuhi Reserve (NZAC).

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Found in native broadleaf–podocarp forests and shrublands. Collected mostly in leaf litter; also in moss. Seasonality: September to May (mostly January), July. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Kormilev & Heiss, 1976 (female, taxonomy). Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 84 (catalogue, world).

### ***Neocarventus uncus* Kirman, 1989 <sup>E</sup>**

Type photograph p. 231.

*Neocarventus uncus* Kirman, 1989b: 35. Holotype male (NZAC); ND, Warawara State Forest.

**Geographic distribution** (Map p. 289). North Island: CL–Mount Moehau (NZAC). ND–Mount Camel Peninsula (AMNZ). Puketi State Forest (NZAC). Waipoua Forest (NZAC). Warawara State Forest (NZAC).

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Found in native broadleaf–podocarp forests and shrublands. Collected mostly in leaf litter; also in a rotten log. Seasonality: October, January, April. [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

## **Subfamily CHINAMYERSIINAE**

**References.** Usinger & Matsuda, 1959 (key to genera, New Zealand). Monteith, 1966, 1969 (Australia, taxonomy, relationships), 1980 (genera, classification, relationships).

### Tribe CHINAMYERSIINI

#### Genus *Chinamyersia* Usinger, 1943<sup>E</sup>

*Pseudaradus* Myers & China, 1928: 388. Type species: *Pseudaradus viridis* Myers & China, 1928, by original designation. Preoccupied.

*Chinamyersia* Usinger, 1943: 74. Replacement name for *Pseudaradus*.

**Geographic distribution.** New Zealand.

**References.** Usinger & Matsuda, 1959 (classification, taxonomy). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 92 (catalogue, world).

#### Chinamyersia cinerea (Myers & China, 1928)<sup>E</sup>

*Pseudaradus cinereus* Myers & China, 1928: 393. Holotype female (BMNH); WN, Korokoro.

*Chinamyersia cinerea*: Usinger, 1943: 74.

**Geographic distribution** (Map p. 286). North Island: AK, BP, ND, WA, WN. South Island: BR, CO, FD, MC, NC, NN, SD, SL.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, arboreal (mostly), corticolous. Found in broadleaf–podocarp, *Nothofagus*, or mixed forests and shrublands. Collected under the bark of *Agathis australis* and *Dacrydium*, on the bark of *Nothofagus menziesii*, in leaf litter, under logs, on *Pseudopanax*; also on *Polystichum* (at night). Seasonality: October, November, January to March (mostly), July, August (adults); January, July (nymphs). [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Usinger & Matsuda, 1959 (taxonomy). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 92 (catalogue, world).

#### Chinamyersia viridis (Myers & China, 1928)<sup>E</sup>

*Pseudaradus viridis* Myers & China, 1928: 391. Holotype\* female (BMNH); WN, Ngaio.

*Chinamyersia viridis*: Usinger, 1943: 74.

**Geographic distribution** (Map p. 286). North Island: WN–Ngaio (Myers & China, 1928). South Island: NN–Canaan, Moor Park (NZAC). Cawthon Park (LUNZ). Whangapeka Valley (NZAC).

**Biology.** Terrestrial. [Lowland.] [Epigean, planticolous, arboreal (mostly), corticolous.] Collected mostly under the bark of trees, e.g., *Dacrydium cupressinum*. Seasonality: September, November, February, July. [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Usinger & Matsuda, 1959 (taxonomy). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 92 (catalogue, world).

### Tribe TRETOCORINI

#### Genus *Tretocoris* Usinger & Matsuda, 1959<sup>E</sup>

*Tretocoris* Usinger & Matsuda, 1959: 82. Type species: *Tretocoris grandis* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Monteith, 1969 (*Kumareissa*, relationships, *Tretocoris*). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 93 (catalogue, world).

#### Tretocoris grandis Usinger & Matsuda, 1959<sup>E</sup>

*Tretocoris grandis* Usinger & Matsuda, 1959: 83. Holotype\* female (BMNH; E. Heiss, personal communication); TO, Ohakune.

**Geographic distribution** (Map p. 289). North Island: AK, BP, CL, GB, HB, ND, TO, WO.

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Broadleaf–podocarp forests. Collected in leaf litter and under logs; in splits from a rotten log of fallen *Metrosideros robusta*. Observed at night on the underside of bracket fungi (S.E. Thorpe, personal communication). Seasonality: September, November, January to May, July (adults); April (nymphs). [Fungivorous.]

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wise 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 93 (catalogue, world).

### Subfamily ISODERMINAE

**References.** Wygodzinsky, 1946 (taxonomy, world). Pendergrast, 1965b (key to taxa, taxonomy, New Zealand). Heiss, 1982 (Australia, taxonomy). Kormilev & Froeschner, 1987 (catalogue, world).

#### Genus *Isodermus* Erichson, 1842<sup>N</sup>

*Isodermus* Erichson, 1842: 281. Type species: *Isodermus planus* Erichson, 1842, by monotypy.

*Anchomichon* Spinola, 1852: 214. Type species: *Anchomichon gayi* Spinola, 1852, by monotypy. Synonymised by Stål, 1873: 147.

*Eciostocoris* Blanchard, 1852: 223. Type species: *Eciostocoris castaneus* Blanchard, 1852, by monotypy. Synonymised by Wygodzinsky, 1946: 268.

**Geographic distribution.** Argentina, Australia (continental, Tasmania), Chile, New Zealand.

**References.** Usinger & Matsuda, 1959 (key to species, world). Pendergrast, 1965b (key to species, New Zealand). Wise, 1977: 119 (checklist, New Zealand). Heiss, 1982 (Australia, taxonomy). Kormilev & Froeschner, 1987: 93 (catalogue, world). Cassis & Gross, 2002: 42 (Australia, catalogue).

***Isodermus crassicornis* Usinger & Matsuda, 1959<sup>E</sup>**

*Isodermus crassicornis* Usinger & Matsuda, 1959: 61.  
Holotype\* male (BMNH); NC, Arthur's Pass.

**Geographic distribution** (Map p. 287). North Island: GB, TO, WN. South Island: BR, MB, MC, NC, NN, SC.

**Biology.** Terrestrial. Montane, subalpine. [Arboreal], corticolous. Found in *Nothofagus* forests. Collected under the bark of logs or dead standing *Nothofagus* trees, including *N. menziesii* (adults, nymphs). Seasonality: October to February, April, July (adults); April (nymphs). [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 94 (catalogue, world).

**Note.** This is the most commonly encountered *Isodermus* species in New Zealand.

***Isodermus maculosus* Pendergrast, 1965<sup>E</sup>**

Type photograph p. 228.

*Isodermus maculosus* Pendergrast, 1965b: 237. Holotype male (AMNZ); DN, Waitati.

**Geographic distribution** (Map p. 287). North Island: BP—Mount Te Aroha (NZAC). TO—Ohakune (NZAC). South Island: BR—Ada Pass (NZAC). Lake Rotoiti (NZAC). DN—Waitati (Pendergrast, 1965). FD—Takahe Valley, Head of Lake Orbell (LUNZ). MC—Cass Saddle (CMNZ). NN—Mt Arthur, Ellis Basin, Dry Lake (LUNZ). WD—Westland National Park, Castle Rocks Valley (LUNZ). Stewart Island (LUNZ): Rakeahua Valley (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. [Arboreal], corticolous. Found in *Nothofagus* and mixed forests. Collected on decaying branches of *Nothofagus menziesii* (adults, nymphs), under bark of decaying logs; under moss and bark of *Olearia ilicifolia*; also on *Pittosporum eugenoides* and *Pseudopanax*. Seasonality: October, January to March (adults); July (nymphs). [Fungivorous.]

**Dispersal power.** Brachypterous, [probably unable to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 94 (catalogue, world).

***Isodermus tenuicornis* Usinger & Matsuda, 1959<sup>E</sup>**

*Isodermus tenuicornis* Usinger & Matsuda, 1959: 59.  
Holotype\* female (presumably BMNH; only the paratypes could be located); DN, Port Chalmers.

**Geographic distribution** (Map p. 287). South Island: DN—Port Chalmers. Waitati (AMNZ). Woodhaugh Reserve (Usinger & Matsuda, 1959). KA—Oaro (LUNZ).

MC—Kaituna Valley (CMNZ, LUNZ). SL—Curio Bay (NZAC). Stewart Island: Port William (NZAC).

**Biology.** Terrestrial. Lowland. Arboreal, corticolous. Collected on *Eucalyptus ovata*; in *Fuchsia—Prumnopitys taxifolia* scrub; under bark. Seasonality: September to March, June. [Fungivorous.]

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 94 (catalogue, world).

**Subfamily MEZIRINAE**

**References.** Kormilev, 1971 (classification, revision, Oriental Region and Pacific). Lee & Pendergrast, 1977 (key to taxa, taxonomy, New Zealand). Monteith, 1997 (Australia, biology, biogeography, revision; including key to New Zealand genera).

**Genus *Ctenoneurus* Bergroth, 1887<sup>N</sup>**

*Ctenoneurus* Bergroth, 1887: 188. Type species: *Neuroctenus hochstetteri* Mayr, 1866, designated by Usinger & Matsuda, 1959: 268.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region; South Pacific.

**References.** Kormilev, 1971 (key to species, Oriental Region, Pacific, revision). Lee & Pendergrast, 1977 (key to species, New Zealand). Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 131 (catalogue, world). Monteith, 1997 (Australia, keys, morphology, taxonomy). Cassis & Gross, 2002: 55–56 (Australia, catalogue).

***Ctenoneurus hochstetteri* (Mayr, 1866)<sup>E</sup>**

*Neuroctenus hochstetteri* Mayr, 1866: 365. Syntypes\* (NHMW; E. Heiss, personal communication); New Zealand.

*Crimia attenuata* Walker, 1873: 22. Syntypes\*, apparently males (BMNH); New Zealand. Synonymised by Usinger & Matsuda, 1959: 269.

*Mezira maorica* Walker, 1873: 29. Syntypes\*, one male, one female (BMNH); New Zealand. Synonymised by Usinger & Matsuda, 1959: 269.

*Ctenoneurus hochstetteri*: Bergroth, 1887: 188.

*Ctenoneurua* [sic] *hochstetteri*: Lee & Pendergrast, 1977: 168.

**Geographic distribution** (Map p. 286). North Island: AK, BP, CL, ND, TK, TO, WA, WN, WO. South Island: BR, FD, MB, MC, MK, NN, OL, SD, SL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Arboreal, corticolous. Found in native broadleaf–podocarp,

*Nothofagus*, or mixed forests and, to some extent, exotic plantations. Collected mostly under the bark of fallen trunks and branches or dead standing *Beilschmiedia tawa* or *Nothofagus*, including *N. fusca* and *N. truncata* (adults and nymphs); also under the bark of *Phyllocladus trichomanoides* and *Eucalyptus globulus*. Can occur in colonies of thousands under the bark of *Beilschmiedia tawa*. Associated taxa: Found with *Aneurus brouni* and *Aneurus salmoni* (Heteroptera: Aradidae). Seasonality: September to April, June to August (adults); January, March, June to August (nymphs). [Fungivorous.]

**Dispersal power.** Macropterous, able to fly (E. Heiss, personal communication).

**References.** Wise 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 131 (catalogue, world).

**Note.** This is the most common aradid species in New Zealand.

### **Ctenoneurus myersi** Kormilev, 1953<sup>E</sup>

*Ctenoneurus myersi* Kormilev, 1953: 344. Holotype\* female (USNM, Kormilev Collection; E. Heiss, personal communication); New Zealand.

**Geographic distribution** (Map p. 287). North Island: AK–Lynfield (NZAC). TO–Ohakune (Lee & Pendergrast, 1977). South Island: MC–Banks Peninsula, Port Levy Reserve (NZAC). Chalk Hill (CMNZ). Craigieburn State Forest (NZAC). Hoods Bush, Malvern Hills (CMNZ). NC–Arthur's Pass, Alpine Creek [=Halpin Creek] (NZAC). NN–Nelson (NZAC).

**Biology.** Terrestrial. Lowland, montane. Arboreal, corticolous. Found mostly in native forests. Collected under the bark of dead standing *Nothofagus solandri* var. *cliffortioides* and *Sophora microphylla*, on and under the bark of *Nothofagus menziesii*, and on *Acacia mearnsii*. Seasonality: October, November, January to March, May. [Fungivorous.]

**Dispersal power.** Macropterous, able to fly (E. Heiss, personal communication).

**References.** Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 132 (catalogue, world).

### **Ctenoneurus pendergrasti** Kormilev, 1971<sup>E</sup>

Type photograph p. 227.

*Ctenoneurus pendergrasti* Kormilev, 1971: 58. Holotype female (AMNZ); BP, Tarawera [=Tarawera].

**Geographic distribution** (Map p. 287). North Island: BP–Tarawera.

**Biology.** Terrestrial. [Lowland, montane.] [Arboreal, corticolous.] Seasonality: October. [Fungivorous.]

**Dispersal power.** Macropterous, able to fly (E. Heiss, personal communication).

**Reference.** Kormilev & Froeschner, 1987: 132 (catalogue, world)

**Note.** Species overlooked by Lee & Pendergrast (1977) and Wise (1977).

### **Ctenoneurus setosus** Lee & Pendergrast, 1977<sup>E</sup>

Type photograph p. 228.

*Ctenoneurus setosus* Lee & Pendergrast, 1977: 168. Holotype male (AMNZ); ND, Kawakawa, Waiomio Caves area.

**Geographic distribution** (Map p. 287). North Island: AK, BP, CL, ND, TO, WI.

**Biology.** Terrestrial. Lowland, montane. Arboreal, corticolous. Found in broadleaf–podocarp, *Nothofagus* or mixed forests; also in exotic plantations. Collected on fruiting bodies of fungi (*Daldinia* sp.), under the bark of *Nothofagus* or *Eucalyptus globulus*, in leaf litter, and on a log under *Weinmannia racemosa* and *Rubus fruticosus*. Seasonality: December to February, May, June, August (adults); December (nymphs). [Fungivorous.]

**Dispersal power.** Macropterous, able to fly (E. Heiss, personal communication).

**Note.** Species not listed by Wise (1977) and Kormilev & Froeschner (1987).

### **Genus Woodwardiessa** Usinger & Matsuda, 1959<sup>E</sup>

*Woodwardiessa* Usinger & Matsuda, 1959: 215. Type species: *Woodwardiessa quadrata* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Kormilev, 1971 (keys). Wise, 1977: 121 (checklist, New Zealand). Kormilev & Froeschner, 1987: 196 (catalogue, world). Monteith, 1997 (Australia, keys, morphology, taxonomy).

### **Woodwardiessa quadrata** Usinger & Matsuda, 1959<sup>E</sup>

*Woodwardiessa quadrata* Usinger & Matsuda, 1959: 216. Holotype\* female (MONZ; missing); AK, Nihotupu.

**Geographic distribution** (Map p. 289). North Island: AK, BP, CL, GB, ND, WO.

**Biology.** Terrestrial. Lowland. [Epigean, corticolous.] Found in broadleaf–podocarp forests and shrublands. Collected in splits of fallen rotting trees (including *Metrosideros robusta*), on *Ganoderma*-fungi growing on dead standing trees, on logs with polypores, under the bark of standing or fallen trees (e.g., *Knightia excelsa*, *Nothofagus truncata*), in leaf litter (adults, nymphs); also, at night, feeding on

underside of bracket fungi in forests (CL, WO; S.E. Thorpe, personal communication). Seasonality: September to November, February, March (mostly), May, July (adults); October (nymphs). [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 121 (checklist, New Zealand). Lee & Pendergrast, 1977 (taxonomy). Kormilev & Froeschner, 1987: 196 (catalogue, world). Monteith, 1997 (taxonomy).

**Note.** The holotype could not be located in Museum of New Zealand Te Papa Tongarewa, Wellington (MONZ).

### Subfamily PROSYMPIESTINAE

**References.** Usinger & Matsuda, 1959 (Australia, taxonomy). Kirman, 1985b (key to genera, New Zealand).

#### Tribe PROSYMPIESTINI

##### Genus *Adenocoris* Usinger & Matsuda, 1959<sup>E</sup>

*Adenocoris* Usinger & Matsuda, 1959: 67. Type species: *Adenocoris brachypterus* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Usinger & Matsuda, 1959 (key to species, New Zealand). Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world).

##### *Adenocoris brachypterus* Usinger & Matsuda, 1959<sup>E</sup>

*Adenocoris brachypterus* Usinger & Matsuda, 1959: 68. Holotype\* female (BMNH); WI, Wanganui, Longacre.

**Geographic distribution** (Map p. 285). North Island: WI–Wanganui, Longacre.

**Biology.** Terrestrial. Lowland. [Epigean, planticolous, arboreal.] Habitat unknown. Seasonality: April (adults, nymphs). [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world).

##### *Adenocoris spiniventris* Usinger & Matsuda, 1959<sup>E</sup>

*Adenocoris spiniventris* Usinger & Matsuda, 1959: 70. Holotype\* female (BMNH); New Zealand.

**Geographic distribution** (Map p. 285). North Island: CL–Little Barrier Island, summit (NZAC). TO–Ohakune (Usinger & Matsuda, 1959). WN–Paekakariki (Usinger & Matsuda, 1959). WO–Matamata (NZAC).

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, arboreal. [Occurs in native forests and

shrublands.] Collected on *Agathis australis* and in leaf litter. Seasonality: October, November, March, April, August. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world).

**Note.** This taxon may be conspecific with *Adenocoris brachypterus*.

##### Genus *Mesadenocoris* Kirman, 1985<sup>E</sup>

*Mesadenocoris* Kirman, 1985b: 78. Type species: *Mesadenocoris robustus* Kirman, 1985, by original designation.

**Geographic distribution.** New Zealand.

**Note.** Genus overlooked by Kormilev & Froeschner (1987).

##### *Mesadenocoris robustus* Kirman, 1985<sup>E</sup>

Type photograph p. 229.

*Mesadenocoris robustus* Kirman, 1985b: 80. Holotype male (CMNZ); ND, 5 miles [=8 km] east of Kaeo.

**Geographic distribution** (Map p. 288). North Island: ND–Kaeo, 5 miles [=8 km] East. Waimatenui (AMNZ).

**Biology.** Terrestrial. Lowland. [Epigean.] [Native forests and shrublands.] Collected in leaf litter (adults, nymphs). Seasonality: October, December (adults); December (nymphs). [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

##### Genus *Neadenocoris* Usinger & Matsuda, 1959<sup>E</sup>

*Neadenocoris* Usinger & Matsuda, 1959: 71. Type species: *Neadenocoris spinicornis* Usinger & Matsuda, 1959, by original designation.

**Geographic distribution.** New Zealand.

**References.** Usinger & Matsuda, 1959 (key to species, New Zealand). Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world).

**Note.** Examination of *Neadenocoris* material from the North Island suggests additional undescribed species of this genus, or of a closely related undescribed genus.

##### *Neadenocoris abdominalis* Usinger & Matsuda, 1959<sup>E</sup>

Type photograph p. 229.

*Neadenocoris abdominalis* Usinger & Matsuda, 1959: 74. Holotype male (CMNZ); NN, Upper Takaka.

**Geographic distribution** (Map p. 288). South Island: BR–Marua Springs (CMNZ). NN–Upper Takaka.

**Biology.** Terrestrial. Lowland. [Epigean.] [*Nothofagus* or

mixed forests and shrublands.] [Collected in leaf litter.] Seasonality: March, May. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world)

**Notes.** One specimen from the North Island (Titirangi, AK; AMNZ) may represent a misidentification or an undescribed species.

#### ***Neadenocoris acutus* Usinger & Matsuda, 1959<sup>E</sup>**

Type photograph p. 230.

*Neadenocoris acutus* Usinger & Matsuda, 1959: 76. Holotype male (CMNZ); BR, Moana, Lake Brunner.

**Geographic distribution** (Map p. 288). South Island: BR–Callaghans Ridge, Ahaura (NZAC). Moana (Lake Brunner). WD–Hokitika Gorge (NZAC)

**Biology.** Terrestrial. Lowland, montane. [Epigean.] [Nothofagus or mixed forests and shrublands.] Collected in leaf litter. Seasonality: December, January, April. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 197 (catalogue, world).

**Notes.** One specimen from the North Island (Mount Egmont, near Dawson Falls, TK; AMNZ) may represent a misidentification or an undescribed species.

#### ***Neadenocoris glaber* Usinger & Matsuda, 1959<sup>E</sup>**

Type photograph p. 230.

*Neadenocoris glabrus* [sic] Usinger & Matsuda, 1959: 78. Holotype female (CMNZ); FD, Lake McArthur, Dusky Sound.

**Geographic distribution** (Map p. 288). South Island: FD–Doubtful Sound, Deep Cove (NZAC). Lake McArthur, Dusky Sound. Secretary Island, Mount Grono (NZAC). Wilmot Pass (NZAC). Turret Range, Wolfe Flat (NZAC).

**Biology.** Terrestrial. Lowland, montane. [Epigean.] [Nothofagus or mixed forests and shrublands.] Collected mostly in leaf litter; also in moss and on mat plants-moss-tussock associations. Seasonality: November, January, March. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 198 (catalogue, world).

**Note.** The gender ending of the original species-group name *glabrus* is changed to agree in gender with the generic name *Neadenocoris*, in accordance with Articles 32.3 and 34.2 of the *International Code of Zoological Nomenclature*, Fourth Edition (1999).

#### ***Neadenocoris ovatus* Usinger & Matsuda, 1959<sup>E</sup>**

Type photograph p. 230.

*Neadenocoris ovatus* Usinger & Matsuda, 1959: 75. Holotype male (CMNZ); MB, Pelorus Bridge.

**Geographic distribution** (Map p. 288). South Island: MB–Pelorus Bridge. WD–Haast Pass (NZAC).

**Biology.** Terrestrial. Lowland, montane. [Epigean.] [Nothofagus or mixed forests and shrublands.] Collected in leaf litter and rotten wood. Seasonality: December to February, August. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 198 (catalogue, world).

**Notes.** A few specimens from the North Island (AK, CL, TK (AMNZ); GB (NZAC)) may represent misidentifications or an undescribed species.

#### ***Neadenocoris reflexus* Usinger & Matsuda, 1959<sup>E</sup>**

Type photograph p. 230.

*Neadenocoris reflexus* Usinger & Matsuda, 1959: 79. Holotype female (CMNZ); NN, Junction of Brown and Aorere Rivers.

**Geographic distribution** (Map p. 288). South Island: BR–Lake Rotoroa (NZAC). NN–Aorere Valley (NZAC). Junction Brown & Aorere Rivers.

**Biology.** Terrestrial. Lowland. [Epigean.] [Nothofagus or mixed forests and shrublands.] Collected in leaf litter. Seasonality: January, February, April. [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 198 (catalogue, world).

**Note.** A few specimens from the North Island (GB (NZAC)) may represent misidentifications or an undescribed species.

#### ***Neadenocoris spinicornis* Usinger & Matsuda, 1959<sup>E</sup>**

Type photograph p. 231.

*Neadenocoris spinicornis* Usinger & Matsuda, 1959: 72. Holotype male (CMNZ); FD, Lake Hankerson [=Lake Hankinson], Te Anau.

**Geographic distribution** (Map p. 288). South Island: BR, FD, MK, NC, OL, SL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. Nothofagus (mostly) or mixed forests and shrublands. Collected mostly in leaf litter (adults, nymphs); also in moss. Seasonality: October to May, mostly November, February (adults); September, October, December to April (nymphs). [Fungivorous.]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Wise, 1977: 120 (checklist, New Zealand). Kormilev & Froeschner, 1987: 198 (catalogue, world).

**Notes.** Usinger & Matsuda (1959) listed this species from the Auckland region (one nymph, Hora [=Horahora, ND?], January 21, 1948, R. R. Forster; unknown number of specimens, L. Parenaga [=Parengarenga Harbour, ND?], October 23, 1950, L. P. Hughson). These unchecked records may represent a new undescribed species together with other *Neadenocoris* specimens in North Island collections (See Notes under previous species).

## Family ARTHENEIDAE

### Seed bugs

**References.** Scudder, 1957c (Australia, taxonomy; in Rhyparochrominae). Slater *et al.*, 1962 (classification, taxonomy). Slater, 1964a (catalogue, world). Slater & Brailovsky, 1986 (taxonomy, Western Hemisphere). Wheeler & Fetter, 1987 (adventive species, Nearctic Region). Malipatil, 1988a (Australia, taxonomy). Grozeva & Kuznetsova, 1989 (cytotoxicology, reproductive system). Gross, 1991a (Australia, keys, overview). Hoffman & Slater, 1995 (adventive species, Ethiopian & Nearctic Regions). Schuh & Slater, 1995: 251–264 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Slater & O'Donnell, 1995 (catalogue, world). Henry, 1997a (classification, phylogeny). Kerzhner, 1997 (Palearctic Region, taxonomy; as subfamily of Lygaeidae). Péricart, 2001a: 94–101 (catalogue, Palearctic Region; as subfamily of Lygaeidae). Cassis & Gross, 2002: 159–161 (Australia, catalogue, introduction to family).

**Note.** Most of the literature published before 1997 refers to the Artheneidae as a subfamily of Lygaeidae.

## Subfamily NOTHOCHROMINAE

### Genus *Nothochromus* Slater, Woodward & Sweet, 1962<sup>E</sup>

*Nothochromus* Slater, Woodward & Sweet, 1962: 600. Type species: *Nothochromus maoricus* Slater, Woodward & Sweet, 1962, by original designation.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 708 (catalogue, world). Wise, 1977: 125 (checklist, New Zealand).

### *Nothochromus maoricus* Slater, Woodward & Sweet, 1962<sup>E</sup>

Type photograph p. 232.

*Nothochromus maoricus* Slater, Woodward & Sweet, 1962: 601. Holotype female (NZAC); OL, Bold Peak.

**Geographic distribution** (Map p. 289). South Island: CO–Rock and Pillar Range (Malipatil, 1977b). DN–Leith (Slater *et al.*, 1962). FD–Fiordland National Park: South Arm of Lake Manapouri (LUNZ); South Borland [River] Valley Bivouac (LUNZ). OL–Bold Peak. SL–Catlins State Forest, Hunters Hills (LUNZ).

**Biology.** Terrestrial. Montane, subalpine. Epigean. [Occurs in *Nothofagus* forests.] Taken in leaf litter (adults, nymphs); under the bark of *Nothofagus solandri* var. *cliffortioides* (adults); on *Nothofagus menziesii* (adults). Seasonality: November to February, May (adults); November (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Slater, 1964a: 708 (catalogue, world). Wise, 1977: 125 (checklist, New Zealand). Malipatil, 1977b (classification, genitalia, immatures, redescription). Slater & O'Donnell, 1995: 80 (catalogue, world).

## Family BERYTIDAE

### Stilt bugs

**References.** Gross, 1950 (Australia, revision; as Neididae), 1963 (key, checklist, Micronesia, taxonomy; as Neididae). Woodward, 1961 (New Zealand, revision). Kerzhner, 1964 (Palearctic Region, taxonomy). Štusák, 1964, 1965a, 1965b, 1967a, 1967b, 1971 (Ethiopian & Oriental Regions, taxonomy). Hsiao, 1974 (China, revision). Hamid, 1975 (classification). Hickman, 1976 (Australia, biology). Péricart, 1984 (revision, West Palearctic Region). Štusák, 1989, 1992 (Ethiopian & Oriental Regions, taxonomy). Gross, 1991a (Australia, keys, overview). Schuh & Slater, 1995: 246–249 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Henry, 1997a–b (classification; key to subfamilies, tribes, genera; phylogeny, world), 1997c (keys, revision, Western Hemisphere), 2000 (biology, economic importance, world). Henry & Froeschner, 1998, 2000 (catalogue, world). Péricart, 2001b: 230–242 (catalogue, Palearctic Region). Cassis & Gross, 2002: 162–170 (Australia, catalogue, introduction to family).

## Subfamily BERYTINAE

### Tribe BERYTINI

#### Genus Bezu Štusák, 1989<sup>N</sup>

*Bezu* Štusák, 1989: 286. Type species: *Neides wakefieldi* White, 1878a, by original designation.

**Geographic distribution.** Australia (continental, Tasmania), New Zealand.

**References.** Wise, 1977: 125 (checklist, New Zealand; as *Neides*). Henry, 1997b (classification, key, phylogeny, taxonomy). Henry & Froeschner, 1998: 7 (catalogue, world). Cassis & Gross, 2002: 166 (Australia, catalogue).

#### Bezu wakefieldi (White, 1878)<sup>E</sup>

*Neides wakefieldi* White, 1878a: 31. Holotype female (BMNH); New Zealand.

*Bezu wakefieldi*: Štusák, 1989: 288.

**Geographic distribution** (Map p. 289). North Island: ND, TK, WI, WN. South Island: CO, DN, MB, MC, NC, NN, SD, SL. Offshore Islands: CH.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Found in open habitats or clearings in forested areas. Collected on grasses (Poaceae) and surrounding vegetation, e.g., on *Muehlenbeckia* and shrubs, at bases of rushes, on *Rubus fruticosus*, and in leaf litter. Host plants: Grasses (Poaceae). Seasonality: Most of the year, mainly November to February. Mating: October to December. Overwintering: In the adult stage; collected in moss from wet banks. Phytophagous.

**Dispersal power.** Micropterous or brachypterous, [unable to fly].

**References.** Wise, 1977: 125 (checklist; as *Neides wakefieldi*). Henry & Froeschner, 1998: 7 (catalogue, world).

## Family CANTACADERIDAE

### Lace bugs

**References.** Drake, 1950 (taxonomy, world; as subfamily of Tingidae). Gross & Cassis, 1991c (Australia, keys, overview; as subfamily of Tingidae). Cassis & Gross, 1995: 398–401 (Australia, catalogue; as subfamily of Tingidae). Froeschner, 1996 (classification, key to taxa, revision, world; as subfamily of Tingidae). Péricart & Golub, 1996: 3–5 (catalogue, Palearctic; as subfamily of Tingidae). Golub & Popov, 1998 (Baltic amber, fossils; as subfamily of Tingidae). Lis, B., 1999 (classification, description, family status, key to subfamilies, phylogeny).

## Subfamily CARLDRAKEANINAE

**Reference.** Lis, B., 1999 (classification, description, key to genera, subfamily status).

#### Genus Carldrakeana Froeschner, 1968<sup>N</sup>

*Carldrakeana* Froeschner, 1968: 250. Type species: *Phatnoma tindalei* Hacker, 1928, by original designation.

**Geographic distribution.** Australia (continental, Tasmania), New Guinea, New Zealand.

**References.** Froeschner, 1996 (catalogue, key to genera and species, revision, world). Lis, B., 1999 (classification, description).

#### Carldrakeana socia (Drake & Ruhoff, 1961)<sup>N</sup>

*Gonycentrum socium* Drake & Ruhoff, 1961: 128 [illustrated in Fig. 2, not Fig. 3 as indicated]. Holotype\* male (USNM); Launceston, Tasmania, Australia.

*Carldrakeana socia*: Froeschner, 1968: 251.

**Geographic distribution** (Map p. 289). North Island: WA–Lake Wairarapa (NZAC). Ruakokoputuna (NZAC). WN–Orongorongo Valley, Green’s Creek (NZAC). Stokes Valley (Woodward, 1961). Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland. [Epigean, planticolous.] Habitat and Seasonality unknown. Overwintering: In the adult stage; collected in moss and from a dry bank (July to September). Phytophagous (sap-sucking).

**Dispersal power.** Brachypterous (coleopterous), probably unable to fly.

**References.** Woodward, 1961 (New Zealand, revision; as *Gonycentrum socium*). Drake & Ruhoff, 1965a: 33 (catalogue, world; as *Gonycentrum socium*). Wise, 1977: 118 (checklist, New Zealand; as *Gonycentrum socium*). Cassis & Gross, 1995: 400 (Australia, catalogue). Froeschner, 1996 (description, key, catalogue, world). Lis, B., 1999 (checklist, classification).

**Note.** Cassis & Gross (1995) did not list this species for New Zealand.

#### Genus Cyperobia Bergroth, 1927<sup>E</sup>

*Cyperobia* Bergroth, 1927: 673. Type species: *Cyperobia carectorum* Bergroth, 1927, by monotypy.

**Geographic distribution.** New Zealand.

**References.** Drake & Ruhoff, 1965a: 31 (catalogue, world). Wise, 1977: 118 (checklist, New Zealand). Froeschner, 1996 (key to genera, revision, world). Lis, B., 1999 (classification, description).

### **Cyperobia carectorum** Bergroth, 1927<sup>E</sup>

*Cyperobia carectorum* Bergroth, 1927: 674. Holotype\* female (could be in BMNH; I.M. Kerzhner, personal communication); WN, Gollans Valley.

*Cyperobia correctorum* [sic]: Drake & Davis, 1960: figure 31.

**Geographic distribution** (Map p. 289). North Island: AK, HB, WN. South Island: CO, MB, MC, OL, SD, SL.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Found in humid habitats such as grassy river flats or higher altitude tussocklands and shrublands. Mostly collected on *Cassinia leptophylla* [= *Ozothamnus leptophyllus*], but also on *Celmisia* (e.g., *C. spectabilis*, *C. monroi*), and *Raoulia* (nymphs); less frequently on sedges, tussock, other low vegetation. Host plant: *Cassinia leptophylla* [= *Ozothamnus leptophyllus*], perhaps also *Celmisia* species. Seasonality: September, October, January to March (mostly), April, June (adults); August, September (nymphs). Overwintering: In the adult stage, possibly also as late-instar nymph; taken at base of *Cassinia leptophylla* [= *Ozothamnus leptophyllus*] in sand dunes (AK, June) (S.E. Thorpe, personal communication); also collected in moss. [Phytophagous (sap-sucking).]

**Dispersal power.** Brachypterous (unable to fly) to macropterous (possibly able to fly).

**References.** Drake & Ruhoff, 1965a: 31 (catalogue, world). Wise, 1977: 118 (checklist, New Zealand). Froeschner, 1996 (description, key, catalogue, world). Lis, B., 1999 (checklist, classification).

**Notes.** One brachypterous male labelled "Sedges. Gollan's V. 5-2-21" (NZAC), agreed with the collecting data from the original description. This specimen was examined by Froeschner (1996) who suggested that it could be available for neotype designation if needed. Unfortunately, the specimen has apparently been lost while at the USNM or lost in transit when returned to NZAC. The name of this species, *carectorum*, suggests that it may reproduce on sedges, but this doesn't seem to be the case.

### Family CERATOCOMBIDAE

**References.** Reuter, 1891a (revision, world). McAtee & Malloch, 1925b (Nearctic Region, revision). Hill, 1980 (Tasmania, taxonomy). Štys, 1982 (classification, Oriental Region, world), 1983 (New Guinea, taxonomy), 1989 (phylogeny, world). Hill *et al.*, 1991 (Australia, keys, overview). Cassis & Gross, 1995: 50–52 (Australia, catalogue, introduction to family). Kerzhner, 1995b: 6–8 (catalogue, Palearctic Region). Štys, 1995: 75–78 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world).

### Subfamily CERATOCOMBINAE

#### Tribe CERATOCOMBINI

##### Genus *Ceratocombus* Signoret, 1852<sup>N</sup>

*Ceratocombus* Signoret, 1852: 542. Type species: *Astemma mulsanti* Signoret, 1852 (= *Anthocoris coleoptratus* Zetterstedt, 1819), by monotypy.

**Geographic distribution.** Nearly worldwide. First New Zealand record: Mangapakeha, WN, 1957 (Cumber, 1959; as *Ceratocombus* sp.).

**References.** Cassis & Gross, 1995: 52 (Australia, catalogue). Kerzhner, 1995b: 6–8 (catalogue, Palearctic Region). Lattin, 2000 (life history, Nearctic Region, nymphs, taxonomy).

**Notes.** Two new species of *Ceratocombus* are described here. This firmly establishes the presence of Ceratocombidae in New Zealand. The family is generally underrepresented in New Zealand collections; further field-work, especially in remote areas of the South Island, would probably yield additional new species. Lethierry & Severin (1896: 231) did not record *Ceratocombus* for New Zealand as reported by Cassis & Gross (1995).

##### *Ceratocombus aotearoae* sp. nov.<sup>E</sup>

Type photograph p. 232.

**Type data. Holotype:** Male (NZAC) labelled "NEW ZEALAND BP Whinray Sce Res [= Scenic Reserve] 381500S/1773600E 28.XI.1997 Larivière, Larochelle / Hinau dominant forest. Sifted litter", and bearing red type label.

**Paratypes:** 4 males (2 NZAC, 1 AMNZ, 1 ANIC) and 3 females (2 NZAC, 1 MONZ) same data as holotype, and bearing blue paratype labels.

**Description.** Coloration chocolate brown, with appendages slightly paler than main body. **Head.** Medial length behind tylus about 0.7 times as long as medial length of pronotum; conspicuous large erect bristles especially on tylus and juga. Posterior ocular seta (1) present, conspicuous. Ocelli large, situated near inner posterior ocular angles. First antennal segment very short, 2nd approximately 2.8 times as long as 1st, 3rd and 4th multiannulate. Labium slender, reaching slightly beyond hind coxae; 2nd (first visible) segment very short, 3rd longer than 4th. **Pronotum.** Shape trapezoidal to almost campanulate; surface dull, with sparse short pubescence on disc as well as along lateral margins and suprumerally; posterior margin slightly concave; lateral margins slightly explanate; collum delimited by sulcus laterally only. Scutellum triangular, without lateral concavities or depressions at basis. Pleura without distinguishing features. **Wings.** Forewings usually longer than abdomen (sometimes only reaching tip of abdomen);

venation and chaetotaxy as illustrated (Fig. 3); costa sometimes paler than remainder of wing; subcostal cell not differentiated and R not recognisable as a distinct cross-vein; small triangular endocorial cell not visible; membrane normally developed. Hindwings usually reaching 1/3–1/2 length of abdomen (submacropters), sometimes as long as forewings (macropters). **Legs.** Femora sparsely pubescent; mid- and hind femora with 1 long, apical dorsal oblique spine (sometimes also on fore femora), and usually 1–2 proximal ventral oblique spines; posterior surface of mid femora, in male, sometimes with a patch of closely set, short, robust spines in apical third. Tibiae thin and mostly straight, covered with moderately long, dense oblique pubescence (about as long or slightly longer than width of tibiae) and some spines; protibial apical comb present. Tarsal formula 3–3–3 (male), 3–2–3 (female). Pretarsi simple, without appendages. Claws slender. **Male terminalia** as illustrated (Fig. 4). **Total body length:** male, 1.73–2.81 (2.16) mm; female, 1.95–2.87 (2.26) mm.

**Geographic distribution** (Map p. 289). North Island: AK (AMNZ, NZAC), BP, CL, HB, ND, RI, TK, TO, WA, WN, WO (NZAC). South Island: BR, FD (NZAC), MC, WD (LUNZ).

**Biology.** Terrestrial. Lowland, montane. Epigean. Found in broadleaf, podocarp, *Nothofagus*, or mixed forests, usually near shaded streams or on shaded stream banks. Appears to be more closely associated with riparian habitats than *Ceratocombus novaezelandiae*. Collected in ground litter (e.g., in *Agathis australis*–broadleaf, *Beilschmiedia tawa*–*Knightia excelsa*, *Dacrycarpus dacrydioides*, *Dacrydium cupressinum*–*Beilschmiedia taraire*–tree fern, *Beilschmiedia taraire*, *Knightia excelsa*, *Melicytus*, *Rhopalostylis sapida*–*Dysoxylum*, or *Rhopalostylis sapida*–tree fern forests); under *Elatostema rugosum*–ground cover; in leaf litter and rotting wood lying along decaying logs (e.g., in *Beilschmiedia tawa*, *Beilschmiedia tawa*–*Knightia excelsa*, *Nothofagus fusca*, or podocarp–broadleaf forests); in debris and moss on wet clayey stream banks (e.g., in *Beilschmiedia taraire* forests); in wet litter and top soil at base of *Blechnum*–ferns, including *B. discolor* (e.g., in *Weinmannia racemosa*–*Nothofagus*, *Nothofagus fusca*, *N. solandri*, or *N. solandri*–*Elaeocarpus* forests). Seasonality: September to March (adults, nymphs). Predacious.

**Dispersal power.** Submacropterous (possibly unable to fly) or macropterous (probably able to fly).

**Material examined.** Type material and approximately 200 mostly macropterous non-type specimens from over 30 populations.

### *Ceratocombus novaezelandiae* sp. nov. <sup>E</sup>

Type photograph p. 232.

**Type data. Holotype:** Male (NZAC) labelled “NEW ZEALAND HB Kaweka FP [=Forest Park], Ngahere Loop tk [=Track] 1.III.1996 Larivière, Laroche / Mountain beech [*Nothofagus*] for. [forest]: Litter at base of trees & rotten logs”, and bearing red holotype label. **Paratypes:** 15 males (9 NZAC, 3 AMNZ, 3 ANIC) and 31 females (11 NZAC, 10 AMNZ, 5 ANIC, 5 MONZ) same data as holotype, and bearing blue paratype labels.

**Description.** Coloration brown, with pronotum darker and appendages distinctly paler than main body. **Head.** Medial length behind tylus about 0.7 times as long as medial length of pronotum; conspicuous large erect bristles especially on tylus and juga. Posterior ocular seta (1) present, conspicuous. Ocelli small or evanescent, situated near inner posterior ocular angles. First antennal segment very short, 2nd approximately 2.0 times as long as 1st, 3rd and 4th multiannulate. Labium slender, reaching beyond hind coxae; 2nd (first visible) segment very short, 3rd longer than 4th. **Pronotum.** Shape usually squarish (subtrapezoidal in submacropters); surface shiny and mostly bare, with a few setae suprakumerally and along lateral and posterior margins; posterior margin slightly concave; lateral margins rectilinear (posteriorly slightly explanate in submacropters); collum delimited by sulcus laterally only. Scutellum triangular, without lateral concavities or depressions at basis. Pleura without distinguishing features. **Wings.** Forewings shorter than abdomen, almost elytroid (brachypters), or almost reaching to slightly surpassing tip of abdomen (submacropters); venation and chaetotaxy as illustrated (Fig. 3); costa concolorous with remainder of wing; subcostal cell not differentiated and R not recognisable as a distinct cross-vein; small triangular endocorial cell not visible; membrane reduced. Hindwings vestigial (brachypters) to almost half as long as forewings (submacropters). **Legs.** Femora sparsely pubescent with a few longer ventral bristles; without proximal or apical oblique spines, except for one ventral apical spine on mid femur. Tibiae thin and mostly straight, covered with moderately long, dense oblique pubescence (about as long or slightly longer than width of tibiae) and some spines; protibial apical comb present. Tarsal formula 2–2–2 (male, female). Pretarsi simple, without appendages. Claws slender. **Male terminalia** as illustrated (Fig. 4). **Total body length:** male, 1.15–1.53 (1.34) mm; female, 1.33–1.73 (1.51) mm.

**Geographic distribution** (Map p. 289). North Island: AK, BP, CL, HB, ND, RI, TO, WO (NZAC). South Island: BR, [CO], MC, [OL], SL (NZAC).

**Biology.** Terrestrial. Lowland, montane. Epigean. Found in broadleaf-podocarp, *Nothofagus*, or mixed forests, sometimes near shaded streams or on shaded stream banks. Appears to be more closely associated with rotting wood or *Blechnum*-ferns than *Ceratocombus aotearoae*. Collected in decaying fallen trees (e.g., in *Knightia excelsa* forests); in wood debris and fallen rotten tree branches (e.g., in *Nothofagus fusca* forests); in litter at base of *Blechnum*-ferns, including *B. discolor*, or along rotten logs (e.g., in *N. fusca* forests); in litter in *Beilschmiedia tawa* forests; also in ground mosses (e.g., in *Nothofagus fusca* and *N. menziesii* forests); sometimes, in summer, in moist litter on the sides of streams (e.g., in *Knightia excelsa* and *Beilschmiedia tawa* forests). Also collected once under *Pennisetum clandestinum* and *Lupinus* near a *Pinus-Eucalyptus* plantation. Seasonality: October to March (adults, nymphs). Predacious.

**Dispersal power.** Brachypterous or submacropterous (probably unable to fly).

**Material examined.** Type material and approximately 230, mostly brachypterous, non-type specimens from over 20 populations.

**Notes.** Additional material would be required to establish the taxonomic status of some South Island populations from CO and OL. Furthermore, a number of specimens from the Chatham Islands (LUNZ, NZAC) may belong to another undescribed species.

## Family CIMICIDAE

### Bed bugs

**References.** Usinger & Ferris, 1960 (Micronesia, taxonomy). Usinger, 1966 (biology, revision, world). Péricart, 1972 (revision, West Palearctic Region). Ford, 1979 (biogeography, classification, phylogeny). Gross & Cassis, 1991a (Australia, keys, overview). Cassis & Gross, 1995: 53–56 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 199–201 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Péricart, 1996b: 141–144 (catalogue, Palearctic Region). Schaefer, 2000a (biology, economic importance, world). Blow *et al.*, 2001 (hepatitis B transmission).

## Genus *Cimex* Linnaeus, 1758<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart 1996b).

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 114 (checklist, New Zealand). Cassis & Gross, 1995: 55–56 (Australia, catalogue). Péricart 1996b: 142–144 (catalogue, Palearctic).

## *Cimex lectularius* Linnaeus, 1758<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart 1996b).

Common name: Bed bug.

**Geographic distribution** (Map p. 290). North Island: AK, ND, WI, WN. South Island: BR, CO, DN, MC, NN, WD. First New Zealand record (Hutton, 1904). Extrazonal range: Nearly worldwide.

**Biology.** Terrestrial. Sanguivorous (blood-sucking). Ectoparasitic (including on humans, birds, and bats).

**Dispersal power.** Apterous; crawls onto and moves with and between hosts.

**References.** Wise 1977: 114 (checklist, New Zealand). Cassis & Gross, 1995: 53–55 (Australia, catalogue). Péricart, 1996b: 143 (catalogue, Palearctic). Schaefer, 2000a (distribution, biology, economic importance, world). Ostlind *et al.*, 2001 (control, ectoparasiticide).

**Note.** This species has been known to occur in New Zealand for a long time, and it is assumed to be more widespread than currently suggested by collection and literature records.

## Family COREIDAE

### Squash bugs or leaf-footed bugs

**References.** Lethierry & Severin, 1894 (catalogue, world). Woodward, 1961 (New Zealand, revision). Gross, 1963 (checklist, key, Micronesia, taxonomy). Kumar, 1965 (classification, morphology, world), 1966 (Australia, biology, immature stages). Schaefer, 1965 (classification, morphology, world). Froeschner, 1981 (catalogue, Ecuador). Schaefer & Mitchell, 1983 (biology, food plants, world). Henry & Froeschner, 1988 (catalogue, Nearctic Region). Gross, 1991b (Australia, keys, overview). Stonedahl & Dolling, 1991 (identification, reference guide, world). Packauskas, 1994 (classification, keys, Western Hemisphere). Moulet, 1995 (revision, Western Palearctic Region). Schuh & Slater, 1995: 274–279 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Froeschner, 1999 (catalogue, Panama). Levin Mitchell, 2000 (biology, economic importance, world). Cassis & Gross, 2002: 90–129 (Australia, catalogue, introduction to family).

## Subfamily COREINAE

### Tribe COLPURINI

**References.** Brailovsky, 1993, 2001 (Australia, key to species, revision).

### Genus *Acantholybas* Breddin, 1899<sup>A</sup>

*Acantholybas* Breddin, 1899: 169. Type species: *Acantholybas longulus* Breddin, 1899, by monotypy. *Acanthocolpura* Breddin, 1900a: 40. Type species: *Acanthocolpura brunnea* Breddin, 1900, by monotypy. Synonymised by Breddin, 1900c: 197.

**Geographic distribution.** Australian Region, Oriental Region.

**References.** Schaefer, 1964, 1965 (classification, morphology). Kumar, 1965 (classification, morphology). Brailovsky, 1996 (taxonomy). Steinbauer & Clarke, 1996 (key to species, revision). Cassis & Gross, 2002: 113–115 (Australia, catalogue).

### *Acantholybas brunneus* (Breddin, 1900)<sup>A</sup>

*Acanthocolpura brunnea* Breddin, 1900a: 40. Lectotype\* female (repository uncertain; designated by Steinbauer & Clarke, 1996); NSW [=New South Wales, Australia].

*Acantholybas brunneus*: Bergroth, 1909b: 185.

**Geographic distribution** (Map p. 290). North Island: AK—Auckland (AMNZ, NZAC) (Devonport (AMNZ), Grey Lynn (AMNZ), Mairangi Bay (AMNZ), Remuera (AMNZ)). Tawharanui Peninsula (AMNZ). BP—Tauranga (NZAC). HB—Hastings (NZAC). ND—Paihia (AMNZ). Tutukaka Bay (NZAC). Whangarei (OMNZ). First New Zealand record: Auckland, AK, 1939 (NZAC; Woodward, 1951). Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. Planticolous. Found in shaded places in gardens, on a range of horticultural plants (e.g., *Brassica rapa* subsp. *chinensis*, *Lactuca sativa*, *Rheum rhabarbarum*, *Cucurbita maxima*, *Phaseolus*, *Zantedeschia aethiopica*, *Betula pendula*), on and under mixed weeds, under stones; also at base of *Spinifex* in sand dunes (AK, May; possibly an overwintering habitat). Host plants (Australia): *Beschorneria yuccoides* (Amaryllidaceae), *Betula pendula* (Betulaceae), *Cucurbita* (Cucurbitaceae), *Lactuca* (Asteraceae), *Phaseolus* (Fabaceae), *Prunus persica* (Rosaceae), *Rheum rhabonticum* (Polygonaceae), and *Zantedeschia aethiopica* (Araceae). Seasonality: Late spring, summer (adults); autumn to spring (nymphs). Mating and oviposition: Summer, autumn. Overwintering: In the adult and late-instar stages. Phytophagous (sap-sucking); feeding on the stems of tree dahlias, but possibly also various other horticultural plants; reared on *Beschorneria yuccoides* (Amaryllidaceae).

**Dispersal power.** Macropterous, able to fly.

**References.** Woodward, 1951, 1953c, 1961 (biology, distribution, immatures, taxonomy). Wise, 1977: 121 (checklist, New Zealand). Brailovsky, 1993, 1996 (key, distribution, taxonomy). Steinbauer & Clarke, 1996 (biology, dis-

tribution, key, taxonomy). Cassis & Gross, 2002: 114 (Australia, catalogue, host plants).

**Note.** Probably introduced from Australia, prior to 1926 (Woodward, 1951).

## Family CORIXIDAE

### Water boatmen

**References.** Hutchinson, 1929 (revision, South Africa). Hungerford, 1948 (revision, Western Hemisphere). Young, 1962 (New Zealand, distribution, ecology, revision). Chen, 1965 (Australia, Melanesia, *Micronecta*). Lansbury, 1970 (Australia, revision, *Sigara*). Knowles, 1974 (*Agriptocorixa*, Australia, *Diaprepocoris*, revision). Jansson, 1986 (Palearctic Region, revision). Štys & Jansson, 1988 (checklist of genera, classification, world). Gross *et al.*, 1991b (Australia, keys, overview). Cassis & Gross, 1995: 57–70 (Australia, catalogue, introduction to family). Jansson, 1995: 27–56 (catalogue, Palearctic). Lansbury, 1995a (Australia, taxonomy). Schuh & Slater, 1995: 119–122 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Papáček, 2000 (biology, economic importance, world).

### Subfamily CORIXINAE

#### Tribe CORIXINI

##### Genus *Sigara* Fabricius, 1775<sup>N</sup>

*Sigara* Fabricius, 1775: 691. Type species: *Notonecta striata* Linnaeus, 1758, by monotypy.

*Basileocorixa* Kirkaldy, 1898: 253. Type species: *Notonecta striata* Linnaeus, 1758, by original designation. Synonymised by China, 1943: 282.

**Geographic distribution.** Nearly worldwide.

**References.** Young, 1962 (distribution, ecology, key to species, New Zealand, taxonomy). Wise, 1977: 128 (checklist, New Zealand). Cassis & Gross, 1995: 61–63 (Australia, catalogue). Jansson, 1995: 45–56 (catalogue, Palearctic Region).

**Note.** *Sigara* has been placed on the International Code of Zoological Nomenclature's Official List of Generic Names, Opinion 739/1965, and its type species fixed by Opinion 1274/1984 (Cassis & Gross, 1995: 61).

##### Subgenus *Tropocorixa* Hutchinson, 1940<sup>N</sup>

*Tropocorixa* Hutchinson, 1940: 413 (as subgenus of *Corixa*).

Type species: *Corixa promontoria* Distant, 1910c, by original designation.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 128 (checklist, New Zealand). Cassis & Gross, 1995: 61–63 (Australia, catalogue). Jansson, 1995: 53–55 (catalogue, Palearctic Region).

### **Sigara (T.) arguta (White, 1878) <sup>E</sup>**

*Corixa (Corixa) arguta* White, 1878a: 161. Lectotype\* male (designated by Young, 1962; BMNH); New Zealand.

*Corixa zealandica* Hudson, 1892: 120. Type status undetermined. Synonymised by Hutton, 1898b: 180.

*Corixa arguta*: Hutton, 1898b: 180.

*Arctocoris arguta*: Kirkaldy, 1909a: 27.

*Sigara arguta*: Lundblad, 1929: 36.

*Sigara (Tropocorixa) arguta*: Hungerford, 1948: 34.

Common name: Common water boatman.

**Geographic distribution** (Map p. 290). North Island: AK, BP, GB, HB, ND, TK, TO, WA, WI, WN. South Island: BR, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Offshore Islands: CH.

**Biology.** Aquatic (mostly lentic freshwater, also brackish water). Found in still water habitats, sometimes quite brackish; sheltered places in large lakes, along estuarine margins, in ornamental and stock ponds, and slow running water areas of rivers and streams. Replaced by *Sigara potamius* in South Island streams and pools with shingle beds. Seasonality: Throughout the year. Associated species: Found with *Diaprepocoris zealandiae* (lakes and larger ponds), with *Sigara limnochares*, *S. infrequens*, and *Anisops* species (Notonectidae) (smaller sheltered ponds). [Predacious; saprophagous; bottom-foraging.]

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

**Notes.** This is the “common corixid” in New Zealand and may account for up to 80% of the total corixid fauna (Young, 1962), hence its predominance among museum specimens. It is abundant throughout New Zealand and *S. potamius* is the only other species to occur on such a large scale (Young, 1962).

### **Sigara (T.) infrequens Young, 1962 <sup>E</sup>**

Type photograph p. 233.

*Sigara (T.) infrequens* Young, 1962: 346. Holotype male (CMNZ); DN, Berwick.

**Geographic distribution** (Map p. 290). North Island: AK, BP, HB, ND, TK, TO, WA, WI, WN. South Island: BR, DN, MC, SL.

**Biology.** Aquatic (mostly lentic freshwater). Found in almost stagnant pools and ditches nearly choked by vegeta-

tion, often with bottom covered by filamentous algae. Seasonality: Throughout the year. Associated species: Found with *Sigara arguta* and *Anisops* species (Notonectidae). [Predacious; saprophagous; bottom-foraging.]

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

**Note.** The largest New Zealand corixid.

### **Sigara (T.) limnochares Young, 1962 <sup>E</sup>**

Type photograph p. 233.

*Sigara (T.) limnochares* Young, 1962: 342. Holotype male (CMNZ); KA, Blue Duck Stream.

*Sigara limnochares*: Stout, 1969: 479.

**Geographic distribution** (Map p. 290). North Island: BP, HB, ND, TK, TO, WA, WI, WN, WO. South Island: BR, KA, MB, NC, NN, SD, SL.

**Biology.** Aquatic (mostly lentic freshwater). Found in swampy areas or near stagnant streams, also in swamps with blackened water and decaying vegetation. Apparently more abundant locally on the North Island than on the South Island. Seasonality: Throughout the year. Associated species: Found mostly with *Sigara arguta* and *Diaprepocoris zealandiae*. [Predacious; saprophagous; bottom-foraging.]

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

### **Sigara (T.) potamius Young, 1962 <sup>E</sup>**

Type photograph p. 233.

*Sigara (T.) potamius* Young, 1962: 337. Holotype male (CMNZ); NC, Greenwood's Bridge, Lower Waipara River.

*Sigara potamius*: Stout, 1969: 479.

**Geographic distribution** (Map p. 290). South Island: BR, CO, KA, MB, MC, NC, NN, SC, SD, SL.

**Biology.** Aquatic (lentic and lotic freshwater). Found only in shingle bottomed habitats such as narrow streams flowing through shingle river beds, streams or river margins, pools in river beds fed by seepages (Canterbury Plains); often in areas sheltered by vegetation or in bays of slow running water; also occurs in stock ponds, in lakes, and in slow flowing rivers (other regions). Much more abundant locally than any other species, e.g., up to thousands per square meter (Canterbury Plains). Seasonality: Through-

out the year. Associated species: Found with *Sigara arguta*, *S. infrequens*, and *Anisops* species (Notonectidae; other regions). [Predacious; saprophagous; bottom-foraging.]

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

### ***Sigara (T.) uruana* Young, 1962<sup>E</sup>**

Type photograph p. 233.

*Sigara (T.) uruana* Young, 1962: 350. Holotype male (CMNZ); WD, Waiho Gorge.

**Geographic distribution** (Map p. 290). South Island: BR, FD, MC, MK, NC, NN, WD.

**Biology.** Aquatic (lentic freshwater). Found in small weedy ponds. Seasonality: [Throughout the year]. Associated species: Found with *Sigara arguta* and *Anisops* species (Notonectidae). [Predacious; saprophagous; bottom-foraging.]

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise 1977: 128 (checklist, New Zealand).

## **Subfamily DIAPREPOCORINAE**

### **Genus *Diaprepocoris* Kirkaldy, 1897<sup>N</sup>**

*Diaprepocoris* Kirkaldy, 1897: 52. Type species: *Diaprepocoris barycephalus* Kirkaldy, 1897, by monotypy.

*Corixanecta* Walton, 1940: 343. Type species: *Diaprepocoris zealandiae* Hale, 1924, by monotypy. Synonymised by Štys & Jansson, 1988: 18.

**Geographic distribution.** Australia (continental, Tasmania), New Zealand.

**References.** Young, 1962 (taxonomy, distribution, ecology, New Zealand). Wise, 1977: 128 (checklist, New Zealand). Lansbury, 1991a (classification, morphology).

### ***Diaprepocoris zealandiae* Hale, 1924<sup>E</sup>**

*Diaprepocoris zealandiae* Hale, 1924: 9. Holotype\* female (BMNH); New Zealand.

*Diaprepocoris nova-zelandiae* [sic]: Stout, 1969: 463.

**Geographic distribution** (Map p. 290). North Island: BP, HB, ND, WA, WI, WN. South Island: BR, CO, DN, FD, MC, MK, NC, NN, OL, SD, SL. Stewart Island.

**Biology.** Aquatic (lentic fresh to brackish water). Found in stable water habitats, at least 0.5m deep, such as upland

lakes, larger ponds, lagoons and canals in coastal areas, with vegetation (e.g., *Elodea*, *Myriophyllum*, *Ranunculus*, stands of *Typha*); to a lesser degree, in slow water areas of deep streams; also in stock ponds (not breeding populations). Not restricted to bottom-foraging, i.e., may be found in loose, floating weed masses. Seasonality: Throughout the year. Associated species: Generally found with *Sigara arguta*. [Predacious; saprophagous.]

**Dispersal power.** Mostly submacropterous (unable to fly), sometimes macropterous (able to fly).

**References.** Young, 1962 (distribution, ecology, taxonomy). Martin, 1969 (anatomy, morphology). Wise, 1977: 128 (checklist, New Zealand).

## **Family CYDNIDAE**

### **Burrower bugs**

**References.** Woodward, 1953a (New Zealand, revision). Gross, 1991c (Australia, keys, overview). Lis, 1994–2001 (Australasia, checklist, South Pacific, taxonomy). Larivière, 1995 (biology, distribution, key, New Zealand, revision). Schuh & Slater, 1995: 220–225 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Lis, 1996a (Australia, key to subfamilies and tribes). Lis, 1997b (New Caledonia, taxonomy). Lis, 1998 (checklist, Thailand). Lis, 1999c (catalogue, Palearctic Region). Lis *et al.*, 2000 (biology, economic importance, world). Lis & Heyna, 2001 (morphology, wing, classification). Lis & Hohol, 2001 (Australia, taxonomy). Cassis & Gross, 2002: 379–414 (Australia, catalogue, introduction to family). Lis & Pluto-Sigwalt, 2002 (adult, chaetotaxy, evolution, nymph, phylogeny, taxonomy).

## **Subfamily CYDNINAE**

**References.** Lis, 1994a (Oriental Region, revision). Larivière, 1995 (biology, distribution, key, New Zealand, revision). Lis, 1996a (Australian Region, distribution, key to tribes and genera, revision).

## **Tribe CYDNINI**

### **Genus *Chilocoris* Mayr, 1865<sup>N</sup>**

*Chilocoris* Mayr, 1865: 907. Type species: *Chilocoris nitidus* Mayr, 1865, by monotypy.

*Macroporus* Uhler, 1876: 278. Type species: *Macroporus repetitus* Uhler, 1876, by monotypy. Synonymised by Lis, 1994a: 52.

*Amnestoides* Signoret, 1880: 10. Type species: *Amnestoides ritzemae* Signoret, 1880, by monotypy. Synonymised by Signoret, 1884: 517.

*Statanus* Distant, 1908: 430. Type species: *Statanus membranaceus* Distant, 1908, by original designation. Synonymised by Lis, 1991: 172.

*Chilocoristoides* Distant, 1913: 140. Type species: *Chilocoristoides felicitatis* Distant, 1913, by original designation. Synonymised by Horváth, 1919: 254.

**Geographic distribution.** Afrotropical Region, Australian Region, Nearctic Region, Oriental Region, Palearctic Region.

**References.** Larivière, 1995 (biology, distribution, New Zealand, taxonomy). Lis, 1995a (Australia, checklist). Lis, 1995b (Australia, revision). Lis, 1996a (distribution, taxonomy). Lis, 1996b (Solomon Islands, taxonomy). Lis, 1997a (New Guinea, taxonomy). Lis, 1997b (New Caledonia, taxonomy). Lis, 1999a (Australia, key to species, revision). Lis, 1999c: 173 (catalogue, Old World). Cassis & Gross, 2002: 388-391 (Australia, catalogue).

### ***Chilocoris neozealandicus* Larivière & Froeschner, 1994<sup>n</sup>**

Type photograph p. 234.

*Chilocoris neozealandicus* Larivière & Froeschner, 1994: 245. Holotype male (NZAC); New Zealand, AK, Campbell's Beach, near Tawharanui [Regional Park].

**Geographic distribution** (Map p. 291). North Island (Larivière, 1995): AK—Campbell's Beach, near Tawharanui [Regional Park]. Noises Islands, Motuhoropapa Island. Lynfield. Warkwork, Snell's Beach. CL—Waikauw Bay. ND—Kerikeri, Airport Road. Extralimital range: Australia (New South Wales, Queensland).

**Biology.** Terrestrial. Lowland (coastal). Epigean, fossorial. Collected in native bush on a ridge, in a sheep paddock, under a large *Acacia mearnsii* tree near native bush, and on *Fragaria x ananassa*. Seasonality: December to March (adults); March (nymphs). Overwintering: In the adult stage; collected in soil at base of *Gahnia procera* (AK). [Phytophagous (root-feeding)].

**Dispersal power.** Macropterous; good flier (at dusk, on standing objects around habitations).

**References.** Larivière, 1995 (biology, distribution, New Zealand, taxonomy; as endemic). Lis, 1996a (distribution, New Zealand, taxonomy; as endemic). Lis, 1999a (Australia, distribution, taxonomy). Lis, 1999c: 177 (catalogue, Old World). Cassis & Gross, 2002: 391 (Australia, catalogue).

### **Tribe GEOTOMINI**

**Reference.** Lis, 1996a (key to genera, Australia, New Zealand).

### **Genus *Cydnochoerus* Lis, 1996<sup>E</sup>**

*Cydnocchoerus* Lis, 1996a: 209. Type species: *Choerocydnus nigrosignatus* White, 1878a, by original designation.

**Geographic distribution.** New Zealand; possibly also Australia, but no verified data for this continent (A. Lis, personal communication).

**References.** Wise, 1977: 125 (checklist, New Zealand; as *Choerocydnus*). Larivière, 1995 (biology, distribution, New Zealand, taxonomy; as *Choerocydnus*). Lis, 1996a (Australia, distribution, taxonomy). Lis, 1999c: 195 (catalogue, Old World). Cassis & Gross, 2002: 401-402 (Australia, catalogue).

### ***Cydnocchoerus nigrosignatus* (White, 1878)<sup>E</sup>**

*Choerocydnus nigrosignatus* White, 1878a: 275. Lectotype male (designated by Larivière, 1995; BMNH); New Zealand.

*Choerocydnus albosignatus* [sic]: Signoret, 1882a: 167.

*Choenocydnus* [sic] *nigrosignatus*: Hutton, 1898b: 172.

*Adrisa nigrosignata*: Bergroth, 1909a: 331.

*Choerocydnus nigrosignata* [sic]: Kirkaldy, 1909a: 25.

*Chaerocydnus* [sic] *nigrosignatus*: Myers, 1922: 4; 1926: 510.

*Cydnocchoerus nigrosignatus*: Lis, 1996a: 209.

**Geographic distribution** (Map p. 291). North Island: WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, OL, SD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, fossorial. Found in rather well drained, often dry, open areas with patchy vegetation, such as coastal sand dunes, inland floodplains, and depleted tussock grasslands. Collected under stones (adults, nymphs); frequently under debris or at base of plants such as *Festuca novae-zelandiae*, *Muehlenbeckia*, and *Muehlenbeckia-Coprosma* associations (adults); also once, in a burrow on a sandy beach (adults). Seasonality: Most of the year, mainly October to December (adults); February (nymphs). Mating: October and November. Overwintering: In the adult stage; collected in dead whole plants and *Desmoschoenus spiralis* litter (coastal MC). [Phytophagous (root-feeding).]

**Dispersal power.** Submacropterous, [probably unable to fly].

**References.** Myers, 1926 (biology; as *Chaerocydnus* [sic] *nigrosignatus*). Wise, 1977: 125 (checklist, New Zealand, as *Choerocydnus nigrosignatus*). Larivière, 1995 (distribution, biology, key, New Zealand, taxonomy; as *Choerocydnus nigrosignatus*). Lis, 1996a (Australia, distribution, New Zealand, taxonomy). Lis, 1999c: 195 (catalogue, Old World). Cassis & Gross, 2002: 402 (Australia, catalogue).

**Notes.** Larivière's (1995) lectotype designation has priority over Lis (1996a). Without evidence of the occurrence of this species in Australia, this species is considered to be a New Zealand endemic.

### Genus *Macroscytus* Fieber, 1860<sup>N</sup>

*Macroscytus* Fieber, 1860a: 83. Type species: *Cydnus brunneus* Fabricius, 1803, subsequent monotypy by Fieber, 1861.

*Hahnia* Ellenrieder, 1862: 139. Type species: *Hahnia gibbula* Ellenrieder, 1862, by monotypy. Preoccupied.

*Philapodemus* Kirkaldy, 1910: 8. Replacement name for *Hahnia*.

**Geographic distribution.** Afrotropical Region, Australian Region, Oriental Region, Palearctic Region.

**References.** Wise, 1977: 125 (checklist, New Zealand; as *Philapodemus*). Larivière, 1995 (biology, distribution, New Zealand, taxonomy; as *Philapodemus*). Lis, 1995a (Australia, checklist), 1996a (Australian Region, distribution, taxonomy), 1997b (New Caledonia, taxonomy), 1997c (Australia, taxonomy), 1999b (Australia, key to species, revision), 1999c: 207 (catalogue, Old World), 1999f (New Guinea, taxonomy), 2000c (revision, world). Cassis & Gross, 2002: 409-410 (Australia, catalogue).

### *Macroscytus australis* (Erichson, 1842)<sup>N</sup>

*Cydnus australis* Erichson, 1842: 275. Lectotype\* female (designated by Lis, 1999c; ZMBG); Tasmania (as Vandiemensland).

*Aethus australis*: Dallas, 1851: 119.

*Aethus lifuanus* Montrouzier, 1861: 62. Lectotype\* male (designated by Lis, 1996a; NHMW); Lifu. Synonymised by Stål, 1876: 27.

*Aethus leptospermi* Butler, 1874: 25. Lectotype\* female (designated by Lis, 1996a; BMNH); New Zealand. Synonymised by Signoret, 1882b: 483.

*Cydnus leptospermi*: Stål, 1876: 26.

*Geotomus leptospermi*: White, 1878a: 275.

*Geotomus lansbergi* [sic] Signoret, 1883: 48. Lectotype\* female (designated by Synave, 1969; IRSNB); Java (as Java Oriental). Synonymised by Lis, 1996a: 221.

*Hahnia* (*Cydnus*) *australis*: Signoret, 1882b: 483.

*Geobia australis*: Foggatt, 1902: 318.

*Philapodemus australis*: Kirkaldy, 1910: 8.

*Geocnethus australis*: Horváth, 1919: 246.

*Macroscytus landsbergi*: Lis, 1991: 185.

*Macroscytus australis*: Lis, 1995a: 144.

**Geographic distribution** (Map p. 291). North Island: AK, BP, CL, HB, ND, WI, WN. South Island: CO, DN, KA, MC, MK, OL. Stewart Island. Offshore Islands: TH. Extralimital range: Australia (continental, Lord Howe Island, Tasmania), Indonesia (Java), New Caledonia.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, fossorial. Found in open, sandy areas with patchy vegetation, e.g., seashores, sand spits, vacant lots, forest clearings, and inland floodplains; often under *Muehlenbeckia*, rocks, stones, fallen fenceposts, and other ground debris; at the base of *Lupinus arboreus* in sandy coastal areas (North Island); more rarely, in rotten wood and legume roots or, at higher elevations, at the base of plants on screes; once, among closely grazed turf and under *Disphyma australe* at the top of a cliff. Somewhat gregarious. Seasonality: Most of the year, mainly October, November, January to March (adults); December, February to April (nymphs). Mating: October, November, January. Oviposition: Spring (Australia). Overwintering: In the adult stage, perhaps also as late-instar nymph in parts of range; collected under stones or in rotten wood (adults) and in leaf litter (nymphs). Phytophagous (granivorous): Feeding on fallen grass seeds, especially Poaceae (Australia).

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Myers, 1926 (biology; as *Hahnia australis*). Wise, 1977: 125 (checklist, New Zealand; as *Philapodemus australis*). Hickman, 1978 (Australia, biology, immature stages; as *Philapodemus australis*). Larivière, 1995 (distribution, biology, key, New Zealand, taxonomy; as *Philapodemus australis*). Lis, 1996a (Australia, distribution, New Zealand, taxonomy). Lis, 1999c: 210 (catalogue, Old World). Cassis & Gross, 2002: 410-411 (Australia, catalogue).

**Note.** More information on distribution and biology can be found in Larivière (1995).

### Genus *Microporus* Uhler, 1872<sup>A</sup>

*Microporus* Uhler, 1872: 394 [name only], 1876: 275. Type species: *Microporus obliquus* Uhler, 1872, by monotypy.

**Geographic distribution.** Afrotropical Region, Australian Region, Nearctic Region, Oriental Region, Palearctic Region.

**References.** Larivière, 1995 (biology, distribution, New Zealand, taxonomy; as *Aethus*). Lis, 1995a (Australia, checklist). Lis, 1996a (Australia, distribution, taxonomy). Lis, 1999c: 211 (catalogue, Old World). Cassis & Gross, 2002: 413 (Australia, catalogue).

### *Microporus thoreyi* (Signoret, 1882)<sup>A</sup>

*Cydnus thoreyi* Signoret, 1882a: 152. Syntypes\* (NHRM); Rockhampton, Queensland, Australia.

*Aethus thoreyi*: Larivière, 1995: 15.

*Microporus thoreyi*: Lis, 1995a: 145.

**Geographic distribution** (Map p. 291). North Island: AK–Woodhill Forest (Te Pua; Rimmers Road) (NZAC). ND–Ruakaka (NZAC). First New Zealand record: Ruakaka, ND, 1976 (NZAC); Larivière (1995). Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. Epigean, fossorial. Collected at the base of *Lupinus arboreus*, weeds, and grasses in a sandy coastal terrain (AK); under *Lolium* and *Trifolium* in a pasture (ND). Seasonality: October, November, February. [Phytophagous (root-feeding).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Larivière, 1995 (distribution, biology, key, New Zealand, taxonomy; as *Aethus thoreyi*). Lis, 1996a (Australia, distribution, taxonomy). Lis, 1999c: 213 (catalogue, Old World). Cassis & Gross, 2002: 414 (Australia, catalogue).

**Note.** Lis (1996a) did not record this species for New Zealand.

## Family CYMIDAE

### Seed bugs

**References.** Ashlock, 1957 (classification, male genitalia, morphology). Usinger & Ashlock, 1959 (classification). Slater, 1964a (catalogue, world; as subfamily of Lygaeidae). Štys, 1967 (morphology, phylogeny, world). Hamid, 1975 (biology, catalogue, classification, key, morphology, phylogeny, revision, world; as subfamily of Lygaeidae). Gross, 1991a (Australia, keys, overview; as subfamily of Lygaeidae). Schuh & Slater, 1995: 251–264 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world; as subfamily of Lygaeidae). Slater & O'Donnell, 1995 (catalogue, world; as subfamily of Lygaeidae). Henry, 1997a (family classification, phylogeny). Sweet, 2000 (biology, economic importance, world). Péricart, 2001a: 67–70 (catalogue, Palearctic Region; as subfamily of Lygaeidae). Cassis & Gross, 2002: 188–195 (Australia, catalogue, introduction to family).

## Subfamily CYMINAE

### Genus *Cymus* Hahn, 1832<sup>N</sup>

*Cymus* Hahn, 1832: 76. Type species: *Lygaeus clavicularis* Fallén, 1807, designated by Distant, 1904b: 21. *Arphnus* Stål, 1874: 125. Type species: *Oxycarenus coriacipennis* Stål, 1859, by monotypy. Synonymised by Hamid, 1975: 63.

**Geographic distribution.** Nearly worldwide.

**References.** Slater, 1964a: 389–392 (catalogue, world). Hamid, 1975 (biology, catalogue, classification, key, mor-

phology, phylogeny, revision, world). Wise, 1977: 125 (checklist, New Zealand). Slater & O'Donnell, 1995: 41 (catalogue, world). Péricart, 2001a: 68–70 (catalogue, Palearctic Region). Cassis & Gross, 2002: 192 (Australia, catalogue).

## *Cymus novaezelandiae* Woodward, 1954<sup>N</sup>

Type photograph p. 234.

*Cymus novaezelandiae* Woodward, 1954a: 224. Holotype male (AMNZ); New Zealand, WN/WI, Paiaka, Manawatu.

**Geographic distribution** (Map p. 291). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, MB, MC, MK, NC, NN, OL, SD, SL, WD. Offshore Islands: CH, TH. Extralimital range: Australia (Victoria, Western Australia).

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Found in pastures, meadows and other grassy habitats. Collected on *Bromus*, *Carex*, *Isolepis nodosa*, *Juncus*, *Scirpus*, various grasses; also in moss from rock faces or logs, moss mats in the open near bush or in tussock; in tidal debris (DN). Host plants: Cyperaceae, possibly also Juncaceae (New Zealand); *Bromus unioloides* (Poaceae), *Cyperus tenuiflorus* (Cyperaceae), *Scirpus nodosus* (Juncaceae) (Australia). Also found in leaf litter of *Hypocalymma robustum* (Myrtaceae) and on *Erica* species in Australia. Seasonality: September to March (especially January to March), May, June, August (adults); December to March (nymphs). Overwintering: In the adult stage; collected at the base of rush-clumps, e.g., *Juncus effusus*. Phytophagous (granivorous); feeding on plant seed heads. Enemies: Prey of pipits (*Anthus*).

**Dispersal power.** Brachypterous (unable to fly) or macropterous (able to fly).

**References.** Myers, 1926 (biology; as *Cymodema* “n. sp.”). Woodward, 1954a (biology, distribution, taxonomy). Slater, 1964a (catalogue, world). Hamid, 1975 (catalogue, key, morphology, taxonomy). Slater, 1975, 1976b (Australia, biology, distribution, taxonomy). Wise, 1977: 125 (checklist, New Zealand). Malipatil, 1978a (nymphs, taxonomy). Garrick, 1981 (enemies). Cassis & Gross, 2002: 192 (Australia, catalogue).

## Family ENICOCEPHALIDAE

### Unique-headed bugs or gnat bugs

**References.** Jeannel, 1942 (classification, key, taxonomy, world). Woodward, 1956a (key to taxa, New Zealand, revision). Villiers, 1958 (Madagascar, revision). Usinger & Wygodzinsky, 1960 (Micronesia, taxonomy). Štys, 1970a

(classification, morphology, taxonomy), 1970b (Palearctic Region, revision). Štys, 1978 (genera, list, world), 1981, 1986 (New Caledonia, Papua New Guinea, taxonomy), 1989 (classification, phylogeny, world), 1990 (overview, West Palearctic Region). Gross *et al.*, 1991 (Australia, keys, overview). Wygodzinsky & Schmidt, 1991 (biology, New World, revision). Cassis & Gross, 1995: 75–80 (Australia, catalogue, introduction to family). Kerzhner, 1995a: 2–5 (catalogue, Palearctic Region). Štys, 1995b: 70–73 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world), 2002b (key to genera, list, world).

### Subfamily ENICOCEPHALINAE

#### Tribe SYSTELLODERINI

##### Genus *Systellderes* Blanchard, 1852<sup>N</sup>

*Systellderes* Blanchard, 1852: 224. Type species:

*Systellderes moschatus* Blanchard, 1852, by monotypy.

*Systellderus* Stål, 1866b: 166. Unjustified emendation (Štys, 2002b: 349).

*Hymenodectes* Uhler, 1892: 180. Type species: *Hymenodectes culicis*, Uhler, 1892, by monotypy. Synonymised by Bergroth, 1915: 292.

*Compsoderes* Jeannel, 1943: 116. Type species: *Compsoderes eidmanni* Jeannel, 1943, by original designation. Synonymised by Villiers, 1963: 324.

**Geographic distribution.** Nearly worldwide.

**References.** Woodward, 1956a (key, New Zealand, taxonomy). Štys, 1970a (key, taxonomy, Palearctic Region, world), 1970b (Palearctic Region, taxonomy). Wise, 1977: 114 (checklist, New Zealand). Kritsky, 1978 (Nearctic Region, Neotropical, taxonomy). Kerzhner, 1995a: 4 (catalogue, Palearctic Region). Štys, 2002b (key, list, taxonomy, world).

**Note.** Štys (1970a, 2002a) subdivided *Systellderes* into species groups one of which, the *maclachlani*-group, includes only the two New Zealand species.

##### *Systellderes maclachlani* (Kirkaldy, 1901)<sup>E</sup>

*Henicocephalus maclachlani* Kirkaldy, 1901: 218. Holotype female (BMNH); WN, Wellington

*Enicocephalus maclachlani*: Kirkaldy, 1909a: 26.

*Systellderes maclachlani*: Jeannel, 1942: 308.

**Geographic distribution** (Map p. 291). North Island: AK, CL, ND, RI, TO, WA, WI, WN.

**Biology.** Terrestrial. Lowland, montane. Epigean, [corticolous]. Found in native forests (broadleaf–podocarp and mixed *Nothofagus* forests). Collected in leaf litter (mostly) and on lichens. Seasonality: December to March (adults); January, February, August (nymphs); December (eggs). [Predacious.]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1956a (biology, distribution, immatures, key, New Zealand, taxonomy). Wise, 1977: 114 (checklist, New Zealand).

**Note.** The neotype label attached to one of G.V. Hudson's specimens (BMNH) by P. Štys is an unavailable (unpublished and unnecessary) type designation (P. Štys, personal communication).

### *Systellderes notialis* Woodward, 1956<sup>E</sup>

Type photograph p. 235.

*Systellderes notialis* Woodward, 1956a: 422. Holotype male (CMNZ); FD, Leslie Valley Track.

**Geographic distribution** (Map p. 291). South Island: BR, FD, MC, NC, NN, WD.

**Biology.** Terrestrial. Lowland, montane. Epigean, [corticolous]. Found in *Nothofagus* and mixed native forests. Collected in leaf litter (mostly) and moss. Seasonality: November, January to April (adults); November to January, April (nymphs). [Predacious.]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1956a (biology, distribution, immatures, key, New Zealand, taxonomy). Wise, 1977: 114 (checklist, New Zealand).

**Note.** Woodward (1956a) lists a nymph from Lake Waikareiti (GB), which may represent a misidentification of *S. maclachlani*.

### Subfamily PHTHIROCORINAE

#### Tribe PHTHIROCORINI

##### Genus *Gourlayocoris* Štys, 2002<sup>E</sup>

*Gourlayocoris* Štys, 2002b: 340. Type species: *Phthirocoris mirabilis* Gourlay, 1952, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Štys, 2002b (key, list, taxonomy, world).

**Note.** Referred to as *Phthirocoris auctorum* (non Enderlein, 1904) before the publication of Štys (2002b).

##### *Gourlayocoris mirabilis* (Gourlay, 1952)<sup>E</sup>

Type photograph p. 235.

*Phthirocoris mirabilis* Gourlay, 1952: 363. Holotype male (NZAC); NN, Upper Maitai Valley.

*Gourlayocoris mirabilis*: Štys, 2002b: 340.

**Geographic distribution** (Map p. 291). North Island: BP, WO. South Island: BR, FD, MB, NN, SD, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean,

[corticolous]. Found in mixed native forests. Collected in leaf litter (often along decaying logs), moss, and moss-lichen associations. Seasonality: Throughout the year, mostly December to March (adults, nymphs). [Predacious.]

**Dispersal power.** Apterous.

**References.** Woodward, 1956a (biology, distribution, immatures, key, New Zealand, taxonomy; as *Phthirocoris mirabilis*). Štys, 1970a (morphology, taxonomy; as *Phthirocoris mirabilis*). Wise, 1977: 114 (checklist, New Zealand; *Phthirocoris mirabilis*). Štys, 1981, 1986 (morphology, taxonomy; as *Phthirocoris mirabilis*).

### Genus *Phthirostenus* Štys, 2002<sup>E</sup>

*Phthirostenus* Štys, 2002b: 341. Type species: *Phthirocoris magnus* Woodward, 1956, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Štys, 2002b (key, list, taxonomy, world).

**Note.** Referred to as *Phthirocoris auctorum* (non Enderlein, 1904) before the publication of Štys (2002b).

### *Phthirostenus magnus* (Woodward, 1956)<sup>E</sup>

Type photograph p. 235.

*Phthirocoris magnus* Woodward, 1956a: 413. Holotype male (MONZ); AU, Auckland Island.

*Phthirostenus magnus*: Štys, 2002b: 341.

**Geographic distribution** (Map p. 291). South Island: FD-Leslie Valley Track (CMNZ). Offshore Islands: AU—Adams Island (Fairchild's Garden; Magnetic Cove Station; Mount Dick) (NZAC). Auckland Island. Camp Cove (NZAC). Enderby Island (NZAC). Masked Island (NZAC). Port Ross, Ranui Cove (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. Epigean, [corticolous]. Collected in moss and mat plants from stones and ground crevices; in leaf litter, on *Metrosideros* logs, and on *Stilbocarpa* (including its roots). Also found in the nests of petrels (*Macronectes giganteus*). Seasonality: November to February, April (adults); January, February (nymphs). [Predacious.]

**Dispersal power.** Micropterous, [unable to fly].

**References.** Woodward, 1956a (biology, distribution, immatures, key, New Zealand, taxonomy; as *Phthirocoris magnus*). Štys, 1970a (morphology, taxonomy; as *Phthirocoris magnus*). Wise, 1977: 114 (checklist, New Zealand; as *Phthirocoris magnus*). Štys, 1981, 1986 (morphology, taxonomy; as *Phthirocoris magnus*).

## Family GERRIDAE

### Water striders or water skaters

**References.** Hungerford & Matsuda, 1960 (genera, keys, subfamilies, tribes, world). Matsuda, 1960 (morphology, classification, evolution, world). Calabrese, 1980 (biogeography, phylogeny, world). Andersen, 1982 (adaptations, biogeography, classification, phylogeny). Andersen, 1990 (*Aquarius*, Australia, phylogeny, taxonomy). Gross *et al.*, 1991a (Australia, keys, overview). Polhemus & Polhemus, 1991, 1993, 1994 (Australasia, Halobatinae, taxonomy, Trepobatinae, world review). Andersen & Weir, 1994a (Australia, evolution). Andersen, 1995: 96–114 (catalogue, Palearctic Region). Cassis & Gross, 1995: 89–105 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 102–106 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Andersen, 1999b (evolution, marine taxa). Spence & Andersen, 2000 (biology, economic importance, world).

### Subfamily HALOBATINAE

#### Sea skaters

##### Genus *Halobates* Eschscholtz, 1822<sup>N</sup>

###### Subgenus *Halobates* Eschscholtz, 1822<sup>N</sup>

*Halobates* Eschscholtz, 1822: 106. Type species: *Halobates micans* Eschscholtz, 1822, designated by Laporte de Castelnau, 1833: 24.

*Euratas* Distant, 1910a: 146. Type species: *Euratas formidabilis* Distant, 1910a, by monotypy. Synonymised by Annandale & Kemp, 1915: 183.

*Fabatus* Distant, 1910a: 147. Type species: *Fabatus servus* Distant, 1910a, by monotypy. Synonymised by Annandale & Kemp, 1915: 183.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Herring, 1961 (revision, world). Wise, 1977: 127 (checklist, New Zealand). Cheng, 1985 (biology). Malipatil, 1988b (Australia, taxonomy). Andersen, 1991 (morphology, phylogeny), 1995: 111–112 (catalogue, Palearctic Region). Andersen & Foster, 1992 (key, Oriental Region, taxonomy). Andersen & Weir, 1994b (Australia, key, revision). Cassis & Gross, 1995: 97 (Australia, catalogue). Cheng, 1997 (distribution, Pacific Ocean). Andersen *et al.*, 2000 (biogeography, DNA, phylogeny). Damgaard *et al.*, 2000 (DNA, morphology, phylogeny).

##### *Halobates (H.) sericeus* Eschscholtz, 1822<sup>N</sup>

*Halobates sericeus* Eschscholtz, 1822: 108. Syntypes\*, apparently (repository unknown); North Pacific.

**Geographic distribution** (Map p. 292). Offshore Islands:

KE (Wise, 1977). Extralimital range: Pacific Ocean, except for a broad zone on both sides of the equator where it is replaced by *H. micans* Eschscholtz (Andersen & Weir, 1994b).

**Biology.** Semiaquatic. Pelagic. Oceanic. Predacious.

**Dispersal power.** Apterous. Usually lives at considerable distances from land (Andersen & Weir, 1994).

**References.** Wise, 1977: 127 (checklist, New Zealand).

Andersen & Weir, 1994b (Australia, taxonomy, distribution, habitat). Andersen, 1995: 112 (catalogue, Palearctic Region). Cassis & Gross, 1995: 102 (Australia, catalogue).

**Notes.** The status of the type series remains unknown. Herring (1961) reported the type to be in the collection of the University of Dorpat, Estonia. Andersen & Weir (1994b) apparently did not locate the holotype. Cassis & Gross (1995) reported a male holotype in the collection of the Moscow State University, Russia (ZMMR). However, no holotype was designated by Eschscholtz and the Moscow State University collection has no syntypes of *Halobates sericeus* (I.M. Kerzhner, personal communication).

## Family HETEROGASTRIDAE

### Seed bugs

**References.** Ashlock, 1957 (classification, male genitalia, morphology). Scudder, 1957a, 1962c (classification, key to world genera). Sweet, 1960 (biology, food). Slater, 1964a: 739–778 (catalogue, world). Slater, 1972 (biology, food). Henry & Froeschner, 1988: 188 (catalogue, Nearctic Region). Gross, 1991a (Australia, keys, overview). Slater & O'Donnell, 1995: 83–84 (catalogue, world). Henry, 1997a (family classification, phylogeny). Péricart, 1998a (revision, West Palearctic Region; as subfamily of Lygaeidae), 2001a: 101–105 (catalogue, Palearctic Region; as subfamily of Lygaeidae). Cassis & Gross, 2002: 205–208 (Australia, catalogue, introduction to family). Scudder & Eyles, 2003 (New Zealand record).

**Notes.** Most of the literature published before 1997 refers to the Heterogastridae as a subfamily of Lygaeidae. Family recorded for New Zealand for the first time by Scudder & Eyles (2003).

### Genus *Heterogaster* Schilling, 1829 <sup>^</sup>

Synonymy (Slater, 1964a; Péricart, 2001a).

**Geographic distribution.** Oriental Region, Palearctic Region; New Zealand.

**References.** Putshkov, 1958 (nymph). Stichel, 1958 (Europe, taxonomy). Slater, 1964a: 746–765 (catalogue, world).

Henry & Froeschner, 1988: 188 (catalogue, Nearctic Region). Slater & O'Donnell, 1995: 83–84 (catalogue, world). Péricart, 1998a (taxonomy, West Palearctic Region). Péricart, 2001a: 102–104 (catalogue, Palearctic Region).

**Note.** This genus has not been recorded from Australia.

### *Heterogaster urticae* (Fabricius, 1775) <sup>^</sup>

Synonymy (Slater, 1964a; Péricart, 2001a).

**Geographic distribution** (Map p. 292). North Island: AK, HB. South Island: CO–Bannockburn (OMNZ), Cairnmuir Motor Camp (OMNZ). Conroys Road (OMNZ). MB. MC. NC. OL–Matukituki Valley (OMNZ). SC. Offshore Islands: CH. First New Zealand record: MC, Christchurch, Redcliffs, 1979 (Scudder & Eyles, 2003). Extralimital range: Oriental Region, Palearctic Region.

**Biology.** Terrestrial. Lowland. Planticolous. Collected on roadside grass, *Zantedeschia*, *Leptospermum scoparium*, flowering *Berberis vulgaris*, and Braeburn apple cartons and pre-clearance export-shipments; inside buildings. Host plant (Europe): *Urtica dioica* (Southwood & Leston, 1959; Péricart, 1998a). Also reported on other *Urtica* species (e.g., *U. urens* in Western Europe, *U. pilulifera* in Greece) (Péricart, 1998a), and on *Ammophila arenaria* roots (Stichel, 1958). Seasonality: September, December to April, June to August. Mating (Europe; Péricart, 1998a): Spring and early summer (May to July). Oviposition (Europe): Occurs about one week after mating (Péricart, 1998a); eggs are laid in groups of 20–30 (sometimes only 2–3) in the ground at the base of the *Urtica* plants (sometimes on stems and leaves), and covered by a secretion that subsequently hardens (Southwood & Leston, 1959; Péricart, 1998a). Overwintering (Europe): In the adult stage, under bark or in hollow woody stems of plants in the vicinity of the host (Southwood & Leston, 1959); in ground litter near the host plants and bird nests (Péricart, 1998a); in New Zealand, adults have been found under the bark of a fallen *Myrsine* branch in July. Phytophagous (granivorous). Economic importance: Not expected to harm apples or other orchard trees or fruits (Scudder & Eyles, 2003).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Slater, 1964a: 759–765 (catalogue, world). Slater & O'Donnell, 1995: 84 (catalogue, world). Péricart, 1998a (distribution, ecology, key, taxonomy, West Palearctic Region). Péricart, 2001a: 103–104 (catalogue, Palearctic Region). Scudder & Eyles, 2003 (biology, distribution, history of introduction, morphology, New Zealand).

**Notes.** Scudder & Eyles (2003) recorded this species in New Zealand for the first time and gave details of localities

known to them. Only additional localities are listed here. *Heterogaster urticae* is sometimes misidentified as *Rhypodes sericatus*. Additional information on the biology of this species can be found in Péricart (1998a).

## Family HYDROMETRIDAE

### Marsh treaders or water measurers

**References.** Hungerford, 1920 (biology, ecology, world). China & Usinger, 1949 (key to genera, world). Andersen, 1977, 1982 (classification, morphology, phylogeny, world). Lansbury, 1981 (Australia, biogeography, ecology). Gross *et al.*, 1991a (Australia, keys, overview). Andersen, 1995: 83–84 (catalogue, Palearctic Region). Cassis & Gross, 1995: 116–120 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 95–97 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Spence & Andersen, 2000 (biology, economic importance, world). Andersen & Grimaldi, 2001 (fossils).

## Subfamily HYDROMETRINAE

### Genus *Hydrometra* Latreille, 1796<sup>n</sup>

*Hydrometra* Latreille, 1796: 86. Type species: *Cimex stagnorum* Linnaeus, 1758, designated by Latreille, 1810: 434.

*Limnobates* Burmeister, 1835: 210. Type species: *Cimex stagnorum* Linnaeus, 1758, by monotypy. Synonymised by Brullé, 1836: 303.

**Geographic distribution.** Nearly worldwide.

**References.** Hungerford & Evans, 1934 (revision, world). Wise, 1977: 128 (checklist, New Zealand). Andersen, 1995: 83–85 (catalogue, Palearctic Region). Cassis & Gross, 1995: 118–120 (Australia, catalogue). Polhemus & Lansbury, 1997 (Australia, revision, South Pacific).

### *Hydrometra strigosa* (Skuse, 1893)<sup>n</sup>

*Limnobates strigosa* Skuse, 1893: 43. Lectotype\* male, macropterous (designated by Polhemus & Lansbury, 1997; AM); Botany Swamps, New South Wales, Australia.

*Hydrometra risbeci* Hungerford, 1938: 81. Holotype\* male (UKSL); New Caledonia. Synonymised by Polhemus & Lansbury, 1997: 29.

*Hydrometra strigosa*: Polhemus & Lansbury, 1997: 29.

**Geographic distribution** (Map p. 292). North Island: AK, BP, CL, GB, ND, TO, WO. South Island. NN–Nelson, Tahunanui (NZAC). Extralimital range: Australia (continental, Norfolk Island, Tasmania), New Caledonia, New Hebrides, Tahiti (Polhemus & Lansbury, 1997).

**Biology.** Semiaquatic. Found mostly on quiet waters

(mainly freshwater, but also salt and brackish water), e.g., ponds, marshes, or swamps, where it treads on the emergent vegetation. Seasonality: Throughout the year, mostly November to April. Predacious.

**Dispersal power.** Micropterous [unable to fly] or macropterous [probably able to fly].

**References.** Woodward, 1952 (distribution, ecology; as *Hydrometra risbeci*). Wise, 1977: 128 (checklist, New Zealand; as *Hydrometra risbeci*). Cassis & Gross, 1995: 119 (Australia, catalogue; as *Hydrometra risbeci*). Polhemus & Lansbury, 1997 (Australia, distribution, key, South Pacific, taxonomy).

## Family LYGAEIDAE

### Seed bugs

**References.** Ashlock, 1957 (classification, male genitalia, morphology). Slater & Hurlbutt, 1957 (classification, morphology, wing). Barber, 1958 (Micronesia, taxonomy). Putshkov, 1958 (classification, immature stages, morphology). Sweet, 1960 (biology, food, world). Sweet & Slater, 1961 (key, Nearctic Region, immatures). Slater, 1964a (catalogue, world), 1964b (South Africa, taxonomy), 1975, 1976a–b (Australia, biology, immature stages, taxonomy, zoogeography). Malipatil, 1979a, 1980a (Australia, biology, cytotaxonomy). Gross, 1991a (Australia, keys, overview). Schuh & Slater, 1995: 251–264 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Slater & O'Donnell, 1995 (catalogue, world). Hoffman, 1996 (taxonomy, Nearctic Region). Henry, 1997a (family classification, phylogeny; Lygaeidae *sensu stricto*). Judd & Hodkinson, 1998 (biogeography, Palearctic Region). Péricart, 1998a–c (revision, West Palearctic Region). Sweet, 2000 (biology, economic importance, world; Lygaeidae *sensu stricto*). Péricart, 2001a: 35–220 (catalogue, Palearctic Region). Cassis & Gross, 2002: 209–247 (Australia, catalogue, introduction to family; Lygaeidae *sensu stricto*).

## Subfamily LYGAEINAE

**References.** Scudder, 1963a (*Astacops* complex of genera, revision, world). Slater & Sperry, 1973 (biology, distribution, South Africa, taxonomy). Hamid & Meher, 1976 (Pakistan, taxonomy). Linnnavuori, 1978 (Ethiopian Region, taxonomy). Slater, 1978, 1985 (Australia, taxonomy). Brailovsky & Barrera, 1985 (Neotropical Region, taxonomy). Slater, 1992 (genera, key to species, revision, Western Hemisphere). Péricart, 1998a (revision, West Palearctic Region).

### Genus *Arocatus* Spinola, 1837<sup>A</sup>

*Arocatus* Spinola, 1837: 257. Type species: *Lygaeus melanocephalus* Fabricius, 1798, by monotypy.

*Tetralaccus* Fieber, 1860a: 44. Type species: *Lygaeus roeselii* [sic] Schilling, 1829, by subsequent monotypy (Fieber, 1861: 164). Synonymised by Stål, 1872: 42.

*Microcaenocoris* Breddin, 1900b: 171. Type species: *Microcaenocoris nanus* Breddin, 1900b, by monotypy. Synonymised by Deckert, 1991: 365.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region.

**References.** Slater, 1964a: 18 (catalogue, world). Wise, 1977: 122 (checklist, New Zealand). Slater & O'Donnell, 1995: 3 (catalogue, world). Péricart, 2001a: 37–39 (catalogue, Palearctic Region). Cassis & Gross, 2002: 216–219 (Australia, catalogue).

### *Arocatus rusticus* (Stål, 1867)<sup>A</sup>

*Tetralaccus rusticus* Stål, 1867a: 163. Lectotype\* female (designated by Slater, 1978; NHRM): North Australia (as *Australia borealis*).

*Astacops caligatus* Walker, 1872: 36. Holotype\* male (BMNH); Australia. Synonymised by Distant, 1901a: 539.

*Lygaeus subjectus* Walker, 1872: 62. Lectotype\* female (BMNH; designated by Slater, 1978); Australia. Synonymised by Distant, 1901a: 539.

*Lygaeus singularis* Walker, 1872: 63. Holotype\* male (BMNH); Australia. Synonymised by Slater, 1985: 321.

*Lygaeus ruficollis* Walker, 1872: 64. Holotype\* male (BMNH); New Zealand. Synonymised by Distant, 1901a: 539.

*Arocatus rusticus*: Stål, 1874: 115.

**Geographic distribution** (Map p. 293). North Island: AK, BP, GB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, KA, MB, MC, NN, OL, SD. First New Zealand record: New Zealand (Walker, 1872; as *Lygaeus ruficollis*). Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland, montane. Arboreal. Collected on *Oxypetalum caeruleum* (numerous adults and nymphs), on *Phormium*, and in a *Rhopalostylis sapida* forest; also on *Asclepias* seed pod. Host plants: *Parsonsia*, especially *P. heterophylla* (New Zealand); *Araujia hortorum*, *Asclepias curassavica*, *Gomphocarpus* (Asclepiadaceae), *Nerium oleander*, *Parsonsia straminea* (Apocynaceae) (Australia; Cassis & Gross, 2002). Seasonality: Throughout the year, mostly November to March, August (adults); May (teneral); February to April (nymphs). Overwintering: In the adult stage; several individuals collected under the bark of rotten wood associated with *Muehlenbeckia* (August; under the bark of dead *Dacrycarpus dacrydioides* (September); in houses (July). Gregarious. Phytophagous (granivorous). Enemies (Aus-

tralia): host of parasitic tachinid fly *Alophora aureiventris* (Cassis & Gross, 2002).

**Dispersal power.** Macropterous, able to fly.

**References.** Hutton, 1874 (early New Zealand records). Myers, 1926 (biology). Slater, 1964a: 28–29 (catalogue, world). Wise, 1977: 122 (checklist, New Zealand). Malipatil, 1979a (Australia, biology). Spiller *et al.*, 1982 (biology). Slater, 1985 (Australia, taxonomy). Slater & O'Donnell, 1995: 3 (catalogue, world). Cassis & Gross, 2002: 218–219 (Australia, catalogue).

### Subfamily ORSILLINAE

**References.** Usinger, 1942b (Hawaii, revision; as Orsillini). Ashlock, 1967 (biogeography, dispersal, revision, world).

### Tribe NYSIINI

**Reference.** Usinger, 1942a (New Zealand, revision; as Orsillini).

### Genus *Lepiorsillus* Malipatil, 1979<sup>E</sup>

*Lepiorsillus* Malipatil, 1979b: 237. Type species: *Lepiorsillus tekapoensis* Malipatil, 1979b, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Slater & O'Donnell, 1995: 35 (catalogue, world).

### *Lepiorsillus tekapoensis* Malipatil, 1979<sup>E</sup>

Type photograph p. 236.

*Lepiorsillus tekapoensis* Malipatil, 1979b: 237. Holotype female (NZAC); MK, Lake Tekapo.

**Geographic distribution** (Map p. 293). South Island: MK–Lake Tekapo.

**Biology.** Terrestrial. [Montane.] [Epigean.] Habitat unknown. Seasonality: Holotype collected in December. [Phytophagous (granivorous).]

**Dispersal power.** Micropterous or brachypterous, [unable to fly].

**References.** Malipatil, 1979b (taxonomy). Slater & O'Donnell, 1995: 35 (catalogue, world).

### Genus *Nysius* Dallas, 1852<sup>N</sup>

*Nysius* Dallas, 1852: 551. Type species: *Lygaeus thymi* Wolff, 1804, designated by Oshanin, 1912 (ICZN, Opinion 319).

*Macroparius* Stål, 1872: 43 (as subgenus of *Nysius*). Type species: *Corizus graminicola* Kolenati, 1845, by monotypy. Synonymised by Ashlock, 1967: 49.

*Anorthus* Horváth, 1890: 190 (as subgenus of *Nysius*). Type species: *Nysius (Anorthus) atlantidum* Horváth, 1890, by monotypy. Preoccupied.

*Hemidiptera* Leon, 1890: 13. Type species: *Hemidiptera hackelii* Leon, 1890, by monotypy. Synonymised by Horváth, 1910: 11.

*Anorthuna* Strand, 1928: 46. Replacement name for *Anorthus*. *Brachynysius* Usinger, 1942a: 44. Type species: *Brachynysius convexus* Usinger, 1942a, by monotypy. Synonymised by Eyles, 1960a: 71.

*Tropinysius* Wagner, 1958: 15 (as subgenus of *Nysius*). Type species: *Heterogaster senecionis* Schilling, 1829, by original designation. Synonymised by Ashlock, 1967: 49.

**Geographic distribution.** Nearly worldwide.

**References.** Slater, 1964a: 253–329 (catalogue, world). Eyles & Ashlock, 1969 (New Zealand, revision). Wise, 1977: 122 (checklist, New Zealand). Slater & O'Donnell, 1995: 35 (catalogue, world). Péricart, 2001a: 57–61 (catalogue, Palearctic Region). Cassis & Gross, 2002: 241–246 (Australia, catalogue).

### *Nysius convexus* (Usinger, 1942)<sup>E</sup>

*Brachynysius convexus* Usinger, 1942a: 44. Holotype\* male (BMNH); NC, Arthur's Pass. Incorrectly synonymised with *Nysius huttoni* White, 1878 by Eyles, 1960a: 71; reinstated by Eyles & Ashlock, 1969: 715.

*Nysius convexus*: Eyles & Ashlock, 1969: 715.

**Geographic distribution** (Map p. 293). South Island: NC, NN, OL, WD.

**Biology.** Terrestrial. Montane, subalpine. Epigean. Collected in moss and in *Raoulia*–moss associations on glacial moraines; also in river-bank vegetation. Seasonality: Mostly October to February. Mating: November. [Phytophagous (granivorous).]

**Dispersal power.** Submacropterous (mostly) to macropterous, [probably able to fly].

**References.** Slater, 1964a: 283 (catalogue, world; as junior synonym of *Nysius huttoni*). Eyles & Ashlock, 1969 (biology, distribution, key, morphology, taxonomy). Wise, 1977: 122 (checklist, New Zealand). Slater & O'Donnell, 1995: 35 (catalogue, world).

### *Nysius huttoni* White, 1878<sup>E</sup>

*Nysius huttoni* White, 1878a: 32. Lectotype\* female (designated by Eyles & Ashlock, 1969; BMNH); New Zealand. Common name: Wheat bug.

**Geographic distribution** (Map p. 293). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Stewart Island. Offshore Islands: CH, TH.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, planticolous. Occurs in a wide range of semi-open to open habitats from sea level (e.g., sand dunes, tidal debris) to the subalpine zone, on host plants in the summer and under shelter plants (e.g., *Agrostis*, *Holcus*, *Lolium*, *Paspalum*) or in grass debris in cooler months. Host plants: Asteraceae, Caryophyllaceae, Cruciferae (weeds), Juncaceae, Linaceae, Leguminosae, Polygonaceae, and Portulacaceae. Wheat and crucifers are apparently secondary food sources. Collected also on Araliaceae, Aizoaceae, Chenopodiaceae, Myoporaceae, Myrtaceae, and Rosaceae (strawberry). Possibly also associated with moss (*Sphagnum*, *Polytrichum*). Seasonality: Throughout the year, mostly September to December (adults); October to May, mostly November (nymphs). Mating: August to January. Oviposition: Eggs laid in the ground from about October to February. Plurivoltine, up to 3–4 generations per season. Overwintering: In the adult stage; collected under shelter plants or in grass debris (see above). Phytophagous (plant-sucking, granivorous). Food, in captivity: Reared on Cruciferae. Economic importance: Most noxious to cultivated cruciferous seedlings and wheat in the milk ripe stage.

**Dispersal power.** Submacropterous to macropterous, able to fly.

**References.** Eyles, 1960a (biology, immature stages, taxonomy). Slater, 1964a: 283 (catalogue, world). Eyles & Ashlock, 1969 (biology, distribution, key, taxonomy). Wise, 1977: 122 (checklist, New Zealand). Sweet, 2000 (biology, distribution, economic importance).

**Note.** Additional information on biology and economic importance can be found in Gurr (1952, 1957), Eyles (1960, 1963a, 1963b, 1965a, 1965b), and Sweet (2000).

### *Nysius liliputanus* Eyles & Ashlock, 1969<sup>E</sup>

Type photograph p. 236.

*Nysius liliputanus* Eyles & Ashlock, 1969: 722. Holotype male (NZAC); WD, Franz Josef.

**Geographic distribution** (Map p. 293). South Island: MK—Mount Cook National Park, near Ball Hut (CMNZ). WD—Franz Josef. Lake Alabaster (NZAC).

**Biology.** Terrestrial. Montane, subalpine. Epigean, [planticolous]. Collected in moss on glacial moraines; on *Ozothamnus*–tussock associations; in dry river beds; also on ferns (at night). Seasonality: November, January, February. [Phytophagous (granivorous).]

**Dispersal power.** Submacropterous to macropterous, [probably able to fly].

**References.** Eyles & Ashlock, 1969 (biology, distribution, key, taxonomy). Wise, 1977: 122 (checklist, New Zealand). Slater & O'Donnell, 1995: 36 (catalogue, world).

### Genus *Rhypodes* Stål, 1868<sup>E</sup>

*Rhypodes* Stål, 1868: 76 (as subgenus of *Nysius*). Type species *Nysius zealandicus* Dallas, 1852 (fixed by Opinion 319/1955, Official List of Generic Names).

*Hudsona* Evans, 1929a: 353. Type species: *Nysius anceps* White, 1878a, by original designation. Synonymised by Eyles, 1990: 355.

*Myersia* Evans, 1929a: 353. Type species: *Nysius clavicornis* Fabricius, 1794, by original designation. Synonymised by Evans, 1929b: 269.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 343–344 (catalogue, world).

Ashlock, 1967 (biology, distribution, key, taxonomy; in *Nysiini*). Eyles & Ashlock, 1969 (taxonomy). Wise, 1977: 122 (checklist, New Zealand). Eyles, 1990 (key to species, phenetic analysis, revision). Slater & O'Donnell, 1995: 37 (catalogue, world).

### *Rhypodes anceps* (White, 1878)<sup>E</sup>

*Nysius anceps* White, 1878a: 32. Holotype female (BMNH); New Zealand.

*Hudsona anceps*: Evans, 1929a: 353.

*Rhypodes anceps*: Eyles, 1990: 360.

Common name: Hudson's bug.

**Geographic distribution** (Map p. 293). North Island: WA, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NN, OL, SC, SD, SL.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, planticolous. Collected mostly on *Raoulia* (including *R. tenuicaulis*) and *Celmisia* (including *C. spectabilis*, *C. prorepens*). Also found in association with tussock, e.g., *Chionochloa macra*; on roadside grass and weeds, notably *Rumex* (adults, nymphs); on *Chionochloa flavescens*, *Dracophyllum muscoides*, *Epilobium porphyrium*, *Haastia pulvinaris*, *Hebe subalpina*, *Muehlenbeckia*, *Pteridium*, ferns, and rushes. Host plants: *Raoulia tenuicaulis*; possibly also *Celmisia* and a wide range of other plants including introduced weeds. Seasonality: September to April (mostly January to March), August. Mating: October (DN, KA), January (CO), February (OL), in thin grass cover. Overwintering: In the adult stage; collected under stones, in moss, in tussock debris, in *Aciphylla squarrosa* litter, and under *Dactylis glomerata*. Phytophagous (sap-sucking), granivorous (mostly): Feeding on *Raoulia* seed heads; also reported feeding on leaves of tussock.

**Dispersal power.** Brachypterous, [probably unable to fly]. Attracted to artificial lights.

**References.** Slater, 1964a: 239–240 (catalogue, world).

Wise, 1977: 122 (checklist, New Zealand). Ueshima & Ashlock, 1980 (cytotoxicity). Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### *Rhypodes argenteus* Eyles, 1990<sup>E</sup>

Type photograph p. 236.

*Rhypodes argenteus* Eyles, 1990: 362. Holotype male (NZAC): MK, Hydro Road, [Lake] Benmore.

**Geographic distribution** (Map p. 293). South Island: CO—Hawkdun Range (OMNZ). Nevis Valley (OMNZ). MK—Hydro Road, Lake Benmore.

**Biology.** Terrestrial. Montane, subalpine. [Epigean, planticolous.] Collected in numbers on *Raoulia* (probable host plant). Seasonality: December, January, April. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### *Rhypodes atricornis* Eyles, 1990<sup>E</sup>

Type photograph p. 236.

*Rhypodes atricornis* Eyles, 1990: 363. Holotype male (NZAC): FD, Head Basin, Takahe Valley.

**Geographic distribution** (Map p. 293). South Island: FD—Head Basin, Takahe Valley. Wilmot Pass summit (NZAC).

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected on *Raoulia tenuicaulis*, under stones (on a scree), and under *Epilobium pedunculare*. Host plants: Possibly *Raoulia* and *Epilobium*. Seasonality: December, January. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### *Rhypodes brachypterus* Eyles, 1990<sup>E</sup>

Type photograph p. 237.

*Rhypodes brachypterus* Eyles, 1990: 364. Holotype male (NZAC): NN, Mount Arthur.

**Geographic distribution** (Map p. 293). South Island: NN—Mount Arthur.

**Biology.** Terrestrial. Subalpine, alpine. Epigean, planticolous. Collected under *Helichrysum* and *Aciphylla*; on mat plants [possibly *Raoulia*]; on *Ranunculus* flowers. Host plants: Possibly *Helichrysum*, *Aciphylla*, or *Raoulia*. Seasonality: November, February, March. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

***Rhypodes brevifissas* Eyles, 1990<sup>E</sup>**

Type photograph p. 237.

*Rhypodes brevifissas* Eyles, 1990: 366. Holotype male (NZAC); HB, Creek near Middle Range, Kaweka Range.

**Geographic distribution** (Map p. 294). North Island. BP—Pangitiki Land Development Plantation (Eyles, 1990). Tarawera (Eyles, 1990). HB—Creek near Middle Range, Kaweka Range. TO—Ohakune (Eyles, 1990). WN—Mount Hector, Tararua Forest [=Tararua Range] (Eyles, 1990). Tauherenikau Valley (Eyles, 1990). Wilton's Bush (Eyles, 1990).

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, arboreal. Collected under *Epilobium komarovianum* growing on stones beside a creek, and once on *Pinus radiata*. Host plant: Probably *Epilobium*. Seasonality: November to February, April, July. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world; as *R. brevifissus*).

**Note.** One female from Andersons Bay (DN; AMNZ) may belong to this species, but Eyles (1990) omitted it from the type series as it is the only specimen from the South Island.

***Rhypodes brevipilis* Eyles, 1990<sup>E</sup>**

Type photograph p. 237.

*Rhypodes brevipilis* Eyles, 1990: 368. Holotype male (NZAC); MK, Kea Walk, Mount Cook.

**Geographic distribution** (Map p. 294). South Island: MK—Kea Walk, Mount Cook.

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected on *Hebe subalpina* (possible host plant). Seasonality: January. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world; as *R. brevipilis*).

***Rhypodes bucculentus* Eyles, 1990<sup>E</sup>**

Type photograph p. 237.

*Rhypodes bucculentus* Eyles, 1990: 368. Holotype male (NZAC); MC, Mount Hutt.

**Geographic distribution** (Map p. 294). South Island. MB—Upper Wairau Valley ([Lake] Sedgemere; Wairau Bridge above Judges Creek) (Eyles, 1990). MC—Mount

Hutt. Porters Pass (CMNZ). Wilberforce Valley, Burnet Stream (CMNZ). MK—Mount Cook National Park (Eyles, 1990). Mount Ollivier (Eyles, 1990).

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected on *Epilobium pycnostachyum* (possible host plant) on screes; on tussock and scree; on rocks along a stream. Seasonality: September, October, December, February, May. Overwintering: In the adult stage; collected under stones (MB, September). [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

***Rhypodes celmisiae* Eyles, 1990<sup>E</sup>**

Type photograph p. 238.

*Rhypodes celmisiae* Eyles, 1990: 370. Holotype female (NZAC); OL, Mount Coronet [= Coronet Peak].

**Geographic distribution** (Map p. 294). South Island: CO, FD, MK, NN, OL, WD.

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected on *Celmisia prorepens* (adults, nymphs), *Gentiana bellidifolia*, and *Raoulia*; under stones and cushion plants beside a stream; on swards by a creek; on grass; and in leaf litter. Host plant: *C. prorepens*. Seasonality: October to January (adults, teneral, nymphs), February to April (adults). Mating: January (CO). [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Mostly macropterous [probably able to fly], sometimes brachypterous [unable to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

**Note.** See under *R. myersi*.

***Rhypodes chinai* Usinger, 1942<sup>E</sup>**

*Rhypodes chinai* Usinger, 1942a: 49. Holotype\* male (BMNH); WN, Mount Matthews.

**Geographic distribution** (Map p. 294). North Island: WA, WN. South Island: BR, CO, FD, KA, MB, MC, MK, NC, NN, OL, SC, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, planticolous. Collected on *Raoulia* (adults, nymphs), including *R. australis*, *R. haastii*, *R. tenuicaulis*; on *Celmisia* (including *C. coriacea*, *C. spectabilis*, *C. semicordata*), *Aciphylla*, *Angelica montana*, *Chionochloa*, *Dolichoglottis scorzoneroides*, *Haastia pulvinaris*, *Muehlenbeckia*, *Olearia virgata*, and *Ozothamnus*; under stones and mat plants; and on snow. Host plants: *Raoulia*, possibly also

*Celmisia*. Seasonality: September to April (mostly December to February). Mating: September to November (on *Raoulia*). Oviposition: In spring, in leaf axils of *Raoulia*; reared from egg collected in the field after a 10-day incubation period. Overwintering: In the adult stage; collected under vegetation, e.g., *Muehlenbeckia* on a scree (MB, September). Phytophagous (granivorous); feeding on *Raoulia* seeds (nymphs). Associated organisms: Mites carried on body of females, around coxae.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Myers, 1926 (biology; as undescribed *Nysius*). Slater, 1964a: 344 (catalogue, world). White, 1969 (biology, immature stages, rearing, reproduction). Wise, 1977: 123 (checklist, New Zealand). Eyles, 1990 (biology, distribution, key, taxonomy).

**Note.** Morphological variation suggests that this taxon may contain more than one species (Eyles, 1990).

### ***Rhypodes clavicornis* (Fabricius, 1794) <sup>E</sup>**

*Lygaeus clavicornis* Fabricius, 1794: 169. Holotype\* male (ZMUC); New Zealand.

*Nysius zealandicus* Dallas, 1852: 552. Lectotype\* female (designated by Eyles, 1990; BMNH); New Zealand. Synonymised by Stål, 1868: 76.

*Nysius clavicornis*: Bergroth, 1891: 70.

*Myersia clavicornis*: Evans, 1929a: 353.

*Rhypodes clavicornis*: Evans, 1929b: 269.

Common name: Fabrician lygaeid bug.

**Geographic distribution** (Map p. 294). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: FD, MC, MK, NC, NN, SD, SL, WD. Offshore Islands: TH.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous. Occurs in a wide range of open, unmodified or modified habitats, e.g., from seashore dunes to river beds, bush clearings, grasslands, gardens, and orchards. Collected mostly on *Celmisia* and *Senecio* (adults, nymphs), *Eupatorium*, *Myoporum*, *Leptospermum*; also on *Carmichaelia*, *Cotula*, *Cynara scolymus*, *Dracophyllum*, ferns (at night), *Nothofagus*, *Phormium*–*Astelia*–*Brachyglossis*–*Leptospermum* associations, *Metrosideros* and hanging moss, tussock; also on *Senecio jacobaea*, *Cirsium*, *Gnaphalium*, *Achillea millefolium*, *Citrus*, *Chrysanthemum*, *Taraxacum officinale*, *Vitis vinifera*, *Lactuca sativa*, *Malus*, and *Pastinaca sativa*; and in buildings, including glasshouses. Host plants: *Celmisia*, *Senecio*, *Cassinia*, *Eupatorium*, *Ozothamnus* (Asteraceae), *Myoporum* (Myoporaceae), and *Leptospermum* (Myrtaceae); possibly also a wider range of Asteraceae. Seasonality: Throughout the year, mostly October to March; may be bivoltine in parts of its range. Mating:

October, November, January. Phytophagous (granivorous); feeding on *Celmisia* seeds, concealed beneath the umbrella canopy (nymphs).

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Wise, 1977: 122 (checklist, New Zealand). Ueshima & Ashlock, 1980 (cytobotany). Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

**Notes.** The designation of Rimutaka Range (WN) as type locality by Eyles (1990) was unsubstantiated. Examination of New Zealand collections indicates a wider distribution than previously recorded. This taxon may be conspecific with *R. cognatus* (Eyles, 1990).

### ***Rhypodes cognatus* Eyles, 1990 <sup>E</sup>**

Type photograph p. 238.

*Rhypodes cognatus* Eyles, 1990: 376. Holotype male (NZAC); SD, Ship Cove.

**Geographic distribution** (Map p. 294). South Island: BR, CO, FD, MB, MC, NN, OL, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland (mostly) to subalpine. Epigean, planticolous, arboreal. Collected in numbers on tussock and *Olearia angustifolia*; also on *Brachyglossis repanda*, *Cassinia leptophylla* [= *Ozothamnus leptophyllus*] (nymphs), ferns, grass, *Hebe*, *Medicago sativa*, *Populus nigra*, *Olearia virgata* (adults, nymphs), *Senecio jacobaea*, *Sonchus oleraceus*, subalpine vegetation, *Cirsium*, and various weeds. Seasonality: September to April, mostly November to February (adults); November, March (nymphs). Mating: January (SL). Oviposition: In captivity, female collected on sow thistle laid eggs in cottonwool rather than on thistle flowers provided. Overwintering: In the adult stage; collected under stones among shrubs and brackens (SL, September). [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

**Note.** This taxon may be conspecific with *R. clavicornis* (Eyles, 1990).

### ***Rhypodes crinitus* Eyles, 1990 <sup>E</sup>**

Type photograph p. 238.

*Rhypodes crinitus* Eyles, 1990: 377. Holotype female (NZAC); TO/GB, Mount Maungapohatu.

**Geographic distribution** (Map p. 294). North Island:

RI–Ruahine Range (Eyles, 1990). TO/GB–Mount Maungapohatu.

**Biology.** Terrestrial. Montane. Epigean, planticolous. Collected on grass and *Carex solandri* (probable host plant). Seasonality: October, March (adults); March (nymphs). Phytophagous (granivorous); reared from nymphs on *Carex* seed heads.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### ***Rhypodes depilis* Eyles, 1990<sup>E</sup>**

Type photograph p. 238.

*Rhypodes depilis* Eyles, 1990: 378. Holotype male (NZAC); FD, Takahe Valley, near Head Basin.

**Geographic distribution** (Map p. 294). South Island: FD–Darran Mountains, Middle Gully, Tutoko Bench (Eyles, 1990). Homer Tunnel, above (Eyles, 1990). Mackinnon Pass (Eyles, 1990). Mount Barber (Eyles, 1990). Takahe Valley, near Head Basin. West Olivine Range (Simonin Pass; Tempest Spur) (Eyles, 1990). Wilmot Pass (Eyles, 1990).

**Biology.** Terrestrial. Subalpine, alpine. Epigean, planticolous. Collected mostly on *Celmisia coriacea*, also on *Senecio* and tussock. Host plant: Probably *Celmisia*. Seasonality: December to February. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### ***Rhypodes eminens* Eyles, 1990<sup>E</sup>**

Type photograph p. 239.

*Rhypodes eminens* Eyles, 1990: 380. Holotype male (NZAC); MB/KA, Mount Percival.

**Geographic distribution** (Map p. 295). South Island: MB–Mount Saint Patrick (NZAC). MB/KA–Mount Percival.

**Biology.** Terrestrial. Subalpine, alpine. Epigean, planticolous. Host plants: *Helichrysum coralloides* and *H. selago* [=*H. intermedium* var. *selago*?]. Seasonality: October. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### ***Rhypodes gracilis* Eyles, 1990<sup>E</sup>**

Type photograph p. 239.

*Rhypodes gracilis* Eyles, 1990: 381. Holotype male (NZAC); MK, Mount Sebastopol.

**Geographic distribution** (Map p. 295). South Island: MC–Porters Pass (Eyles, 1990). MK–Mount Cook National Park, Sealy Range [=Mount Sealy] (LUNZ). Mount Sebastopol. [Ben] Ohau Range (OMNZ). OL–Coronet Peak (Eyles, 1990). SC–Mount Somers (LUNZ).

**Biology.** Terrestrial. Montane to alpine. Epigean, planticolous. Collected on *Chionochloa flavescens* and *Dracophyllum* (adults, nymphs); probably its host plants. Seasonality: November to March. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### ***Rhypodes hirsutus* Eyles, 1990<sup>E</sup>**

Type photograph p. 239.

*Rhypodes hirsutus* Eyles, 1990: 383. Holotype female (NZAC); HB, Makahu Spur, Kaweka Range.

**Geographic distribution** (Map p. 295). North Island: BP, HB, TK, TO.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous. Collected on its host plants *Brachyglottis bidwillii* and *Celmisia spectabilis* (adults, nymphs). Also taken on *Hebe odora*, *Hebe salicifolia*, mat plants, *Olearia nummulariifolia*, tussock, and *Uncinia rubra*. Seasonality: October, November, February, March (adults); February (nymphs). Phytophagous (granivorous); nymphs feed on seeds and stay out of site under the protection of the umbrella canopy (one per seed head of *Senecio*, several per seed head of *Celmisia*).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### ***Rhypodes jugatus* Eyles, 1990<sup>E</sup>**

Type photograph p. 239.

*Rhypodes jugatus* Eyles, 1990: 385. Holotype male (NZAC); MK, Sealy Lake Track [Mount Cook National Park].

**Geographic distribution** (Map p. 295). South Island: MB, MK, NC, NN, OL, WD.

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected mostly on *Celmisia*, including *C. semicordata* and *C. spectabilis*, its probable host plants. Also taken on the flowers of *Leucogenes grandiceps* and *Ranunculus lyallii*, and on *Ozothamnus*. Seasonality: November to March. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Mostly macropterous [probably able

to fly], sometimes brachypterous [probably unable to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes koebelei** Eyles, 1990<sup>E</sup>

Type photograph p. 240.

*Rhypodes koebelei* Eyles, 1990: 386. Holotype female (NZAC); NN, Maitai Valley.

**Geographic distribution** (Map p. 295). North Island: BP, CL, GB, ND, TO, WA, WI, WN. South Island: CO, DN, KA, NN, SD.

**Biology.** Terrestrial. Lowland. Epigean, planticolous, arboreal. Collected on *Kunzea ericoides*, *Leptospermum scoparium*, *Macropiper excelsum*, *Metrosideros excelsa*, *Nothofagus menziesii*, various other trees, *Polygala myrtifolia*, *Rubus australis*, *Gladiolus*, grass, and *Medicago sativa*. Host plants: *K. ericoides*, probably also *L. scoparium*. Seasonality: September to May, August. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes longiceps** Eyles, 1990<sup>E</sup>

Type photograph p. 240.

*Rhypodes longiceps* Eyles, 1990: 388. Holotype male (NZAC); OL, Coronet Peak.

**Geographic distribution** (Map p. 295). South Island: CO, FD, MC, MK, OL, SL, WD.

**Biology.** Terrestrial. Montane to alpine. Epigean, planticolous. Collected on its host plants *Celmisia petriei* and *Celmisia semicordata*. Also taken on *Ozothamnus* and *Dracophyllum*, grass, and under a stone covered by *Celmisia*-*Aciphylla* vegetation. Seasonality: November to February (mostly January). [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

**Note.** See under *R. myersi*.

### **Rhypodes longirostris** Eyles, 1990<sup>E</sup>

Type photograph p. 240.

*Rhypodes longirostris* Eyles, 1990: 390. Holotype male (NZAC); GB, Mount Arawhana [=Arowhana].

**Geographic distribution** (Map p. 295). North Island: GB—Mount Arowhana.

**Biology.** Terrestrial. Montane, subalpine. Epigean,

planticolous. Collected on its host plant *Celmisia spectabilis spectabilis* (adults, nymphs). Seasonality: March. Phytophagous (granivorous); nymphs, several per seed head, feed on seeds and stay on top and in the seed head, out of sight under the protection of the umbrella canopy.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes myersi** Usinger, 1942<sup>E</sup>

*Rhypodes myersi* Usinger, 1942a: 47. Holotype\* female (USNM); NC, Arthur's Pass.

**Geographic distribution** (Map p. 295). South Island: BR, CO, FD, KA, MB, MC, MK, NC, NN, OL, SL, WD.

**Biology.** Terrestrial. Mountain, subalpine. Epigean, planticolous. Collected on several *Celmisia* species (adults, nymphs), including its host plants *C. coriacea*, *C. sessiliflora*, and *C. spectabilis*. Also taken in large numbers on *Ozothamnus* and *Aciphylla* (on plant and in layers of dead leaves under them), and in lesser numbers on *Hebe* (including *H. subalpina*), *Astelia*, *Craspedia uniflora*, *Ranunculus lyallii*, *Polytrichum* moss, and tussock. Seasonality: October to April, mostly December to February (adults); February, March (nymphs). Mating: November to January (on *Celmisia*). Overwintering: In the adult stage; collected under rock debris (NN, April). Phytophagous (granivorous); nymphs feed on *Celmisia* seeds, concealed beneath the umbrella canopy.

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**References.** Slater, 1964a: 345 (catalogue, world). Eyles, 1974 (biology, morphology). Wise, 1977: 122 (checklist, New Zealand). Ueshima & Ashlock, 1980 (cytotaxonomy). Eyles, 1990 (biology, distribution, key, taxonomy).

**Note.** This species is found on the lower slopes of Coronet Peak while *R. celmisiae* and *R. longiceps* occur at higher altitudes, which suggests a zoning through competition (Eyles, 1990).

### **Rhypodes rupestris** Eyles, 1990<sup>E</sup>

Type photograph p. 240.

*Rhypodes rupestris* Eyles, 1990: 393. Holotype male (NZAC); MB, Black Birch Station.

**Geographic distribution** (Map p. 295). South Island: MB—Altimarlock Peak (Eyles, 1990). Black Birch Station.

**Biology.** Terrestrial. Subalpine, alpine. Epigean, planticolous. Collected in exposed situations, (e.g., screes) under its host plant *Helichrysum coralloides* (adults,

nymphs). Seasonality: February (adults, nymphs). Phytophagous (granivorous); reared from nymphs on collected seed heads of *Helichrysum*.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes russatus** Eyles, 1990<sup>E</sup>

Type photograph p. 241.

*Rhypodes russatus* Eyles, 1990: 394. Holotype male (NZAC); NN, Mount Arthur.

**Geographic distribution** (Map p. 296). North Island: WN–Tararua Forest Park [=Tararua Range], Mount Hector (Eyles, 1990). South Island: BR–Nelson Lakes National Park (LUNZ). MB–Island Saddle, North East of Lake Tennyson (Eyles, 1990). MB/KA–Mount Percival (Eyles, 1990). MC–Cass (CMNZ). NC–Philipp's Peak (Eyles, 1990). NN–Boulder Lake (CMNZ). Mount Arthur, Ellis Basin (CMNZ), Dry Lake (CMNZ).

**Biology.** Terrestrial. Montane to alpine. Epigean, planticolous. Collected on its host plant *Dracophyllum* (adults, nymphs). Also taken on *Cassinia leptophylla* [=Ozothamnus leptophyllus], *Dracophyllum*–*Olearia*–tussock associations, *Helichrysum selago* [=H. intermedium var. *selago*?] and tussock. Seasonality: October, December to March (adults); December (nymphs). Phytophagous (granivorous); reared from nymphs on *Dracophyllum* seed heads.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes sericatus** Usinger, 1942<sup>E</sup>

*Rhypodes sericatus* Usinger, 1942a: 46. Holotype\* male (USNM); WN, Terawhiti [Hill].

**Geographic distribution** (Map p. 296). North Island: WN. South Island: BR, CO, KA, MB, MC, MK, NC, NN, SD, SL.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous. Collected in large numbers on *Helichrysum selago* [=H. intermedium var. *selago*] (adults, nymphs) and its host plant *Ozothamnus leptophyllus*. Also taken under and between the dead leaves of *Aciphylla* (high altitude, MB) and on *Kunzea ericoides*. Seasonality: September, October, January to April. Overwintering: In the adult stage; collected under rock debris (NN, April). Phytophagous (granivorous); reared from nymphs on *Helichrysum* seeds.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Slater, 1964a: 345 (catalogue, world). Wise, 1977: 122 (checklist, New Zealand). Eyles, 1990 (biology, distribution, key, taxonomy).

### **Rhypodes spadix** Eyles, 1990<sup>E</sup>

Type photograph p. 241.

*Rhypodes spadix* Eyles, 1990: 398. Holotype male (NZAC); MK, Kea Walk, Mount Cook.

**Geographic distribution** (Map p. 296). South Island: BR, CO, DN, FD, MB, MC, MK, NC, NN, OL, SC, SL.

**Biology.** Terrestrial. Montane to alpine. Epigean, planticolous. Collected in large numbers on various *Hebe* species (adults, mating pairs, nymphs), including its host plants *H. odora*, *H. parviflora*, *H. pauciramosa*, *H. subalpina*, and *H. stricta*. Also taken on *Ozothamnus leptophyllus* (adults, nymphs), and on *Olearia ilicifolia*, *Olearia virgata*, *Aciphylla aurea*, and tussock (adults). Seasonality: September, November to March, mostly December, January (adults); March (nymphs). Mating: December, January (on *Hebe*). [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

### **Rhypodes stewartensis** Usinger, 1942<sup>E</sup>

*Rhypodes stewartensis* Usinger, 1942a: 51. Holotype\* female (BMNH); SI, Stewart Island.

**Geographic distribution** (Map p. 296). North Island: BP, GB, HB, TK. South Island: BR, FD, KA, MB, MC, NC, NN, WD. Stewart Island.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous. Collected under its host plant *Epilobium pedunculare* (adults, nymphs), often in moist gravelly areas, e.g. stream beds, roadsides, old quarries. Also taken under *Epilobium komarovianum*, *Gnaphalium*, *Spergula arvensis*, *Pseudognaphalium luteoalbum*, and on *Rauolia*, *Celmisia petriei*, and *Senecio*. Seasonality: September, November to March (adults); January, March (nymphs). Phytophagous (granivorous); reared from nymphs on *E. pedunculare* seeds.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Slater, 1964a: 345 (catalogue, world). Wise, 1977: 122 (checklist, New Zealand). Eyles, 1990 (biology, distribution, key, taxonomy).

***Rhypodes townsendi* Eyles, 1990<sup>E</sup>**

Type photograph p. 241.

*Rhypodes townsendi* Eyles, 1990: 401. Holotype female (NZAC); FD, Kaherekoau Mountains, [Lake] Monowai.

**Geographic distribution** (Map p. 296). South Island: FD-Kaherekoau Mountains, Lake Monowai. OL-Minaret Peaks, Lake Wanaka (AMNZ). SL-Takitimu Range, Spence Peak (OMNZ).

**Biology.** Terrestrial. Mountain, subalpine. [Epigean, planticolous.] Habitat unknown. Seasonality: December to January, March. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

***Rhypodes triangulus* Eyles, 1990<sup>E</sup>**

Type photograph p. 241.

*Rhypodes triangulus* Eyles, 1990: 402. Holotype male (NZAC); MK, Hydro Road, [Lake] Benmore.

**Geographic distribution** (Map p. 296). South Island: CO-Obelisk Range (OMNZ). MK-Hydro Road, Lake Benmore. OL-Paradise Lake on Pigeon Island, Lake Wanaka [=Lake Whakatipu?] (Eyles, 1990).

**Biology.** Terrestrial. Montane, subalpine. Epigean, planticolous. Collected in numbers on *Raoulia* (probable host plant). Seasonality: January, February. [Phytophagous (sap-sucking), granivorous (mostly).]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

**Family MESOVELIIDAE****Water treaders or pondweed bugs**

**References.** Horváth, 1915 (revision, world). Andersen & Polhemus, 1980 (classification, phylogeny, world). Andersen, 1982 (morphology, phylogeny, world). Malipatil & Monteith, 1983 (Australia, New Caledonia, taxonomy). Spangler, 1990 (checklist, key, *Mesovelia*, New World). Gross *et al.*, 1991a (Australia, keys, overview). Andersen, 1995: 77–79 (catalogue, Palearctic Region). Cassis & Gross, 1995: 124–129 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 88–90 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Andersen, 1999a (classification, phylogeny, world). Spense & Andersen, 2000 (biology, economic importance, world).

**Subfamily MESOVELIINAE****Genus *Mesovelia* Mulsant & Rey, 1852<sup>A</sup>**

*Mesovelia* Mulsant & Rey, 1852: 138. Type species: *Mesovelia furcata* Mulsant & Rey, 1852, by monotypy.

*Fieberia* Jakovlev, 1874: 32. Type species: *Fieberia lacustris* Jakovlev, 1874 (= *Mesovelia furcata* Mulsant & Rey, 1852), by monotypy. Synonymised by Puton, 1875: 31.

**Geographic distribution.** Worldwide.

**References.** Anderson & Polhemus, 1980 (classification, phylogeny, taxonomy, world). Anderson, 1982 (biology, taxonomy, world). Andersen, 1995: 78–79 (catalogue, Palearctic Region). Cassis & Gross, 1995: 127–129 (Australia, catalogue).

**Note.** A number of specimens from the Cape Reinga area (ND; AMNZ) have been identified by J.T. Polhemus (Colorado, USA) as belonging to an undescribed endemic species.

***Mesovelia hackeri* Harris & Drake, 1941<sup>A</sup>**

*Mesovelia hackeri* Harris & Drake, 1941: 277. Holotype\* (USNM); Ashgrove [=Ashgrove], Queensland, [Australia] (Cassis & Gross, 1995).

**Geographic distribution** (Map p. 296). North Island: AK-Auckland, Newmarket Park pond (AMNZ, ANIC, NZAC). **First New Zealand record.** Extralimital range: Australia (continental).

**Biology.** Semiaquatic. Lentic freshwater habitats. Seasonality: June. Predaceous.

**Dispersal power.** Apterous, [dispersing by treading over water and walking].

**Reference:** Cassis & Gross, 1995: 128 (Australia, catalogue).

**Notes.** This species was collected by S. E. Thorpe (Auckland) in June 2002. Its identification was established with the help of T. A. Weir (ANIC, Australia).

**Genus *Mniovelia* Andersen & Polhemus, 1980<sup>E</sup>**

*Mniovelia* Andersen & Polhemus, 1980: 377. Type species: *Mniovelia kuscheli* Andersen & Polhemus, 1980, by original designation.

**Geographic distribution.** New Zealand.

***Mniovelia kuscheli* Andersen & Polhemus, 1980<sup>E</sup>**

Type photograph p. 242.

*Mniovelia kuscheli* Andersen & Polhemus, 1980: 379. Holotype male, apterous (NZAC); AK, Lynfield.

**Geographic distribution** (Map p. 296). North Island: AK, BP, CL, GB, ND, TK, TO, WO.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, arboreal. Occurs in mossy, permanently damp, deeply shaded habitats. Collected from the trunk of trees, in leaf litter along stream banks and on and around fallen trees, always in or around moss. Seasonality: Throughout the year (adults, nymphs). Predacious.

**Dispersal power.** Apterous, [dispersing by walking].

**Reference.** Pendergrast, 1959 (first record for New Zealand; as undescribed Mesoveliidae).

**Notes.** Andersen & Polhemus (1980) erroneously listed this species for Mount Messenger (NN), South Island. This locality is situated on the North Island, north of Mount Egmont/Taranaki (TK).

## Family MIRIDAE

### Plant bugs

**References.** Knight, 1935 (Samoa, taxonomy). Carvalho, 1955 (keys to genera, world), 1956 (Micronesia, taxonomy), 1957–1960 (catalogue, world). Gross & Cassis, 1991b (Australia, keys, overview). Cassis & Gross, 1995: 130–213 (Australia, catalogue, introduction to family). Schuh, 1995 (catalogue, world). Schuh & Slater, 1995: 169–180 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Kerzhner & Josifov, 1999: 2–446 (catalogue, Palearctic Region). Wheeler, 2000a–b (biology, economic importance, world), 2001 (biology, world). Eyles & Schuh, 2003 (key to subfamilies; New Zealand).

## Subfamily BRYOCORINAE

**References.** Carvalho, 1981 (Papua New Guinea, revision). Stonedahl, 1991 (bibliography, *Helopeltis*, key, Oriental Region). Eyles & Schuh, 2003 (keys, revision, New Zealand).

### Tribe DICYPHINI

#### Genus *Engytatus* Reuter, 1876<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995; Eyles & Schuh, 2003).

**Geographic distribution.** Australian Region, Nearctic Region, Neotropical Region, Oriental Region; South Pacific.

**References.** Wise, 1977: 117 (checklist, New Zealand; as *Cyrtopeltis* (*Engytatus*))). Cassis & Gross, 1995: 136–137 (Australia, catalogue). Schuh, 1995: 495 (catalogue, world). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Engytatus nicotianae* (Koningsberger, 1903)<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995; Eyles & Schuh, 2003).

**Geographic distribution** (Map p. 304). North Island: AK—Auckland (Woodward, 1950a), Mount Albert (NZAC). Karaka (NZAC). ND—Paihia (Woodward, 1950a). WI—Palmerston North (Eyles & Schuh, 2003). South Island: BR—Buller Gorge (Eyles & Schuh, 2003). MC—Christchurch (Eyles & Schuh, 2003). NN—Nelson (NZAC). Riwaka (NZAC). First New Zealand records: Nelson and Riwaka (NN), 1927 (Eyles & Schuh, 2003). Extralimital range: Australia (continental), Melanesia, Micronesia, Oriental Region.

**Biology.** Terrestrial. Lowland. Planticolous. Collected on *Nicotiana tabacum* (adults, nymphs). Possibly associated with other solanaceous plants. Seasonality: October to April, July. Phytophagous (sap-sucking). Economic importance: Vector of velvet tobacco mottle sobemovirus.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Woodward, 1950a (biology, distribution, taxonomy). Wise, 1977: 117 (checklist, New Zealand; as *Cyrtopeltis* (*Engytatus*) *nicotianae*). Gibb & Randles, 1989, 1990, 1991 (economic importance, plant disease vector; as *Cyrtopeltis* *nicotianae*). Cassis & Gross, 1995: 137–138 (Australia, catalogue). Schuh, 1995: 497 (catalogue, world). Wheeler, 2001 (biology, world). Eyles & Schuh, 2003 (biology, distribution, economic importance, female genitalia, immature stages, key, New Zealand, taxonomy).

#### Genus *Felisacus* Distant, 1904<sup>N</sup>

*Liocoris* Motschulsky, 1863: 86. Type species: *Liocoris glabratulus* Motschulsky, 1863, designated by Distant, 1904b: 438. Preoccupied.

*Felisacus* Distant, 1904b: 438. Replacement name for *Liocoris*.

*Hyaloscytus* Reuter, 1904a: 1. Type species: *Hyaloscytus elegantulus* Reuter, 1904a, by monotypy. Synonymised by Poppius, 1911c: 3.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region; South Pacific.

**References.** Woodward, 1954b, 1958 (taxonomy, distribution). Wise, 1977: 117 (checklist, New Zealand). Cassis & Gross, 1995: 141–142 (Australia, catalogue). Schuh, 1995: 510–511 (catalogue, world). Kerzhner & Josifov, 1999: 14–15 (catalogue, Palearctic Region). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Felisacus elegantulus* (Reuter, 1904)<sup>N</sup>

*Hyaloscytus elegantulus* Reuter, 1904a: 2. Syntypes\*, five specimens (NHMW); Java.

*Felisacus elegantulus*: Woodward, 1954b: 42.

**Geographic distribution** (Map p. 304). North Island: AK, BP, CL, GB, HB, ND, WN, WO. South Island: NN, SD. Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland. Planticolous. Mostly collected on ferns (adults, nymphs) growing in rather damp, shaded situations, e.g., streamsides in forests (including *Metrosideros excelsa*, *Rhopalostylis sapida*–*Dysoxylum spectabile*, other broadleaf, and podocarp–*Nothofagus* forests, and *Leptospermum scoparium* scrub). Host plants: the ferns *Asplenium oblongifolium*, *A. polyodon*, *Doodia media* [=*D. australis*], and *Pteris tremula*. In Australia, adults and nymphs were taken on the fern *Hypolepis muelleri*. Seasonality: September to May (except November), mostly December to March (adults); January, February (nymphs). Phytophagous (sap-sucking); feeding on ferns.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1954b, 1958 (biology, distribution, immature stages, taxonomy). Wise, 1977: 117 (checklist, New Zealand; as *Felisacus glabratus*). Cassis & Gross, 1995: 133, 142 (Australia, catalogue). Schuh, 1995: 511 (catalogue, world). Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Notes.** Current interpretation of the synonymy follows Cassis & Gross (1995). For alternative taxonomic arrangement, see Carvalho (1957: 103) who listed *Hyaloscytus elegantulus* as a junior synonym of *Felisacus glabratus* (Motschulsky, 1863); according to Cassis & Gross (1995), this was an incorrect interpretation of Poppius (1914a: 148). Further information on synonymy and type specimens can be found in Kerzhner & Jansson (1985).

## Subfamily CYLAPINAE

**References.** Schmitz & Štys, 1973 (Australia, Fulviini, taxonomy). Schuh, 1976 (classification, world). Carvalho & Lorenzato, 1978 (Papua New Guinea, revision). Schuh, 1986a (Australia, *Schizopteromiris*, taxonomy). Gorczyca & Eyles, 1997 (biology, classification, biogeography, New Zealand, world). Chérot & Gorczyca, 1999 (Asia, taxonomy).

### Tribe CYLAPINI

#### Genus *Peritropis* Uhler, 1891<sup>N</sup>

*Peritropis* Uhler, 1891: 121. Type species: *Peritropis saldaformis* Uhler, 1891, by monotypy.

*Mevius* Distant, 1904b: 453. Type species: *Mevius lewisi* Distant, 1904b, by original designation. Synonymised by Poppius, 1909: 24.

**Geographic distribution.** Nearly worldwide.

**References.** Wheeler & Wheeler, 1994 (biology). Schuh, 1995: 33–34 (catalogue, world). Gorczyca & Eyles, 1997: 226, 229 (biogeography, biology). Gorczyca, 1997a–b and 1999 (Australia, New Caledonia, taxonomy). Kerzhner & Josifov, 1999: 9 (catalogue, Palearctic Region).

#### *Peritropis aotearoae* Gorczyca & Eyles, 1997<sup>E</sup>

Type photograph p. 260.

*Peritropis aotearoae* Gorczyca & Eyles, 1997: 226. Holotype male (NZAC); CL, Maumaupaki.

**Geographic distribution** (Map p. 306). North Island: CL–Maumaupaki.

**Biology.** Terrestrial. Lowland, montane. [Epigean], corticolous. Occurs in broadleaf–podocarp forests. Collected under the bark of rotten logs, in association with fungi. Seasonality: November (adults, nymphs). [Predaceous and/or fungivorous.]

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Wheeler & Wheeler, 1994 (biology, fungal association). Gorczyca & Eyles, 1997 (biology, distribution, immature stages, taxonomy).

## Subfamily DERAEOCORINAE

**References.** Eyles & Carvalho, 1988b (key to genera and species, New Zealand, revision). Stonedahl & Cassis, 1991 (*Fingulus*, phylogeny, revision, world). Cassis, 1995 (Australia, classification, phylogeny, revision, world).

### Tribe DERAEOCORINI

#### Genus *Deraeocoris* Kirschbaum, 1856<sup>N</sup>

*Deraeocoris* Kirschbaum, 1856: 208. Type species: *Capsus medius* Kirschbaum, 1856 (=*Cimex olivaceus* Fabricius, 1777), designated by Kirkaldy, 1906a: 141.

*Camptobrochis* Fieber, 1858: 304. Type species: *Camptobrochis punctulatus* Fallén, 1807, designated by Distant, 1904b: 460. Synonymised by Poppius, 1912: 119.

*Macrocapsus* Reuter, 1875a: 547. Type species: *Deraeocoris brachialis* Stål, 1858 (=*Cimex olivaceus* Fabricius, 1777), by monotypy. Synonymised by Reuter, 1885a: 134.

*Callicapsus* Reuter, 1876: 75. Type species: *Callicapsus histrio* Reuter, 1876, by monotypy. Synonymised by Reuter, 1909: 52.

*Euarmosus* Reuter, 1876: 76. Type species: *Euarmosus sayi* Reuter, 1876, by monotypy. Synonymised by Reuter, 1909: 52.

*Cimatlan* Distant, 1884: 281. Type species: *Cimatlan delicatum* Distant, 1884, by monotypy. Synonymised by Carvalho, 1952: 53.

*Plexaris* Kirkaldy, 1902a: 282. Type species: *Plexaris saturnides* Kirkaldy, 1902a (=*Capsus ostentans* Stål, 1855), by monotypy. Synonymised by Reuter, 1907: 19.

*Mycterochoris* Uhler, 1904: 358. Type species: *Deraeocoris cerachates* Uhler, 1894, by monotypy. Synonymised by Reuter, 1909: 52.

*Platycapsus* Reuter, 1904c: 11. Type species: *Platycapsus acaciae* Reuter, 1904c, by monotypy. Synonymised by Carvalho, 1952: 53.

*Lamprolygus* Poppius, 1910: 46. Type species: *Lamprolygus signatus* Poppius, 1910 (= *Lamprolygus signatus* var. *discoidalis* Poppius, 1912; = *Deraeocoris signatoides* Carvalho, 1957), by original designation. Synonymised by Carvalho, 1952: 53.

#### Geographic distribution.

Nearly worldwide.

**References.** Wise, 1977: 116–117 (checklist, New Zealand). Cassis & Gross, 1995: 150–151 (Australia, catalogue). Schuh, 1995: 600–624 (catalogue, world). Kerzhner & Josifov, 1999: 34–49 (catalogue, Palearctic Region).

**Note.** The generic synonymy follows Cassis & Gross (1995).

#### *Deraeocoris maoricus* Woodward, 1950<sup>E</sup>

Type photograph p. 255.

*Deraeocoris maoricus* Woodward, 1950a: 12. Holotype male (AMNZ); NN, Nelson [Botanical Reserve].

**Geographic distribution** (Map p. 303). North Island: AK, BP, GB, ND, TO, WI, WN, WO. South Island: BR, MC, NN, SD.

**Biology.** Terrestrial. Lowland. Planticolous. Occurs in open, unmodified or modified environments (e.g., forest edges and clearings, roadsides, gardens, grasslands, pastures). Collected on a range of native and introduced herbs, low shrubs, and crops (e.g., *Brassica rapa*, *Zea mays*). Seasonality: November to April. Predacious.

**Dispersal power.** Brachypterous [unable to fly] or macropterous [able to fly].

**References.** Wise, 1977: 117 (checklist, New Zealand). Eyles & Carvalho, 1988b (biology, distribution, taxonomy). Schuh, 1995: 612 (catalogue, world).

#### Genus *Reuda* White, 1878<sup>E</sup>

*Reuda* White, 1878a: 132. Type species: *Reuda mayri* White, 1878a, by monotypy.

#### Geographic distribution.

New Zealand.

**References.** Wise, 1977: 117 (checklist, New Zealand). Schuh, 1995: 632 (catalogue, world).

#### *Reuda mayri* White, 1878<sup>E</sup>

*Reuda mayri* White, 1878a: 132. Holotype\* female (BMNH); New Zealand.

**Geographic distribution** (Map p. 306). North Island:

BP–Te Rereauira (LUNZ). ND–Poor Knight Islands, Tawhiti Rahi Island (AMNZ). South Island: BR, CO, FD, MK, NN, WD. Stewart Island.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal. Collected on *Nothofagus*; on sooty mould growing on *Nothofagus*; in moss from rock faces; under stones. Seasonality: December to May (mostly January to March). Predacious.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Wise, 1977: 117 (checklist, New Zealand). Carvalho & Eyles, 1988b (biology, distribution, taxonomy). Schuh, 1995: 632 (catalogue, world).

#### Genus *Romna* Kirkaldy, 1906<sup>E</sup>

*Morna* White, 1878a: 130. Type species: *Morna capsoidea* White, 1878a, by monotypy. Preoccupied.

*Romna* Kirkaldy, 1906a: 141. Replacement name for *Morna*. *Oxychilophora* Reuter, 1908: 183. Type species: *Oxychilophora* [sic] *marginicollis* Reuter, 1908, by monotypy. Synonymised by Bergroth, in Myers & China, 1928: 382.

#### Geographic distribution.

New Zealand.

**References.** Wise, 1977: 117 (checklist, New Zealand). Schuh, 1995: 632–633 (catalogue, world).

#### *Romna albata* Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 261.

*Romna albata* Eyles & Carvalho, 1988b: 66. Holotype male (NZAC); HB, Makahu Spur, Kaweka Range.

**Geographic distribution** (Map p. 306). North Island: HB–Makahu Spur, Kaweka Range.

**Biology.** Terrestrial. [Montane.] Arboreal. Collected on *Phyllocladus*. Seasonality: February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Carvalho & Eyles, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 632 (catalogue, world).

#### *Romna bicolor* Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 262.

*Romna bicolor* Eyles & Carvalho, 1988b: 67. Holotype female (NZAC); FD, Turret Range, Wolfe Flat.

**Geographic distribution** (Map p. 306). South Island: CO–Rock and Pillar Range (OMNZ). FD–Mount Burns (OMNZ). Turret Range, Wolfe Flat.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on grasses and shrubs. Seasonality: January, March. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Carvalho & Eyles, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 632 (catalogue, world).

### **Romna capsoides (White, 1878) <sup>E</sup>**

*Morna capsoides* White, 1878a: 131. Lectotype\* (designated by Eyles & Carvalho, 1988b; BMNH); New Zealand.

*Romna capsoides*: Kirkaldy, 1906a: 141.

*Oxychiliphora [sic] marginicollis* Reuter, 1908: 183. Holotype\* female (NHMW); New Zealand. Synonymised by Eyles, 1998: 43.

*Romna marginicollis*: Myers & China, 1928: 382.

**Geographic distribution** (Map p. 306). North Island: AK, HB, ND, TO, WA, WN, WO. South Island: BR, FD, MB, MC, MK, NC, NN, OL, SC, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal (mostly). Collected on ferns (at night), *Hebe subalpina*, *Leptospermum scoparium* (adults, nymphs), *Nothofagus*, *Phyllocladus*, and *Podocarpus nivalis*. Host plants: *Nothofagus* (A. C. Eyles, personal communication); possibly also *L. scoparium*. Seasonality: November to March (mostly January). Predacious; possibly feeding on caterpillars.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Myers, 1926 (biology; as *Romna* sp.). Wise, 1977: 117 (checklist, New Zealand). Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 632 (catalogue, world). Eyles, 1998 (taxonomy).

**Notes.** *Romna marginicollis* (Reuter) sensu Eyles & Carvalho (1988b) refers to *Romna tenera* Eyles, 1998. Eyles & Carvalho's (1988b: 68) designation of Lake Ohia (ND) as type locality was unsubstantiated. Hudson (1928) noted that *Romna capsoides* is a possible model for the bug-mimic *Coridomorpha stella* Meyrick (Lepidoptera: Oecophoridae).

### **Romna cuneata Eyles & Carvalho, 1988 <sup>E</sup>**

Type photograph p. 262.

*Romna cuneata* Eyles & Carvalho, 1988b: 69. Holotype male (NZAC); MK, Kea Walk, Mount Cook.

**Geographic distribution** (Map p. 307). South Island: MB–Black Birch Range, Black Birch Station (NZAC). MK–Mount Cook (Kea Walk; near Ball Hutt (CMNZ)).

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on *Ozothamnus* and *Hebe subalpina*. Seasonality: January, February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

### **Romna nigrovenosa Eyles & Carvalho, 1988 <sup>E</sup>**

Type photograph p. 262.

*Romna nigrovenosa* Eyles & Carvalho, 1988b: 72. Holotype male (NZAC); MB, Black Birch Range.

**Geographic distribution** (Map p. 307). North Island: WN–Upper Hutt (Eyles & Carvalho, 1988b). South Island: FD–West Arm, Lake Manapouri (Eyles & Carvalho, 1988b). MB–Black Birch Range. MC–Cass (Eyles & Carvalho, 1988b). MK–Lake Ohau (CMNZ). NC–Arthur's Pass (MONZ). NN–Aniseed Valley (NZAC). Nelson (NZAC). SC–Mount Somers (Eyles & Carvalho, 1988b).

**Biology.** Terrestrial. Montane. [Arboreal.] Collected on *Nothofagus* (including *N. solandri*). Seasonality: December to February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

### **Romna oculata Eyles & Carvalho, 1988 <sup>E</sup>**

Type photograph p. 262.

*Romna oculata* Eyles & Carvalho, 1988b: 72. Holotype male (NZAC); OL, Mount Alpha, Wanaka.

**Geographic distribution** (Map p. 307). South Island: CO–Dunstan Mountains (OMNZ). Kakanui Mountains, Crumb Hut (OMNZ). MC–Ashburton River mouth (OMNZ). Kaituna Valley (LUNZ). OL–Mount Alpha, Wanaka.

**Biology.** Terrestrial. [Lowland to subalpine.] Habitat unknown. Seasonality: November to January. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

### **Romna ornata Eyles & Carvalho, 1988 <sup>E</sup>**

Type photograph p. 263.

*Romna ornata* Eyles & Carvalho, 1988b: 74. Holotype male (NZAC); AK, [Hunua Ranges] Hunua Falls.

**Geographic distribution** (Map p. 307). North Island: AK–Hunua Ranges, Hunua Falls. CL–Mount Moehau (Eyles & Carvalho, 1988b). ND–Cape Reinga (Eyles & Carvalho, 1988b).

**Biology.** Terrestrial. Lowland, montane. [Arboreal.] Collected on *Dacrydium cupressinum*. Seasonality: December. Predacious.

**Dispersal power.** Macropterous, able to fly (observed during the day).

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

**Romna pallida** Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 263.

*Romna pallida* Eyles & Carvalho, 1988b: 74. Holotype male (NZAC); ND, [Mount] Manaia, Taurikura, Whangarei Heads.

**Geographic distribution** (Map p. 307). North Island: ND–Mount Manaia, Whangarei Heads. WN–Waikanae (Eyles, 1998). Wilton's Bush (MONZ). South Island: CO–Dunstan Mountains (OMNZ). DN–Dunedin (OMNZ). MC–Banks Peninsula, Akaroa (CMNZ). OL–Matukituki Valley (OMNZ). SL–Catlins, near Owaka (OMNZ).

**Biology.** Terrestrial. Lowland, montane. [Arboreal.] Collected in numbers on its host plant *Sophora* (A.C. Eyles, personal communication). Seasonality: November to February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world). Eyles, 1998 (biology).

**Romna scotti** (White, 1878)<sup>E</sup>

*Morna scotti* White, 1878a: 131. Lectotype\* female (designated by Eyles & Carvalho, 1988b; BMNH); New Zealand.

*Romna scotti*: Kirkaldy, 1909a: 27.

**Geographic distribution** (Map p. 307). North Island: AK, BP, GB, HB, ND, RI, TK, TO, WI, WN. South Island: BR, CO, DN, FD, MC, NC, NN, OL, SC, SD, SL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal. Collected on *Coprosma*, *Muehlenbeckia*, *Myoporum laetum*, *Olearia virgata*, and a *Podocarpus* (adults, nymphs); on grasses, moss on rocks, alpine vegetation, and decaying tree fronds (in winter); also on *Rubus fruticosus*, *Corylus*, and *Malus*. Host plant: *Podocarpus* hybrid (*P. totara* x *P. acutifolius*). Seasonality: September to March (mostly November to January), May, July, August. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Wise, 1977: 117 (checklist, New Zealand). Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world). Eyles, 1998 (biology).

**Note.** Eyles & Carvalho's (1988b: 78) designation of Kaitoke (WN) as type locality was unsubstantiated.

**Romna tenera** Eyles, 1998<sup>E</sup>

Type photograph p. 263.

*Romna tenera* Eyles, 1998: 44. Holotype male (NZAC); RI, NE Ruahines [= Ruahine Range]. New species description for *Romna marginicollis* sensu Eyles & Carvalho, 1988b: 71 (not Reuter).

**Geographic distribution** (Map p. 307). North Island: BP, HB, TK, TO. South Island: CO, FD, MK, NN, OL, SL.

**Biology.** Terrestrial. Montane, subalpine. Arboreal. Collected on *Nothofagus* (including *N. solandri* var. *cliffortioides*). Seasonality: December to March (mostly January). Predacious.

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy; as *R. marginicollis*). Eyles, 1998 (biology, distribution, taxonomy).

**Romna uniformis** Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 263.

*Romna uniformis* Eyles & Carvalho, 1988b: 78. Holotype male (NZAC); SI, Table Hill.

**Geographic distribution** (Map p. 307). South Island: NN–Beebys Knob (NZAC). Mount Arthur Tableland (NZAC). Stewart Island: Table Hill.

**Biology.** Terrestrial. Montane, subalpine. Habitat unknown. Seasonality: January, February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

**Romna variegata** Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 264.

*Romna variegata* Eyles & Carvalho, 1988b: 79. Holotype male (NZAC); NN, Aniseed Valley.

**Geographic distribution** (Map p. 307). North Island: ND, TO, WN, WO. South Island: CO, MC, NN, SC, SL.

**Biology.** Terrestrial. Lowland, montane. [Arboreal.] Collected on *Leptospermum scoparium*, *Pittosporum tenuifolium*, *Carmichaelia*, and mixed scrub vegetation. Seasonality: November to February. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1988b (biology, distribution, key, taxonomy). Schuh, 1995: 633 (catalogue, world).

**Subfamily MIRINAE**

**Reference.** Eyles, 2001 (biology, distribution, eggs, female genitalia, key to tribes and genera, New Zealand, taxonomy).

**Tribe MIRINI****Genus *Anexochus*** Eyles, 2001<sup>E</sup>

*Anexochus* Eyles, 2001: 208. Types species: *Anexochus crassicornis* Eyles, 2001, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles, 2001 (key, taxonomy, including egg).

**Anexochus crassicornis** Eyles, 2001<sup>E</sup>

Type photograph p. 243.

*Anexochus crassicornis* Eyles, 2001: 209. Holotype male (LUNZ); NC, Lees Valley.

**Geographic distribution** (Map p. 297). North Island: TO–Waipakihi Road, edge of Kaimanawa State Forest Park (AMNZ, MONZ, NZAC, OMNZ). South Island: BR–Lake Rotoroa (NZAC). NC–Lees Valley. NN–Dun Mountain (NZAC). Mount Arthur Tableland (NZAC). Roding River (NZAC).

**Biology.** Terrestrial. Montane. Arboreal. Collected on *Nothofagus solandri* (including its host plant *N. solandri* var. *cliffortioides*). Seasonality: December, January (adults); December (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles, 2001 (taxonomy, including egg).

**Genus Bipuncticoris** Eyles & Carvalho, 1995<sup>E</sup>

*Bipuncticoris* Eyles & Carvalho, 1995: 50. Type species:

*Bipuncticoris cassinianus* Eyles & Carvalho, 1995, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1995 (key to species, revision). Eyles, 2001 (key).

**Bipuncticoris cassinianus** Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 243.

*Bipuncticoris cassinianus* Eyles & Carvalho, 1995: 54. Holotype male (NZAC); MB, Black Birch Range.

**Geographic distribution** (Map p. 297). South Island: MB–Black Birch Range (CMNZ, NZAC). NC–Annandale (Eyles & Carvalho, 1995). Waiau (Eyles & Carvalho, 1995).

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected on its host plant *Cassinia leptophylla* [= *Ozothamnus leptophyllum*] and on *Leptospermum*. Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Bipuncticoris chlorus** Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 243.

*Bipuncticoris chlorus* Eyles & Carvalho, 1995: 54. Holotype male (NZAC); WN, Tararua Range, Mount Dundas.

**Geographic distribution** (Map p. 297). North Island:

WN–Tararua Range, Mount Dundas.

**Biology.** Terrestrial. Montane, subalpine. [Planticolous.] [On subalpine vegetation.] Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Bipuncticoris convexus** Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 244.

*Bipuncticoris convexus* Eyles & Carvalho, 1995: 55. Holotype male (NZAC); MB, Mount Richmond, Fell Range.

**Geographic distribution** (Map p. 297). South Island: MB–Mount Richmond, Fell Range (CMNZ, NZAC).

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on its host plant *Brachyglossis adamsii* (adults, nymphs). Seasonality: March (adults, nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Bipuncticoris gurri** Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 244.

*Bipuncticoris gurri* Eyles & Carvalho, 1995: 56. Holotype male (NZAC); HB, Makahu Spur, Kaweka Range.

**Geographic distribution** (Map p. 297). North Island: HB–Makahu Spur, Kaweka Range.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on *Olearia*. Seasonality: February, March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Bipuncticoris irroratus** Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 244.

*Bipuncticoris irroratus* Eyles & Carvalho, 1995: 58. Holotype male (NZAC); FD, Mount Barber.

**Geographic distribution** (Map p. 297). South Island: FD, MK, OL, WD.

**Biology.** Terrestrial. Subalpine. Planticolous. Collected on *Hebe subalpina*, *Olearia crosby-smithiana*, *Olearia ilicifolia*, *Polystichum* (possibly), *Senecio* flowers, tussock. Host plants: Probably *Senecio* and *Olearia*. Seasonality: January, February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris lineatus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 244.

*Bipuncticoris lineatus* Eyles & Carvalho, 1995: 60. Holotype male (NZAC); FD, Hunter Mountains, South Borland River.

**Geographic distribution** (Map p. 297). South Island: CO, DN, FD, MK, OL, SL.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected in numbers on *Olearia virgata* (including flowers) and other shrubs. Host plant: *Olearia*. Seasonality: November to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris longicerus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 245.

*Bipuncticoris longicerus* Eyles & Carvalho, 1995: 62. Holotype male (NZAC); SI, Table Hill.

**Geographic distribution** (Map p. 297). South Island: BR, CO, NN, SL. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Collected on mat plants and *Blechnum* ferns (at night). Seasonality: October to March, May. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris minor* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 245.

*Bipuncticoris minor* Eyles & Carvalho, 1995: 62. Holotype male (NZAC); WN, Terawhiti Hill.

**Geographic distribution** (Map p. 298). North Island: WN–Otaki Gorge Road (NZAC; MONZ). Terawhiti Hill. Titahi Bay (Eyles & Carvalho, 1995). Vicinity of Wellington (Eyles & Carvalho, 1995). Wellington Botanical Gardens (Eyles & Carvalho, 1995).

**Biology.** Terrestrial. Lowland. Planticolous. Collected on flowering *Cassinia leptophylla* [= *Ozothamnus leptophyllus*] (adults, nymphs) and *Olearia*. Host plant: *C. leptophylla* [= *Ozothamnus leptophyllus*]. Seasonality: January, Febru-

ary (adults); February (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris olearinus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 245.

*Bipuncticoris olearinus* Eyles & Carvalho, 1995: 63. Holotype male (NZAC); FD, Upper Hollyford Valley, Homer.

**Geographic distribution** (Map p. 298). South Island: FD, NN, WD.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected mostly on *Olearia ilicifolia*, also on *Coprosma* and *Schefflera digitata*. Host plant: Probably *Olearia*. Seasonality: November to March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris planus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 245.

*Bipuncticoris planus* Eyles & Carvalho, 1995: 66. Holotype male (NZAC); WN, Tararua Range, Dundas Hut.

**Geographic distribution** (Map p. 298). North Island. WN–Tararua Range (Dundas Hut/Ridge; East Logan Basin (NZAC); Mount Dundas (MONZ, NZAC)).

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on *Olearia colensoi*, other *Olearia* species, ferns, and tussock. Host plant: Probably *Olearia*. Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy). Eyles, 2001 (female genitalia, taxonomy).

### ***Bipuncticoris robustus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 246.

*Bipuncticoris robustus* Eyles & Carvalho, 1995: 68. Holotype male (NZAC); TK, Mount Egmont [=Taranaki], Manganui Gorge.

**Geographic distribution** (Map p. 298). North Island: TK–Mount Egmont/Taranaki (Manganui Gorge; Plateau (OMNZ)). Pouakai Range (Pouakai Hut (NZAC); Pouakai Trig (NZAC)). Stratford (NZAC).

**Biology.** Terrestrial. Montane, subalpine. Planticolous.

Collected on *Brachyglottis elaeagnifolia* (possible host plant). Seasonality: November to January, March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

### ***Bipuncticoris triplex* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 246.

*Bipuncticoris triplex* Eyles & Carvalho, 1995: 69. Holotype male (NZAC); RI, Palmerston North, Ballantae [=Ballantrae].

**Geographic distribution** (Map p. 298). North Island: AK, HB, RI, TK, TO, WN. South Island: DN, MC, NN.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous (mostly), arboreal. Collected on *Cassinia leptophylla* [=*Ozothamnus leptophyllus*] (adults, nymphs), *Cordyline australis* (in flowers), *Olearia arborescens*, *Olearia ilicifolia*, other *Olearia* species, and *Phyllocladus*; in *Nothofagus* forest; and in hill country pasture (at artificial lights). Host plants: *Cordyline australis*, *Cassinia leptophylla* [=*Ozothamnus leptophyllus*], possibly also *Olearia*. Seasonality: October to March (adults); October (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy). Eyles, 2001 (biology, female genitalia, taxonomy).

### ***Bipuncticoris vescus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 246.

*Bipuncticoris vescus* Eyles & Carvalho, 1995: 70. Holotype male (NZAC); MB, Black Birch Range.

**Geographic distribution** (Map p. 298). North Island: ND–Waimatenui (NZAC). South Island: MB–Black Birch Range.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal. Collected on *Hoheria glabrata* (MB) and *Olearia rani* (ND). Seasonality: October (ND), February (MB). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Note.** The Waimatenui record may represent a distinct North Island species (Eyles & Carvalho, 1995).

### ***Bipuncticoris xestus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 246.

*Bipuncticoris xestus* Eyles & Carvalho, 1995: 71. Holotype male (CMNZ); MC, Cass.

**Geographic distribution** (Map p. 298). South Island: BR/NC–Hope River bridge (Eyles & Carvalho, 1995). MC–Cass.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected on *Ozothamnus*, *Carmichaelia*, and tussock. Host plant: *Cassinia leptophylla* [=*Ozothamnus leptophyllus*]. Seasonality: February, April. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

## **Genus *Calocoris* Fieber, 1858 (See *Clasterotomus*)**

### **Genus *Chinamiris* Woodward, 1950<sup>E</sup>**

*Chinamiris* Woodward, 1950a: 9. Type species: *Chinamiris muehlenbeckiae* Woodward, 1950a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Wise, 1977: 116 (checklist, New Zealand). Eyles & Carvalho, 1991 (key to species, revision). Schuh, 1995: 740 (catalogue, world). Eyles, 2001 (egg stage, key, taxonomy).

### ***Chinamiris acutospinosus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 247.

*Chinamiris acutospinosus* Eyles & Carvalho, 1991: 276. Holotype male (NZAC); KA, [Mount] Snowflake.

**Geographic distribution** (Map p. 299). North Island: BP, CL, GB, HB, TK, TO, WA. South Island: BR, CO, DN, FD, KA, MB, MC, NN, SC, SD.

**Biology.** Terrestrial. Lowland to subalpine. Arboreal. Found in and around native forests. Collected mostly on *Nothofagus* (including *N. solandri* var. *cliffortioides*, *N. menziesii*), also on *Coprosma* (including *C. rubra*), *Cordyline australis*, *Lepidothamnus intermedius*, flowering *Hebe*, *Olearia*, *Pinus nigra*, and *Pseudopanax*. Host plant: *Coprosma rubra*. Seasonality: September to April, June, July (mostly October to January). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world). Eyles, 2001 (biology, distribution).

***Chinamiris aurantiacus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 247.

*Chinamiris aurantiacus* Eyles & Carvalho, 1991: 277.

Holotype male (NZAC); SD, Stephens Island.

**Geographic distribution** (Map p. 299). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WI, WN. South Island: BR, DN, KA, MC, NC, NN, OL, SC, SD, WD. Offshore Islands: TH.

**Biology.** Terrestrial. Lowland. Arboreal. Mostly found in and around coastal forests and scrubs. Collected mainly on *Myoporum laetum* (adults, nymphs); also on *Coprosma* (coastal), ferns, moss, *Muehlenbeckia axillaris*, *Phormium tenax* (at night), tussock, and other coastal vegetation. Host plant: *Myoporum laetum*. Seasonality: September to April (adults); November (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world). Eyles, 2001 (female genitalia, taxonomy).

***Chinamiris brachycerus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 248.

*Chinamiris brachycerus* Eyles & Carvalho, 1991: 281.

Holotype male (NZAC); HB, Putaihinu Ridge, Huiarau Range, Urewera National Park.

**Geographic distribution** (Map p. 299). North Island: HB–Urewera National Park (Huiarau Range, Putaihinu Ridge (NZAC)). TO/GB–Urewera National Park (Waikaremoana, Mount Maungapohatu (NZAC)).

**Biology.** Terrestrial. Montane, subalpine. Arboreal. Collected only on *Coprosma* (possible host plant). Seasonality: March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

***Chinamiris citrinus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 248.

*Chinamiris citrinus* Eyles & Carvalho, 1991: 281. Holotype male (NZAC); TO, Iwikau [Village], [Mount] Ruapehu.

**Geographic distribution** (Map p. 299). North Island: TK–Mount Egmont/Taranaki (NZAC) (North Egmont (Eyles & Carvalho, 1991); Pouakai Range Hut (Eyles & Carvalho, 1991)). Stratford (Eyles & Carvalho, 1991). TO–Mount Ruapehu (Iwikau Village; Taranaki Falls (Eyles & Carvalho, 1991)). Ohakune (Eyles & Carvalho, 1991).

**Biology.** Terrestrial. Montane, subalpine. [Planticolous.] Collected on alpine grass swards. Seasonality: November to February, April. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

***Chinamiris cumberi* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 248.

*Chinamiris cumberi* Eyles & Carvalho, 1991: 282. Holotype male (NZAC); WI/WN, Paiaka [Manawatu].

**Geographic distribution** (Map p. 299). North Island: AK, HB, RI, TK, TO, WI, WN.

**Biology.** Terrestrial. Lowland, montane. [Planticolous.] Collected on flowering *Muehlenbeckia australis*, *M. complexa*, and *Berberis*; also taken by light trapping in a *Phormium* area. Seasonality: October, December to March, May. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

***Chinamiris daviesi* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 248.

*Chinamiris daviesi* Eyles & Carvalho, 1991: 283. Holotype male (NZAC); HB, Little Bush, Puketitiri.

**Geographic distribution** (Map p. 299). North Island: HB–Little Bush, Puketitiri.

**Biology.** Terrestrial. [Lowland.] [Planticolous.] Collected in a native forest. Seasonality: January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh 1995: 740 (catalogue, world).

***Chinamiris dracophylloides* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 249.

*Chinamiris dracophylloides* Eyles & Carvalho, 1991: 284. Holotype male (NZAC); FD, Wilmot Pass.

**Geographic distribution** (Map p. 299). South Island: BR, FD, MK, OL, WD.

**Biology.** Terrestrial. Subalpine. Arboreal. Found in and around subalpine forests, shrublands, and scrublands. Collected mostly on *Dracophyllum* and *Coprosma* (including *C. propinqua*), also on grass, *Hebe subalpina*, other *Hebe* species, *Nothofagus*, *Olearia*, various other subalpine

plants; under stones. Seasonality: January, February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

### ***Chinamiris elongatus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 249.

*Chinamiris elongatus* Eyles & Carvalho, 1991: 286. Holotype male (NZAC); WD, Otira.

**Geographic distribution** (Map p. 300). North Island: AK, CL, GB, HB, ND, TO, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland (mostly), montane. ArboREAL. Collected mainly on *Coprosma* (adults and nymphs in numbers), including *C. parviflora* and *C. arborea* (N. A. Martin, personal communication); also on *Dacrydium cupressinum*, *Schefflera digitata*, and *Nothofagus*; sometimes on *Acer*, *Alnus*, *Astelia*, *Brachyglottis*, *Carpodetus*, *Dracophyllum*, *Hebe divaricata*, *Leptospermum*, *Melicytus*, *Muehlenbeckia*, *Olearia*, *Phormium*, *Weinmannia*, ferns (at night), grass, various shrubs, tussock, and weeds. Host plants: *Coprosma*, *Dacrydium cupressinum*; adults reared from nymphs on *Coprosma arborea* (N. A. Martin, personal communication). Seasonality: August to March, mostly November to January (adults); November (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world). Eyles, 2001 (biology, distribution).

### ***Chinamiris fascinans* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 249.

*Chinamiris fascinans* Eyles & Carvalho, 1991: 288. Holotype male (NZAC); SD, Stephens Island.

**Geographic distribution** (Map p. 300). North Island: AK–Titirangi (NZAC). TO–Desert Road/Oturere Stream (NZAC). WA–Castlepoint (NZAC). WI–Pohangina West Road (Eyles, 2001). South Island: SD–Stephens Island.

**Biology.** Terrestrial. Lowland (mostly), montane. ArboREAL. Collected on *Leptospermum scoparium* (possible host plant). Seasonality: December to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

Eyles, 2001 (biology, distribution, female genitalia, taxonomy).

### ***Chinamiris guttatus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 249.

*Chinamiris guttatus* Eyles & Carvalho, 1991: 289. Holotype male (NZAC); BR, Lake Rotoiti.

**Geographic distribution** (Map p. 300). South Island: BR, FD, NC, NN, WD.

**Biology.** Terrestrial. [Montane.] [Arboreal.] Collected on *Coprosma*, *Olearia ilicifolia*, and moss hanging from tree and shrub branches. Seasonality: October to February, April. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

### ***Chinamiris hamus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 250.

*Chinamiris hamus* Eyles & Carvalho, 1991: 290. Holotype male (NZAC); BR, Lake Rotoiti.

**Geographic distribution** (Map p. 300). South Island. BR–Lake Rotoiti. SC–Peel Forest (LUNZ).

**Biology.** Terrestrial. [Montane.] Habitat unknown. Seasonality: October. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

### ***Chinamiris indeclivis* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 250.

*Chinamiris indeclivis* Eyles & Carvalho, 1991: 291. Holotype male (NZAC); WN, Paekakariki, Queen Elizabeth Park.

**Geographic distribution** (Map p. 300). North Island: AK, BP, CL, HB, ND, RI, TK, TO, WI, WN, WO. South Island: FD, KA, MB, MC, NN, SD, SL.

**Biology.** Terrestrial. Lowland (mostly), montane. Planticolous, arboreal (mostly). Found in and around native forests and shrublands. Collected mainly on *Coprosma* (including *C. repens* (adults, nymphs), *C. grandiflora*, *C. lucida*, and *C. robusta*); also on *Hebe stricta*, other *Hebe* species, *Melicytus ramiflorus*, *Muehlenbeckia*, *Olearia ilicifolia*, other *Olearia* species, *Acacia* or *Paraserianthes*, coastal vegetation, grasses, various other trees and shrubs. Host plant: *C. repens*. Seasonality: September to May, mostly November to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world). Eyles, 2001 (biology, distribution, female genitalia, taxonomy).

### ***Chinamiris juvans* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 250.

*Chinamiris juvans* Eyles & Carvalho, 1991: 293. Holotype male (NZAC); NN, Cobb Reservoir, Trilobite Hut.

**Geographic distribution** (Map p. 300). South Island. NN–Abel Tasman National Park, Canaan [=Little Canaan] (LUNZ). Cobb Reservoir, Trilobite Hut.

**Biology.** Terrestrial. [Montane.] [Arboreal.] Collected on *Nothofagus*. Seasonality: December, February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

### ***Chinamiris laticinctus* (Walker, 1873)<sup>E</sup>**

*Capsus laticinctus* Walker, 1873: 127. Holotype\* female (BMNH); New Zealand.

*Capsus ustulatus* Walker, 1873: 128. Holotype\* female (BMNH); New Zealand. Synonymised by Distant, 1904a: 110.

*Calocoris laticinctus*: Distant, 1904a: 110.

*Chinamiris laticinctus*: Eyles & Carvalho, 1991: 294.

**Geographic distribution** (Map p. 300). North Island: AK, BP, CL, HB, ND, TO, WA, WI, WN. South Island: BR, CO, DN, MC, NC, NN, OL, SD, SL, WD. Stewart Island. Offshore Islands: CH, TH.

**Biology.** Terrestrial. Lowland (mostly) to subalpine. Planticolous, arboreal. Found in marshy or swampy habitats, in and around native forests and shrublands. Collected on *Ageratina*, *Blechnum*, *Carex secta*, *Eupatorium*, *Hebe odora*, *Juncus*, *Nothofagus*, *Olearia virgata*, *Pinus radiata*, ferns, grass (in grasslands, along river beds), sedges, shrubs, tide water monocotyledons and other beach vegetation; in sand dunes; in *Chionochloa* pasture. Host plant: Possibly *Carex secta*. Seasonality: Throughout the year, mostly November to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, able to fly (observed from December to February). Attracted to artificial lights.

**References.** Wise, 1977: 116 (checklist, New Zealand; as *Calocoris laticinctus*). Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

### ***Chinamiris marmoratus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 250.

*Chinamiris marmoratus* Eyles & Carvalho, 1991: 297. Holotype male (NZAC); NN, Nelson.

**Geographic distribution** (Map p. 300). North Island: TO–Erua (LUNZ). South Island: MB–Hanmer Forest Park (CMNZ). MC–Banks Peninsula, Herbert Peak Scenic Reserve (CMNZ). Riccarton Bush [Christchurch] (LUNZ). NN–Nelson. Riwaka (NZAC). WD–Haast Pass, Greenstone Flat (NZAC).

**Biology.** Terrestrial. Lowland. Arboreal. Collected mainly on *Coprosma repens* (adults, nymphs) and *Pinus nigra*. Host plant: *C. repens*. Seasonality: November to January (adults); November (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 740 (catalogue, world).

**Note.** This species has not been previously recorded from the North Island.

### ***Chinamiris minutus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 251.

*Chinamiris minutus* Eyles & Carvalho, 1991: 298. Holotype male (NZAC); FD, Wilmot Pass.

**Geographic distribution** (Map p. 300). South Island: FD–Wilmot Pass. Turret Range, Wolfe Flat (NZAC). Upper Hollyford Valley, Homer (NZAC).

**Biology.** Terrestrial. Montane, subalpine. Arboreal. Collected mainly on *Coprosma*, *Olearia ilicifolia*, and other flowering *Olearia*; also on *Schefflera digitata*. Seasonality: December, January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris muehlenbeckiae* Woodward, 1950<sup>E</sup>**

Type photograph p. 251.

*Chinamiris muehlenbeckiae* Woodward, 1950a: 10. Holotype male (AMNZ); WI, Foxton.

**Geographic distribution** (Map p. 301). North Island: BP–Tauranga (NZAC). WI–Foxton. WN–Red Rocks (Eyles & Carvalho, 1991). South Island: NN–Takaka Hill (Eyles & Carvalho, 1991).

**Biology.** Terrestrial. Lowland (mostly), montane. Planticolous. Collected on *Muehlenbeckia*, including *M. australis* (adults and nymphs; probable host plant). Seasonality: Mostly January to March (adults); January (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Wise, 1977: 116 (checklist, New Zealand). Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris niculatus* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 251.

*Chinamiris niculatus* Eyles & Carvalho, 1991: 300. Holotype male (NZAC); WI, Wanganui, Longacre Road.

**Geographic distribution** (Map p. 301). North Island: WI–Wanganui, Longacre Road.

**Biology.** Terrestrial. [Lowland.] Habitat unknown. Seasonality: January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris nigrifrons* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 251.

*Chinamiris nigrifrons* Eyles & Carvalho, 1991: 300. Holotype male (NZAC); NN, Mount Arthur.

**Geographic distribution** (Map p. 301). North Island: RI, TK, TO, WN. South Island: BR, FD, MB, MK, NC, NN, OL, SC.

**Biology.** Terrestrial. Montane, subalpine. [Planticolous, arboreal.] Collected on *Coprosma pseudocuneata*, other *Coprosma* species, *Hebe salicifolia* (at night), other *Hebe* species, *Muehlenbeckia*, various other shrubs, tussock-fern associations, various alpine plants, and on stony ground in tussock. Seasonality: December to March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris opacus* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 252.

*Chinamiris opacus* Eyles & Carvalho, 1991: 302. Holotype male (NZAC); RI, Ruahine Range, Maropea Hut.

**Geographic distribution** (Map p. 301). North Island: RI–Ruahine Range, Maropea Hut. WN–Rimutaka Range (Eyles & Carvalho, 1991).

**Biology.** Terrestrial. [Montane.] Arboreal. Collected on *Coprosma* and *Discaria toumatou*. Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris ovatus* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 252.

*Chinamiris ovatus* Eyles & Carvalho, 1991: 303. Holotype male (NZAC); TO, Turangakumu, Napier-Taupo Road.

**Geographic distribution** (Map p. 301). North Island: AK, BP, HB, ND, RI, TO, WA. South Island: BR, MB, MC, NC, NN.

**Biology.** Terrestrial. Lowland, montane. Arboreal. Collected on *Coprosma robusta*, other *Coprosma* species, *Nothofagus* (including *N. fusca*, *N. menziesii*), ferns, and from the mixed understorey vegetation of *Nothofagus* and other native forests. Seasonality: September to March, mostly November to January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris punctatus* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 252.

*Chinamiris punctatus* Eyles & Carvalho, 1991: 304. Holotype male (NZAC); WD, Franz Josef.

**Geographic distribution** (Map p. 301). North Island: TK–Mount Egmont/Taranaki, Kapuni Valley (Eyles & Carvalho, 1991). South Island: DN, NC, NN, OL, SL, WD.

**Biology.** Terrestrial. Montane, subalpine. [Arboreal.] Collected on *Nothofagus fusca*. Seasonality: September to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris quadratus* Eyles & Carvalho, 1991 <sup>E</sup>**

Type photograph p. 252.

*Chinamiris quadratus* Eyles & Carvalho, 1991: 305. Holotype male (NZAC); FD, Mount Burns, Hunter Mountains.

**Geographic distribution** (Map p. 301). South Island: FD–Hunter Mountains, Mount Burns; South Borland River (CMNZ, NZAC). Lake Monk, Head of [River] Valley (OMNZ).

**Biology.** Terrestrial. [Montane.] [Arboreal.] Collected in numbers on flowering *Olearia virgata*. Seasonality: January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

***Chinamiris rufescens* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 253.

*Chinamiris rufescens* Eyles & Carvalho, 1991: 307. Holotype male (NZAC); NN, Mount Arthur.

**Geographic distribution** (Map p. 301). South Island: NN–Beebys Knob (Eyles & Carvalho, 1991). Lake Sylvester (LUNZ). Mount Arthur.

**Biology.** Terrestrial. Subalpine. Planticolous. Collected on *Hebe topiaria* and tussock. Seasonality: November, February, March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

***Chinamiris secundus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 253.

*Chinamiris secundus* Eyles & Carvalho, 1991: 308. Holotype male (NZAC); ND, Ngaiotonga.

**Geographic distribution** (Map p. 301). North Island: AK, ND, WN. South Island: DN, FD, NC, NN, OL, SC.

**Biology.** Terrestrial. Lowland. Arboreal. Collected on various *Coprosma* (including a small-leaved species and *C. macrocarpa*); also in *Agathis*–*Leptospermum* forest. Host plant: Possibly *Coprosma*. Seasonality: September, November to February, May, August. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

***Chinamiris testaceus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 253.

*Chinamiris testaceus* Eyles & Carvalho, 1991: 309. Holotype male (NZAC); TK, Dawson Falls Road, Taranaki.

**Geographic distribution** (Map p. 302). North Island: AK, BP, CL, TK, TO, WN.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal (mostly). Collected mostly on *Hebe* (adults, nymphs), including *H. stricta*; also on *Olearia arborescens*, and *Metrosideros* or *Phormium*. Host plant: Probably *Hebe*. Seasonality: September to May (adults); October (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

***Chinamiris unicolor* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 253.

*Chinamiris unicolor* Eyles & Carvalho, 1991: 310. Holotype male (NZAC); NC, Arthur's Pass, Dobson Memorial [=Nature] Walk.

**Geographic distribution** (Map p. 302). South Island: BR, DN, MB, MC, MK, NC, NN, OL.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on *Hebe* (including *H. divaricata*, *H. parviflora*) and on alpine swards. Host plant: *Hebe*. Seasonality: October, December to April, May, August (adults); January (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world). Eyles, 2001 (biology).

***Chinamiris virescens* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 254.

*Chinamiris virescens* Eyles & Carvalho, 1991: 311. Holotype male (NZAC); MC, Sumner, Summit Track.

**Geographic distribution** (Map p. 302). North Island: AK–Woodhill, Hodges Basin (NZAC; Eyles, 2001). ND–Tutukaka Harbour, Gable Island [=South Gable] (Eyles & Carvalho, 1991). WI–Atene Skyline Walk [=Track] (MONZ; Eyles, 2001). South Island: KA–Conway Flats (Eyles & Carvalho, 1991). Omihi (Eyles & Carvalho, 1991). MC–Sumner, Summit Track.

**Biology.** Terrestrial. Lowland (mostly), montane. ArboREAL. Collected on *Carmichaelia* and *Pseudotsuga menziesii*. Host plant: *Carmichaelia*. Seasonality: September, November, January to March, August (adults); February (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world). Eyles, 2001 (biology, distribution).

***Chinamiris viridicans* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 254.

*Chinamiris viridicans* Eyles & Carvalho, 1991: 312. Holotype male (NZAC); NN, Roding River.

**Geographic distribution** (Map p. 302). North Island: GB, HB, ND, RI, TK, TO, WN. South Island: BR, DN, FD, KA, MB, MC, NN, SC, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal. Collected on *Blechnum* in *Nothofagus* forests, *Carpodetus serratus*, *Cordyline australis*, *Hebe divaricata*, other *Hebe* species, *Hoheria glabrata*, *Nothofagus*, hanging moss (on *Agathis*, *Nothofagus*); moss and *Nothofagus solandri* litter; ferns and other understorey vegetation in

forests [*Nothofagus*]; moss and hepatic from forest floor; bushes on lakeshore; on snow. Seasonality: September to June. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris whakapapae* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 254.

*Chinamiris whakapapae* Eyles & Carvalho, 1991: 314.  
Holotype male (NZAC); TO, Whakapapa [Village], [Mount] Ruapehu.

**Geographic distribution** (Map p. 302). North Island: TK—Mount Egmont/Taranaki (MONZ; as *Chinamiris* near *whakakapae*, determined by Eyles). TO—Mount Ruapehu, Whakapapa Village.

**Biology.** Terrestrial. [Subalpine.] Habitat unknown. Seasonality: November. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### ***Chinamiris zygottus* Eyles & Carvalho, 1991<sup>E</sup>**

Type photograph p. 254.

*Chinamiris zygottus* Eyles & Carvalho, 1991: 315. Holotype male (NZAC); CO, Rock and Pillar Range, Stonehenge Track.

**Geographic distribution** (Map p. 302). North Island: BP, TO. South Island: BR, CO, DN, OL, SC. Stewart Island.

**Biology.** Terrestrial. Subalpine. Planticolous. Collected on *Hebe* (including *H. odora*) and *Olearia lineata*. Seasonality: October, November, February, March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1991 (biology, distribution, key, taxonomy). Schuh, 1995: 741 (catalogue, world).

### **Genus *Closterotomus* Fieber, 1858<sup>A</sup>**

*Closterotomus* Fieber, 1858: 306. Type species: *Closterotomus bifasciatus sensu* Fieber, 1858 (= *Capsus biclavatus* Herrich-Schaeffer, 1835), by monotypy. Synonymised with *Calocoris* Fieber, 1858, by Reuter, 1875b: 80; reinstated as genus by Rosenzweig, 1997: 141.

*Calocoris* (*Closterotomus*): Wagner, 1971: 296.

*Poecilonotus* Reuter, 1896: 167. Type species: *Poecilonotus picturatus* Reuter, 1896, by original designation. Synonymised by Rosenzweig, 1997: 141.

**Geographic distribution.** Nearly worldwide.

**References.** Rosenzweig, 1997 (nomenclature). Kerzhner & Josifov, 1999: 84–89 (catalogue, Palearctic Region). Eyles, 2000b (nomenclature), 2001 (key).

### ***Closterotomus norwegicus* (Gmelin, 1790)<sup>A</sup>**

*Cimex bipunctatus* Fabricius, 1779: 346. Syntypes\*, male, female (ZMUC, 1 syntype); Norway, Lokken S of Trondheim (Kerzhner & Josifov, 1999: 87). Preoccupied.

*Cimex norwegicus* Gmelin, 1790: 2176. Replacement name for *Cimex bipunctatus*.

*Calocoris norvegicus*: Reuter, 1888: 232.

*Calocoris norvegicus*. Unjustified subsequent spelling.

*Closterotomus norvegicus*: Rosenzweig, 1997: 149–150 (species group).

Common name: Potato mirid or potato bug.

**Geographic distribution** (Map p. 302). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Offshore Islands: CH. First New Zealand record: New Zealand (Myers & China, 1928; as *Calocoris norvegicus*). Extralimital range: Australia (Tasmania only), Nearctic Region, Neotropical Region, Oriental Region, Palearctic Region.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Collected on a wide variety of introduced plants (weeds and crops) and some native plants: Actinidiaceae—*Actinidia deliciosa*; Apiaceae—*Conium maculatum*, *Daucus carota*, *Pastinaca sativa*; Araceae—*Zantedeschia aethiopica*; Asteraceae—*Bellis perennis*, *Carduus nutans*, *Cassinia*, *Cirsium arvense*, *Cotula coronopifolia*, *Dahlia*, *Dolichoglottis scorzonerooides*, *Hieracium*, *Lactuca sativa*, *Olearia*, *Ozothamnus*, *Senecio jacobaea*, other *Senecio* species, *Sonchus asper*; Boraginaceae—*Myosotis*; Brassicaceae—*Brassica rapa*, *Brassica oleracea*, *Matthiola incana*, *Sisymbrium officinale*; Buddlejaceae—*Buddleja davidii*; Cannabaceae—*Humulus lupulus*; Chenopodiaceae—*Beta vulgaris*; Cyperaceae; Dennstaedtiaceae—*Pteridium esculentum*; Ericaceae—*Vaccinium corymbosum*; Fabaceae—*Cytisus scoparius*, *Lotus pedunculatus*, *Medicago sativa*, *Phaseolus*, *Pisum sativum*, *Trifolium pratense*, *Trifolium repens*, *Vicia faba*; Nothofagaceae—*Nothofagus*; Juncaceae—*Juncus maritimus*, other *Juncus* species; Lamiaceae—*Mentha pulegium*, *Thymus pulegioides*; Liliaceae—*Asparagus officinalis*, *Bulbinella*; Linaceae—*Linum monogynum*; Malvaceae—*Malva sylvestris*; Myrtaceae—*Leptospermum scoparium*; Papaveraceae—*Papaver nudicaule*; Phytolaccaceae—*Phytolacca octandra*; Poaceae—*Agrostis capillaris*, *Alopecurus pratensis*, *Ammophila arenaria*, *Avena sativa*, *Chionochloa*, *Dactylis glomerata*, *Hordeum*, *Triticum*, other grasses; Podocarpaceae—*Dacrydium*

*cupressinum*; Polygonaceae—*Rheum rhabarbarum*; Ranunculaceae—*Ranunculus lyallii*, other *Ranunculus* species; Rosaceae—*Fragaria x ananassa*, *Prunus armeniaca*, *Pyrus pyrifolia*, *Rosa*; Rubiaceae—*Coprosma*, *Galium*; Scrophulariaceae—*Hebe*; Solanaceae—*Solanum aviculare*, *Solanum tuberosum*; Thymelaeaceae—*Pimelia arenaria*; Urticaceae—*Urtica*; Violaceae—*Melicytus ramiflorus*. Host plants: Asteraceae—*Cirsium arvense*, *Sonchus asper*; Fabaceae—*Lotus pedunculatus*, *Medicago sativa*, *Trifolium repens*, *Vicia faba*; Liliaceae—*Asparagus officinalis*; Malvaceae—*Malva sylvestris*; Rosaceae—*Fragaria x ananassa*; Solanaceae—*Solanum aviculare*, *S. tuberosum*. Seasonality: Throughout the year. Life cycle outlined by Chapman (1984). Phytophagous (sap-sucking). Economic importance: If uncontrolled, can be a major pest of *Medicago sativa* and *Lotus* seed crops in the South Island, and of *Trifolium repens* seed crops in Canterbury; also attacks *Asparagus officinalis* (southern North Island), *Dactylis glomerata* grown for seed (South Island), *Humulus lupulus*, and a number of vegetable crops (e.g., *Solanum tuberosum*, *Phaseolus*, *Brassica rapa*, *Lactuca sativa*, *Beta vulgaris*, *Rheum rhabarbarum*).

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Wise, 1977: 116 (checklist, New Zealand; as *Calocoris norvegicus*). Chapman, 1984 (biology, economic importance; as *Calocoris norvegicus*). Cassis & Gross, 1995: 131, 164–165 (Australia, catalogue; as *Calocoris norvegicus*). Schuh, 1995: 714 (catalogue, world; as *Calocoris norvegicus*). Kerzhner & Josifov, 1999: 87–88 (catalogue, Palearctic Region). Martin, 1999 (biology). Eyles, 2000b (biology, distribution, economic importance, taxonomy). Wheeler, 2000a (economic importance, world).

**Notes.** In accordance with Cassis & Gross (1995), the subspecific and varietal arrangement of Stichel (1958) for “*Calocoris norvegicus*” is not followed. Basic synonymy is given here; further information on the synonymy of this cosmopolitan species can be found in Rosenzweig (1997) or Kerzhner & Josifov (1999). More information on the wide range of associated plants, pest status and control measures can be found in Eyles (2000b) and Wheeler (2000a).

### Genus *Diomocoris* Eyles, 2000<sup>E</sup>

*Diomocoris* Eyles, 2000a: 306. Type species: *Diomocoris woodwardi* Eyles, 2000a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles, 2000a (key to genera of *Lygus*-complex, key to *Diomocoris* species, revision). Eyles, 2001 (key).

**Notes.** This genus includes the species previously known as *Lygus maoricus* (Walker) and its junior synonym *Lygus plebejus* Reuter, as well as eight other endemic species. See also Notes under *Lygus* Hahn.

### *Diomocoris fasciatus* Eyles, 2000<sup>E</sup>

Type photograph p. 255.

*Diomocoris fasciatus* Eyles, 2000a: 310. Holotype male (NZAC); WN, Paraparaumu.

**Geographic distribution** (Map p. 303). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WN. South Island: MB, MC, NN, SD.

**Biology.** Terrestrial. Lowland (mostly), montane. Planticolous, arboreal (mostly). Collected mostly on *Melicytus ramiflorus* and *Coriaria arborea* (adults, nymphs); also on *Carmichaelia*, *Conyza*, ferns, other ground vegetation, *Leptospermum scoparium*, and *Olearia*. Host plants: *Melicytus ramiflorus* and *Coriaria arborea*. Seasonality: October to May, mostly November to February (adults); October to December (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

### *Diomocoris granosus* Eyles, 2000<sup>E</sup>

Type photograph p. 256.

*Diomocoris granosus* Eyles, 2000a: 312. Holotype male (NZAC); CH, Chatham Island, Lake Koomutu.

**Geographic distribution** (Map p. 303). Offshore Islands: CH—Chatham Island (Lake Koomutu; several other localities (Eyles, 2000a)). Pitt Island (several localities (Eyles, 2000a)). Rangatira Island (LUNZ). South East Island (AMNZ), Woolshed Bush (LUNZ).

**Biology.** Terrestrial. Lowland. Planticolous, arboreal (mostly). Collected in numbers on *Coprosma chathamica*, *Muehlenbeckia australis*, and *Myoporum*; also on ferns, *Plagianthus regius*, *Melicytus*, flowering *Olearia*, other shrubs; in a regenerating *Dracophyllum* forest; in gardens, on *Beta vulgaris*, *Lycopersicon esculentum*, and *Ipomoea batatas*. Seasonality: November to March. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles, 2000a (biology, distribution, economic importance, key, taxonomy).

**Diomocoris maoricus** (Walker, 1873) <sup>E</sup>

*Leptomerocoris maoricus* Walker, 1873: 146. Lectotype\* female (designated by Eyles, 2000a; BMNH); New Zealand.

*Lugus maoricus*: Distant, 1904a: 111.

*Lugus plebejus* Reuter, 1908: 184. Holotype\* female, apparently (NHMW); AK, Auckland. Synonymised by Eyles, 2000a: 314.

*Diomocoris maoricus*: Eyles, 2000a: 314.

**Geographic distribution** (Map p. 303). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland. Planticolous, arboreal (mostly). Collected on a wide range of native and introduced shrubs and trees (Eyles, 2000a: 316, 351–353), including cultivated plants such as *Malus x domestica*, *Persea americana*, *Daucus carota*, *Pyrus pyrifolia*, *Citrus*, *Prunus persica*, *Pyrus communis*, and *Prunus x domestica*. Host plants: *Acmena smithii*, *Agonis*, and *Kunzea ericoides*. Seasonality: October to April. Phytophagous (sap-sucking). Economic importance: Can cause damage in peach orchards.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Wise, 1977: 116 (checklist, New Zealand; as *Lugus buchanani* and *L. plebejus*). Eyles, 2000a (biology, distribution, key, taxonomy).

**Diomocoris ostiolum** Eyles, 2000 <sup>E</sup>

Type photograph p. 256.

*Diomocoris ostiolum* Eyles, 2000a: 317. Holotype male (NZAC); WN, Norfolk Road (to Mount Holdsworth).

**Geographic distribution** (Map p. 303). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WO, WN. South Island: BR, CO, DN, MB, MC, MK, NC, NN, OL, SD, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal (mostly). Collected mostly on *Kunzea ericoides* and *Leptospermum scoparium* (adults, nymphs); also (in low numbers) on *Carmichaelia*, *Muehlenbeckia*, *Lepidothamnus intermedius*, grass, tussock, *Medicago sativa*, subalpine plants, and the plant associations *Hebe-Leptospermum*, grass–*Hebe*, *Juncus*–*Myosotis*–*Galium*–*Lotus*. Host plants: *K. ericoides* and *L. scoparium*; also breeding on *Wisteria sinensis*. Seasonality: November to April (adults); December, February (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

**Diomocoris punctatus** Eyles, 2000 <sup>E</sup>

Type photograph p. 256.

*Diomocoris punctatus* Eyles, 2000a: 321. Holotype male (NZAC); CO, Kawarau Gorge.

**Geographic distribution** (Map p. 303). South Island: BR, CO, FD, KA, MB, MC, MK, NC, NN, OL, SD, SL.

**Biology.** Terrestrial. Montane, subalpine. Planticolous, arboreal (mostly). Collected in large numbers on *Discaria toumatou* (both at night and during the day), and in very low numbers on *Hebe salicifolia*, *Leptospermum scoparium*, *Juncus*–bush scrub. Host plant: *D. toumatou*. Seasonality: November to February. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

**Diomocoris raoulensis** Eyles, 2000 <sup>E</sup>

Type photograph p. 256.

*Diomocoris raoulensis* Eyles, 2000a: 323. Holotype male (NZAC); KE, Raoul Island.

**Geographic distribution** (Map p. 303). Offshore Islands: KE–Raoul Island (NZAC), Mount Moumaki (NZAC). Meyer Island (NZAC).

**Biology.** Terrestrial. Lowland. Arboreal. Collected in larger numbers on *Ascarina lucida* var. *lanceolata*; in lower numbers on *Alocasia brisanensis*, *Corynocarpus laevigatus*, and *Cordyline terminalis*. Seasonality: November to January, May. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

**Diomocoris russatus** Eyles, 2000 <sup>E</sup>

Type photograph p. 257.

*Diomocoris russatus* Eyles, 2000a: 324. Holotype male (NZAC); GB, East Cape (Lighthouse Track).

**Geographic distribution** (Map p. 303). North Island: AK–Hunua Ranges, Otau Valley (NZAC). CL–Fantail Creek (NZAC). GB–East Cape, Lighthouse Track.

**Biology.** Terrestrial. Lowland. Arboreal. Collected in large numbers on fruiting *Pittosporum*. Seasonality: November, December. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

***Diomocoris sexcoloratus* Eyles, 2000<sup>E</sup>**

Type photograph p. 257.

*Diomocoris sexcoloratus* Eyles, 2000a: 326. Holotype male (NZAC); WN, [Tararua Range] start of Mount Holdsworth Track.

**Geographic distribution** (Map p. 304). North Island: BP–Urewera National Park, Waimana River Valley, Unepu Track (NZAC). GB–Urewera National Park (Papatotoa Ridge (NZAC); Te Taita a Makaro (NZAC)). WN–Tararua Range, start of Mount Holdsworth Track.

**Biology.** Terrestrial. Lowland. Arboreal. Collected on its host plants *Pennantia corymbosa* (adults, nymphs) and flowering *Carpodetus serratus*. Seasonality: November, December (adults, nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

***Diomocoris woodwardi* Eyles, 2000<sup>E</sup>**

Type photograph p. 257.

*Diomocoris woodwardi* Eyles, 2000a: 308. Holotype male (AMNZ); TH, Great Island.

**Geographic distribution** (Map p. 304). Offshore Islands: TH–Great Island.

**Biology.** Terrestrial. Lowland. Planticolous, arboreal (mostly). Collected in large numbers on flowering *Kunzea ericoides*; also on *Coprosma repens*, other *Coprosma* species, *K. ericoides*–*Muehlenbeckia* associations, *Myoporum laetum*, grasses, and sedges. Seasonality: November to January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000a (biology, distribution, key, taxonomy).

**Genus *Kiwimiris* Eyles & Carvalho, 1995<sup>E</sup>**

*Kiwimiris* Eyles & Carvalho, 1995: 73. Type species: *Kiwimiris coloratus* Eyles & Carvalho, 1995, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1995: 74–82 (key to species, revision). Eyles, 2001 (female genitalia, key, taxonomy).

***Kiwimiris bipunctatus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 258.

*Kiwimiris bipunctatus* Eyles & Carvalho, 1995: 75. Holotype male (NZAC); NN, Mount Arthur.

**Geographic distribution** (Map p. 304). South Island:

NN–Mount Arthur.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected in large numbers on tussock (probable host plant). Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

***Kiwimiris coloratus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 258.

*Kiwimiris coloratus* Eyles & Carvalho, 1995: 76. Holotype male (NZAC); WN, Tararua Range, Dundas Ridge.

**Geographic distribution** (Map p. 304). North Island: WN–Tararua Range: Dundas Hut/Ridge (Eyles & Carvalho, 1995); East Logan Basin (Eyles & Carvalho, 1995); Mount Dundas (Eyles & Carvalho, 1995).

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected in large numbers on tussock (*Chionochloa*; its probable host plant). Seasonality: February. Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**References.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy). Eyles, 2001 (female genitalia).

***Kiwimiris concavus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 258.

*Kiwimiris concavus* Eyles & Carvalho, 1995: 79. Holotype female (NZAC); FD, Simonin Pass, West Olivine Range.

**Geographic distribution** (Map p. 305). South Island: FD–Tempest Spur (Eyles & Carvalho, 1995). Turret Range, near Wolfe Flat (Eyles & Carvalho, 1995). West Olivine Range, Simonin Pass.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on [subalpine] vegetation at [*Nothofagus*] forest edge. Seasonality: January. Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Note.** The male is unknown.

***Kiwimiris melanocerus* Eyles & Carvalho, 1995<sup>E</sup>**

Type photograph p. 259.

*Kiwimiris melanocerus* Eyles & Carvalho, 1995: 79. Holotype male (NZAC); NC, Arthur's Pass, Dobson Nature Walk.

**Geographic distribution** (Map p. 305). South Island:

BR—Victoria Range, near Rahu Saddle (Eyles & Carvalho, 1995). MB—Camp Creek (Eyles & Carvalho, 1995). MC—Craigieburn Range (LUNZ), Remarkable Ridge, East of Hamilton Peak (Eyles & Carvalho, 1995). Nervous Knob, Craigieburn [Range] (MONZ). NC—Arthur's Pass, Dobson Nature Walk. NN—Mount Johnson (Eyles & Carvalho, 1995). Mount Owen (Eyles & Carvalho, 1995).

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected on *Chionochloa* (probable host plant). Seasonality: January to April. Overwintering: In the adult stage; collected under rock debris at high altitude (NN, April). Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

#### *Kiwimiris niger* Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 259.

*Kiwimiris niger* Eyles & Carvalho, 1995: 80. Holotype male (NZAC); OL, Coronet Peak, summit.

**Geographic distribution** (Map p. 305). South Island: CO, [MC], MK, OL.

**Biology.** Terrestrial. Montane, subalpine. Planticolous. Collected in large numbers on *Chionochloa*, *Ozothamnus*, and *Hebe*. Host plant: Probably *Chionochloa*. Seasonality: January, March. Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy).

**Note.** The true status of the MC population (Mount Hutt) has yet to be established (Eyles & Carvalho, 1995).

#### *Genus Lincolnia* Eyles & Carvalho, 1988<sup>E</sup>

*Lincolnia* Eyles & Carvalho, 1988a: 339. Type species: *Lincolnia lucernina* Eyles & Carvalho, 1988a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1988a (revision). Eyles, 2001 (female genitalia, key).

#### *Lincolnia lucernina* Eyles & Carvalho, 1988<sup>E</sup>

Type photograph p. 259.

*Lincolnia lucernina* Eyles & Carvalho, 1988a: 339. Holotype male (NZAC); CO, Kyeburn, Maniototo County.

**Geographic distribution** (Map p. 305). South Island: CO, FD, MC, NC, OL, SC.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected on a wide range of low herbs (including tussock) amongst and around leguminous plants such as *Medicago*, *Vicia*, and *Lotus*. Host plants: *Medicago sativa*, *Vicia sativa*, probably also *Lotus*. Seasonality: January, February. Phytophagous; feeding on young flower buds of *M. sativa* (probably also other leguminous plants). Economic importance: Reduces lucerne seed production in the South Island.

**Dispersal power.** Macropterous, able to fly (observed during the day).

**References.** Macfarlane & Pottinger, 1976 (economic importance). Eyles & Carvalho, 1988a (biology, distribution, economic importance, key, taxonomy). Schuh, 1995: 787 (catalogue, world). Eyles, 2001 (biology, distribution, egg, female genitalia, taxonomy).

#### *Genus Lygus* Hahn, 1833 (See *Diomocoris*)

**References.** Kelton, 1955 (classification, taxonomy, world). Wise, 1977: 116 (checklist, New Zealand). Schuh, 1995: 806–829 (catalogue, world). Schwartz & Foottit, 1998 (Holarctic Region, revision). Kerzhner & Josifov, 1999: 119–123 (catalogue, Palearctic Region). Schwartz & Eyles, 1999 (*Lygus buchanani*, nomenclature, taxonomy; deletion from New Zealand fauna). Eyles, 2000a (key to genera of *Lygus*-complex, revision of New Zealand taxa).

**Notes.** Species of *Lygus* Hahn *sensu stricto*, occur only in the Northern Hemisphere. However, three species, *Lygus buchanani* Poppius, *Lygus maoricus* (Walker), and *Lygus plebejus* Reuter, had been previously reported from New Zealand. Schwartz & Eyles (1999) showed *Lygus buchanani* to have been erroneously described from New Zealand and they synonymised it with *Orthops scutellatus* Uhler from the Holarctic Region. Eyles (2000a) described the endemic genus *Diomocoris* to contain *Lygus maoricus* (Walker, 1873), and eight new species. Eyles (2000a) also synonymised *Lygus plebejus* with *Diomocoris maoricus*. See Notes under *Diomocoris* Eyles.

#### *Genus Monopharsus* Eyles & Carvalho, 1995<sup>E</sup>

*Monopharsus* Eyles & Carvalho, 1995: 82. Type species: *Monopharsus annulatus* Eyles & Carvalho, 1995, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1995: 82–83 (revision). Eyles, 2001 (key).

#### *Monopharsus annulatus* Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 260.

*Monophasrus annulatus* Eyles & Carvalho, 1995: 82.  
Holotype female (NZAC); SI, Twilight Bay, Port Pegasus.

**Geographic distribution** (Map p. 305). Stewart Island: Twilight Bay, Port Pegasus. Waterfall Cove [= Waterfall Creek?] (Eyles & Carvalho, 1995).

**Biology.** Terrestrial. Lowland. [Platicolous.] Collected on moss and on *Plagiochila* mats on trees. Seasonality: January, February. Phytophagous (sap-sucking).

**Dispersal power.** Micropterous (without hind wings), [unable to fly].

**Reference.** Eyles & Carvalho, 1995 (biology, distribution, taxonomy).

### Genus *Sidnia* Reuter, 1905<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995).

**Geographic distribution.** Australian Region; South Pacific.

**References.** Wise, 1977: 116 (checklist, New Zealand; as *Eurystylus*). Cassis & Gross, 1995: 175 (Australia, catalogue). Schuh, 1995: 945 (catalogue, world). Eyles, 2001 (key).

### *Sidnia kinbergi* (Stål, 1859)<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995).

Common name: Crop mirid.

**Geographic distribution** (Map p. 308). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, KA, MB, MC, NC, NN, SC, SD, SL, WD. Offshore Islands: TH. First New Zealand records: "Auckland (including Waikumete and Henderson) and Nelson fruit-growing districts" (Myers, 1926; as *Eurystylus australis*). Extralimital range: Australia (continental, Lord Howe Island, Tasmania).

**Biology.** Terrestrial. Lowland, montane. Platicolous (mostly), arboreal. Occurs in all kinds of relatively open habitats where legumes, grass, and weeds grow. Collected on a wide range of introduced plants (weeds and crops) and some native plants: Actinidiaceae—*Actinidia deliciosa*; Apiaceae—*Daucus carota*, *Pastinaca sativa*; Araceae—*Zantedeschia aethiopica*; Araliaceae—*Pseudopanax arboreus*; Aspleniaceae—*Asplenium*; Asteraceae—*Cassinia*, *Chrysanthemum*, *Cirsium*, *Conyza*, *Eupatorium*, *Olearia*, *Ozothamnus*, *Senecio*; Brassicaceae—*Brassica rapa*, *Brassica rapa* subsp. *sylvestris*, *Brassica oleracea*; Caryophyllaceae—*Gypsophila paniculata*; Chenopodiaceae—*Chenopodium album*, *Sarcocornia quinqueflora*, *Suaeda novae-zelandiae*; Convolvulaceae—*Ipomoea batatas*; Cucurbitaceae—*Cucurbita maxima*; Cyperaceae—sedges, *Scirpus*; Epacridaceae—*Dracophyllum*; Fabaceae—

*Carmichaelia*, *Clianthus puniceus*, *Cytisus scoparius*, *Lotus pedunculatus*, *Lupinus arboreus*, *Medicago sativa*, *Melilotus alba*, *Onobrychis viciifolia*, *Phaseolus*, *Trifolium pratense*, *T. repens*; Grossulariaceae—*Ribes nigrum*; Haloragaceae—*Haloragis erecta*; Juncaceae—*Juncus acutus*, other *Juncus* species; Liliaceae—*Asparagus officinalis*; Mimosaceae—*Acacia*; Myrtaceae—*Kunzea ericoides*; Paeoniaceae—*Paeonia*; Passifloraceae—*Passiflora edulis*; Pittosporaceae—*Pittosporum tenuifolium*; Poaceae—*Chionochloa*, *Hordeum*, *Lolium*, *Paspalum dilatatum*, *Stenotaphrum secundatum*, *Zea mays*, other grasses; Polygonaceae—*Muehlenbeckia australis*, *M. axillaris*, other *Muehlenbeckia* species, *Polygonum aviculare*, *Rumex* (probably *obtusifolius*); Rosaceae—*Fragaria x ananassa*, *Malus x domestica*, *Prunus armeniaca*, *Rosa*; Rubiaceae—*Coprosma*, *Galium*; Rutaceae—*Citrus limon*; Scrophulariaceae—*Hebe parviflora* var. *arborea*, *H. stricta*; Solanaceae—*Solanum aviculare*; Urticaceae—*Urtica ferox*; Violaceae—*Melicytus*; Vitaceae—*Vitis*. Host plants: Apiaceae—*Daucus carota*; Asteraceae—*Cirsium*; Brassicaceae—*Brassica oleracea*, *B. rapa*; Chenopodiaceae—*Chenopodium*; Convolvulaceae—*Ipomoea batatas*; Fabaceae—*Lotus pedunculatus*, *Medicago sativa*, *Melilotus alba*, *Trifolium pratense*, *Trifolium repens*; Passifloraceae—*Passiflora edulis*; Polygonaceae—*Polygonum aviculare*; Rosaceae—*Fragaria x ananassa*; Solanaceae—*Solanum aviculare*. Seasonality: Most of the year. Life cycle outlined by Chapman (1984). Phytophagous (sap-sucking), somewhat granivorous; feeding on flower heads and fruits of a wide range of plants (see above). Economic importance: Pest of *Medicago sativa*, *Lotus*, *Trifolium pratense*, and *T. repens* seed crops in the South Island; can also cause damage to *Fragaria x ananassa* and possibly *Daucus carota*.

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Wise, 1977: 116 (checklist, New Zealand; as *Eurystylus australis*). Chapman, 1984 (biology, economic importance). Cassis & Gross, 1995: 175 (Australia, catalogue). Schuh, 1995: 945 (catalogue, world). Eyles, 2000b (biology, distribution, economic importance, taxonomy).

**Notes.** Cassis & Gross (1995: 175) did not record this species for New Zealand. More information on biology and economic importance can be found in Eyles (2000b).

### Genus *Stenotus* Jakovlev, 1877<sup>A</sup>

Synonymy (Schuh, 1995).

Common name: Slender crop mirid.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 116 (checklist, New Zealand). Schuh, 1995: 946–951 (catalogue, world). Kerzhner &

Josifov, 1999: 177–178 (catalogue, Palearctic Region). Eyles, 2001 (key).

### **Stenotus binotatus (Fabricius, 1794)<sup>A</sup>**

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 308). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, KA, MC, MK, NC, NN, OL, SC, SD, SL, WD. Offshore Islands: CH. First New Zealand record (Thomson, 1922). Extralimital range: Native to the Palearctic Region; adventive elsewhere (e.g., Nearctic Region, Hawaii, tropical Africa?); apparently absent from Australia.

**Biology.** Terrestrial. Lowland, montane. Planticolous (mostly), arboreal. Occurs in all kinds of relatively open habitats. Collected mostly on grasses on which it breeds, and on a wide range of introduced vegetation and some native plants: Actinidiaceae—*Actinidia deliciosa*; Apiaceae—*Conium maculatum*, *Daucus carota*; Asteraceae—*Cassinia*, *Hieracium*, *Olearia*, *Ozothamnus*, *Senecio*; Coriariaceae—*Coriaria*; Cyperaceae; Dennstaedtiaceae—*Pteridium esculentum*; Ericaceae—*Vaccinium corymbosum*; Fabaceae—*Carmichaelia*, *Lotus pedunculatus*, *Trifolium pratense*, other *Trifolium* species; Nothofagaceae—*Nothofagus*; Hypericaceae—*Hypericum*; Juncaceae—*Juncus*; Myrtaceae—*Eucalyptus*, *Leptospermum scoparium*, *Metrosideros excelsa*, other *Metrosideros* species; Pinaceae—*Larix decidua*; Poaceae—*Agrostis capillaris*, *Alopecurus pratensis*, *Chionochloa*, *Dactylis glomerata*, *Holcus lanatus*, *Hordeum*, *Lolium*, *Paspalum dilatatum*, *Phleum pratense*, *Triticum aestivum*, *Zea mays*, other grasses; Polygonaceae—*Muehlenbeckia*; Ranunculaceae—*Ranunculus*; Rubiaceae—*Coprosma robusta*; Urticaceae—*Urtica*; Violaceae—*Melicytus ramiflorus*. Host plants: Poaceae—*Alopecurus pratensis*, *Dactylis glomerata*, *Phleum pratense*, other grasses. Seasonality: Throughout the year. Phytophagous (sap-sucking), somewhat granivorous; feeding on heads of grasses and a number of Asteraceae. Economic importance: Not considered a pest since it feeds on the flowering parts of grasses, but may cause damage in *Dactylis glomerata* seed crops on the South Island.

**Dispersal power.** Macropterous; good flier. Attracted to artificial lights.

**References.** Southwood & Leston, 1959 (biology, Palearctic Region). Wise, 1977: 116 (checklist, New Zealand). Schuh, 1995: 947 (catalogue, world). Kerzhner & Josifov, 1999: 177–178 (catalogue, Palearctic Region). Eyles, 2000b (biology, distribution, economic importance, taxonomy).

**Notes.** This widespread species was not listed by Cassis

& Gross (1995) and seems not to have made it to the Australian continent. More information on the biology of this species in the Palearctic Region can be found in Southwood & Leston (1959). Eyles (2000b) also provides additional information on biology and economic importance in New Zealand.

### **Genus *Taylorilygus* Leston, 1952<sup>A</sup>**

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearly worldwide.

**References.** Cassis & Gross, 1995: 175–176 (Australia, catalogue). Schuh, 1995: 959–962 (catalogue, world). Kerzhner & Josifov, 1999: 179–180 (catalogue, Palearctic Region). Eyles, 2000a (biology, distribution, economic importance, taxonomy). Eyles, 2001 (key).

### ***Taylorilygus apicalis* (Fieber, 1861)<sup>A</sup>**

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 308). North Island: AK, HB, ND, RI, TO, WN. South Island: KA, NC, NN, SC, SD. First New Zealand record: Te Paki Station, ND, 1975 (NZAC; Eyles, 2000a). Offshore Islands: KE. Extralimital range: World tropical and subtropical regions.

**Biology.** Terrestrial. Lowland. Planticolous. Collected on *Colocasia esculenta*, *Ipomoea batatas*, grass under *Eucalyptus*, *Conyza floribunda*, and various weeds. Seasonality: February, April to July. Phytophagous (sap-sucking). Economic importance (East Africa): Breeds on several species of plants, mainly Asteraceae, e.g., *Conyza*, *Erigeron*, *Microglossa*, *Senecio*, *Vernonia*, *Hoslundia*, *Coriandrum*, and *Lantana*.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Cassis & Gross, 1995: 176 (Australia, catalogue). Schuh, 1995: 959–960 (catalogue, world). Kerzhner & Josifov, 1999: 179–180 (catalogue, Palearctic Region). Eyles, 2000a (biology, distribution, economic importance, taxonomy), 2000b (taxonomy).

**Note.** Additional information on biology and economic importance in other parts of the world can be found in Eyles (2000a).

### **Genus *Tinginotum* Kirkaldy, 1902<sup>N</sup>**

*Tinginotum* Kirkaldy, 1902b: 263. Type species: *Tinginotum javanum* Kirkaldy, 1902b, by monotypy.

*Hermotinus* Distant, 1904b: 462. Type species: *Hermotinus signatus* Distant, 1904b, by original designation.

Synonymised by Poppius, 1911c: 21.

*Nesodaphne* Kirkaldy, 1908b: 380. Type species: *Nesodaphne knowlesi* Kirkaldy, 1908b, by monotypy. Synonymised by Carvalho, 1987a: 166.

*Eutinginotum* Cheesman, 1926a: 266. Type species: *Eutinginotum raiateae* Cheesman, 1926a (=*Nesodaphne knowlesi* Kirkaldy, 1908), by original designation. Synonymised by Cheesman, 1927a: 157.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Carvalho, 1987a (Papua New Guinea, revision). Schuh, 1995: 963–965 (catalogue, world). Kerzhner & Josifov, 1999: 181 (catalogue, Palearctic Region). Yasunaga, 1999 (Japan, revision). Eyles, 2000c (taxonomy), 2001 (key).

**Note.** This genus was not recorded for Australia by Cassis & Gross (1995).

#### *Tinginotum minutum* Eyles, 2000<sup>N</sup>

Type photograph p. 264.

*Tinginotum minutum* Eyles, 2000c: 112. Holotype male (NZAC); New Zealand, AK, Henderson.

**Geographic distribution** (Map p. 308). North Island: AK, BP, CL, HB, ND, TO, WO. South Island: MC, NN. Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. Planticolous, arboreal (mostly). Collected on *Conium maculatum*, *Coprosma repens*, *Dacrycarpus dacrydioides*, *Gypsophila paniculata*, *Prunus persica*, *P. salicina*, *Trifolium*, *Trifolium*—weeds associations in *Actinidia deliciosa* orchard, and mixed *Medicago sativa*–*Trifolium*. Seasonality: September to May. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles, 2000c (biology, distribution, taxonomy).

#### Genus *Tuicoris* Eyles & Carvalho, 1995<sup>E</sup>

*Tuicoris* Eyles & Carvalho, 1995: 83. Type species: *Tuicoris excelsus* Eyles & Carvalho, 1995, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1995 (revision). Eyles, 2001 (egg stage, key, redescription, taxonomy).

#### *Tuicoris excelsus* Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 264.

*Tuicoris excelsus* Eyles & Carvalho, 1995: 83. Holotype male (NZAC); NN, Kaihoka Lakes, West Haven.

**Geographic distribution** (Map p. 308). North Island: AK, HB, ND, TO. South Island: CO, NN.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal (mostly). Collected on *Lepidothamnus intermedius* (mostly); also on *Podocarpus totara*, tussock and bushes, grass, *Medicago sativa*, *Prunus persica*. Host plant: Possibly *Lepidothamnus* or *Podocarpus*. Seasonality: September to January. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1995 (biology, distribution, taxonomy). Eyles, 2001 (biology, taxonomy).

**Note.** Probably occurs throughout the North and South Islands (Eyles & Carvalho, 1995).

#### *Tuicoris lipurus* Eyles, 2001<sup>E</sup>

Type photograph p. 265.

*Tuicoris lipurus* Eyles, 2001: 213. Holotype male (NZAC); MC, Sign of the Bellbird.

**Geographic distribution** (Map p. 308). North Island: AK–Omeru Scenic Reserve, near Kaipara Harbour (CGNZ). BP–Te Rereaura Swamp (NZAC). South Island: DN–Taieri County (AMNZ). MC–Banks Peninsula, Akaroa to Le Bons (NZAC). Sign of the Bellbird.

**Biology.** Terrestrial. Lowland, montane. [Planticolous], arboreal (mostly). Collected in large numbers (adults, nymphs) from its host plant *Podocarpus totara*. Seasonality: September to December (adults); December (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles, 2001 (biology, distribution, female genitalia, taxonomy).

#### Genus *Wekamiris* Eyles & Carvalho, 1995<sup>E</sup>

*Wekamiris* Eyles & Carvalho, 1995: 86. Type species: *Wekamiris auropilosus* Eyles & Carvalho, 1995, by original designation.

**Geographic distribution.** New Zealand.

**References.** Eyles & Carvalho, 1995 (revision). Eyles, 2001 (female genitalia, key, taxonomy).

#### *Wekamiris auropilosus* Eyles & Carvalho, 1995<sup>E</sup>

Type photograph p. 265.

*Wekamiris auropilosus* Eyles & Carvalho, 1995: 86. Holotype male (NZAC); ND, Coppermine Island, Hen and Chickens Islands.

**Geographic distribution** (Map p. 309). North Island: AK, BP, CL, GB, HB, ND, TO, WA, WI, WN. South Island: BR, DN, NC, SC, SL, WD. Stewart Island.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal (mostly). Collected on *Raukaua edgerleyi* (in num-

bers), fruiting *Pseudopanax arboreus* (adults and nymphs, in numbers), other *Pseudopanax* species, *Raukaua simplex*, and *Schefflera digitata* (adults, nymphs); also taken on various bushes, ferns, *Muehlenbeckia*, *Nothofagus*, *Olearia ilicifolia*, *Pinus radiata*, and tussock. Host plants: *Pseudopanax arboreus*, possibly also other *Pseudopanax* species, and *S. digitata*. Seasonality: September to April, mostly December to February (adults); January, April (nymphs). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Eyles & Carvalho, 1995 (biology, distribution, key, taxonomy). Eyles, 2001 (biology, distribution, female genitalia, taxonomy).

### Tribe STENODEMINI

**References.** Carvalho & Eyles, 1975 (key to genera, taxonomy). Eyles, 1975 (diagnosis, keys). Carvalho & Silva Afonso, 1977 (Papua New Guinea, revision).

#### Genus *Chaetedus* Eyles, 1975<sup>N</sup>

*Chaetedus* Eyles, 1975: 155. Type species: *Megaloceroea reuteriana* White, 1878a, by original designation.

**Geographic distribution.** Australia (continental, Norfolk Island, Tasmania), Melanesia (Papua New Guinea), New Zealand.

**References.** Eyles, 1975 (key to species, taxonomy). Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 178 (Australia, catalogue). Schuh, 1995: 1005 (catalogue, world). Eyles, 2001 (female genitalia, key).

#### *Chaetedus longiceps* Eyles, 1975<sup>N</sup>

Type photograph p. 247.

*Chaetedus longiceps* Eyles, 1975: 156. Holotype male (NZAC); New Zealand, NN, Nelson, Botanical Reserve.

**Geographic distribution** (Map p. 298). North Island: AK (Eyles, 1975), CL (A.C. Eyles, personal communication), ND (Eyles, 1975). South Island: MB, NN (Eyles, 1975). Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland. Planticolous. Collected mostly on grasses (including coastal species); also on *Trifolium*, *Zea mays* (a known host plant), and in citrus orchards. Seasonality: December to April. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, probably able to fly.

**References.** Eyles, 1960b (distribution, biology; as *Megaloceroea reuteriana*). Wise, 1977: 116 (checklist, New Zealand). Cassis & Gross, 1995: 179 (Australia, catalogue). Schuh, 1995: 1005 (catalogue, world).

#### *Chaetedus plumalis* Eyles, 1975<sup>N</sup>

Type photograph p. 247.

*Chaetedus plumalis* Eyles, 1975: 157. Holotype male (ANIC); Norfolk Island, Kingston.

**Geographic distribution** (Map p. 299). Offshore Islands: KE-Raoul Island, Boat Cove (Eyles, 1975). Extralimital range: Australia (Norfolk Island).

**Biology.** Terrestrial. Lowland. [Planticolous.] Collected beside streams and swept from roadside weeds. Seasonality: December. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, probably able to fly.

**References.** Wise, 1977: 116 (checklist, New Zealand). Cassis & Gross, 1995: 179 (Australia, catalogue). Schuh, 1995: 1005 (catalogue, world).

#### *Chaetedus reuterianus* (White, 1878)<sup>E</sup>

*Megaloceraea* (*Megaloceraea*) *reuteriana* White, 1878a: 130 (for *Megaloceroea*). Lectotype\* female (designated by Eyles, 1975; BMNH): NN, Wakefield.

*Megaloceroea reuteriana*: Hutton, 1898b: 176.

*Chaetedus reuterianus*: Eyles, 1975: 159.

**Geographic distribution** (Map p. 299). North Island: AK, GB, HB, ND, TO, WA, WI, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, WD. Offshore Islands: TH.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected on grass. Seasonality: December to April. Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, probably able to fly. Attracted to artificial lights.

**References.** Wise, 1977: 116 (checklist, New Zealand). Schuh, 1995: 1005 (catalogue, world). Eyles, 2001 (female genitalia).

#### Genus *Megaloceroea* Fieber, 1858<sup>A</sup>

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearly worldwide.

**References.** Carvalho & Eyles, 1975 (key, taxonomy). Eyles, 1975 (review, taxonomy). Schuh, 1995: 1013–1014 (catalogue, world). Kerzhner & Josifov, 1999: 188–189 (catalogue, Palearctic Region).

#### *Megaloceroea recticornis* (Geoffroy, 1785)<sup>A</sup>

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 305). North Island: HB, RI, TO. South Island: BR, MC, NC, NN, SC, SD. First New Zealand record: Maitai Valley, NN, 1942 (NZAC; Eyles, 1975). Extralimital range: Native to the Palearctic Region; adventive elsewhere; absent from Australia.

**Biology.** Terrestrial. Lowland (mostly), montane. Planticolous. Occurs in a wide range of grassy-weedy, open or semi-open habitats. Collected on: Fabaceae—*Medicago sativa*, *Trifolium*; Nothofagaceae—*Nothofagus*; Juncaceae—*Juncus*; Poaceae—*Chionochloa*, *Holcus lanatus*, other grasses; Polygonaceae—*Muehlenbeckia*; Scrophulariaceae—*Hebe*. Host plants: Poaceae. Seasonality: Summer months. Phytophagous (sap-sucking); feeding on grasses. Economic importance: Not reported as a pest.

**Dispersal power.** Macropterous, able to fly (observed during the day).

**References.** Southwood & Leston, 1959 (biology, Palearctic Region). Eyles, 1975 (distribution, taxonomy). Wise, 1977: 115 (checklist, New Zealand). Schuh, 1995: 1014 (catalogue, world). Kerzhner & Josifov, 1999: 188–189 (catalogue, Palearctic Region). Eyles, 2000b (biology, distribution, taxonomy).

**Notes.** This widespread species is not listed for Australia (Cassis & Gross, 1995). More information on the biology of this species in the Palearctic Region can be found in Southwood & Leston (1959).

### Genus *Trigonotylus* Fieber, 1858<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearly worldwide.

**References.** Carvalho & Eyles, 1975 (key, taxonomy). Eyles, 1975 (taxonomy). Cassis & Gross, 1995: 181–182 (Australia, catalogue). Schuh, 1995: 1030–1036 (catalogue, world). Kerzhner & Josifov, 1999: 199–202 (catalogue, Palearctic Region).

### *Trigonotylus tenuis* Reuter, 1893<sup>A</sup>

Synonymy (Eyles, 1975; Golub, 1989; Cassis & Gross, 1995; Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 308). North Island: HB, ND (Eyles, 2000b). South Island: NN (Eyles, 2000b). First New Zealand record: Waitangi Estate, ND, 1951 (NZAC; Eyles, 1975; as *T. doddi*). Extralimital range: World tropical and subtropical regions.

**Biology.** Terrestrial. Lowland. Planticolous. Occurs in grassy habitats near the sea coast. Collected on: Brassicaceae—*Alyssum* (Norfolk Island); Poaceae—*Chloris inflata*, *Cynodon dactylon*, *Eleusine indica* (outside New Zealand), *Paspalum* (Norfolk Island), grasses, intertidal vegetation (New Zealand). Seasonality: Summer months. [Phytophagous; feeding on grasses.]

**Dispersal power.** Macropterous, able to fly (observed during the day).

**References.** Eyles, 1975 (distribution, generic placement, taxonomy). Wise, 1977: 116 (checklist, New Zealand; as *Trigonotylus doddi* Distant). Cassis & Gross, 1995: 182 (Australia, catalogue). Schuh, 1995: 1030 (catalogue, world). Kerzhner & Josifov, 1999: 201 (catalogue, Palearctic Region). Eyles, 2000b (biology, distribution, taxonomy).

## Subfamily ORTHOTYLINAE

**References.** Schuh, 1974 (classification, phylogeny, revision, South Africa, world).

### Tribe HALTICINI

#### Genus *Coridromius* Signoret, 1862<sup>A</sup>

*Ocypus* Montrouzier, 1861: 67. Type species: *Ocypus variegatus* Montrouzier, 1861, by monotypy. Preoccupied.

*Coridromius* Signoret, 1862: v [5]. Replacement name for *Ocypus*.

*Neocypus* Distant, 1914: 378. Unjustified replacement name for *Ocypus*.

**Geographic distribution.** Australian Region, Ethiopian Region; South Pacific.

**References.** Wise, 1977: 117 (checklist, New Zealand). Carvalho, 1987b (revision). Cassis & Gross, 1995: 185–186 (Australia, catalogue). Schuh, 1995: 46–47 (catalogue, world).

#### *Coridromius variegatus* (Montrouzier, 1861)<sup>A</sup>

*Ocypus variegatus* Montrouzier, 1861: 68. Holotype\*, sex unknown (NHMW); New Caledonia (as Nouvelle-Calédonie).

*Leptomerocoris variegatus*: Walker, 1873: 145.

*Coridromius variegatus*: Poppius, 1911a: 15.

**Geographic distribution** (Map p. 302). North Island: AK–Mangere, Puketutu Island (NZAC). Miranda (NZAC). WN–Days Bay (Woodward, 1954a). Titahi Bay (Woodward, 1954a). South Island: MC–Christchurch (NZAC). Governors Bay (Carvalho, 1987b). NN–Atawhai (NZAC). Tahunanui (NZAC). Offshore Islands: TH–South West Island (Woodward, 1954a). Great Island, East Point (Woodward, 1954a). First New Zealand record: South West Island, TH, 1951 (Woodward, 1954a). Extralimital range: Australia (continental, Norfolk Island), New Caledonia.

**Biology.** Terrestrial. Lowland. Planticolous. In New Zealand: adults and nymphs collected on and under *Salicornia australis* and on *Einadia triandrum*; adults also found on *Gypsophila*, *Lepidium oleraceum*, and in a heap of dead *Lycium*. In Australia: collected on *Chenopodium*, *Malus x domestica*. Seasonality: December to May (adults), Janu-

ary (nymphs) (New Zealand); October, January, July (adults; Australia). Phytophagous (sap-sucking).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1954a (biology, distribution). Wise, 1977: 117 (checklist, New Zealand). Carvalho, 1987b (taxonomy). Cassis & Gross, 1995: 186 (Australia, catalogue). Schuh, 1995: 47 (catalogue, world).

### Genus *Halticus* Hahn, 1832<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 117 (checklist, New Zealand). Cassis & Gross, 1995: 186–187 (Australia, catalogue). Schuh, 1995: 53–58 (catalogue, world). Kerzhner & Josifov, 1999: 215–218 (catalogue, Palearctic Region).

### *Halticus minutus* Reuter, 1885b<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 304). North Island: AK, BP, CL, HB, ND, WO. First New Zealand record: Paihia, ND, 1949 (Woodward, 1950a; *Halticus tibialis*). Extralimital range: Australia (continental, Lord Howe Island), Ethiopian Region, Oriental Region, Palearctic Region, South Pacific.

**Biology.** Terrestrial. Lowland. Planticolous. Collected on a wide range of low vegetation (mostly introduced) in and around grassy areas such as cultivated fields, gardens, orchards, and pastures; also in grassy areas of modified indigenous ecosystems. Host plants: Cucurbitaceae, *Ipomoea*, *Phaseolus*. Seasonality: Mostly December to April. Phytophagous.

**Dispersal power.** Brachypterous (unable to fly) or macropterous (able to fly).

**References.** Woodward, 1950a (biology, distribution, taxonomy; as *Halticus tibialis*). Wise, 1977: 117 (checklist, New Zealand; as *Halticus tibialis*). Cassis & Gross, 1995: 187 (Australia, catalogue). Schuh, 1995: 56–57 (catalogue, world). Kerzhner & Josifov, 1999: 217 (catalogue, Palearctic Region).

**Notes.** Previously listed from New Zealand as *Halticus tibialis* Reuter, which has been synonymised with *H. minutus* Reuter, by Cassis & Gross (1995). Schuh (1995) did not list this species or *H. minutus* for New Zealand.

### Tribe ORTHOTYLINI

#### Genus *Cyrtorhinus* Fieber, 1858<sup>N</sup>

*Cyrtorhinus* Fieber, 1858: 313. Type species: *Capsus elegantulus* Meyer-Dür, 1843 (= *Capsus caricis* Fallén, 1807), by monotypy.

*Chlorosomella* Reuter, 1904d: 6. Type species: *Chlorosomella geniculata* Reuter, 1904d, by monotypy. Synonymised by Linnauvori, 1994: 54.

*Reuteriessa* Usinger, 1951a: 3 (as subgenus of *Cyrtorhinus*). Type species: *Cyrtorhinus* [sic] *lividipennis* Reuter, 1885, by original designation. Synonymised by Carvalho & Southwood, 1955: 35.

**Geographic distribution.** Nearly worldwide (absent only from the Neotropical Region).

**References.** Usinger, 1939a (biology, distribution). Wise, 1977: 117 (checklist, New Zealand). Cassis & Gross, 1995: 188–189 (Australia, Catalogue). Schuh, 1995: 100–101 (catalogue, world). Kerzhner & Josifov, 1999: 238–239 (catalogue, Palearctic Region).

### *Cyrtorhinus cumberi* Woodward, 1950<sup>E</sup>

Type photograph p. 255.

*Cyrtorhinus cumberi* Woodward, 1950a: 16. Holotype male (AMNZ); WI/WN, Paiaka, Manawatu.

**Geographic distribution** (Map p. 303). North Island: AK–Lynfield (NZAC). GB–[Mount] Maungapohatu (NZAC). TK–North of Ohura (LUNZ). WI/WN–Paiaka. South Island: SL–Catlins, Waipati Beach (LUNZ), Scenic Reserve (LUNZ).

**Biology.** Terrestrial. Lowland. Planticolous. Collected on ferns, *Carex*, and *Scirpus*; in tufts of rushes and grasses (with many delphacids); on vegetation in boggy areas. Seasonality: December to February, April. [Possibly predacious on homopteran eggs like its Australian counterpart *Cyrtorhinus lividipennis* Reuter.]

**Dispersal power.** Brachypterous (unable to fly) or macropterous (probably able to fly).

**References.** Woodward, 1950a (biology). Wise, 1977: 117 (checklist, New Zealand). Schuh, 1995: 100 (catalogue, world).

**Notes.** Information on the Australian relative of this species, *Cyrtorhinus lividipennis*, can be found in Cassis & Gross (1995: 187–188). Further study of the biology of *C. cumberi* is required to determine if the species is phytophagous or predacious. See also Woodward (1950a) and Usinger (1939) for feeding behaviour in *Cyrtorhinus*.

### Genus *Josemiris* Eyles, 1996<sup>E</sup>

*Josemiris* Eyles, 1996: 209. Type species: *Josemiris carvalhoi* Eyles, 1996, by original designation.

**Geographic distribution.** New Zealand.

***Josemiris carvalhoi* Eyles, 1996<sup>E</sup>**

Type photograph p. 258.

*Josemiris carvalhoi* Eyles, 1996: 211. Holotype male (NZAC); CO, Watts Rock, Carrick Range.

**Geographic distribution** (Map p. 304). North Island: AK–North West Motorway at Te Atatu Bridge (Eyles, 1996). South Island: CO, MC, NN, OL, SL, WD.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected mostly on grasses (grasslands and pastures); also on *Salicornia*. Seasonality: January, February.

**Dispersal power.** Macropterous, [probably able to fly].

**Note.** As for *Cyrtorhinus cumberi*, further study of biology is required to determine if this species is phytophagous, predacious, or occasionally predacious.

### Subfamily PHYLINAE

**References.** Schuh, 1974 (classification, phylogeny, revision, South Africa, world). Carvalho & Gross, 1982 (Australia, revision). Schuh, 1984 (key to genera, Indo-Pacific, revision). Malipatil, 1992 (Australia, *Campylomma*, revision). Eyles & Schuh, 2003 (keys, revision, New Zealand).

#### Tribe LEUCOPHOROPTERINI

##### Genus *Sejanus* Distant, 1910<sup>N</sup>

*Sejanus* Distant, 1910b: 20. Type species: *Sejanus funereus* Distant, 1910b, by monotypy.

*Idatius* Distant, 1910b: 20. Type species: *Idatius priscillianus* Distant, 1910b, by monotypy. Preoccupied.

*Eosthenarus* Poppius, 1915: 72. Type species: *Eosthenarus crassicornis* Poppius, 1915, by original designation. Synonymised by Kerzhner & Schuh, 1995: 5.

*Idatiella* China, 1926: 228. Replacement name for *Idatius*.

**Geographic distribution.** Australian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Wise, 1977: 117 (checklist, New Zealand). Carvalho & Gross, 1982 (Australia, revision). Schuh, 1984 (key to species, Indo-Pacific, revision). Cassis & Gross, 1995: 199 (Australia, catalogue). Schuh, 1995: 244 (catalogue, world). Kerzhner & Josifov, 1999: 422–423 (catalogue, Palearctic Region). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

##### ***Sejanus albesignatus* (Knight, 1938)<sup>N</sup>**

*Idatiella albesignata* Knight, 1938: 25. Holotype\* male (USNM, Knight Collection); New Zealand, NN, Nelson.

*Sejanus albesignatus*: Carvalho, 1958a: 141.

*Sejanus albesignatus* [sic]: Schuh, 1984: 155.

**Geographic distribution** (Map p. 308). North Island: AK, BP, CL, HB, ND, RI, TO, WI, WN. South Island:

CO, DN, KA, MB, MC, NC, NN, OL, SC, SD, SL. Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal (mostly). Collected on *Malus x domestica* and other orchard fruit trees; also on *Acacia longifolia*, *A. melanoxylon*, *Alnus*, *Cianthus puniceus*, *Coprosma*, *Cordyline australis* (in flower), *Cytisus scoparius*, *Dodonaea viscosa*, *D. viscosa* var. *purpurea*, *Erigeron canadensis*, *Euonymus japonicus*, *Gomphocarpus fruticosus*, *Grevillea*, *Hebe*, *Juncaceae* (in flower), *Kunzea ericoides*, *Leptospermum scoparium* (sometimes in flower), *Ligustrum ovalifolium*, *L. sinense*, *Lonicera japonica*, *Lotus*, *Lupinus angustifolius*, *Medicago sativa*, *Medicago sativa*–*Lotus* associations, *Muehlenbeckia*, *Myoporum laetum* (in flower), *Nothofagus solandri* var. *cliffortioides*, *Pastina sativa* flowers (in apple orchard), *Pittosporum crassifolium*, *Plagianthus divaricatus* (adults, nymphs), *P. regius*, *Racosperma* [= *Acacia*] (adults, nymphs), *R. baileyanum* [= *Acacia baileyana*], *R. dealbatum* [= *Acacia dealbata*], (adults, nymphs), *Salix* (including *S. babylonica*), *Sophora microphylla*, *Ulex europaeus*, weeds and grasses, *Wisteria sinensis* (in home gardens), and in a malaise trap in an orchard with *Leptospermum scoparium*. Host plants: *Malus x domestica*, probably also other trees in the family Rosaceae; in Australia, *Acacia* (Mimosaceae), *Corylus* (Corylaceae), *Fraxinus* (Oleaceae), *Betula* (Betulaceae), *Malus* and *Pyrus* (Rosaceae). Seasonality: September to April (adults); September, December (nymphs). Apparently bivoltine. Phytophagous, also predacious on aphids, leafhoppers, mites, pear midge, psyllids, and codling moth eggs and larvae. Economic importance: Biological control agent of *Panonychus ulmi* (European red mite) and *Bryobia* mites in apple orchards.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Dumbleton, 1938 & 1964 (biology, distribution, immatures, taxonomy). Collyer, 1976 (biological control, economic importance). Wise, 1977: 117 (checklist, New Zealand). Carvalho & Gross, 1982 (biology, distribution, taxonomy). Schuh, 1984 (Indo-Pacific, keys, taxonomy). Cassis & Gross, 1995: 200–201 (Australia, catalogue). Schuh, 1995: 245 (catalogue, world). Wheeler, 2000b (biological control, economic importance). Eyles & Schuh, 2003 (biology, distribution, economic importance, female genitalia, immature stages, key, New Zealand, taxonomy).

**Note.** Additional information on food preferences and economic importance can be found in Eyles & Schuh (2003).

### Genus *Tytthus* Fieber, 1864<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearly worldwide.

**References.** Carvalho & Southwood, 1955 (revision, world). Schuh, 1984 (Indo-Pacific, revision). Cassis & Gross, 1995: 203–205 (Australia, catalogue). Schuh, 1995: 247–250 (catalogue, world). Kerzhner & Josifov, 1999: 441–442 (catalogue, Palearctic Region). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### *Tytthus chinensis* (Stål, 1859)<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 308). Offshore Islands: KE–Raoul Island, Fleetwood Bluff (NZAC); first New Zealand record, 1967 (Eyles & Schuh, 2003). Extralimital range: Australia (continental), Melanesia, Micronesia, Oriental Region, Palearctic Region, Polynesia.

**Biology.** Terrestrial. Coastal, lowland. Planticolous. Collected by sweeping grass. Host plant (Australia): *Cynodon dactylon* (Bermuda grass, Gramineae), *Cyperus* (Cyperaceae), *Sporobolus virginicus* (Poaceae). Seasonality: January. [Phytophagous (sap-sucking)]; predacious. Economic importance: Specialised predator on the eggs of *Nilaparvata lugens* (the brown planthopper, Delphacidae) and other homopteran pests of rice.

**Dispersal power.** Macropterous, able to fly.

**References.** Carvalho & Southwood, 1955 (revision, world). Schuh, 1984 (Indo-Pacific, key, taxonomy). Cassis & Gross, 1995: 204 (Australia, catalogue). Schuh, 1995: 248 (catalogue, world). Kerzhner & Josifov, 1999: 441 (catalogue, Palearctic Region). Wheeler, 2001 (biology, economic importance, world). Eyles & Schuh, 2003 (distribution, economic importance, egg stage, female genitalia, key, New Zealand, taxonomy).

### Tribe PHYLINI

#### Genus *Basileobius* Eyles & Schuh, 2003<sup>E</sup>

*Basileobius* Eyles & Schuh, 2003: 283. Type species: *Basileobius gilviceps* Eyles & Schuh, 2003, by original designation.

**Geographic distribution:** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Basileobius gilviceps* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 243.

*Basileobius gilviceps* Eyles & Schuh, 2003: 283. Holotype male (NZAC): TH, Great Island, Tasman Valley.

**Geographic distribution** (Map p. 297). Offshore Islands: TH–Great Island (Castaway Camp; Tasman Valley) (NZAC).

**Biology.** Terrestrial. Lowland. Habitat unknown. Seasonality: November.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (distribution, egg stage, female genitalia, key, New Zealand, taxonomy).

### Genus *Campylomma* Reuter, 1878<sup>A</sup>

*Campylomma* Reuter, 1878: 52. Type species: *Campylomma nigronasuta* Reuter, 1878, designated by Distant, 1904b: 483.

*Alluaudiella* Poppius, 1914b: 97. Type species: *Alluaudiella elongata* Poppius, 1914b, by original designation. Pre-occupied.

*Stenocapsus* Bergroth, 1926: 64. Replacement name for *Alluaudiella*.

*Stigmocorista* Lindberg, 1959: 110 (as subgenus of *Psallus*). Type species: *Psallus artemisiae* Lindberg, 1959, by original designation. Synonymised by Linnauvori, 1993: 240.

*Sthenaromma* Linnauvori, 1975: 108 (as subgenus of *Campylomma*). Type species: *Campylomma acaciae* Linnauvori, 1961, by original designation. Synonymised by Linnauvori, 1993: 240.

**Geographic distribution.** Worldwide.

**References.** Schuh, 1984 (key to species, Indo-Pacific, revision). Malipatil, 1992 (Australia, *Campylomma*, revision). Cassis & Gross, 1995: 205–207 (Australia, catalogue). Schuh, 1995: 275–286 (catalogue, world). Kerzhner & Josifov, 1999: 318–324 (catalogue, Palearctic Region). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### *Campylomma novocaledonica* Schuh, 1984<sup>A</sup>

*Campylomma novocaledonica* Schuh, 1984: 296. Holotype\* male (BPBM); New Caledonia, 3 km SE of [La] Coulée [commune du Mont-Dore].

**Geographic distribution** (Map p. 298). Offshore islands: KE–Raoul Island (NZAC). Extralimital range: New Caledonia, Norfolk Island.

**Biology.** Terrestrial. [Montane.] [Arboreal.] Collected on *Acacia* (including *A. farnesiana*), *Cunonia*, and *Lantana* (New Caledonia); on *Lantana* (Norfolk Island). Seasonality: January (KE); September to November, January to March, May, July (New Caledonia); December (Norfolk Island). Phytophagous (sap-sucking), [possibly also predacious].

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights (KE).

**References.** Schuh, 1984 (Indo-Pacific, keys, taxonomy). Schuh, 1995: 283 (catalogue, world). Eyles & Schuh, 2003

(biology, distribution, egg stage, female genitalia, key, New Zealand, taxonomy).

**Note.** The two specimens from Mangamuka River (ND) reported by Schuh (1984) do not belong to this species and have been re-identified as *Cyrtodiridius aurantiacus* by Eyles & Schuh (2003).

### Genus *Cyrtodiridius* Eyles & Schuh, 2003<sup>E</sup>

*Cyrtodiridius* Eyles & Schuh, 2003: 286. Type species: *Cyrtodiridius aurantiacus* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### Genus *Cyrtodiridius aurantiacus* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 255.

*Cyrtodiridius aurantiacus* Eyles & Schuh, 2003: 286. Holotype male (NZAC); ND, Mangamuka Gorge Reserve.

**Geographic distribution** (Map p. 302). North Island: AK–Warkworth Museum, Parry Kauri Reserve (Eyles & Schuh, 2003). ND–Gorge, Mangamuka River (Eyles & Schuh, 2003). Mangamuka (Eyles & Schuh, 2003). Mangamuka Gorge Reserve (NZAC). Waipapakauri Beach (Eyles & Schuh, 2003). Waipoua Forest Sanctuary (Eyles & Schuh, 2003).

**Biology.** Terrestrial. [Lowland.] Planticolous, arboreal (mostly). Collected mostly on *Beilschmiedia taraire* (adults, nymphs); also on small-leaved *Muehlenbeckia* and on the vegetation in a broadleaf–podocarp forest. Host plant: *Beilschmiedia taraire*. Seasonality: November–January (adults); November (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, egg stage, female genitalia, New Zealand, taxonomy).

**Note.** See the Note section under *Campylomma novocaledonica*.

### Genus *Halormus* Eyles & Schuh, 2003<sup>E</sup>

*Halormus* Eyles & Schuh, 2003: 288. Type species: *Halormus velifer* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### Genus *Halormus velifer* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 257.

*Halormus velifer* Eyles & Schuh, 2003: 289. Holotype male (NZAC); MC, Christchurch, Avon Estuary.

**Geographic distribution** (Map p. 304). North Island: WI, WN. South Island: CO, MC, MK, NN.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal. Collected mostly on *Plagianthus divaricatus* (numerous adults, nymphs); also on *Coprosma* (small-leaved), *Gaultheria crassa*, *Muehlenbeckia*, *Podocarpus nivalis*, and *P. totara*. Host plant: *Plagianthus divaricatus*. Seasonality: December (mostly) to March (adults); January (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

### Genus *Lopus* Hahn, 1833<sup>A</sup>

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution.** Nearctic Region, Palearctic Region; New Zealand.

**References.** Wise, 1977: 116 (checklist, New Zealand). Schuh, 1984 (Indo-Pacific, taxonomy). Schuh, 1995: 332–334 (catalogue, world). Kerzhner & Josifov, 1999: 360 (catalogue, Palearctic Region). Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

**Note.** This genus is not recorded from Australia.

### *Lopus decolor* (Fallén, 1807)<sup>A</sup>

Synonymy (Schuh, 1995; Kerzhner & Josifov, 1999).

**Geographic distribution** (Map p. 305). North Island: AK, BP, CL, GB, HB, ND, RI, TO, WA, WI, WO/TO, WN. South Island: NN–Mount Arthur Range, Flora Hut (NZAC). OL–Snowdon Forest (NZAC). First New Zealand record: “Bombay Hill, near Pukekohe”, AK, 1957 (Cumber, 1959). Extralimital range: Palearctic Region (native), Nearctic Region (adventive); absent from Australia.

**Biology.** Terrestrial. Lowland to alpine. Planticolous. Collected mostly on Cyperaceae, Juncaceae, Poaceae (sedges, rushes, grasses), and weeds in open, humid habitats, e.g., near marshes, swamps, river terraces or irrigation ditches, often at the edge of forests or along roadsides; also on *Cassinia*, *Dracophyllum*, *Dracophyllum*–tussock–grass associations, Ericaceae, and *Hebe* (in alpine tussock grassland). In Europe, inhabits undisturbed grasslands, e.g., commons, saltmarshes, and swamps. Host plants: Flowering Poaceae, especially *Agrostis*. Seasonality: January to March (adults); January (nymphs). Phytophagous, probably feeding on Poaceae in New Zealand; feeding on the inflorescences of *Agrostis* elsewhere (including *A. canina* and *A. tenuis* in Europe); also noted as a predator of the aphid *Myzocallis coryli* (U.S.A.).

**Dispersal power.** Macropterous, able to fly (observed during the day). Attracted to artificial lights (near a swamp).

**References.** Southwood & Leston, 1959 (biology, Palearctic Region). Wise, 1977: 116 (checklist, New Zealand). Schuh, 1984 (Indo-Pacific, taxonomy). Messing & AliNazee, 1985 (predation). Schuh, 1995: 333 (catalogue, world). Kerzhner & Josifov, 1999: 360 (catalogue, Palearctic Region). Wheeler, 2001 (biology, world). Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Note.** This adventive species is probably more widely distributed on the South Island than is presently recognised.

#### Genus *Mecenopa* Eyles & Schuh, 2003<sup>E</sup>

*Mecenopa* Eyles & Schuh, 2003: 293. Type species: *Mecenopa albiapex* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Mecenopa albiapex* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 259.

*Mecenopa albiapex* Eyles & Schuh, 2003: 294. Holotype male (NZAC); ND, between Helena Bay and Whakapara (about a third of the way from the east).

**Geographic distribution** (Map p. 305). North Island: AK–Manukau Harbour, Mill Bay (NZAC), BP–Blue Lake, Rotorua (Eyles & Schuh, 2003). CL–Kauaeranga Valley, Thames (NZAC). Stony Bay (NZAC). Tapu Hill (Eyles & Schuh, 2003). HB–Puketitiri, Little Bush (Eyles & Schuh, 2003). ND–between Helena Bay and Whakapara (NZAC). TO–Erua (Eyles & Schuh, 2003). Tihoi (Eyles & Schuh, 2003). WN–Wilton’s Bush (Eyles & Schuh, 2003).

**Biology.** Terrestrial. Lowland. Arboreal. Collected on *Metrosideros* (possibly rata), *Phyllocladus*, and *Prumnopitys ferruginea*. Seasonality: November to March.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, egg stage, female genitalia, New Zealand, taxonomy).

#### Genus *Monospatha* Eyles & Schuh, 2003<sup>E</sup>

*Monospatha* Eyles & Schuh, 2003: 295. Type species: *Monospatha distincta* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Monospatha distincta* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 260.

*Monospatha distincta* Eyles & Schuh, 2003: 295. Holotype male (NZAC); MC, Christchurch, Ashgrove Reserve.

**Geographic distribution** (Map p. 305). South Island: MC–Banks Peninsula: Kaituna Valley Reserve (Eyles & Schuh, 2003); Purau (Eyles & Schuh, 2003). Christchurch, Ashgrove Reserve (NZAC). Hilltop (Eyles & Schuh, 2003). NN–Takaka Hill (NZAC). SC–Waimate, Kelsey’s Bush (Eyles & Schuh, 2003). SL–Gore, Dolamore Park (NZAC).

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal (mostly). Adults of both sexes collected in larger numbers on two potential host plants, *Plagianthus regius* and *Hoheria angustifolia*. Also taken in small numbers on *Coprosma–Hoheria* associations, *Cordyline australis*, *Muehlenbeckia*, and *Alectryon excelsus* (a single specimen). Seasonality: November (mostly), January, February.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, egg stage, female genitalia, New Zealand, taxonomy).

#### Genus *Pimeleocoris* Eyles & Schuh, 2003<sup>E</sup>

*Pimeleocoris* Eyles & Schuh, 2003: 297. Type species: *Pimeleocoris viridis* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

#### *Pimeleocoris luteus* Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 260.

*Pimeleocoris luteus* Eyles & Schuh, 2003: 298. Holotype male (NZAC); TO, Desert Road, Waipakihi Road.

**Geographic distribution** (Map p. 306). North Island: CL–Cape Colville (Eyles & Schuh, 2003). Cape Colville area, 1.5 km N of Goat Bay (Eyles & Schuh, 2003). TO–Desert Road, Waipakihi Road (NZAC). Monowao Flat (10 km SE of Rangitaiki) (Eyles & Schuh, 2003). Rangitaiki, DOC Conservation Area (Eyles & Schuh, 2003). WA–Te Humenga Point (Eyles & Schuh, 2003). South Island: SD–Cloudy Bay, Rarangi (Eyles & Schuh, 2003). Rarangi, fore-shore (Eyles & Schuh, 2003).

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected in larger numbers on *Pimelea* (*prostrata* group) (adults, nymphs) and on *P. urvilleana* (Cloudy Bay, SD). Host plant: *Pimelea* (prostrate form). Seasonality: October to January (mostly), August (adults); January (nymphs). Overwintering: Adult males collected on *Pimelea* (August, CL).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

### **Pimeleocoris roseus Eyles & Schuh, 2003<sup>E</sup>**

Type photograph p. 261.

*Pimeleocoris roseus* Eyles & Schuh, 2003: 300. Holotype male (OMNZ); WD, Franz Josef, Waiho River flats.

**Geographic distribution** (Map p. 306). South Island: [MC–Lake Heron (OMNZ).] WD– Franz Josef, Waiho River flats (NZAC, OMNZ).

**Biology.** Terrestrial. [Lowland.] Planticolous. Collected on *Pimelea* (adults, nymphs), its host plant. Seasonality: December (MC), March (adults); January, April (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Note.** The MC record is ambiguous. Eyles & Schuh (2003) reported the distribution as “known from Franz Josef in Westland, and possibly Lake Heron in Canterbury” and listed the Lake Heron specimens as “probably belong to this species.”

### **Pimeleocoris viridis Eyles & Schuh, 2003<sup>E</sup>**

Type photograph p. 261.

*Pimeleocoris viridis* Eyles & Schuh, 2003: 301. Holotype male (NZAC); ND, Rarawa Beach.

**Geographic distribution** (Map p. 306). North Island: ND–Rarawa Beach (AMNH, MONZ, NZAC).

**Biology.** Terrestrial. Lowland. Planticolous. Adults and nymphs collected on the host plant *Pimelea arenaria* (adults, nymphs) in coastal sand dunes. Seasonality: December (adults, nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

### **Genus Polyozus Eyles & Schuh, 2003<sup>E</sup>**

*Polyozus* Eyles & Schuh, 2003: 302. Type species: *Polyozus galbanus* Eyles & Schuh, 2003, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### **Polyozus galbanus Eyles & Schuh, 2003<sup>E</sup>**

Type photograph p. 261.

*Polyozus galbanus* Eyles & Schuh, 2003: 304. Holotype male (NZAC); DN, Outram.

**Geographic distribution** (Map p. 306). North Island: HB, WI, WN. South Island: DN, FD, KA, MC, NN.

**Biology.** Terrestrial. Lowland. Arboreal. Adults of both sexes and nymphs collected in large numbers on two host plants, *Racosperma dealbatum* [=*Acacia dealbata*] and *Acacia baileyana*; also found on *Olearia ilicifolia* (adult, nymph) and on *Conium maculatum* (adults). Seasonality: October, December, January (mostly), February (adults); January (mostly), February (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, egg stage, female genitalia, key, New Zealand, taxonomy).

### **Genus Sthenarus Fieber, 1858 (See Xiphoides)**

**Note.** Eyles & Schuh (2003) described the endemic genus *Xiphoides* to contain *Sthenarus myersi* Woodward, 1950, and 5 other species from New Zealand.

### **Genus Xiphoides Eyles & Schuh, 2003<sup>E</sup>**

*Xiphoides* Eyles & Schuh, 2003: 305. Type species: *Sthenarus myersi* Woodward, 1950a, by original designation.

**Geographic distribution.** New Zealand.

**Reference.** Eyles & Schuh, 2003 (key, New Zealand, taxonomy).

### **Xiphoides badius Eyles & Schuh, 2003<sup>E</sup>**

Type photograph p. 265.

*Xiphoides badius* Eyles & Schuh, 2003: 307. Holotype male (NZAC); TO, Waipakihi Road, edge [of] Kaimanawa Forest.

**Geographic distribution** (Map p. 309). North Island: AK, HB, ND, RI, TO, WN. South Island: BR, FD, KA, MB, MC, NN, SL.

**Biology.** Terrestrial. Lowland, mountain. Arboreal. Adults of both sexes and nymphs collected in large numbers on *Nothofagus solandri* var. *cliffortioides*, the host plant. Also taken on *Coprosma*, *Nothofagus solandri*, *N. menziesii*, *Pittosporum eugenioides*, and *Pseudowintera colorata*. Seasonality: October to March, mostly January (adults); January (nymphs).

**Dispersal power.** Macropterous, [probably able to fly]. Attracted to artificial lights.

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Xiphoides luteolus** Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 265.

*Xiphoides luteolus* Eyles & Schuh, 2003: 309. Holotype male (NZAC); AK, Huia, start of Karamatura Track.

**Geographic distribution** (Map p. 309). North Island: AK– Huia, start of Karamatura Track (NZAC). Warkworth Museum, Parry Kauri Reserve (Eyles & Schuh, 2003). CL–Te Hope Stream (NZAC).

**Biology.** Terrestrial. Lowland. Arboreal. Collected in large numbers on *Dacrycarpus dacrydioides* (adults, nymphs) and *Lepidopthamnus intermedius* (adults), its host plants. Seasonality: November, January (adults); November (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Xiphoides multicolor** Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 266.

*Xiphoides multicolor* Eyles & Schuh, 2003: 311. Holotype male (NZAC); TO, Waipakihi Road, edge [of] Kaimanawa Forest.

**Geographic distribution** (Map p. 309). North Island: HB–Puketitiri, Little Bush (Eyles & Schuh, 2003). TO–Waihohonu (Eyles & Schuh, 2003). Waipakihi Road, edge of Kaimanawa Forest (NZAC). South Island: FD–Simonin Pass, Tempest Spur (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. Arboreal. Collected on *Nothofagus solandri* var. *cliffortioides*, its host plant, and *N. menziesii*. Seasonality: November to February.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, key, New Zealand, taxonomy).

**Xiphoides myersi** (Woodward, 1950)<sup>E</sup>

Type photograph p. 266.

*Sthenarus myersi* Woodward, 1950a: 22. Holotype male (AMNZ); WI, Foxton, Manawatu Co [=County].

*Xiphoides myersi*: Eyles & Schuh, 2003: 313.

**Geographic distribution** (Map p. 309). North Island: AK, CL, HB, ND, TO, TK, WA, WI, WN. South Island: BR, MC, NN, SL.

**Biology.** Terrestrial. Lowland (mostly), montane. Planticolous, arboreal (mostly). Collected on a range of introduced and native plants including *Ahnus*, *Cassinia leptophylla* [=*Ozothamnus leptophyllus*]–*Muehlenbeckia*

associations, *Cordyline australis*, *Hebe*, *Dacrycarpus dacrydioides*, *Leptospermum scoparium*, *Ligustrum vulgare*, *L. ovalifolium*, *Lonicera japonica*, *Malus x domestica*, *Melia azedarach*, *Muehlenbeckia australis*, *Myoporum laetum*, *Podocarpus totara*, *Prumnopitys taxifolia*, *Quercus ilex*, and *Virgilia capensis*; many plants (not *Ahnus*) were in flower. Seasonality: November to February (adults); December (nymphs).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Wise, 1977: 117 (checklist, New Zealand). Schuh, 1984 (biology, distribution, keys, taxonomy). Schuh, 1995: 434 (catalogue, world). Eyles & Schuh, 2003 (biology, distribution, female genitalia, immature stages, key, New Zealand, taxonomy).

**Xiphoides regis** Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 266.

*Xiphoides regis* Eyles & Schuh, 2003: 316. Holotype male (AMNZ); TH, Great Island, Tasman Valley.

**Geographic distribution** (Map p. 309). Offshore Islands: TH–Great Island (Eyles & Schuh, 2003); Castaway Camp (Eyles & Schuh, 2003); Tasman Valley (AMNZ).

**Biology.** Terrestrial. Lowland. Planticolous, arboreal (mostly). Collected mostly on *Kunzea ericoides* (a potential host plant); also on *Coprosma repens*, *Myoporum laetum*, Poaceae/Cyperaceae. Seasonality: November, January.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, key, New Zealand, taxonomy).

**Xiphoides vacans** Eyles & Schuh, 2003<sup>E</sup>

Type photograph p. 266.

*Xiphoides vacans* Eyles & Schuh, 2003: 318. Holotype male (LUNZ); SI, Stewart Island, Mason Bay, from bush N of Duck Creek.

**Geographic distribution** (Map p. 309). South Island: MC–Banks Peninsula, Ahuriri Scenic Reserve (Eyles & Schuh, 2003). SL–Clifton (Eyles & Schuh, 2003). Forest Hill Scenic Reserve, Tussock Creek Picnic area (NZAC). Stewart Island: Mason Bay, bush north of Duck Creek (LUNZ). Rakeahua Valley (Eyles & Schuh, 2003).

**Biology.** Terrestrial. Lowland. Arboreal. Collected on *Fuchsia excorticata* and *Plagianthus divaricatus*. Seasonality: January, February.

**Dispersal power.** Macropterous, [probably able to fly].

**Reference.** Eyles & Schuh, 2003 (biology, distribution, female genitalia, key, New Zealand, taxonomy).

## Family NABIDAE

### Damsel bugs

**References.** Reuter & Poppius, 1909 (revision, world). Harris, 1928 (Nearctic Region, revision). Gross, 1963 (checklist, key, Micronesia, taxonomy). Carayon, 1970 (classification, world). Péricart, 1983b (revision, West Palearctic Region). Lattin, 1989 (biogeography, world). Gross & Cassis, 1991a (Australia, keys, overview). Cassis & Gross, 1995: 214–225 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 186–190 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Kerzhner, 1996: 84–107 (catalogue, higher classification, Palearctic Region). Braman, 2000 (biology, economic importance, world).

## Subfamily NABINAE

**References.** Harris, 1930 (catalogue, *Gorpis*, Philippines, taxonomy, world), 1938 (*Arbela*, revision).

## Tribe NABINI

### Genus *Nabis* Latreille, 1802<sup>N</sup>

*Coriscus* Schrank, 1796: 121. Suppressed by ICZN (Opinion 244/1954).

*Nabis* Latreille, 1802: 248. Type species: *Cimex vagans* Fabricius, 1787 (= *Cimex ferus* Linnaeus, 1758), designated by Westwood, 1840: 120.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 219 (Australia, catalogue). Kerzhner, 1996: 95–106 (catalogue, Palearctic Region).

### Subgenus *Australonabis* Strommer, 1988<sup>N</sup>

*Australonabis* Strommer, 1988: 80 (as subgenus of *Nabis*). Type species: *Reduvius biformis* Bergroth, 1927, by original designation.

**Geographic distribution.** Australia, New Zealand.

**Reference.** Cassis & Gross, 1995: 220 (Australia, catalogue).

### *Nabis* (A.) *biformis* (Bergroth, 1927)<sup>N</sup>

*Reduvius biformis* Bergroth, 1927: 681. Syntypes\*, 4 females (BMNH; I.M. Kerzhner, personal communication); New Zealand, AK, N. [= North] Auckland, Herne Bay, Henderson. ND, Whangarei (Cassis & Gross, 1995: 220; type not seen).

*Nabis biformis*: Myers & China, 1928: 381.

**Geographic distribution** (Map p. 310). North Island:

AK, BP, CL, GB, HB, ND, RI, TO, WI, WN. South Island: MB. Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland, montane. Planticolous. Occurs near the edge of forested areas, e.g., along roadsides. Collected mostly on grasses and *Pteridium* ferns. Seasonality: December to March (adults); December to February (nymphs). Predacious.

**Dispersal power.** Mostly brachypterous (unable to fly) or macropterous (probably able to fly).

**References.** Wise, 1977: 115 (checklist, New Zealand). Strommer, 1988 (taxonomy). Cassis & Gross, 1995: 220 (Australia, catalogue).

**Notes.** The syntypes could not be located. *Nabis lineatus* listed in Hutton (1904) refers to this species (I.M. Kerzhner, personal communication).

### Subgenus *Tropiconabis* Kerzhner, 1968<sup>N</sup>

*Tropiconabis* Kerzhner, 1968: 852 (as genus; downgraded by Benedek, 1969: 17). Type species: *Nabis capsiformis* Germar, 1838, by original designation.

**Geographic distribution.** Worldwide (tropical and subtropical regions).

**References.** Cassis & Gross, 1995: 220 (Australia, catalogue). Kerzhner, 1996: 105 (catalogue, Palearctic Region).

### *Nabis* (T.) *kinbergii* Reuter, 1872<sup>A</sup>

*Nabis kinbergii* Reuter, 1872: 90. Lectotype\* female (designated by Kerzhner, 1981; NHRM); [Australia] NSW, Sydney.

*Sastrapada nigrolineata* Distant, 1920: 159. Holotype\* female (BMNH); Central District, New Caledonia. Synonymised by Kerzhner, 1981: 294.

*Nabis tasmanicus* Remane, 1964: 257. Holotype\* male (UZMH); Tasmania, King Island. Synonymised by Kerzhner, 1970: 354.

Common name: Pacific damsel bug.

**Geographic distribution** (Map p. 310). North Island: AK, BP, CL, GB, HB, ND, TK, WI, WA, WO. South Island: BR, MB, NN. Offshore Islands: KE, TH. First New Zealand record (Myers, 1926; as *N. capsiformis*). Extralimital range: Australia (continental, Lord Howe Island, Norfolk Island, Tasmania), South Pacific.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Found in open habitats on grasses and other low vegetation. Seasonality: Most of the year, mainly November to March (adults); February, March (nymphs). Predacious.

**Dispersal power.** Macropterous; good flier.

**References.** Woodward, 1982 (Australia, taxonomy, distribution). Woodward & Strommer, 1982 (Australia, no-

menclature, taxonomy). Strommer, 1988 (Australia, taxonomy). Cassis & Gross, 1995: 214–215, 220–221 (Australia, catalogue). Kerzhner, 1996: 105 (catalogue, Palearctic Region).

**Note.** Previously misidentified as *N. capsiformis* Germar, in New Zealand (see mainly Wise (1977), Myers (1926), Tillyard (1926), and Woodward (1954a)).

### ***Nabis (T.) maoricus* Walker, 1873<sup>E</sup>**

*Nabis maoricus* Walker, 1873: 145. Holotype\* female (BMNH); New Zealand.

*Nabis saundersi* White, 1878a: 159. Syntypes\*, five specimens (BMNH); New Zealand. Synonymised by Kerzhner, 1970: 355.

*Reduviolus saundersi*: Kirkaldy, 1909a: 26.

*Reduviolus maoricus*: Kirkaldy, 1909a: 26.

*Reduviolus quadripunctatus* Bergroth, 1927: 682. Syntypes\* (BMNH; I.M. Kerzhner, personal communication); Aramoho (WI), Aroha (BP), Day's Bay (WN), Governor's Bay (MC), Longacre (WI), Ohakune (TO), Waikanae (WN), Wellington (WN), West Coast, South Island (WD). Synonymised by Kerzhner, 1970: 355.

*Nabis quadripunctatus*: Myers & China, 1928: 381.

Common name: Tussock damsel bug.

**Geographic distribution** (Map p. 310). North Island: AK, BP, CL, GB, HB, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, MB, MC, MK, NC, NN, OL, SC, SL, WD. Offshore Islands: CH.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous (mostly), arboreal. Found in open humid environments (e.g., river flats, wetlands, salt marshes), on grasses, other low vegetation, and shrubs. Seasonality: December to March (adults); February, March (nymphs). Overwintering: In the adult stage; collected in leaf litter and dead wood. Predacious.

**Dispersal power.** Submacropterous to macropterous, [probably able to fly].

**Reference.** Wise, 1977: 115 (checklist, New Zealand).

### **Subfamily PROSTEMMATINAE**

#### **Tribe PROSTEMMATINI**

**Reference.** Kerzhner & Strommer, 1990 (Australia, Oriental Region, *Prostemma*, revision).

### **Genus *Alloeorhynchus* Fieber, 1860<sup>N</sup>**

#### **Subgenus *Alloeorhynchus* Fieber, 1860<sup>N</sup>**

*Alloeorhynchus* Fieber, 1860a: 43. Type species: *Pirates flavipes* Fieber, 1836, by subsequent monotypy (see Fieber, 1861: 159) (Cassis & Gross, 1995: 224).

*Falda* Gross, 1954: 139. Type species: *Falda queenslandica* Gross, 1954, by original designation. Synonymised by Kerzhner, 1970: 282.

**Geographic distribution.** Nearly worldwide.

**References.** Carayon, 1970 (Ethiopian Region, revision). Wise, 1977: 115 (checklist, New Zealand). Cassis & Gross, 1995: 224 (Australia, catalogue). Kerzhner, 1996: 85 (catalogue, Palearctic Region).

### ***Alloeorhynchus (A.) myersi* Bergroth, 1927<sup>E</sup>**

*Alloeorrhynchus* [sic] *myersi* Bergroth, 1927: 680. Syntypes\*, apparently one male and one female (should be in BMNH; I.M. Kerzhner, personal communication); ND, Kaitaia.

**Geographic distribution** (Map p. 310). North Island: AK–Noises Islands, Otata Island (NZAC). Woodhill Forest, Te Pua, Rimmers Road (NZAC). BP–Mount Te Aroha (NZAC). CL–Little Barrier Island (Woodward, 1954c). GB–Te Araroa, Tokata (NZAC). ND–Kaitaia. Ruakaka (NZAC). South Island: NN–Rough Island (NZAC). Offshore Islands: TH–Great Island, Tasman Valley (NZAC).

**Biology.** Terrestrial. Lowland. Epigean (mostly). Collected in leaf litter (mostly); under *Pennisetum clandestinum* in pasture; under driftwood by a lagoon; on *Cordyline* flowers; in weedy vacant lot. Seasonality: September to December, February, April, August. Overwintering: In the adult stage; collected in leaf litter. Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1954c (distribution). Wise, 1977: 115 (checklist, New Zealand).

### **Family NOTONECTIDAE**

#### **Backswimmers**

**References.** Hungerford, 1920 (biology, ecology, world). Young, 1962 (New Zealand, revision). Lansbury, 1964, 1969, 1975, 1981, 1984, 1985, 1991b, 1995a–b (Australia, taxonomy). Sweeney, 1965 (Australia, distribution). Štys & Jansson, 1988 (checklist, genera, world). Gross *et al.*, 1991b (Australia, keys, overview). Cassis & Gross, 1995: 241–256 (Australia, catalogue, introduction to family). Polhemus, 1995: 63–73 (catalogue, Palearctic Region). Schuh & Slater, 1995: 127–129 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Larsen, 1996 (distribution, Hawaii). Papáek, 2000 (biology, economic importance, world).

### **Subfamily ANISOPINAE**

#### **Genus *Anisops* Spinola, 1837<sup>N</sup>**

*Anisops* Spinola, 1837: 58. Type species: *Anisops sardicus* Herrich-Schaeffer, 1850 (=*Anisops niveus* (Fabricius, 1775)), by monotypy.

*Micranisops* Hutchinson, 1929: 377 (as subgenus of *Anisops*).

Type species: *Anisops apicalis* Stål, 1856 (=*Anisops*

*elegans* Fieber, 1851) by monotypy. Synonymised by Brooks, 1951: 304.  
*Anisopoides* Hutchinson, 1929: 378 (as subgenus of *Anisops*). Type species: *Anisops (Anisopoides) aglaia* Hutchinson, 1929 by monotypy. Synonymised by Lansbury, 1966: 293.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Brooks, 1951 (revision, world). Young, 1962 (distribution, ecology, key to species, New Zealand, taxonomy). Lansbury, 1964, 1969, 1995b (Australia, taxonomy). Cassis & Gross, 1995: 243 (Australia, catalogue). Polhemus, 1995: 63–67 (catalogue, Palearctic Region).

### *Anisops assimilis* White, 1878<sup>E</sup>

*Anisops assimilis* White, 1878a: 161. Holotype\* male (BMNH); New Zealand.

Common name: Common backswimmer.

**Geographic distribution** (Map p. 310). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD.

**Biology.** Aquatic (lentic freshwater). Found in clear water, in the shelter of overhanging vegetation and outcrops at the margins of weedy ponds (including stock pools and ornamental ponds) and lakes, and slow flowing streams; more tolerant of temporary conditions, often with turbid water and decaying vegetation, than *A. wakefieldi*. Seasonality: Throughout the year. Predacious.

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

### *Anisops wakefieldi* White, 1878<sup>E</sup>

*Anisops wakefieldi* White, 1878a: 161. Holotype\* male (BMNH); New Zealand.

**Geographic distribution** (Map p. 310). North Island: AK, BP, GB, HB, ND, TO, WN. South Island: BR, CO, DN, MB, MC, NC, NN, SC, SD, SL, WD. Offshore Islands: CH.

**Biology.** Aquatic (lentic freshwater). Found in clear water, in the shelter of overhanging vegetation and outcrops at the margins of weedy ponds (including stock pools and ornamental ponds) and lakes, and slow flowing streams; less tolerant of temporary conditions, often with turbid water and decaying vegetation, and more tolerant of densely vegetated, more stable habitats than *A. assimilis*. Seasonality: Throughout the year. Predacious.

**Dispersal power.** Macropterous, with flightless and flying forms.

**References.** Young, 1962 (distribution, ecology, taxonomy). Wise, 1977: 128 (checklist, New Zealand).

## Family PENTATOMIDAE

### Stink bugs

**References.** Ruckes, 1963 (Micronesia, taxonomy). Gross, 1975a–b, 1976 (Australia, revision). Rolston & McDonald, 1979 (classification, keys, Western Hemisphere). Gapud, 1991 (classification, phylogeny, world). Gross, 1991c (Australia, keys, overview). Hasan & Kitching, 1993 (classification, phylogeny, world). Larivière, 1995 (key to taxa, New Zealand, revision). Schuh & Slater, 1995: 229–233 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). De Clerq, 2000 & Panizzi *et al.*, 2000 (biology, economic importance, world). Cassis & Gross, 2002: 430–571 (Australia, catalogue, introduction to family).

**Notes.** The higher classification of the Pentatomidae is constantly being changed and no overall modern treatment is currently available. The suprageneric classification used here is based on Cassis & Gross (2002), who themselves followed D. Rider's (North Dakota State University, Fargo) original work on the world fauna, and on personal communications from Dr Rider himself.

## Subfamily ASOPINAE

**References.** Gross, 1975b, 1976 (Australia, revision). Gapud, 1991 (classification, phylogeny, world). Thomas, 1992, 1994 (revision, world). Larivière, 1995 (New Zealand, revision).

**Notes.** In his work on the New World asopine genera, Thomas (1992) discussed the problems concerning the higher classification of the Asopinae. At this point in time, no tribes are being recognised until further work can be done (D. Rider, personal communication).

### Genus *Cermatulus* Dallas, 1851<sup>N</sup>

*Cermatulus* Dallas, 1851: 106. Type species: *Aelia nasalis* Westwood, 1837, by monotypy.

**Geographic distribution.** Australia, East Timor, New Zealand, Papua New Guinea.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (key to taxa, New Zealand, taxonomy). Cassis & Gross, 2002: 443 (Australia, catalogue).

**Cermatulus nasalis hudsoni** Woodward, 1953<sup>E</sup>

Type photograph p. 267.

*Cermatulus nasalis hudsoni* Woodward, 1953a: 307. Holotype female (MONZ); NC, Arthur's Pass.

**Geographic distribution** (Map p. 311). South Island: CO, FD, MB, MC, MK, NC, NN, OL, WD.

**Biology.** Terrestrial. Montane, subalpine. Planticolous, arboreal. Found on low vegetation and shrubs in habitats such as tussock grasslands, broadleaf–podocarp forests, scrublands, and screes. Collected on *Chionochloa*, *Muehlenbeckia*, *Olearia*, *Ozothamnus*, and *Raoulia*. Mating: October. Seasonality: Most of the year, mainly October, November, February (adults); January (nymphs). Overwintering: [In the adult stage]. Predacious; feeding on lepidopterous larvae.

**Dispersal power.** Submacropterous; active dispersal by flight is unlikely.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy).

**Cermatulus nasalis nasalis** (Westwood, 1837)<sup>N</sup>

*Aelia nasalis* Westwood, 1837: 32. Syntypes\*, five specimens (OUME); Melville Island, Northern Territory; Australia (as New Holland).

*Asopus nummularius* Erichson, 1842: 276. Syntypes\* (possibly in ZMBG); Tasmania (as Vandiemensland). Synonymised by Dallas, 1851: 106.

*Cermatulus nasalis*: Dallas, 1851: 106.

*Asopus binotatus* Walker, 1867: 144. Holotype\* (BMNH); 'Brazil' (in error?). Synonymised with *Rhaphigaster pentatomoides* by Distant, 1900: 55.

*Rhaphigaster pentatomoides* Walker, 1867: 370. Syntypes\*, four specimens (BMNH); Moreton Bay, Queensland; Tasmania; Australia (no locality); New Zealand. Synonymised by Butler, 1874: plate 7, figure 4.

*Cermatulus nasalis nasalis*: Woodward, 1953a: 318.

Common name: Brown soldier bug.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, DN, FD, KA, MB, MC, NC, NN, SC, SD, SL, WD. Extralimital range: Australia (continental, Tasmania), East Timor.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal (mostly). Occurs on a wide range of native and introduced shrubs and trees during summer, and on lower vegetation such as herbs and tussock during cooler months; also sometimes on garden plants, agricultural crops, and around orchards, especially with *Kunzea* and *Leptospermum* nearby. Seasonality: Throughout the year, mostly in summer (adults); November to February

(nymphs). Overwintering: In the adult stage, possibly in late-instar stages; collected on the ground under shrubs and trees, under podocarp bark; can come out of shelter and be active on shrubs and trees on sunny winter days. Predacious; known to feed on the larvae of Lepidoptera (mostly; several families), Coleoptera (leaf beetles, weevils), Hymenoptera (sawflies), and Hemiptera (cicadas). Enemies: Eggs parasitised by scelionid wasps (e.g., *Asolcus* species). Economic importance: Beneficial insect; one of New Zealand's most important predatory Heteroptera.

**Dispersal power.** Macropterous, able to fly.

**References.** Woodward, 1953a (New Zealand, taxonomy). Eyles, 1960b (biology, distribution, New Zealand). Ramsay, 1963 (biology, food, New Zealand). Valentine, 1964 (biology, New Zealand, parasites). Wise, 1977: 126 (checklist, New Zealand). Edwards & Suckling, 1980 (biology, food, New Zealand). Awan, 1988 (Australia, biology, enemies). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). De Clercq, 2000 (economic importance). Cassis & Gross, 2002: 443–444 (Australia, catalogue).

**Note.** More information on biology, distribution, and economic importance can be found in Larivière (1995), De Clercq (2000), and Cassis & Gross (2002).

**Cermatulus turbotti** Woodward, 1950<sup>E</sup>

Type photograph p. 267.

*Cermatulus turbotti* Woodward, 1950b: 24. Holotype female (AMNZ); TH, Great Island.

*Cermatulus nasalis turbotti*: Woodward, 1953a: 318.

**Geographic distribution** (Map p. 311). Offshore Islands: TH—Great Island.

**Biology.** Terrestrial. Lowland (coastal). Arboreal. Found on *Kunzea ericoides*. Seasonality: Summer (adults); January (nymphs). Predacious.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy).

**Genus Oechalia Stål, 1862<sup>N</sup>**

*Oechalia* Stål, 1862: 93. Type species: *Pentatoma schellenbergii* Guérin, 1831, by subsequent designation (Kirkaldy, 1909b: 25).

*Hawaiicola* Kirkaldy, 1909: 83 (as subgenus of *Oechalia*).

Type species: *Asopus griseus*, Burmeister, 1834, by original designation. Synonymised by Thomas, 1994: 188.

**Geographic distribution.** Australian Region, Oriental Region (Philippines); South Pacific.

**References.** Usinger, 1941 (Hawaii, taxonomy).

Zimmerman, 1948 (Hawaii, taxonomy). Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 126 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 446–447 (Australia, catalogue).

### **Oechalia schellenbergii (Guérin, 1831)<sup>N</sup>**

*Pentatoma schellenbergii* [sic] Guérin, 1831: plate 11, figure 9. Syntypes\* (MNHP); Port Jackson, New South Wales, Australia (see Guérin-Méneville, 1838: 166).

*Pentatoma consociale* Boisduval, 1835: 630. Syntypes\* (MNHP); Sydney (as Sidney), New South Wales, Australia. Synonymised by Stål, 1870: 59.

*Arma schellenbergi*: Dallas, 1851: 98.

*Arma schellenbergi*: Stål, 1862: 93.

*Oechalia consocialis*: Stål, 1870: 59.

*Oechalia schellenbergii*: Mayr, 1866: 32.

*Rhaphigaster perfectus* Walker, 1867: 371. Syntypes\*, four specimens (BMNH); Australia (no locality); Moreton Bay, Queensland; New Zealand. Synonymised by Kirkaldy, 1909b: 25.

Common name: Schellenberg's soldier bug.

**Geographic distribution** (Map p. 312). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WI, WN, WO. South Island: CO, MB, NC, NN, SD. Extralimital range: Australia (continental, Christmas Island, Tasmania), Philippines, South Pacific (Fiji, French Polynesia, Kiribati, Marshall Islands, Micronesia).

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal (mostly). Occurs on a wide variety of plants, especially introduced crops, horticultural plants, shrubs, and trees. Host plants: Possibly include *Lupinus arboreus*. Associated species: Found with *Cermatulus nasalis* in certain habitats. Seasonality: Most of the year, mainly December to March (adults); December to April (nymphs); December to March (eggs). Predaceous; known to feed on the larvae of Lepidoptera (mostly; several families), Coleoptera (leaf beetles, weevils). Enemies: Eggs parasitised by scelionid wasps (e.g., *Trissolcus basalis*). Economic importance: Beneficial insect; one of New Zealand's most important predatory Heteroptera.

**Dispersal power.** Macropterous, able to fly.

**References.** Woodward, 1953a (New Zealand, taxonomy; as *O. consocialis*). Ramsay, 1963 (biology, food, New Zealand). Valentine, 1964 (biology, New Zealand, parasites). Wise, 1977: 126 (checklist, New Zealand). Edwards & Suckling, 1980 (biology, food, New Zealand). Awan, 1988 (Australia, biology). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). De Clercq, 2000 (economic importance). Cassis & Gross, 2002: 447–448 (Australia, catalogue).

**Note.** More information on biology, distribution, and economic importance can be found in Larivière (1995), De Clercq (2000), and Cassis & Gross (2002).

### **Subfamily PENTATOMINAE**

#### **Tribe CARPOCORINI**

##### **Genus Monteithiella Gross, 1976<sup>A</sup>**

*Monteithiella* Gross, 1976: 344. Type species: *Strachia humeralis* Walker, 1868, by original designation.

**Geographic distribution.** Australia (continental, Tasmania), New Zealand.

**References.** Woodward, 1953a (New Zealand, taxonomy; as *Antestia*). Wise, 1977: 127 (checklist, New Zealand; as *Antestia*). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 460 (Australia, catalogue).

##### **Monteithiella humeralis (Walker, 1868)<sup>A</sup>**

*Pentatoma pallipes* Dallas, 1851: 239. Syntypes\*, probably (BMNH); Australia (as New Holland). Preoccupied.

*Strachia humeralis* Walker, 1868: 562. Syntypes\* (NMV; apparently lost); Queensland, Australia.

*Antestia orbona* Kirkaldy, 1909b: 130. New name for *Pentatoma pallipes*. Synonymised by Gross, 1976: 344.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, HB, ND, TO, WA, WI, WN. South Island: DN, MC, NN, SD, SL. First New Zealand record: Hastings, HB, 1950 (Woodward, 1953a). Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland, montane. Arboreal. Found in and around native forests. Collected mostly on *Pittosporum* (especially *P. crassifolium* and *P. tenuifolium*) and *Coprosma*; occasionally on other native shrubs and trees; more rarely on *Citrus*, grasses, and weeds around gardens and orchards. Host plants: *Pittosporum* (including *P. crassifolium*), in New Zealand; *Sollya heterophylla* (Pittosporaceae), in Australia. Seasonality: Most of the year, mainly November, December, March (adults); November to April, July (nymphs); February to April (eggs). Mating: October. Overwintering: Mostly in the adult stage, also as late-instar nymph; collected on its host plant and neighbouring trees. Phytophagous (sap-sucking), frugivorous (mostly); feeding on *Pittosporum* fruits. Enemies: [Eggs parasitised by scelionid wasps].

**Dispersal power.** Macropterous; good flier.

**References.** Woodward, 1953a (New Zealand, taxonomy; as *Antestia orbona*). Pendergrast, 1963 (biology, immature stages; as *Antestia orbona*). Wise, 1977: 127 (checklist, New Zealand; as *Antestia orbona*). McDonald & Grigg, 1980 (Australia, biology, life cycle). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). Cassis & Gross, 2002: 460 (Australia, catalogue).

**Note.** More information on distribution and biology can be found in Larivière (1995).

### Tribe MYROCHEINI

#### Genus *Dictyotus* Dallas, 1851<sup>A</sup>

*Dictyotus* Dallas, 1851: 139. Type species: *Dictyotus tasmanicus* Dallas, 1851, by subsequent designation (Kirkaldy, 1909b: xxix).

**Geographic distribution.** Australian Region (East Timor, Indonesia (West Timor), New Caledonia, New Zealand, Papua New Guinea) (Cassis & Gross, 2002).

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 511–515 (Australia, catalogue).

#### *Dictyotus caenosus* (Westwood, 1837)<sup>A</sup>

*Pentatoma caenosa* Westwood, 1837: 42. Syntypes\*, 1 male, 1 female (BMNH and OUME, respectively); Australia (as New Holland).

*Dictyotus bipunctatus* Dallas, 1851: 140. Holotype\* female, probably (BMNH); Australia (as New Holland). Synonymised by Gross, 1975b: 201.

*Dictyotus plebejus* Stål, 1859: 223. Syntypes\*, 1 male, 1 female (NHRM); Sydney, New South Wales, Australia (as Sidney, Nova Hollandia). Synonymised by Gross, 1975b: 201.

*Pentatoma tibialis* Walker, 1867: 309. Holotype\* (BMNH); Adelaide, South Australia. Synonymised by Gross, 1975b: 201.

*Pentatoma vilis* Walker, 1867: 309. Syntypes\*, 4 specimens (BMNH); Tasmania; New Zealand. Synonymised by Distant, 1899: 434.

*Pentatoma latifrons* Walker, 1868: 561. Syntypes\* 2 females (NMV); Queensland, Australia. Male specimen in original description is *Tholosanus proximus* (Dallas, 1851) (Cassis & Gross, 2002). Synonymised by Gross, 1975b: 201.

*Sciocoris polystictica* Butler, 1874: plate 7, figure 5. Holotype\*, status unknown (BMNH); New Zealand. Synonymised by Distant, 1899: 434.

*Dictyotus vilis*: Distant, 1899: 434.

*Dictyotus caenosus*: Distant, 1901c: 810, 821.

Common name: Brown shield bug.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WA, WI, WN, WO. South Island: BR, CO, DN, KA, MB, MC, MK, NC, NN, OL, SD. First New Zealand record: New Zealand (Walker, 1867; as *D. polysticticus*). Extralimital range: Australia (continental, Norfolk Island, Tasmania), New Caledonia.

**Biology.** Terrestrial. Lowland to subalpine. Planticolous, arboreal. Found commonly on introduced low herbs and grasses in various environments, e.g., roadsides, edge of cultivated fields, paddocks, swamps, scrublands, and tussock grasslands; also on agricultural crops (including *Medicago sativa* and *Zea mays*), and, to a lesser extent, on native plants, e.g., *Avicennia*, *Carmichaelia*, *Cassinia*,

*Coprosma*, *Festuca*, *Hebe*, *Muehlenbeckia*, *Myoporum*, or *Ozothamnus*. Associated species: Once found with cattle-ticks in overwintering shelter. Host plants: *Brassica rapa*, *Medicago sativa*, *Triticum*, *Zea mays*. Seasonality: Throughout the year, mostly January to March (adults); December to April (nymphs); December, February, March (eggs). Mating: Spring. Oviposition: Late spring, summer. Overwintering: In the adult stage; collected at base of clumps of low vegetation; also found in pine cones (*Pinus radiata*). Gregarious. Phytophagous (sap-sucking), frugivorous (mostly); feeding on the fruits of a range of plants, including boysenberry (*Rubus*-hybrid), *Medicago sativa* (raceme, seed pods), tussock, *Triticum* grains. Enemies: rooks (*Corvus frugilegus*), starlings (*Sturnus vulgaris*), scelionid wasps and tachinid flies (parasites). Economic importance: Attacks boysenberries and blackberries; sometimes a pest of *Medicago sativa*.

**Dispersal power.** Macropterous; good flier.

**References.** Myers, 1926 (biology). Woodward, 1953a (New Zealand, taxonomy). Valentine, 1964 (biology, New Zealand, parasites). Wise, 1977: 127 (checklist, New Zealand). Macfarlane *et al.*, 1981 (economic importance). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). Coombs & Khan, 1997 (Australia, biology, parasites). Panizzi *et al.*, 2000 (economic importance). Cassis & Gross, 2002: 512–513 (Australia, catalogue).

**Note.** More information on biology, distribution, and economic importance can be found in Larivière (1995) and Panizzi *et al.* (2000).

### Tribe NEZARINI

#### Genus *Glaucias* Kirkaldy, 1908<sup>N</sup>

*Zangis* Stål, 1867: 514. Type species: *Raphigaster amyoti* Dallas, 1851: 278, designated by Kirkaldy, 1909b. Preoccupied.

*Glaucias* Kirkaldy, 1908a: 124. Replacement name for *Zangis*.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region (China); South Pacific.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 518–520 (Australia, catalogue).

#### *Glaucias amyoti* (Dallas, 1851)<sup>N</sup>

*Raphigaster amyoti* Dallas, 1851: 278. Syntypes\*, five specimens or more (BMNH); New Zealand; New South Wales, Australia.

*Zangis stali* Schouteden, 1906: 140. Holotype\* male (IRSNB); Queensland, Australia. Synonymised by Cassis & Gross, 2002: 518.

*Zangis amyoti*: Stål, 1876: 93.

*Nezara amyoti*: White, 1878a: 276.

*Glaucias amyoti*: Kirkaldy, 1909b: 125.

Common name: New Zealand vegetable bug.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, GB, ND, TK, WN, WO. South Island: NN, SD. Offshore Islands: KE. Extralimital range: Australia (continental, Lord Howe Island), East Timor, Indonesia (West Timor), Palau, Papua New Guinea.

**Biology.** Terrestrial. Lowland, montane. Arboreal. Found in and around native broadleaf forests. Collected mostly on *Coprosma* (especially *C. macrocarpa* and *C. robusta*), and to a lesser extent on *Pittosporum*; also on *Geniostoma*, *Myrsine australis*, *Pseudopanax*, *Vitex lucens*, and more rarely on *Passiflora* and *Solanum*. Host plants: *Coprosma robusta*, perhaps also other *Coprosma* species and *Pittosporum*; reared from eggs laid by adult on *Pomaderris kumeraho* in garden (N.A. Martin, personal communication). Seasonality: Most of the year, mainly March (adults); December to April (nymphs); December to February (eggs). Mating: Spring. Overwintering: [In the adult stage]. Phytophagous (sap-sucking, frugivorous), sometimes predacious; feeding on leaves and fruits of *Coprosma*; recorded feeding on a sawfly larva; observed to be cannibalistic on an emerging nymph. Enemies: Eggs parasitised by scelionid wasps.

**Dispersal power.** Macropterous; excellent flier. Attracted to artificial lights.

**References.** Myers, 1926 (biology). Woodward, 1953a (New Zealand, taxonomy). Valentine, 1964 (biology, New Zealand, parasites). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). Cassis & Gross, 2002: 518–519 (Australia, catalogue).

### Genus *Nezara* Amyot & Audinet-Serville, 1843<sup>A</sup>

Synonymy (Larivière, 1995; Cassis & Gross, 2002).

**Geographic distribution.** Nearly worldwide.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 519–524 (Australia, catalogue).

### *Nezara viridula* (Linnaeus, 1758)<sup>A</sup>

Synonymy (Larivière, 1995; Cassis & Gross, 2002).

Common name: Green vegetable bug.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WI, WN, WO. South

Island: CO, KA, MC, NN, SD. Offshore Islands: KE. First New Zealand record: “mid-Northland”, 1946 (Cumber, 1949). Extralimital range: Nearly worldwide.

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal. Infests a wide range of economically important plants in New Zealand. Commonly recorded on *Phaseolus*, *Brassicaceae*, *Capsicum*, *Zea mays*, *Fabaceae*, *Solanum tuberosum*, *Cucurbita maxima*, *Beta vulgaris*, *Lycopersicon esculentum*, *Passiflora*, and *Solanum betaceum*. Host records include over 15 species of monocotyledons and nearly 200 species of dicotyledons throughout the world. Seasonality: Most of the year, mainly February to April (adults); December to May (nymphs); December to April (eggs). At least bivoltine. Mating: Spring, summer. Oviposition: December to May; rafts of eggs glued to underside of leaves and other sheltered locations on plants. Overwintering: In the adult stage; collected on a variety of crop plants and weeds. Phytophagous; feeding on almost any plant part from which it can suck sap. Enemies: no predators or parasites officially reported for New Zealand. Economic importance: Most noxious pentatomid in New Zealand although plant damage has apparently declined over the years and remains sporadic.

**Dispersal power.** Macropterous; excellent flier. Attracted to artificial lights.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). Cassis & Gross, 2002: 520–524 (Australia, catalogue).

**Notes.** Most New Zealand information has been well summarised by Allan (1976), and Australian information by Cassis & Gross (2002). Extensive bibliographies are given by Dewitt & Godfrey (1972) and Ramsay & Crosby (1992). Other useful information can be found in Powell & Shepard (1982), Jones (1988), Todd (1989), Cameron (1989), Clarke (1992), Clarke & Walter (1993), and Panizzi *et al.* (2000).

### Tribe RHYNCHOCORINI

#### Genus *Cuspicona* Dallas, 1851<sup>A</sup>

Synonymy (Larivière, 1995; Cassis & Gross, 2002).

**Geographic distribution.** Australian Region, Oriental Region; South Pacific.

**References.** Woodward, 1953a (New Zealand, taxonomy). Gross, 1975a (Australian Region, revision). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy). Cassis & Gross, 2002: 530–536 (Australia, catalogue).

**Cuspicona simplex** Walker, 1867<sup>A</sup>

*Cuspicona simplex* Walker, 1867: 388. Holotype\* male (BMNH); South Australia.

Common name: Green potato bug.

**Geographic distribution** (Map p. 311). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WI, WN, WO. South Island: BR, MC, NC, NN, SD. Offshore Islands: KE, TH. First New Zealand record: Owairaka, AK, 1939 (Spiller & Turbott, 1944). Extralimital range: Australia (continental, Lord Howe Island, Tasmania).

**Biology.** Terrestrial. Lowland, montane. Planticolous, arboreal. Found on solanaceous plants, especially the genus *Solanum*. Collected mainly on *Solanum aviculare*, *S. mauritianum*, *S. nigrum*, *S. tuberosum*, and *Lycopersicon esculentum*; also sometimes on horticultural and garden crops, on grasses, or in human habitations. Host plants: *Solanum* species and *Lycopersicon esculentum*. Seasonality: Most of the year, mainly November, February, March (adults); February (nymphs, eggs). Mating: Spring. Overwintering: In the adult stage; collected at base of plants in grass or loose soil (Australia). Phytophagous (sap-sucking); feeding on solanaceous plants. Enemies: spiders (predators); braconid wasps, scelionid wasps, tachinid flies (parasites). Economic importance: Introduced pest; noxious to solanaceous plants.

**Dispersal power.** Macropterous; good flier.

**References.** Woodward, 1953a (New Zealand, taxonomy). Gross, 1975a (Australian Region, taxonomy). Wise, 1977: 127 (checklist, New Zealand). McDonald & Grigg, 1980 (Australia, biology, immatures, life cycle). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy). Coombs & Khan, 1997 (Australia, biology, parasites). Cassis & Gross, 2002: 534–535 (Australia, catalogue).

**Note.** More information on biology and distribution can be found in Larivière (1995).

**Tribe (Uncertain)****Genus *Hypsithocus* Bergroth, 1927<sup>E</sup>**

*Hypsithocus* Bergroth, 1927: 671. Type species: *Hynsithocus [sic] hudsonae* Bergroth, 1927, by monotypy.

**Geographic distribution.** New Zealand.

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (New Zealand, taxonomy).

**Note.** *Hypsithocus* has been traditionally placed in the tribe Carpororini, but this needs to be confirmed by further study of its morphology (D. Rider, personal communication).

***Hypsithocus hudsonae* Bergroth, 1927<sup>E</sup>**

Type photograph p. 267.

*Hynsithocus [sic] hudsonae* Bergroth, 1927: 672. Neotype female (designated by Larivière, 1995; MONZ); OL, lower slopes of Mount Aurum.

**Geographic distribution** (Map p. 311). South Island: CO–Gem Lake, Umbrella Mountains (OMNZ). Old Man Range (OMNZ). [The] Remarkables Range (NZAC). Rock and Pillar Range (NZAC). OL–Ben Lomond (AMNZ, NZAC). Dismal Saddle, slopes (LUNZ). End Peak, Harris Mountains (OMNZ). Eyre Mountains, Mount Dick (NZAC). Lower slopes of Mount Aurum. Round Hill, northern slopes (LUNZ). Temple Peak Station (LUNZ).

**Biology.** Terrestrial. Subalpine, alpine. Epigean, planticolous. Collected on or under alpine vegetation, e.g., *Celmisia* (including *C. viscosa*), *Pimelea*, *Hebe odora*, mat plants, and under stones. Host plant: *H. odora*. Seasonality: November to February (adults). February (nymphs). Mating: [Spring]. Phytophagous.

**Dispersal power.** Micropterous (hemelytra fused and shorter than abdomen; hind wings absent), [unable to fly].

**References.** Woodward, 1953a (New Zealand, taxonomy). Wise, 1977: 127 (checklist, New Zealand). Larivière, 1995 (biology, distribution, key, New Zealand, taxonomy).

**Family REDUVIIDAE****Assasin bugs and thread-legged bugs**

**References.** Wygodzinsky & Usinger, 1960 (Micronesia, taxonomy). Putshkov & Putshkov, 1985–1989 (catalogue, world). Maldonado Capriles, 1990 (catalogue, world). Gross & Malipatil, 1991 (Australia, keys, overview). Cassis & Gross, 1995: 280–369 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 150–154 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Putshkov & Putshkov, 1996: 148–265 (catalogue, Palearctic Region). Ambrose, 2000 (biology, economic importance, world).

**Note.** The Australian fauna has many subfamilies and tribes not represented in New Zealand (Cassis & Gross, 1995).

**Subfamily EMESINAE**

**References.** Wygodzinsky, 1956 (Australia, key to genera (including New Zealand), revision). Wygodzinsky, 1966 (revision, world). Hickman, 1969 (Australia, biology).

### Tribe EMESINI

#### Genus *Stenolemus* Signoret, 1858<sup>A</sup>

*Stenolemus* Signoret, 1858: 251. Type species: *Stenolemus spiniventris* Signoret, 1858, by monotypy.

*Phantasmatophanes* Kirkaldy, 1908b: 369. Type species: *Phantasmatophanes muiri* Kirkaldy, 1908b, by monotypy. Synonymised by Bergroth, 1911: 17.

**Geographic distribution.** Nearly worldwide.

**References.** Wygodzinsky, 1956 (Australia, key, taxonomy), 1966 (key, morphology, taxonomy). Wise, 1977: 118 (checklist, New Zealand). Maldonado Capriles, 1990: 93–97 (catalogue, world.) Cassis & Gross, 1995: 289 (Australia, catalogue). Putshkov & Putshkov, 1996: 157 (catalogue, Palearctic Region).

#### Genus *Stenolemus fraterculus* Wygodzinsky, 1956<sup>A</sup>

*Stenolemus fraterculus* Wygodzinsky, 1956: 206. Holotype\* male (repository unknown); [Australia] NSW, Tenterfield.

**Geographic distribution** (Map p. 312). North Island: AK—several Auckland suburbs (NZAC). Noises Islands, Otata Island (NZAC). BP—Fitzgerald Glade, road [state highway] 5 near Tapapa (NZAC). GB—Gisborne (NZAC). ND—Waimate [North] (NZAC). Whangarei (AMNZ). Offshore Islands: TH—North East Island (NZAC). First New Zealand record: Gisborne, GB, 1941 (NZAC; May, 1963). Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. Planticolous. Collected on a variety of plants, including *Leptospermum*, *Lycopersicon [esculentum]*, and *Rosa*; also in and around human habitations (including glasshouses); on a sycamore tree; in leaf litter (in spring). Seasonality: November to April, June (adults); November (teneral); April to June (nymphs). Overwintering: [In the nymphal stage, in leaf litter]. Predacious.

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Wygodzinsky, 1956 (Australia, key, taxonomy). May, 1963 (distribution, ecology). Wygodzinsky, 1966 (key, morphology, taxonomy, distribution). Wise, 1977: 118 (checklist, New Zealand). Maldonado Capriles, 1990: 94 (catalogue, world). Cassis & Gross, 1995: 290 (Australia, catalogue).

**Note.** Maldonado Capriles (1990) did not list this genus for New Zealand.

### Tribe LEISTARCHINI

#### Genus *Ploaria* Scopoli, 1786<sup>N</sup>

*Ploaria* Scopoli, 1786: 60. Type species: *Ploaria domestica* Scopoli, 1786, by monotypy.

*Cerascopus* Heineken, 1830: 36. Type species: *Cerascopus marginatus* Heineken, 1830 (=*Ploaria domestica* Scopoli, 1786), by monotypy. Synonymised by Van Duzee, 1917: 235.

*Ploaria* Burmeister, 1835: 211. Unjustified emendation.

*Emesodema* Spinola, 1837: 84. Type species: *Ploaria domestica* Scopoli, 1786, by original designation. Synonymised by Van Duzee, 1917: 235.

*Luteva* Dohrn, 1860: 242. Type species: *Luteva concolor* Dohrn, 1860, designated by Van Duzee, 1916: 28. Synonymised by Van Duzee, 1917: 235.

*Ploiaropsis* Champion, 1898: 173. Type species: *Ploiaropsis megalops* Champion, 1898, designated by Van Duzee, 1917: 235. Synonymised by McAtee & Malloch, 1922: 95.

*Elymas* Distant, 1909: 504. Type species: *Elymas praesentans* Distant, 1909, by original designation. Synonymised by Wygodzinsky, 1966: 158.

*Culicimimus* Villiers, 1948: 446. Type species: *Culicimimus gaboenensis* Villiers, 1948, by original designation. Synonymised by Wygodzinsky, 1966: 158.

*Wahrmania* Dispons, 1964: 71. Type species: *Wahrmania katznelsoni* Gispsons, 1964, by original designation. Synonymised by Putshkov, 1984: 18.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 118 (checklist, New Zealand). Maldonado Capriles, 1990: 108–117 (catalogue, world). Cassis & Gross, 1995: 292–296 (Australia, catalogue). Putshkov & Putshkov, 1996: 158–161 (catalogue, Palearctic Region).

#### Genus *Ploaria antipodum* Bergroth, 1927<sup>E</sup>

*Ploaria* [sic] *antipodum* Bergroth, 1927: 679. Syntypes\*, apparently 1 male and a number of females (should be in BMNH; I.M. Kerzhner, personal communication); Wellington (WN), Wainui State Forest (WN), Karori (WN), York Bay (WN).

*Ploaria antipodum*: Wygodzinsky, 1950a: 246.

*Ploaria antipoda*: Wygodzinsky, 1966: 169.

Common name: Antipodean assassin bug.

**Geographic distribution** (Map p. 312). North Island: AK, BP, CL, GB, HB, ND, RI, TO, WA, WI, WN. South Island: MB, NN, SD.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Collected in native bush on *Dacrydium cupressinum*, ferns (e.g., *Blechnum*), and *Astelia*; on mixed forest understorey vegetation; in leaf litter (nymph); in and around human habitations. Seasonality: October, November, January to March (mostly), April, June (adults); September, October, January to March (nymphs). Overwintering: [In the nymphal stage, in leaf litter]. Predacious.

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wise, 1977: 118 (checklist, New Zealand). Maldonado Capriles, 1990: 109 (catalogue, world).

**Note.** The original specific epithet used by Bergroth, *antipodium*, is a valid Latin plural genitive.

**Ploaria chilensis (Philippi, 1862)<sup>N</sup>**

*Stenolemus chilensis* Philippi, 1862: 387. Type\* status and repository unknown; Chile.

*Emesella dohrni* Signoret, 1863: 587. Syntypes\*, 2 specimens (possibly in NHMW); type locality unknown. Synonymised by Wygodzinsky, 1948: 473.

*Emesodema huttoni* Scott, 1874: 271. Syntypes\*, 2 specimens (BMNH); Auckland, New Zealand. Synonymised by Wygodzinsky, 1948: 473.

*Ploaria canariensis* Noualhier, 1895: 168. Syntypes\* (probably MNHP): "Iles Canaries, Ténérife (Santa Cruz!); Grande Canarie, Arganiguin (*Ch. Alluaud*).” Synonymised by Wygodzinsky, 1948: 473.

*Ploaria huttoni*: Kirkaldy, 1909a: 26.

*Ploearia* [sic] *huttoni*: Bergroth, 1923: 398.

*Ploaria chilensis*: Wygodzinsky, 1966: 177.

**Geographic distribution** (Map p. 312). North Island: AK, BP, GB, RI, TK, TO, WA, WN, WO. South Island: BR, NN. Extrazonal range: Australia (continental, Lord Howe Island), Nearctic Region, Neotropical Region, Palearctic Region.

**Biology.** Terrestrial. Lowland, montane. Planticolous. Found in wet, native broadleaf–podocarp, *Nothofagus*, or mixed forests. Collected in fine moss and hepatics hanging from the branches of small trees and shrubs in the forest understorey (adults, nymphs). Seasonality: September to March. Predacious.

**Dispersal power.** Apterous, [dispersing by walking].

**References.** Wygodzinsky, 1956 (Australia, key). Wise, 1977: 118 (checklist, New Zealand). Maldonado Capriles, 1990: 110 (catalogue, world). Cassis & Gross, 1995: 293 (Australia, catalogue). Putshkov & Putshkov, 1996: 159 (catalogue, Palearctic Region).

**Tribe PLOARIOLINI****Genus Empicoris Wolff, 1811<sup>N</sup>**

*Empicoris* Wolff, 1811: iv. Type species: *Cimex vagabundus* Linnaeus, 1758, by monotypy.

*Ploarioides* White, 1881: 58. Type species: *Ploarioides whitei* Blackburn, 1881, by monotypy. Synonymised by McAtee & Malloch, 1923: 162.

*Ploearioides* Lethierry & Severin, 1896: 71. Unjustified subsequent spelling.

*Ploiariola* Reuter, 1888: 357. Type species: *Cimex vagabundus* Linnaeus, 1758, by original designation. Synonymised with *Ploarioides* by Champion, 1898: 162.

*Ploeariola* Bergroth, 1906: 305. Unjustified subsequent spelling.

*Corempis* Dispops, in Stichel, 1959: 85. Type species: *Ploaria xambeui* Montandon, 1885, by monotypy. Synonymised by Wygodzinsky, 1966: 366.

*Empicorella* Dispops, in Stichel, 1959: 97. Type species: *Empicoris tingitanus* Dispops, 1955 (=*Empicoris rubromaculatus* Blackburn, 1889) by monotypy. Synonymised by Wygodzinsky, 1966: 366.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 119 (checklist, New Zealand). Maldonado Capriles, 1990: 145 (catalogue, world). Cassis & Gross, 1995: 301–303 (Australia, catalogue). Putshkov & Putshkov, 1996: 165–169 (catalogue, Palearctic Region).

**Notes.** The synonymy of *Empicoris* has been discussed by Putshkov & Putshkov (1996). The material in New Zealand collections is mostly unidentified; consequently, little information on distribution and biology can be added to what is currently available in the scanty literature on this group. Further revisionary work on *Empicoris* will be required before the identity of species occurring in New Zealand can be firmly established, a difficult task given that it may be impossible to locate Bergroth's types.

**Empicoris aculeatus (Bergroth, 1927)<sup>E</sup>**

*Ploearioides aculeatus* Bergroth, 1927: 675. Holotype\* female (should be in BMNH; I.M. Kerzhner, personal communication); "Northern Auckland".

*Empicoris aculeatus*: Myers & China, 1928: 381.

**Geographic distribution** (Map p. 312). North Island: "Northern Auckland" [=AK/ND].

**Biology.** Terrestrial. [Planticolous, arboreal.] Habitat and Seasonality unknown. Predacious.

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Maldonado Capriles, 1990: 146 (catalogue, world).

**Empicoris angulipennis (Bergroth, 1927)<sup>E</sup>**

*Ploearioides angulipennis* Bergroth, 1927: 676. Holotype\* male (should be in BMNH; I.M. Kerzhner, personal communication); WA, Masterton.

*Empicoris angulipennis*: Myers & China, 1928: 382.

**Geographic distribution** (Map p. 312). North Island: WA–Masterton.

**Biology.** Terrestrial. [Planticolous, arboreal.] Habitat and Seasonality unknown. Predacious.

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Maldonado Capriles, 1990: 146 (catalogue, world).

**Empicoris rubromaculatus (Blackburn, 1889)<sup>N</sup>**

*Ploarioides rubromaculata* Blackburn, 1889: 349. Holotype\* female (BPBM); Hawaii, Mauna Loa.

*Ploarioides euryale* Kirkaldy, 1908b: 372. Lectotype\* male (BPBM; designated by Wygodzinsky, 1966, according to Cassis & Gross (1995)). Synonymised by McAtee & Malloch, 1922: 95.

*Ploiaroides californica* Banks, 1909: 46. Holotype\*, sex unknown (ZMUC); Stanford University, California, USA. Synonymised by McAtee & Malloch, 1922: 95.

*Ploiariola scotti* Distant, 1913: 163. Holotype\* female (BMNH); Mallé, Seychelles (Cassis & Gross, 1995: 302). Synonymised by Wygodzinsky, 1966: 383.

*Ploiariola sagax* Horváth, 1914a: 642. Holotype\* female (MNH); type locality unknown. Synonymised by Wygodzinsky, 1966: 383.

*Ploiariola froggatti* Horváth, 1914a: 643. Holotype\* female (MNH); Sydney, NSW [=New South Wales]. Synonymised by McAtee & Malloch, 1925a: 17.

*Ploiariola vitticollis* Horváth, 1914b: 88. Type\* status unknown (repository unknown); Château de la Bonde près La Motte d'Aigues (Vaucluse), France. Synonymised by Putshkov, 1991: 45.

*Ploearoides* [sic] *rubromaculatus*: Tillyard, 1926: 151.

*Empicoris rubromaculatus*: McAtee & Malloch, 1925a: 16. *Empicoris rubromaculatus* var. *obsoletus* McAtee & Malloch, 1926: 132. Holotype\* male (USNM); Funchal, Madeira. Synonymised by Wygodzinsky, 1966: 383.

*Empicoris tingitanus* Dispops, 1955: 174. Type\* status unknown (possibly in MNHP); Tanger, Morocco. Synonymised by Wygodzinsky, 1966: 383.

*Empicoris microcephalus* Villiers, 1960: 28. Holotype\* male (MNHP); Madagascar. Synonymised by Wygodzinsky, 1966: 383.

*Empicorella barcinonis* Dispops, 1965: 53. Holotype\* male (possibly in MNHP); vicinity of Barcelona, Spain. Synonymised by Putshkov, 1987: 14, with *Ploiariola vitticollis* Horváth; restored by Putshkov, 1991: 45; synonymised by Putshkov & Putshkov, 1996: 168.

*Empicorella barcinonis balearicus* Dispops, 1965: 55. Holotype\* female (possibly in MNHP); Majorca. Synonymised by Putshkov & Putshkov, 1996: 168.

Common name: Thread bug.

**Geographic distribution** (Map p. 312). North Island: AK, BP, WI, WN. South Island: MC, NN.

**Biology.** Terrestrial. Lowland. Arboreal. Collected on native or introduced trees and shrubs. Seasonality: November, January, March to May, July, August. Predacious.

**Dispersal power.** Macropterous, [possibly able to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Maldonado Capriles, 1990: 150 (catalogue, world). Cassis & Gross, 1995: 281, 302–303 (Australia, catalogue). Putshkov & Putshkov, 1996: 167–168 (catalogue, Palearctic Region).

**Note.** Maldonado Capriles (1990) did not list this species for New Zealand.

### ***Empicoris seorsus* (Berghroth, 1927)<sup>E</sup>**

*Ploearoides seorsus* Berghroth, 1927: 678. Syntypes\*, one male, 1 female (should be in BMNH; I.M. Kerzhner, personal communication): WN, Wanui State Forest, Wellington.

*Empicoris seorsus*: Myers & China, 1928: 382.

**Geographic distribution** (Map p. 312). North Island: AK–Wattle Bay (AMNH). CL–Kennedy Bay Road (NZAC). ND–Poor Knights Islands, Aorangi, Puweto Valley (NZAC). WN–Wainui State Forest.

**Biology.** Terrestrial. Lowland. [Platicolous, arboreal.] Collected on dead *Myrsine australis* (ND) and from a stream bank (AK). Seasonality: November, February, March, June. Predacious.

**Dispersal power.** Submacropterous, [possibly unable to fly].

**References.** Wise, 1977: 119 (checklist, New Zealand). Wygodzinsky, 1979 (distribution, redescription). Maldonado Capriles, 1990: 150 (catalogue, world).

## **Family RHYPAROCHROMIDAE**

### **Seed bugs**

**References.** Woodward, 1956b (Tasmania, taxonomy). Ashlock, 1957 (classification, male genitalia, morphology). Scudder, 1957c (classification). Slater & Hurlbutt, 1957 (classification, morphology, wing). Barber, 1958 (Micronesia, taxonomy). Gross, 1958 (Australia, revision). Putshkov, 1958 (classification, immature stages, morphology). Sweet, 1960 (biology, food). Slater & Sweet, 1961 (classification; as Lygaeidae, Megalonotinae). Sweet & Slater, 1961 (immatures, key, Nearctic Region). Scudder, 1962a–b (taxonomy, types, world). Woodward, 1962 (Australia, taxonomy). Woodward & Slater, 1962 (Australia, South Africa, taxonomy). Eyles, 1963c (biology, life histories). Scudder, 1963b (taxonomy, types, world). Ashlock, 1964 (tribal classification). Eyles, 1964 (biology, food). Kerzhner, 1964 (genera, Palearctic Region, taxonomy). Slater, 1964a (catalogue, world), 1964b (South Africa, taxonomy). Sweet, 1964a–b (biology, ecology, Nearctic Region). Gross, 1965 (Australia, New Guinea, revision). Scudder, 1967 (taxonomy, types, world). Sweet, 1967 (tribal classification). Scudder, 1968 (taxonomy, types, world). Woodward, 1968 (Australia, taxonomy). Scudder, 1970a–b (taxonomy, types, world). Slater, 1975, 1976a–b (Australia, biogeography, biology, immature stages, taxonomy). Malipatil, 1977c–d (biology, New Zealand, taxonomy). Scudder, 1977 (taxonomy, types, world). Woodward & Malipatil, 1977 (Australia, taxonomy). Malipatil, 1978b–c (Australia, taxonomy). Linnauvori, 1978 (Sudan, taxonomy). Scudder, 1978 (taxonomy, types, world). Woodward, 1978 (Australia, taxonomy). Malipatil, 1979a, 1980a (Australia, biology, cytotoxicity, immature stages). Woodward, 1980a–b (Australia, taxonomy). Malipatil, 1981 (Australia, taxonomy). Scudder, 1981 (taxonomy,

types, world). Woodward, 1981 (Australia, taxonomy). Slater & Woodward, 1982 (cladistic analysis, classification). Malipatil, 1983 (New Caledonia, taxonomy). Slater, 1986 (zoogeography). Woodward, 1986 (Australia, taxonomy). Chen & Ashlock, 1987 (South Pacific, taxonomy). Woodward & O'Donnell, 1988 (Australia, taxonomy). Malipatil & Woodward, 1989 (Malaysia, taxonomy). Gross, 1991a (Australia, keys, overview). Schuh & Slater, 1995: 251–264 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Slater & O'Donnell, 1995 (catalogue, world). Henry, 1997a (family classification, phylogeny). Péricart, 1998a–b (taxonomy, West Palearctic Region). Sweet, 2000 (biology, economic importance, world). Péricart, 2001a: 35–220 (catalogue, Palearctic Region). Cassis & Gross, 2002: 273–352 (Australia, catalogue, introduction to family).

**Note.** Most of the literature published before 1997 refers to the Rhyparochromidae as a subfamily of Lygaeidae.

### Subfamily PLINTHISINAE

#### Tribe PLINTHISINI

##### Genus *Plinthisus* Stephens, 1829<sup>A</sup>

*Plinthisus* Stephens, 1829: 65. Type species: *Lygaeus brevipennis* Latreille, 1807, by monotypy.

**Geographic distribution.** Nearly worldwide.

**References.** Slater, 1964a: 781–806 (catalogue, world). Slater, 1975 (Australia, biology, zoogeography). Slater & Sweet, 1977 (Australia, key to species, revision). Slater & O'Donnell, 1995: 89–94 (catalogue, world). Péricart, 2001a: 184–190 (catalogue, Palearctic Region). Cassis & Gross, 2002: 282–285 (Australia, catalogue).

**Note.** The authorship of the generic name is discussed by China, 1943: 240.

##### Subgenus *Locutius* Distant, 1918<sup>A</sup>

*Locutius* Distant, 1918a: 192 (as genus; downgraded by Wagner, 1963: 127). Type species: *Locutius atratus* Distant, 1918a, by original designation. Reduced to subgenus by Scudder, 1962a: 771.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region.

**References.** Slater, 1964a: 781–783 (catalogue, world). Slater & Sweet, 1977: 115 (Australia, taxonomy). Slater & O'Donnell, 1995: 93 (catalogue, world). Linnavuori & Van Harten, 2000 (key to species, Yemen). Péricart, 2001a: 185–186 (catalogue, Palearctic Region). Cassis & Gross, 2002: 283 (Australia, catalogue).

##### *Plinthisus* (L.) *woodwardi* Slater & Sweet, 1977<sup>A</sup>

*Plinthisus* (*Locutius*) *woodwardi* Slater & Sweet, 1977: 115. Holotype\* male (SAMA); Kings Park, Perth, Western Australia.

**Geographic distribution** (Map p. 315). North Island: AK, BP, CL, GB, ND. South Island: KA, MC, SD. First New Zealand record: Mt Albert, AK, 1941 (Slater & Sweet, 1977). Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Lowland. Epigean. [Occurs in native forests and scrubs.] Collected in leaf litter (mostly), under grass, in lava fields, in *Freycinetia* [= *F. baueriana banksii*], in tussock, on *Kunzea ericoides* log, and under *Eucalyptus* bark. In Australia, collected in mosses, lichens, tussocks, and fallen leaves; associated with *Banksia* (Proteaceae), *Eucalyptus fasciculosa*, *E. leucoxylon* (Myrtaceae), *Freycinetia* (Pandanaceae). Seasonality: Most of the year, mainly November to March. Overwintering: Adults found in tussock debris (August, SD). Phytophagous (granivorous); feeding on sunflower seeds (in captivity).

**Dispersal power.** Brachypterous (unable to fly) or macropterous (able to fly). Attracted to artificial lights.

**References.** Slater & Sweet, 1977 (biogeography, biology, distribution, immature stages, key, morphology). Slater & O'Donnell, 1995: 91, 93 (catalogue, world). Cassis & Gross, 2002: 283 (Australia, biology, catalogue).

**Note.** Slater and Sweet (1977) remarked that “The restricted distribution in New Zealand would appear to indicate that this bug either has simply not had time to disperse more widely in that country or has been derived from an overseas population adapted to rather warm conditions, as may be indicated by the morphological similarity between Queensland and New Zealand populations.”

### Subfamily RHYPAROCHROMINAE

#### Tribe ANTILLOCORINI

**Reference.** Slater, 1983 (Australia, revision).

##### Genus *Tomocoris* Woodward, 1953<sup>N</sup>

*Tomocoris* Woodward, 1953b: 212. Type species: *Tomocoris truncatus* Woodward, 1953b, by original designation. *Longihaustrum* Woodward, 1953b: 214. Type species: *Longihaustrum ornatum* Woodward, 1953b, by monotypy. Synonymised by Woodward, 1963: 217.

**Geographic distribution.** Australian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Woodward, 1955 (Australia, taxonomy), 1959 (New Guinea, taxonomy), 1963 (Australia, synonymy, taxonomy). Slater, 1964a: 867–868 (catalogue, world).

Malipatil, 1977c (key to species, taxonomy). Wise, 1977: 123–124 (checklist, New Zealand). Malipatil & Woodward, 1989 (taxonomy, tribal classification). Péricart, 2001a: 219 (catalogue, Palearctic Region). Cassis & Gross, 2002: 286–287 (Australia, catalogue).

### ***Tomocoris ornatus* (Woodward, 1953)<sup>E</sup>**

Type photograph p. 271.

*Longihaustrum ornatum* Woodward, 1953b: 215. Holotype male (MONZ); WO, N.W. [=North West] of Taupiri.

*Tomocoris (Longihaustrum) ornatus*: Woodward, 1959: 53.

*Tomocoris ornatus*: Malipatil, 1977c: 364.

**Geographic distribution** (Map p. 316). North Island: AK, CL, HB, ND, WO. South Island: BR, NN, WD. Offshore Islands: TH.

**Biology.** Terrestrial. Lowland. Epigean. Found in broadleaf-podocarp, *Nothofagus*, and mixed forests and shrublands. Collected in leaf litter (mostly), in *Sphagnum* moss, under a rotten stump of *Acacia*, and on *Muehlenbeckia*. Seasonality: Throughout the year, mostly November to March. [Phytophagous (granivorous).]

**Dispersal power.** Mostly brachypterous [probably unable to fly], sometimes macropterous [probably able to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 868 (catalogue, world; as *T. ornatum* [sic]). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

**Note.** The type locality was erroneously listed as “Te Kuiti” [WO] by Palma *et al.* (1989).

### ***Tomocoris truncatus* Woodward, 1953<sup>E</sup>**

Type photograph p. 271.

*Tomocoris truncatus* Woodward, 1953b: 212. Holotype female (CMNZ); NC, Lake Janet, Mount Grey.

**Geographic distribution** (Map p. 316). South Island: KA—Green Burn River (MONZ). Spey Downs (NZAC). NC—Lake Janet, Mount Grey. Mount Alexander (NZAC). Tarako Station, Mason River (Woodward, 1953b).

**Biology.** Terrestrial. Montane, subalpine. [Epigean.] Collected in moss from exposed rock faces. Seasonality: October, January, April, June, August; probably active throughout the year. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 869 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

## **Tribe DRYMINI**

**References.** Gross, 1965 (Australia, New Guinea, revision). Slater, 1975, 1986 (Australia, zoogeography, world).

### **Genus *Brentiscerus* Scudder, 1962<sup>N</sup>**

*Brentiscerus* Scudder, 1962b: 989. Type species: *Scolopostethus putoni* White, 1878a, by original designation.

*Isopeltus* Gross, 1965: 49. Type species: *Taphropeltus australis* Bergroth, 1916a, by original designation. Synonymised by Slater, 1976b: 148.

**Geographic distribution.** Australia (continental, Lord Howe Island, Norfolk Island, Tasmania), New Zealand.

**References.** Slater, 1964a: 873–874 (catalogue, world). Gross, 1965 (key, taxonomy). Wise, 1977: 124 (checklist, New Zealand). Slater & O’Donnell, 1995: 114 (catalogue, world). Cassis & Gross, 2002: 295–296 (Australia, catalogue).

### ***Brentiscerus putoni* (White, 1878)<sup>E</sup>**

*Scolopostethus putoni* White, 1878a: 75. Lectotype\* male (designated by Scudder, 1967; BMNH); New Zealand.

*Taphropeltus putoni*: Myers, 1926: 484.

*Brentiscerus putoni*: Scudder, 1962b: 989.

**Geographic distribution** (Map p. 313). North Island: AK, BP, CL, HB, ND, RI, TK, TO, WN, WO. South Island: BR, CO, DN, FD, MB, MC, MK, NC, NN, SD, SL. Offshore Islands: CH, TH.

**Biology.** Terrestrial. Lowland, montane. Epigean. *Nothofagus*-dominant forests and adjoining areas. Collected mostly in leaf litter and/or moss; also in *Ozothamnus-Aciphylla* vegetation, in grass and weeds, in lichens from rocky face, under *Acaena novae-zelandiae*, and on a stream bank. Also swept from the low vegetation at night. Seasonality: Most of the year. Overwintering: In the adult stage; found in tussock debris (August, SD) and on *Ozothamnus leptophyllus* (August, ND). Phytophagous (granivorous); feeding on husked sunflower seeds (in captivity).

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Slater, 1964a: 873–874 (catalogue, world). Malipatil, 1975 (nymphs, rearing, taxonomy). Malipatil, 1977a (distribution, taxonomy). Wise, 1977: 124 (checklist, New Zealand). Slater & O’Donnell, 1995: 114 (catalogue, world).

### **Genus *Grossander* Slater, 1976<sup>A</sup>**

*Grossander* Slater, 1976b: 148. Type species: *Brentiscerus major* Gross, 1965, by original designation.

**Geographic distribution.** Australia (continental), New

Zealand, Papua New Guinea.

**References.** Slater & O'Donnell, 1995: 117–118 (catalogue, world). Cassis & Gross, 2002: 296–297 (Australia, catalogue).

### **Grossander major (Gross, 1965)<sup>A</sup>**

*Brentiscerus major* Gross, 1965: 56. Holotype\* male (QM); Lamington National Park, Queensland, Australia. *Grossander major*: Slater, 1976b: 148.

**Geographic distribution** (Map p. 313). North Island: AK–Ranui (AMNZ). CL–Kauronga [=Kauaeranga] River area (NZAC). South Island: NN–Rough Island (NZAC). First New Zealand record: Kauronga [=Kauaeranga] River area, CL, 1964 (NZAC; Malipatil, 1977a). Extralimital range: Australia (continental), Papua New Guinea.

**Biology.** Terrestrial. Lowland. Planticolous. [Broadleaf-podocarp forests and surroundings]. Collected in moss (CL) and leaf litter (NN). Host plant (Australia): *Rondeletia* (Rubiaceae). Seasonality: September, April, August. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly.

**References.** Gross, 1965 (distribution, key, taxonomy; as *Brentiscerus major*). Malipatil, 1977a (distribution, morphology, stridulation, taxonomy). Slater & O'Donnell, 1995: 117 (catalogue, world). Cassis & Gross, 2002: 297 (Australia, catalogue, host).

### **Genus *Paradrymus* Bergroth, 1916<sup>A</sup>**

*Paradrymus* Bergroth, 1916a: 11. Type species: *Paradrymus exilirostris* Bergroth, 1916a, by monotypy.

**Geographic distribution.** Australia (continental, Tasmania), New Zealand.

**References.** Gross, 1965 (key, taxonomy). Slater & O'Donnell, 1995: 121 (catalogue, world). Cassis & Gross, 2002: 298–299 (Australia, catalogue).

### ***Paradrymus exilirostris* Bergroth, 1916<sup>A</sup>**

*Paradrymus exilirostris* Bergroth, 1916a: 12. Syntypes\* (possibly NMV); Queensland, Victoria (Australia).

**Geographic distribution** (Map p. 315). North Island: WN–Percy Scenic Reserve (near Petone) (Malipatil, 1977a; first New Zealand record based on specimens (MONZ) collected in 1976). Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. [Lowland.] Epigean. [Broadleaf-podocarp forests.] Collected in leaf litter among rocks (New Zealand); rotting leaves (Australia). Seasonality: February. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly.

**References.** Gross, 1965 (distribution, taxonomy). Malipatil, 1977a (distribution, nymphs, taxonomy). Slater & O'Donnell, 1995: 121 (catalogue, world). Cassis & Gross, 2002: 298–299 (Australia, catalogue).

## **Tribe LETHAEINI**

**References.** Gross, 1958 (Australia, revision). Woodward, 1962, 1968 (Australia, taxonomy). Woodward & Slater, 1962 (Australia, South Africa, taxonomy). Ashlock, 1964 (classification, world). Woodward & Malipatil, 1977 (Australia, taxonomy). Woodward, 1980a–b, 1981 (Australia, taxonomy). Slater, 1986 (zoogeography, world). Woodward & O'Donnell, 1988 (Australia, taxonomy).

### **Genus *Paramyocara* Woodward & Malipatil, 1977<sup>N</sup>**

*Paramyocara* Woodward & Malipatil, 1977: 341. Type species: *Paramyocara iridescens* Woodward & Malipatil, 1977, by original designation.

**Geographic distribution.** Australia (continental), New Zealand.

**References.** Woodward & Malipatil, 1977 (Australia & New Zealand, revision). Slater & O'Donnell, 1995: 100 (catalogue, world). Cassis & Gross, 2002: 309 (Australia, catalogue).

### ***Paramyocara iridescens* Woodward & Malipatil, 1977<sup>N</sup>**

*Paramyocara iridescens* Woodward & Malipatil, 1977: 342. Holotype\* male (QM); Landsborough, Queensland, Australia.

**Geographic distribution** (Map p. 315). North Island: AK, BP, CL, ND, WO. Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. [Epigean, planticolous, arboreal.] Collected in *Vitex lucens* litter, *Metrosideros excelsa* litter, and on flowering *Leptospermum* (New Zealand); in *Eucalyptus camaldulensis* litter (Myrtaceae), *Melaleuca* litter (Myrtaceae), grass leaf litter, and leaf litter in swamps (Australia). Seasonality: November, January, March to June. Overwintering: [In the adult stage, in leaf litter]. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly.

**References.** Woodward & Malipatil, 1977 (taxonomy). Slater & O'Donnell, 1995: 100 (catalogue, world). Cassis & Gross, 2002: 309 (Australia, biology, catalogue).

### Tribe MYODOCHINI

**References.** Malipatil, 1978b–c (Australian Region, key to taxa, nymphs, revision). Harrington, 1980 (key to genera, phylogeny, revision, world). Slater, 1986 (zoogeography, world).

#### Genus *Horridipamera* Malipatil, 1978<sup>A</sup>

*Horridipamera* Malipatil, 1978b: 89. Type species: *Plociomerus nietneri* Dohrn, 1860, by original designation.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Malipatil, 1978b (key to species). Malipatil, 1978c (key to taxa, immature stages, taxonomy). Harrington, 1980 (checklist, key, taxonomy). Slater & Zheng, 1984 (key to species, phylogeny, revision). Slater & O'Donnell, 1995: 147 (catalogue, world). Péricart, 2001a: 173 (catalogue, Palearctic Region). Cassis & Gross, 2002: 311–313 (Australia, catalogue).

#### Genus *Horridipamera robusta* Malipatil, 1978<sup>A</sup>

*Horridipamera robusta* Malipatil, 1978b: 93. Holotype\* male (QM); Highvale, Queensland, Australia.

**Geographic distribution** (Map p. 314). North Island: AK–Motutapu Island (NZAC). Tawharanui Regional Park (NZAC). Whenuapai (Malipatil, 1978b). ND–Ahipara (NZAC), Kerikeri (NZAC). First New Zealand record: Motutapu Island, AK, 1972 (NZAC; Malipatil, 1978b). Extralimital range: Australia (continental).

**Biology.** Terrestrial. Lowland. [Epigean.] Collected under grass; on beach; on intertidal rocks. Seasonality: April, June, August. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly.

**References.** Malipatil, 1978b (distribution, key, taxonomy). Malipatil, 1978c (immature stages, key, taxonomy). Harrington, 1980 (checklist, key, taxonomy). Malipatil, 1980a (cytotaxonomy). Slater & Zheng, 1984 (immature stages, key, taxonomy). Slater & O'Donnell, 1995: 148 (catalogue, world). Cassis & Gross, 2002: 313 (Australia, catalogue).

#### Genus *Remaudiereana* Hoberlandt, 1954<sup>N</sup>

*Remaudiereana* Hoberlandt, 1954: 921. Type species: *Remaudiereana tibialis* Hoberlandt, 1954, by original designation. Synonymised with *Pachybrachius* Hahn, 1826, by Malipatil, 1978b: 42; resurrected from synonymy by Harrington, 1980: 92.

**Geographic distribution.** Worldwide (except Western Hemisphere).

**References.** Slater, 1964a: 1172–1177 (catalogue, world). Wise, 1977: 124 (checklist, New Zealand). Malipatil, 1978b (key to species; as *Pachybrachius*). Malipatil, 1978c (Australia, immature stages, key to taxa, taxonomy; as *Pachybrachius*). Harrington, 1980 (checklist, key, phylogeny, taxonomy). Slater & O'Donnell, 1995: 161–162 (catalogue, world). Péricart, 2001a: 178–179 (catalogue, Palearctic Region). Cassis & Gross, 2002: 323–325 (Australia, catalogue).

#### *Remaudiereana inornata* (Walker, 1872)<sup>N</sup>

*Rhyparochromus inornatus* Walker, 1872: 112. Lectotype\* male (designated by Scudder, 1967; BMNH); New Zealand.

*Plociomerus inornatus*: Hutton, 1898b: 174.

*Pameria inornata*: Alfken, 1904: 599.

*Orthoea* [sic] *sidnica* Kirkaldy, 1908c: 775. Holotype\* male (BPBM); Sydney, NSW [=New South Wales, Australia]. Synonymised by Malipatil, 1978b: 50.

*Pachybrachius palauensis* Barber, 1958: 204. Holotype\* male (USNM); E. Nagatpang, Babelthuap Island, Palau Islands. Synonymised by Malipatil, 1978b: 50.

*Remaudiereana palauensis*: Scudder, 1962a: 772.

*Remaudiereana inornata*: Scudder, 1970a: 103; Wise, 1977: 124; Harrington, 1980: 92–93.

*Pachybrachius inornatus*: Malipatil, 1978b: 49.

**Geographic distribution** (Map p. 315). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WI, WN, WO. South Island: NN, SD. Offshore Islands: CH, KE, TH. Extralimital range: Australia (continental, Lord Howe Island, Norfolk Island), Micronesia (Caroline Islands), New Caledonia, Palau.

**Biology.** Terrestrial. Coastal, lowland (mostly), montane. Epigean (mostly), planticolous. Open or semi-open habitats. New Zealand main islands and Chatham Islands: Collected in ground litter under *Acaena pallida*, *Polygonum aviculare*, and various shrubs; in grass and weeds; on *Acaena* (several individuals), including *Acaena profundeincisa*, *Bulbilis dactyloides* [= *Stenotaphrum secundatum*], *Carex divulsa*, *Cassinia leptophylla* [= *Ozothamnus leptophyllus*] (canopy), *Coprosma crassifolia*, *Cotula*, *Cyperus*, *Haloragis erecta* (several individuals), *Juncus effusus*, *J. articulatus* interspersed with *Sparganium subglobosum* (adults, nymphs), *Leptospermum scoparium*, *Lotus corniculatus*, mat plants, *Medicago sativa*, *Phormium tenax*, *Polygonum persicaria*, *Fragaria x ananassa*, *Zea mays*; under damp debris, under stones, in compost heaps; on low vegetation in old orchards, pastures, grasslands, cabbage fields; in leaf rolls on *Citrus*; in *Avicennia* swamp; and bred from a coccid gall on stem of *Coprosma crassifolia*. Kermadec Islands: Collected in ground litter and other vegetable debris under *Cyperus ustulatus*, *Hymenophyllum*,

*Metrosideros kermadecensis* (adults, nymphs), *Myrsine kermadecensis*; on *Ageratum houstonianum*, *Araucaria heterophylla*, and *Nephrolepis*; in moss. Host plants: Probably *Coprosma crassifolia*, *Cyperus*, *Fragaria x ananassa*, *Leptospermum scoparium*, *Metrosideros kermadecensis* (New Zealand); also *Acaena pallida*, *A. sanguisorbae* (Rosaceae), *Ageratum conyzoides* (Asteraceae), *Araucaria excelsa* (Araucariaceae), *Cotula* (Asteraceae) (elsewhere). Seasonality: Throughout the year (adults); November to February, April to June (adults, KE); December, February (nymphs); May, June (nymphs, KE). Mating: August, on *Coprosma crassifolia*. Overwintering (Myers, 1926): In May and July, adults observed hibernating in company of nymph ticks; in June, adults found in the crowns of *Fragaria x ananassa*; in August, in tightly rolled dead leaves of *Phormium tenax*. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Myers, 1926 (immature stages; as *Orthea nigriceps*). Slater, 1964a: 1174–1176 (catalogue, world; as a synonym of *Remaudiereana nigriceps*). Wise, 1977: 124 (checklist, New Zealand). Malipatil, 1978b (distribution, key, taxonomy; as *Pachybrachius inornatus*), 1978c (immature stages, key, taxonomy; as *Pachybrachius inornatus*). Slater & O'Donnell, 1995: 161 (catalogue, world). Cassis & Gross, 2002: 323 (Australia, catalogue).

**Notes.** All literature information prior to 1970, when this species was resurrected from synonymy with *R. nigriceps*, is misleading for data on distribution and biology that could pertain to one or the other of the *Remaudiereana* species. Such information is therefore mostly excluded here, except for that of Myers (1926). Other distributional and biological information given here is based mostly on data from museum specimens and recent literature.

### *Remaudiereana nigriceps* (Dallas, 1852)<sup>N</sup>

*Rhyparochromus nigriceps* Dallas, 1852: 577. Lectotype\* female (designated by Scudder, 1967; BMNH); Hawaii (as Sandwich Islands).

*Plociomerus nigriceps*: Mayr, 1868: 128.

*Pameria nigriceps*: Stål, 1874: 152.

*Plociomerus douglasi* White, 1876: 105. Lectotype\* male (BMNH; designated by Scudder, 1967); New Zealand (as Nova Zelandia). Synonymised by White, 1878b: 369.

*Pameria douglasi*: Lethierry & Severin, 1894: 192.

*Orthaea [sic] nigriceps*: Kirkaldy, 1902c: 159; Myers, 1926: 482.

*Orthaea (Diplonotus) nigriceps*: Van Duzee, 1940: 183.

*Pachybrachius nigriceps*: Usinger, 1946: 30; Woodward, 1954a: 224; Malipatil, 1978b: 45.

*Remaudiereana douglasi*: Scudder, 1962a: 772.

*Remaudiereana nigriceps*: Scudder, 1962a: 772; Slater, 1964a: 1174; Eyles, 1970b: 500; Harrington, 1980: 93.

**Geographic distribution** (Map p. 315). Offshore Islands: KE-Raoul Island (Malipatil, 1978b). Extralimital range: Australia (continental, Christmas Island), Fiji, Hawaii, New Caledonia, Tonga, Western Samoa, Oriental Region (India, Indonesia, Malaysia).

**Biology.** Terrestrial. Lowland. Epigean, planticolous. Host plant (Hawaii): *Zea mays*. Seasonality: January, March to May, August. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly. Attracted to artificial lights.

**References.** Slater, 1964a: 1174–1176 (catalogue, world). Wise, 1977: 124 (checklist, New Zealand). Malipatil, 1978b (distribution, figures, genitalia, key, redescription; as *Pachybrachius nigriceps*), 1978c (immature stages, key, taxonomy; as *Pachybrachius nigriceps*). Slater & O'Donnell, 1995: 161–162 (catalogue, world). Péricart, 2001a: 179 (catalogue, Palearctic Region). Cassis & Gross, 2002: 324–325 (Australia, catalogue).

## Tribe RHYPAROCHROMINI

**References.** Gross & Scudder, 1963 (Australia, revision). Eyles, 1970b, 1973 (New Zealand, taxonomy). Slater, 1975, 1986 (Australia, world, zoogeography).

### Genus *Dieuches* Dohrn, 1860<sup>A</sup>

*Dieuches* Dohrn, 1860: 159. Type species: *Dieuches syriacus* Dohrn, 1860, designated by Distant, 1903: 82.

*Ischnotarsus* Fieber, 1860a: 50, 191. Type species: *Ischnotarsus melanotus* Fieber, 1861, by subsequent designation. Synonymised by Fieber, 1861: 388.

*Critobulus* Distant, 1903: 77. Type species: *Critobulus insignis* Distant, 1903, by original designation. Synonymised by Kirkaldy, 1909c: 31.

*Abanus* Distant, 1909: 493. Type species: *Abanus coloratus* Distant, 1909, by monotypy. Synonymised by Scudder, 1962a: 766.

*Maxaphanus* Distant, 1918b: 265. Type species: *Maxaphanus africanus* Distant, 1918b, by monotypy. Synonymised by Scudder, 1962a: 766.

**Geographic distribution.** Australian Region, Ethiopian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Slater, 1964a: 1205–1222 (catalogue, world). Eyles, 1973 (biogeography, biology, economic importance, key to species, revision, world). Wise, 1977: 124–125 (checklist, New Zealand). Slater & O'Donnell, 1995: 166–171 (catalogue, world). Péricart, 2001a: 193–197 (catalogue, Palearctic Region). Cassis & Gross, 2002: 330–335 (Australia, catalogue). Deckert & Eyles, 2002 (Ethiopian Region, taxonomy).

***Dieuches notatus* (Dallas, 1852)<sup>A</sup>**

*Rhyparochromus notatus* Dallas, 1852: 569. Lectotype\* female (designated by Scudder, 1967; BMNH); New South Wales, Australia.

*Dieuches notatus*: Stål, 1874: 161.

**Geographic distribution** (Map p. 313). North Island. AK, BP, CL, HB, ND, WO. South Island: NN (CMNZ). First New Zealand record: Mangere, AK, 1958 (May, 1963). Extralimital range: Australia (continental, Lord Howe Island, Tasmania).

**Biology.** Terrestrial. Lowland. Epigean (mostly), planticolous. Collected in ground litter, often beneath herbage, e.g., *Coronopus didymus*; also in pastures, glasshouses, storage, and other buildings (especially during cooler months). Collected on *Hypericum* in Australia. Host plant: *C. didymus*. Seasonality: Most of the year, mainly January to May (adults); January, March, May, August (nymphs). Mating: March. Oviposition: Eggs laid singly, just below the surface of the ground litter. May be plurivoltine. Thermophilous: Large numbers observed resting 2–3 feet [=about 1 m] up a warm wall and on concrete path in full sun in late summer (May, 1965a). Phytophagous (granivorous); feeding on seeds of *C. didymus* (in field and captivity); *Brassica rapa* and *Raphanus sativus* (in captivity). Enemies: damsel bugs (*Nabis kinbergii*), ground-beetles, mites, spiders. Economic importance: Pest of strawberries in Tasmania, but strawberry eating could not be induced under laboratory conditions in New Zealand (May, 1965a) where it is only likely to be a nuisance in gardens and where bare soil is rapidly colonised by the weed *C. didymus*.

**Dispersal power.** Brachypterous (unable to fly) or macropterous (able to fly).

**References.** May, 1963 (distribution, ecology). Gross & Scudder, 1963 (Australia, distribution, key, taxonomy). Slater, 1964a: 1215 (catalogue, world). May, 1965a–b (biology, female reproductive system, food, immature stages, rearing, taxonomy). Eyles, 1973 (biology, distribution, key, taxonomy). Malipatil & Kumar, 1975 (immature stages, taxonomy). Wise, 1977: 125 (checklist, New Zealand). Slater & O'Donnell, 1995: 169 (catalogue, world). Cassis & Gross, 2002: 333–334 (Australia, catalogue).

**Genus *Stizocephalus* Eyles, 1970<sup>N</sup>**

*Stizocephalus* Eyles, 1970b: 500. Type species: *Stizocephalus brevirostris* Eyles, 1970b, by original designation.

**Geographic distribution.** Australia (continental, Tasmania), New Zealand.

**References.** Scudder, 1975 (Australia, taxonomy). Wise, 1977: 125 (checklist, New Zealand). Slater & O'Donnell,

1995: 179 (catalogue, world). Cassis & Gross, 2002: 340–341 (Australia, catalogue).

***Stizocephalus brevirostris* Eyles, 1970<sup>N</sup>**

Type photograph p. 271.

*Stizocephalus brevirostris* Eyles, 1970b: 503. Holotype female (NZAC); New Zealand, MB, Altmarlock Peak, Black Birch [Range].

**Geographic distribution** (Map p. 315). South Island: MB–Altmarlock Peak, Black Birch Range. Extralimital range: Australia (continental, Tasmania).

**Biology.** Terrestrial. Subalpine. Epigean. Collected under thin layer of dead grass and leaf litter close to *Celmisia sessiliflora* and *Kelleria dieffenbachii*. Seasonality: January. Phytophagous (granivorous).

**Dispersal power.** Macropterous, able to fly.

**References.** Eyles, 1970b (biology, distribution, taxonomy). Wise, 1977: 125 (checklist, New Zealand). Slater & O'Donnell, 1995: 179 (catalogue, world). Cassis & Gross, 2002: 340 (Australia, catalogue).

**Tribe STYGNOCORINI****Genus *Margareta* White, 1878<sup>E</sup>**

*Margareta* White, 1878a: 74. Type species: *Margareta dominica* White, 1878a, by monotypy.

**Geographic distribution.** New Zealand.

**References.** Scudder, 1957c (classification). Slater, 1964a: 1011 (catalogue, world). Wise, 1977: 124 (checklist, New Zealand). Slater & O'Donnell, 1995: 127 (catalogue, world).

***Margareta dominica* White, 1878<sup>E</sup>**

*Margareta dominica* White, 1878a: 75. Lectotype\* female (designated by Scudder, 1967; BMNH); New Zealand.

**Geographic distribution** (Map p. 314). North Island: AK, BP, CL, ND, TK, TO, WA, WN. South Island: NN, SD, WD. Stewart Island (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. Planticolous. Found at forest edges, in clearings and open paths. All life stages collected on the host plant *Gahnia* (e.g., *G. setifolia*, *G. xanthocarpa*). Also taken from *Phytolacca octandra* and low vegetation. Seasonality: September to May, mostly November to January (adults); November to January, March (nymphs). Probably univoltine. Overwintering: In the adult stage; collected in *Gahnia* litter (September, AK). Phytophagous (granivorous); feeding on *Gahnia* seeds. Mimicry: Difficult to distinguish from the shining dark brown seeds of *Gahnia*.

**Dispersal power.** Macropterous, [probably able to fly].

**References.** Myers, 1922, 1926 (biology, distribution, immature stages, mimicry). Slater, 1964a: 1011 (catalogue, world). Wise, 1977: 124 (checklist, New Zealand). Slater & O'Donnell, 1995: 127 (catalogue, world).

### Tribe TARGAREMINI

**References.** Woodward, 1953b (New Zealand, taxonomy), 1956b (Tasmania, taxonomy). Ashlock, 1964 (classification). Eyles, 1967 (biogeography, key to world genera, New Zealand, taxonomy). Slater, 1976a (Australia, biology, immature stages). Malipatil, 1977c-d (biology, key to genera, New Zealand, revision). Woodward, 1978 (Australia, taxonomy). Malipatil, 1983 (New Caledonia, taxonomy). Slater, 1986 (world, zoogeography). Woodward, 1986 (Australia, taxonomy).

#### Genus *Forsterocoris* Woodward, 1953<sup>E</sup>

*Forsterocoris* Woodward, 1953b: 209. Type species: *Forsterocoris bisinuatus* Woodward, 1953b, by original designation.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 862 (catalogue, world). Malipatil, 1977c (key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 109 (catalogue, world).

#### *Forsterocoris bisinuatus* Woodward, 1953<sup>E</sup>

Type photograph p. 268.

*Forsterocoris bisinuatus* Woodward, 1953b: 209. Holotype male (CMNZ); FD, Cascade Creek, Hollyford Valley [=Eglinton Valley].

**Geographic distribution** (Map p. 313). South Island: BR, DN, FD, MK, NN, OL, SC, SL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. Found in *Nothofagus* forests. Collected in leaf litter, rotten wood, and ground moss; log litter; moss from rock faces and open banks, under dead tree or in tussock; river flood debris; mat plants; ground litter under carrion. Seasonality: September to April (mostly December to February), June. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 862 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand).

#### *Forsterocoris salmoni* (Woodward, 1953)<sup>E</sup>

Type photograph p. 268.

*Regatarma salmoni* Woodward, 1953b: 202. Holotype male (MONZ); OL, Lake Wakatipu.

*Forsterocoris salmoni*: Malipatil, 1977c: 340.

**Geographic distribution** (Map p. 313). South Island: OL–Lake Wakatipu. SL–Dipton, Caroline Hill (Malipatil, 1977c).

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Found in *Nothofagus* forests, [in leaf litter]. Seasonality: December, February. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy; as *Regatarma salmoni*). Slater, 1964a: 866 (catalogue, world; as *Regatarma salmoni*). Wise, 1977: 123 (checklist, New Zealand; as *Regatarma salmoni*). Malipatil, 1977c (distribution, key, taxonomy).

#### *Forsterocoris sinuatus* Woodward, 1953<sup>E</sup>

Type photograph p. 268.

*Forsterocoris sinuatus* Woodward, 1953b: 211. Holotype male (CMNZ); FD, Lake Manapouri.

**Geographic distribution** (Map p. 313). South Island: CO, FD, SL.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. [*Nothofagus* forests.] Collected in moss and leaf litter. Seasonality: October to March. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 862 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand).

#### *Forsterocoris stewartensis* Malipatil, 1977<sup>E</sup>

Type photograph p. 268.

*Forsterocoris stewartensis* Malipatil, 1977c: 340. Holotype male (NZAC); SI, Big South Cape Island.

**Geographic distribution** (Map p. 313). Stewart Island: Big South Cape Island. Long Island (NZAC), North Peak (NZAC). Port Pegasus, Twilight Bay (Malipatil, 1977c). Rakeahua Valley (Malipatil, 1977c). Table Hill (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. Epigean. [Occurs in or near podocarp forests.] Collected in mat plants, leaf litter, nettle litter. Seasonality: November, January, February (mostly). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**Reference.** Malipatil, 1977c (distribution, key, taxonomy).

### Genus *Geratarma* Malipatil, 1977<sup>N</sup>

*Geratarma* Malipatil, 1977c: 342. Type species: *Geratarma eylesi* Malipatil, 1977c, by original designation.

**Geographic distribution.** Australia (Tasmania only), New Zealand.

**References.** Woodward, 1956b (Tasmania, taxonomy; as *Regatarma*). Malipatil, 1977c: 342–343 (key to species, taxonomy). Slater & O'Donnell, 1995: 109 (catalogue, world). Cassis & Gross, 2002: 342 (Australia, catalogue).

### *Geratarma eylesi* Malipatil, 1977<sup>E</sup>

Type photograph p. 269.

*Geratarma eylesi* Malipatil, 1977c: 342. Holotype male (NZAC); FD, Mount Barber, summit.

**Geographic distribution** (Map p. 313). South Island: FD–Mount Barber. Mount Grey (Malipatil, 1977c). Turret Range (Malipatil, 1977c). Wilmot Pass (NZAC). [Turret Range,] Wolfe Flat (Malipatil, 1977c).

**Biology.** Terrestrial. Montane, subalpine. Epigean. Collected in *Chionochloa* and *Poa* humus, and under stones near these plants; also in mat plants. Seasonality: January (adults, teneral). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Malipatil, 1977c (distribution, key, taxonomy). Slater & O'Donnell, 1995: 109–110 (catalogue, world).

### *Geratarma manapourensis* Malipatil, 1977<sup>E</sup>

Type photograph p. 269.

*Geratarma manapourensis* Malipatil, 1977c: 343. Holotype male (NZAC); FD, Wilmot Pass.

**Geographic distribution** (Map p. 313). South Island: FD–Doubtful Sound, Deep Cove (Malipatil, 1977c). West Arm, Lake Manapouri (Malipatil, 1977c). Wilmot Pass.

**Biology.** Terrestrial. Montane, subalpine. Epigean. Collected under grass; in mat plants; under ferns and *Epilobium*. Seasonality: January. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Malipatil, 1977c (distribution, key, taxonomy). Slater & O'Donnell, 1995: 110 (catalogue, world).

### Genus *Metagerra* White, 1878<sup>E</sup>

*Metagerra* White, 1878a: 34. Type species: *Metagerra obscura* White, 1878a, by monotypy.

**Geographic distribution.** New Zealand.

**References.** Woodward, 1953b (taxonomy). Slater, 1964a: 863–864 (catalogue, world). Eyles, 1967 (biogeography, key). Malipatil, 1976 (key to species, revision). Wise,

1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue world).

### *Metagerra angusta* Eyles, 1967<sup>E</sup>

Type photograph p. 269.

*Metagerra angusta* Eyles, 1967: 416. Holotype male (NZAC); FD, Hunter Mountains, top.

**Geographic distribution** (Map p. 314). South Island: FD–Hunter Mountains. Takahe Valley (Upper) (NZAC). Lake Monowai (NZAC). Turret Range, North of Percy Saddle (NZAC). MK–Lake Pukaki, Te Kohai Island (NZAC). SL–Longwood Range (NZAC). Takitimu Range, Cheviot Face (NZAC).

**Biology.** Terrestrial. Montane, subalpine. Epigean. Collected in grass; in mixed leaf litter; ground litter under tussock and *Myrsine nummularia*. Seasonality: December to February. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Eyles, 1967 (key to species except *helmsi* and *truncata*, morphology, taxonomy,). Malipatil, 1976 (biology, distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue, world).

### *Metagerra helmsi* (Reuter, 1890)<sup>E</sup>

*Paresurus helmsi* Reuter, 1890: 192. Holotype\* female (UZMH); New Zealand.

*Metagerra helmsi*: Bergroth, 1892: 264; Malipatil, 1976: 307.

*Paresurus helmsi*: Hutton, 1898b: 173.

**Geographic distribution** (Map p. 314). North Island: BP, HB, TO, WA, WI, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SD, SL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, planticolous, arboreal. [In forests (*Nothofagus* or mixed) and adjoining shrublands and open areas.] Collected in leaf litter; in ground moss or in tussock; in ground moss under *Leptospermum scoparium*, *Nothofagus*, or *Discaria toumatou*; in moss and lichens under *Nothofagus*; in ground litter under grass clumps; in *Hedycarya arborea* litter, *Phormium* litter; in hanging moss [from tree branches]; in moss on logs; in moss from rock faces, shady banks, riversides, lake edges; in sooty mould on *Nothofagus*; under *Dacrydium* bark; on open banks. Beaten or swept, especially in summer, from *Celmisia spectabilis*, *Gahnia*, ferns, *Hebe subalpina*, *Melicytus ramiflorus*, *Muehlenbeckia*, and *Nothofagus solandri*; also *Blechnum procerum* (at night). Seasonality: Throughout the year (mostly November to February). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (taxonomy; as *Metagerra obscura* (part), *Paresurus helmsi*). Slater, 1964a: 864 (catalogue, world; as *Metagerra obscura* (part)). Eyles, 1967: 415, 420 (key; as *Metagerra obscura* (part)). Malipatil, 1976 (biology, distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue, world).

### *Metagerra kaikourica* Eyles, 1967<sup>E</sup>

Type photograph p. 269.

*Metagerra kaikourica* Eyles, 1967: 417. Holotype male (NZAC); MB/KA, Mount Percival.

**Geographic distribution** (Map p. 314). South Island: KA—Green Burn River (MONZ). MB—Black Birch [Range] (Malipatil, 1976). MB/KA—Mount Percival. NN—Mangarakau (Malipatil, 1976).

**Biology.** Terrestrial. Montane, subalpine. Epigean. [Occurs in *Nothofagus* forests and adjoining areas.] Collected in moss and leaf litter; in ground litter under *Helichrysum selago* [=H. *intermedium* var. *selago*?], *H. coralloides*, and *Celmisia spectabilis* (all Asteraceae); in *Muehlenbeckia complexa* and *Leucopogon fraseri* litter; in moss at forest edge. Seasonality: October, January, February, April, July. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Eyles, 1967 (morphology, taxonomy). Malipatil, 1976 (biology, distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue, world).

### *Metagerra obscura* White, 1878<sup>E</sup>

*Metagerra obscura* White, 1878a: 34. Lectotype\* male (designated by Scudder, 1967; BMNH); New Zealand.

*Metagerra distincta* Eyles, 1967: 413. Holotype male (NZAC); NN, Upper Maitai [Valley]. Synonymised by Malipatil, 1976: 305.

**Geographic distribution** (Map p. 314). North Island: BP, TK, TO, WA, WI, WN. South Island: BR, CO, DN, FD, KA, MB, MC, MK, NC, NN, OL, SC, SL, WD. Stewart Island. Offshore Islands: CH.

**Biology.** Terrestrial. Lowland to subalpine. Epigean, planticolous, arboreal. *Nothofagus* or mixed forests and adjoining areas. Collected in leaf litter (adults and nymphs), including *Nothofagus*, *Cyathea dealbata*, *Dracophyllum*, and *Leptospermum* litter; in ground moss, hanging moss, moss on trees; in rotten wood litter; under grass litter; on *Metrosideros* with hanging moss; in moss and lichen; under the bark of dead *Nothofagus* trees; on *Dactylis glomerata* seeds. Often beaten, especially in summer, from *Nothofagus*

(adults and nymphs), including *N. solandri* and *N. menziesii*, and *Coprosma*, also from *Blechnum discolor* (at night), *Pseudowintera*, and occasionally from *Gahnia*, *Muehlenbeckia*, *Pinus radiata*, *Podocarpus*, *Polystichum vestitum*, and *Schefflera digitata*. Seasonality: Throughout the year, mostly October to February (adults); October, November, January (nymphs). Mating: October (DN). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous (short- and long-membrane forms), [probably unable to fly]. Attracted to artificial lights.

**References.** Myers, 1926 (biology, distribution). Slater, 1964a: 864 (catalogue, world). Eyles, 1967 (morphology, taxonomy; as *Metagerra distincta*). Malipatil, 1976 (biology, distribution, key, morphology, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue, world).

**Notes.** *Metagerra obscura* White, 1878, was synonymised with *Metagerra helmsi* (Reuter) by Bergroth (1916b: 221), but was subsequently resurrected from synonymy by Malipatil (1976: 307). The species is wing-dimorphic. The long-membrane form is more widely distributed, usually at high altitudes, while the short-membrane form is restricted to the eastern coastal lowlands of the South Island south of Banks Peninsula (MC), extending to Stewart Island (Malipatil, 1976). Myers (1926) reported that the species is normally found in leaf litter. While the short-membrane form appears to be more restricted to ground habitats, the long-membrane form can also often be beaten from trees (especially *Nothofagus*) and other vegetation.

### *Metagerra truncata* Malipatil, 1976<sup>E</sup>

Type photograph p. 270.

*Metagerra truncata* Malipatil, 1976: 310. Holotype male (NZAC); DN, Waipori Pond [=Lake Waipori].

**Geographic distribution** (Map p. 314). South Island: CO—Taieri Ridge (OMNZ); Deepdell to Filly Burn (Malipatil, 1976). DN—Mount Maungatua (NZAC). Lake Waipori. Waipori Falls, Lake Mahinerangi (Malipatil, 1976). SL—Blue Mountains (NZAC).

**Biology.** Terrestrial. Lowland to subalpine. Epigean. [In *Nothofagus* and mixed forests, and adjoining areas.] Collected in leaf litter under *Nothofagus menziesii*, *Neomyrtus pedunculata*, *Coprosma propinqua*, *Pseudowintera colorata*, *Dracophyllum longifolium*, *Hebe odora*, and *Chionochloa*; in moss and short grasses from the upper edge of a subalpine scrub; and in dark moss among tussock (*Chionochloa* and *Festuca*) (Malipatil, 1976). Beaten from *Anthoxanthum odoratum*, *Gaultheria depressa*, *Pentachondra pumila*, *Polytrichum juniperinum* (Barratt

& Patrick, 1987). Seasonality: September to March (adults); November, March (nymphs; DN, in leaf litter with adults). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Malipatil, 1976 (biology, distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110 (catalogue, world).

### Genus *Millerocoris* Eyles, 1967<sup>E</sup>

*Millerocoris* Eyles, 1967: 407. Type species: *Millerocoris ductus* Eyles, 1967, by original designation.

*Eminocoris* Eyles, 1967: 410. Types species: *Eminocoris conus* Eyles, 1967, by original designation. Synonymised by Malipatil, 1977c: 356.

**Geographic distribution.** New Zealand.

**References.** Eyles, 1967 (key, taxonomy). Malipatil, 1977c (key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 110–111 (catalogue, world).

### *Millerocoris conus* (Eyles, 1967)<sup>E</sup>

Type photograph p. 270.

*Eminocoris conus* Eyles, 1967: 411. Holotype male (NZAC); ND, Unuwaho, Spirits Bay.

*Millerocoris conus*: Malipatil, 1977c: 360.

**Geographic distribution** (Map p. 314). North Island: ND–Mangamuka [Range], summit (NZAC). Ngaiotonga Scenic Reserve (NZAC). North Cape Area (Malipatil, 1977c). Puketi State Forest (Malipatil, 1977c). Spirits Bay, Unuwaho (AMNZ, NZAC). Te Paki Trig (NZAC). Waimatenui (AMNZ).

**Biology.** Terrestrial. Lowland, montane. Epigean. Found in broadleaf–podocarp forests, shrublands, and adjoining areas. Collected in leaf litter, e.g., *Vitex lucens* and *Coprosma arborea* (adults and nymphs). Seasonality: November (adults), January, February (adults, nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Eyles, 1967 (taxonomy; as *Eminocoris conus*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *Eminocoris conus*). Slater & O'Donnell, 1995: 111 (catalogue, world).

### *Millerocoris ductus* Eyles, 1967<sup>E</sup>

Type photograph p. 270.

*Millerocoris ductus* Eyles, 1967: 408. Holotype female (NZAC); ND, Spirits Bay.

**Geographic distribution** (Map p. 314). North Island: ND (several localities).

**Biology.** Terrestrial. Lowland. Epigean, [planticolous, arboreal]. Found in Broadleaf-podocarp forests, shrublands, and adjoining areas. Collected on sand dunes; in leaf litter (adults, nymphs); on *Collospermum hastatum* on *Agathis australis*. Seasonality: October to February (adults, nymphs), July (adults). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Eyles, 1967 (taxonomy). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 111 (catalogue, world).

### Genus *Paratruncala* Malipatil, 1977<sup>E</sup>

*Paratruncala* Malipatil, 1977c: 344. Type species: *Tomocoris insularis* Woodward, 1953b, by original designation.

**Geographic distribution.** New Zealand.

**References.** Malipatil, 1977c (taxonomy). Slater & O'Donnell, 1995: 111 (catalogue, world).

### *Paratruncala insularis* (Woodward, 1953)<sup>E</sup>

Type photograph p. 270.

*Tomocoris insularis* Woodward, 1953b: 213. Holotype female (AMNZ); TH, Great Island, Castaway Valley.

*Paratruncala insularis*: Malipatil, 1977c: 344.

**Geographic distribution** (Map p. 315). Offshore Islands (NZAC): TH–Great Island (Castaway Valley); North East of Castaway Camp; Tasman Valley.

**Biology.** Terrestrial. Lowland. Epigean. [Occurs in broadleaf shrublands.] Collected in leaf litter and moss. Seasonality: November. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (taxonomy). Malipatil, 1977c (distribution, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *Tomocoris insularis*). Slater & O'Donnell, 1995: 111 (catalogue, world).

### Genus *Regatarma* Woodward, 1953<sup>E</sup>

*Regatarma* Woodward, 1953b: 196. Type species: *Regatarma forsteri* Woodward, 1953b, by original designation.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 865–866 (catalogue, world). Malipatil, 1977c (taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 111 (catalogue, world). Cassis & Gross, 2002: 342 (Australia, catalogue; see *Geratarma tasmaniensis*).

**Regatarma forsteri** Woodward, 1953<sup>E</sup>

Type photograph p. 271.

*Regatarma forsteri* Woodward, 1953b: 197. Holotype male (CMNZ); RI, Raetihi.

*Regatarma forsteri obsolescens* Woodward, 1953b: 200. Holotype male (CMNZ); WN, Rimutaka Range. Synonymised by Malipatil, 1977c: 350.

*Regatarma forsteri stephenensis* Woodward, 1953b: 200. Holotype male (CMNZ); SD, Stephens Island. Synonymised by Malipatil, 1977c: 350.

**Geographic distribution** (Map p. 315). North Island: AK, CL, ND, RI, TK, TO, WA, WI, WN, WO. South Island: MB, NN, SD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. [Occurs in broadleaf–podocarp, *Nothofagus*, mixed forests and shrublands.] Collected in leaf litter or ground moss, e.g., under *Leptospermum scoparium*, *Nothofagus*, *Dracophyllum*, tree ferns, scrubby growth; in moss and mat plants; in moss of rock stream; on lichens. Seasonality: Throughout the year, mostly November to January (adults); December (tenerals); December, January, March, May (nymphs). Mating: February (SD). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 865–866 (catalogue, world; as *R. forsteri*, *R. forsteri obsolescens*, *R. forsteri stephenensis* [sic]). Malipatil, 1977c (distribution, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *R. forsteri*, *R. forsteri obsolescens*, *R. forsteri stephenensis*). Slater & O'Donnell, 1995: 111 (catalogue, world).

**Genus Targarema White, 1878<sup>E</sup>**

*Targarema* White, 1878a: 73. Type species: *Targarema stali* White, 1878a, by original designation.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 867–869 (catalogue, world). Malipatil, 1977c (key to species, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 112 (catalogue, world).

**Targarema electa** White, 1878<sup>E</sup>

*Targarema electa* White, 1878a: 74. Lectotype\* female (designated by Scudder, 1967; BMNH); New Zealand.

**Geographic distribution** (Map p. 315). North Island: AK, BP, CL, GB, HB, ND, RI, TK, TO, WI, WN, WO. South Island: BR, FD, KA, NN, SD. Offshore Islands: CH.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous. [Occurs in broadleaf–podocarp, *Nothofagus*,

mixed forests, and shrublands.] Collected mostly in leaf litter (adults and nymphs), e.g., *Vitex lucens*, *Leptospermum scoparium*, *Metrosideros*, or *Sophora*; occasionally in mats of *Oplismenus*, in moss from shady banks or on fungi on logs. Also taken on *Ascarina lucida*, flowering *Brachyglossis repanda* (adults, tenerals, and nymphs together), *Carex*, and in the soil at the base of *Gahnia procera*. Seasonality: Throughout the year, mostly January to March (adults); December (tenerals); September, December (mostly), January, March (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Mostly macropterous (able to fly), sometimes brachypterous [unable to fly].

**References.** Slater, 1964a: 867 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 112 (catalogue, world).

**Targarema stali** White, 1878<sup>E</sup>

*Targarema stali* White, 1878a: 73. Lectotype\* female (designated by Scudder, 1967; BMNH); New Zealand.

*Targarema stali* [sic]: Woodward, 1954a: 223.

**Geographic distribution** (Map p. 316). North Island: AK, BP, CL, GB, HB, ND, TK, TO, WA, WI, WN, WO. South Island: BR, DN, FD, KA, MB, MC, NC, NN, OL, SD, SL, WD. Stewart Island. Offshore Islands: CH, TH.

**Biology.** Terrestrial. Lowland, montane. Epigean, planticolous, arboreal. Found in broadleaf–podocarp, *Nothofagus*, mixed forests, and adjoining areas; also in *Pinus radiata* plantations. Collected in leaf litter (adults and tenerals) and moss (mostly); in rotten wood litter; in ground litter under ferns, *Geniostoma*, *Melicytus*, *Metrosideros excelsa*, *Nothofagus*, *Weinmannia*; in ground moss; in moss under *Nothofagus*, *Leptospermum scoparium*, and other shrubby vegetation; in moss along open or shady banks, roadside banks, stream banks; in moss on and around rocks, and from rock faces; in moss and liverwort associations; in *Raoulia* pads in sunny situations; on *Cyperus*; on old logs (at night). Very common on *Gaultheria*, *Kunzea ericoides*, and *L. scoparium*. Also beaten or swept, especially in summer, from flowering Apiaceae, flowering *Brachyglossis repanda*, flowering *Calystegia*, as well as from *Cassinia leptophylla* [= *Ozothamnus leptophyllus*], *Coprosma macrocarpa*, *Cyathodes juniperina*, *Discaria toumatou*, *Geniostoma* (at night), *Hebe*, *Lycopogon fasciculatus*, *Metrosideros excelsa* (at night), *Myoporum laetum*, *Nothofagus*, *Olearia avicenniifolia*, *Streblus banksii*, *Pratia physaloides*, rushes (at night), *Weinmannia racemosa* flowers, and *Xeronema* [*callistemon*]; the foliage of various broadleaves; various shrubs (at night); sedges (e.g., *Carex*), grasses (e.g., *Poa anceps*) and rushes; and shore vegetation. Seasonality: Throughout the year, mostly November to February (especially January). Mating: January. [Phytophagous (granivorous).]

**Dispersal power.** Submacropterous to macropterous, able to fly.

**References.** Myers, 1926 (biology, distribution). Slater, 1964a: 867 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand). Slater & O'Donnell, 1995: 112 (catalogue, world).

### Genus *Truncala* Woodward, 1953<sup>E</sup>

*Truncala* Woodward, 1953b: 203. Type species: *Truncala hirsuta* Woodward, 1953b, by original designation.

*Arrategma* Woodward, 1953b: 208 (as subgenus of *Truncala*). Type species: *Truncala (Arrategma) sulcata* Woodward, 1953b, by original designation. Synonymised by Malipatil, 1977c: 345.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 869–870 (catalogue, world). Malipatil, 1977c (key to species, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

### *Truncala hirsuta* Woodward, 1953<sup>E</sup>

Type photograph p. 272.

*Truncala hirsuta* Woodward, 1953b: 205. Holotype male (CMNZ); RI, Vinegar Hill Reserve (upper Rangitikei River).

*Truncala (Truncala) hirsuta*: Woodward, 1953b.

*Truncala hirsuta*: Malipatil, 1977c: 346.

**Geographic distribution** (Map p. 316). North Island: CL, HB, ND, RI, TK, TO, WA, WN, WO.

**Biology.** Terrestrial. Lowland, montane. Epigean. Found in broadleaf–podocarp forests. Collected in leaf litter (mostly) and moss. Seasonality: November to June, mostly January (adults); January (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 869 (catalogue, world; as *Truncala (T.) hirsuta*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand; as *Truncala* (*Truncala*) *hirsuta*).

### *Truncala hirta* Woodward, 1953<sup>E</sup>

Type photograph p. 272.

*Truncala hirta* Woodward, 1953b: 206. Holotype male (CMNZ); SC, Kakahu.

*Truncala (Truncala) hirta*: Woodward, 1953b.

*Truncala hirta*: Malipatil, 1977c: 346.

**Geographic distribution** (Map p. 316). South Island: BR, KA, MB, MC, MK, NC, NN, SC, SD.

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Col-

lected in moss on rocks. Seasonality: Throughout the year. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 869 (catalogue, world; as *Truncala (T.) hirta*). Wise, 1977c: 124 (checklist, New Zealand; as *Truncala* (*Truncala*) *hirta*). Malipatil, 1977c (distribution, key, taxonomy).

**Note.** The type locality was erroneously listed as Awakino Valley (North Island, WO) by Malipatil (1977c).

### *Truncala insularis* Malipatil, 1977<sup>E</sup>

Type photograph p. 272.

*Truncala insularis* Malipatil, 1977c: 348. Holotype male (NZAC); CL, Mercury Islands, Red Island.

**Geographic distribution** (Map p. 316). North Island: AK–Noises Islands (Motuhoropapa Island (NZAC); Otata Island (NZAC)). CL–Little Barrier Island (AMNZ). Mercury Islands (Red Mercury Island; Stanley Island (NZAC)). Ohena Islands, Koruenga Island (NZAC). The Aldermen Islands, Ruamahuaiti Island (NZAC). ND–Poor Knights Islands, Tawhiti Rahi (Shag Bay (NZAC); Summit Plateau (NZAC)).

**Biology.** Terrestrial. Lowland. Epigean. Collected mostly in forest leaf litter, also in fallen *Rhopalostylis sapida* sheaths. Seasonality: Throughout the year, mostly November to February. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Malipatil, 1977c (distribution, key, taxonomy). Slater & O'Donnell, 1995: 112 (catalogue, world).

### *Truncala sulcata* Woodward, 1953<sup>E</sup>

Type photograph p. 272.

*Truncala (Arrategma) sulcata* Woodward, 1953b: 208. Holotype male (MONZ); SD, Inner Chetwode Island.

*Truncala sulcata*: Malipatil, 1977c: 348

**Geographic distribution** (Map p. 316). South Island: BR, MB, NN, SD.

**Biology.** Terrestrial. Lowland, montane. Epigean. Collected in forest leaf litter (mostly) and moss; *Melicytus* litter; mixed moss from alongside stream; moss from shady roadside banks; grass and weeds. Seasonality: Throughout the year, mostly October. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 869–870 (catalogue, world; as *Truncala (Arrategma) sulcata*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand; as *Truncala (Arrategma) sulcata*).

**Genus *Trypetocoris* Woodward, 1953<sup>E</sup>**

*Trypetocoris* Woodward, 1953b: 216. Type species: *Trypetocoris rufus* Woodward, 1953b, by original designation.

**Geographic distribution.** New Zealand.

**References.** Slater, 1964a: 870 (catalogue, world). Malipatil, 1977c (key to species, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

***Trypetocoris aucklandensis* Woodward, 1953<sup>E</sup>**

Type photograph p. 273.

*Trypetocoris aucklandensis* Woodward, 1953b: 217. Holotype male (AMNZ); ND, Waipoua Forest.

**Geographic distribution** (Map p. 316). North Island: ND–Mangamuka Road (NZAC). Mangamuka Saddle (NZAC). Manginangina Scenic Reserve (Malipatil, 1977c). Moerewa (NZAC). Omahuta Kauri Reserve [=Omahuta State Forest] (NZAC). Puketi State Forest (NZAC). Trounson [Kauri] Park (NZAC). Waipoua Forest (NZAC).

**Biology.** Terrestrial. Lowland, montane. Epigean. Found in broadleaf–podocarp forests. Collected in leaf litter (mostly); in liverworts and moss from tree bases and ground. Seasonality: November, January, April, June. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 870 (catalogue, world). Malipatil, 1977c (distribution, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

***Trypetocoris rufus* Woodward, 1953<sup>E</sup>**

Type photograph p. 273.

*Trypetocoris rufus* Woodward, 1953b: 216. Holotype male (CMNZ); SL, Orepuki.

**Geographic distribution** (Map p. 316). South Island: BR, FD, NN, SL. Stewart Island.

**Biology.** Terrestrial. Lowland, montane. Epigean. Collected mostly in *Nothofagus* (e.g., *N. fusca*) forest leaf litter (adults, nymphs); also in moss, under weeds or boards lying on the ground. Seasonality: October to March, May, August, mostly January, February (adults); January, February (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 870 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

***Trypetocoris separatus* Woodward, 1953<sup>E</sup>**

Type photograph p. 273.

*Trypetocoris separatus* Woodward, 1953b: 218. Holotype male (AMNZ); AK, Matahaka.

**Geographic distribution** (Map p. 317). North Island: AK, CL, ND.

**Biology.** Terrestrial. Lowland (coastal). [Epigean.] Collected in forest (e.g., *Metrosideros excelsa*) leaf litter. Seasonality: October to April, mostly October, January. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 870 (catalogue, world). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 124 (checklist, New Zealand).

***Woodwardiana* Malipatil, 1977<sup>E</sup>**

*Woodwardiana* Malipatil, 1977c: 360. Type species: *Regatarma evagorata* Woodward, 1953b, by original designation.

**Geographic distribution.** New Zealand.

**References.** Malipatil, 1977c (key to species, taxonomy). Slater & O'Donnell, 1995: 112–113 (catalogue, world).

***Woodwardiana evagorata* (Woodward, 1953)<sup>E</sup>**

Type photograph p. 274.

*Regatarma forsteri evagorata* Woodward, 1953b: 201. Holotype male (CMNZ); WD, Okarito.

*Woodwardiana evagorata*: Malipatil, 1977c: 361.

**Geographic distribution** (Map p. 317). South Island: BR, CO, FD, MB, MK, NC, OL, WD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean (mostly), planticolous, arboreal. Found in broadleaf–podocarp, *Nothofagus*, mixed forests, and adjoining areas. Collected in leaf litter (mostly) or moss under *Nothofagus*, *Phormium*, ferns, *Epilobium pedunculare* (adults and nymphs), *Discaria toumatou*, *Nertera* (adults and nymphs); in moss from open banks; in plant mats; under the bark of fallen trees; under stones. Also beaten from ferns (at night), *Nothofagus menziesii*, *N. solandri*, *Pseudopanax crassifolius* (adults and nymphs). Seasonality: September to May, mostly November to January (adults); January (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy; as *Regatarma forsteri evagorata*). Slater, 1964a: 865 (catalogue, world; as *Regatarma forsteri evagorata*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123

(checklist, New Zealand; as *Regatarma forsteri evagorata*). Slater & O'Donnell, 1995: 112 (catalogue, world).

### **Woodwardiana nelsonensis (Woodward, 1953) <sup>E</sup>**

Type photograph p. 274.

*Regatarma forsteri nelsonensis* Woodward, 1953b: 201.

Holotype male (CMNZ); NN, Oparara.

*Woodwardiana nelsonensis*: Malipatil, 1977c: 362.

**Geographic distribution** (Map p. 317). South Island: BR, MB, NN, SD.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. Found in *Nothofagus* (mostly), broadleaf–podocarp, mixed forests, and adjoining areas. Collected in leaf litter (mostly) or moss; also in grass and weeds. Seasonality: September to January, March, April, June, August. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 866 (catalogue, world; as *Regatarma forsteri nelsonensis*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *Regatarma forsteri nelsonensis*). Slater & O'Donnell, 1995: 113 (catalogue, world).

### **Woodwardiana notialis (Woodward, 1953) <sup>E</sup>**

Type photograph p. 274.

*Regatarma forsteri notialis* Woodward, 1953b: 202. Holotype male (CMNZ); SL, Tapanui.

*Woodwardiana notialis*: Malipatil, 1977c: 361.

**Geographic distribution** (Map p. 317). South Island: DN–Opho Bush (OMNZ). Wangaloa, East of Kaitangata (Malipatil, 1977c). SL–Tapanui.

**Biology.** Terrestrial. Lowland, montane. [Epigean.] Habitat unknown. Seasonality: October, January, May. [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Woodward, 1953b (distribution, taxonomy). Slater, 1964a: 866 (catalogue, world; as *Regatarma forsteri notialis*). Malipatil, 1977c (distribution, key, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *Regatarma forsteri notialis*). Slater & O'Donnell, 1995: 113 (catalogue, world).

### **Woodwardiana paparia Malipatil, 1977 <sup>E</sup>**

Type photograph p. 274.

*Woodwardiana paparia* Malipatil, 1977c: 362. Holotype male (NZAC); NN, Takaka Hill.

**Geographic distribution** (Map p. 317). South Island: BR, MB, NN.

**Biology.** Terrestrial. Lowland to subalpine. Epigean. Found

in *Nothofagus* forests and adjoining areas. Collected in moss (mostly) or leaf litter (adults and nymphs); also on *Dracophyllum*. Seasonality: October to April, June, August (adults); October (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous, [unable to fly].

**References.** Malipatil, 1977c (distribution, key, taxonomy). Slater & O'Donnell, 1995: 113 (catalogue, world).

## Tribe UDEOCORINI

**References.** Gross, 1962 (Australia, revision). Slater, 1975, 1986 (Australia, world, zoogeography).

### **Genus *Udeocoris* Bergroth, 1918 <sup>N</sup>**

*Udeocoris* Bergroth, 1918: 310. Type species: *Pachymerus nigraeneus* Erichson, 1842, by monotypy.

**Geographic distribution.** Australia (continental, Tasmania), East Timor, Indonesia (West Timor), New Zealand.

**References.** Gross, 1962 (Australia, key to species, revision). Slater, 1964a: 1064–1065 (catalogue, world). Eyles, 1971 (New Zealand, taxonomy). Wise, 1977: 124 (checklist, New Zealand). Slater & O'Donnell, 1995: 142 (catalogue, world). Cassis & Gross, 2002: 350 (Australia, catalogue).

### ***Udeocoris levius* Eyles, 1971 <sup>E</sup>**

Type photograph p. 273.

*Udeocoris levius* Eyles, 1971: 256. Holotype male (NZAC); TO, 4 miles [=5.8 km] North of Taupo.

**Geographic distribution** (Map p. 317). North Island: BP–Lake Rerewhakaaitu (Eyles, 1971). TO–North of Taupo (NZAC), near Kaimanawa Road (Eyles, 1971). Pureora Forest (OMNZ). South Island: CO (several localities).

**Biology.** Terrestrial. Lowland, montane. Epigean. [Occurs in open habitats near forested areas.] Collected in tussock; under *Pimelea prostrata* along a roadside; in thin patches of mixed weeds on sand and gravel lakeshores. Seasonality: October to March, mostly November, December (adults); January, February (nymphs). [Phytophagous (granivorous).]

**Dispersal power.** Brachypterous or macropteronous, [latter form probably able to fly].

**References.** Eyles, 1971 (biology, distribution, taxonomy). Malipatil, 1975 (biology, distribution, immature stages, morphology, taxonomy) Wise, 1977: 124 (checklist, New Zealand). Barratt & Patrick, 1987 (distribution). Slater & O'Donnell, 1995: 142 (catalogue, world).

**Note.** The CO populations could belong to a different species.

## Family SALDIDAE

### Shore bugs

**References.** Rimes, 1951 (Australia, revision). Cobben, 1959 (classification, world). Drake, 1961 (Micronesia, taxonomy). Schuh & Polhemus, 1980 (biogeography, classification, ecology, morphology, world). Polhemus, 1985 (biology, taxonomy, world). Schuh *et al.*, 1987 (bibliography, catalogue, world). Gross *et al.*, 1991 (Australia, keys, overview). Cassis & Gross, 1995: 370–376 (Australia, catalogue, introduction to family). Lindskog, 1995: 116–137 (catalogue, Palearctic Region). Schuh & Slater, 1995: 137–141 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world).

**Notes.** The Australian Saldidae comprise ten species distributed among three genera: *Pentacora* Reuter, *Saldula* Van Duzee, and *Salduncula* Brown. The reader will find key references on this fauna and that of neighbouring areas in Cassis & Gross (1995). The New Zealand species have been described in the cosmopolitan genus *Saldula*, but the group is in great need of revision. The material contained in New Zealand collections is extensive, has been collected from most regions of the country, and is mostly unidentified. Apparently, new genera and species need to be described, and the distribution ranges of described species may be substantially extended.

### Subfamily SALDINAE

#### Tribe SALDOIDINI

#### Genus *Saldula* Van Duzee, 1914<sup>n</sup>

*Acanthia* Fabricius, 1775 *sensu* Latreille, 1796: 85. Type species: *Lygaeus saltatorius* (Linnaeus) *sensu* Fabricius, 1794 (=*Cimex saltatorius* Linnaeus, 1758), by subsequent designation (Latreille, 1810: 434). Placed on ICZN list of invalid and rejected generic names.

*Saldula* Van Duzee, 1914: 387. Type species: *Cimex saltatorius* Linnaeus, 1758, by original designation.

**Geographic distribution.** Nearly worldwide.

**References.** Wise, 1977: 119 (checklist, New Zealand). Cassis & Gross, 1995: 374–375 (Australia, catalogue). Lindskog, 1995: 126–134 (catalogue, Palearctic Region).

#### ***Saldula australis* (White, 1876)<sup>E</sup>**

*Salda australis* White, 1876: 106. Holotype male (BMNH); New Zealand.

*Acanthia australis*: Kirkaldy, 1909a: 27.

*Saldula australis*: Drake & Hoberlandt, 1950a: 7.

**Geographic distribution** (Map p. 317). North Island: WN–Kimberley Scenic Reserve, South of Ohau River (NZAC). Otaki (NZAC). South Island: FD–[Hunter Mountains], South Borland River (NZAC). MC–Mount Algidus

(NZAC). NN–Aniseed Valley (NZAC).

**Biology.** Semiaquatic. Riparian. Lowland to subalpine. Found on shingled river and stream beds, near water. Seasonality: December, January, March. [Predacious.]

**Dispersal power.** Macropterous, able to fly.

**References.** Cobben, 1961 (male genitalia, taxonomy, wing). Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 323 (catalogue, world).

**Note.** This species probably has a greater distribution range, but only data from material authoritatively identified by J. T. Polhemus (Colorado, U.S.A.) have been included.

#### ***Saldula butleri* (White, 1878)<sup>E</sup>**

*Salda butleri* White, 1878a: 160. Holotype male (BMNH); New Zealand.

*Salda butleri* [sic]: Hutton, 1904: 223.

*Acanthia butleri*: Kirkaldy, 1909a: 27.

*Saldula butleri*: Drake & Hoberlandt, 1950a: 7.

**Geographic distribution** (Map p. 317). North Island (NZAC): AK–Henderson. Mangere. Mill Bay, near Cornwallis. Waitakere Ranges, Cascade Kauri Park (Swanson).

**Biology.** Semiaquatic. Riparian, including estuarine. [Lowland.] Seasonality: February, March. [Predacious.]

**Dispersal power.** Unknown.

**References.** Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 324 (catalogue, world).

**Notes.** This species probably has a greater distribution range, but only data from material authoritatively identified by J.T. Polhemus (Colorado, U.S.A.) have been included. The type specimen (BMNH) bears a red-bordered circular type label as well as a red lectotype label reading “LECTOTYPE S. butleri B. White R. Cobben 1961”; no bibliographic reference could be found to support the lectotype designation.

#### ***Saldula laelaps* (White, 1878)<sup>E</sup>**

*Salda laelaps* White, 1878a: 160. Syntypes one male, two nymphs (BMNH); New Zealand.

*Acanthia laelaps*: Kirkaldy, 1909a: 27.

*Saldula laelaps*: Drake & Hoberlandt, 1950a: 8.

**Geographic distribution** (Map p. 317). South Island: MB–Black Birch Range (NZAC).

**Biology.** Semiaquatic. [Montane.] Collected in swamp. Seasonality: February. [Predacious.]

**Dispersal power.** Unknown.

**References.** Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 331 (catalogue, world). Schuh *et al.*, 1987: 324 (catalogue, world).

**Notes.** This species probably has a greater distribution range, but only data from material authoritatively identified by J.T. Polhemus (Colorado, U.S.A.) have been included. The syntypes (BMNH) are mounted on the same card and bear a red-bordered circular type label as well as a red lectotype label, probably assigned to the adult male specimen, reading "LECTOTYPE S. laelaps B. White R. Cobben 1961"; no bibliographic reference could be found to support the lectotype designation.

### ***Saldula maculipennis* Cobben, 1961<sup>E</sup>**

*Saldula maculipennis* Cobben, 1961: 104. Holotype\* male (BMNH); WN, S. [=South] Karori.

**Geographic distribution** (Map p. 318). North Island: AK–Waitakere Ranges, Cascade Kauri Park (Swanson) (NZAC). TK–Mount Egmont/Taranaki, western slopes (Cobben, 1961). WN–Otaki, 6 km South East (NZAC); S. [=South] Karori. South Island: NN–Westport (Cobben, 1961).

**Biology.** Semiaquatic. Riparian. [Lowland.] Found in gravel beside a stream. Seasonality: November to January, March. [Predacious.]

**Dispersal power.** Unknown.

**References.** Cobben, 1961 (male genitalia, taxonomy, wing). Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 333 (catalogue, world).

**Note.** This taxon may be conspecific with *S. trivialis* and/or *S. parvula*.

### ***Saldula parvula* Cobben, 1961<sup>E</sup>**

*Saldula parvula* Cobben, 1961: 101. Holotype\* male (BMNH); WN, S. [=South] Karori.

**Geographic distribution** (Map p. 318). North Island: BP–Whaka State Forest [=Whakarewarewa State Forest], Rotorua (Cobben, 1961). WN–[Lower] Hutt (Cobben, 1961); S. [=South] Karori.

**Biology.** Semiaquatic. [Riparian.] Seasonality: January, June. [Predacious.]

**Dispersal power.** Unknown.

**References.** Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 347 (catalogue, world).

**Note.** This taxon may be conspecific with *S. trivialis* and/or *S. maculipennis*.

### ***Saldula stoneri* Drake & Hoberlandt, 1950<sup>E</sup>**

*Saldula stoneri* Drake & Hoberlandt, 1950b: 1. Holotype\* female, brachypterous (USNM); [BP], Horotus [=Rotorua?].

**Geographic distribution** (Map p. 318). North Island: AK–Pollen Island (NZAC). Waitakere Ranges, Cascade Kauri Park (Swanson) (NZAC). TO–Orakeikorako (NZAC). South Island: NN–Tahunaui [,Nelson] (NZAC).

**Biology.** Semiaquatic. [Riparian, including estuarine.] [Lowland.] Seasonality: September, December, January, July. [Predacious.]

**Dispersal power.** Unknown.

**References.** Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 354 (catalogue, world).

**Note.** This species probably has a greater distribution range, but only data from material authoritatively identified by J.T. Polhemus (Colorado, U.S.A.) have been included.

### ***Saldula trivialis* Cobben, 1961<sup>E</sup>**

*Saldula trivialis* Cobben, 1961: 102. Holotype\* male (BMNH); WN, S. [=South] Karori.

**Geographic distribution** (Map p. 318). North Island: WN–Island Bay (Cobben, 1961). S. [=South] Karori. South Island: BR–Lake Rotoroa (Cobben, 1961). NN–Westport (Cobben, 1961). SL–Orepukie [=Orepuki] (Cobben, 1961).

**Biology.** Semiaquatic. [Riparian.] Seasonality: November to January, March, April. [Predacious.]

**Dispersal power.** Unknown.

**References.** Cobben, 1961 (male genitalia, taxonomy, wing). Wise, 1977: 119 (checklist, New Zealand). Schuh *et al.*, 1987: 354 (catalogue, world).

**Note.** This taxon may be conspecific with *S. parvula* and/or *S. maculipennis*.

## **Family SCHIZOPTERIDAE**

### **Jumping soil bugs**

**References.** McAtee & Malloch, 1925b and Emsley, 1969 (classification, taxonomy, world). Hill, 1980 (Australia, key to genera, revision), 1984, 1985a–c, 1987, 1990a–b, 1991, 1992 (Australia, New Zealand, taxonomy). Hill *et al.*, 1991 (Australia, keys, overview). Cassis & Gross, 1995: 377–388 (Australia, catalogue, introduction to family). Kerzhner, 1995b: 10–12 (catalogue, Palearctic Region). Štys, 1995d: 80–82 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world).

### **Subfamily HYPSELOSOMATINAE**

#### **Genus *Hypselosoma* Reuter, 1891<sup>N</sup>**

*Hypselosoma* Reuter, 1891a: 26. Type species: *Hypselosoma oculatum* Reuter, 1891a, by monotypy.

**Geographic distribution.** Australian Region, Ethiopian

Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Hill, 1987, 1991 (Australia, New Zealand, taxonomy). Cassis & Gross, 1995: 380–382 (Australia, catalogue). Kerzhner, 1995b: 11 (catalogue, Palearctic Region).

### *Hypselosoma acantheen* Hill, 1991<sup>E</sup>

Type photograph p. 275.

*Hypselosoma acantheen* Hill, 1991: 76. Holotype male (NZAC); OL, Dart Hut.

**Geographic distribution** (Map p. 318). South Island: CO, FD, MC, MK, NN, OL, WD.

**Biology.** Terrestrial. Montane, subalpine. Epigean. Found in relatively open habitats with low vegetation cover and at the edge of neighbouring forests; may also occur in moss or leaf litter in lower altitude forests. Collected under stones, on tussock and low plants, also on *Hoheria glabrata* and *Halocarpus bidwillii*. Seasonality: January, February. [Overwintering: In the adult stage]. Predacious.

**Dispersal power.** Male macropterous, [possibly able to fly]; female brachypterous (with elytriform hemelytra), [unable to fly].

**Reference.** Hill, 1991 (distribution, biology, taxonomy).

## Family TINGIDAE

### Lace bugs

**References.** Drake, 1956 (Micronesia, taxonomy). Drake & Davis, 1960 (classification, morphology, phylogeny, world). Drake & Ruhoff, 1960 (genera, review, world). Woodward, 1961 (New Zealand, revision). Drake & Ruhoff, 1965a (catalogue, world), 1965b (Indian Ocean, revision, South Pacific). Péricart, 1982a, 1983a (revision, West Palearctic Region). Gross & Cassis, 1991c (Australia, keys, overview). Cassis & Gross, 1995: 395–439 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 180–184 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Péricart & Golub, 1996: 3–78 (catalogue, Palearctic Region). Livingstone *et al.*, 1997 (fauna, keys, Oriental Region). Lis, B., 1999 (classification, phylogeny; elevation of Cantacaderinae to family level). Neal & Schaefer, 2000 (biology, economic importance, world). Guilbert, 2001 (distribution, Western Pacific, taxonomy).

**Notes.** See the section on the family Cantacaderidae in this catalogue for New Zealand taxa previously assigned to Tingidae, subfamily Cantacaderinae (*Carldrakeana*, *Cyperobia*). The Australian fauna of Tingidae is much richer and includes many genera and species not represented in New Zealand (see Cassis & Gross (1995)).

## Subfamily TINGINAE

### Genus *Stephanitis* Stål, 1873<sup>A</sup>

#### Subgenus *Stephanitis* Stål, 1873<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart & Golub, 1996).

**Geographic distribution.** Nearly worldwide.

**References.** Drake & Ruhoff, 1960 (genera, review, world). Drake & Ruhoff, 1965a: 353 (catalogue, world). Wise, 1977: 118 (checklist, New Zealand). Cassis & Gross, 1995: 431 (Australia, catalogue). Péricart & Golub, 1996: 57–63 (catalogue, Palearctic Region).

### *Stephanitis (S.) rhododendri* Horváth, 1905<sup>A</sup>

Synonymy (Cassis & Gross, 1995; Péricart & Golub, 1996).

Common name: Rhododendron lace bug.

**Geographic distribution** (Map p. 318). North Island: ND–Kaikohe (NZAC). TK–New Plymouth (NZAC). South Island: MC–Christchurch (NZAC). First New Zealand record: Kaikohe (ND), Christchurch (MC) (Cottier, 1956; as *Leptobyrsa rhododendri*). Extralimital range: Native to the Nearctic Region; adventive elsewhere (Australian Region, Ethiopian Region, Palearctic Region).

**Biology.** Terrestrial. Lowland. Planticolous. Host plants: *Rhododendron* (Ericaceae; New Zealand); *Kalmia*, *Pieris*, *Rhododendron* (Ericaceae; elsewhere). Often gregarious. Seasonality: November to January. Phytophagous (sap-sucking). Overwintering: In the egg state (Palearctic Region). Economic importance: Can cause damages to flowering rhododendrons.

**Dispersal power.** Macropterous; occasional flier.

**References.** Drake & Ruhoff, 1965a: 362 (catalogue, world). Wise, 1977: 118 (checklist, New Zealand). Cassis & Gross, 1995: 395, 432–433 (Australia, catalogue). Péricart & Golub, 1996: 62 (catalogue, Palearctic Region). Neal & Schaefer, 2000 (economic importance, world).

**Notes.** This species may have been imported on rhododendrons in the years before plant quarantine was introduced (May, 1977). More information on biology and economic importance can be found in Péricart (1983) and Neal & Schaefer (2000).

### Genus *Tanybyrsa* Drake, 1942<sup>N</sup>

*Tanybyrsa* Drake, 1942: 21. Type species: *Compseuta secundus* Hacker, 1927, by original designation.

**Geographic distribution.** Australia (continental), New Zealand.

**References.** Drake & Ruhoff, 1960 (genera, review, world). Drake & Ruhoff, 1965a: 369 (catalogue, world). Wise, 1977: 118 (checklist, New Zealand). Cassis & Gross, 1995: 433 (Australia, catalogue).

**Tanybyrsa cumberi** Drake, 1959<sup>E</sup>

Type photograph p. 275.

*Tanybyrsa cumberi* Drake, 1959: 67. Holotype male (NZAC); WO, Te Kuiti–Awakino G. [=Gorge?].

**Geographic distribution** (Map p. 318). North Island: AK, BP, CL, ND, WO. South Island: NN–Kaihoka Lakes (NZAC).

**Biology.** Terrestrial. Lowland. Planticolous. Coastal or inland areas where its host plant *Astelia banksii* (epiphytic or terrestrial tufted monocotyledon) occurs; sometimes found on other vegetation in the vicinity of *Astelia* plants. Seasonality: Most of the year, mainly December to March (adults); spring, early summer (nymphs). Oviposition: January to August, mostly autumn, winter. Overwintering: In the adult and egg stages. Phytophagous (sap-sucking). Enemies: Eggs parasitised by mymarid wasps.

**Dispersal power.** Submacropterous, [possibly able to fly].

**References.** Drake & Ruhoff, 1965a: 369 (catalogue, world). May, 1977 (biology, developmental stages). Wise, 1977: 118 (checklist, New Zealand).

**Notes.** More information on biology and developmental stages can be found in May (1977). The holotype label does not read exactly as in Cumber's original description which stated the type locality to be "Arapae, Te Kuiti-Tawaro Range."

## Family VELIIDAE

### Small water striders or riffle bugs

**References.** Andersen, 1982 (biogeography, classification, morphology, phylogeny). Gross *et al.*, 1991a (Australia, keys, overview). Andersen, 1995: 85–95 (catalogue, Palearctic Region). Cassis & Gross, 1995: 440–448 (Australia, catalogue, introduction to family). Schuh & Slater, 1995: 98–102 (classification, diagnosis, distribution, faunistics, keys, morphology, natural history, world). Hecher, 1998 (checklist, key to genera, Oriental Region). Andersen & Weir, 2001 (Australia, taxonomy).

## Subfamily MICROVELIINAE

### Genus *Microvelia* Westwood, 1834<sup>N</sup>

*Microvelia* Westwood, 1834: 647. Type species: *Velia* (*Microvelia*) *pulchella* Westwood, 1834, by monotypy.

*Hydroessa* Burmeister, 1835: 213. Type species: *Hydroessa reticulata* Burmeister, 1835, by monotypy. Synonymised by Brullé, 1836: 295.

*Veliomorpha* Carlini, 1895: 120. Type species: *Veliomorpha maculata* Carlini, 1895, by monotypy. Synonymised by Andersen, 1982: 411.

*Picaultia* Distant, 1913: 161. Type species: *Picaultia pronotalis* Distant, 1913, by monotypy. Synonymised by Andersen, 1982: 411.

**Geographic distribution.** Australian Region, Oriental Region, Palearctic Region; South Pacific.

**References.** Andersen, 1969 (Australia, checklist, taxonomy). Wise, 1977: 127–128 (checklist, New Zealand). Malipatil, 1980b (Australia, revision). Andersen, 1995: 86–89 (catalogue, Palearctic Region). Cassis & Gross, 1995: 444 (Australia, catalogue). Andersen, 2000a (Dominican amber, fossils). Andersen *et al.*, 2002 (Oriental Region, taxonomy).

**Notes.** In accordance with Cassis & Gross (1995), the subgeneric arrangement of Andersen (1982) is not followed here. Wise (1977: 127) recorded *M. halei* Esaki for New Zealand. Malipatil (1980b: 87, 89) synonymised *M. australica* Bergroth and *M. halei* with *M. oceanica* Distant, and indicated that the New Zealand specimens identified by Hale (1926) as *M. oceanica* in fact belong to the closely related endemic New Zealand species *M. macgregori* (Kirkaldy). The New Zealand collections also include specimens identified by other workers as possibly belonging to undescribed species.

### ***Microvelia macgregori* (Kirkaldy, 1899)<sup>E</sup>**

*Hydroessa macgregori* Kirkaldy, 1899: 91. Syntypes\*, probably two apterous specimens (Perth Museum, Scotland; Kirkaldy Collection); New Zealand.

*Aydroessa* [sic] *macgregori*: Kirkaldy, 1908d: 109.

*Microvelia macgregori*: Kirkaldy, 1908d: 109.

Common name: Common pond skater.

**Geographic distribution** (Map p. 318). North Island: AK, BP, CL, GB, HB, ND, RI, TO, WN, WO. South Island: BR, CO, DN, MB, MC, NC, NN, SD, WD. Offshore Islands: CH, TH.

**Biology.** Semiaquatic (lentic freshwater). Collected at the edge of quiet waters, usually with emergent vegetation, e.g., lakes, ponds, ditches, and the quiet backwaters of streams and rivers. Gregarious; can be found in very large groups. Seasonality: Throughout the year, mostly summer. Overwintering: In the adult stage. Predaceous; feeding on various small-bodied arthropods (in the field); nymphs and adults feeding on *Drosophila* flies (in captivity). Defense-mechanism: Nymphs and adults feign death when disturbed.

**Dispersal power.** Apterous or macropterous, [latter form probably able to fly].

**References.** Don, 1967 (biology, New Zealand). Wise, 1977: 128 (checklist, New Zealand).

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**Appendix A. Glossary of technical terms.**

**adventive** — not native; an organism carried into a new habitat by natural means, or by man.

**alpine** — of or pertaining to land located above the subalpine zone, characterised by grasslands, herb fields and screes, and reaching up to the summer snow line.

**altitudinal distribution** — distribution related to altitude, i.e., lowland, montane, subalpine, alpine.

**apterous** — without membranous wings.

**aquatic** — living in water.

**arboreal** — living on trees and shrubs.

**biostatus** — the status of an organism based on its geographic origin relative to its occurrence in a particular region, e.g., endemic, native, adventive.

**bivoltine** — having two generations per year.

**brachypterous** — having hemelytra reaching one-third to two-thirds of abdomen length, the hemelytral membrane absent or reduced to a narrow edging, and the posterior wings substantially shorter than the hemelytra

**coastal** — of or pertaining to the strip of land within the influence of the sea.

**colonial** — living in colonies.

**corticulous** — living under or in the bark of trees and shrubs.

**dispersal power** — capacity of dispersal.

**ectoparasite** — a parasite that lives on the outer surface of its host.

**endemic** — restricted to a geographic area.

**epigean** — living on the surface of the ground.

**extralimital range** — distribution of an organism outside the limits of a specific geographic area (e.g., outside New Zealand).

**family** — a category in the taxonomic hierarchy, that includes one or more genera or tribes of common phylogenetic origin, separated from other such groups by a decided gap.

**family-group** — any category in the taxonomic hierarchy from subtribe to superfamily, including intermediate categories (e.g., family, subfamily, tribe).

**fossorial** — digging holes or burrows.

**frugivorous** — feeding on fruits.

**fungivorous** (mycetophagous) — feeding on fungi.

**genus** — a category in the taxonomic hierarchy, that includes one or more phylogenetically related, and morphologically similar species.

**genus-group** — the category of genus or subgenus in the taxonomic hierarchy.

**geographic distribution** — distribution related to geography, i.e., districts, regions.

**granivorous** — feeding on grains or seeds.

**gregarious** — living in groups.

**hemelytron** (hemelytra) — fore wing(s) of Heteroptera.

**holotype or type** — the single specimen designated or indicated as the type specimen of a species by the original author at the time of publication or, if no type was specified, the only existing specimen.

**host plant** — the plant on which a living organism breeds and develops.

**indigenous** — see native.

**lectotype** — type specimen selected from the syntypes by a subsequent author in the absence of a holotype.

**lentic** — of static, calm or slow-moving water habitats.

**lotic** — of fast running-water habitats.

**lowland** — of or pertaining to land located below the montane zone and generally reaching up to the limit of rimu (*Dacrydium cupressinum*), e.g., about 500 m in central New Zealand.

**macropterous** — having both pairs of wings of approximately equal length, more or less reaching apex of abdomen.

**micropterous** — displaying an extreme form of brachyptery where the posterior wings are vestigial.

**monotypy** — the situation when a nominal genus or subgenus is established on the basis of a single species (the type species by monotypy).

**montane** — of or pertaining to land located above the lowland zone and reaching up to the tree line.

**native** — occurring naturally in one, two, or several areas.

**neotype** — a newly designated type specimen selected in the absence of existing type material (holotype, paratype, syntype).

**new name** — a new name proposed to replace an earlier preoccupied name; replacement name.

**original designation** — the situation when the type of a taxon (genus or subgenus) is designated at the same time as the taxon is established (the type species by original designation).

**oviposition** — the act of laying eggs.

**phytophagous** — feeding on plant material.

**planticolous** — living on plants (not on trees or shrubs).

**plurivoltine** — having more than two generations per year.

**predacious** — eating live animals.

**preoccupied name** — a name already in use for another taxon based on a different type specimen.

**replacement name** — see new name.

**riparian** — living at the border of streams, lakes, and ponds.

**sanguinivorous** — feeding on blood.

**saprophagous** — feeding on dead or decaying organic matter.

**scree** — accumulation of loose stones on a slope.

**scrubland** — vegetation unit with dense cover and about 1–2 metres tall.

**seasonality** — period of the year when an animal is active.

**semiaquatic** — living partially in water and in wet places.

**sensu lato** (Latin) — ‘in the broad sense’.

**sensu stricto** (Latin) — ‘in the strict or narrow sense’.

**shrubland** — vegetation unit with sparse or moderate cover and often taller than 2 metres.

**species** — a taxon of the rank of species, the category below the genus in the taxonomic hierarchy; naturally occurring populations with a common heredity; groups of actually or potentially interbreeding populations which are reproductively isolated from other such groups.

**species-group** — the category of species or subspecies in the taxonomic hierarchy.

**subalpine** — of or pertaining to land located above the tree line and characterised by a mountain shrubland (e.g., of *Olearia*, *Brachyglottis*, and *Dracophyllum*).

**submacropterous** — having posterior wings visibly shorter than the hemelytra, and hemelytra less developed than those of true macropterous individuals but reaching more than two-thirds of abdomen length.

**subspecies** — a taxon of the rank of subspecies; group of naturally interbreeding populations that differs morphologically and are often isolated from other such groups, but still interbreed with these groups in the zone of geographic overlap.

**synanthropic** — living in and around human dwellings.

**synonym** — one of two or more scientific names applied to a taxon.

**syntype** — any of two or more specimens on which the original description of a taxon was based when a holotype was not designated.

**taxon (taxa)** — a taxonomic grouping of any rank (e.g., a family, a genus, a species) including all its subordinate groups.

**teneral** — a new or young adult, recently emerged, sexually mature, with softer or paler exoskeleton.

**terrestrial** — living on land.

**thermophilous** — warmth-loving.

**type or name-bearing type** — the specimen(s), species or genus that serves as the objective standard of reference determining the application of a name to a taxon.

**type locality** — the precise geographical site where the type of a species or subspecies was collected.

**type species** — the species designated as the type of a genus or subgenus.

**type specimen** — a specimen (e.g., holotype, lectotype, neotype) or one of a series of specimens (syntypes) designated as the type of a species or subspecies.

**univoltine** — having a single generation per year.

**valid name** — the name for a particular taxon that is correct according to the provisions of the Code of Zoological Nomenclature.

**vertical distribution** — distribution related to the horizon, i.e., epigean, planticolous, arboreal.

**zoophytophagous** — feeding on animal and plant matters.

### Appendix B. Plants associated with Heteroptera in New Zealand.

Previous *Cassinia* records (except *C. aculeata*) are now referred to under *Ozothamnus leptophyllus*. \*, Exotic plants; —, Unknown.

Scientific name	Common name	Family name
* <i>Acacia baileyana</i>	Cootamundra wattle	Mimosaceae
* <i>Acacia dealbata</i>	silver wattle	Mimosaceae
* <i>Acacia longifolia</i>	Sydney golden wattle	Mimosaceae
* <i>Acacia mearnsii</i>	black wattle	Mimosaceae
* <i>Acacia melanoxylon</i>	Tasmanian blackwood	Mimosaceae
<i>Acaena novae—zelandiae</i>	red bidibid	Rosaceae
<i>Acaena pallida</i>	piripiri, bidibid	Rosaceae
<i>Acaena profundeincisa</i>	bidibid	Rosaceae
* <i>Acer</i>	maple	Aceraceae
* <i>Achillea millefolium</i>	yarrow	Asteraceae
<i>Aciphylla aurea</i>	golden speargrass	Apiaceae
<i>Aciphylla squarrosa</i>	karamea	Apiaceae
* <i>Acmena smithii</i>	monkey apple	Myrtaceae
* <i>Actinidia deliciosa</i>	kiwifruit	Actinidiaceae
<i>Agathis australis</i>	kauri	Araucariaceae
* <i>Ageratina</i>	catspaw	Asteraceae
* <i>Ageratum houstonianum</i>	ageratum	Asteraceae
* <i>Agonis</i>	Australian cedar	Myrtaceae
* <i>Agrostis capillaris</i>	brown top	Poaceae
<i>Alectryon excelsus</i>	titoki	Sapindaceae
* <i>Alnus</i>	alder	Betulaceae
* <i>Alocasia brisbanensis</i>	elephant's ear	Araceae
* <i>Alopecurus pratensis</i>	meadow foxtail	Poaceae
<i>Alseuosmia macrophylla</i>	horopito, shrubby honeysuckle	Alseuosmiaceae
* <i>Alyssum</i>	alyssum	Brassicaceae
* <i>Ammophila arenaria</i>	marram grass	Poaceae
* <i>Angelica montana</i>	mountain angelica	Apiaceae
* <i>Anthoxanthum odoratum</i>	sweet vernal	Poaceae
* <i>Araucaria heterophylla</i>	Norfolk Island pine	Araucariaceae
<i>Aristotelia</i>	makomako	Elaeocarpaceae
<i>Ascarina lucida</i>	hutu	Chloranthaceae
* <i>Asclepias fruticosa</i>	swanplant	Asclepiadaceae
* <i>Asparagus officinalis</i>	asparagus	Liliaceae
<i>Asplenium</i>	petako rauriki	Aspleniaceae
<i>Asplenium oblongifolium</i>	huruhuruwhenua	Aspleniaceae
<i>Asplenium polyodon</i>	peretao	Aspleniaceae
<i>Astelia banksii</i>	horahora, coastal astelia	Liliaceae
<i>Atriplex</i>	saltbush	Chenopodiaceae
<i>Auriculata polytricha</i>	wood ear	Fungi
* <i>Avena sativa</i>	oat	Poaceae
<i>Avicennia marina</i>	manawa, mangrove	Verbenaceae
<i>Beilschmiedia tarairi</i>	taraire	Lauraceae
<i>Beilschmiedia tawa</i>	tawa	Lauraceae
<i>Beilschmiedia tawaroa</i>	tawaroa	Lauraceae
* <i>Bellis perennis</i>	daisy	Asteraceae
* <i>Berberis vulgaris</i>	common barberry	Berberidaceae

* <i>Beta vulgaris</i>	beet	Chenopodiaceae
* <i>Betula pendula</i>	European birch	Betulaceae
<i>Blechnum discolor</i>	piupiu	Blechnaceae
<i>Blechnum procerum</i>	small kiokio	Blechnaceae
<i>Brachyglottis adamsii</i>	—	Asteraceae
<i>Brachyglottis bidwillii</i>	—	Asteraceae
<i>Brachyglottis elaeagnifolia</i>	—	Asteraceae
<i>Brachyglottis repanda</i>	rangiora	Asteraceae
* <i>Brassica oleracea</i>	cabbage	Brassicaceae
* <i>Brassica rapa</i>	turnip	Brassicaceae
* <i>Brassica rapa</i> subsp. <i>chinensis</i>	Chinese cabbage	Brassicaceae
* <i>Brassica rapa</i> subsp. <i>sylvestris</i>	wild turnip	Brassicaceae
* <i>Bromus</i>	brome	Poaceae
* <i>Buddleja davidii</i>	buddleia	Buddlejaceae
<i>Bulbinella</i>	Maori onion	Liliaceae
* <i>Calystegia</i>	bindweed	Convolvulaceae
* <i>Capsicum annuum</i>	pepper	Solanaceae
* <i>Carduus nutans</i>	Bastard Scotch thistle	Asteraceae
* <i>Carex divisa</i>	grey sedge	Cyperaceae
<i>Carex secta</i>	makura	Cyperaceae
<i>Carex solandri</i>	—	Cyperaceae
<i>Carex virgata</i>	—	Cyperaceae
<i>Carmichaelia</i>	neinei	Fabaceae
<i>Carpodetus serratus</i>	putaputaweta	Grossulariaceae
<i>Cassinia leptophylla</i>		
= <i>Ozothamnus leptophyllus</i>	tauhinu	Asteraceae
<i>Celmisia coriacea</i>	matua-tikumu,	
	large mountain daisy	Asteraceae
<i>Celmisia monroi</i>	rock cotton plant	Asteraceae
<i>Celmisia petriei</i>	—	Asteraceae
<i>Celmisia prorepens</i>	—	Asteraceae
<i>Celmisia semicordata</i>	silvery cotton plant	Asteraceae
<i>Celmisia sessiliflora</i>	white cushion mountain	
	daisy	Asteraceae
<i>Celmisia spectabilis</i>	matua-tikumu, common	
	mountain daisy	Asteraceae
<i>Celmisia spectabilis</i> subsp.		
<i>spectabilis</i>	—	Asteraceae
<i>Celmisia viscosa</i>	snow mountain daisy	Asteraceae
* <i>Chenopodium album</i>	fat-hen	Chenopodiaceae
<i>Chionochloa flavescens</i>	broad-leaved snow	
	tussock	Poaceae
<i>Chionochloa macra</i>	slim snow tussock	Poaceae
* <i>Chloris inflata</i>	swollen fingergrass	Poaceae
* <i>Chrysanthemum</i>	chrysanthemum	Asteraceae
* <i>Cirsium arvense</i>	Californian thistle	Asteraceae
* <i>Citrus limon</i>	lemon	Rutaceae
<i>Clinanthus puniceus</i>	kaka beak	Fabaceae
<i>Colospermum hastatum</i>	kahakaha	Liliaceae
* <i>Colocasia esculenta</i>	taro	Araceae
* <i>Conium maculatum</i>	hemlock	Apiaceae
* <i>Conyz a floribunda</i>	broad-leaved fleabane	Asteraceae

<i>Coprosma arborea</i>	mamangi	Rubiaceae
<i>Coprosma chathamica</i>	—	Rubiaceae
<i>Coprosma crassifolia</i>	—	Rubiaceae
<i>Coprosma grandifolia</i>	kakawariki	Rubiaceae
<i>Coprosma lucida</i>	kakaramu, shining karamu	Rubiaceae
<i>Coprosma macrocarpa</i>	kakaramu, large seeded coprosma	Rubiaceae
<i>Coprosma parviflora</i>	leafy coprosma	Rubiaceae
<i>Coprosma propinqua</i>	miki, mingimingi	Rubiaceae
<i>Coprosma pseudocuneata</i>	—	Rubiaceae
<i>Coprosma repens</i>	angiangi	Rubiaceae
<i>Coprosma robusta</i>	kakaramu, glossy karamu	Rubiaceae
<i>Coprosma rubra</i>	—	Rubiaceae
<i>Cordyline australis</i>	ti, cabbage tree	Agavaceae
<i>Cordyline indivisa</i>	ti kapu, broad-leaved cabbage tree	Agavaceae
* <i>Cordyline terminalis</i>	ti plant	Agavaceae
* <i>Coriandrum</i>	coriander	Apiaceae
<i>Coriaria arborea</i>	pohou, tree tutu	Coriariaceae
* <i>Coronopus didymus</i>	twin cress, lesser swinecress	Brassicaceae
<i>Cortaderia</i>	toetoe	Poaceae
* <i>Corylus avellana</i>	hazel	Corylaceae
<i>Corynocarpus laevigatus</i>	karaka	Corynocarpaceae
<i>Cotula coronopifolia</i>	bachelor's buttons	Asteraceae
<i>Craspedia uniflora</i>	woollyhead	Asteraceae
* <i>Cucurbita maxima</i>	pumpkin	Cucurbitaceae
<i>Cyathea dealbata</i>	kaponga, silver fern	Cyatheaceae
<i>Cyathodes juniperina</i>	mingimingi	Epacridaceae
* <i>Cynara scolymus</i>	artichoke	Asteraceae
* <i>Cynodon dactylon</i>	Indian doab	Poaceae
<i>Cyperaceae</i>	sedge	Cyperaceae
* <i>Cyperus tenuiflorus</i>	—	Cyperaceae
<i>Cyperus ustulatus</i>	toetoe, coastal cutty grass	Cyperaceae
* <i>Cytisus scoparius</i>	broom	Fabaceae
<i>Dacrycarpus dacrydioides</i>	kahikatea	Podocarpaceae
<i>Dacrydium cupressinum</i>	rimu	Podocarpaceae
* <i>Dactylis glomerata</i>	cocksfoot	Poaceae
* <i>Dahlia</i>	dahlia	Asteraceae
* <i>Daucus carota</i>	carrot and wild carrot	Apiaceae
<i>Desmoschoenus spiralis</i>	pingao	Cyperaceae
<i>Discaria toumatou</i>	matagouri	Rhamnaceae
<i>Disphyma australae</i>	horokaka	Aizoaceae
<i>Dodonaea viscosa</i>	akeake	Sapindaceae
<i>Dodonaea viscosa</i> var. <i>purpurea</i>	pink akeake	Sapindaceae
<i>Dolichoglottis scorzonerooides</i>	snow groundsel	Asteraceae
<i>Doodia australis</i>	pukupuku	Blechnaceae
<i>Dracophyllum longifolium</i>	inaka, inanga	Epacridaceae
<i>Dracophyllum muscoides</i>	—	Epacridaceae
<i>Dysoxylum spectabile</i>	kohekohé	Meliaceae
<i>Einadia triandra</i>	poipapa	Chenopodiaceae
<i>Elaeocarpus</i>	hinai	Elaeocarpaceae

<i>Elatostema rugosum</i>	parataniwha	Urticaceae
* <i>Eleusine indica</i>	crowfoot grass	Poaceae
* <i>Elodea canadensis</i>	pondweed	Hydrocharitaceae
<i>Entelea arborescens</i>	whau	Tiliaceae
* <i>Epilobium komarovianum</i>	creeping willow herb	Onagraceae
* <i>Epilobium pedunculare</i>	long-stalked willow herb	Onagraceae
* <i>Epilobium porphyrium</i>	—	Onagraceae
* <i>Epilobium pycnostachyum</i>	—	Onagraceae
* <i>Erigeron canadensis</i>	Canadian fleabane	Asteraceae
* <i>Eucalyptus globulus</i>	blue gum	Myrtaceae
* <i>Eucalyptus ovata</i>	black gum	Myrtaceae
* <i>Euonymus japonicus</i>	Japanese spindle tree	Celastraceae
* <i>Eupatorium</i>	—	Asteraceae
<i>Festuca novae—zelandiae</i>	fescue tussock	Poaceae
* <i>Fragaria x ananassa</i>	strawberry	Rosaceae
* <i>Fraxinus excelsior</i>	ash	Oleaceae
<i>Freycinetia baueriana banksii</i>	kiekie	Pandanaceae
<i>Fuchsia excorticata</i>	kotukutuku	Onagraceae
<i>Gahnia procera</i>	giant sedge	Cyperaceae
<i>Gahnia setifolia</i>	mapere	Cyperaceae
<i>Gahnia xanthocarpa</i>	tupari-maunga	Cyperaceae
* <i>Galium</i>	bedstraw	Rubiaceae
<i>Gaultheria crassa</i>	scarlet snowberry	Ericaceae
<i>Gaultheria depressa</i>	mountain snowberry	Ericaceae
<i>Geniostoma rupestre</i> var. <i>ligustrifolium</i>	hangehange	Loganiaceae
<i>Gentiana bellidifolia</i>	mountain gentian	Gentianaceae
* <i>Gladiolus</i>	gladiolus	Iridaceae
* <i>Gnaphalium</i>	cudweed	Asteraceae
* <i>Gomphocarpus fruticosus</i>	swan plant	Asteraceae
?* <i>Grevillea</i>	—	Proteaceae
* <i>Gypsophila paniculata</i>	Baby's breath	Caryophyllaceae
<i>Haastia pulvinaris</i>	vegetable sheep	Asteraceae
<i>Halocarpus bidwillii</i>	bog pine	Podocarpaceae
<i>Haloragis erecta</i>	toatoa	Haloragaceae
<i>Hebe divaricata</i>	—	Scrophulariaceae
<i>Hebe odora</i>	—	Scrophulariaceae
<i>Hebe parviflora</i>	kokomuka taranga	Scrophulariaceae
<i>Hebe pauciramosa</i>	—	Scrophulariaceae
<i>Hebe salicifolia</i>	koromiko	Scrophulariaceae
<i>Hebe stricta</i>	koromiko	Scrophulariaceae
<i>Hebe subalpina</i>	—	Scrophulariaceae
<i>Hebe topiaria</i>	—	Scrophulariaceae
<i>Hedycarya arborea</i>	porokaiwhiri	Monimiaceae
<i>Helichrysum coralloides</i>	coral sea shrub	Asteraceae
<i>Helichrysum intermedium</i> var. <i>selago</i>		Asteraceae
* <i>Hieracium</i>	hawkweed	Asteraceae
<i>Hoheria angustifolia</i>	houhi	Malvaceae
<i>Hoheria glabrata</i>	houhere	Malvaceae
* <i>Holcus lanatus</i>	Yorkshire fog	Poaceae
* <i>Hordeum vulgare</i>	barley	Poaceae

* <i>Hoslundia</i>	—	Labiatae
* <i>Humulus lupulus</i>	hop	Cannabaceae
<i>Hymenophyllum</i>	mauku	Hymenophyllaceae
* <i>Hypericum</i>	St John's wort	Clusiaceae
* <i>Hypocalymma robustum</i>	Swan River myrtle	Myrtaceae
* <i>Ipomoea batatas</i>	kumara	Convolvulaceae
<i>Isolepis nodosa</i>	wiwi	Cyperaceae
Juncaceae	rush(es)	Juncaceae
* <i>Juncus acutus</i>	sharp rush	Juncaceae
* <i>Juncus articulatus</i>	jointed rush	Juncaceae
* <i>Juncus effusus</i>	soft rush, common rush	Juncaceae
* <i>Juncus maritimus</i>	—	Juncaceae
<i>Kelleria dieffenbachii</i>	—	Thymelaeceae
<i>Knightia excelsa</i>	rewarewa	Proteaceae
<i>Kunzea ericoides</i>	kanuka	Myrtaceae
* <i>Lactuca sativa</i>	lettuce	Asteraceae
* <i>Lantana</i>	lantana	Verbenaceae
* <i>Larix decidua</i>	European larch	Pinaceae
<i>Lepidium oleraceum</i>	heketara	Brassicaceae
<i>Lepidothamnus intermedius</i>	yellow silver pine	Podocarpaceae
<i>Leptospermum scoparium</i>	manuka	Myrtaceae
<i>Leucogenes grandiceps</i>	South Island edelweiss	Asteraceae
<i>Leucopogon fasciculatus</i>	mingimingi	Epacridaceae
<i>Leucopogon fraseri</i>	patotara	Epacridaceae
* <i>Ligustrum ovalifolium</i>	privet	Olaceae
* <i>Ligustrum sinense</i>	Chinese privet	Olaceae
* <i>Ligustrum vulgare</i>	common privet	Olaceae
<i>Linum monogynum</i>	rauhui	Linaceae
* <i>Lolium</i>	ryegrass	Poaceae
* <i>Lonicera</i>	honeysuckle	Caprifoliaceae
* <i>Lonicera japonica</i>	Japanese honeysuckle	Caprifoliaceae
* <i>Lotus corniculatus</i>	birdsfoot trefoil	Fabaceae
* <i>Lotus pedunculatus</i>	lotus	Fabaceae
* <i>Lupinus angustifolius</i>	blue lupin	Fabaceae
* <i>Lupinus arboreus</i>	tree lupin	Fabaceae
* <i>Lycium</i>	boxthorn	Solanaceae
* <i>Lycopersicon esculentum</i>	tomato	Solanaceae
<i>Macropiper excelsum</i>	kawakawa	Piperaceae
* <i>Malus x domestica</i>	apple	Rosaceae
* <i>Malva sylvestris</i>	large-flowered mallow	Malvaceae
* <i>Matthiola incana</i>	hoary stock	Brassicaceae
* <i>Medicago sativa</i>	lucerne, alfalfa	Fabaceae
* <i>Melia azedarach</i>	Chinaberry tree	Meliaceae
<i>Melicytus ramiflorus</i>	mahoe	Violaceae
* <i>Melilotus alba</i>	sweet clover	Fabaceae
* <i>Mentha pulegium</i>	pennyroyal	Lamiaceae
<i>Metrosideros excelsa</i>	pohutukawa	Myrtaceae
<i>Metrosideros kermadecensis</i>	Kermadec pohutukawa	Myrtaceae
<i>Metrosideros robusta</i>	rata, northern rata	Myrtaceae
* <i>Microglossa</i>	—	Asteraceae
<i>Muehlenbeckia australis</i>	pohuehue	Polygonaceae
<i>Muehlenbeckia axillaris</i>	creeping pohuehue	Polygonaceae

<i>Muehlenbeckia complexa</i>	pohuehue	Polygonaceae
<i>Myoporum laetum</i>	ngaio	Myoporaceae
* <i>Myosotis</i>	forget-me-not	Boraginaceae
* <i>Myriophyllum</i>	milfoil	Haloragaceae
<i>Myrsine australis</i>	mapou	Myrsinaceae
<i>Myrsine divaricata</i>	weeping mapou	Myrsinaceae
<i>Myrsine kermadecensis</i>	Kermadec mapou	Myrsinaceae
<i>Myrsine nummularia</i>	creeping mapou	Myrsinaceae
<i>Neomyrtus pedunculata</i>	rohutu	Myrtaceae
* <i>Nephrolepis cordifolia</i>	ladder fern	Nephrolepidaceae
<i>Nertera</i>	—	Rubiaceae
<i>Nestegis apetala</i>	maire	Oleaceae
* <i>Nicotiana tabacum</i>	tobacco	Solanaceae
<i>Nothofagus fusca</i>	hutu, red beech	Nothofagaceae
<i>Nothofagus menziesii</i>	tawhai, silver beech	Nothofagaceae
<i>Nothofagus solandri</i>	tawhai rauriki, black beech	Nothofagaceae
<i>Nothofagus solandri</i> var. cliffortioides	tawhai rauriki, mountain beech	Nothofagaceae
<i>Nothofagus truncata</i>	tawhai raunui, hard beech	Nothofagaceae
<i>Olearia angustifolia</i>	teteaweka	Asteraceae
<i>Olearia arborescens</i>	tree daisy	Asteraceae
<i>Olearia avicenniifolia</i>	akeake	Asteraceae
<i>Olearia colensoi</i>	tupare	Asteraceae
<i>Olearia crosby-smithiana</i>	—	Asteraceae
<i>Olearia ilicifolia</i>	hakeke	Asteraceae
<i>Olearia lineata</i>	—	Asteraceae
<i>Olearia nummulariifolia</i>	—	Asteraceae
<i>Olearia rani</i>	heketara	Asteraceae
<i>Olearia virgata</i>	twiggy tree daisy	Asteraceae
* <i>Onobrychis viciifolia</i>	sainfoin	Fabaceae
<i>Oplismenus hirtellus</i>	—	Poaceae
* <i>Oxypetalum caeruleum</i>	tweediea	Asclepiadaceae
<i>Ozothamnus leptophyllus</i>	tauhinu	Asteraceae
* <i>Paeonia</i>	peony	Paeoniaceae
* <i>Papaver nudicaule</i>	Iceland poppy	Papaveraceae
* <i>Paraserianthes lophantha</i>	brush wattle	Mimosaceae
* <i>Paratrophis</i>	—	Moraceae
<i>Parsonsia heterophylla</i>	akakaikiore	Apocynaceae
* <i>Paspalum dilatatum</i>	paspalum	Poaceae
* <i>Passiflora edulis</i>	purple or black passionfruit	Passifloraceae
* <i>Pastinaca sativa</i>	parsnip, wild parsnip	Apiaceae
<i>Pennantia corymbosa</i>	kaikomako	Icacinaceae
* <i>Pennisetum clandestinum</i>	kikuyu grass	Poaceae
<i>Pentachondra pumila</i>	—	Epacridaceae
* <i>Persea americana</i>	avocado	Lauraceae
* <i>Phaseolus</i>	bean	Fabaceae
* <i>Phleum pratense</i>	timothy grass	Poaceae
<i>Phormium tenax</i>	harakeke	Agavaceae
<i>Phyllocladus trichomanoides</i>	tanekaha	Phyllocladaceae
* <i>Phytolacca octandra</i>	inkweed	Phytolaccaceae
<i>Pimelea arenaria</i>	toroheke	Thymelaeaceae

<i>Pimelea prostrata</i>	pinatoro	Thymelaeaceae
<i>Pimelea urvilleana</i>	—	Thymelaeaceae
* <i>Pinus nigra</i>	Austrian pine	Pinaceae
* <i>Pinus radiata</i>	radiata pine	Pinaceae
* <i>Pisum sativum</i>	garden pea	Fabaceae
<i>Pittosporum crassifolium</i>	karo	Pittosporaceae
<i>Pittosporum eugeniooides</i>	tarata	Pittosporaceae
<i>Pittosporum tenuifolium</i>	kohuhu	Pittosporaceae
<i>Plagianthus divaricatus</i>	houi	Malvaceae
<i>Plagianthus regius</i>	manatu	Malvaceae
<i>Plagiochila</i>	—	Plagiochilaceae
<i>Poa anceps</i>	broad-leaved poa	Poaceae
Poaceae	grass, tussock	Poaceae
<i>Podocarpus acutifolius</i>	needle-leaved totara	Podocarpaceae
<i>Podocarpus nivalis</i>	tauhinu, snow totara	Podocarpaceae
<i>Podocarpus totara</i>	totara	Podocarpaceae
<i>Polygala myrtifolia</i>	sweet pea shrub	Polygalaceae
* <i>Polygonum aviculare</i>	makakaka	Polygonaceae
* <i>Polygonum persicaria</i>	willow weed	Polygonaceae
<i>Polystichum vestitum</i>	punui	Dryopteridaceae
<i>Polytrichum juniperinum</i>	moss	Polytrichaceae
<i>Pomaderris kumeraho</i>	kumarahou	Rhamnaceae
* <i>Populus nigra</i>	lombardy poplar	Salicaceae
<i>Pratia physaloides</i>	koru	Campanulaceae
<i>Prumnopitys ferruginea</i>	miro	Podocarpaceae
<i>Prumnopitys taxifolia</i>	matai	Podocarpaceae
* <i>Prunus armeniaca</i>	apricot	Rosaceae
* <i>Prunus persica</i>	peach	Rosaceae
* <i>Prunus persica</i> var. <i>nucipersica</i>	nectarine	Rosaceae
* <i>Prunus salicina</i>	Japanese plum	Rosaceae
* <i>Prunus x domestica</i>	plum	Rosaceae
<i>Pseudognaphalium luteoalbum</i>	pukatea	Asteraceae
<i>Pseudopanax arboreus</i>	puahou	Araliaceae
<i>Pseudopanax crassifolius</i>	horoeka	Araliaceae
<i>Pseudopanax lessonii</i>	houpara	Araliaceae
* <i>Pseudotsuga menziesii</i>	douglas fir	Pinaceae
<i>Pseudowintera colorata</i>	horopito	Winteraceae
* <i>Pteridium esculentum</i>	bracken fern	Dennstaedtiaceae
<i>Pteris tremula</i>	turawera	Gleicheniaceae
* <i>Pyrus communis</i>	European pear	Rosaceae
* <i>Pyrus pyrifolia</i>	nashi, Asian pear	Rosaceae
* <i>Quercus ilex</i>	holm oak	Fagaceae
<i>Ranunculus lyallii</i>	giant buttercup	Ranunculaceae
<i>Raoulia australis</i>	common mat daisy	Asteraceae
<i>Raoulia haastii</i>	green vegetable sheep	Asteraceae
<i>Raoulia tenuicaulis</i>	tutahuna	Asteraceae
* <i>Raphanus sativus</i>	radish	Brassicaceae
<i>Raukawa edgerleyi</i>	raukawa	Araliaceae
<i>Raukawa simplex</i>	haumakaraoa	Araliaceae
* <i>Rheum rhabarbarum</i>	rhubarb	Polygonaceae
* <i>Rhododendron</i>	rhododendron	Ericaceae

<i>Rhopalostylis sapida</i>	nikau	Arecaceae
* <i>Ribes nigrum</i>	black currant	Grossulariaceae
* <i>Rosa</i>	rose	Rosaceae
<i>Rubus australis</i>	tataramoa	Rosaceae
* <i>Rubus fruticosus</i>	blackberry	Rosaceae
* <i>Rumex obtusifolius</i>	poenehua	Polygonaceae
<i>Salicornia australis</i>	glasswort	Chenopodiaceae
* <i>Salix</i>	willow	Salicaceae
* <i>Salix babylonica</i>	weeping willow	Salicaceae
<i>Sarcocornia quinqueflora</i>	ureure	Chenopodiaceae
<i>Schefflera digitata</i>	pate	Araliaceae
<i>Scirpus</i>	sedge	Cyperaceae
* <i>Senecio jacobaea</i>	ragwort	Asteraceae
* <i>Sisymbrium officinale</i>	hedge mustard	Brassicaceae
<i>Solanum aviculare</i>	poroporo	Solanaceae
* <i>Solanum betaceum</i>	tamarillo	Solanaceae
* <i>Solanum mauritianum</i>	wild tobacco tree	Solanaceae
* <i>Solanum nigrum</i>	black nightshade	Solanaceae
* <i>Solanum tuberosum</i>	potato	Solanaceae
* <i>Sonchus asper</i>	prickly sow thistle	Asteraceae
* <i>Sonchus oleraceus</i>	sow thistle	Asteraceae
<i>Sophora microphylla</i>	kowhai	Fabaceae
<i>Sparganium subglobosum</i>	maru	Sparganiaceae
* <i>Spergula arvensis</i>	spurrey	Caryophyllaceae
<i>Sphagnum</i>	sphagnum moss	Sphagnaceae
<i>Spinifex sericeus</i>	spinifex	Poaceae
* <i>Stenotaphrum secundatum</i>	buffalo grass	Poaceae
<i>Stilbocarpa</i>	punui	Araliaceae
<i>Streblus banksii</i>	ewekuri	Moraceae
<i>Suaeda novae—zelandiae</i>	sea blite	Chenopodiaceae
* <i>Taraxacum officinale</i>	dandelion	Asteraceae
* <i>Thymus pulegioides</i>	creeping thyme	Lamiaceae
* <i>Trifolium pratense</i>	red clover	Fabaceae
* <i>Trifolium repens</i>	white clover	Fabaceae
* <i>Triticum aestivum</i>	wheat	Poaceae
<i>Typha orientalis</i>	raupo	Typhaceae
* <i>Ulex europaeus</i>	gorse	Fabaceae
<i>Uncinia rubra</i>	red hook sedge	Cyperaceae
<i>Urtica ferox</i>	ongaonga	Urticaceae
* <i>Urtica urens</i>	nettle	Urticaceae
* <i>Vaccinium corymbosum</i>	highbush blueberry	Ericaceae
* <i>Vernonia</i>	ironweed	Asteraceae
* <i>Vicia faba</i>	broad bean	Fabaceae
* <i>Vicia sativa</i>	narrow-leaved vetch	Fabaceae
* <i>Virgilia capensis</i>	keurboom	Fabaceae
<i>Vitex lucens</i>	puriri	Verbenaceae
* <i>Vitis vinifera</i>	grape	Vitaceae
<i>Weinmannia racemosa</i>	kamahi	Cunoniaceae
* <i>Wisteria sinensis</i>	wisteria	Fabaceae
<i>Xeronema callistemon</i>	raupo taranga	Agavaceae
* <i>Zantedeschia aethiopica</i>	arum lily	Araceae
* <i>Zea mays</i>	maize	Poaceae

**Appendix C. Acronyms of entomological collections and museums.** Australian acronyms according to Cassis & Gross (1995, 2002).

AM Australian Museum, Sydney, NSW, Australia.  
 AMNH American Museum of Natural History, New York, USA.  
 AMNZ Auckland Institute and Museum, Auckland, New Zealand.  
 ANIC Australian National Insect Collection, CSIRO, Canberra, ACT, Australia.  
 BMNH The Natural History Museum, London, England (formerly British Museum of Natural History).  
 BPBM Bernice P. Bishop Museum, Honolulu, Hawaii, USA.  
 BPNZ Brian Patrick Private Collection, Dunedin [now included in OMNZ].  
 CEHI Collection E. Heiss, Innsbruck, Austria.  
 CMNZ Canterbury Museum, Christchurch, New Zealand.  
 IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium.  
 LUNZ Entomological Museum, Lincoln University, Lincoln, New Zealand.  
 MNHP Muséum National d'Histoire Naturelle, Paris, France.  
 MONZ Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand.  
 NHMW Naturhistorisches Museum, Vienna, Austria.

NHRM Naturhistoriska Riksmuseet, Stockholm, Sweden.  
 NMV National Museum of Victoria, Melbourne, Victoria, Australia.  
 NZAC New Zealand Arthropod Collection, Mount Albert Research Centre, Auckland, New Zealand.  
 OMNZ Otago Museum, Dunedin, New Zealand [now including BPNZ].  
 OUME Hope Department of Entomology, Oxford University, Oxford, England.  
 QM Queensland Museum, Brisbane, QLD, Australia.  
 SAMA South Australian Museum, Adelaide, SA, Australia.  
 TLMI Tiroler Landesmuseum, Innsbruck, Austria.  
 UCNZ Department of Zoology, University of Canterbury, Christchurch, New Zealand.  
 UKSL University of Kansas, Lawrence, Kansas, USA.  
 USNM United States National Museum, Washington, DC, USA.  
 UZMH University Museum (Zoology), Helsinki, Finland.  
 ZMBG Museum für Naturkunde an der Humboldt-Universität zu Berlin, Berlin, Germany.  
 ZMMR Zoological Museum, Moscow State University, Moscow, Russia.  
 ZMUC Zoological Museum, University of Copenhagen, Copenhagen, Denmark.

#### Appendix D. Alphabetical list of taxa incorrectly or doubtfully recorded from New Zealand.

The current list does not include taxa that have already been excluded from previous faunal checklists (e.g., Kirkaldy 1909a; Myers & China 1928; Wise 1977; Larivière 1997 and 2002a).

#### Alydidae

##### *Melanacanthus margineguttatus* Distant, 1911

This species occurs in Australia, Fiji, Guam, Java, Mariana Islands, Samoa, and Taiwan. It was originally recorded from Tahuna, NN (NZAC) by Evans (1928), but never collected in New Zealand thereafter. The population is thought to have been destroyed by the burning of the grass (Woodward 1951). Cassis & Gross' (2002: 79) record of this species for New Zealand should be dismissed.

#### Lygaeidae

##### *Spilostethus hospes* (Fabricius, 1794)

The record by Cassis & Gross (2002: 237) appears to be based on Hutton's (1898) probably erroneous record for *Lygaeus pacificus* Boisduval, 1835, which has from time to time reappeared in the literature (e.g., Slater 1964). However, Kirkaldy (1909a) had already put this record in doubt, and Myers & China (1928) could not locate the specimen said to have been collected by Sinclair and deposited in the British Museum. Wise (1977) did not include this species in his New Zealand checklist. Slater (1985) reconsidered the New Zealand record, judged it to be an error or a chance occurrence, and indicated that his own attempts at locating the Sinclair's specimen had been fruitless. The present authors did not find any evidence of the establishment of this species in New Zealand.

### ***Spilostethus pacificus* (Boisduval, 1835)**

Cassis & Gross (2002: 238)'s record of this species for New Zealand can be dismissed, see discussion under *S. hospes*.

### **Miridae**

#### ***Eurystylus* Stål, 1871**

This genus does not occur in New Zealand. The record by Cassis & Gross (1995: 168) probably refers to *Eurystylus australis* Poppius, 1911, a junior synonym of *Sidnia kinbergi* (Stål, 1859) which is adventive to New Zealand – an extralimital distribution record overlooked by the Australian catalogue.

### **Pentatomidae**

#### ***Diemenia immarginata* (Dallas, 1851)**

This Australian species does not occur in New Zealand. The record by Cassis & Gross (2002: 467) appears to be based on Dallas (1851) who stated that there was a specimen of this species in the British Museum from New Zealand. However, Myers & China (1928) had already put this record in doubt and explained that no such specimen could be found. Wise (1977) did not include this species in his New Zealand checklist and the present authors did not find any evidence of the occurrence of this species in this country.

#### ***Poecilometis gravis* (Fabricius, 1781)**

This Australian species does not occur in New Zealand. The basis for the “possible doubtful record” by Cassis & Gross (2002: 499) is unclear but Tillyard (1926), one of the sources cited under *P. gravis*, clearly stated that *Poecilometis* is endemic to Australia. Wise (1977) did not include this species in his New Zealand checklist and the present authors did not find any evidence of the occurrence of this species in this country.

### **Pyrrhocoridae**

#### ***Dindymus versicolor* (Herrich-Schaeffer, 1853)**

Cassis & Gross' (2002: 634) record of this species for New Zealand is apparently mainly based on Kirkaldy (1909a) who, according to Myers (1926), recorded the species based on a single specimen. Myers (1926) as well as Myers & China (1928) had already recognised that even if Kirkaldy (1909a) had been correct, the species had not established itself in this country. Wise (1977) did not include *Dindymus versicolor* in his checklist. The present authors were aware that this species is intercepted at the New Zealand border from time to time, but they could not find any evidence supporting its establishment in this country.

### **Reduviidae**

#### ***Peirates ephippiger* White, 1843**

This Australian species is believed to have been erroneously described from New Zealand. According to Myers & China (1928) the type specimen of *P. ephippiger* deposited in the Natural History Museum (BMNH) with a New Zealand label (collected by Dr. Sinclair) may in fact have been collected in Australia. No specimen from New Zealand has ever been seen following White's description in 1843 even though the species has been recorded in subsequent works, e.g., Myers (1926; *Pirates ephippigera*), Wise (1977; as *Pirates ephippiger*), Maldonado Capriles (1990; as *Brachysandalus ephippiger*), and Cassis & Gross (1995). The current authors have not found any evidence of the occurrence of this species in New Zealand.

### **Rhopalidae**

#### ***Leptocoris tagalicus* Burmeister, 1834**

Evans' record (1928) of this species was based on a letter from Bergroth to Myers, which referred to a single specimen of *Leptocoris* collected at Taihape, RI. Subsequently, Woodward (1951, 1961) and Gross (1960) mentioned this record without actually seeing the specimen; they suggested it could be either *Leptocoris mitellata* Bergroth or *L. tagalicus* Burmeister. Dolling (1973) managed to see the specimen upon which this record was based and discovered a single mutilated male specimen of *Leptocoris* from New Zealand, bearing the label information “Taihape G. Howes”, “J.G. Myers Coll. B.M. 1937-789”, in the accession material in the British Museum (Natural History). It is not known how this specimen found its way into Myers' collection, but Dolling was able to confirm its identification based on an examination of the male genitalia. *Leptocoris tagalicus* has not been found again in New Zealand where it is not believed to have established itself. Wise's (1977: 122) records of this species should be dismissed.

### **Rhyparochromidae**

#### ***Scolopostethus forticornis* Gross, 1965**

Cassis & Gross' (2002: 300) “unconfirmed record” of this species for New Zealand appears to have been based on a “possible New Zealand record” published by Malipatil (1977a). No such mention could be found in Malipatil (1977a) who only referred to *Scolopostethus putoni* White as the type species of *Brentiscerus* Scudder. The present authors have not found any evidence supporting the occurrence of *S. forticornis* in New Zealand.

**Appendix E. Geographical coordinates of main localities.** Coordinates should read as 00°00'S/00°00'E. The two-letter area codes follow Crosby *et al.* (1976, 1998). A “—” indicates a locality with unknown coordinates.

Abel Tasman National Park, NN .....	4056/17257
Ada Pass, BR .....	4218/17227
Adams Island, Fairchilds Garden, AU .....	5050/16555
Adams Island, Magnetic Cove Station, AU .....	5052/16601
Adams Island, Mount Dick, AU .....	5053/16601
Ahaura, BR .....	4221/17132
Ahipara, ND .....	3510/17309
Akaroa to Le Bons, Banks Peninsula, MC .....	4347/17301
Akaroa, Banks Peninsula, MC .....	4339/17258
Altimarlock Peak, MB .....	4145/17346
Andersons Bay, DN .....	4554/17033
Aniseed Valley, NN .....	4123/17309
Annandale, NC .....	4234/17307
Aorere Valley, NN .....	4040/17240
Aramoho, WI .....	3954/17503
Arthur's Pass, NC .....	4255/17133
Arthur's Pass, Dobson Nature Walk, NC .....	4254/17133
Arthur's Pass, Alpine Creek [=Halpin Creek], NC .....	4255/17135
Ashburton River, MC .....	4403/17149
Ashgrove [Park] Reserve, Christchurch, MC .....	4335/17237
Atawhai, NN .....	4114/17319
Atene Skyline Track, WI .....	3943/17508
Auckland, AK .....	3651/17446
Auckland Island, AU .....	5042/16606
Avon [River] Estuary, MC .....	4331/17244
Avon Valley, MB .....	4142/17337
Ballantrae [Farm], Palmerston North, RI .....	4018/17548
Banks Peninsula, Peraki [Bay] Scenic Reserve, MC .....	4351/17249
Bannockburn, CO .....	4506/16910
Beebys Knob, NN .....	4144/17256
Ben Lomond, OL .....	4501/16837
Ben Ohau Range, MK .....	4400/17000
Berwick, DN .....	4556/17006
Big South Cape Island, SI .....	4715/16724
Black Birch Range, MB .....	4144/17350
Black Birch Station, MB .....	4143/17353
Blue Duck Stream, KA .....	4217/17346
Blue Lake, BP .....	3812/17620
Blue Mountains, SL .....	4556/16921
Bold Peak, OL .....	4451/16818
Bombay Hill, AK .....	3711/17501
Boulder Lake, NN .....	4054/17235
Brown & Aorere Rivers Junction, NN .....	4051/17227
Buller Gorge (Lower), BR .....	4147/17207
Callaghans Ridge, Ahaura, BR .....	4223/17133
Camp Cove, AU .....	5051/16600
Camp Creek, MB .....	4118/17327
Campbell's Beach, near Tawharanui [Regional Park], AK .....	3622/17446
Canaan [Little], Abel Tasman National Park, NN .....	4058/17251

Cape Colville, CL .....	3628/17520
Cape Reinga, ND .....	3425/17241
Cascade Creek, Hollyford Valley [=Eglinton Valley], FD .....	4453/16805
Cass, MC .....	4302/17145
Castlepoint, WA .....	4054/17613
Catlins State Forest, SL .....	4620/16900
Catlins, near Owaka, SL .....	4627/16929
Catlins, Waipati Beach, SL .....	4637/16922
Cawthron Park, NN .....	4116/17317
Chalk Hill, MC .....	—/—
Chatham Island, Lake Koomutu, CH .....	4345/17625W
Chetwode Islands, SD .....	4054/17405
Christchurch, MC .....	4332/17238
Cloudy Bay, SD .....	4127/17404
Clyde, CO .....	4511/16919
Cobb Reservoir, Trilobite Hut, NN .....	4108/17236
Colac Bay, SL .....	4622/16755
Conroys Road, CO .....	4616/16920
Conway Flats, KA .....	4237/17328
Coppermine Island, Hen & Chickens Islands, ND .....	3553/17445
Coromandel Peninsula, CL .....	3700/17537
Coronet Peak, OL .....	4455/16844
Craigieburn Range, MC .....	4310/17140
Craigieburn State Forest, MC .....	4309/17143
Cromwell, CO .....	4503/16913
Crooked River Scenic Reserve, BR .....	4238/17135
Curio Bay, SL .....	4640/16906
D'Urville Island, Martin's Bay, SD .....	—/—
Dargaville, ND .....	3556/17352
Darran Mountains, Middle Gully, Tutoko Bench, FD .....	4435/16800
Dart Hut, OL .....	4431/16834
Dawson Falls, TK .....	3919/17406
Days Bay, WN .....	4117/17454
Devonport, Auckland, AK .....	3649/17448
Dipton, Caroline Hill, SL .....	4554/16824
Dismal Saddle, OL .....	4447/16833
Dolamore Park, Gore, SL .....	4604/16849
Doubtful Sound, Deep Cove, FD .....	4528/16710
Duck Creek, Mason Bay, SI .....	4654/16748
Dun Mountain, NN .....	4121/17322
Dunedin, DN .....	4552/17030
Dunstan Mountains, CO .....	4456/16931
D'Urville Island, SD .....	4050/17350
Dusky Sound, FD .....	4546/16628
Earnscleugh, CO .....	4513/16919
East Cape, GB .....	3741/17833
End Peak, Harris Mountains, OL .....	4441/16855
Enderby Island, AU .....	5030/16618
Erua, TO .....	3914/17524
Eves Valley, NN .....	4120/17304
Eyre Mountains, OL .....	4526/16823
Farewell Spit, NN .....	4031/17254
Fiordland NP, McKinnon Saddle, Milford track, FD .....	4448/16748
Fitzgerald Glade, BP .....	3800/17553
Foxton, WI .....	4029/17517

Franz Josef, WD .....	4325/17010	Kaitorete Spit, MC .....	4350/17232
Gem Lake, Umbrella Mountains, CO .....	4534/16906	Kaituna Valley, MC .....	4345/17241
Gisborne, GB .....	3840/17801	Kakahu, SC .....	4410/17103
Goat Bay, Cape Colville Area, CL .....	3631/17520	Kakanui Mountains, Crumb Hut, CO .....	4505/17026
Gollans Valley, WN .....	4120/17435	Kamo, ND .....	3541/17418
Gore, SL .....	4606/16856	Karaka, AK .....	3706/17456
Governors Bay, MC .....	4338/17239	Karori, WN .....	4117/17445
Great Island, TH .....	3409/17208	Kauaeranga River/Valley, CL .....	3708/17537
Great Island, Castaway Valley, TH .....	3409/17208	Kawakawa, ND .....	3508/17404
Great Island, East Point, TH .....	3409/17209	Kawarau Gorge, CO .....	4502/16908
Great Island, Tasman Valley, TH .....	3410/17208	Kawau Island, AK .....	3625/17446
Green Burn River, KA .....	4224/17329	Kaweka Range/Forest Park, HB .....	3917/17622
Greenwood's Bridge, Lower Waipara River, NC .....	4308/17246	Kea Walk, Mount Cook, MK .....	4342/17004
Grey Lynn, Auckland, AK .....	3652/17444	Kennedy Bay, CL .....	3641/17534
Greymouth, BR .....	4228/17112	Kerikeri, ND .....	3514/17357
Haast, WD .....	4352/16904	Kimberley Scenic Reserve, WN .....	4040/17518
Haast Pass, WD .....	4406/16920	Kirkliston Range, Gorman Stream, SC .....	4428/17039
Haast Pass, Greenstone Flat, WD .....	4355/16905	Kohimaramara, AK .....	3651/17451
Halfmoon Bay, SI .....	4654/16809	Korokoro, WN .....	4113/17452
Hammer Forest Park, MB .....	4233/17253	Koruenga Island, CL .....	3644/17550
Hastings, HB .....	3939/17651	Kyeburn, CO .....	4509/17015
Hawkdun Range, CO .....	4449/16959	 	
Haywards Point, SL .....	4630/16943	Lake Alabaster, WD .....	4431/16809
Head Basin, Takahe Valley, FD .....	4518/16737	Lake Benmore, MK .....	4432/17012
Helena Bay, ND .....	3526/17421	Lake Hankinson, Te Anau, FD .....	4504/16734
Henderson, Auckland, AK .....	3652/17438	Lake Janet, Mount Grey, NC .....	4308/17233
Herbert Peak Scenic Reserve, Banks Peninsula, MC .....	4342/17245	Lake Manapouri, FD .....	4531/16719
Herne Bay, Auckland, AK .....	3651/17444	Lake McArthur, Dusky Sound, FD .....	4553/16639
Hilltop, MC .....	4345/17252	Lake Monk, FD .....	4601/16701
Hobson Co, AK .....	—/—	Lake Monowai, FD .....	4553/16725
Hokitika Gorge, WD .....	4257/17102	Lake Ohau, MK .....	4415/16949
Homer (Tunnel), FD .....	4446/16759	Lake Ohia, ND .....	3458/17322
Hoods Bush, Malvern, MB .....	4146/17334	Lake Orbell, FD .....	4518/16740
Hoods Bush, Malvern Hills, MC .....	4328/17148	Lake Pukaki, Te Kohai Island, MK .....	4410/17008
Hope River bridge, BR/NC .....	4235/17227	Lake Rerewhakaaitu, BP .....	3818/17630
Hope Stream Valley, CL .....	3634/17523	Lake Rotiiti, BR .....	4149/17250
Horahora, ND .....	3541/17429	Lake Rotoroa, BR .....	4149/17237
Horahora, WO .....	3759/17538	Lake Sedgemere, MB .....	4208/17255
Huia, AK .....	3700/17434	Lake Sylvester, NN .....	4106/17238
Hunter Mountains, FD .....	4540/16724	Lake Te Au, FD .....	4515/16723
Hunters Hills, SL .....	4627/16921	Lake Tekapo, MK .....	4352/17034
Hunua Ranges, Hunua Falls, AK .....	3704/17506	Lake Tennyson, MB .....	4212/17243
Hunua Ranges, Otau Valley, AK .....	3701/17504	Lake Tikitapu Scenic Reserve, BP .....	3811/17620
Hydro Road, Lake Benmore, MK .....	4420/17010	Lake Waikaremoana, GB .....	3846/17705
Invercargill, SL .....	4625/16822	Lake Wairarapa, WA .....	4114/17513
Island Bay, WN .....	4120/17446	Lake Wakatipu, OL .....	4506/16832
Island Saddle, MB .....	4211/17248	Lees Valley, NC .....	4309/17212
Iwikau Village, Mount Ruapehu, TO .....	3914/17534	Leith, DN .....	4548/17031
Kaeo, ND .....	3506/17346	Leslie Valley, FD .....	4500/16717
Kaherekoau Mountains, Lake Monowai, FD .....	4554/16723	Lincoln, MC .....	4338/17229
Kaihoka Lakes, NN .....	4033/17236	Little Barrier Island, CL .....	3612/17505
Kaikohe, ND .....	3524/17348	Little Barrier Island, Awaroa Stream, CL .....	3613/17504
Kaimanawa Forest Park, TO .....	3857/17610	Little Bush, Puketitiri, HB .....	3919/17632
Kaimanawa Road, S Taupo, TO .....	3907/17549	Little Hellfire Beach, SI .....	4652/16745
Kaitaia, ND .....	3507/17316	Little Kuri Bay, SI .....	4707/16808
Kaitoke, WN .....	4105/17510	Little Kye Burn, Naseby—Dansey Pass Roads, CO .....	4500/17013
		Long Island, North Peak, SI .....	4713/16725
		Longwood Range, SL .....	4613/16750
		Lower Hutt, WN .....	4113/17455
		Lynfield, Auckland, AK .....	3656/17443

Mackinnon Pass, FD .....	4449/16747	Mount Johnson, NN .....	4124/17214
Mairangi Bay, AK .....	3644/17445	Mount Manaia, Whangarei Heads, ND .....	3549/17432
Maitai Valley, NN .....	4116/17317	Mount Matthews, WN .....	4121/17501
Makahu Spur, Kaweka Range, HB .....	3917/17625	Mount Maungapohatu, Urewera National Park, Waikaremoana, TO/GB .....	3836/17708
Makara Bush, WN .....	4116/17442	Mount Maungatua, DN .....	4553/17007
Mamaku Plateau, BP .....	3753/17555	Mount Messenger, TK .....	3854/17456
Mangamuka, ND .....	3513/17333	Mount Moehau, CL .....	3634/17524
Mangamuka Gorge/River, ND .....	3519/17332	Mount Moumaki, KE .....	—/—
Mangamuka Range, ND .....	3510/17331	Mount Ollivier, MK .....	4343/17004
Mangamuka Road, ND .....	3515/17333	Mount Owen, NN .....	4133/17232
Mangamuka Saddle, ND .....	3511/17327	Mount Percival, MB/KA .....	4228/17256
Manganui Gorge, TK .....	3918/17407	Mount Priestly—Mount Dwar basins, Lochnagar Ridge, BR .....	4204/17133
Mangarakau, NN .....	4039/17229	Mount Richmond, Fell Range, MB .....	4128/17323
Mangere, Auckland, AK .....	3659/17448	Mount Saint Patrick, MB .....	4227/17244
Manginanga Scenic Reserve, ND .....	3512/17347	Mount Sealy, MK .....	4346/17003
Maruia Springs, BR .....	4223/17220	Mount Sebastopol, MK .....	4345/17005
Masked Island, AU .....	5050/16601	Mount Snowflake, KA .....	4217/17332
Mason Bay, SI .....	4655/16745	Mount Somers, SC .....	4342/17124
Masterton, WA .....	4057/17540	Mount Te Aroha, BP .....	3732/17544
Matakana, AK .....	3621/17443	Mount Wellington, Auckland, AK .....	3655/17449
Matamata, WO .....	3749/17546	Mt Arthur, Ellis Basin, Dry Lake, NN .....	4116/17241
Matiri Range, NN .....	4133/17218	Muttontown, CO .....	4512/16923
Matukituki Valley, OL .....	4435/16855		
Maumauapaki, CL .....	3658/17534		
Maungataniwha Range, ND .....	3510/17327	Napier, HB .....	3930/17654
Mercury Islands, Red Mercury Island, CL .....	3637/17556	Nelson, NN .....	4117/17317
Mercury Islands, Stanley (Atiu) Island, CL .....	3638/17553	Nelson Lakes National Park, BR .....	4156/17241
Meyer Island, KE .....	2915/17752	Nervous Knob, Craigieburn Range, MC .....	4308/17140
Middle Range, Kaweka Range, HB .....	3914/17620	Nevis Valley, CO .....	4504/16902
Mill Bay, AK .....	3700/17436	New Plymouth, TK .....	3904/17404
Minaret Peaks, Lake Wanaka, OL .....	4426/16900	Newmarket, Auckland, AK .....	3652/17447
Miranda, AK .....	3711/17519	Ngaio, WN .....	4115/17446
Mitimiti, ND .....	3526/17316	Ngaiotonga, ND .....	3519/17418
Moana (Lake Brunner), BR .....	4237/17127	Ngaiotonga Scenic Reserve, ND .....	3520/17415
Moerewa, ND .....	3523/17401	Nihotupu, AK .....	3658/17435
Mohaka River, HB/GB .....	3907/17707	Noises Islands, Motuhoropapa Island, AK .....	3641/17458
Motutapu Island, AK .....	3646/17455	Noises Islands, Otata Island, AK .....	3641/17458
Mount Albert, Auckland, AK .....	3653/17443	Norfolk Road (to Mount Holdsworth), WN .....	—/—
Mount Alexander, NC .....	4254/17249	North Cape, ND .....	3425/17303
Mount Algidus, MC .....	4314/17121	North East Island, TH .....	3408/17210
Mount Alpha, OL .....	4443/16904	North Egmont, TK .....	3916/17403
Mount Arowhana, GB .....	3807/17752		
Mount Arthur, NN .....	4113/17241	Oaro, KA .....	4231/17330
Mount Arthur Tableland, NN .....	4111/17240	Obelisk Range, CO .....	4519/16913
Mount Aurum, OL .....	4446/16838	Ohakune, TO .....	3925/17525
Mount Barber, FD .....	4530/16713	Ohau River, WN .....	4040/17510
Mount Burns, FD .....	4545/16725	Ohena Islands, CL .....	3644/17550
Mount Camel Peninsula, ND .....	3449/17310	Ohoka, NC .....	4322/17235
Mount Cook National Park, MK .....	4337/17010	Ohura, TK .....	3851/17459
Mount Cook National Park, Kea Wal, MK .....	4342/17004	Okarito, WD .....	4314/17010
Mount Dewar, BR .....	4205/17133	Old Man Range, CO .....	4523/16913
Mount Dick, Eyre Mountain, OL .....	4516/16840	Omahuta State Forest, ND .....	3512/17337
Mount Domett, NN .....	4104/17219	Omeru Scenic Reserve, AK .....	3633/17428
Mount Dundas, WN .....	4044/17527	Omahi, KA .....	4302/17251
Mount Egmont, Kapuni Valley, TK .....	3928/17411	Oparara, NN .....	4113/17209
Mount Egmont, Manganui Gorge, TK .....	3917/17417	Opoho Bush, DN .....	4551/17032
Mount Egmont, Plateau, TK .....	3916/17403	Orakei, Auckland, AK .....	3651/17450
Mount Egmont/Taranaki, TK .....	3918/17404	Orakeikorako, TO .....	3829/17609
Mount Grey, FD .....	4533/16714	Orepuki, SL .....	4617/16744
Mount Hector, Tararua Range, WN .....	4057/17517	Orongorongo Valley, WN .....	4125/17454
Mount Hutt, MC .....	4328/17132	Otaki, WN .....	4046/17509

Otaki Gorge, WN .....	4050/17515	Remarkable Ridge, Craigieburn Range, MC ..	4307/17142
Otira, WD .....	4250/17134	Remuera, Auckland, AK .....	3653/17448
Oturere Stream, Desert Road, TO .....	3911/17547	Riccarton Bush, Christchurch, MC .....	4332/17236
Outram, DN .....	4552/17014	Rimutaka Range, WN .....	4115/17502
Owairaka, Auckland, AK .....	3653/17443	Riwaka, NN .....	4105/17300
Paekakariki, WN .....	4059/17457	Rock and Pillar Range, CO .....	4523/17006
Paiaka, WI/WN .....	4032/17520	Rock and Pillar Range, Stonehenge Track, CO .....	4527/17004
Paihia, ND .....	3517/17405	Rocklands, CO .....	4540/16959
Pakohu, ND .....	3426/17254	Roding River, NN .....	4124/17308
Palmerston North, RI .....	4022/17537	Ross, WD .....	4254/17048
Paparoa Range, Croesus Knob, BR .....	4218/17123	Rotorua, BP .....	3809/17615
Paradise Lake on Pigeon Island, Lake Wanaka, OL .....	4456/16825	Rough Island, NN .....	4116/17307
Paraparaumu, WN .....	4055/17501	Round Hill, OL .....	4447/16832
Parengrena Harbour, ND .....	3431/17255	Ruahine Range, RI .....	4004/17603
Parry Kauri [Park] Reserve, AK .....	3625/17440	Ruahine Range, Maropea Hut, RI .....	3946/17609
Peel Forest, SC .....	4354/17115	Ruakaka, ND .....	3554/17427
Pekerau, ND .....	3500/17321	Ruakokoputuna, WA .....	4119/17525
Pelorus Bridge, MB .....	4118/17334	Sealy Lake/Tarns, Mount Cook National Park, MK .....	4343/17004
Percy Scenic Reserve, WN .....	4113/17452	Secretary Island, Mount Grono, FD .....	4516/16657
Philipp's Peak, NC .....	4144/17322	Seddonville, NN .....	4133/17159
Pirongia State Forest Park, WO .....	3757/17502	Ship Cove, SD .....	4106/17414
Pitt Island, Rangatira Island, CH .....	4421/17609W	Shoe Island, CL .....	3700/17555
Pohangina, WI .....	4011/17548	Sign of the Bellbird, Port Hills, MC .....	4338/17238
Pohara, NN .....	4050/17253	Simonin Pass, West Olivine Range, FD .....	4420/16821
Pollen Island, AK .....	3652/17440	Snowdon Forest, OL .....	4524/16800
Poor Knights Islands, Aorangi, Puweto Valley, ND .....	3529/17444	Solomon Island, SI .....	4713/16726
Poor Knights Islands, Tawhiti Rahi Island, ND .....	3527/17444	South Borland River/Valley, FD .....	4545/16729
Poor Knights Islands, Tawhiti Rahi, Shag Bay, ND .....	3528/17444	South East Island, Woolshed Bush, CH .....	4420/17610W
Poor Knights Islands, Tawhiti Rahi, Summit Plateau, ND .....	3527/17444	South West Island, TH .....	3411/17204
Porirua, WN .....	4108/17450	Spey Downs, KA .....	4229/17324
Port Chalmers, DN .....	4549/17037	Spirits Bay, ND .....	3427/17247
Port Levy Reserve, Banks Peninsula, MC .....	4338/17250	Spirits Bay, Pandora, ND .....	3427/17247
Port Pegasus, SI .....	4713/17640	Stephens Island, SD .....	4040/17400
Port Ross, Ranui Cove, AU .....	5032/16617	Stewart Island, SI .....	4700/16800
Port William, SI .....	4650/16805	Stillwater, FD .....	4501/16721
Porters Pass, MC .....	4318/17145	Stokes Valley, WN .....	4111/17459
Pouakai Range, TK .....	3915/17401	Stony Bay, CL .....	3631/17525
Pouakai Range, Pouakai Hut, TK .....	3915/17401	Stratford, TK .....	3920/17417
Pouakai Range, Trig, TK .....	3914/17400	Sumner, MC .....	4334/17246
Puhipuhi Reserve, KA .....	4216/17345	Sumner Hill, SL .....	4619/16950
Puketi State Forest, ND .....	3514/17346	Swanson, Auckland, AK .....	3652/17434
Punakaiki, BR .....	4207/17120	Table Hill, SI .....	4702/16748
Purau, MC .....	4338/17245	Tahunanui, Nelson, NN .....	4117/17315
Pureora State Forest Park, TO .....	3832/17537	Taieri County, DN .....	4604/17010
Putaihinu Ridge, HB .....	3837/17704	Taieri Ridge, CO .....	4521/17021
Raetihi, RI .....	3926/17517	Taieri Ridge, Deepdell to Filly Burn, CO .....	4521/17020
Rakeahua Valley, SI .....	4700/16753	Taihape, RI .....	3941/17548
Rangatira Island, CH .....	4421/17610W	Takahe Valley, FD .....	4517/16740
Rangitaiki, TO .....	3853/17622	Takaka Hill, NN .....	4053/17249
Ranui, Auckland, AK .....	3652/17436	Takitimu Range, Cheviot Face, SL .....	4537/16746
Raoul Island, KE .....	2916/17755	Takitimu Range, Spence Peak, SL .....	4543/16751
Rarangi, SD .....	4124/17403	Tapanui, SL .....	4557/16916
Rarawa Beach, ND .....	3443/17305	Tapotupotu Stream, Cape Reinga, ND .....	3426/17243
Red Rocks, WN .....	4121/17443	Tapu, CL .....	3659/17530
Reefton, BR .....	4207/17151	Taroko Station, Mason River, NC .....	4229/17311
		Taranaki Falls, Mount Ruapehu, TO .....	3912/17534
		Tararua Range, WN .....	4103/17520
		Tararua Range, Dundas Hut, WN .....	4043/17528

Tararua Range, Dundas Hut/Ridge, WN .....	4043/17528	Waimate North, ND .....	3519/17353
Tararua Range, East Logan Basin, WN .....	4043/17529	Waimatenui, ND .....	3537/17343
Tararua Range, Mount Dundas, WN .....	4043/17527	Wainui State Forest, WN .....	4101/17459
Tararua Range, Mount Holdsworth, WN .....	4054/17528	Wainuiomata, WN .....	4116/17457
Tarawera, BP .....	3813/17631	Waipakihi Road, edge of Kaimanawa State Forest Park, TO .....	3914/17546
Tarras, CO .....	4450/16925	Waipapakauri Beach, ND .....	3505/17310
Tauherenikau Valley, vWN .....	4102/17517	Waipara River, NC .....	4309/17248
Taupiri, WO .....	3737/17511	Waipati Beach Scenic Reserve, SL .....	4637/16920
Taupo, TO .....	3841/17605	Waipori Falls, Lake Mahinerangi, DN .....	4555/16959
Tauranga, BP .....	3741/17610	Waipori Pond [=Lake Waipori], DN .....	4558/17007
Tawharanui Peninsula/Regional Park, AK .....	3622/17448	Waipoua Forest, ND .....	3539/17333
Te Araroa, Tokata, GB .....	3738/17820	Waipoua Forest, Kauri Ricker track, ND .....	3537/17332
Te Atatu Bridge, AK .....	3651/17438	Waipoua Forest, Te Matua Ngahere, ND .....	3536/17331
[Te] Hope Stream, CL .....	3634/17525	Waipoua Forest, Toronui track, ND .....	3538/17334
Te Kuiti, WO .....	3822/17504	Waipoua Forest, Waikohatu Bridge, ND .....	3537/17333
Te Kuiti—Awakino Gorge, WO .....	3841/17443	Waipoua Forest, Wairau Summit, ND .....	3536/17326
Te Paki, ND .....	3433/17247	Waipoua Forest, Yakas Tree track, ND .....	3537/17332
Te Rereauria, BP .....	3733/17801	Wairau Range, Tunakino Valley, MB .....	4113/17337
Tempest Spur, West Olivine Range, FD .....	4421/16824	Waitakere Ranges, AK .....	3656/17432
Temple Peak Station, OL .....	4448/16829	Waitakere Ranges, Cascade Kauri Park, AK .....	3653/17431
Terawhiti Hill, WN .....	4117/17438	Waitakere Ranges, Peripatus track, AK .....	3653/17433
The Aldermen Islands, Ruamahauit Island, CL .....	3658/ 17605	Waitangi Estate, ND .....	3516/17405
The Remarkables, CO .....	4505/16848	Waitati, DN .....	4545/17035
The Remarkables, Nevis Burn, CO .....	4511/16852	Waitomo Caves, WO .....	3816/17507
Tihoi, ND .....	3837/17537	Waiwera, AK .....	3632/17442
Titahi Bay, WN .....	4106/17450	Wakefield, NN .....	4125/17303
Titirangi, Auckland, AK .....	3656/17440	Wallingford, HB .....	4012/17635
Tokaanu, TO .....	3858/17546	Wanaka, OL .....	4442/16908
Tomarata, AK .....	3614/17439	Wangaloa, DN .....	4617/16956
Topatai Reserve, CL .....	3700/17550	Wanganui, Longacre, WI .....	3954/17510
Trounson Kauri Park, ND .....	3544/17339	Wangapeka Valley, NN .....	4120/17247
Turangakumu, Napier—Taupo Road, TO .....	3906/17636	Warawara State Forest, ND .....	3523/17319
Turret Range, FD .....	4532/16720	Warkworth, AK .....	3624/17440
Turret Range, Percy Saddle, FD .....	4533/16718	Waterfall Cove, SI .....	4700/16753
Turret Range, Wolfe Flat, FD .....	4531/16717	Wattle Bay, AK .....	3703/17435
Tutamoe Range, ND .....	3542/17343	Watts Rock, Carrick Range, CO .....	4510/16905
Tutukaka Bay/Harbour, ND .....	3537/17431	Wellington, WN .....	4115/17445
Tutukaka Harbour, South Gable, ND .....	3536/17432	West Haven [Whanganui Inlet], NN .....	4036/17235
Twilight Bay, Port Pegasus, SI .....	4710/16741	Westfield, Auckland, AK .....	3656/17450
Unuwaho, North Cape, ND .....	3426/17253	Westland National Park, adjacent Canavans Knob, WD .....	4323/17010
Upper Hollyford Valley, Homer, FD .....	4446/16759	Westland National Park, Castle Rocks Valley, WD .....	4327/17009
Upper Hutt, WN .....	4107/17504	Westport, NN .....	4146/17136
Upper Takaka, NN .....	4103/17251	Whakapapa Village, Mount Ruapehu, TO .....	3912/17533
Upper Wairau Valley, Lake Sedgemere, MB .....	4208/17254	Whakapara, ND .....	3532/17416
Upper Wairau Valley, Wairau Bridge above Judges Creek, MB .....	4204/17256	Whakarewarewa, BP .....	3810/17615
Urewera National Park, Huiarau Range, Putaihinu Ridge, GB .....	3837/17704	Whakarewarewa State Forest, BP .....	3812/17618
Victoria Range, Rahu Saddle, BR .....	4219/17207	Whangamoa Saddle, NN .....	4113/17326
Vinegar Hill Reserve (Upper Rangitikei River), RI .....	3955/17537	Whangarei, ND .....	3543/17419
Waiāu, NC .....	4239/17303	Whangarei Heads, ND .....	3552/17432
Waiho Gorge/River, WD .....	4325/17010	Whareana, North Cape, ND .....	3428/17300
Waihohonu, TO .....	3912/17545	Whenuapai, AK .....	3647/17438
Waikaia [River] Bush, Whitcomb Creek, CO .....	4534/16905	Whinray Scenic Reserve, BP .....	3814/17733
Waikanae, WN .....	4053/17504	Wilberforce Valley, Burnet Stream, MC .....	4303/17122
Waikawau Bay, CL .....	3636/17532	Wilmot Pass, FD .....	4531/16711
Waikumete, Auckland, AK .....	3654/17437	Wilton's Bush, WN .....	4116/17445
Waimate, SC .....	4444/17103	Woodhaugh Reserve, DN .....	4551/17030
		Woodhill, AK .....	3644/17425
		Woodhill Forest, AK .....	3641/17422
		York Bay, WN .....	4116/17454

**Appendix F. Alphabetical list of valid taxa for New Zealand.** A = adventive; E = endemic; N = native, but not endemic to New Zealand.

#### Acanthosomatidae

- Oncacontias vittatus* E
- Rhopalimorpha (Lentimorpha) alpina* E
- Rhopalimorpha (Rhopalimorpha) lineolaris* E
- Rhopalimorpha (Rhopalimorpha) obscura* E

#### Aenictopechidae

- Aenictocoris powelli* E
- Maoristolus parvulus* E
- Maoristolus tonnoiri* E
- Nymphocoris maoricus* E

#### Anthocoridae

- Buchananiella whitei* N
- Cardiastethus brunianus* E
- Cardiastethus consors* E
- Cardiastethus poweri* E
- Lyctocoris (Lyctocoris) campestris* A
- Maoricoris benefactor* E
- Orius (Heterorius) vicinus* A
- Xylocoris (Proxylocoris) galactinus* A

#### Aradidae

- Acaraptera myersi* E
- Acaraptera waipouensis* E
- Adenocoris brachypterus* E
- Adenocoris spiniventris* E
- Aneuraptera cimiciformis* E
- Aneurus (Aneurodellus) brevipennis* E
- Aneurus (Aneurodellus) brouni* E
- Aneurus (Aneurodellus) maoricus* E
- Aneurus (Aneurodellus) prominens* E
- Aneurus (Aneurodellus) salmoni* E
- Aneurus (Aneurodellus)* zealandensis E
- Aradus australis* N
- Calisius zealandicus* E
- Carventaptera spinifera* E
- Chinamyersia cinerea* E
- Chinamyersia viridis* E
- Clavaptera ornata* E
- Ctenoneurus hochstetteri* E
- Ctenoneurus myersi* E
- Ctenoneurus pendergrasti* E
- Ctenoneurus setosus* E
- Isodermus crassicornis* E
- Isodermus maculosus* E
- Isodermus tenuicornis* E
- Leuraptera yakasi* E
- Leuraptera zealandica* E
- Lissaptera completa* E
- Mesadenocoris robustus* E

- Modicarventus wisei* E
- Neadenocoris abdominalis* E
- Neadenocoris acutus* E
- Neadenocoris glaber* E
- Neadenocoris ovatus* E
- Neadenocoris reflexus* E
- Neadenocoris spinicornis* E
- Neocarventus angulatus* E
- Neocarventus uncus* E
- Tretocoris grandis* E
- Woodwardiessa quadrata* E

#### Artheneidae

- Nothochromus maoricus* E

#### Berytidae

- Bezu wakefieldi* E

#### Cantacaderidae

- Carladrakeana socia* N
- Cyperobia carectorum* E

#### Ceratocombidae

- Ceratocombus aotearoae* E
- Ceratocombus novaezelandiae* E

#### Cimicidae

- Cimex lectularius* A

#### Coreidae

- Acantholybas brunneus* A

#### Corixidae

- Diaprepocoris zealandiae* E
- Sigara (Tropocorixa) arguta* E
- Sigara (Tropocorixa) infrequens* E
- Sigara (Tropocorixa) limnocharis* E
- Sigara (Tropocorixa) potamius* E
- Sigara (Tropocorixa) uruana* E

#### Cydnidae

- Chilocoris neozelandicus* N
- Cydnochoerus nigrosignatus* E
- Macroscytus australis* N
- Microporus thoreyi* A

#### Cymidae

- Cymus novaezelandiae* N

#### Enicocephalidae

- Gourlayocoris mirabilis* E
- Phthirostenus magnus* E
- Systelloderes macclachlani* E
- Systelloderes notialis* E

#### Gerridae

- Halobates sericeus* N

#### Heterogastridae

- Heterogaster urticae* A

#### Hydrometridae

- Hydrometa strigosa* N

#### Lygaeidae

- Arocatus rusticus* A
- Lepiostylus tekapoensis* E
- Nysius convexus* E
- Nysius huttoni* E
- Nysius liliputanus* E
- Rhypodes anceps* E
- Rhypodes argenteus* E
- Rhypodes atricornis* E
- Rhypodes brachypterus* E
- Rhypodes brevifissas* E
- Rhypodes brevipilis* E
- Rhypodes bucculentus* E
- Rhypodes celmisiae* E
- Rhypodes chinai* E
- Rhypodes clavicornis* E
- Rhypodes cognatus* E
- Rhypodes crinitus* E
- Rhypodes depilis* E
- Rhypodes eminens* E
- Rhypodes gracilis* E
- Rhypodes hirsutus* E
- Rhypodes jugatus* E
- Rhypodes koebelei* E
- Rhypodes longiceps* E
- Rhypodes longirostris* E
- Rhypodes myersi* E
- Rhypodes rupestris* E
- Rhypodes russatus* E
- Rhypodes sericatus* E
- Rhypodes spadix* E
- Rhypodes stewartensis* E
- Rhypodes townsendi* E
- Rhypodes triangulus* E

#### Mesovelidae

- Mesovelia hackeri* A
- Mniovelia kuscheli* E

#### Miridae

- Anexochus crassicornis* E
- Basileobius gilviceps* E
- Bipuncticoris cassinianus* E
- Bipuncticoris chlorus* E
- Bipuncticoris convexus* E
- Bipuncticoris gurri* E
- Bipuncticoris irroratus* E
- Bipuncticoris lineatus* E
- Bipuncticoris longicerus* E
- Bipuncticoris minor* E
- Bipuncticoris olearinus* E
- Bipuncticoris planus* E
- Bipuncticoris robustus* E
- Bipuncticoris triplex* E
- Bipuncticoris vescus* E
- Bipuncticoris xestus* E
- Campylomma novocaledonica* A
- Chaetedus longiceps* N
- Chaetedus plumalis* N
- Chaetedus reuterianus* E
- Chinamiris acutospinosus* E
- Chinamiris aurantiacus* E
- Chinamiris brachycerus* E
- Chinamiris citrinus* E

<i>Chinamiris cumberi</i> E	<i>Romna albata</i> E	<i>Dieuches notatus</i> A
<i>Chinamiris daviesi</i> E	<i>Romna bicolor</i> E	<i>Forsterocoris bisinuatus</i> E
<i>Chinamiris dracophylloides</i> E	<i>Romna capsoides</i> E	<i>Forsterocoris salmoni</i> E
<i>Chinamiris elongatus</i> E	<i>Romna cuneata</i> E	<i>Forsterocoris sinuatus</i> E
<i>Chinamiris fascinans</i> E	<i>Romna nigrovenosa</i> E	<i>Forsterocoris stewartensis</i> E
<i>Chinamiris guttatus</i> E	<i>Romna oculata</i> E	<i>Geratarma eylesi</i> E
<i>Chinamiris hamus</i> E	<i>Romna ornata</i> E	<i>Geratarma manapourensis</i> E
<i>Chinamiris indeclivis</i> E	<i>Romna pallida</i> E	<i>Grossander major</i> A
<i>Chinamiris juvans</i> E	<i>Romna scotti</i> E	<i>Horridipamera robusta</i> A
<i>Chinamiris laticinctus</i> E	<i>Romna tenera</i> E	<i>Margareta dominica</i> E
<i>Chinamiris marmoratus</i> E	<i>Romna uniformis</i> E	<i>Metagerra angusta</i> E
<i>Chinamiris minutus</i> E	<i>Romna variegata</i> E	<i>Metagerra helmsi</i> E
<i>Chinamiris muehlenbeckiae</i> E	<i>Sejanus albesignatus</i> N	<i>Metagerra kaikourica</i> E
<i>Chinamiris niculatus</i> E	<i>Sidnia kinbergi</i> A	<i>Metagerra obscura</i> E
<i>Chinamiris nigrifrons</i> E	<i>Stenotus binotatus</i> A	<i>Metagerra truncata</i> E
<i>Chinamiris opacus</i> E	<i>Taylorilygus apicalis</i> A	<i>Millerocoris conus</i> E
<i>Chinamiris ovatus</i> E	<i>Tinginotum minutum</i> N	<i>Millerocoris ductus</i> E
<i>Chinamiris punctatus</i> E	<i>Trigonotylus tenuis</i> A	<i>Paradrymus exilirostris</i> A
<i>Chinamiris quadratus</i> E	<i>Tuicoris excelsus</i> E	<i>Paramyocara iridescentis</i> N
<i>Chinamiris rufescens</i> E	<i>Tuicoris lipurus</i> E	<i>Paratruncala insularis</i> E
<i>Chinamiris secundus</i> E	<i>Tytthus chinensis</i> A	<i>Plinthicus (Locutius) woodwardi</i> A
<i>Chinamiris testaceus</i> E	<i>Wekamiris europilosus</i> E	<i>Regatarma forsteri</i> E
<i>Chinamiris unicolor</i> E	<i>Xiphoides badius</i> E	<i>Remaudiereana inornata</i> N
<i>Chinamiris virescens</i> E	<i>Xiphoides luteolus</i> E	<i>Remaudiereana nigriceps</i> N
<i>Chinamiris viridicans</i> E	<i>Xiphoides multicolor</i> E	<i>Stizocephalus brevirostris</i> E
<i>Chinamiris whakapapae</i> E	<i>Xiphoides myersi</i> E	<i>Targarema electa</i> E
<i>Chinamiris zygottus</i> E	<i>Xiphoides regis</i> E	<i>Targarema stali</i> E
<i>Closterotomus norwegicus</i> A	<i>Xiphoides vacans</i> E	<i>Tomocoris ornatus</i> E
<i>Coridromius variegatus</i> A		<i>Tomocoris truncatus</i> E
<i>Cyrtodiridius aurantiacus</i> E		<i>Truncala hirsuta</i> E
<i>Cyrtorhinus cumberi</i> E		<i>Truncala hirta</i> E
<i>Deraeocoris maoricus</i> E		<i>Truncala insularis</i> E
<i>Diomocoris fasciatus</i> E		<i>Truncala sulcata</i> E
<i>Diomocoris granosus</i> E		<i>Tryptocoris aucklandensis</i> E
<i>Diomocoris maoricus</i> E		<i>Tryptocoris rufidis</i> E
<i>Diomocoris ostiolum</i> E		<i>Tryptocoris separatus</i> E
<i>Diomocoris punctatus</i> E		<i>Udeocoris levis</i> E
<i>Diomocoris raoulensis</i> E		<i>Woodwardiana evagorata</i> E
<i>Diomocoris russatus</i> E		<i>Woodwardiana nelsonensis</i> E
<i>Diomocoris sexcoloratus</i> E		<i>Woodwardiana notialis</i> E
<i>Diomocoris woodwardi</i> E		<i>Woodwardiana paparia</i> E
<i>Enygtatus nicotianae</i> A		
<i>Felisacus elegantulus</i> N		
<i>Halormus velifer</i> E		
<i>Halticus minutus</i> A		
<i>Josemiris carvalhoi</i> E		
<i>Kiwimiris bipunctatus</i> E		
<i>Kiwimiris coloratus</i> E		
<i>Kiwimiris concavus</i> E		
<i>Kiwimiris melanocerus</i> E		
<i>Kiwimiris niger</i> E		
<i>Lincolnia lucernina</i> E		
<i>Lopus decolor</i> A		
<i>Mecenopa albiapex</i> E		
<i>Megaloceroea recticornis</i> A		
<i>Monophrassus annulatus</i> E		
<i>Monospatha distincta</i> E		
<i>Peritropis aotearoae</i> E		
<i>Pimeleocoris luteus</i> E		
<i>Pimeleocoris roseus</i> E		
<i>Pimeleocoris viridis</i> E		
<i>Polyozus galbanus</i> E		
<i>Reuda mayri</i> E		
	<b>Nabidae</b>	<b>Saldidae</b>
	<i>Alloeorhynchus myersi</i> E	<i>Saldula australis</i> E
	<i>Nabis (Australonabis) biformis</i> N	<i>Saldula butleri</i> E
	<i>Nabis (Tropiconabis) kinbergii</i> A	<i>Saldula laelaps</i> E
	<i>Nabis (Tropiconabis) maoricus</i> E	<i>Saldula maculipennis</i> E
		<i>Saldula parvula</i> E
	<b>Notonectidae</b>	<i>Saldula stoneri</i> E
	<i>Anisops assimilis</i> E	<i>Saldula trivialis</i> E
	<i>Anisops wakefieldi</i> E	
	<b>Pentatomidae</b>	
	<i>Cermatulus nasalis hudsoni</i> E	
	<i>Cermatulus nasalis nasalis</i> N	
	<i>Cermatulus nasalis turbotti</i> E	
	<i>Cuspicona simplex</i> A	
	<i>Dictyotus caenosus</i> A	
	<i>Glaucias amyoti</i> N	
	<i>Hypsithocus hudsonae</i> E	
	<i>Monteithiella humeralis</i> A	
	<i>Nezara viridula</i> A	
	<i>Oechalia schellenbergii</i> N	
	<b>Reduviidae</b>	
	<i>Empicoris aculeatus</i> E	
	<i>Empicoris angulipennis</i> E	
	<i>Empicoris rubromaculatus</i> N	
	<i>Empicoris seorsus</i> E	
	<i>Ploiaria antipodium</i> E	
	<i>Ploiaria chilensis</i> N	
	<i>Stenolemus fraterculus</i> A	
	<b>Rhyparochromidae</b>	
	<i>Brentiscerus putoni</i> E	
	<b>Schizopteridae</b>	
	<i>Hypselosoma acantheen</i> E	
	<b>Tingidae</b>	
	<i>Stephanitis (Stephanitis) rhododendri</i> A	
	<i>Tanybyrsa cumberi</i> E	
	<b>Veliidae</b>	
	<i>Microvelia macgregori</i> E	

**Appendix G. Alphabetical list of valid taxa by areas of New Zealand.** A = adventive; E = endemic; N = native, but not endemic to New Zealand; R = native, restricted to a single area of the country.

### North Island

AK

124 taxa

E, 80; N, 18; A, 26; R, 1.

### Acanthosomatidae

*Oncacontias vittatus* E

*Rhopalimorpha (Rhopalimorpha) lineolaris* E

*Rhopalimorpha (Rhopalimorpha) obscura* E

### Anthocoridae

*Buchananiella whitei* N

*Cardiastethus brunianus* E

*Cardiastethus consors* E

*Cardiastethus poweri* E

*Lyctocoris (Lyctocoris) campestris* A

*Maoricoris benefactor* E

*Xylocoris (Proxyllocoris) galactinus* A

### Aradidae

*Acaraptera myersi* E

*Aneurus (Aneurodellus) brouni* E

*Aneurus (Aneurodellus) maoricus* E

*Aneurus (Aneurodellus) prominens* E

*Aneurus (Aneurodellus) zealandensis* E

*Aradus australis* N

*Carventaptera spinifera* E

*Chinamyersia cinerea* E

*Ctenoneurus hochstetteri* E

*Ctenoneurus myersi* E

*Ctenoneurus setosus* E

*Leuraptera zealandica* E

*Neocarventus angulatus* E

*Tretocoris grandis* E

*Woodwardiessa quadrata* E

### Cantacaderidae

*Cyperobia carectorum* E

### Ceratocombidae

*Ceratocombus aotearoae* E

*Ceratocombus novaezelandiae* E

### Cimicidae

*Cimex lectularius* A

### Coreidae

*Acantholybas brunneus* A

### Corixidae

*Sigara (Tropocorixa) arguta* E

*Sigara (Tropocorixa) infrequens* E

### Cydnidae

*Chilocoris neozealandicus* N

*Macroscytus australis* N

*Microporus thoreyi* A

### Cymidae

*Cymus novaezelandiae* N

### Enicocephalidae

*Systelloderes maclachlani* E

### Heterogastridae

*Heterogaster urticae* A

### Hydrometridae

*Hydrometa strigosa* N

### Lygaeidae

*Arocatus rusticus* A

*Nysius huttoni* E

*Rhypodes clavicornis* E

### Mesoveliidae

*Mesovelia hackeri* A

*Mniovelia kuscheli* E

### Miridae

*Bipuncticoris triplex* E

*Chaetedus longiceps* N

*Chaetedus reuterianus* E

*Chinamiris aurantiacus* E

*Chinamiris cumberi* E

*Chinamiris elongatus* E

*Chinamiris fascinans* E

*Chinamiris indeclivis* E

*Chinamiris laticinctus* E

*Chinamiris ovatus* E

*Chinamiris secundus* E

*Chinamiris testaceus* E

*Chinamiris virescens* E

*Closterotomus norwegicus* A

*Coridromius variegatus* A

*Cyrtodiridius aurantiacus* E

*Cyrtorhinus cumberi* E

*Deraeocoris maoricus* E

*Diomocoris fasciatus* E

*Diomocoris maoricus* E

*Diomocoris ostiolum* E

*Diomocoris russatus* E

*Engytatus nicotianae* A

*Felisacus elegantulus* N

*Halticus minutus* A

*Josemiris carvalhoi* E

*Lopus decolor* A

*Mecenopa albiapex* E

*Romna capsoides* E

*Romna ornata* E

*Romna scotti* E

*Sejanus albisignatus* N

*Sidnia kinbergii* A

*Stenotus binotatus* A

*Taylorilygus apicalis* A

*Tinginotum minutum* N

*Tuicoris excelsus* E

*Tuicoris lipurus* E

*Wekamiris auropilosus* E

*Xiphoides badius* E

*Xiphoides luteolus* E

*Xiphoides myersi* E

### Nabidae

*Alloeorhynchus myersi* E

*Nabis (Australonabis) biformis* N

*Nabis (Tropiconabis) kinbergii* A

*Nabis (Tropiconabis) maoricus* E

### Notonectidae

*Anisops assimilis* E

*Anisops wakefieldi* E

### Pentatomidae

*Cermatulus nasalis nasalis* N

*Cuspicona simplex* A

*Dictyotus caenosus* A

*Glaucias amyoti* N

*Monteithiella humeralis* A

*Nezara viridula* A

*Oechalia schellenbergii* N

### Reduviidae

*Empicoris aculeatus* E

*Empicoris rubromaculatus* N

*Empicoris seorsus* E

*Ploiaria antipodum* E

*Ploiaria chilensis* N

*Stenolemus fraterculus* A

### Rhyparochromidae

*Brentiscerus putoni* E

*Dieuches notatus* A

*Grossander major* A

*Horrripameria robusta* A

*Margareta dominica* E

*Paramyocara iridescentis* N

*Plinthisus (Locutius) woodwardi* A

*Regatarma forsteri* E

*Remaudiereana inornata* N

*Targarema electa* E

*Targarema stali* E

*Tomocoris ornatus* E

*Truncala insularis* E

*Trypetocoris separatus* E

### Saldidae

*Saldula butleri* E, R

*Saldula maculipennis* E

*Saldula stoneri* E

### Tingidae

*Tanybyrsa cumberi* E

### Veliidae

*Microvelia macgregori* E

### BP

98 taxa

E, 67; N, 15; A, 16; R, 1.

### Acanthosomatidae

*Oncacontias vittatus* E

*Rhopalimorpha (Rhopalimorpha) lineolaris* E

*Rhopalimorpha (Rhopalimorpha) obscura* E

### Aenictopecheidae

*Maoristolus tonnoiri* E

### Anthocoridae

*Cardiastethus consors* E

<i>Cardiastethus poweri</i> E	<i>Diomocoris sexcoloratus</i> E	<i>obscura</i> E
<i>Lyctocoris (Lyctocoris) campestris</i> A	<i>Feliscus elegantulus</i> N	<b>Anthocoridae</b>
<b>Aradidae</b>	<i>Halticus minutus</i> A	<i>Buchananiella whitei</i> N
<i>Acaraptera myersi</i> E	<i>Lopus decolor</i> A	<i>Cardiastethus brunianus</i> E
<i>Aneurus (Aneurodellus) brouni</i> E	<i>Mecenopa albiapex</i> E	<i>Cardiastethus consors</i> E
<i>Aneurus (Aneurodellus) maoricus</i> E	<i>Reuda mayri</i> E	<i>Cardiastethus poweri</i> E
<i>Aneurus (Aneurodellus) prominens</i> E	<i>Romna scotti</i> E	<b>Aradidae</b>
<i>Aneurus (Aneurodellus) zealandensis</i> E	<i>Romna tenera</i> E	<i>Acaraptera myersi</i> E
<i>Aradus australis</i> N	<i>Sejanus albesignatus</i> N	<i>Adenocoris spiniventris</i> E
<i>Chinamyscia cinerea</i> E	<i>Sidnia kinbergi</i> A	<i>Aneurus (Aneurodellus) brouni</i> E
<i>Ctenoneurus hochstetteri</i> E	<i>Stenotus binotatus</i> A	<i>Aneurus (Aneurodellus) maoricus</i> E
<i>Ctenoneurus pendergrasti</i> E, R	<i>Tinginotum minutum</i> N	<i>Aneurus (Aneurodellus)</i>
<i>Ctenoneurus setosus</i> E	<i>Tuicoris lipurus</i> E	zealandensis E
<i>Isodermus maculosus</i> E	<i>Wekamiris europilosus</i> E	<i>Calisius zealandicus</i> E
<i>Neocarventus angulatus</i> E	<b>Nabidae</b>	<i>Carventaptera spinifera</i> E
<i>Tretocoris grandis</i> E	<i>Alloeorhynchus myersi</i> E	<i>Ctenoneurus hochstetteri</i> E
<i>Woodwardiessa quadrata</i> E	<i>Nabis (Australonabis) biformis</i> N	<i>Ctenoneurus setosus</i> E
<b>Ceratocombidae</b>	<i>Nabis (Tropiconabis) kinbergii</i> A	<i>Leuraptera zealandica</i> E
<i>Ceratocombus aotearoae</i> E	<i>Nabis (Tropiconabis) maoricus</i> E	<i>Neocarventus angulatus</i> E
<i>Ceratocombus novaezelandiae</i> E	<b>Notonectidae</b>	<i>Neocarventus uncus</i> E
<b>Coreidae</b>	<i>Anisops assimilis</i> E	<i>Tretocoris grandis</i> E
<i>Acantholybas brunneus</i> A	<i>Anisops wakefieldi</i> E	<i>Woodwardiessa quadrata</i> E
<b>Corixidae</b>	<b>Pentatomidae</b>	<b>Ceratocombidae</b>
<i>Diaprepocoris zealandiae</i> E	<i>Cermatulus nasalis nasalis</i> N	<i>Ceratocombus aotearoae</i> E
<i>Sigara (Tropocorixa) arguta</i> E	<i>Cuspicona simplex</i> A	<i>Ceratocombus novaezelandiae</i> E
<i>Sigara (Tropocorixa) infrequens</i> E	<i>Dictyotus caenosus</i> A	<b>Cydnidae</b>
<i>Sigara (Tropocorixa) limnochares</i> E	<i>Glaucias amyoti</i> N	<i>Chilocoris neozealandicus</i> N
<b>Cydnidae</b>	<i>Monteithiella humeralis</i> A	<i>Macroscytus australis</i> N
<i>Macroscytus australis</i> N	<i>Nezara viridula</i> A	<b>Cymidae</b>
<b>Cymidae</b>	<i>Oechalia schellenbergii</i> N	<i>Cymus novaezelandiae</i> N
<i>Cymus novaezelandiae</i> N	<b>Reduviidae</b>	<b>Enicocephalidae</b>
<b>Enicocephalidae</b>	<i>Empicoris rubromaculatus</i> N	<i>Systelloderes maclachlani</i> E
<i>Gourlayocoris mirabilis</i> E	<i>Ploiaria antipodum</i> E	<b>Hydrometridae</b>
<b>Hydrometridae</b>	<i>Ploiaria chilensis</i> N	<i>Hydrometra strigosa</i> N
<i>Hydrometra strigosa</i> N	<i>Stenolemus fraterculus</i> A	<b>Lygaeidae</b>
<b>Lygaeidae</b>	<b>Rhynchosomatidae</b>	<i>Nysius huttoni</i> E
<i>Arocatus rusticus</i> A	<i>Brentiscerus putoni</i> E	<i>Rhypodes clavicornis</i> E
<i>Nysius huttoni</i> E	<i>Dieuches notatus</i> A	<i>Rhypodes koebelei</i> E
<i>Rhypodes brevifissas</i> E	<i>Margareta dominica</i> E	<b>Mesovelidiidae</b>
<i>Rhypodes clavicornis</i> E	<i>Metagerra helmsi</i> E	<i>Mniovelia kuscheli</i> E
<i>Rhypodes hirsutus</i> E	<i>Metagerra obscura</i> E	<b>Miridae</b>
<i>Rhypodes koebelei</i> E	<i>Paramyocara iridescentis</i> N	<i>Chaetedus longiceps</i> N
<i>Rhypodes stewartensis</i> E	<i>Plinthicus (Locutius) woodwardi</i> A	<i>Chinamiris acutospinosus</i> E
<b>Mesovelidiidae</b>	<i>Remaudiereana inornata</i> N	<i>Chinamiris aurantiacus</i> E
<i>Mniovelia kuscheli</i> E	<i>Targarema electa</i> E	<i>Chinamiris elongatus</i> E
<b>Miridae</b>	<i>Targarema stali</i> E	<i>Chinamiris indeclivis</i> E
<i>Chinamiris acutospinosus</i> E	<i>Udeocoris levis</i> E	<i>Chinamiris laticinctus</i> E
<i>Chinamiris aurantiacus</i> E	<b>Saldidae</b>	<i>Chinamiris testaceus</i> E
<i>Chinamiris indeclivis</i> E	<i>Saldula parvula</i> E	<i>Closterotomus norwegicus</i> A
<i>Chinamiris laticinctus</i> E	<b>Tingidae</b>	<i>Diomocoris fasciatus</i> E
<i>Chinamiris muehlenbeckiae</i> E	<i>Tanybyrsa cumberi</i> E	<i>Diomocoris maoricus</i> E
<i>Chinamiris ovatus</i> E	<b>Veliidae</b>	<i>Diomocoris ostiolum</i> E
<i>Chinamiris testaceus</i> E	<i>Microvelia macgregori</i> E	<i>Diomocoris russatus</i> E
<i>Chinamiris zygotes</i> E		<i>Feliscus elegantulus</i> N
<i>Closterotomus norwegicus</i> A		<i>Halticus minutus</i> A
<i>Deraeocoris maoricus</i> E		<i>Lopus decolor</i> A
<i>Diomocoris fasciatus</i> E		<i>Mecenopa albiapex</i> E
<i>Diomocoris maoricus</i> E		<i>Peritropis aotearoae</i> E, R
<i>Diomocoris ostiolum</i> E		<i>Pimeleocoris luteus</i> E

CL  
88 taxa  
E, 60; N, 15; A, 13; R, 1.  
**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha)*  
*lineolaris* E

<i>Rhomphomyia (Rhopalimorpha)</i>	<i>obscura</i> E
<b>Anthocoridae</b>	<i>Buchananiella whitei</i> N
<i>Cardiastethus brunianus</i> E	<i>Cardiastethus consors</i> E
<i>Cardiastethus poweri</i> E	<i>Cardiastethus poweri</i> E
<b>Aradidae</b>	<b>Aradidae</b>
<i>Acaraptera myersi</i> E	<i>Acaraptera myersi</i> E
<i>Adenocoris spiniventris</i> E	<i>Adenocoris spiniventris</i> E
<i>Aneurus (Aneurodellus) brouni</i> E	<i>Aneurus (Aneurodellus) brouni</i> E
<i>Aneurus (Aneurodellus) maoricus</i> E	<i>Aneurus (Aneurodellus) maoricus</i> E
<i>Aneurus (Aneurodellus)</i>	<i>Aneurus (Aneurodellus)</i>
zealandensis E	zealandensis E
<i>Calisius zealandicus</i> E	<i>Calisius zealandicus</i> E
<i>Carventaptera spinifera</i> E	<i>Carventaptera spinifera</i> E
<i>Ctenoneurus hochstetteri</i> E	<i>Ctenoneurus hochstetteri</i> E
<i>Ctenoneurus setosus</i> E	<i>Ctenoneurus setosus</i> E
<i>Leuraptera zealandica</i> E	<i>Leuraptera zealandica</i> E
<i>Neocarventus angulatus</i> E	<i>Neocarventus angulatus</i> E
<i>Neocarventus uncus</i> E	<i>Neocarventus uncus</i> E
<i>Tretocoris grandis</i> E	<i>Tretocoris grandis</i> E
<i>Woodwardiessa quadrata</i> E	<i>Woodwardiessa quadrata</i> E
<b>Ceratocombidae</b>	<b>Ceratocombidae</b>
<i>Ceratocombus aotearoae</i> E	<i>Ceratocombus aotearoae</i> E
<i>Ceratocombus novaezelandiae</i> E	<i>Ceratocombus novaezelandiae</i> E
<b>Cydnidae</b>	<b>Cydnidae</b>
<i>Chilocoris neozealandicus</i> N	<i>Chilocoris neozealandicus</i> N
<i>Macroscytus australis</i> N	<i>Macroscytus australis</i> N
<b>Cymidae</b>	<b>Cymidae</b>
<i>Cymus novaezelandiae</i> N	<i>Cymus novaezelandiae</i> N
<b>Enicocephalidae</b>	<b>Enicocephalidae</b>
<i>Systelloderes maclachlani</i> E	<i>Systelloderes maclachlani</i> E
<b>Hydrometridae</b>	<b>Hydrometridae</b>
<i>Hydrometra strigosa</i> N	<i>Hydrometra strigosa</i> N
<b>Lygaeidae</b>	<b>Lygaeidae</b>
<i>Nysius huttoni</i> E	<i>Nysius huttoni</i> E
<i>Rhypodes clavicornis</i> E	<i>Rhypodes clavicornis</i> E
<i>Rhypodes koebelei</i> E	<i>Rhypodes koebelei</i> E
<b>Mesovelidiidae</b>	<b>Mesovelidiidae</b>
<i>Mniovelia kuscheli</i> E	<i>Mniovelia kuscheli</i> E
<b>Miridae</b>	<b>Miridae</b>
<i>Chaetedus longiceps</i> N	<i>Chaetedus longiceps</i> N
<i>Chinamiris acutospinosus</i> E	<i>Chinamiris acutospinosus</i> E
<i>Chinamiris aurantiacus</i> E	<i>Chinamiris aurantiacus</i> E
<i>Chinamiris elongatus</i> E	<i>Chinamiris elongatus</i> E
<i>Chinamiris indeclivis</i> E	<i>Chinamiris indeclivis</i> E
<i>Chinamiris laticinctus</i> E	<i>Chinamiris laticinctus</i> E
<i>Chinamiris testaceus</i> E	<i>Chinamiris testaceus</i> E
<i>Closterotomus norwegicus</i> A	<i>Closterotomus norwegicus</i> A
<i>Diomocoris fasciatus</i> E	<i>Diomocoris fasciatus</i> E
<i>Diomocoris maoricus</i> E	<i>Diomocoris maoricus</i> E
<i>Diomocoris ostiolum</i> E	<i>Diomocoris ostiolum</i> E
<i>Diomocoris russatus</i> E	<i>Diomocoris russatus</i> E
<i>Feliscus elegantulus</i> N	<i>Feliscus elegantulus</i> N
<i>Halticus minutus</i> A	<i>Halticus minutus</i> A
<i>Lopus decolor</i> A	<i>Lopus decolor</i> A
<i>Mecenopa albiapex</i> E	<i>Mecenopa albiapex</i> E
<i>Peritropis aotearoae</i> E, R	<i>Peritropis aotearoae</i> E, R
<i>Pimeleocoris luteus</i> E	<i>Pimeleocoris luteus</i> E
<i>Romna ornata</i> E	<i>Romna ornata</i> E
<i>Sejanus albesignatus</i> N	<i>Sejanus albesignatus</i> N

*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Tinginotum minutum* N  
*Wekamiris europilosus* E  
*Xiphoides luteolus* E  
*Xiphoides myersi* E  
**Nabidae**  
*Alloeorhynchus myersi* E  
*Nabis (Australonabis) biformis* N  
*Nabis (Tropicobasis) kinbergii* A  
*Nabis (Tropicobasis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Glaucias amyoti* N  
*Monteithiella humeralis* A  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Empicoris seorsus* E  
*Ploiaria antipodum* E  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Dieuches notatus* A  
*Grossander major* A  
*Margareta dominica* E  
*Paramyocara iridescentis* N  
*Plinthicus (Locutius) woodwardi* A  
*Regatarma forsteri* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
*Tomocoris ornatus* E  
*Truncala hirsuta* E  
*Truncala insularis* E  
*Trypetocoris separatus* E  
**Tingidae**  
*Tanybyrsa cumberi* E  
**Veliidae**  
*Microvelia macgregori* E

**GB**

60 taxa

E, 39 N, 10; A, 11; R, 1.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Anthocoridae**  
*Buchananiella whitei* N  
**Aradidae**  
*Acaraptera myersi* E  
*Isodermus crassicornis* E  
*Neocarventus angulatus* E  
*Tretocoris grandis* E

*Woodwardiessa quadrata* E  
**Corixidae**  
*Sigara (Tropocorixa) arguta* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Hydrometridae**  
*Hydrometra strigosa* N  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes clavicornis* E  
*Rhypodes crinitus* E  
*Rhypodes koebelei* E  
*Rhypodes longirostris* E, R  
*Rhypodes stewartensis* E  
**Mesovelidae**  
*Mniovelia kuscheli* E  
**Miridae**  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris brachycerus* E  
*Chinamiris elongatus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Cyrtorhinus cumberi* E  
*Deraeocoris maoricus* E  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Diomocoris russatus* E  
*Diomocoris sexcoloratus* E  
*Felisacus elegantulus* N  
*Lopus decolor* A  
*Romna scotti* E  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Wekamiris europilosus* E  
**Nabidae**  
*Alloeorhynchus myersi* E  
*Nabis (Australonabis) biformis* N  
*Nabis (Tropicobasis) kinbergii* A  
*Nabis (Tropicobasis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Glaucias amyoti* N  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Ploiaria antipodum* E  
*Ploiaria chilensis* N  
*Stenolemus fraterculus* A  
**Rhyparochromidae**  
*Plinthicus (Locutius) woodwardi* A  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E

**Veliidae**  
*Microvelia macgregori* E

**HB**

85 taxa

E, 58; N, 9; A, 18; R, 3.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Anthocoridae**  
*Cardiastethus poweri* E  
*Lyctocoris (Lyctocoris) campestris* A  
*Xylocoris (Proxyllocoris) galactinus* A  
**Aradidae**  
*Aneurus (Aneurodellus) salmoni* E  
*Calisius zealandicus* E  
*Neocarventus angulatus* E  
*Tretocoris grandis* E  
**Cantacaderidae**  
*Cyperobia carectorum* E  
**Ceratocombidae**  
*Ceratocombus aotearoae* E  
*Ceratocombus novaezelandiae* E  
**Coreidae**  
*Acantholybas brunneus* A  
**Corixidae**  
*Diaprepocoris zealandiae* E  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) infrequens* E  
*Sigara (Tropocorixa) limnochares* E  
**Cydidae**  
*Macroscytus australis* N  
**Cymidae**  
*Cymus novaezelandiae* N  
**Heterogastridae**  
*Heterogaster urticae* A  
**Lygaeidae**  
*Nysius huttoni* E  
*Rhypodes brevifissas* E  
*Rhypodes clavicornis* E  
*Rhypodes hirsutus* E  
*Rhypodes stewartensis* E  
**Miridae**  
*Bipuncticoris gurri* E, R  
*Bipuncticoris triplex* E  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris brachycerus* E  
*Chinamiris cumberi* E  
*Chinamiris daviesi* E, R  
*Chinamiris elongatus* E  
*Chinamiris indeclivis* E  
*Chinamiris laticinctus* E  
*Chinamiris ovatus* E

*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Felisacus elegantulus* N  
*Halticus minutus* A  
*Lopus decolor* A  
*Mecenopa albiapex* E  
*Megaloceroea recticornis* A  
*Polyozus galbanus* E  
*Romna albata* E, R  
*Romna capsoides* E  
*Romna scotti* E  
*Romna tenera* E  
*Sejanus albisignatus* N  
*Sidnia kinbergii* A  
*Stenotus binotatus* A  
*Taylorilygus apicalis* A  
*Tinginotum minutum* N  
*Trigonotylus tenuis* A  
*Tuicoris excelsus* E  
*Wekamiris auropilosus* E  
*Xiphoides badius* E  
*Xiphoides multicolor* E  
*Xiphoides myersi* E  
**Nabidae**  
*Nabis (Australonabis) biformis* N  
*Nabis (Tropiconabis) kinbergii* A  
*Nabis (Tropiconabis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Monteithiella humeralis* A  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Ploiaria antipodum* E  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Dieuches notatus* A  
*Metagerra helmsi* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
*Tomocoris ornatus* E  
*Truncala hirsuta* E  
**Veliidae**  
*Microvelia macgregori* E

**ND**  
123 taxa  
E, 84; N, 16; A, 23; R, 10.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
**Rhopalimorpha (Rhopalimorpha)**  
*lineolaris* E

**Rhopalimorpha (Rhopalimorpha)**  
*obscura* E  
**Anthocoridae**  
*Buchananiella whitei* N  
*Cardiastethus brounianus* E  
*Cardiastethus consors* E  
*Cardiastethus poweri* E  
*Lyctocoris (Lyctocoris)*  
*campestris* A  
**Aradidae**  
*Acaraptera myersi* E  
*Acaraptera waipouensis* E, R  
*Aneuraptera cimiciformis* E, R  
*Aneurus (Aneurodellus) brouni* E  
*Aneurus (Aneurodellus)*  
*zealandensis* E  
*Aradus australis* N  
*Calisia zealandicus* E  
*Chinamyersia cinerea* E  
*Clavaptera ornata* E, R  
*Ctenoneurus hochstetteri* E  
*Ctenoneurus setosus* E  
*Leuraptera yakasi* E, R  
*Leuraptera zealandica* E  
*Lissaptera completa* E  
*Mesadenocoris robustus* E, R  
*Modicarventus wisei* E, R  
*Neocarventus angulatus* E  
*Neocarventus uncus* E  
*Tretocoris grandis* E  
*Woodwardiessa quadrata* E  
**Berytidae**  
*Bezu wakefieldi* E  
**Ceratocombidae**  
*Ceratocombus aotearoae* E  
*Ceratocombus novaezelandiae* E  
**Cimicidae**  
*Cimex lectularius* A  
**Coreidae**  
*Acantholybas brunneus* A  
**Corixidae**  
*Diaprepocoris zealandiae* E  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) infrequens* E  
*Sigara (Tropocorixa) limnochares* E  
**Cydidae**  
*Chilocoris neozealandicus* N  
*Macroscytus australis* N  
*Microporus thoreyi* A  
**Cymidae**  
*Cymus novaezelandiae* N  
**Enicocephalidae**  
*Systelloderes maclachlani* E  
**Hydrometridae**  
*Hydrometa strigosa* N  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes clavicornis* E  
*Rhypodes koebelei* E  
**Mesovelidae**  
*Mniovelia kuscheli* E  
**Miridae**  
*Bipuncticoris vescus* E  
*Chaetedus longiceps* N  
*Chaetedus reuterianus* E  
*Chinamiris auranticus* E  
*Chinamiris elongatus* E  
*Chinamiris indeclivis* E  
*Chinamiris laticinctus* E  
*Chinamiris ovatus* E  
*Chinamiris secundus* E  
*Chinamiris virescens* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Cyrtodiridius aurantiacus* E  
*Deraeocoris maoricus* E  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Enygatus nicotianae* A  
*Felisacus elegantulus* N  
*Halticus minutus* A  
*Lopus decolor* A  
*Mecenopa albiapex* E  
*Pimeleocoris viridis* E, R  
*Reuda mayri* E  
*Romna capsoides* E  
*Romna ornata* E  
*Romna pallida* E  
*Romna scotti* E  
*Romna variegata* E  
*Sejanus albisignatus* N  
*Sidnia kinbergii* A  
*Stenotus binotatus* A  
*Taylorilygus apicalis* A  
*Tinginotum minutum* N  
*Trigonotylus tenuis* A  
*Tuicoris excelsus* E  
*Wekamiris auropilosus* E  
*Xiphoides badius* E  
*Xiphoides myersi* E  
**Nabidae**  
*Alloeorrhynchus myersi* E  
*Nabis (Australonabis) biformis* N  
*Nabis (Tropiconabis) kinbergii* A  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Glaucias amyoti* N  
*Monteithiella humeralis* A  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Empicoris aculeatus* E  
*Empicoris seorsus* E  
*Ploiaria antipodum* E  
*Stenolemus fraterculus* A  
**Rhyparochromidae**  
*Brentiscerus putoni* E

*Dieuches notatus* A  
*Horridipamera robusta* A  
*Margareta dominica* E  
*Millerocoris conus* E, R  
*Millerocoris ductus* E, R  
*Paramyocara iridescentis* N  
*Plinthisus (Locutius) woodwardi* A  
*Regatarma forsteri* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
*Tomocoris ornatus* E  
*Truncala hirsuta* E  
*Truncala insularis* E  
*Tryptocoris aucklandensis* E, R  
*Tryptocoris separatus* E  
**Tingidae**  
*Stephanitis (Stephanitis) rhododendri* A  
*Tanybyrsa cumberi* E  
**Veliidae**  
*Microvelia macgregori* E

**RI**  
42 taxa  
E, 29; N, 6; A, 7; R, 0.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
**Anthocoridae**  
*Cardiastethus consors* E  
**Aradidae**  
*Acaraptera myersi* E  
*Aneurus (Aneurodellus) salmoni* E  
*Aradus australis* N  
*Neocarventus angulatus* E  
**Ceratocombidae**  
*Ceratocombus aotearoae* E  
*Ceratocombus novaezelandiae* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Enicocephalidae**  
*Systelloderes maclachlani* E  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes clavicornis* E  
*Rhypodes crinitus* E  
**Miridae**  
*Bipuncticoris triplex* E  
*Chinamiris cumberi* E  
*Chinamiris indeclivis* E  
*Chinamiris nigrifrons* E  
*Chinamiris opacus* E  
*Chinamiris ovatus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Lopus decolor* A

*Megaloceroea recticornis* A  
*Romna scotti* E  
*Sejanus albisignatus* N  
*Sidnia kinbergi* A  
*Taylorilygus apicalis* A  
*Xiphoides badius* E  
**Nabidae**  
*Nabis (Australonabis) biformis* N  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Dictyotus caenosus* A  
**Reduviidae**  
*Ploiaria antipodum* E  
*Ploiaria chilensis* N  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Regatarma forsteri* E  
*Targarema electa* E  
*Truncala hirsuta* E  
**Veliidae**  
*Microvelia macgregori* E

**TK**  
59 taxa  
E, 44; N, 6; A, 9; R, 1.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
**Aradidae**  
*Acaraptera myersi* E  
*Ctenoneurus hochstetteri* E  
*Neocarventus angulatus* E  
**Berytidae**  
*Bezu wakefieldi* E  
**Ceratocombidae**  
*Ceratocombus aotearoae* E  
**Corixidae**  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) infrequens* E  
*Sigara (Tropocorixa) limnochares* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes clavicornis* E  
*Rhypodes crinitus* E  
**Miridae**  
*Bipuncticoris triplex* E  
*Chinamiris cumberi* E  
*Chinamiris indeclivis* E  
*Chinamiris nigrifrons* E  
*Chinamiris opacus* E  
*Chinamiris ovatus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Lopus decolor* A

*Chinamiris punctatus* E  
*Chinamiris testaceus* E  
*Chinamiris viridicans* E  
*Chinamiris whakapapae* E  
*Closterotomus norwegicus* A  
*Cyrtorhinus cumberi* E  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Romna scotti* E  
*Romna tenera* E  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Xiphoides myersi* E  
**Nabidae**  
*Nabis (Tropiconabis) kinbergii* A  
*Nabis (Tropiconabis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Glaucias amyoti* N  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Ploiaria chilensis* N  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Margareta dominica* E  
*Metagerra obscura* E  
*Regatarma forsteri* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
*Truncala hirsuta* E  
**Saldidae**  
*Saldula maculipennis* E  
**Tingidae**  
*Stephanitis (Stephanitis) rhododendri* A

**TO**  
99 taxa  
E, 78; N, 10; A, 11; R, 0.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Aenictopechidae**  
*Maoristolus tonnoiri* E  
**Anthocoridae**  
*Cardiastethus consors* E  
**Aradidae**  
*Acaraptera myersi* E  
*Adenocoris spiniventris* E  
*Aneurus (Aneurodellus) prominens* E

Aneurus (Aneurodellus) zealandensis <sup>E</sup>	Romna capsoidea <sup>E</sup>	Ctenoneurus hochstetteri <sup>E</sup>
Aradus australis <sup>N</sup>	Romna scotti <sup>E</sup>	Cantacaderidae
Ctenoneurus hochstetteri <sup>E</sup>	Romna tenera <sup>E</sup>	Carladrakeana socia <sup>N</sup>
Ctenoneurus myersi <sup>E</sup>	Romna variegata <sup>E</sup>	Ceratocombidae
Ctenoneurus setosus <sup>E</sup>	Sejanus albesignatus <sup>N</sup>	Ceratocombus aotearoae <sup>E</sup>
Isodermus crassicornis <sup>E</sup>	Sidnia kinbergi <sup>A</sup>	Corixidae
Isodermus maculosus <sup>E</sup>	Stenotus binotatus <sup>A</sup>	Diaprepocoris zealandiae <sup>E</sup>
Neocarventus angulatus <sup>E</sup>	Taylorilygus apicalis <sup>A</sup>	Sigara (Tropocorixa) arguta <sup>E</sup>
Tretocoris grandis <sup>E</sup>	Tinginotum minutum <sup>N</sup>	Sigara (Tropocorixa) infrequens <sup>E</sup>
<b>Ceratocombidae</b>	Tuicoris excelsus <sup>E</sup>	Sigara (Tropocorixa) limnochares <sup>E</sup>
Ceratocombus aotearoae <sup>E</sup>	Wekamiris europilosus <sup>E</sup>	<b>Cymidae</b>
Ceratocombus novaezelandiae <sup>E</sup>	Xiphoides badius <sup>E</sup>	Cymus novaezelandiae <sup>N</sup>
<b>Corixidae</b>	Xiphoides multicolor <sup>E</sup>	Enicocephalidae
Sigara (Tropocorixa) arguta <sup>E</sup>	Xiphoides myersi <sup>E</sup>	Systelloderes maclachlani <sup>E</sup>
Sigara (Tropocorixa) infrequens <sup>E</sup>	<b>Nabidae</b>	<b>Lygaeidae</b>
Sigara (Tropocorixa) limnochares <sup>E</sup>	Nabis (Australonabis) biformis <sup>N</sup>	Arocatus rusticus <sup>A</sup>
<b>Cymidae</b>	Nabis (Tropiconabis) maoricus <sup>E</sup>	Nysius huttoni <sup>E</sup>
Cymus novaezelandiae <sup>N</sup>	<b>Notonectidae</b>	Rhypodes anceps <sup>E</sup>
<b>Enicocephalidae</b>	Anisops assimilis <sup>E</sup>	Rhypodes chinai <sup>E</sup>
Systelloderes maclachlani <sup>E</sup>	Anisops wakefieldi <sup>E</sup>	Rhypodes clavicornis <sup>E</sup>
<b>Hydrometridae</b>	<b>Pentatomidae</b>	Rhypodes koebelei <sup>E</sup>
Hydrometra strigosa <sup>N</sup>	Cermatulus nasalis nasalis <sup>N</sup>	<b>Miridae</b>
<b>Lygaeidae</b>	Cuspicona simplex <sup>A</sup>	Chaetedus reuterianus <sup>E</sup>
Arocatus rusticus <sup>A</sup>	Dictyotus caenosus <sup>A</sup>	Chinamiris acutospinosus <sup>E</sup>
Nysius huttoni <sup>E</sup>	Monteithiella humeralis <sup>A</sup>	Chinamiris fascinans <sup>E</sup>
Rhypodes brevifissas <sup>E</sup>	Nezara viridula <sup>A</sup>	Chinamiris laticinctus <sup>E</sup>
Rhypodes clavicornis <sup>E</sup>	Oechalia schellenbergii <sup>N</sup>	Chinamiris ovatus <sup>E</sup>
Rhypodes crinitus <sup>E</sup>	<b>Reduviidae</b>	Closterotomus norwegicus <sup>A</sup>
Rhypodes hirsutus <sup>E</sup>	Ploiaria antipodum <sup>E</sup>	Diomocoris maoricus <sup>E</sup>
Rhypodes koebelei <sup>E</sup>	Ploiaria chilensis <sup>N</sup>	Diomocoris ostiolum <sup>E</sup>
<b>Mesovelidiidae</b>	<b>Rhyparochromidae</b>	Lopus decolor <sup>A</sup>
Mniovelia kuscheli <sup>E</sup>	Brentiscerus putoni <sup>E</sup>	Pimeleocoris luteus <sup>E</sup>
<b>Miridae</b>	Margareta dominica <sup>E</sup>	Romna capsoidea <sup>E</sup>
Anexochus crassicornis <sup>E</sup>	Metagerra helmsi <sup>E</sup>	Sidnia kinbergi <sup>A</sup>
Bipuncticoris triplex <sup>E</sup>	Metagerra obscura <sup>E</sup>	Stenotus binotatus <sup>A</sup>
Chaetedus reuterianus <sup>E</sup>	Regatarma forsteri <sup>E</sup>	Wekamiris europilosus <sup>E</sup>
Chinamiris acutospinosus <sup>E</sup>	Remaudiereana inornata <sup>N</sup>	Xiphoides myersi <sup>E</sup>
Chinamiris aurantiacus <sup>E</sup>	Targarema electa <sup>E</sup>	<b>Nabidae</b>
Chinamiris brachycerus <sup>E</sup>	Targarema stali <sup>E</sup>	Nabis (Tropiconabis) kinbergii <sup>A</sup>
Chinamiris citrinus <sup>E</sup>	Truncala hirsuta <sup>E</sup>	Nabis (Tropiconabis) maoricus <sup>E</sup>
Chinamiris cumberi <sup>E</sup>	Udeocoris levis <sup>E</sup>	<b>Notonectidae</b>
Chinamiris elongatus <sup>E</sup>	<b>Saldidae</b>	Anisops assimilis <sup>E</sup>
Chinamiris fascinans <sup>E</sup>	Saldula stoneri <sup>E</sup>	<b>Pentatomidae</b>
Chinamiris indeclinis <sup>E</sup>	<b>Veliidae</b>	Cermatulus nasalis nasalis <sup>N</sup>
Chinamiris laticinctus <sup>E</sup>	Microvelia macgregori <sup>E</sup>	Dictyotus caenosus <sup>A</sup>
Chinamiris marmoratus <sup>E</sup>	<b>WA</b>	Monteithiella humeralis <sup>A</sup>
Chinamiris nigritrons <sup>E</sup>	51 taxa	<b>Reduviidae</b>
Chinamiris ovatus <sup>E</sup>	E, 38; N, 5; A, 8; R, 1.	Empicoris angulipennis <sup>E, R</sup>
Chinamiris testaceus <sup>E</sup>	<b>Acanthosomatidae</b>	Ploiaria antipodum <sup>E</sup>
Chinamiris viridicans <sup>E</sup>	Oncacontias vittatus <sup>E</sup>	Ploiaria chilensis <sup>N</sup>
Chinamiris whakapapa <sup>E</sup>	Rhopalimorpha (Rhopalimorpha)	<b>Rhyparochromidae</b>
Chinamiris zygottus <sup>E</sup>	lineolaris <sup>E</sup>	Margareta dominica <sup>E</sup>
Closterotomus norwegicus <sup>A</sup>	Rhopalimorpha (Rhopalimorpha)	Metagerra helmsi <sup>E</sup>
Deraeocoris maoricus <sup>E</sup>	obscura <sup>E</sup>	Metagerra obscura <sup>E</sup>
Diomocoris fasciatus <sup>E</sup>	<b>Anthocoridae</b>	Regatarma forsteri <sup>E</sup>
Diomocoris maoricus <sup>E</sup>	Buchananiella whitei <sup>N</sup>	Targarema stali <sup>E</sup>
Diomocoris ostiolum <sup>E</sup>	<b>Aradidae</b>	Truncala hirsuta <sup>E</sup>
Lopus decolor <sup>A</sup>	Acaraptera myersi <sup>E</sup>	
Mecenopa albiapex <sup>E</sup>	Chinamyersia cinerea <sup>E</sup>	
Megaloceroea recticornis <sup>A</sup>		
Pimeleocoris luteus		

<p><b>WI</b> 62 taxa E, 40; N, 9; A, 13; R, 2.</p> <p><b>Acanthosomatidae</b> <i>Oncacontias vittatus</i> E</p> <p><b>Rhopalimorpha (Rhopalimorpha)</b> <i>lineolaris</i> E</p> <p><b>Rhopalimorpha (Rhopalimorpha)</b> <i>obscura</i> E</p> <p><b>Anthocoridae</b> <i>Lyctocoris (Lyctocoris)</i> <i>campestris</i> A</p> <p><b>Aradidae</b> <i>Adenocoris brachypterus</i> E, R</p> <p><i>Aradus australis</i> N</p> <p><i>Ctenoneurus setosus</i> E</p> <p><b>Berytidae</b> <i>Bezu wakefieldi</i> E</p> <p><b>Cimicidae</b> <i>Cimex lectularius</i> A</p> <p><b>Corixidae</b> <i>Diaprepocoris zealandiae</i> E</p> <p><i>Sigara (Tropocorixa) arguta</i> E</p> <p><i>Sigara (Tropocorixa) infrequens</i> E</p> <p><i>Sigara (Tropocorixa) limnochares</i> E</p> <p><b>Cydnidae</b> <i>Macroscytus australis</i> N</p> <p><b>Cymidae</b> <i>Cymus novaezelandiae</i> N</p> <p><b>Enicocephalidae</b> <i>Systelloderes maclachlani</i> E</p> <p><b>Lygaeidae</b> <i>Arocatus rusticus</i> A</p> <p><i>Nysius huttoni</i> E</p> <p><i>Rhypodes anceps</i> E</p> <p><i>Rhypodes brevifissas</i> E</p> <p><i>Rhypodes chinai</i> E</p> <p><i>Rhypodes clavicornis</i> E</p> <p><i>Rhypodes koebelei</i> E</p> <p><i>Rhypodes russatus</i> E</p> <p><i>Rhypodes sericatus</i> E</p> <p><b>Miridae</b> <i>Bipuncticoris chlorus</i> E, R</p> <p><i>Bipuncticoris minor</i> E, R</p> <p><i>Bipuncticoris planus</i> E, R</p> <p><i>Bipuncticoris triplex</i> E</p> <p><i>Chaetedus reuterianus</i> E</p> <p><i>Chinamiris aurantiacus</i> E</p> <p><i>Chinamiris cumberi</i> E</p> <p><i>Chinamiris elongatus</i> E</p> <p><i>Chinamiris indeclivis</i> E</p> <p><i>Chinamiris laticinctus</i> E</p> <p><i>Chinamiris muehlenbeckiae</i> E</p> <p><i>Chinamiris nigrifrons</i> E</p> <p><i>Chinamiris opacus</i> E</p> <p><i>Chinamiris secundus</i> E</p> <p><i>Chinamiris testaceus</i> E</p> <p><i>Chinamiris viridicans</i> E</p> <p><i>Closterotomus norwegicus</i> A</p> <p><i>Coridromius variegatus</i> A</p> <p><i>Cyrtorhinus cumberi</i> E</p> <p><i>Deraeocoris maoricus</i> E</p> <p><i>Diomocoris fasciatus</i> E</p> <p><i>Diomocoris maoricus</i> E</p> <p><i>Diomocoris ostiolum</i> E</p> <p><i>Diomocoris sexcoloratus</i> E</p> <p><i>Felisacus elegantulus</i> N</p> <p><i>Halormus velifer</i> E</p> <p><i>Kiwimiris coloratus</i> E, R</p> <p><i>Mecenopa albiapex</i> E</p> <p><i>Polyozus galbanus</i> E</p> <p><i>Romna capoides</i> E</p> <p><i>Romna nigrovenosa</i> E</p> <p><i>Romna pallida</i> E</p> <p><i>Romna scotti</i> E</p> <p><i>Romna variegata</i> E</p> <p><i>Sejanus albesignatus</i> N</p> <p><i>Sidnia kinbergi</i> A</p> <p><i>Stenotus binotatus</i> A</p> <p><i>Taylorilygus apicalis</i> A</p> <p><i>Wekamiris auropilosus</i> E</p> <p><i>Xiphoides badius</i> E</p> <p><i>Xiphoides myersi</i> E</p>	<p><b>Nabidae</b> <i>Nabis (Australonabis) biformis</i> N</p> <p><i>Nabis (Tropiconabis) kinbergii</i> A</p> <p><i>Nabis (Tropiconabis) maoricus</i> E</p> <p><b>Notonectidae</b> <i>Anisops assimilis</i> E</p> <p><b>Pentatomidae</b> <i>Cermatulus nasalis nasalis</i> N</p> <p><i>Cuspicona simplex</i> A</p> <p><i>Dictyotus caenosus</i> A</p> <p><i>Monteithiella humeralis</i> A</p> <p><i>Nezara viridula</i> A</p> <p><i>Oechalia schellenbergii</i> N</p> <p><b>Reduviidae</b> <i>Empicoris rubromaculatus</i> N</p> <p><i>Ploaria antipodum</i> E</p> <p><b>Rhyparochromidae</b> <i>Metagerra helmsi</i> E</p> <p><i>Metagerra obscura</i> E</p> <p><i>Regatarma forsteri</i> E</p> <p><i>Remaudiereana inornata</i> N</p> <p><i>Targarema electa</i> E</p> <p><i>Targarema stali</i> E</p> <p> <b>WN</b> 109 taxa E, 84; N, 13; A, 12; R, 4.</p> <p><b>Acanthosomatidae</b> <i>Oncacontias vittatus</i> E</p> <p><b>Rhopalimorpha (Rhopalimorpha)</b> <i>lineolaris</i> E</p> <p><b>Rhopalimorpha (Rhopalimorpha)</b> <i>obscura</i> E</p> <p><b>Aenictopecheidae</b> <i>Maoristolus tonnoiri</i> E</p> <p><b>Anthocoridae</b> <i>Cardiastethus brunianus</i> E</p> <p><i>Cardiastethus consors</i> E</p> <p><b>Aradidae</b> <i>Adenocoris spiniventris</i> E</p> <p><i>Aneurus (Aneurodellus)</i> <i>zealandensis</i> E</p> <p><i>Aradus australis</i> N</p> <p><i>Calisius zealandicus</i> E</p> <p><i>Carventaptera spinifera</i> E</p> <p><i>Chinamyersia cinerea</i> E</p> <p><i>Chinamyersia viridis</i> E</p> <p><i>Ctenoneurus hochstetteri</i> E</p> <p><i>Isodermus crassicornis</i> E</p> <p><i>Neocarventus angulatus</i> E</p> <p><b>Berytidae</b> <i>Bezu wakefieldi</i> E</p> <p><b>Cantacaderidae</b> <i>Carldrakeana socia</i> N</p> <p><i>Cyperobia carectorum</i> E</p> <p><b>Ceratocombidae</b> <i>Ceratocombus aotearoae</i> E</p> <p><b>Cimicidae</b> <i>Cimex lectularius</i> A</p> <p><b>Corixidae</b> <i>Diaprepocoris zealandiae</i> E</p> <p><b>Sigara (Tropocorixa) arguta E</b></p> <p><b>Sigara (Tropocorixa) infrequens E</b></p> <p><b>Sigara (Tropocorixa) limnochares E</b></p> <p><b>Cydnidae</b> <i>Cyndnochoerus nigrosignatus</i> E</p> <p><i>Macroscytus australis</i> N</p> <p><b>Cymidae</b> <i>Cymus novaezelandiae</i> N</p> <p><b>Enicocephalidae</b> <i>Systelloderes maclachlani</i> E</p> <p><b>Lygaeidae</b> <i>Arocatus rusticus</i> A</p> <p><i>Nysius huttoni</i> E</p> <p><i>Rhypodes anceps</i> E</p> <p><i>Rhypodes brevifissas</i> E</p> <p><i>Rhypodes chinai</i> E</p> <p><i>Rhypodes clavicornis</i> E</p> <p><i>Rhypodes koebelei</i> E</p> <p><i>Rhypodes russatus</i> E</p> <p><i>Rhypodes sericatus</i> E</p> <p><b>Miridae</b> <i>Bipuncticoris chlorus</i> E, R</p> <p><i>Bipuncticoris minor</i> E, R</p> <p><i>Bipuncticoris planus</i> E, R</p> <p><i>Bipuncticoris triplex</i> E</p> <p><i>Chaetedus reuterianus</i> E</p> <p><i>Chinamiris aurantiacus</i> E</p> <p><i>Chinamiris cumberi</i> E</p> <p><i>Chinamiris elongatus</i> E</p> <p><i>Chinamiris indeclivis</i> E</p> <p><i>Chinamiris laticinctus</i> E</p> <p><i>Chinamiris muehlenbeckiae</i> E</p> <p><i>Chinamiris nigrifrons</i> E</p> <p><i>Chinamiris opacus</i> E</p> <p><i>Chinamiris secundus</i> E</p> <p><i>Chinamiris testaceus</i> E</p> <p><i>Chinamiris viridicans</i> E</p> <p><i>Closterotomus norwegicus</i> A</p> <p><i>Coridromius variegatus</i> A</p> <p><i>Cyrtorhinus cumberi</i> E</p> <p><i>Deraeocoris maoricus</i> E</p> <p><i>Diomocoris fasciatus</i> E</p> <p><i>Diomocoris maoricus</i> E</p> <p><i>Diomocoris ostiolum</i> E</p> <p><i>Diomocoris sexcoloratus</i> E</p> <p><i>Felisacus elegantulus</i> N</p> <p><i>Halormus velifer</i> E</p> <p><i>Kiwimiris coloratus</i> E, R</p> <p><i>Mecenopa albiapex</i> E</p> <p><i>Polyozus galbanus</i> E</p> <p><i>Romna capoides</i> E</p> <p><i>Romna nigrovenosa</i> E</p> <p><i>Romna pallida</i> E</p> <p><i>Romna scotti</i> E</p> <p><i>Romna variegata</i> E</p> <p><i>Sejanus albesignatus</i> N</p> <p><i>Sidnia kinbergi</i> A</p> <p><i>Stenotus binotatus</i> A</p> <p><i>Taylorilygus apicalis</i> A</p> <p><i>Wekamiris auropilosus</i> E</p> <p><i>Xiphoides badius</i> E</p> <p><i>Xiphoides myersi</i> E</p>
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<b>Nabidae</b>
<i>Nabis (Australonabis) biformis</i> N
<i>Nabis (Tropiconabis) maoricus</i> E
<b>Notonectidae</b>
<i>Anisops assimilis</i> E
<i>Anisops wakefieldi</i> E
<b>Pentatomidae</b>
<i>Cermatulus nasalis nasalis</i> N
<i>Cuspicona simplex</i> A
<i>Dictyotus caenosus</i> A
<i>Glaucias amyoti</i> N
<i>Monteithiella humeralis</i> A
<i>Nezara viridula</i> A
<i>Oechalia schellenbergii</i> N
<b>Reduviidae</b>
<i>Empicoris rubromaculatus</i> N
<i>Empicoris seorsus</i> E
<i>Ploiaria antipodum</i> E
<i>Ploiaria chilensis</i> N
<b>Rhyparochromidae</b>
<i>Brentiscerus putoni</i> E
<i>Margareta dominica</i> E
<i>Metagerra helmsi</i> E
<i>Metagerra obscura</i> E
<i>Paradrymus exilirostris</i> A
<i>Regatarma forsteri</i> E
<i>Remaudiereana inornata</i> N
<i>Targarema electa</i> E
<i>Targarema stali</i> E
<i>Truncala hirsuta</i> E
<b>Saldidae</b>
<i>Saldula australis</i> E
<i>Saldula maculipennis</i> E
<i>Saldula parvula</i> E
<i>Saldula trivialis</i> E
<b>Veliidae</b>
<i>Microvelia macgregori</i> E

**WO**  
56 taxa  
E, 33; N, 11; A, 12; R, 0.

<b>Acanthosomatidae</b>
<i>Rhopalimorpha (Rhopalimorpha) lineolaris</i> E
<b>Anthocoridae</b>
<i>Lyctocoris (Lyctocoris) campestris</i> A
<b>Aradidae</b>
<i>Acaraptera myersi</i> E
<i>Adenocoris spiniventris</i> E
<i>Aneurus (Aneurodellus) brouni</i> E
<i>Aneurus (Aneurodellus) maoricus</i> E
<i>Aneurus (Aneurodellus) prominens</i> E
<i>Aradus australis</i> N
<i>Ctenoneurus hochstetteri</i> E
<i>Neocarventus angulatus</i> E
<i>Tretocoris grandis</i> E
<i>Woodwardiessa quadrata</i> E
<b>Ceratocombidae</b>
<i>Ceratocombus aotearoae</i> E

<b>Ceratocombidae</b>
<i>Ceratocombus novaezelandiae</i> E
<b>Corixidae</b>
<i>Sigara (Tropocorixa) limnochares</i> E
<b>Cymidae</b>
<i>Cymus novaezelandiae</i> N
<b>Enicocephalidae</b>
<i>Gourlayocoris mirabilis</i> E
<b>Hydrometridae</b>
<i>Hydrometa strigosa</i> N
<b>Lygaeidae</b>
<i>Arocatus rusticus</i> A
<i>Nysius huttoni</i> E
<i>Rhypodes clavicornis</i> E
<b>Mesovelidae</b>
<i>Mniovelia kuscheli</i> E
<b>Miridae</b>
<i>Chinamiris indeclivis</i> E
<i>Closterotomus norwegicus</i> A
<i>Deraeocoris maoricus</i> E
<i>Diomocoris maoricus</i> E
<i>Diomocoris ostiolum</i> E
<i>Felisacus elegantulus</i> N
<i>Halticus minutus</i> A
<i>Lopus decolor</i> A
<i>Romna capsoidea</i> E
<i>Romna variegata</i> E
<i>Sidnia kinbergi</i> A
<i>Stenotus binotatus</i> A
<i>Tinginotum minutum</i> N
<b>Nabidae</b>
<i>Nabis (Tropiconabis) kinbergii</i> A
<i>Nabis (Tropiconabis) maoricus</i> E
<b>Notonectidae</b>
<i>Anisops assimilis</i> E
<b>Pentatomidae</b>
<i>Cermatulus nasalis nasalis</i> N
<i>Cuspicona simplex</i> A
<i>Dictyotus caenosus</i> A
<i>Glaucias amyoti</i> N
<i>Nezara viridula</i> A
<i>Oechalia schellenbergii</i> N
<b>Reduviidae</b>
<i>Ploiaria chilensis</i> N
<b>Rhyparochromidae</b>
<i>Brentiscerus putoni</i> E
<i>Dieuches notatus</i> A
<i>Paramyocara iridescens</i> N
<i>Regatarma forsteri</i> E
<i>Remaudiereana inornata</i> N
<i>Targarema electa</i> E
<i>Targarema stali</i> E
<i>Tomocoris ornatus</i> E
<i>Truncala hirsuta</i> E
<b>Tingidae</b>
<i>Tanybyrsa cumberi</i> E
<b>Veliidae</b>
<i>Microvelia macgregori</i> E

## South Island

BR  
98 taxa  
E, 84; N, 3; A, 11; R, 0.

<b>Acanthosomatidae</b>
<i>Oncacontias vittatus</i> E
<i>Rhopalimorpha (Lentimorpha) alpina</i> E
<i>Rhopalimorpha (Rhopalimorpha) lineolaris</i> E
<i>Rhopalimorpha (Rhopalimorpha) obscura</i> E
<b>Aenictopecheidae</b>
<i>Maoristolus tonnoiri</i> E
<b>Anthocoridae</b>
<i>Cardiastethus poweri</i> E
<i>Lyctocoris (Lyctocoris) campestris</i> A
<i>Maoricoris benefactor</i> E
<b>Aradidae</b>
<i>Aneurus (Aneurodellus) brouni</i> E
<i>Aneurus (Aneurodellus) salmoni</i> E
<i>Aneurus (Aneurodellus) zealandensis</i> E
<i>Calisius zealandicus</i> E
<i>Chinamyersia cinerea</i> E
<i>Ctenoneurus hochstetteri</i> E
<i>Isodermus crassicornis</i> E
<i>Isodermus maculosus</i> E
<i>Neadenocoris abdominalis</i> E
<i>Neadenocoris acutus</i> E
<i>Neadenocoris reflexus</i> E
<i>Neadenocoris spinicornis</i> E
<b>Ceratocombidae</b>
<i>Ceratocombus aotearoae</i> E
<i>Ceratocombus novaezelandiae</i> E
<b>Cimicidae</b>
<i>Cimex lectularius</i> A
<b>Corixidae</b>
<i>Diaprepocoris zealandiae</i> E
<i>Sigara (Tropocorixa) arguta</i> E
<i>Sigara (Tropocorixa) infrequens</i> E
<i>Sigara (Tropocorixa) limnochares</i> E
<i>Sigara (Tropocorixa) potamius</i> E
<i>Sigara (Tropocorixa) uruana</i> E
<b>Cydnidae</b>
<i>Cydnochoerous nigrosignatus</i> E
<b>Cymidae</b>
<i>Cymus novaezelandiae</i> N
<b>Enicocephalidae</b>
<i>Gourlayocoris mirabilis</i> E
<i>Systelloderes notialis</i> E
<b>Lygaeidae</b>
<i>Arocatus rusticus</i> A
<i>Nysius huttoni</i> E
<i>Rhypodes aniceps</i> E
<i>Rhypodes chinai</i> E
<i>Rhypodes cognatus</i> E
<i>Rhypodes myersi</i> E
<i>Rhypodes russatus</i> E
<i>Rhypodes sericatus</i> E

*Rhypodes spadix* E  
*Rhypodes stewartensis* E  
**Miridae**  
*Anexochus crassicornis* E  
*Bipuncticoris longicerus* E  
*Bipuncticoris xestus* E  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris dracophylloides* E  
*Chinamiris elongatus* E  
*Chinamiris guttatus* E  
*Chinamiris hamus* E  
*Chinamiris laticinctus* E  
*Chinamiris nigrifrons* E  
*Chinamiris ovatus* E  
*Chinamiris unicolor* E  
*Chinamiris viridicans* E  
*Chinamiris zygottus* E  
*Closterotomus norwegicus* A  
*Deraeocoris maoricus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Diomocoris punctatus* E  
*Enygtatus nicotianae* A  
*Kiwimiris melanocerus* E  
*Megaloceroea recticornis* A  
*Reuda mayri* E  
*Romna capoides* E  
*Romna scotti* E  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Wekamiris auropilosus* E  
*Xiphoides badius* E  
*Xiphoides myersi* E  
**Nabidae**  
*Nabis (Tropiconabis) kinbergii* A  
*Nabis (Tropiconabis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
**Reduviidae**  
*Ploiaria chilensis* N  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Forsterocoris bisinuatus* E  
*Metagerra helmsi* E  
*Metagerra obscura* E  
*Targarema electa* E  
*Targarema stali* E  
*Tomocoris ornatus* E  
*Truncala hirta* E  
*Truncala sulcata* E  
*Trypetocoris rufidus* E  
*Woodwardiana evagorata* E  
*Woodwardiana nelsonensis* E  
*Woodwardiana paparia* E  
**Saldidae**  
*Saldula trivialis* E

**Veliidae**  
*Microvelia macgregori* E  
  
**CO**  
75 taxa  
E, 59; N, 5; A, 11; R, 1.  
  
**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
  
**Anthocoridae**  
*Lyctocoris (Lyctocoris) campestris* A  
*Orius (Heterorius) vicinus* A  
*Xylocoris (Proxyllocoris) galactinus* A  
  
**Aradidae**  
*Aneurus (Aneurodellus) brevipennis* E, R  
*Aradus australis* N  
*Chinamyersia cinerea* E  
  
**Artheneidae**  
*Nothochromus maoricus* E  
  
**Berytidae**  
*Bezu wakefieldi* E  
  
**Cantacaderidae**  
*Cyperobia carectorum* E  
  
**Ceratocombidae**  
*Ceratocombus novaezelandiae* E  
  
**Cimicidae**  
*Cimex lectularius* A  
  
**Corixidae**  
*Diaprepocoris zealandiae* E  
*Sigara (Tropocorixa) potamius* E  
  
**Cydniidae**  
*Cydonchoerus nigrosignatus* E  
*Macroscytus australis* N  
  
**Cymidae**  
*Cymus novaezelandiae* N  
  
**Heterogastridae**  
*Heterogaster urticae* A  
  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
  
*Rhypodes anceps* E  
*Rhypodes argenteus* E  
*Rhypodes celmisiae* E  
*Rhypodes chinai* E  
*Rhypodes cognatus* E  
*Rhypodes koebeliai* E  
*Rhypodes longiceps* E  
*Rhypodes myersi* E  
*Rhypodes sericatus* E  
*Rhypodes spadix* E  
*Rhypodes triangulus* E  
  
**Miridae**  
*Bipuncticoris lineatus* E  
*Bipuncticoris longicerus* E  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris elongatus* E

*Chinamiris laticinctus* E  
*Chinamiris zygotus* E  
*Closterotomus norwegicus* A  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Diomocoris punctatus* E  
*Halormus velifer* E  
*Josemiris carvalhoi* E  
*Kiwimiris niger* E  
*Lincolnia lucernina* E  
*Reuda mayri* E  
*Romna bicolor* E  
*Romna oculata* E  
*Romna pallida* E  
*Romna scotti* E  
*Romna tenera* E  
*Romna variegata* E  
*Sejanus albesignatus* N  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Tuicoris excelsus* E  
  
**Nabidae**  
*Nabis (Tropiconabis) maoricus* E  
  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
  
**Pentatomidae**  
*Cermatulus nasalis hudsoni* E  
*Dictyotus caenosus* A  
*Hypsithocus hudsonae* E  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Forsterocoris sinuatus* E  
*Metagerra helmsi* E  
*Metagerra obscura* E  
*Metagerra truncata* E  
*Udeocoris levis* E  
*Woodwardiana evagorata* E  
  
**Schizopteridae**  
*Hypsosoma acantheen* E  
  
**Veliidae**  
*Microvelia macgregori* E  
  
**DN**  
54 taxa  
E, 45; N, 4; A, 5; R, 0.  
  
**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
  
**Aradidae**  
*Carventaptera spinifera* E  
*Isodermus maculosus* E  
*Isodermus tenuicornis* E  
  
**Artheneidae**  
*Nothochromus maoricus* E  
  
**Berytidae**  
*Bezu wakefieldi* E

**Cimicidae***Cimex lectularius* <sup>A</sup>**Corixidae***Diaprepocoris zealandiae* <sup>E</sup>*Sigara (Tropocorixa) arguta* <sup>E</sup>*Sigara (Tropocorixa) infrequens* <sup>E</sup>**Cydnidae***Cydnochoerus nigrosignatus* <sup>E</sup>*Macroscytus australis* <sup>N</sup>**Cymidae***Cymus novaezelandiae* <sup>N</sup>**Lygaeidae***Nysius huttoni* <sup>E</sup>*Rhypodes anceps* <sup>E</sup>*Rhypodes koebelei* <sup>E</sup>*Rhypodes spadix* <sup>E</sup>**Miridae***Bipuncticoris lineatus* <sup>E</sup>*Bipuncticoris triplex* <sup>E</sup>*Chaetedus reuterianus* <sup>E</sup>*Chinamiris acutospinosus* <sup>E</sup>*Chinamiris aurantiacus* <sup>E</sup>*Chinamiris elongatus* <sup>E</sup>*Chinamiris laticinctus* <sup>E</sup>*Chinamiris punctatus* <sup>E</sup>*Chinamiris secundus* <sup>E</sup>*Chinamiris unicolor* <sup>E</sup>*Chinamiris viridicans* <sup>E</sup>*Chinamiris zygottus* <sup>E</sup>*Closterotomus norwegicus* <sup>A</sup>*Diomocoris maoricus* <sup>E</sup>*Diomocoris ostiolum* <sup>E</sup>*Polyozus galbanus* <sup>E</sup>*Romna pallida* <sup>E</sup>*Romna scotti* <sup>E</sup>*Sejanus albesignatus* <sup>N</sup>*Stenotus binotatus* <sup>A</sup>*Tuicoris lipurus* <sup>E</sup>*Wekamiris europilosus* <sup>E</sup>**Nabidae***Nabis (Tropiconabis) maoricus* <sup>E</sup>**Notonectidae***Anisops assimilis* <sup>E</sup>*Anisops wakefieldi* <sup>E</sup>**Pentatomidae***Cermatulus nasalis nasalis* <sup>N</sup>*Dictyotus caenosus* <sup>A</sup>*Monteithiella humeralis* <sup>A</sup>**Rhyparochromidae***Brentiscerus putoni* <sup>E</sup>*Forsterocoris bisinuatus* <sup>E</sup>*Metagerra helmsi* <sup>E</sup>*Metagerra obscura* <sup>E</sup>*Metagerra truncata* <sup>E</sup>*Targarema stali* <sup>E</sup>*Woodwardiana notialis* <sup>E</sup>**Veliidae***Microvelia macgregori* <sup>E</sup>**FD**82 taxa  
E, 78; N, 2; A, 2; R, 8.**Acanthosomatidae***Oncacontias vittatus* <sup>E</sup>*Rhopalimorpha (Lentimorpha)  
alpina* <sup>E</sup>*Rhopalimorpha (Rhopalimorpha)  
lineolaris* <sup>E</sup>*Rhopalimorpha (Rhopalimorpha)  
obscura* <sup>E</sup>**Aenictopechidae***Maoristolus parvulus* <sup>E</sup>*Nymphocoris maoricus* <sup>E</sup>**Aradidae***Aneurus (Aneurodellus) brouni* <sup>E</sup>*Chinamyersia cinerea* <sup>E</sup>*Ctenoneurus hochstetteri* <sup>E</sup>*Isodermus maculosus* <sup>E</sup>*Neadenocoris glaber* <sup>E, R</sup>*Neadenocoris spinicornis* <sup>E</sup>**Artheneidae***Nothochromus maoricus* <sup>E</sup>**Ceratocombidae***Ceratocombus aotearoae* <sup>E</sup>**Corixidae***Diaprepocoris zealandiae* <sup>E</sup>*Sigara (Tropocorixa) arguta* <sup>E</sup>*Sigara (Tropocorixa) uruana* <sup>E</sup>**Cydnidae***Cydnochoerus nigrosignatus* <sup>E</sup>**Cymidae***Cymus novaezelandiae* <sup>N</sup>**Enicocephalidae***Gourlayocoris mirabilis* <sup>E</sup>*Phthirostenus magnus* <sup>E</sup>*Systelloderes notialis* <sup>E</sup>**Lygaeidae***Nysius huttoni* <sup>E</sup>*Rhypodes anceps* <sup>E</sup>*Rhypodes atricornis* <sup>E, R</sup>*Rhypodes celmisiae* <sup>E</sup>*Rhypodes chinai* <sup>E</sup>*Rhypodes clavicornis* <sup>E</sup>*Rhypodes cognatus* <sup>E</sup>*Rhypodes depils* <sup>E, R</sup>*Rhypodes longiceps* <sup>E</sup>*Rhypodes myersi* <sup>E</sup>*Rhypodes spadix* <sup>E</sup>*Rhypodes stewartensis* <sup>E</sup>*Rhypodes townsendi* <sup>E</sup>**Miridae***Bipuncticoris irroratus* <sup>E</sup>*Bipuncticoris lineatus* <sup>E</sup>*Bipuncticoris olearinus* <sup>E</sup>*Chaetedus reuterianus* <sup>E</sup>*Chinamiris acutospinosus* <sup>E</sup>*Chinamiris dracophylloides* <sup>E</sup>*Chinamiris elongatus* <sup>E</sup>*Chinamiris guttatus* <sup>E</sup>*Chinamiris indeclivis* <sup>E</sup>*Chinamiris minutus* <sup>E, R</sup>*Chinamiris nigrifrons* <sup>E</sup>*Chinamiris quadratus* <sup>E, R</sup>*Chinamiris secundus* <sup>E</sup>*Chinamiris viridicans* <sup>E</sup>*Closterotomus norwegicus* <sup>A</sup>*Diomocoris maoricus* <sup>E</sup>*Diomocoris punctatus* <sup>E</sup>*Kiwimiris concavus* <sup>E, R</sup>*Lincolnia lucernina* <sup>E</sup>*Polyozus galbanus* <sup>E</sup>*Reuda mayri* <sup>E</sup>*Romna bicolor* <sup>E</sup>*Romna capsoides* <sup>E</sup>*Romna nigrovenosa* <sup>E</sup>*Romna scotti* <sup>E</sup>*Romna tenera* <sup>E</sup>*Stenotus binotatus* <sup>A</sup>*Xiphoides badius* <sup>E</sup>*Xiphoides multicolor* <sup>E</sup>**Nabidae***Nabis (Tropiconabis) maoricus* <sup>E</sup>**Notonectidae***Anisops assimilis* <sup>E</sup>**Pentatomidae***Cermatulus nasalis hudsoni* <sup>E</sup>*Cermatulus nasalis nasalis* <sup>N</sup>**Rhyparochromidae***Brentiscerus putoni* <sup>E</sup>*Forsterocoris bisinuatus* <sup>E</sup>*Forsterocoris sinuatus* <sup>E</sup>*Geratarma eylesi* <sup>E, R</sup>*Geratarma manapourensis* <sup>E, R</sup>*Metagerra angusta* <sup>E</sup>*Metagerra helmsi* <sup>E</sup>*Metagerra obscura* <sup>E</sup>*Targarema electa* <sup>E</sup>*Targarema stali* <sup>E</sup>*Trypetocoris rudis* <sup>E</sup>*Woodwardiana evagorata* <sup>E</sup>**Saldidae***Saldula australis* <sup>E</sup>**Schizopteridae***Hypselosoma acantheen* <sup>E</sup>**KA**

46 taxa

E, 35; N, 3; A, 8; R, 0.

**Acanthosomatidae***Oncacontias vittatus* <sup>E</sup>**Aradidae***Isodermus tenuicornis* <sup>E</sup>*Neocarventus angulatus* <sup>E</sup>**Corixidae***Sigara (Tropocorixa) arguta* <sup>E</sup>*Sigara (Tropocorixa) limnochares* <sup>E</sup>*Sigara (Tropocorixa) potamius* <sup>E</sup>**Cydnidae***Cydnochoerus nigrosignatus* <sup>E</sup>*Macroscytus australis* <sup>N</sup>

**Lygaeidae**

- Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes anceps* E  
*Rhypodes chinai* E  
*Rhypodes eminens* E  
*Rhypodes koebelei* E  
*Rhypodes myersi* E  
*Rhypodes russatus* E  
*Rhypodes sericatus* E  
*Rhypodes stewartensis* E  
**Miridae**  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris elongatus* E  
*Chinamiris indeclivis* E  
*Chinamiris virescens* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Diomocoris maoricus* E  
*Diomocoris punctatus* E  
*Polyozus galbanus* E  
*Sejanus albesignatus* N  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Taylorilygus apicalis* A  
*Xiphoides badius* E  
**Notonectidae**  
*Anisops assimilis* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Dictyotus caenosus* A  
*Nezara viridula* A  
**Rhyparochromidae**  
*Metagerra helmsi* E  
*Metagerra kaikourica* E  
*Metagerra obscura* E  
*Plinthicus (Locutius) woodwardi* A  
*Targarema electa* E  
*Targarema stali* E  
*Tomocoris truncatus* E  
*Truncala hirta* E

**MB**

83 taxa  
 E, 70; N, 6; A, 7; R, 4.

**Acanthosomatidae**

- Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Anthocoridae**  
*Cardiastethus poweri* E  
*Lyctocoris (Lyctocoris) campestris* A  
**Aradidae**  
*Aneurus (Aneurodellus) brouni* E  
*Calisius zealandicus* E  
*Carventaptera spinifera*

- Ctenoneurus hochstetteri* E  
*Isodermus crassicornis* E  
*Neadenocoris ovatus* E

**Berytidae**

- Bezu wakefieldi* E  
**Cantacaderidae**  
*Cyperobia carectorum* E  
**Corixidae**

- Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) limnochares* E  
*Sigara (Tropocorixa) potamius* E

**Cydnidae**

- Cydnochoerus nigrosignatus* E

**Cymidae**

- Cymus novaezelandiae* N

**Enicocephalidae**

- Gourlayocoris mirabilis* E

**Heterogastridae**

- Heterogaster urticae* A

**Lygaeidae**

- Arocatus rusticus* A

- Nysius huttoni* E

- Rhypodes anceps* E

- Rhypodes bucculentus* E

- Rhypodes chinai* E

- Rhypodes cognatus* E

- Rhypodes eminens* E

- Rhypodes jugatus* E

- Rhypodes myersi* E

- Rhypodes rupestris* E, R

- Rhypodes russatus* E

- Rhypodes sericatus* E

- Rhypodes spadix* E

- Rhypodes stewartensis* E

**Miridae**

- Bipuncticoris cassinianus* E

- Bipuncticoris convexus* E, R

- Bipuncticoris vescus* E

- Chaetedus longiceps* N

- Chaetedus reuterianus* E

- Chinamiris acutospinosus* E

- Chinamiris elongatus* E

- Chinamiris indeclivis* E

- Chinamiris marmoratus* E

- Chinamiris nigrifrons* E

- Chinamiris ovatus* E

- Chinamiris unicolor* E

- Chinamiris viridicans* A

- Closterotomus norwegicus* A

- Diomocoris fasciatus* E

- Diomocoris maoricus* E

- Diomocoris ostiolum* E

- Diomocoris punctatus* E

- Kiwimiris melanocerus* E

- Romna capsoidea* E

- Romna cuneata* E

- Romna nigrovenosa* E

- Sejanus albesignatus* N

- Sidnia kinbergi* A

- Xiphoides badius* E

**Nabidae**

- Nabis (Australonabis) biformis* N

- Nabis (Tropiconabis) kinbergii* A

- Nabis (Tropiconabis) maoricus* E

**Notonectidae**

- Anisops assimilis* E

- Anisops wakefieldi* E

**Pentatomidae**

- Cermatulus nasalis hudsoni* E

- Cermatulus nasalis nasalis* N

- Dictyotus caenosus* A

- Oechalia schellenbergii* N

**Reduviidae**

- Ploiaria antipodum* E

**Rhyparochromidae**

- Brentiscerus putoni* E

- Metagerra helmsi* E

- Metagerra kaikourica* E

- Metagerra obscura* E

- Regatarma forsteri* E

- Stizocephalus brevirostris* E

- Targarema stali* E

- Truncala hirta* E

- Truncala sulcata* E

- Woodwardiana evagorata* E

- Woodwardiana nelsonensis* E

- Woodwardiana paparia* E

**Saldidae**

- Saldula laelaps* E, R

**Veliidae**

- Microvelia macgregori* E

**MC**

111 taxa

E, 87; N, 7; A, 17; R, 0.

**Acanthosomatidae**

- Oncacontias vittatus* E

**Rhopalimorpha (Rhopalimorpha)**

- lineolaris* E

**Rhopalimorpha (Rhopalimorpha)**

- obscura* E

**Anthocoridae**

- Buchananiella whitei* N

- Cardiastethus brounianus* E

- Cardiastethus poweri* E

**Lyctocoris (Lyctocoris) campestris** A

- Orius (Heterorus) vicinus* A

**Aradidae**

- Aneurus (Aneurodellus) brouni* E

- Aneurus (Aneurodellus) salmoni* E

- Calisius zealandicus* E

- Carventaptera spinifera* E

- Chinamyersia cinerea* E

- Ctenoneurus hochstetteri* E

- Ctenoneurus myersi* E

- Isodermus crassicornis* E

- Isodermus maculosus* E

- Isodermus tenuicornis* E

**Berytidae**

- Bezu wakefieldi* E

**Cantacaderidae**

- Cyperobia carectorum* E

<b>Ceratocombidae</b>	<i>Monospatha distincta</i> E	<i>Sigara (Tropocorixa) arguta</i> E
<i>Ceratocombus aotearoae</i> E	<i>Pimeleocoris roseus</i> E	<i>Sigara (Tropocorixa) uruana</i> E
<i>Ceratocombus novaezelandiae</i> E	<i>Polyozus galbanus</i> E	<b>Cydnidae</b>
<b>Cimicidae</b>	<i>Romna capsoides</i> E	<i>Cydnocorillus nigrosignatus</i> E
<i>Cimex lectularius</i> A	<i>Romna nigrovenosa</i> E	<i>Macroscytus australis</i> N
<b>Corixidae</b>	<i>Romna oculata</i> E	<b>Cymidae</b>
<i>Diaprepocoris zealandiae</i> E	<i>Romna pallida</i> E	<i>Cymus novaezelandiae</i> N
<i>Sigara (Tropocorixa) arguta</i> E	<i>Romna scotti</i> E	<b>Lygaeidae</b>
<i>Sigara (Tropocorixa) infrequens</i> E	<i>Romna variegata</i> E	<i>Lepiostylus tekapoensis</i> E, R
<i>Sigara (Tropocorixa) potamius</i> E	<i>Sejanus albesignatus</i> N	<i>Nysius huttoni</i> E
<i>Sigara (Tropocorixa) uruana</i> E	<i>Sidnia kinbergi</i> A	<i>Nysius liliputanus</i> E
<b>Cydnidae</b>	<i>Stenotus binotatus</i> A	<i>Rhypodes anceps</i> E
<i>Cydnocorillus nigrosignatus</i> E	<i>Tinginotum minutum</i> N	<i>Rhypodes argenteus</i> E
<i>Macroscytus australis</i> N	<i>Tuicoris lipurus</i> E	<i>Rhypodes brevipilis</i> E, R
<b>Cymidae</b>	<i>Xiphoides badius</i> E	<i>Rhypodes bucculentus</i> E
<i>Cymus novaezelandiae</i> N	<i>Xiphoides myersi</i> E	<i>Rhypodes celmisiae</i> E
<b>Enicocephalidae</b>	<i>Xiphoides vacans</i> E	<i>Rhypodes chinai</i> E
<i>Systelloderes notialis</i> E	<b>Nabidae</b>	<i>Rhypodes clavicornis</i> E
<b>Heterogastridae</b>	<i>Nabis (Tropiconabis) maoricus</i> E	<i>Rhypodes gracilis</i> E
<i>Heterogaster urticae</i> A	<b>Notonectidae</b>	<i>Rhypodes jugatus</i> E
<b>Lygaeidae</b>	<i>Anisops assimilis</i> E	<i>Rhypodes longiceps</i> E
<i>Arocatus rusticus</i> A	<i>Anisops wakefieldi</i> E	<i>Rhypodes myersi</i> E
<i>Nysius huttoni</i> E	<b>Pentatomidae</b>	<i>Rhypodes sericatus</i> E
<i>Rhypodes anceps</i> E	<i>Cermatulus nasalis hudsoni</i> E	<i>Rhypodes spadix</i> E
<i>Rhypodes bucculentus</i> E	<i>Cermatulus nasalis nasalis</i> N	<i>Rhypodes triangulus</i> E
<i>Rhypodes chinai</i> E	<i>Cuspicona simplex</i> A	<b>Miridae</b>
<i>Rhypodes clavicornis</i> E	<i>Dictyotus caenosus</i> A	<i>Bipuncticoris irroratus</i> E
<i>Rhypodes cognatus</i> E	<i>Monteithiella humeralis</i> A	<i>Bipuncticoris lineatus</i> E
<i>Rhypodes gracilis</i> E	<i>Nezara viridula</i> A	<i>Chaetedus reuterianus</i> E
<i>Rhypodes longiceps</i> E	<b>Reduviidae</b>	<i>Chinamiris dracophylloides</i> E
<i>Rhypodes myersi</i> E	<i>Empicoris rubromaculatus</i> N	<i>Chinamiris elongatus</i> E
<i>Rhypodes russatus</i> E	<b>Rhyparochromidae</b>	<i>Chinamiris nigrifrons</i> E
<i>Rhypodes sericatus</i> E	<i>Brentiscerus putoni</i> E	<i>Chinamiris unicolor</i> E
<i>Rhypodes spadix</i> E	<i>Metagerra helmsi</i> E	<i>Closterotomus norwegicus</i> A
<i>Rhypodes stewartensis</i> E	<i>Metagerra obscura</i> E	<i>Diomocoris maoricus</i> E
<b>Miridae</b>	<i>Plinthicus (Locutius) woodwardi</i> A	<i>Diomocoris ostiolum</i> E
<i>Bipuncticoris triplex</i> E	<i>Targarema stali</i> E	<i>Diomocoris punctatus</i> E
<i>Bipuncticoris xestus</i> E	<i>Truncala hirta</i> E	<i>Halormus velifer</i> E
<i>Chaetedus reuterianus</i> E	<b>Saldidae</b>	<i>Kiwimiris niger</i> E
<i>Chinamiris acutospinosus</i> E	<i>Saldula australis</i> E	<i>Reuda mayri</i> E
<i>Chinamiris aurantiacus</i> E	<b>Schizopteridae</b>	<i>Romna capsoides</i> E
<i>Chinamiris elongatus</i> E	<i>Hypsosoma acantheen</i> E	<i>Romna cuneata</i> E
<i>Chinamiris indeclivis</i> E	<b>Tingidae</b>	<i>Romna nigrovenosa</i> E
<i>Chinamiris laticinctus</i> E	<i>Stephanitis (Stephanitis)</i>	<i>Romna tenera</i> E
<i>Chinamiris marmoratus</i> E	<i>rhododendri</i> A	<i>Stenotus binotatus</i> A
<i>Chinamiris ovatus</i> E	<b>Veliidae</b>	<b>Nabidae</b>
<i>Chinamiris unicolor</i> E	<i>Microvelia macgregori</i> E	<i>Nabis (Tropiconabis) maoricus</i> E
<i>Chinamiris virescens</i> E		<b>Notonectidae</b>
<i>Chinamiris viridicans</i> E		<i>Anisops assimilis</i> E
<i>Closterotomus norwegicus</i> A	<b>MK</b>	<b>Pentatomidae</b>
<i>Coridromius variegatus</i> A	58 taxa	<i>Cermatulus nasalis hudsoni</i> E
<i>Deraeocoris maoricus</i> E	E, 53; N, 2; A, 3; R, 2.	<i>Dictyotus caenosus</i> A
<i>Diomocoris fasciatus</i> E		<b>Rhyparochromidae</b>
<i>Diomocoris maoricus</i> E		<i>Brentiscerus putoni</i> E
<i>Diomocoris ostiolum</i> E		<i>Forsterocoris bisinuatus</i> E
<i>Diomocoris punctatus</i> E		<i>Metagerra angusta</i> E
<i>Engyptatus nicotianae</i> A		<i>Metagerra helmsi</i> E
<i>Halormus velifer</i> E		<i>Metagerra obscura</i> E
<i>Josemiris carvalhoi</i> E		<i>Truncala hirta</i> E
<i>Kiwimiris melanocerus</i> E		<i>Woodwardiana evagorata</i> E
<i>Kiwimiris niger</i> E		<b>Schizopteridae</b>
<i>Lincolnia lucernina</i> E		<i>Hypsosoma acantheen</i> E
<i>Megaloceroea recticornis</i> A		

<p><b>NC</b> 75 taxa E, 61; N, 4; A, 10; R, 0.</p> <p><b>Acanthosomatidae</b> <i>Oncacontias vittatus</i> E <i>Rhopalimorpha (Rhopalimorpha) lineolaris</i> E <i>Rhopalimorpha (Rhopalimorpha) obscura</i> E</p> <p><b>Aenictopecheidae</b> <i>Nymphocoris maoricus</i> E</p> <p><b>Anthocoridae</b> <i>Lyctocoris (Lyctocoris) campestris</i> A <i>Xylocoris (Proxylocoris) galactinus</i> A</p> <p><b>Aradidae</b> <i>Aneurus (Aneurodellus) brouni</i> E <i>Aneurus (Aneurodellus) salmoni</i> E <i>Chinamyersia cinerea</i> E <i>Ctenoneurus myersi</i> E <i>Isodermus crassicornis</i> E <i>Neadenocoris spinicornis</i> E</p> <p><b>Berytidae</b> <i>Bezu wakefieldi</i> E</p> <p><b>Corixidae</b> <i>Diaprepocoris zealandiae</i> E <i>Sigara (Tropocorixa) arguta</i> E <i>Sigara (Tropocorixa) limnochares</i> E <i>Sigara (Tropocorixa) potamius</i> E <i>Sigara (Tropocorixa) uruana</i> E</p> <p><b>Cydnidae</b> <i>Cydnochoerus nigrosignatus</i> E</p> <p><b>Cymidae</b> <i>Cymus novaezelandiae</i> N</p> <p><b>Enicocephalidae</b> <i>Systelloderes notialis</i> E</p> <p><b>Heterogastridae</b> <i>Heterogaster urticae</i> A</p> <p><b>Lygaeidae</b> <i>Nysius convexus</i> E <i>Nysius huttoni</i> E <i>Rhypodes chinai</i> E <i>Rhypodes clavicornis</i> E <i>Rhypodes jugatus</i> E <i>Rhypodes myersi</i> E <i>Rhypodes russatus</i> E <i>Rhypodes sericatus</i> E <i>Rhypodes spadix</i> E <i>Rhypodes stewartensis</i> E</p> <p><b>Miridae</b> <i>Anexochus crassicornis</i> E <i>Bipuncticoris cassinianus</i> E <i>Bipuncticoris xestus</i> E <i>Chaetedus reuterianus</i> E <i>Chinamiris elongatus</i> E <i>Chinamiris guttatus</i> E <i>Chinamiris laticinctus</i> E <i>Chinamiris nigrifrons</i> E <i>Chinamiris ovatus</i> E <i>Chinamiris punctatus</i> E</p>	<p><i>Chinamiris secundus</i> E <i>Chinamiris unicolor</i> E <i>Closterotomus norwegicus</i> A <i>Diomocoris maoricus</i> E <i>Diomocoris ostiolum</i> E <i>Diomocoris punctatus</i> E <i>Kiwimiris melanocerus</i> E <i>Lincolnia lucernina</i> E <i>Megaloceroea recticornis</i> A <i>Romna capsoidea</i> E <i>Romna nigrovenosa</i> E <i>Romna scotti</i> E <i>Sejanus albisignatus</i> N <i>Sidnia kinbergi</i> A <i>Stenotus binotatus</i> A <i>Taylorilygus apicalis</i> A <i>Wekamiris auropilosus</i> E</p> <p><b>Nabidae</b> <i>Nabis (Tropiconabis) maoricus</i> E</p> <p><b>Notonectidae</b> <i>Anisops assimilis</i> E <i>Anisops wakefieldi</i> E</p> <p><b>Pentatomidae</b> <i>Cermatulus nasalis hudsoni</i> E <i>Cermatulus nasalis nasalis</i> N <i>Cuspicona simplex</i> A <i>Dictyotus caenosus</i> A <i>Oechalia schellenbergii</i> N</p> <p><b>Rhyparochromidae</b> <i>Brentiscerus putoni</i> E <i>Metagerra helmsi</i> E <i>Metagerra obscura</i> E <i>Targarema stali</i> E <i>Tomocoris truncatus</i> E <i>Truncala hirta</i> E <i>Woodwardiana evagorata</i> E</p> <p><b>Veliidae</b> <i>Microvelia macgregori</i> E</p> <p style="text-align: center;"><b>NN</b> 147 taxa E, 114; N, 14; A, 19; R, 5.</p> <p><b>Acanthosomatidae</b> <i>Oncacontias vittatus</i> E <i>Rhopalimorpha (Lentimorpha) alpina</i> E <i>Rhopalimorpha (Rhopalimorpha) lineolaris</i> E <i>Rhopalimorpha (Rhopalimorpha) obscura</i> E</p> <p><b>Aenictopecheidae</b> <i>Aenictocoris powelli</i> E, R <i>Maoristolus tonnoiri</i> E</p> <p><b>Anthocoridae</b> <i>Buchananiella whitei</i> N <i>Cardiastethus poweri</i> E <i>Lyctocoris (Lyctocoris) campestris</i> A <i>Maoricoris benefactor</i> E</p> <p><b>Aradidae</b> <i>Aneurus (Aneurodellus) brouni</i> E</p> <p><b>Aneurus (Aneurodellus) salmoni</b> E <i>Aneurus (Aneurodellus) zealandensis</i> E <i>Aradus australis</i> N <i>Calisius zealandicus</i> E <i>Carventaptera spinifera</i> E <i>Chinamyersia cinerea</i> E <i>Chinamyersia viridis</i> E <i>Ctenoneurus hochstetteri</i> E <i>Ctenoneurus myersi</i> E <i>Isodermus crassicornis</i> E <i>Isodermus maculosus</i> E <i>Neadenocoris abdominalis</i> E <i>Neadenocoris reflexus</i> E</p> <p><b>Berytidae</b> <i>Bezu wakefieldi</i> E</p> <p><b>Cimicidae</b> <i>Cimex lectularius</i> A</p> <p><b>Corixidae</b> <i>Diaprepocoris zealandiae</i> E <i>Sigara (Tropocorixa) arguta</i> E <i>Sigara (Tropocorixa) limnochares</i> E <i>Sigara (Tropocorixa) potamius</i> E <i>Sigara (Tropocorixa) uruana</i> E</p> <p><b>Cymidae</b> <i>Cymus novaezelandiae</i> N</p> <p><b>Enicocephalidae</b> <i>Gourlayocoris mirabilis</i> E <i>Systelloderes notialis</i> E</p> <p><b>Hydrometridae</b> <i>Hydrometra strigosa</i> N</p> <p><b>Lygaeidae</b> <i>Arocatus rusticus</i> A <i>Nysius convexus</i> E <i>Nysius huttoni</i> E <i>Rhypodes anceps</i> E <i>Rhypodes brachypterus</i> E, R <i>Rhypodes celmisiae</i> E <i>Rhypodes chinai</i> E <i>Rhypodes clavicornis</i> E <i>Rhypodes cognatus</i> E <i>Rhypodes jugatus</i> E <i>Rhypodes koebelei</i> E <i>Rhypodes myersi</i> E <i>Rhypodes russatus</i> E <i>Rhypodes sericatus</i> E <i>Rhypodes spadix</i> E <i>Rhypodes stewartensis</i> E</p> <p><b>Miridae</b> <i>Anexochus crassicornis</i> E <i>Bipuncticoris longicerus</i> E <i>Bipuncticoris olearinus</i> E <i>Bipuncticoris triplex</i> E <i>Chaetedus longiceps</i> N <i>Chaetedus reuterianus</i> E <i>Chinamiris acutospinosus</i> E <i>Chinamiris aurantiacus</i> E <i>Chinamiris elongatus</i> E <i>Chinamiris guttatus</i> E <i>Chinamiris indeclivis</i> E <i>Chinamiris juvans</i> E, R <i>Chinamiris laticinctus</i> E <i>Chinamiris marmoratus</i> E</p>
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|---|--|--------------------------------------|
| <i>Chinamiris muehlenbeckiae</i> E      | <i>Dieuches notatus</i> A              | <i>Rhypodes celmisiae</i> E          |
| <i>Chinamiris nigrifrons</i> E          | <i>Forsterocoris bisinuatus</i> E      | <i>Rhypodes chinai</i> E             |
| <i>Chinamiris ovatus</i> E              | <i>Grossander major</i> A              | <i>Rhypodes cognatus</i> E           |
| <i>Chinamiris punctatus</i> E           | <i>Margareta dominica</i> E            | <i>Rhypodes gracilis</i> E           |
| <i>Chinamiris rufescens</i> E, R        | <i>Metagerra helmsi</i> E              | <i>Rhypodes jugatus</i> E            |
| <i>Chinamiris secundus</i> E            | <i>Metagerra kaikourica</i> E          | <i>Rhypodes longiceps</i> E          |
| <i>Chinamiris unicolor</i> E            | <i>Metagerra obscura</i> E             | <i>Rhypodes myersi</i> E             |
| <i>Chinamiris viridicans</i> E          | <i>Regatarma forsteri</i> E            | <i>Rhypodes spadix</i> E             |
| <i>Closterotomus norwegicus</i> A       | <i>Remaudiereana inornata</i> N        | <i>Rhypodes townsendi</i> E          |
| <i>Coridromius variegatus</i> A         | <i>Targarema electa</i> E              | <i>Rhypodes triangulus</i> E         |
| <i>Deraeocoris maoricus</i> E           | <i>Targarema stali</i> E               | <b>Miridae</b>                       |
| <i>Diomocoris fasciatus</i> E           | <i>Tomocoris ornatus</i> E             | <i>Bipuncticoris irroratus</i> E     |
| <i>Diomocoris maoricus</i> E            | <i>Truncala hirta</i> E                | <i>Bipuncticoris lineatus</i> E      |
| <i>Diomocoris ostiolum</i> E            | <i>Truncala sulcata</i> E              | <i>Chaetedus reuterianus</i> E       |
| <i>Diomocoris punctatus</i> E           | <i>Tryptocoris rudis</i> E             | <i>Chinamiris aurantiacus</i> E      |
| <i>Enygtatus nicotiana</i> A            | <i>Woodwardiana nelsonensis</i> E      | <i>Chinamiris dracophylloides</i> E  |
| <i>Felisacus elegantulus</i> N          | <i>Woodwardiana paparia</i> E          | <i>Chinamiris elongatus</i> E        |
| <i>Halormus velifer</i> E               | <b>Saldidae</b>                        | <i>Chinamiris laticinctus</i> E      |
| <i>Josemiris carvalhoi</i> E            | <i>Saldula australis</i> E             | <i>Chinamiris nigrifrons</i> E       |
| <i>Kiwimiris bipunctatus</i> E, R       | <i>Saldula maculipennis</i> E          | <i>Chinamiris punctatus</i> E        |
| <i>Kiwimiris melanocerus</i> E          | <i>Saldula stoneri</i> E               | <i>Chinamiris secundus</i> E         |
| <i>Lopus decolor</i> A                  | <i>Saldula trivialis</i> E             | <i>Chinamiris unicolor</i> E         |
| <i>Megaloceroea recticornis</i> A       | <b>Schizopteridae</b>                  | <i>Chinamiris zygottus</i> E         |
| <i>Monospatha distincta</i> E           | <i>Hypsosoma acantheen</i> E           | <i>Closterotomus norwegicus</i> A    |
| <i>Polyozus galbanus</i> E              | <b>Tingidae</b>                        | <i>Diomocoris maoricus</i> E         |
| <i>Reuda mayri</i> E                    | <i>Tanybyrsa cumberi</i> E             | <i>Diomocoris ostiolum</i> E         |
| <i>Romna capsoidea</i> E                | <b>Veliidae</b>                        | <i>Diomocoris punctatus</i> E        |
| <i>Romna nigrovenosa</i> E              | <i>Microvelia macgregori</i> E         | <i>Josemiris carvalhoi</i> E         |
| <i>Romna scotti</i> E                   | <b>OL</b>                              | <i>Kiwimiris niger</i> E             |
| <i>Romna tenera</i> E                   | 68 taxa                                | <i>Lincolnia lucernina</i> E         |
| <i>Romna uniformis</i> E                | E, 58; N, 4; A, 6; R, 0.               | <i>Lopus decolor</i> A               |
| <i>Romna variegata</i> E                | <b>Acanthosomatidae</b>                | <i>Romna capsoidea</i> E             |
| <i>Sejanus albesignatus</i> N           | <i>Oncacontias vittatus</i> E          | <i>Romna oculata</i> E               |
| <i>Sidnia kinbergi</i> A                | <i>Rhopalimorpha (Rhopalimorpha)</i>   | <i>Romna pallida</i> E               |
| <i>Stenotus binotatus</i> A             | <i>lineolaris</i> E                    | <i>Romna scotti</i> E                |
| <i>Taylorilygus apicalis</i> A          | <b>Aradidae</b>                        | <i>Romna tenera</i> E                |
| <i>Tinginotum minutum</i> N             | <i>Aneurus (Aneurodellus) brouni</i> E | <i>Sejanus albesignatus</i> N        |
| <i>Trigonotylus tenuis</i> A            | <i>Aradus australis</i> N              | <i>Stenotus binotatus</i> A          |
| <i>Tuicoris excelsus</i> E              | <i>Ctenoneurus hochstetteri</i> E      | <b>Nabidae</b>                       |
| <i>Xiphoides badius</i> E               | <i>Neadenocoris spinicornis</i> E      | <i>Nabis (Tropiconabis) maoricus</i> |
| <i>Xiphoides myersi</i> E               | <b>Artheneidae</b>                     | <b>Notonectidae</b>                  |
| <b>Nabidae</b>                          | <i>Nothochromus maoricus</i> E         | <i>Anisops assimilis</i> E           |
| <i>Alloeorhynchus myersi</i> E          | <b>Cantacaderidae</b>                  | <b>Pentatomidae</b>                  |
| <i>Nabis (Tropiconabis) kinbergii</i> A | <i>Cyperobia carectorum</i> E          | <i>Cermatulus nasalis hudsoni</i> E  |
| <i>Nabis (Tropiconabis) maoricus</i> E  | <b>Ceratocombidae</b>                  | <i>Dictyotus caenosus</i> A          |
| <b>Notonectidae</b>                     | <i>Ceratocombus novaezelandiae</i> E   | <i>Hypsithocrus hudsonse</i> E       |
| <i>Anisops assimilis</i> E              | <b>Corixidae</b>                       | <b>Rhyparochromidae</b>              |
| <i>Anisops wakefieldi</i> E             | <i>Diaprepocoris zealandiae</i> E      | <i>Forsterocoris bisinuatus</i> E    |
| <b>Pentatomidae</b>                     | <i>Sigara (Tropocorixa) arguta</i> E   | <i>Forsterocoris salmoni</i> E       |
| <i>Cermatulus nasalis hudsoni</i> E     | <b>Cydinidae</b>                       | <i>Metagerra helmsi</i> E            |
| <i>Cermatulus nasalis nasalis</i> N     | <i>Cydnochoerus nigrosignatus</i> E    | <i>Metagerra obscura</i> E           |
| <i>Cuspicona simplex</i> A              | <i>Macroscytus australis</i> N         | <i>Targarema stali</i> E             |
| <i>Dictyotus caenosus</i> A             | <b>Cymidae</b>                         | <i>Woodwardiana evagorata</i> E      |
| <i>Glaucias amyoti</i> N                | <i>Cymus novaezelandiae</i> N          | <b>Schizopteridae</b>                |
| <i>Monteithiella humeralis</i> A        | <b>Heterogastridae</b>                 | <i>Hypsosoma acantheen</i> E         |
| <i>Nezara viridula</i> A                | <i>Heterogaster urticae</i> A          | <b>SC</b>                            |
| <i>Oechalia schellenbergii</i> N        | <b>Lygaeidae</b>                       | 46 taxa                              |
| <b>Reduviidae</b>                       | <i>Arocatus rusticus</i> A             | E, 36; N, 3; A, 7; R, 0.             |
| <i>Empicoris rubromaculatus</i> N       | <i>Nysius convexus</i> E               |                                      |
| <i>Ploiaria antipodum</i> E             | <i>Nysius huttoni</i> E                |                                      |
| <i>Ploiaria chilensis</i> N             | <i>Rhypodes anceps</i> E               |                                      |
| <b>Rhyparochromidae</b>                 |  |                                      |
| <i>Brentiscerus putoni</i> E            |  |                                      |

**Rhopalimorpha (Rhopalimorpha)**  
*lineolaris* E  
**Anthocoridae**  
*Cardiastethus poweri* E  
**Lyctocoris (Lyctocoris)**  
*campestris* A  
**Aradidae**  
*Aradus australis* N  
*Carventaptera spinifera* E  
*Isodermus crassicornis* E  
**Corixidae**  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) potamius* E  
**Heterogastridae**  
*Heterogaster urticae* A  
**Lygaeidae**  
*Nysius huttoni* E  
*Rhypodes anceps* E  
*Rhypodes chinai* E  
*Rhypodes gracilis* E  
*Rhypodes spadix* E  
**Miridae**  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris elongatus* E  
*Chinamiris hamus* E  
*Chinamiris nigrifrons* E  
*Chinamiris secundus* E  
*Chinamiris viridicans* E  
*Chinamiris zygottus* E  
*Closterotomus norwegicus* A  
*Diomocoris maoricus* E  
*Lincolnia lucernina* E  
*Megaloceroea recticornis* A  
*Monospatha distincta* E  
*Romna capsoidea* E  
*Romna nigrovenosa* E  
*Romna scotti* E  
*Romna variegata* E  
*Sejanus albesignatus* N  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Taylorilygus apicalis* A  
*Wekamiris auropilosus* E  
**Nabidae**  
*Nabis (Tropicnabis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis* nasalis N  
**Rhyparochromidae**  
*Forsterocoris bisinuatus* E  
*Metagerra helmsi* E  
*Truncala hirta* E

**SD**  
 71 taxa  
 E, 51; N, 9; A, 11; R, 0.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
**Rhopalimorpha (Rhopalimorpha)**  
*lineolaris* E  
**Rhopalimorpha (Rhopalimorpha)**  
*obscura* E  
**Anthocoridae**  
*Buchananiella whitei* N  
*Cardiastethus poweri* E  
**Aradidae**  
*Aneurus (Aneurodellus) brouni* E  
*Aneurus (Aneurodellus)*  
*zealandensis* E  
*Aradus australis* N  
*Calisius zealandicus* E  
*Chinamyersia cinerea* E  
*Ctenoneurus hochstetteri* E  
**Berytidae**  
*Bezu wakefieldi* E  
**Cantacaderidae**  
*Cyperobia carectorum* E  
**Corixidae**  
*Diaprepocoris zealandiae* E  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) limnochares* E  
*Sigara (Tropocorixa) potamius* E  
**Cydnidae**  
*Cydnocoroides nigrosignatus* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Enicocephalidae**  
*Gourlayocoris mirabilis* E  
**Lygaeidae**  
*Arocatus rusticus* A  
*Nysius huttoni* E  
*Rhypodes anceps* E  
*Rhypodes clavicornis* E  
*Rhypodes cognatus* E  
*Rhypodes koebbelei* E  
*Rhypodes sericatus* E  
**Miridae**  
*Chaetedus reuterianus* E  
*Chinamiris acutospinosus* E  
*Chinamiris aurantiacus* E  
*Chinamiris elongatus* E  
*Chinamiris fascinans* E  
*Chinamiris indeclivis* E  
*Chinamiris laticinctus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Deraeocoris maoricus* E  
*Diomocoris fasciatus* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Diomocoris punctatus* E  
*Felisacus elegantulus* N  
*Megaloceroea recticornis* E  
*Pimeleocoris luteus* E

*Romna scotti* E  
*Sejanus albesignatus* N  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Taylorilygus apicalis* A  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis* nasalis N  
*Cuspicona simplex* A  
*Dictyotus caenosus* A  
*Glaucias amyoti* N  
*Monteithiella humeralis* A  
*Nezara viridula* A  
*Oechalia schellenbergii* N  
**Reduviidae**  
*Ploiaria antipodum* E  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Margareta dominica* E  
*Metagerra helmsi* E  
*Plinthisus (Locutius) woodwardi* A  
*Regatarma forsteri* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
*Truncala hirta* E  
*Truncala sulcata* E  
*Woodwardiana nelsonensis* E  
**Veliidae**  
*Microvelia macgregori* E

**SL**  
 71 taxa  
 E, 63; N, 4; A, 4; R, 0.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
**Rhopalimorpha (Rhopalimorpha)**  
*lineolaris* E  
**Rhopalimorpha (Rhopalimorpha)**  
*obscura* E  
**Aenictopecheidae**  
*Maoristolus parvulus* E  
**Aradidae**  
*Aradus australis* N  
*Chinamyersia cinerea* E  
*Ctenoneurus hochstetteri* E  
*Isodermus tenuicornis* E  
*Neadenocoris spinicornis* E  
**Artheneidae**  
*Nothochromus maoricus* E  
**Berytidae**  
*Bezu wakefieldi* E  
**Cantacaderidae**  
*Cyperobia carectorum* E  
**Ceratocombidae**  
*Ceratocombus novaezelandiae* E  
**Corixidae**  
*Diaprepocoris zealandiae* E

*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) infrequens* E  
*Sigara (Tropocorixa) limnochares* E  
*Sigara (Tropocorixa) potamius* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Lygaeidae**  
*Nysius huttoni* E  
*Rhypodes anceps* E  
*Rhypodes clavicornis* E  
*Rhypodes cognatus* E  
*Rhypodes longiceps* E  
*Rhypodes myersi* E  
*Rhypodes sericatus* E  
*Rhypodes spadix* E  
*Rhypodes townsendi* E  
**Miridae**  
*Bipuncticoris lineatus* E  
*Bipuncticoris longicerus* E  
*Chinamiris elongatus* E  
*Chinamiris indeclivis* E  
*Chinamiris laticinctus* E  
*Chinamiris punctatus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Cyrtorhinus cumberi* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Diomocoris punctatus* E  
*Josemiris carvalhoi* E  
*Monospatha distincta* E  
*Romna capsoides* E  
*Romna pallida* E  
*Romna scotti* E  
*Romna tenera* E  
*Romna variegata* E  
*Sejanus albesignatus* N  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Wekamiris europilosus* E  
*Xiphoides badius* E  
*Xiphoides myersi* E  
*Xiphoides vacans* E  
**Nabidae**  
*Nabis (Tropicobasis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis nasalis* N  
*Monteithiella humeralis* A  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Forsterocoris bisinuatus* E  
*Forsterocoris salmoni* E  
*Forsterocoris sinuatus* E  
*Metagerra angusta* E  
*Metagerra helmsi* E  
*Metagerra obscura* E  
*Metagerra truncata* E  
*Targarema stali* E  
*Trypetocoris rufus* E  
*Woodwardiana notialis* E

**Salidae**  
*Saldula trivialis* E  
  
**WD**  
66 taxa  
E, 59; N, 3; A, 4; R, 0.  
**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Aradidae**  
*Aneurus (Aneurodellus) brouni* E  
*Aneurus (Aneurodellus) salmoni* E  
*Aradus australis* N  
*Calisius zealandicus* E  
*Ctenoneurus hochstetteri* E  
*Isodermus maculosus* E  
*Neadenocoris acutus* E  
*Neadenocoris ovatus* E  
*Neadenocoris spinicornis* E  
**Ceratocombidae**  
*Ceratocombus aotearoae* E  
**Cimicidae**  
*Cimex lectularius* A  
**Corixidae**  
*Sigara (Tropocorixa) arguta* E  
*Sigara (Tropocorixa) uruana* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Enicocephalidae**  
*Gourlayocoris mirabilis* E  
*Systelloderes notialis* E  
**Lygaeidae**  
*Nysius convexus* E  
*Nysius huttoni* E  
*Nysius liliputanus* E  
*Rhypodes celmiae* E  
*Rhypodes chinai* E  
*Rhypodes clavicornis* E  
*Rhypodes cognatus* E  
*Rhypodes jugatus* E  
*Rhypodes longiceps* E  
*Rhypodes myersi* E  
*Rhypodes stewartensis* E  
**Miridae**  
*Bipuncticoris irroratus* E  
*Bipuncticoris clearinus* E  
*Chaetedus reuterianus* E  
*Chinamiris aurantiacus* E  
*Chinamiris dracophylloides* E  
*Chinamiris elongatus* E  
*Chinamiris guttatus* E  
*Chinamiris laticinctus* E  
*Chinamiris marmoratus* E  
*Chinamiris punctatus* E  
*Chinamiris viridicans* E  
*Closterotomus norwegicus* A  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Monophrasus annulatus* E, R

*Josemiris carvalhoi* E  
*Pimeleocoris roseus* E  
*Reuda mayri* E  
*Romna capsoides* E  
*Romna scotti* E  
*Sidnia kinbergi* A  
*Stenotus binotatus* A  
*Wekamiris europilosus* E  
**Nabidae**  
*Nabis (Tropicobasis) maoricus* E  
**Notonectidae**  
*Anisops assimilis* E  
*Anisops wakefieldi* E  
**Pentatomidae**  
*Cermatulus nasalis hudsoni* E  
*Cermatulus nasalis nasalis* N  
**Rhyparochromidae**  
*Forsterocoris bisinuatus* E  
*Margareta dominica* E  
*Metagerra helmsi* E  
*Metagerra obscura* E  
*Targarema stali* E  
*Tomocoris ornatus* E  
*Woodwardiana evagorata* E  
**Schizopteridae**  
*Hypselosoma acantheen* E  
**Veliidae**  
*Microvelia macgregori* E

**Stewart Island**  
30 taxa  
E, 29; N, 1; A, 0; R, 2.

**Acanthosomatidae**  
*Oncacontias vittatus* E  
*Rhopalimorpha (Rhopalimorpha) lineolaris* E  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Aenictopechidae**  
*Maoristolus tonnoiri* E  
**Aradidae**  
*Aneurus (Aneurodellus) brouni* E  
*Isodermus maculosus* E  
*Isodermus tenuicornis* E  
**Corixidae**  
*Diaprepocoris zealandiae* E  
**Cydnidae**  
*Macroscytus australis* N  
**Lygaeidae**  
*Nysius huttoni* E  
*Rhypodes cognatus* E  
*Rhypodes stewartensis* E  
**Miridae**  
*Bipuncticoris longicerus* E  
*Chinamiris elongatus* E  
*Chinamiris laticinctus* E  
*Chinamiris viridicans* E  
*Chinamiris zygotes* E  
*Diomocoris maoricus* E  
*Diomocoris ostiolum* E  
*Monophrasus annulatus* E, R

*Reuda mayri* E  
*Romna capsoides* E  
*Romna uniformis* E  
*Wekamiris europilosus* E  
*Xiphoides vacans* E  
**Rhyparochromidae**  
*Forsterocoris stewartensis* E, R  
*Margareta dominica* E  
*Metagerra obscura* E  
*Targarema stali* E  
*Trypetocoris rufidus* E

**Offshore Islands****AU**

1 taxon  
 E, 1; N, 0; A, 0; R, 0.

**Enicocephalidae**  
*Phthirostenus magnus* E

**CH**

21 taxa  
 E, 14; N, 4; A, 3; R, 1.

**Acanthosomatidae**  
*Rhopalimorpha (Rhopalimorpha) obscura* E  
**Anthocoridae**  
*Buchananiella whitei* N  
*Cardiastethus poweri* E  
**Aradidae**  
*Aradus australis* N  
**Berytidae**  
*Bezu wakefieldi* E  
**Corixidae**  
*Sigara (Tropocorixa) arguta* E  
**Cymidae**  
*Cymus novaezelandiae* N  
**Heterogastridae**  
*Heterogaster urticae* A

**Lygaeidae**  
*Nysius huttoni* E  
**Miridae**  
*Chinamiris laticinctus* E  
*Closterotomus norwegicus* A  
*Diomocoris granosus* E, R  
*Stenotus binotatus* A  
**Nabidae**  
*Nabis (Tropiconabis) maoricus* E  
**Notonectidae**  
*Anisops wakefieldi* E  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Metagerra obscura* E  
*Remaudiereana inornata* N  
*Targarema electa* E  
*Targarema stali* E  
**Veliidae**  
*Microvelia macgregori* E

**KE**

12 taxa  
 E, 1; N, 5; A, 6; R, 1.

**Gerridae**  
*Halobates sericeus* N  
**Miridae**  
*Campylomma novocaledonica* A  
*Chaetedus plumalis* N  
*Diomocoris raoulensis* E, R  
*Taylorilygus apicalis* A  
*Tytthus chinensis* A  
**Nabidae**  
*Nabis (Tropiconabis) kinbergii* A  
**Pentatomidae**  
*Cuspicona simplex* A  
*Glaucias amyoti* N  
*Nezara viridula* A  
**Rhyparochromidae**  
*Remaudiereana inornata* N  
*Remaudiereana nigriceps* N

**TH**

26 taxa  
 E, 18; N, 3; A, 5; R, 5.

**Anthocoridae**  
*Cardiastethus brounianus* E  
*Cardiastethus poweri* E  
**Aradidae**  
*Lissaptera completa* E  
**Cydidae**  
*Macroscytus australis* N  
**Cymidae**  
*Cymus novaezelandiae* N  
**Lygaeidae**  
*Nysius huttoni* E  
*Rhypodes clavicornis* E  
**Miridae**  
*Basileobius gilviceps* E, R  
*Chaetedus reuterianus* E  
*Chinamiris aurantiacus* E  
*Chinamiris laticinctus* E  
*Coridromius variegatus* A  
*Diomocoris woodwardi* E, R  
*Sidnia kinbergi* A  
*Xiphoides regis* E, R  
**Nabidae**  
*Alloeorrhynchus myersi* E  
*Nabis (Tropiconabis) kinbergii* A  
**Pentatomidae**  
*Cermatulus nasalis turbotti* E, R  
*Cuspicona simplex* A  
**Reduviidae**  
*Stenolemus fraterculus* A  
**Rhyparochromidae**  
*Brentiscerus putoni* E  
*Paratruncala insularis* E, R  
*Remaudiereana inornata* N  
*Targarema stali* E  
*Tomocoris ornatus* E  
**Veliidae**  
*Microvelia macgregori* E

**Appendix H. Type localities of valid Heteroptera taxa described from New Zealand.**

**AK Auckland**

Auckland

*Rhopalimorpha (Rhopalimorpha) lineolaris*  
(Acanthosomatidae)

Campbell's Beach, near Tawharanui Regional Park  
*Chilocoris neozealandicus* (Cydnidae)

Henderson

*Nabis (Australonabis) biformis* (Nabidae)  
*Tinginotum minutum* (Miridae)

Herne Bay

*Nabis (Australonabis) biformis* (Nabidae)

Huia, start of Karamatura Track

*Xiphoides luteolus* (Miridae)

Hunua Falls

*Romna ornata* (Miridae)

Lynfield

*Aneurus (Aneurodellus) maoricus* (Aradidae)  
*Mniovelia kuscheli* (Mesovelidiidae)

Matakana

*Trypetocoris separatus* (Rhyparochromidae)

Nihotupu

*Woodwardiessa quadrata* (Aradidae)

Titirangi

*Aneurus (Aneurodellus) prominens* (Aradidae)  
*Leuraptera zealandica* (Aradidae)

**AU Auckland Islands**

Auckland Island

*Phthirostenus magnus* (Enicocephalidae)

**BP Bay of Plenty**

Rotorua

*Saldula stoneri* (Saldidae)

Tarawera

*Ctenoneurus pendergrasti* (Aradidae)

Whinray Scenic Reserve

*Ceratocombus aotearoae* (Ceratocombidae)

**BR Buller**

Lake Rotoiti

*Chinamiris guttatus* (Miridae)

*Chinamiris hamus* (Miridae)

Moana, Lake Brunner

*Neadenocoris acutus* (Aradidae)

**CH Chatham Islands**

Chatham Island, Lake Koomuto

*Diomocoris granosus* (Miridae)

**CL Coromandel**

Maumaupaki

*Peritropis aotearoae* (Miridae)

Mercury Islands, Red Island

*Truncala insularis* (Rhyparochromidae)

**CO Central Otago**

Kawarau Gorge

*Diomocoris punctatus* (Miridae)

Kyeburn

*Lincolnia lucernina* (Miridae)

Rock and Pillar Range, Stonehenge Track

*Chinamiris zygottus* (Miridae)

The Remarkables, Nevis Burn

*Aneurus (Aneurodellus) brevipennis* (Aradidae)

Watts Rock, Carrick Range

*Josemiris carvalhoi* (Miridae)

**DN Dunedin**

Berwick

*Sigara (Tropocorixa) infrequens* (Corixidae)

Outram

*Polyozus galbanus* (Miridae)

Port Chalmers

*Carventaptera spinifera* (Aradidae)

*Isodermus tenuicornis* (Aradidae)

Waipori Pond [=Lake Waipori]

*Metagerra truncata* (Rhyparochromidae)

Waitati

*Isodermus maculosus* (Aradidae)

**FD Fiordland**

Cascade Creek, Hollyford Valley

*Forsterocoris bisinuatus* (Rhyparochromidae)

Hunter Mountains

*Metagerra angusta* (Rhyparochromidae)

Hunter Mountains, South Borland River

*Bipuncticoris lineatus* (Miridae)

Kaherekoau Mountains, Lake Monowai

*Rhypodes townsendi* (Lygaeidae)

Lake Hankinson, Te Anau

*Neadenocoris spinicornis* (Aradidae)

Lake Manapouri

*Forsterocoris sinuatus* (Rhyparochromidae)

Lake McArthur, Dusky Sound

*Neadenocoris glaber* (Aradidae)

Lake Te Au

*Maoristolus parvulus* (Aenictopechidae)

Leslie Valley Track

*Systelloderes notialis* (Enicocephalidae)

McKinnon Pass

*Rhopalimorpha (Lentimorpha) alpina*

(Acanthosomatidae)

Mount Barber

*Bipuncticoris irroratus* (Miridae)

*Geratarma eylesi* (Rhyparochromidae)

Mount Burns, Hunter Mountains

*Chinamiris quadratus* (Miridae)

Simonin Pass, West Olivine Range

*Kiwimiris concavus* (Miridae)

Takahe Valley, Head Basin

*Rhypodes atricornis* (Lygaeidae)

Takahe Valley, near Head Basin

*Rhypodes depilis* (Lygaeidae)

Turret Range, Wolfe Flat

*Romna bicolor* (Miridae)

Upper Hollyford Valley, Homer  
*Bipuncticoris olearinus* (Miridae)

Wilmot Pass  
*Chinamiris dracophylloides* (Miridae)  
*Chinamiris minutus* (Miridae)  
*Geratarma manapourensis* (Rhyparochromidae)

**GB** Gisborne  
East Cape (Lighthouse Track)  
*Diomocoris russatus* (Miridae)

Mount Arowhana  
*Rhypodes longirostris* (Lygaeidae)

**HB** Hawkes Bay  
Creek near Middle Range, Kaweka Range  
*Rhypodes brevifissas* (Lygaeidae)

Kaweka Forest Park, Ngahere Loop Track  
*Ceratocombus novaezelandiae* (Ceratocombidae)

Little Bush, Puketitiri  
*Chinamiris daviesi* (Miridae)

Makahū Spur, Kaweka Range  
*Bipuncticoris gurri* (Miridae)  
*Rhypodes hirsutus* (Lygaeidae)  
*Romna albata* (Miridae)

Putaihīnū Ridge, Huiarau Range, Urewera National Park  
*Chinamiris brachycerus* (Miridae)

Wallingford  
*Neocarventus angulatus* (Aradidae)

**KA** Kaikoura  
Blue Duck Stream  
*Sigara (Tropocorixa) limnochares* (Corixidae)

Mount Snowflake  
*Chinamiris acutospinosus* (Miridae)

**KE** Kermadec Islands  
Raoul Island  
*Diomocoris raoulensis* (Miridae)

**MB** Marlborough  
Altimarlock Peak, Black Birch Range  
*Stizocephalus brevirostris* (Rhyparochromidae)

Black Birch Range  
*Bipuncticoris cassinianus* (Miridae)  
*Bipuncticoris vescus* (Miridae)  
*Romna nigrovenosa* (Miridae)

Black Birch Station  
*Rhypodes rupestris* (Lygaeidae)

Mount Richmond, Fell Range  
*Bipuncticoris convexus* (Miridae)

Pelorus Bridge  
*Neadenocoris ovatus* (Aradidae)

**MB/KA** Marlborough/Kaikoura  
Mount Percival  
*Metagerra kaikourica* (Rhyparochromidae)  
*Rhypodes eminens* (Lygaeidae)

## **MC** Mid Canterbury

Cass  
*Bipuncticoris xestus* (Miridae)

Christchurch, Ashgrove Reserve  
*Monospatha distincta* (Miridae)

Christchurch, Avon Estuary  
*Halormus velifer* (Miridae)

Mount Algidus  
*Calisius zealandicus* (Aradidae)

Mount Hutt  
*Rhypodes bucculentus* (Lygaeidae)

Sign of the Bellbird  
*Tuicoris lipurus* (Miridae)

Sumner, Summit track  
*Chinamiris virescens* (Miridae)

## **MK** Mackenzie

Hydro Road, Lake Benmore  
*Rhypodes argenteus* (Lygaeidae)  
*Rhypodes triangulus* (Lygaeidae)

Kea Walk, Mount Cook  
*Rhypodes brevipilis* (Lygaeidae)  
*Rhypodes spadix* (Lygaeidae)  
*Romna cuneata* (Miridae)

Lake Tekapo  
*Lepiostillus tekapoensis* (Lygaeidae)

Mount Sebastopol  
*Rhypodes gracilis* (Lygaeidae)

Sealy Lake track, Mount Cook National Park  
*Rhypodes jugatus* (Lygaeidae)

## **NC** North Canterbury

Arthur's Pass  
*Cermatulus nasalis hudsoni* (Pentatomidae)  
*Isodermus crassicornis* (Aradidae)  
*Nymphocoris maoricus* (Aenictopechidae)  
*Nysius convexus* (Lygaeidae)  
*Rhypodes myersi* (Lygaeidae)

Arthur's Pass, Dobson Memorial/Nature Walk  
*Chinamiris unicolor* (Miridae)  
*Kiwimiris melanocerus* (Miridae)

Greenwood's Bridge, Lower Waipara River  
*Sigara (Tropocorixa) potamius* (Corixidae)

Lake Janet, Mount Grey  
*Tomocoris truncatus* (Rhyparochromidae)

Lees Valley  
*Anexochus crassicornis* (Miridae)

## **ND** Northland

Coppermine Island, Hen and Chickens Islands  
*Wekamiris europilosus* (Miridae)

Helena Bay and Whakapara (between)  
*Mecenopa albiapex* (Miridae)

Kaeo  
*Mesadenocoris robustus* (Aradidae)

Kaitaia  
*Alloeorhynchus myersi* (Nabidae)

Kawakawa  
*Ctenoneurus setosus* (Aradidae)

Mangamuka Gorge Reserve  
*Cyrtodiridius aurantiacus* (Miridae)  
 Mount Manaia, Taurikura, Whangarei Heads  
*Romna pallida* (Miridae)  
 Ngaiotonga  
*Chinamiris secundus* (Miridae)  
 North Cape  
*Clavaptera ornata* (Aradidae)  
 Poor Knights Islands, Tawhiti Rahi  
*Aneurus (Aneurodellus) zealandensis* (Aradidae)  
 Rarawa Beach  
*Pimeleocoris viridis* (Miridae)  
 Spirits Bay  
*Millerocoris ductus* (Rhyparochromidae)  
 Unuwaho  
*Millerocoris conus* (Rhyparochromidae)  
*Modicarventus wisei* (Aradidae)  
 Waipoua Forest  
*Trypetocoris aucklandensis* (Rhyparochromidae)  
 Waipoua State Forest, Toronui Track  
*Acaraptera waipouensis* (Aradidae)  
 Waipoua State Forest, Yakas Tree track  
*Leuraptera yakasi* (Aradidae)  
 Warawara State Forest  
*Neocarventus uncus* (Aradidae)  
 Whangarei  
*Nabis (Australonabis) biformis* (Nabidae)

**ND/AK** Northland/Auckland

North Auckland  
*Nabis (Australonabis) biformis* (Nabidae)  
 Northern Auckland  
*Empicoris aculeatus* (Reduviidae)

**NN** Nelson

Aniseed Valley  
*Romna variegata* (Miridae)  
 Cobb Reservoir, Trilobite Hut  
*Chinamiris juvans* (Miridae)  
 Junction Brown and Aorere Rivers  
*Neadenocoris reflexus* (Aradidae)  
 Kaihoka Lakes, West Haven  
*Tuicoris excelsus* (Miridae)  
 Maitai Valley  
*Rhypodes koebelei* (Lygaeidae)  
*Gourlayocoris mirabilis* (Enicocephalidae)  
 Mount Arthur  
*Aneurus (Aneurodellus) salmoni* (Aradidae)  
*Chinamiris nigrifrons* (Miridae)  
*Chinamiris rufescens* (Miridae)  
*Kiwimiris bipunctatus* (Miridae)  
*Rhypodes brachypterus* (Lygaeidae)  
*Rhypodes russatus* (Lygaeidae)  
 Nelson  
*Chinamiris marmoratus* (Miridae)  
*Maoricoris benefactor* (Anthocoridae)  
*Maoristolus tonnoiri* (Aenictopecheidae)  
*Sejanus albesignatus* (Miridae)  
 Nelson (Botanical Reserve)  
*Chaetedus longiceps* (Miridae)  
*Deraeocoris maoricus* (Miridae)

Oparara  
*Woodwardiana nelsonensis* (Rhyparochromidae)  
 Roding River  
*Chinamiris viridicans* (Miridae)  
 Seddonville  
*Aenictocoris powelli* (Aenictopecheidae)  
 Takaka Hill  
*Woodwardiana paparia* (Rhyparochromidae)  
 Upper Takaka  
*Neadenocoris abdominalis* (Aradidae)  
 Wakefield  
*Chaetedus reuterianus* (Miridae)

**NZ** New Zealand

New Zealand  
*Adenocoris spiniventris* (Aradidae)  
*Aneuraptera cimiciformis* (Aradidae)  
*Aneurus (Aneurodellus) brouni* (Aradidae)  
*Anisops assimilis* (Notonectidae)  
*Anisops wakefieldi* (Notonectidae)  
*Bezu wakefieldi* (Berytidae)  
*Brentiscerus putoni* (Rhyparochromidae)  
*Cardiastethus brounianus* (Anthocoridae)  
*Cardiastethus consors* (Anthocoridae)  
*Cardiastethus poweri* (Anthocoridae)  
*Chinamiris laticinctus* (Miridae)  
*Ctenoneurus hochstetteri* (Aradidae)  
*Ctenoneurus myersi* (Aradidae)  
*Cydnoclochaerous nigrosignatus* (Cydnidae)  
*Diaprepocoris zealandiae* (Corixidae)  
*Diomocoris maoricus* (Miridae)  
*Glaucias amyoti* (Pentatomidae)  
*Margareta dominica* (Rhyparochromidae)  
*Metagerra helmsi* (Rhyparochromidae)  
*Metagerra obscura* (Rhyparochromidae)  
*Microvelia macgregori* (Veliidae)  
*Nabis (Tropiconabis) maoricus* (Nabidae)  
*Nysius buttoni* (Lygaeidae)  
*Remaudiereana inornata* (Rhyparochromidae)  
*Reuda mayri* (Miridae)  
*Rhopalimorpha (Rhopalimorpha) obscura*  
 (Acanthosomatidae)  
*Rhypodes anceps* (Lygaeidae)  
*Rhypodes clavicornis* (Lygaeidae)  
*Romna capsoidea* (Miridae)  
*Romna scotti* (Miridae)  
*Saldula australis* (Saldidae)  
*Saldula butleri* (Saldidae)  
*Saldula laelaps* (Saldidae)  
*Sigara (Tropocorixa) arguta* (Corixidae)  
*Targarema electa* (Rhyparochromidae)  
*Targarema stali* (Rhyparochromidae)

**OL** Otago Lakes

Bold Peak  
*Nothochromus maoricus* (Artheneidae)  
 Coronet Peak/Mount  
*Rhypodes celmisiae* (Lygaeidae)  
*Rhypodes longiceps* (Lygaeidae)  
*Kiwimiris niger* (Miridae)

## Dart Hut

- Hypsosoma acantheen* (Schizopteridae)  
 Lake Wakatipu  
*Forsterocoris salmoni* (Rhyparochromidae)  
 Mount Alpha, Wanaka  
*Romna oculata* (Miridae)  
 Mount Aurum  
*Hypsithocus hudsonae* (Pentatomidae)

**RI** Rangitikei

- Palmerston North, Ballantrae  
*Bipuncticoris triplex* (Miridae)  
 Raetihi  
*Regatarma forsteri* (Rhyparochromidae)  
 Ruahine Range  
*Romna tenera* (Miridae)  
 Ruahine Range, Maropea Hut  
*Chinamiris opacus* (Miridae)  
 Vinegar Hill Reserve (upper Rangitikei River)  
*Truncala hirsuta* (Rhyparochromidae)

**SC** South Canterbury

- Kakahu  
*Truncala hirta* (Rhyparochromidae)

**SD** Marlborough Sounds

- Inner Chetwode Island  
*Truncala sulcata* (Rhyparochromidae)  
 Ship Cove  
*Rhypodes cognatus* (Lygaeidae)  
 Stephens Island  
*Chinamiris aurantiacus* (Miridae)  
*Chinamiris fascinans* (Miridae)

**SI** Stewart Island

- Big South Cape Island  
*Forsterocoris stewartensis* (Rhyparochromidae)  
 Mason Bay, bush north of Duck Creek  
*Xiphoides vacans* (Miridae)  
 Stewart Island  
*Rhypodes stewartensis* (Lygaeidae)  
 Table Hill  
*Bipuncticoris longicerus* (Miridae)  
*Romna uniformis* (Miridae)  
 Twilight Bay, Port Pegasus  
*Monophasrus annulatus* (Miridae)

**SL** Southland

- Orepuki  
*Trypetocoris rufid* (Rhyparochromidae)  
 Tapanui  
*Woodwardiana notialis* (Rhyparochromidae)

**TH** Three Kings Islands

- Great Island  
*Cermatulus nasalis turbotti* (Pentatomidae)  
*Diomocoris woodwardi* (Miridae)

## Great Island, Castaway Valley

- Paratruncala insularis* (Rhyparochromidae)  
 Great Island, Tasman Valley  
*Basileobius gilviceps* (Miridae)  
*Xiphoides regis* (Miridae)  
 South West Island  
*Lissaptera completa* (Aradidae)

**TK** Taranaki

- Dawson Falls Road, Taranaki  
*Chinamiris testaceus* (Miridae)  
 Mount Egmont [=Taranaki], Manganui Gorge  
*Bipuncticoris robustus* (Miridae)

**TO** Taupo

- Desert Road, Waipakihi Road  
*Pimeleocoris luteus* (Miridae)  
 Iwikau Village, Mount Ruapehu  
*Chinamiris citrinus* (Miridae)  
 Ohakune  
*Acaraptera myersi* (Aradidae)  
*Tretocoris grandis* (Aradidae)  
 Taupo (North of ...)  
*Udeocoris levis* (Rhyparochromidae)  
 Turangakumu, Napier-Taupo Road  
*Chinamiris ovatus* (Miridae)  
 Whakapapa Village, Mount Ruapehu  
*Chinamiris whakapapae* (Miridae)  
 Waipakihi Road, edge of Kaimanawa Forest  
*Xiphoides badius* (Miridae)  
*Xiphoides multicolor* (Miridae)

**TO/GB** Taupo/Gisborne

- Mount Maungapohatu  
*Rhypodes crinitus* (Lygaeidae)

**WA** Wairarapa

- Masterton  
*Empicoris angulipennis* (Reduviidae)

**WD** Westland

- Franz Josef  
*Chinamiris punctatus* (Miridae)  
*Nysius liliputanus* (Lygaeidae)  
 Okarito  
*Woodwardiana evagorata* (Rhyparochromidae)  
 Otira  
*Chinamiris elongatus* (Miridae)  
 Waiho Gorge  
*Sigara (Tropocorixa) uruana* (Corixidae)  
 Waiho River flats, Franz Josef  
*Pimeleocoris roseus* (Miridae)

**WI** Wanganui

- Foxton  
*Chinamiris muehlenbeckiae* (Miridae)  
*Xiphoides myersi* (Miridae)

## Paiaka

- Chinamiris cumberi* (Miridae)  
*Cymus novaezelandiae* (Cymidae)  
*Cyrtorhinus cumberi* (Miridae)

## Wanganui, Longacre

- Adenocoris brachypterus* (Aradidae)  
 Wanganui, Longacre Road  
*Chinamiris niculatus* (Miridae)

**WN Wellington**

- Gollans Valley  
*Cyperobia carectorum* (Cantacaderidae)  
 Karori  
*Ploaria antipodum* (Reduviidae)  
 Korokoro  
*Chinamyersia cinerea* (Aradidae)  
*Maoristolus tonnoiri* (Aenictopechidae)  
 Mount Matthews  
*Rhypodes chinai* (Lygaeidae)  
 Ngaio  
*Chinamyersia viridis* (Aradidae)  
 Norfolk Road (to Mount Holdsworth)  
*Diomocoris ostiolum* (Miridae)  
 Paekakariki, Queen Elizabeth Park  
*Chinamiris indeclivis* (Miridae)  
 Paraparaumu  
*Diomocoris fasciatus* (Miridae)

## S Karori

- Saldula maculipennis* (Saldidae)  
*Saldula parvula* (Saldidae)  
*Saldula trivialis* (Saldidae)  
 Tararua Forest Park, Mount Dundas  
*Bipuncticoris chlorus* (Miridae)  
 Tararua Range, Dundas Hut  
*Bipuncticoris planus* (Miridae)  
 Tararua Range, Dundas Ridge  
*Kiwimiris coloratus* (Miridae)  
 Tararua Range, start of Mount Holdsworth Track  
*Diomocoris sexcoloratus* (Miridae)  
 Terawhiti Hill  
*Bipuncticoris minor* (Miridae)  
*Rhypodes sericatus* (Lygaeidae)  
 Wainui State Forest  
*Empicoris seorsus* (Reduviidae)  
*Ploaria antipodum* (Reduviidae)  
 Wellington  
*Ploaria antipodum* (Reduviidae)  
*Systelloderes maclachlani* (Enicocephalidae)  
 York Bay  
*Ploaria antipodum* (Reduviidae)

**WO Waikato**

- Arapae, Te Kuiti-Awakino  
*Tanybyrsa cumberi* (Tingidae)  
 Taupiri (NW of ...)  
*Tomocoris ornatus* (Rhyparochromidae)

**Appendix I. New Zealand species currently known from 10 populations or fewer.** A = adventive; E = endemic; N = native, but not endemic to New Zealand; \* = of potential interest to conservation.

#### Acanthosomatidae

\* *Rhopalimorpha alpina* E

#### Aenictopecheidae

*Aenictocoris powelli* E

*Maoristolus parvulus* E

*Maoristolus tonnoiri* E

*Nymphocoris maoricus* E

#### Anthocoridae

\* *Maoricoris benefactor* E

#### Aradidae

*Adenocoris brachypterus* E

*Adenocoris spiniventris* E

*Aneuraptera cimiciformis* E

\* *Aneurus (A.) brevipennis* E

\* *Aneurus (A.) maoricus* E

\* *Aneurus (A.) prominens* E

*Acaraptera waipouensis* E

*Chinamyersia viridis* E

*Clavaptera ornata* E

*Ctenoneurus myersi* E

*Ctenoneurus pendergrasti* E

*Isodermus maculosus* E

*Isodermus tenuicornis* E

*Leuraptera yakasi* E

*Leuraptera zealandica* E

*Lissaptera completa* E

*Mesadenocoris robustus* E

*Modicarventus wisei* E

*Neadenocoris abdominalis* E

*Neadenocoris acutus* E

*Neadenocoris glaber* E

*Neadenocoris ovatus* E

*Neadenocoris reflexus* E

*Neocarventus uncus* E

#### Artheneidae

\* *Nothochromus maoricus* E

#### Cantacaderidae

*Caridrakeana socia* N

#### Cydnidae

*Chilocoris neozealandicus* N

#### Enicocephalidae

*Phthirostenus magnus* E

#### Lygaeidae

\* *Lepiostillus tekapoensis* E

\* *Nysius liliputanus* E

\* *Rhypodes argenteus* E

\* *Rhypodes atricornis* E

\* *Rhypodes brachypterus* E

*Rhypodes brevifissas* E

\* *Rhypodes brevipilis* E

*Rhypodes bucculentus* E

\* *Rhypodes crinitus* E

*Rhypodes depilis* E

\* *Rhypodes eminens* E

*Rhypodes gracilis* E

\* *Rhypodes longirostris* E

\* *Rhypodes rupestris* E

*Rhypodes russatus* E

\* *Rhypodes townsendi* E

\* *Rhypodes triangulus* E

#### Miridae

*Anexochus crassicornis* E

\* *Basileobius gilviceps* E

\* *Bipuncticoris cassianianus* E

\* *Bipuncticoris chlorus* E

\* *Bipuncticoris convexus* E

\* *Bipuncticoris gurri* E

\* *Bipuncticoris minor* E

\* *Bipuncticoris planus* E

\* *Bipuncticoris robustus* E

\* *Bipuncticoris vescus* E

\* *Bipuncticoris xestus* E

\* *Chinamiris brachycerus* E

\* *Chinamiris citrinus* E

\* *Chinamiris daviesi* E

*Chinamiris fascinans* E

\* *Chinamiris hamus* E

\* *Chinamiris juvans* E

*Chinamiris marmoratus* E

\* *Chinamiris minutus* E

*Chinamiris muehlenbeckiae* E

\* *Chinamiris niculatus* E

\* *Chinamiris opacus* E

\* *Chinamiris quadratus* E

\* *Chinamiris rufescens* E

*Chinamiris virescens* E

\* *Chinamiris whakapapae* E

\* *Cyrtodiridius aurantiacus* E

*Cyrtorhinus cumberi* E

*Diomocoris russatus* E

*Diomocoris sexcoloratus* E

\* *Diomocoris woodwardi* E

\* *Kiwimiris bipunctatus* E

\* *Kiwimiris coloratus* E

\* *Kiwimiris concavus* E

*Kiwimiris melanocerus* E

\* *Mecenopa albiapex* E

\* *Monopharsus annulatus* E

\* *Monospatha distincta* E

\* *Peritropis aotearoae* E

*Pimeleocoris luteus* E

\* *Pimeleocoris roseus* E

\* *Pimeleocoris viridis* E

\* *Romna albata* E

\* *Romna bicolor* E

\* *Romna cuneata* E

*Romna nigrovenosa* E

\* *Romna oculata* E

\* *Romna ornata* E

*Romna pallida* E

\* *Romna uniformis* E

*Tuicoris lipurus* E

\* *Xiphoides luteolus* E

*Xiphoides multicolor* E

\* *Xiphoides regis* E

*Xiphoides vacans* E

#### Nabidae

*Alloeorhynchus (A.) myersi* E

#### Pentatomidae

\* *Hypsithocus hudsonae* E

#### Reduviidae

*Empicoris aculeatus* E

*Empicoris angulipennis* E

*Empicoris seorsus* E

#### Rhyparochromidae

\* *Forsterocoris salmoni* E

*Forsterocoris stewartensis* E

\* *Geratarma eylesi* E

\* *Geratarma manapourensis* E

*Metagerra angusta* E

\* *Metagerra kaikourica* E

*Metagerra truncata* E

\* *Millerocoris conus* E

\* *Paratruncala insularis* E

*Stizocephalus brevirostris* N

\* *Tomocoris truncatus* E

*Truncala insularis* E

*Trypetocoris aucklandensis* E

\* *Woodwardiana notialis* E

#### Saldidae

*Saldula australis* E

*Saldula butleri* E

*Saldula laelaps* E

*Saldula maculipennis* E

*Saldula parvula* E

*Saldula stoneri* E

*Saldula trivialis* E

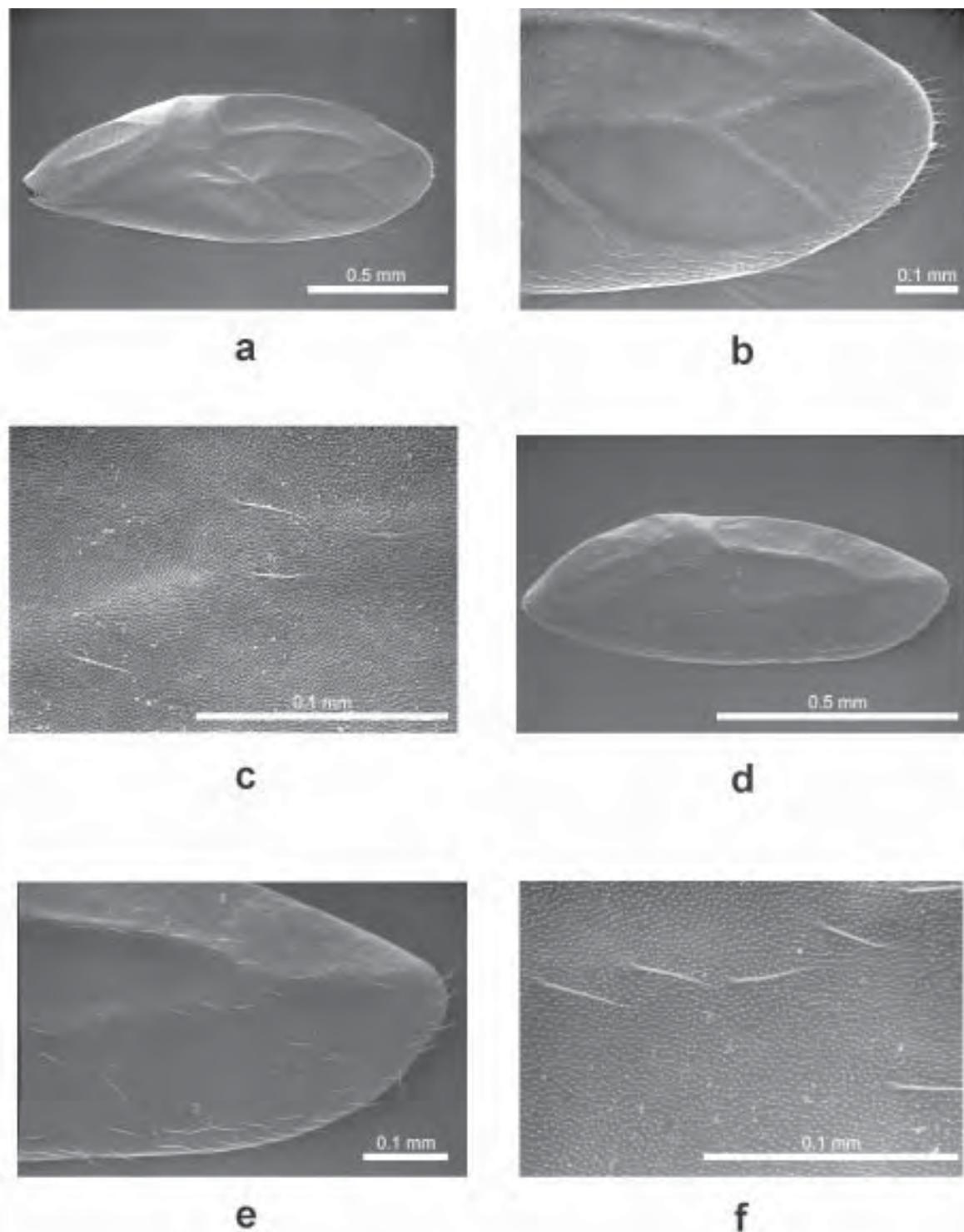


## ILLUSTRATIONS

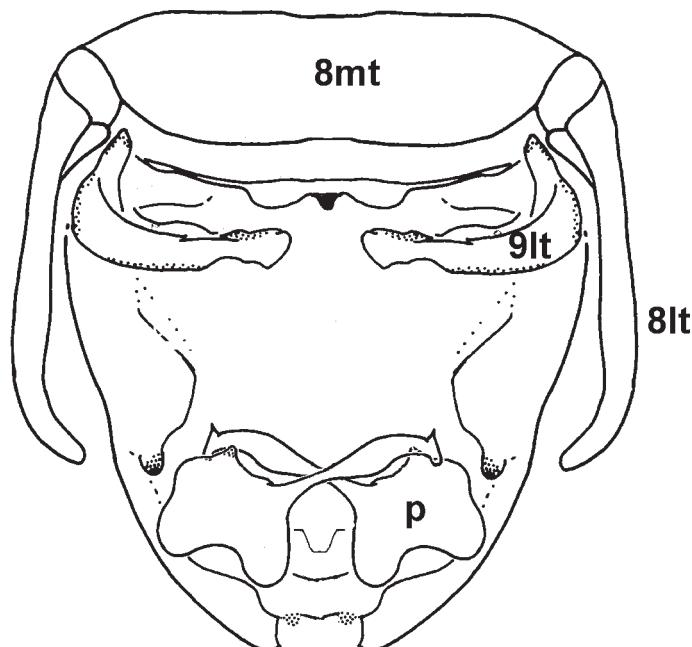
**Fig. 1** Locality and biology labels.

BIOLOGICAL DATA RECORD SHEET		Catalogue of N.Z. Heteroptera											
Species name:													
Life history characteristics:		terrestrial, aquatic, semi-aquatic, ...											
Altitudinal distribution:		Lowland	Montane	Subalpine	Alpine								
Vertical distribution:		Arboreal Endogean	Planticolous Cavernicolous	Epigean Corticolous	Fossorial								
Macrohabitat (incl. coastal):													
Microhabitat/Host plant:													
Diel activity:		Nocturnal	Diurnal	Crepuscular									
Gregariousness?/Associated taxa?													
Seasonality													
Mating:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Egg:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Nymph I:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Nymph II:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Nymph III:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Nymph IV:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Nymph V:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Teneral:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Adult:		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Life cycle:													
Overwintering:													
Feeding type:		Phytophagous	Predacious	Omnivorous	Detritivorous	Necrophagous							
		Hematophagous	Granivorous										
Food:													
Enemies:													
Dispersal power:													
Wing condition:		Brachypterous	Submacropterous	Macropterous									
		Micropterous											
Other:													

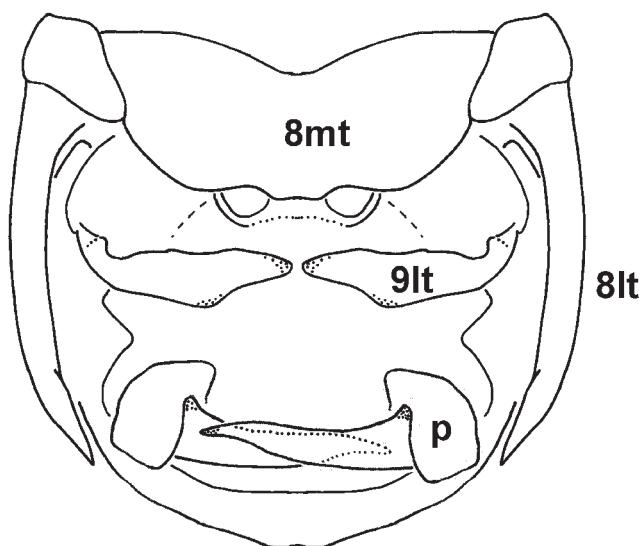
**Fig. 2** Data sheet.



**Fig. 3** Scanning electron macrographs of left forewing: (a–c) *Ceratocombus aotearoae* sp. nov. (a) dorsal view, (b–c) chaetotaxy; (d–f) *Ceratocombus novaezelandiae* sp. nov. (d) dorsal view, (e–f) chaetotaxy.



*Ceratocombus aotearoae* sp. nov.



*Ceratocombus novaezelandiae* sp. nov.

**Fig. 4** Schematic representation of male terminalia, dorsal view (lt—laterotergite, mt—mediotergite, p—paramere); chaetotaxy omitted.

## ACANTHOSOMATIDAE

*Rhopalimorpha alpina**Rhopalimorpha lineolaris*

## AENICTOPECHEIDAE

*Aenictocoris powelli*

Labeled items:  
♂ Holotype  
Arthur's Pass, S. Rips,  
N.W. Cant., S.I., New  
Zealand. ex leafmould.  
10-11-1949. E. Dawson.

HOLOTYPE ♂  
New Zealand Museum  
1950

*Nymphocoris maonicus*

HOLOTYPE ♂  
New Zealand Museum  
1950

Colour photographs of primary types of Heteroptera (pp. 225-275) deposited in New Zealand collections and museums (Photographs by Birgit Rhode).

## ARADIDAE

*Acaraptera waipouensis*

NEW ZEALAND, W.I.  
Waipoua (style) Rd.,  
10 km S.E. of Kerikeri  
12 Oct 1975, 1♂ (A. N. THOMAS)  
Spots prominent, brown  
and tan, 10-20 mm apart  
and 3-5 mm across  
gen. nov. 1976, n. 11-12  
Det. Dr. G. R. THOMAS  
DF designated as  
holotype specimen  
and is retained  
in the collection  
of the Royal Entomological Society.

1 mm

*Aneurus brevipennis*

NEW ZEALAND, W.I.  
Waipoua (style) Rd.,  
10 km S.E. of Kerikeri  
29 Oct 1975  
J. E. McKEE  
P.M. - Holotype  
76/129  
• joelmeekay

1 mm

*Aneurus maoricus*

Kiribati, at.  
Onganua Rd.  
26 May 1975  
G. THOMAS  
1♂ (holotype)  
Det. Dr. G. R. THOMAS  
DF designated as  
holotype specimen  
and is retained  
in the collection  
of the Royal Entomological Society.

1 mm

*Aneurus prominens*

Tokelau, 1975, 1♂ (holotype)  
Vandergrift  
Holotype





Kawa Kawa  
Waikomo Caves  
Area  
24-9-56

Coll:  
RA Crowley

On fruit  
bodies of  
fungus  
*Daldinia* sp.

**Ctenoneurus**  
**setosus**  
Lee & Penrithast  
HOLOTYPE

AMNZ 21725  
MUSEUM  
NEW ZEALAND



Waikato  
15.IX.55  
Locality  
name or  
number  
of specimen

G. E. Clarke  
Collection

AMERICAN  
MUSEUM  
OF NATURAL  
HISTORY

AMNZ 21720  
MUSEUM  
NEW ZEALAND

*Ctenoneurus setosus*

*Isodermus maculosus*



1951 XI.20.  
Takao State Forest,  
Sikao Dist. Thailand +  
1952 II.20. 11.1952  
2. Nov. 1952

Specimen obtained  
from Mr. S. Yamada  
and was given to me  
by Dr. T. Saito  
of the Tokyo University

If designated as  
holotype specimen  
it must be returned  
to New Zealand

**HOLOTYPE**  
***Leuraptera***  
***yakasi*** n. sp.

*Leuraptera yakasi*



A. E. Clarke  
20 March 1954  
2. 11. 1954

**HOLOTYPE**  
***Leuraptera***  
***zealandica***  
Clarke

*Leuraptera zealandica*

*Lissaptera completa*

S. S. Island, T. Hill,  
Kings Bay, Jan. 13, 1930  
T. E. M. Smith

*Lissaptera*  
*completa*

*Mesadenocoris robustus*

5 miles east of  
Rakaia, W.H. Ranch  
(S. No. 63)  
T. E. M. Smith

COLLECTOR: T.  
E. M. SMITH  
DATE: 1930  
TIME: 10 AM

Common name:  
P118q



Forest stream,  
Oauhou 4 km  
North Cape area  
22.11.1930  
E. K. Smith  
Mangonui Co.,  
North Island  
NEW ZEALAND  
AUCKLAND MUSEUM

Auckland Museum  
PLANT/6075  
SAMPLE 2/8

Sample 2/8  
Mangonui Co  
22.11.1930  
Modicarventus  
wisei  
HOLOTYPE ♀  
M. ORGAMAN 1939.

*Modicarventus*  
*wisei*  
HOLOTYPE  
M. ORGAMAN 1939

AMNZ 6328  
AUCKLAND  
MUSEUM  
NEW ZEALAND

*Modicarventus wisei**Neadenocoris abdominalis*

H. R. ALLEN  
Dear Valentine  
C. D. C. Smith  
1930

11 Mar 1930

COLLECTOR:  
Neadenocoris  
abdominalis

*Neadenocoris*  
*abdominalis*  
H. R. Allen

*Neadenocoris acutus*

Moana (L. In  
Hawaii)  
MAX. 10-4493  
P.R. Taitung  
Leaf mould.  
  
BIOLOGY:  
*Neadenocoris  
acutus*  
*Neadenocoris  
acutus*  
=  
Ls. & Mats.

*Neadenocoris glaber*

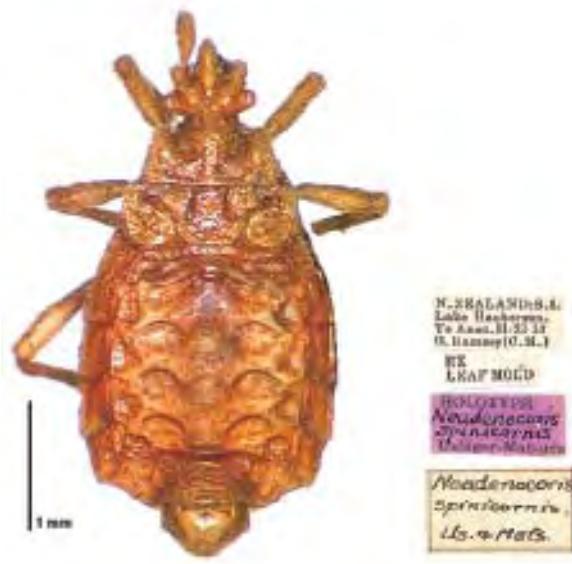
H. RIBALSKI, S.I.  
L. McArthur  
Dunkey Sound  
30-VII-1953  
T. Rines (CM)  
EX  
MNH  
  
L. McArthur, 2nd Fly Island  
S.J., H. Zimkiewicz (n.v.)  
30-IX-52 II. T. Rines (C.M.)  
  
BIOLOGY:  
*Neadenocoris  
glaber*  
*Neadenocoris  
glaber*  
Ls. & Mats.

*Neadenocoris ovatus*

H. RIBALSKI, S.I.  
Tobago, British  
West Indies  
17-VIII-52  
R. Pilgrim (L. m.)  
  
BIOLOGY:  
*Neadenocoris  
ovatus*  
*Neadenocoris  
ovatus*  
Ls. & Mats.

*Neadenocoris reflexus*

H. RIBALSKI, S.I.  
St. Lucia and  
Antigua Islands  
9-10-VIII-52  
C. M.  
  
S. B. Brown &  
G. W. R. R. R.  
9/1/52  
W. D. R. R.  
  
BIOLOGY:  
*Neadenocoris  
reflexus*  
*Neadenocoris  
reflexus*  
Ls. & Mats.

*Neadenocoris spiniformis**Neocarventus angulatus**Neocarventus unicus*

## ARTHENEIDAE

*Nothochromus maoricus*

## CERATOCOMBIDAE

*Ceratocombus aotearoae**Ceratocombus novaezelandiae*

## CORIXIDAE

*Sigara infrequens*

*Sigara infrequens*  
Holotype ♂ Young  
Berwick 25.5.69  
Det. E.C.Y.

HOLOTYPE

*Sigara limnochares*

*Sigara limnochares*  
Holotype ♀ Young  
Blue Duck Str. Waik.  
24.7.60 Det. E.C.Y.

HOLOTYPE

*Sigara potamius*

*Sigara potamius*  
Holotype ♂ Young  
Lum. Whanganui R.D.  
24.8.60 Det. E.C.Y.

HOLOTYPE

*Sigara uruana*

*Sigara uruana*  
Holotype ♀ Young  
Waikato Spp., Stewart  
22.3.68 Det. E.C.Y.

HOLOTYPE

## CYDNIDAE

*Chilocoris neozelandicus*

## CYMIDAE

*Cymus novaezelandiae*

## ENICOCEPHALIDAE

*Gourlayocoris mirabilis**Phthirostenus magnus*

New Zealand 1951-1952  
E. G. Turbott.  
HOLOTYPE ♂  
*Phthirostenus magnus*  
Marlborough 1952

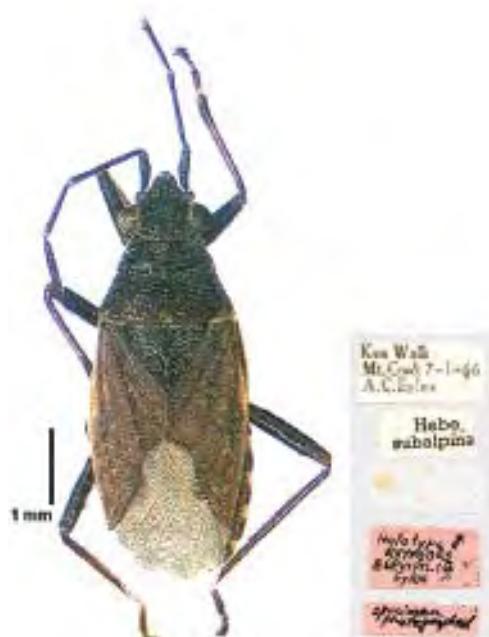


Leslie Valley Track  
Leafmould, beech forest.  
22.i.1948. R. R. Forster.  
HOLOTYPE ♂  
*Systelloderes notialis*  
Marlborough 1952

*Systelloderes notialis*

## LYGAEIDAE

*Lepiosillus tekapoensis**Nysius filiputanus**Rhypodes argenteus**Rhypodes atricornis*

*Rhypodes brachypterus**Rhypodes brevifissas**Rhypodes brevipilis**Rhypodes bucculentus*

*Rhypodes celmisiae*

Mr. Coronet, Queenstown  
Sp 1900-5000'  
Col. S. J. Townsend 2.1.13

**Holotype ♀**  
**RHYPODES**  
**CELMISIAE**  
Sylas

*Rhypodes cognatus*

MSB-CNC  
22  
13-PH-73  
4.2.1...-20-200  
grass and  
scrubs

**Holotype ♀**  
**RHYPODES**  
**COGNATUS**  
Sylas

*Rhypodes crinitus*

Plant  
Rhynchosciurus  
inter. 1900  
RP 2 Mar 9  
A.C. Elyea  
surrounding  
grass and  
scrubs.  
**Holotype ♀**  
**ARMED**  
Sylas

*Rhypodes depilis*

MSB-CNC  
22  
13-PH-73  
4.2.1...-20-200  
Ceratonia  
fennicola

**Holotype ♀**  
**RHYPODES**  
**DEPILIS**  
Sylas

*Rhypodes eminens*

Mr. R. G. Smith  
Māori name: *whakarau*  
L.O. 1938 300001/4/ 1961  
Holotype ♂  
*RHYPODES  
EMINENS*  
Selys

*Rhypodes gracilis*

Mr. Sebastopol  
4000' 9-1-66  
showing 1933  
Holotype ♂  
*RHYPODES  
GRACILIS*  
Selys

*Rhypodes hirsutus*

Maori name: *spur*  
Selys 1868 fig. 69  
as *RHYPODES*  
On. Japonica  
brevirostris

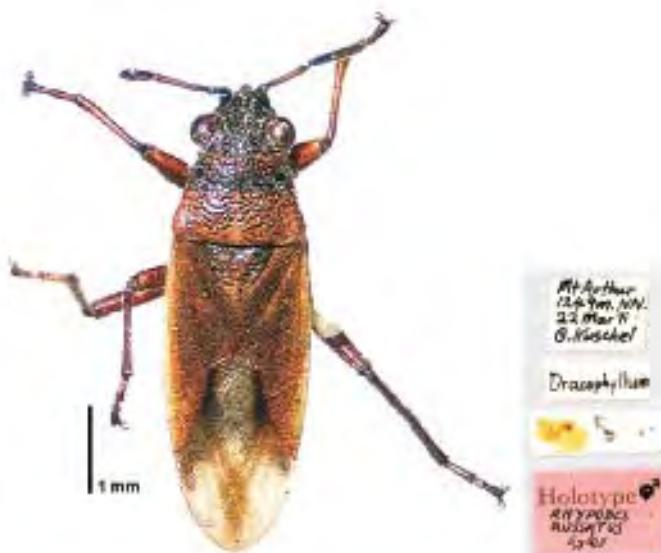
Holotype ♀  
*RHYPODES  
HIRSUTUS*  
Selys

*Rhypodes jugatus*

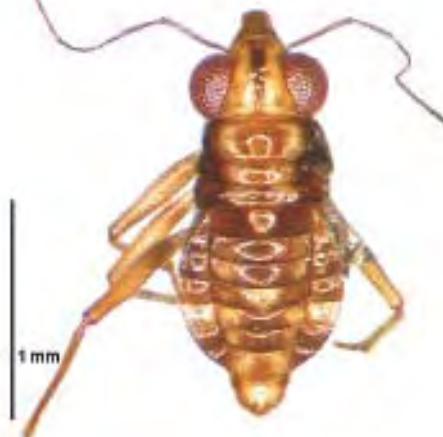
Southern Lake District,  
N.Z. In Canterbury.  
no. 2000 1964-65  
probably  
*C. sphaeroides*

Holotype ♂  
*RHYPODES  
JUGATUS*  
Selys

*Rhypodes koebelei**Rhypodes longiceps**Rhypodes longirostris**Rhypodes rupestris*

*Rhypodes townsendi**Rhypodes triangulus*

## MESOVELIIDAE



Lynchiidae, AB,  
Tropidostoma, Br.  
H. Kuschel.

H. F. L. 77  
Mniovelia kuscheli



Mesovelidae  
Deutschland  
Bonn, 1977  
H. Kuschel.

*Mniovelia kuscheli*

## MIRIDAE

*Anexochus crassicornis*

NEW ZEALAND: PC  
Lakes & 5500'  
2013-1998. ♀  
K.D. Lomax 601  
  
Buller 1962  
Miridae =  
Anexochus  
  
Male sp. ♂  
ANEXOCHEUS  
CRASSICORNIS  
Faxon

*Basileobius gilviceps*

Tasman  
Valley\*

Buller 1962 Ls  
Sect 1, Ser. 70  
50, 101, 119, 149,

Male type sp.  
BASILEOBIUS  
GILVICEPS  
Faxon & Shuckard

*Bipuncticoris cassinianus*

MB. Block N.Z.  
No. 2n-21220  
4600' (22.1978)  
N.E. Egmont,  
  
BIPUNCTICORIS  
CASSINIANUS  
Gibbs & Gennella  
  
photograph by

*Bipuncticoris chlorus*

NEW ZEALAND: N.Z.  
Tasman Rg  
Mt Somers Valley  
15,000'  
C.J. Bellot  
  
photograph by

BIPUNCTICORIS  
CHLORUS  
Gibbs & Gennella

*Bipuncticoris convexus*

Mr. Richardson  
Fell Rd. 13.3.69  
4500' A.C. Eyles.  
Senecio oblongus  
with my nupts.  
  
Holotype ♂  
*BIPUNCTICORIS  
CONVEXUS*  
Eyles & Carvalho  
  
photo Fig. 15

*Bipuncticoris gurri*

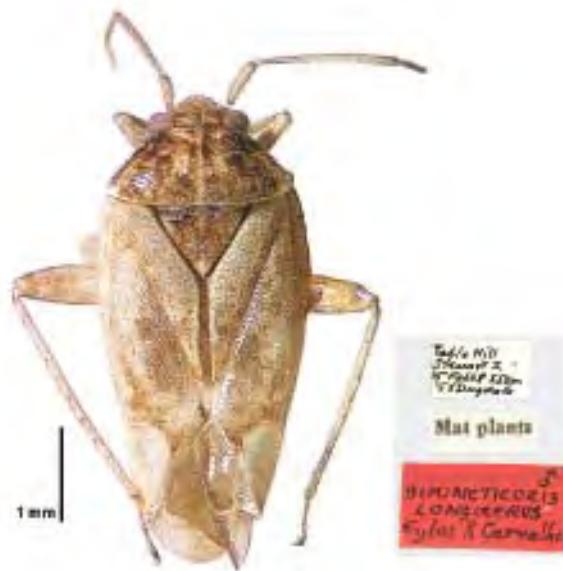
Makahu Spur  
4000' Haweka Ra.  
Clebsomine 24 Feb 71  
A.C. Eyles, Oceania  
  
Holotype ♂  
*BIPUNCTICORIS  
GURRI*  
Eyles & Carvalho

*Bipuncticoris irroratus*

Mr. Barber  
above Kauhinae  
Mannpouri  
Exp. Jan. 70  
A.C. Eyles  
  
Dr. Olearia  
Crabey  
Tin Sissons  
  
Holotype ♂  
*BIPUNCTICORIS  
IRRORATUS*  
Eyles & Carvalho  
  
Eyles photo 60

*Bipuncticoris lineatus*

S. Berland 8  
760m  
  
Hunter  
Mts  
  
Monapuri  
Exp. Jan. 70  
I. Townsend  
  
Beating  
flowers  
  
Olearia  
virgata  
  
Holotype ♂  
*BIPUNCTICORIS  
LINEATUS*  
Eyles & Carvalho

*Bipuncticoris longicerus**Bipuncticoris minor**Bipuncticoris olearinus**Bipuncticoris planus*

*Bipuncticoris robustus**Bipuncticoris triplex**Bipuncticoris vescus**Bipuncticoris xestus*

*Chaetedus longiceps*

M. neutropana  
Wilson Botanical  
Reserve 29. I. 1971  
A. C. Eyles, sweep grass.  
HOLOTYPE ♂  
*CHAETEDUS*  
*LONGICEPS*  
Eyles

*Chaetedus plumalis*

Bent Creek Reserve  
10-21-11 Feb  
2000 W.F.  
sweep from  
mossy rock  
Whanganui  
HOLOTYPE  
*CHAETEDUS*  
*PLUMALIS*  
Eyles

*Chinamiris acutospinosus*

Glenfield, lower slope  
1.0 mm diameter 27/07/1982  
HOLOTYPE ♂  
*CHINAMIRIS*  
*ACUTOSPINOSUS*  
Eyles & Crambidae

*Chinamiris aurantiacus*

Judge's Bush  
24/08/1982  
HOLOTYPE ♂  
*CHINAMIRIS*  
*AURANTIACUS*  
Eyles & Crambidae

*Chinamiris brachycerus**Chinamiris citrinus**Chinamiris cumberi**Chinamiris daviesi*

*Chinamiris dracophylloides*

Oblique back  
1641 m.  
Manapouri  
Est. Area 70  
A.C. Ryins.  
  
Dracophyllum  
Upper bush  
edge  
  
Males p. 14-17  
C. M. Gourlay  
B. C. Gourlay  
R. J. Gourlay

*Chinamiris elongatus*

Oblique  
15-16-17  
J.L. Thompson  
  
CATARACT AREA  
ELONGATED  
Male & female

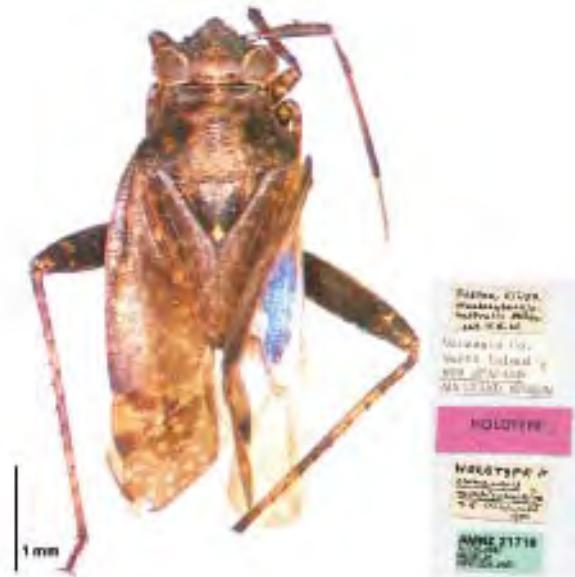
*Chinamiris fascinans*

Sheridan I.  
Lagoon 1962  
G. Gourlay  
  
Males p. 14-17  
C. M. Gourlay  
B. C. Gourlay  
R. J. Gourlay

*Chinamiris guttatus*

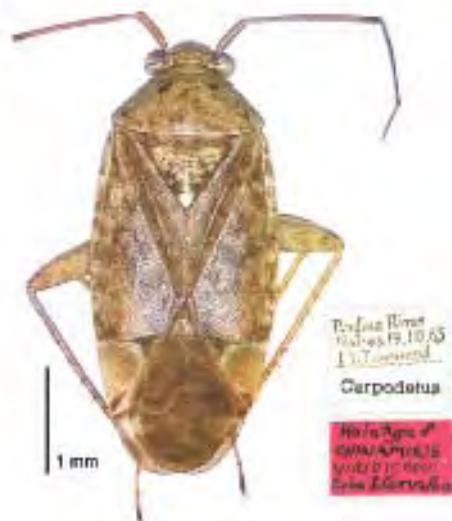
L. Rotokai Rd.  
27.10.64  
E.S. Gourlay  
  
Males p. 14-17  
C. M. Gourlay  
B. C. Gourlay  
R. J. Gourlay

*Chinamiris hamus**Chinamiris indeclivis**Chinamiris juvans**Chinamiris marmoratus*

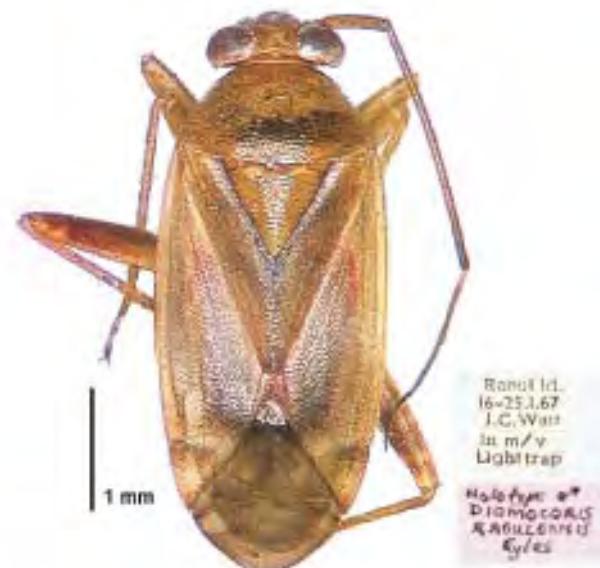
*Chinamiris minutus**Chinamiris muehlenbeckiae**Chinamiris niculatus**Chinamiris nigrifrons*

*Chinamiris opacus**Chinamiris ovatus**Chinamiris punctatus**Chinamiris quadratus*

*Chinamiris rufescens**Chinamiris secundus**Chinamiris testaceus**Chinamiris unicolor*

*Chinamiris virescens**Chinamiris viridicans**Chinamiris whakapapae**Chinamiris zygotos*

*Cyrtodiridius aurantiacus**Cyrtorhinus cumberi**Deraeocoris maoricus**Diomocoris fasciatus*

*Diomocoris granosus**Diomocoris ostiolum**Diomocoris punctatus**Diomocoris raoulensis*

*Diomocoris russatus*

NEW ZEALAND. 19  
LAWES TRAP. T. WOOD-  
WARD. 1930. 1931.  
M. T. LEADER.  
Central North and  
North Island;  
on Pittosporum  
sp. (Tephritisidae).  
East Cape District  
1930 - 1931.  
N.Z. Arthropod  
Collection.

MATERIAL OF  
*DIOMOCORIS  
RUSSELLUS*  
Selys

*Diomocoris sexcoloratus**Diomocoris woodwardi**Halormus velifer*

*Josemiris carvalhoi**Kiwimiris bipunctatus**Kiwimiris coloratus**Kiwimiris concavus*

*Kiwimiris melanocerus**Kiwimiris niger**Lincolnia lucemina**Mecenopa albiapex*



Peritropis aotearoae

Pimeleocoris luteus

*Pimeleocoris roseus*

NEW ZEALAND: WD  
Hawke's Bay, Flax  
L. 12.5 km E of  
Wairoa 1000 ft.  
1999 R.K. Eyles

MOL. TYPE OF  
*PIMELEOCORIS*  
*ROSEUS*  
Eyles & Schuh

*Pimeleocoris viridis*

AD. Hawke's Bay,  
Flax Lagoon, 1000  
ft., 12.5 km E of  
Wairoa 1999 R.K. Eyles

MOL. TYPE OF  
*PIMELEOCORIS*  
*VIRIDIS*  
Eyles & Schuh

*Polyozus galbanus*

D.W. Buttram, Whiti  
1 Dec 1999 R.K. Eyles

MOL. TYPE OF  
*POLYOZUS*  
*GALBANUS*  
Eyles & Schuh

*Romna albata*

Mandarin Spur  
Kaweka R.R.  
6000' E. 1999  
J.L. Thompson

Specimen from  
Phyllotaxis

MOL. TYPE OF  
*ROMNA ALBATA*  
Eyles & Schuh

IMAG. PHOTOGRAPHED

*Romna bicolor**Romna cuneata**Romna nigrovenosa**Romna oculata*

*Romna ornata*

X. ROMNA  
ORNATA FRIED.  
RECOLLECTED  
IN TROP. HABIT.  
E. J. MINTY  
  
HOLOTYPE ♂  
ROMNA  
ORNATA  
SCHAEFFER

*Romna pallida*

ROMNA  
ORNATA  
FRIED.  
BY E. J. MINTY  
COLLECTED  
HEMI. 160  
  
ROMNA sp.  
T. E. Woodward  
Det. Feb. 1914.  
HEMI. 160  
  
HOLOTYPE ♂  
ROMNA  
PALLIDA  
SCHAEFFER

*Romna tenera*

M. E. ALDRICH  
M. 11. 1914  
PL. 11/14  
  
X. ROMNA  
TENERA  
C. E. RYKE  
  
Holotype ♂  
ROMNA  
TENERA  
RYKE

*Romna uniformis*

Table VIII  
figs 16, 17  
  
Stewart I.  
Exp. Feb. 1914  
Boiling  
  
HOLOTYPE ♂  
ROMNA  
UNIFORMIS  
RYKE & CURNISH

*Romna variegata**Tinginotum minutum**Tuicoris excelsus*

*Tuicoris lipurus**Wekamiris auropilosus**Xiphoides badius**Xiphoides luteolus*



## PENTATOMIDAE

*Cermatulus nasalis hudsoni*

Arthur's Pass  
20 Dec. 1940  
10 sp.  
Hudson Coll.

HOLOTYPE

Cermatulus n. sp. hudsoni  
holotype, male  
Arthur's Pass, N.Z.

*Hypsithocus hudsonae*

Lower Dives  
Mt Arthur,  
Jan 16, 1940  
Hudson Coll.

No sp. sp.  
holotype  
N.Z.

*Cermatulus nasalis turbotti*

Tower Hill Is.,  
N. of Taupo L.,  
NEW ZEALAND  
HOLOTYPE

HOLOTYPE - ♂

Is. of Taupo,  
Tauranga Sp.,  
Great S.,  
Thomson's L.,  
L. 20' 1940,  
S. W. Turrott

HOLOTYPE - ♀  
Cermatulus n. sp.  
holotype, female  
Is. of Taupo, N.Z.

AMNH 31718  
NEW ZEALAND

## RHYPAROCHROMIDAE



Cascade CR, Hollyford Valley,  
S.I., N.Zealand (leaf mould).  
26.II.81. R.R. Forster.

**HOLOTYPE ♂**  
*Forsterocoris bisinuatus*  
Woodlinton 1973



L. Waitakere (beach forest, Maketu L.  
Rd) S.I., N.Zealand. 7.XII.48  
(leaf mould). T.T. Salmon.

**HOLOTYPE ♂**  
*Regalaroma salmoni*  
Woodlinton 1973

*Forsterocoris bisinuatus*

*Forsterocoris salmoni*



L. Manapouri, S.I.,  
N.Zealand (moss).  
22.I.81. R.R. Forster.

**HOLOTYPE ♂**  
*Forsterocoris sinuatus*  
Woodlinton 1973



Big S. Cap L.  
SW Stewart I.  
Nov 88  
J. McBussey  
litter

**Forsterocoris**  
*stewartensis* (McBussey)

*Forsterocoris sinuatus*

*Forsterocoris stewartensis*

*Geratarma eylesi**Geratarma manapourensis**Metagerra angusta**Metagerra kaikourica*

*Metagerra truncata**Millerocoris conus**Millerocoris ductus**Paratruncala insularis*

*Regatarma forsteri*

Raetihi (central N.Z.) New Zealand. 22.XII-4.I. coll.  
R. R. Forster (in leaf mould)  
HOLOTYPE ♂  
*Regatarma forsteri* (Forster)  
Lepidoptera: Gelechiidae

*Stizocephalus brevirostris*

Alluvial loch bank  
1600m. 16.II.76  
Black Brook,  
Marlborough. R. C. Epler  
HOLOTYPE ♂  
*STIZOCEPHALUS*  
*BREVIROSTRIS*  
Epler

*Tomocoris ornatus*

N.W. of Tamaki, N.Z.,  
New Zealand. 2.V.49  
(leaf mould). R. J. Healy  
HOLOTYPE ♂  
*Tomocoris ornatus*  
Woodward, 1957

*Tomocoris truncatus*

I. Tanei; Mt. Grey.  
N. Coast, S.E. N.Z.  
22.VII-5.IX.1971  
T. L. Dugdale  
HOLOTYPE ♂  
*Tomocoris truncatus*  
Woodward, 1957

*Truncala hirsuta*

Mangere Hill Res. (Upper Rangi Rd) N.Z.  
N.Zealand, 19.00-50  
(leaf mould). E.R. Fawcett  
**HOLOTYPE of**  
*Truncala hirsuta*  
Fawcett, 1957

*Truncala hirta*

Kakahu, Cant. S.I.,  
N.Zealand, 30-IV-50.  
(leaf mould). E.R. Fawcett  
**HOLOTYPE of**  
*Truncala hirta*  
Fawcett, 1957

*Truncala insularis*

Ind. T.-  
Kerikeri 1a Gs  
24 Nov. 72 -  
G.N. Bassey  
  
Lector  
72/232  
  
Heteroptera  
Truncala  
New Zealand  
**HOLOTYPE of**  
*Truncala insularis*  
Bassey, 1973

*Truncala sulcata*

Matiu/Somes Is., Marlborough,  
New Zealand, 12-18-9 E. (In a F.  
nest).- T. Te Wharewan  
**HOLOTYPE of**  
*Truncala (Reticulatus)*  
Fawcett, 1957

*Trypetocoris aucklandensis**Trypetocoris nudis**Trypetocoris separatus**Udeocoris levis*

*Woodwardiana evagorata**Woodwardiana nelsonensis**Woodwardiana notialis**Woodwardiana paparia*

## SCHIZOPTERIDAE

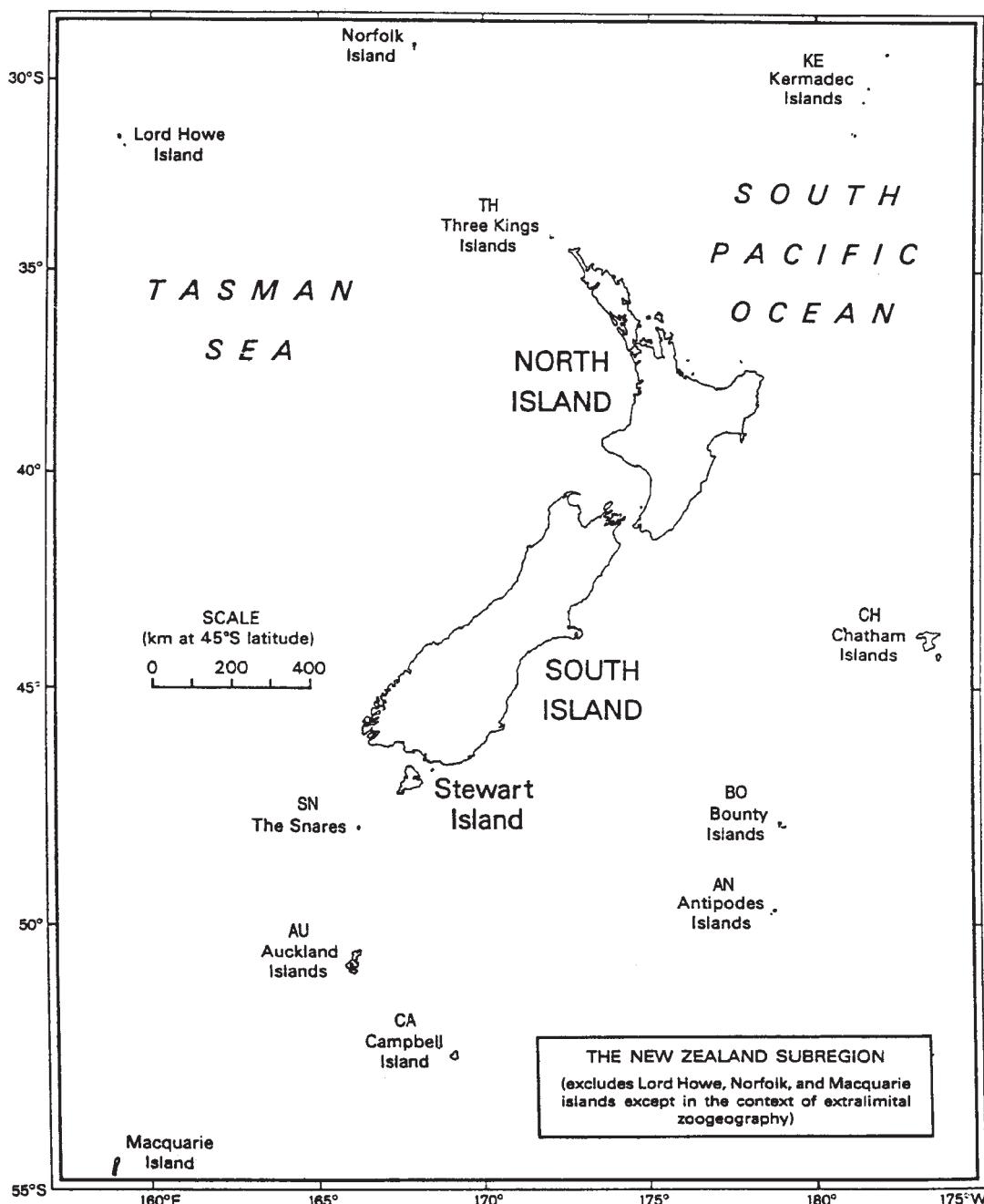


*Hypselosoma acantheen*

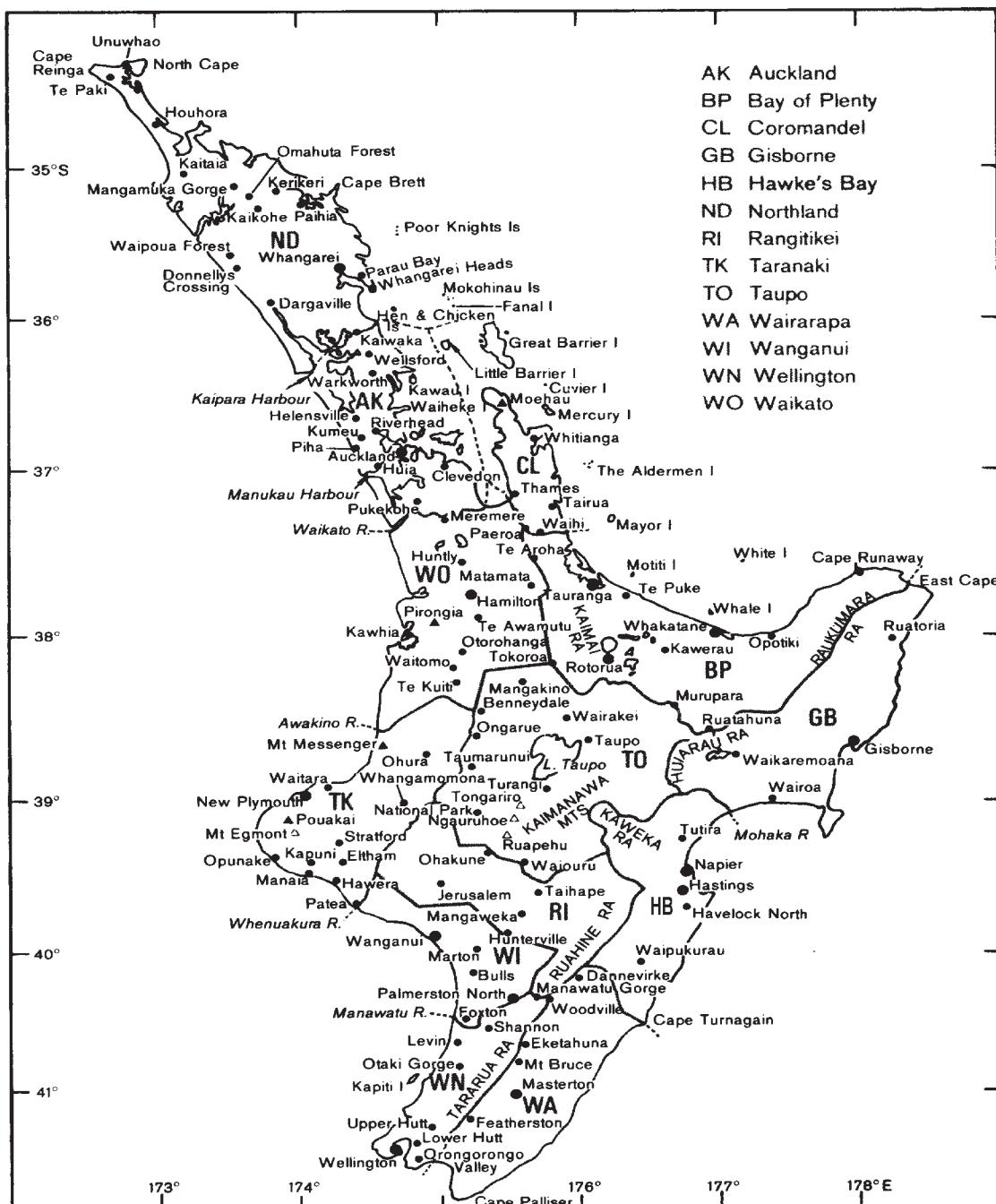
## TINGIDAE



*Tanybyrsa cumberi*



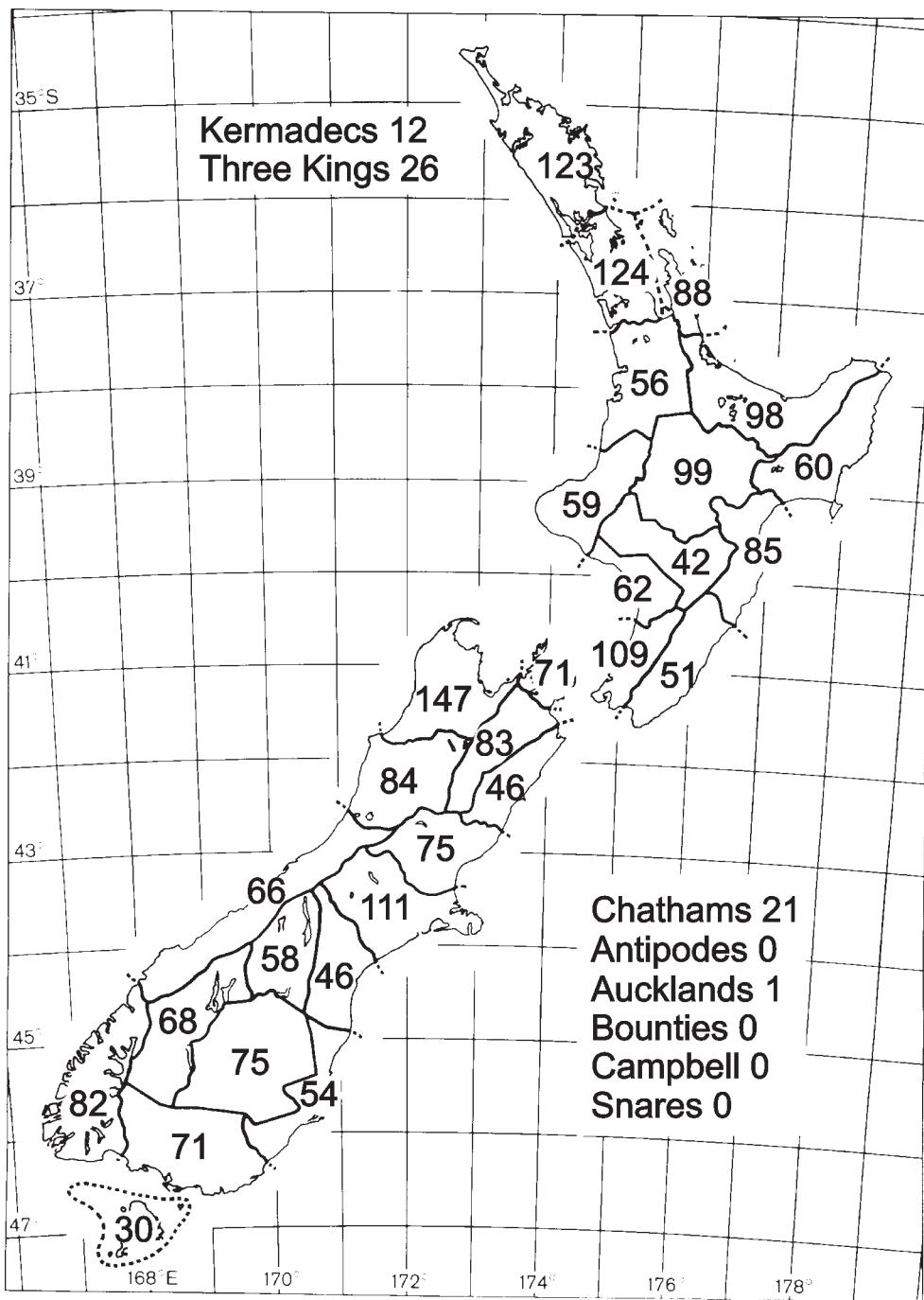
Map 1. The New Zealand subregion with area codes.



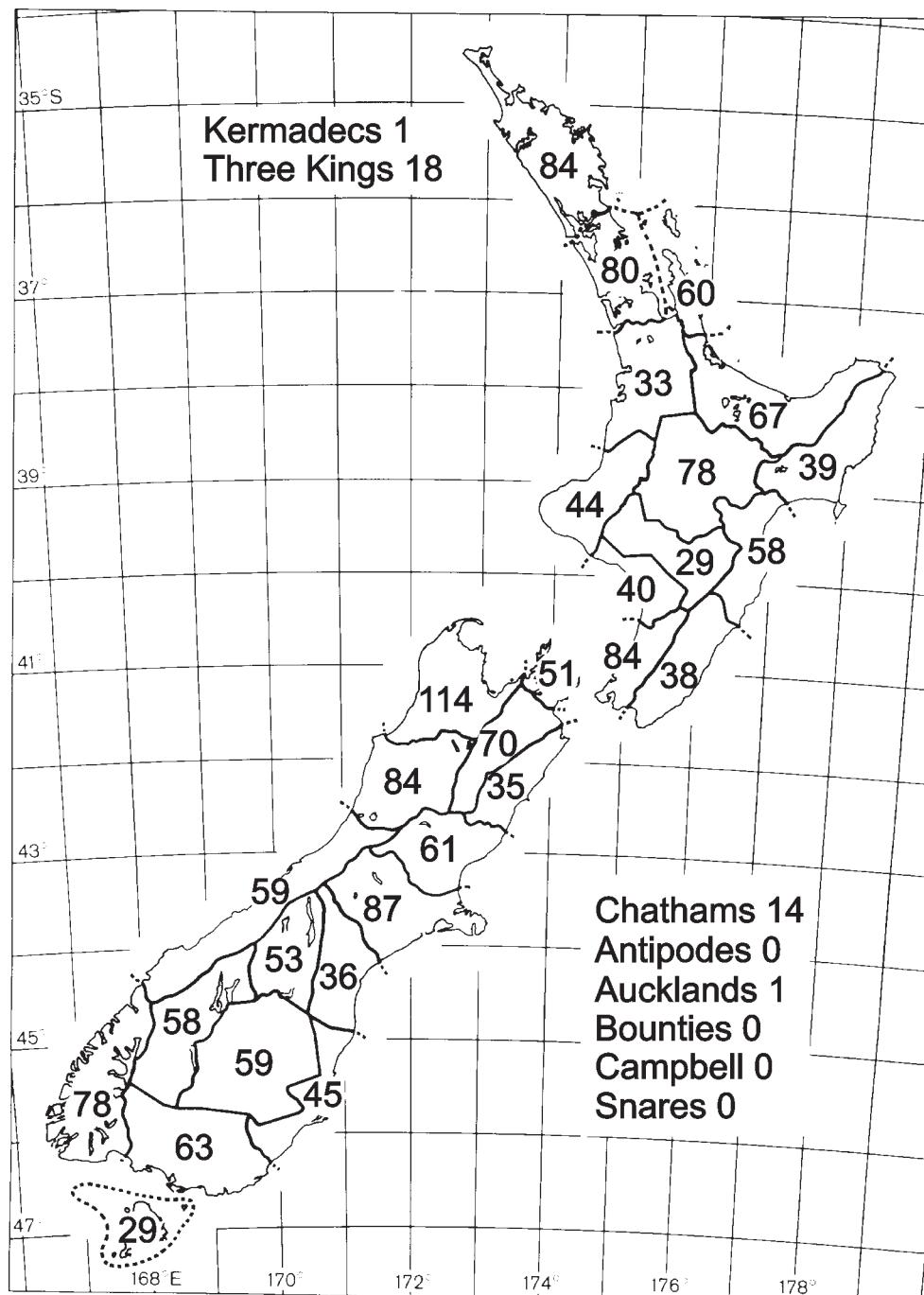
**Map 2.** Area codes and collecting localities from mainland New Zealand: North Island.



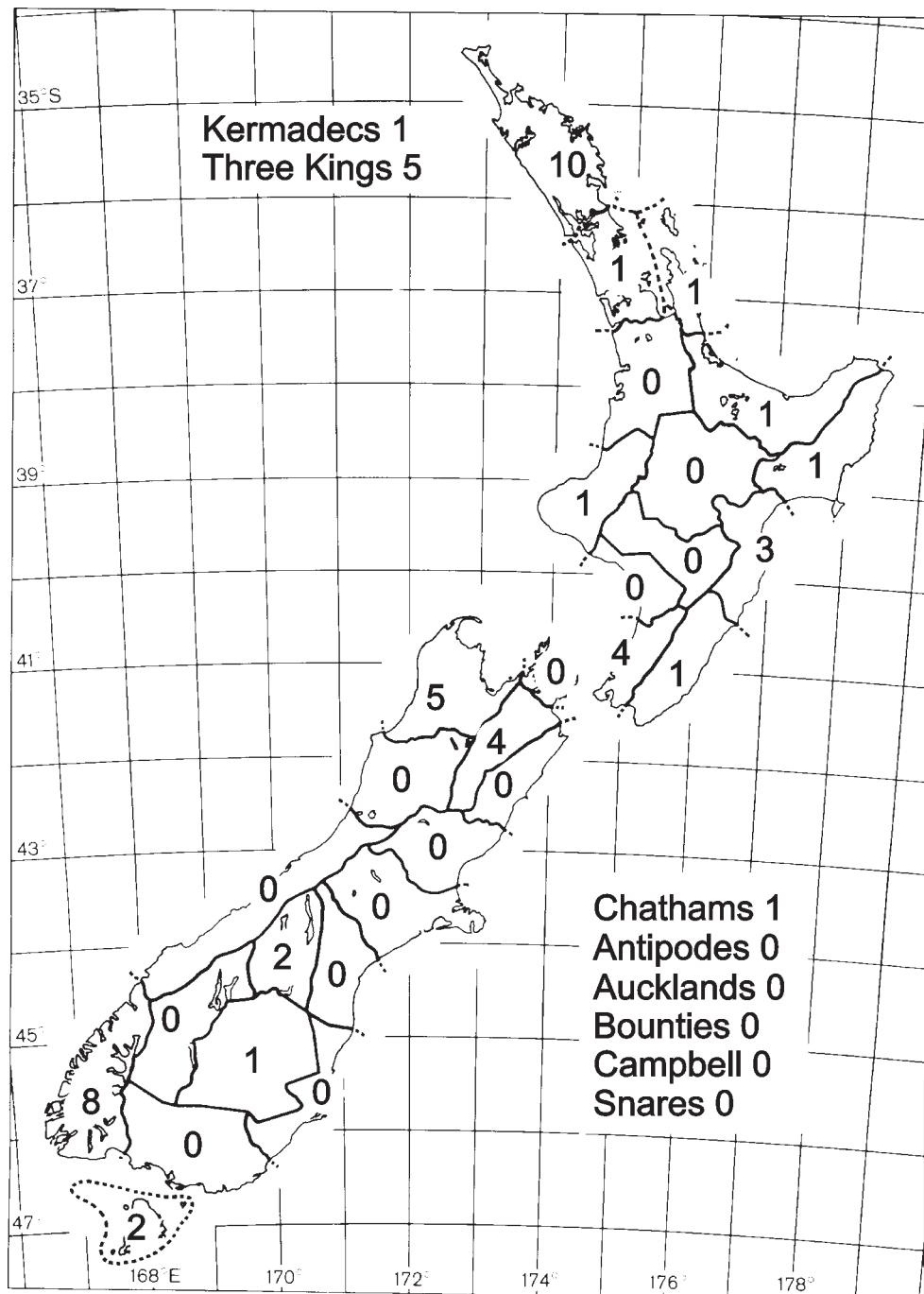
Map 3. Area codes and collecting localities from mainland New Zealand: South Island and Stewart Island.



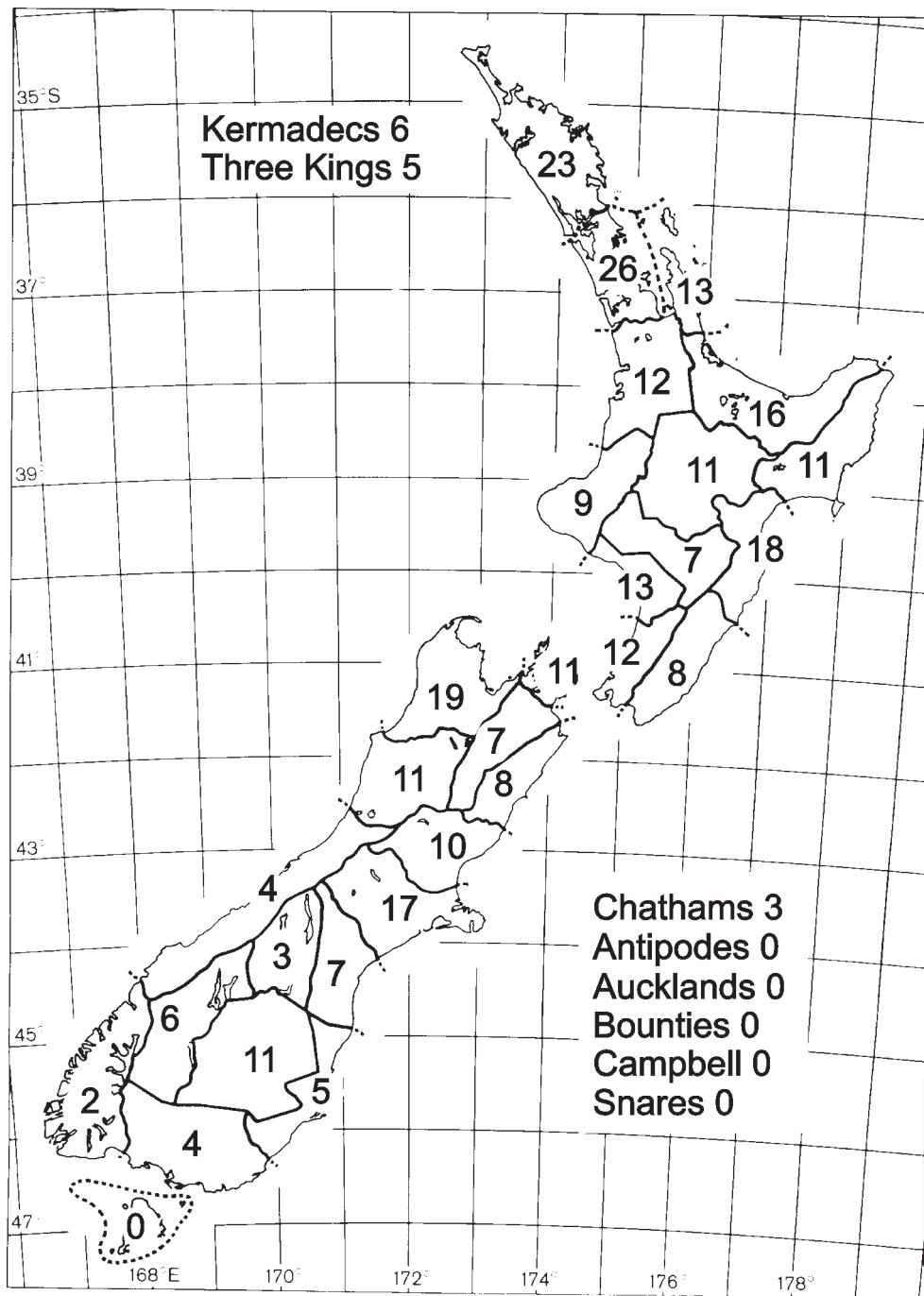
**Map 4.** Total number of known taxa by areas.



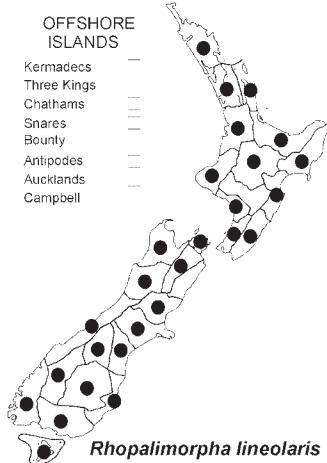
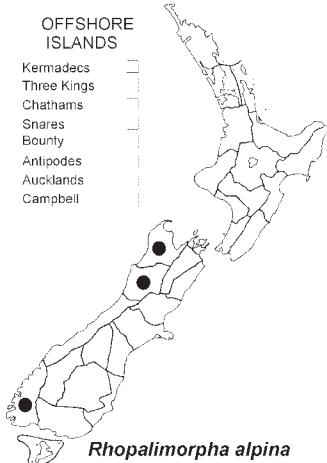
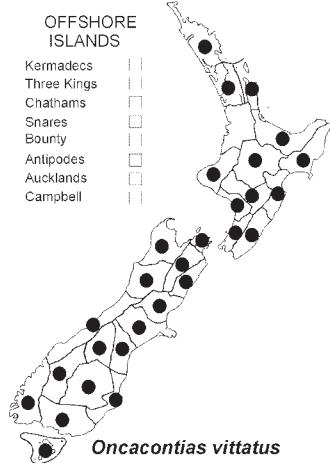
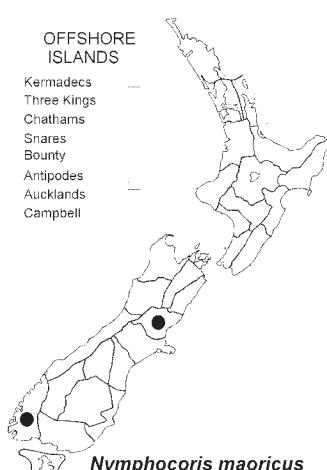
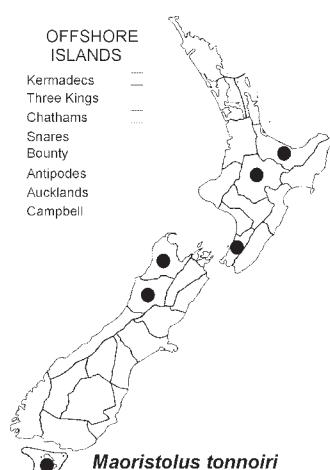
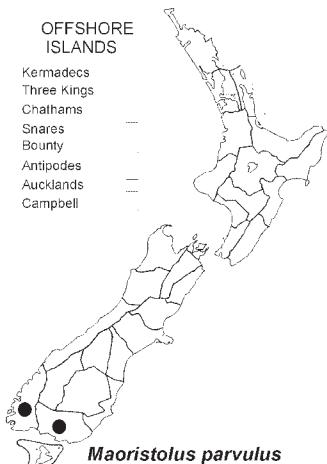
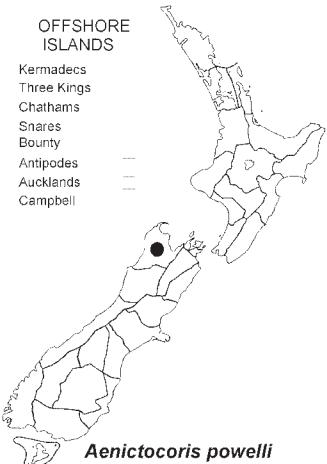
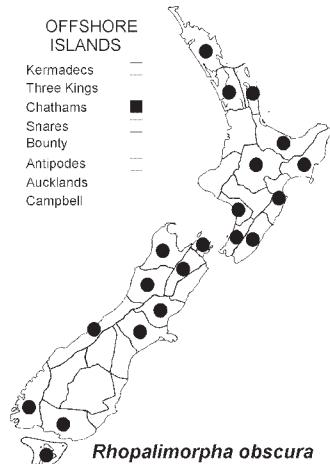
Map 5. Number of known New Zealand endemics by areas.



**Map 6.** Number of native taxa known to be restricted to single areas.



Map 7. Number of known adventive taxa by areas.

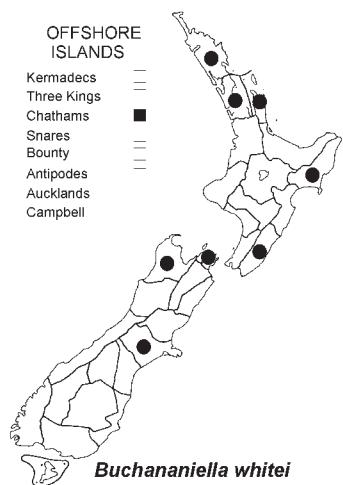
**ACANTHOSOMATIDAE****AENICTOPECHEIDAE**

Species distribution maps (pp. 283–318). Presented alphabetically by families, genera, and species. Area boundaries follow area codes of Crosby et al. (1976, 1998).

## ANTHOCORIDAE

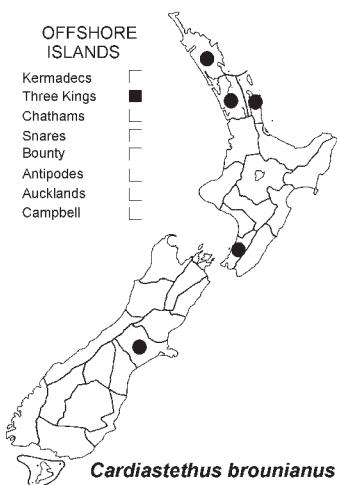
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Buchananella whitei*

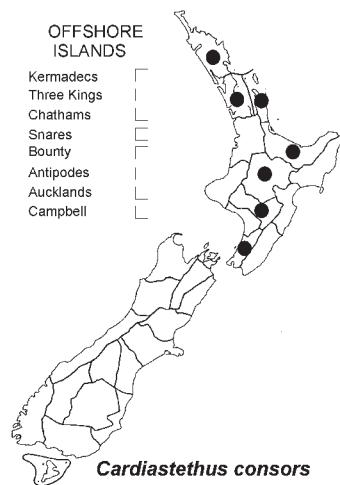
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Cardiastethus brounianus*

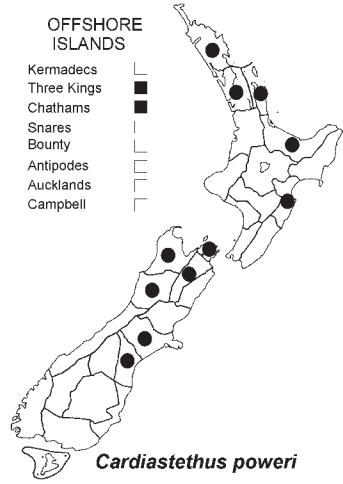
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Cardiastethus censors*

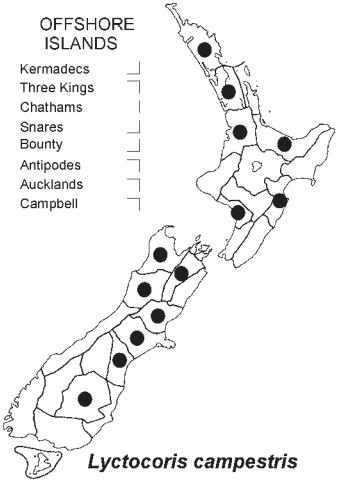
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Cardiastethus poweri*

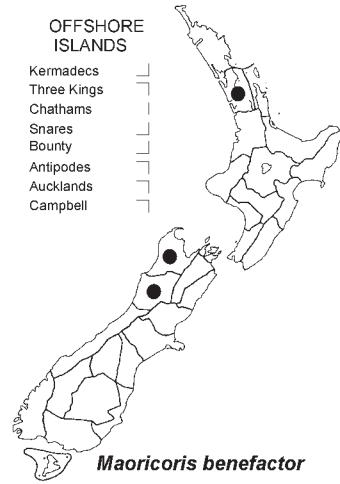
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Lyctocoris campestris*

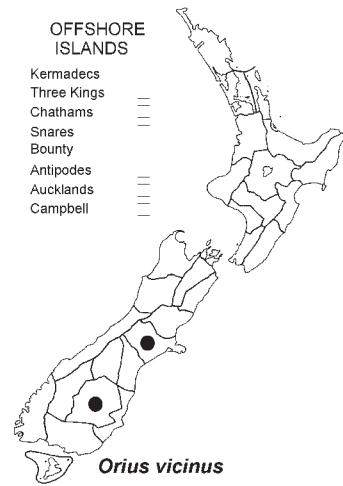
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Maoricoris benefactor*

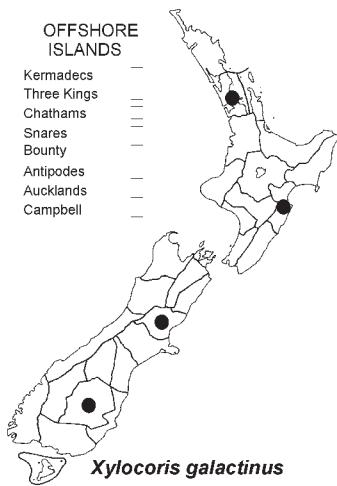
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Orius vicinus*

## OFFSHORE ISLANDS

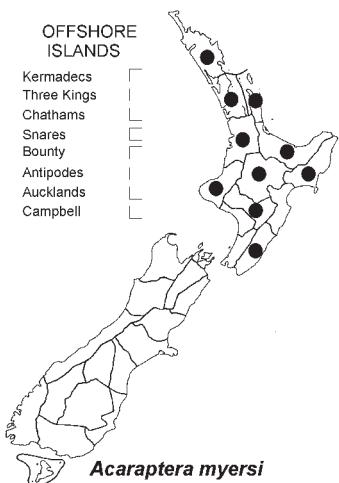
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Xylocoris galactinus*

## ARADIDAE

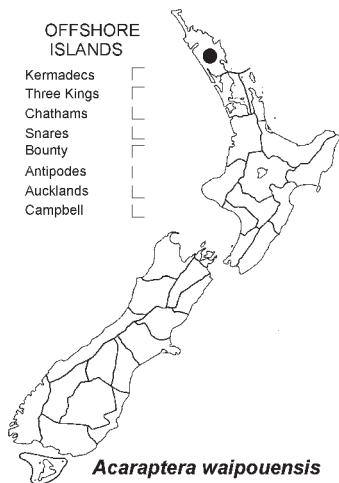
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Acaraptera myersi*

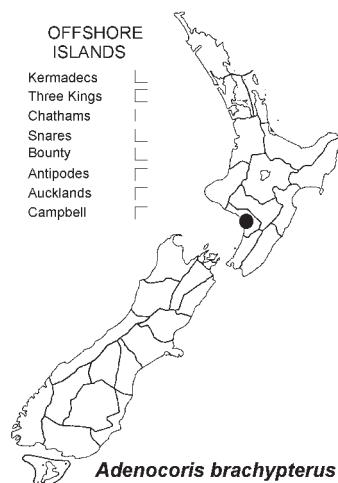
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Acaraptera waipouensis*

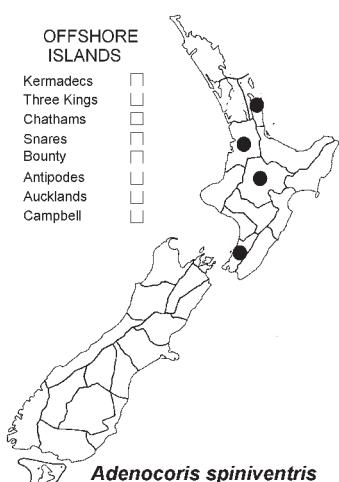
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Adenocoris brachypterus*

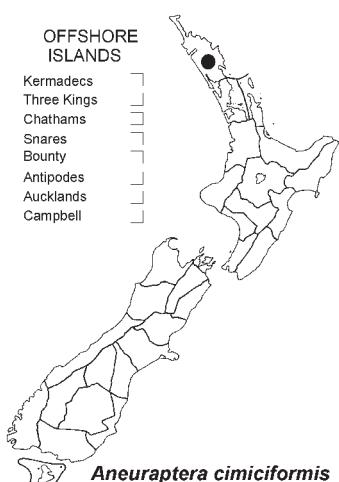
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Adenocoris spiniventris*

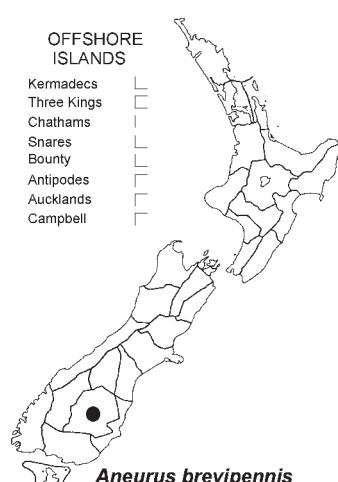
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Aneuraptera cimiciformis*

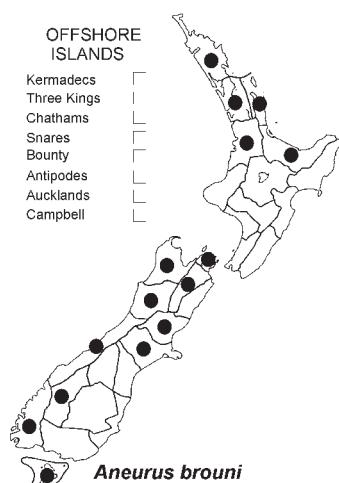
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Aneurus brevipennis*

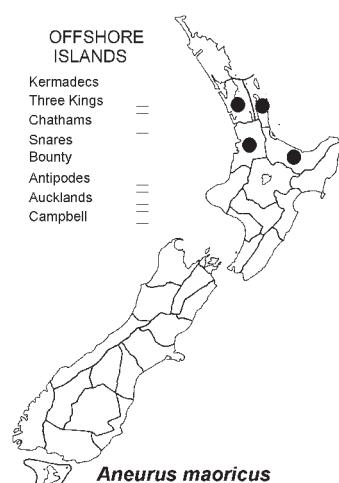
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Aneurus brouni*

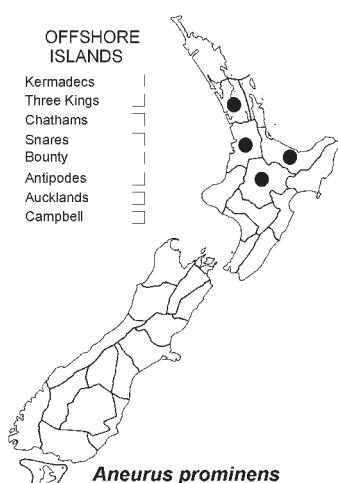
## OFFSHORE ISLANDS

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Bounty  
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Auckland  
Campbell

*Aneurus maoricus*

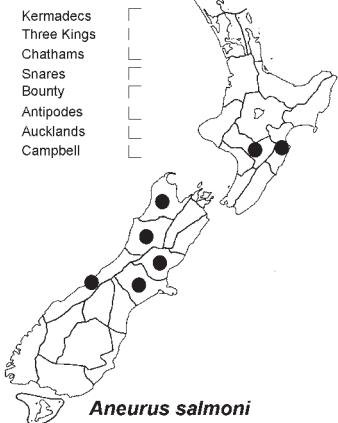
## OFFSHORE ISLANDS

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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

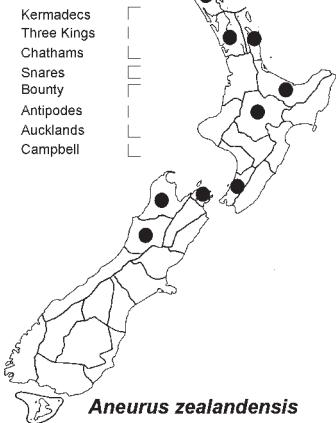
*Aneurus prominens*

## ARADIDAE

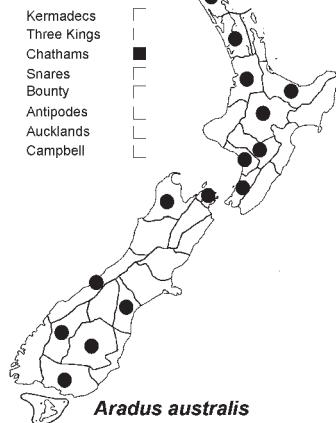
## OFFSHORE ISLANDS

*Aneurus salmoni*

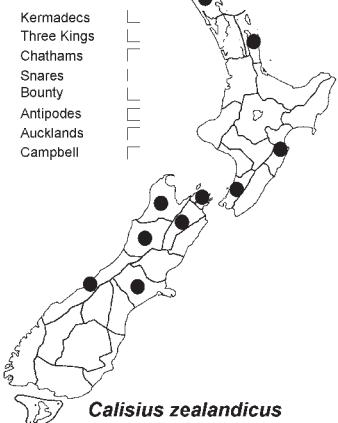
## OFFSHORE ISLANDS

*Aneurus zealandensis*

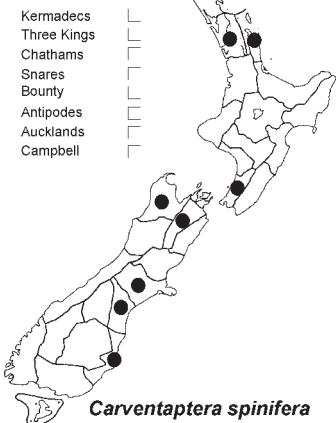
## OFFSHORE ISLANDS

*Aradus australis*

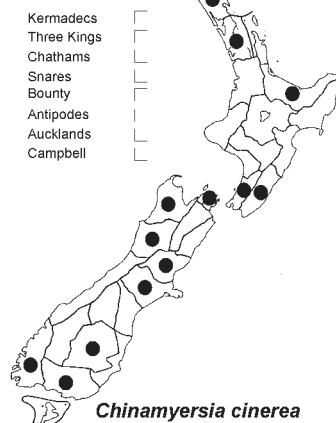
## OFFSHORE ISLANDS

*Calisius zealandicus*

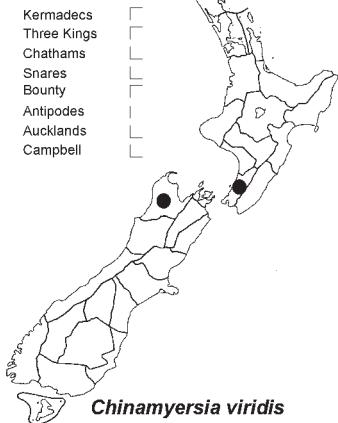
## OFFSHORE ISLANDS

*Carventaptera spinifera*

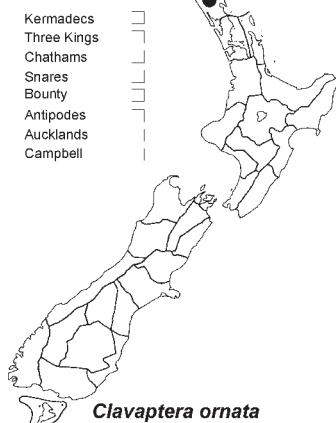
## OFFSHORE ISLANDS

*Chinamyersia cinerea*

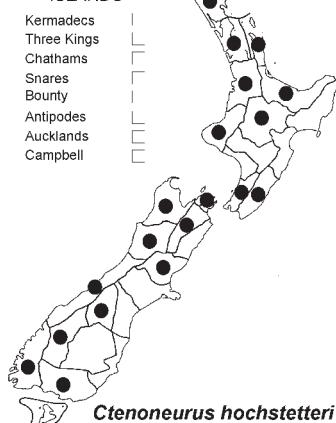
## OFFSHORE ISLANDS

*Chinamyersia viridis*

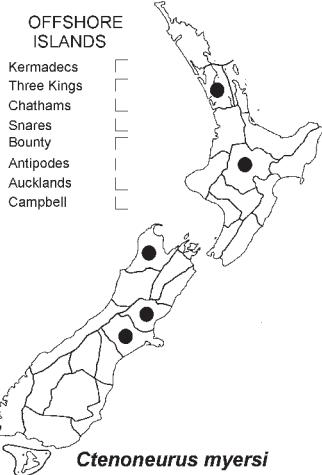
## OFFSHORE ISLANDS

*Clavaptera ornata*

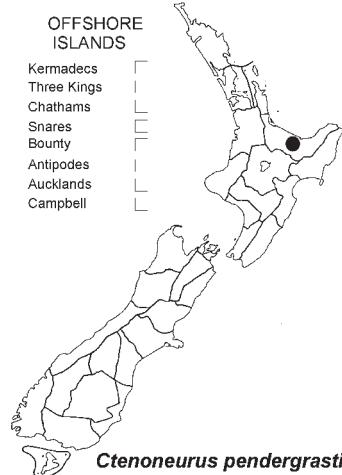
## OFFSHORE ISLANDS

*Ctenoneurus hochstetteri*

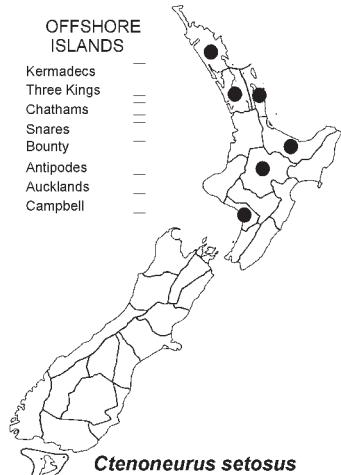
## ARADIDAE



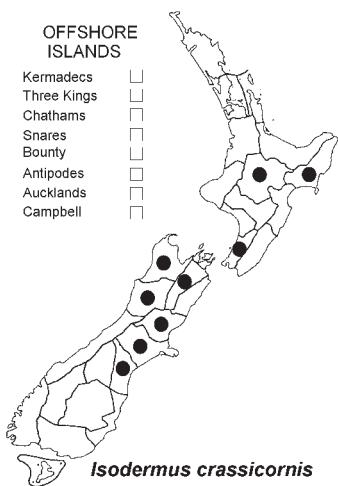
### *Ctenoneurus myersi*



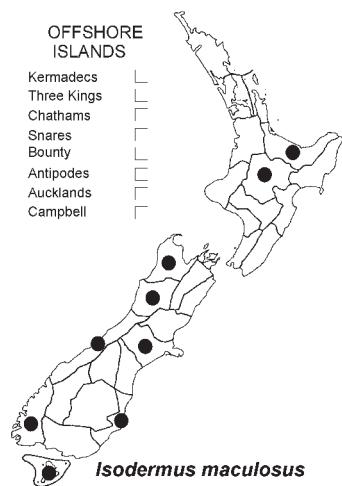
### **Ctenoneurus pendergrasti**



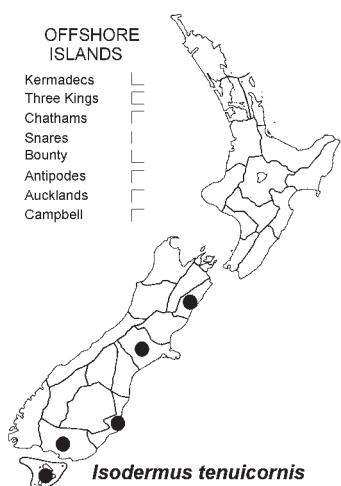
### *Ctenoneurus setosus*



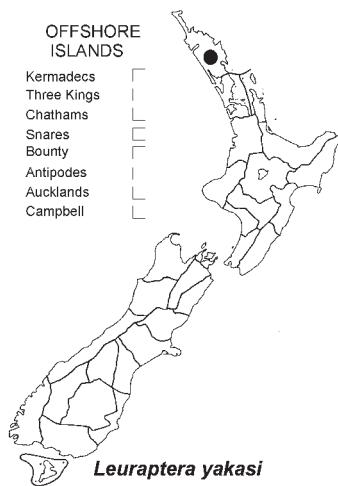
### *Isodermus crassicornis*



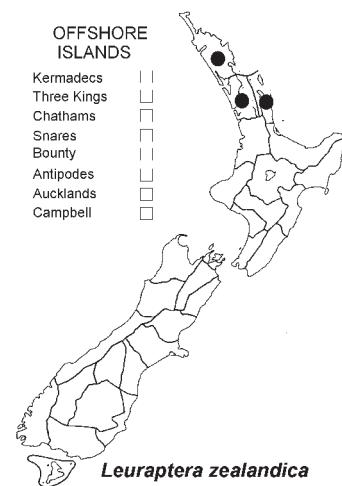
*Isodermus maculosus*



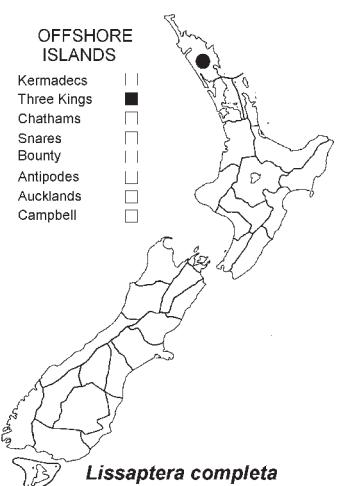
### *Isodermus tenuicornis*



### ***Leuraptera yakasi***



### *Leuraptera zealandica*

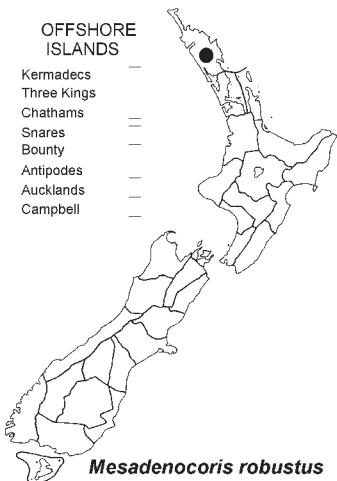


### *Lissaptera completa*

## ARADIDAE

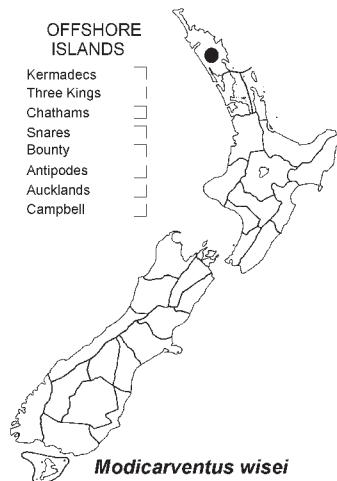
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Mesadenocoris robustus*

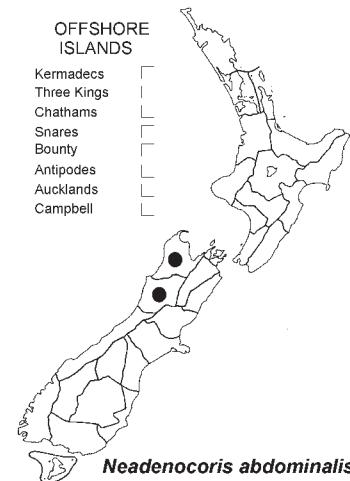
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Chathams  
Snares  
Bounty  
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Auckland  
Campbell

*Modicarventus wisei*

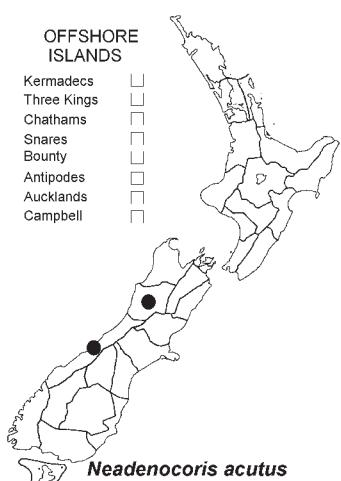
## OFFSHORE ISLANDS

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Chathams  
Snares  
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Antipodes  
Auckland  
Campbell

*Neadenocoris abdominalis*

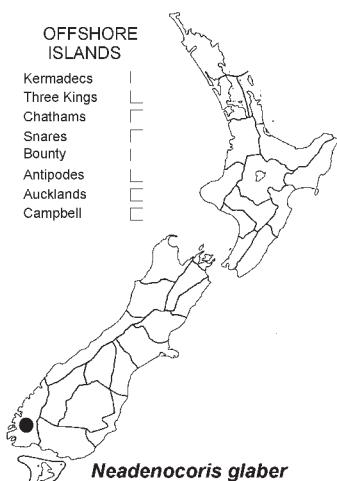
## OFFSHORE ISLANDS

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Chathams  
Snares  
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Auckland  
Campbell

*Neadenocoris acutus*

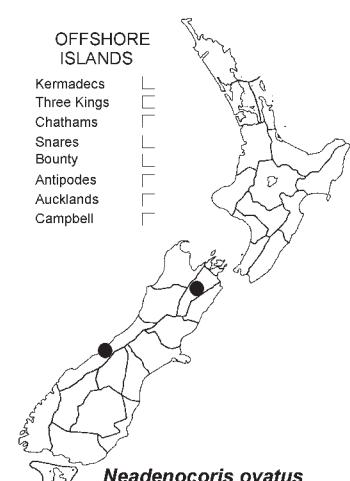
## OFFSHORE ISLANDS

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Campbell

*Neadenocoris glaber*

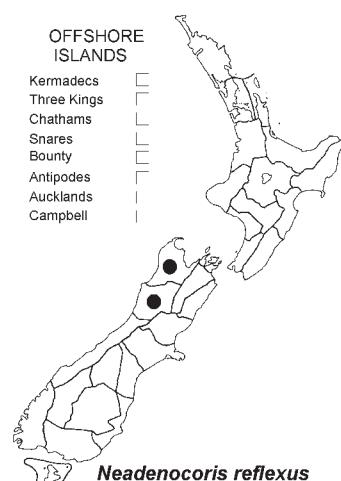
## OFFSHORE ISLANDS

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Chathams  
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Campbell

*Neadenocoris ovatus*

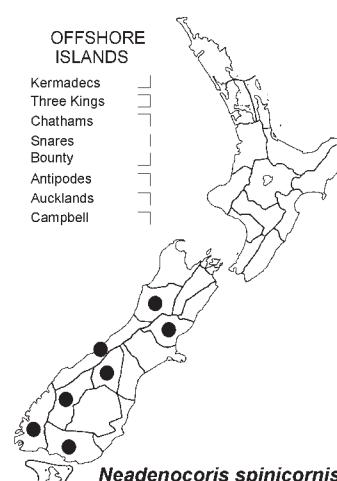
## OFFSHORE ISLANDS

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*Neadenocoris reflexus*

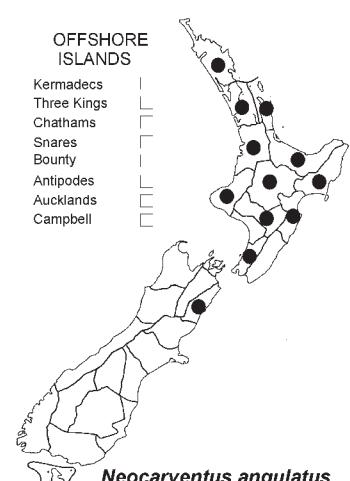
## OFFSHORE ISLANDS

Kermadecs  
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Campbell

*Neadenocoris spinicornis*

## OFFSHORE ISLANDS

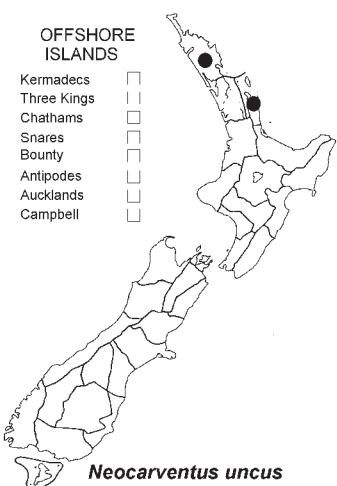
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Campbell

*Neocarventus angulatus*

**ARADIDAE**

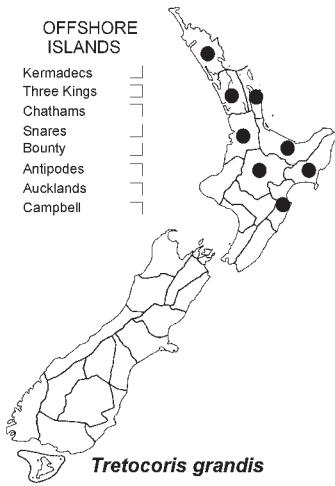
## OFFSHORE ISLANDS

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Campbell

*Neocarventus uncus*

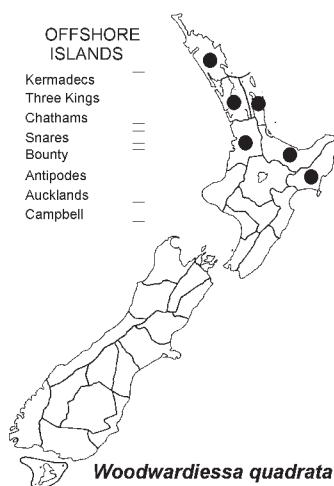
## OFFSHORE ISLANDS

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Snares  
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Auckland  
Campbell

*Tretocoris grandis*

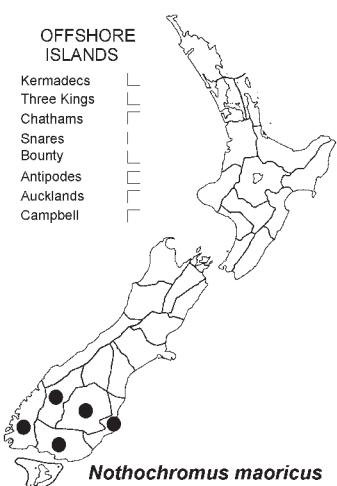
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
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Campbell

*Woodwardiessa quadrata***ARTHENEIDAE**

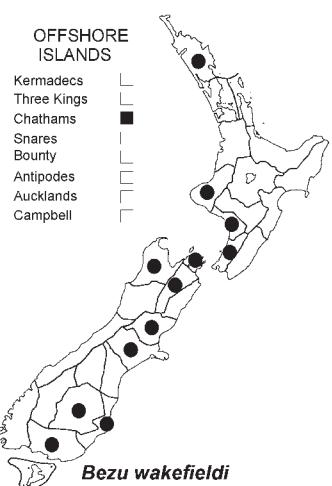
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Nothochromus maoricus***BERYTIDAE**

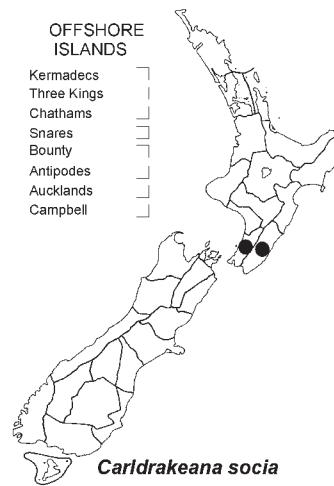
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Bezu wakefieldi***CANTACADERIDAE**

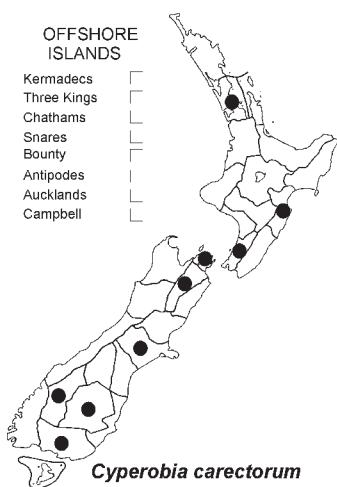
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Caridrakeana socia***CERATOCOMBIDAE**

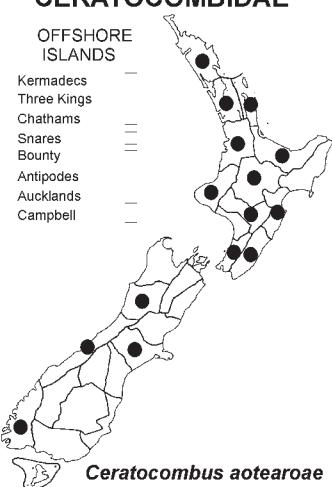
## OFFSHORE ISLANDS

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Chathams  
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Auckland  
Campbell

*Cyperobia carectorum*

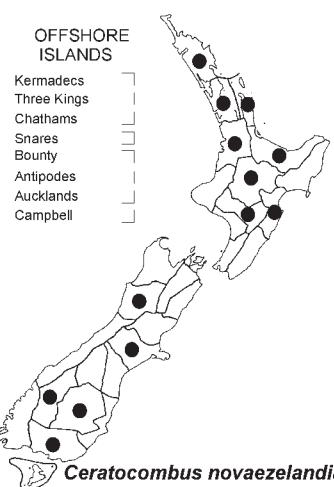
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Ceratocombus aotearoae*

## OFFSHORE ISLANDS

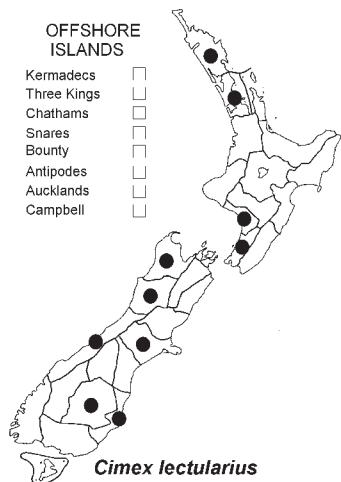
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Auckland  
Campbell

*Ceratocombus novaezelandiae*

**CIMICIDAE**

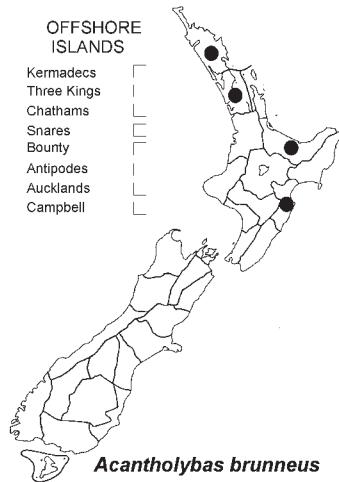
## OFFSHORE ISLANDS

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Campbell

*Cimex lectularius***COREIDAE**

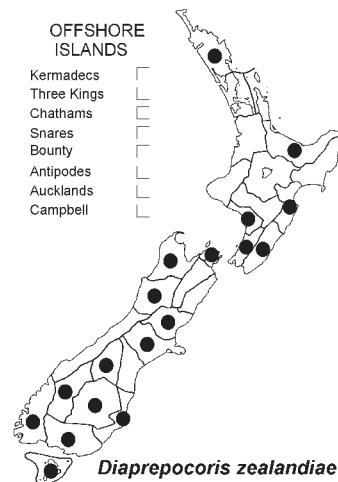
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Acantholybas brunneus***CORIXIDAE**

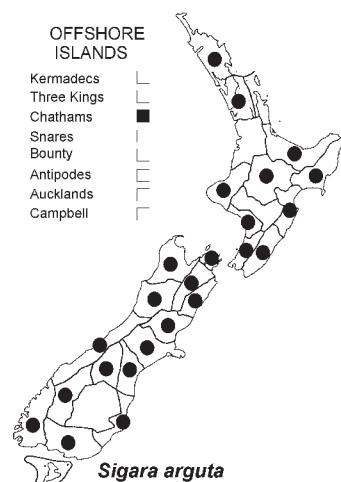
## OFFSHORE ISLANDS

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*Diaprepocoris zealandiae*

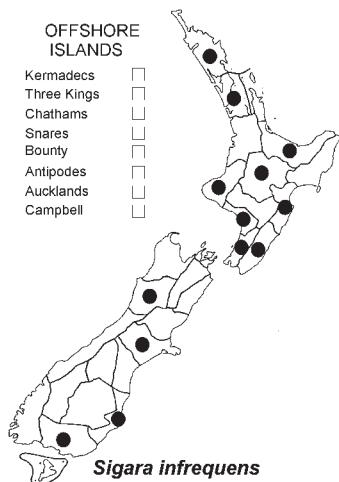
## OFFSHORE ISLANDS

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Campbell

*Sigara arguta*

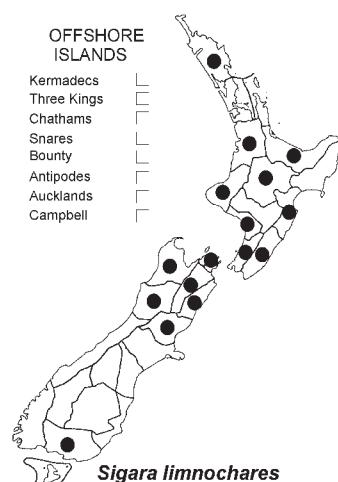
## OFFSHORE ISLANDS

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Campbell

*Sigara infrequens*

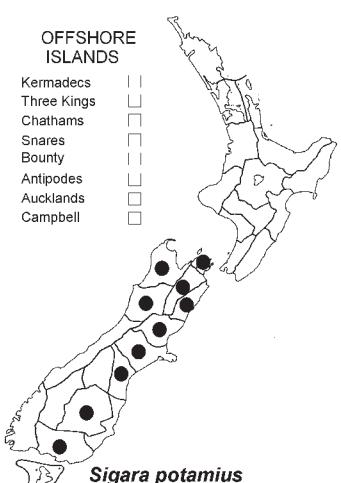
## OFFSHORE ISLANDS

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*Sigara limnochares*

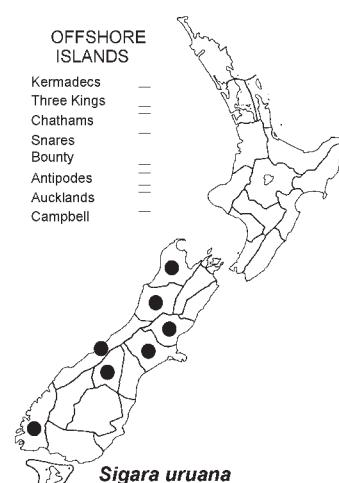
## OFFSHORE ISLANDS

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Campbell

*Sigara potamius*

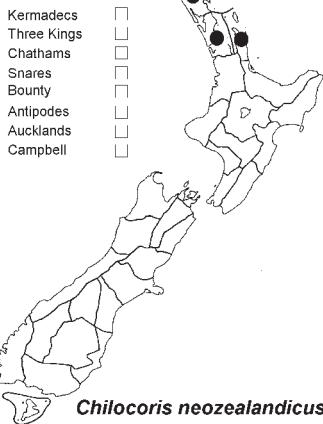
## OFFSHORE ISLANDS

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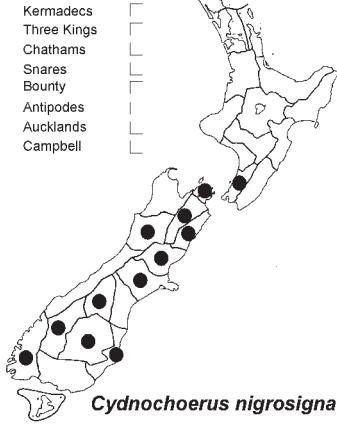
*Sigara uruana*

**CYDNIDAE**

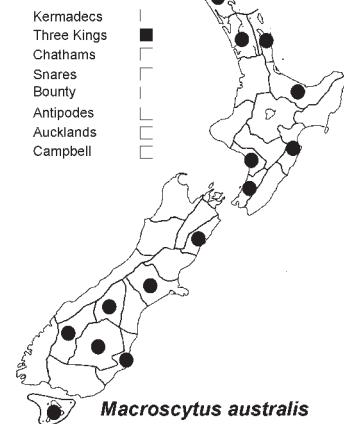
## OFFSHORE ISLANDS



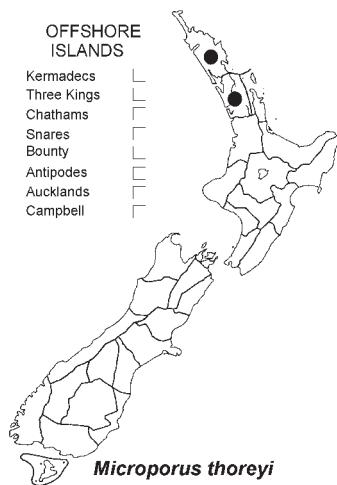
## OFFSHORE ISLANDS



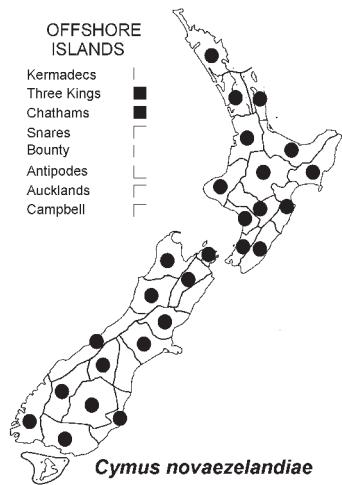
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**CYMIDAE**

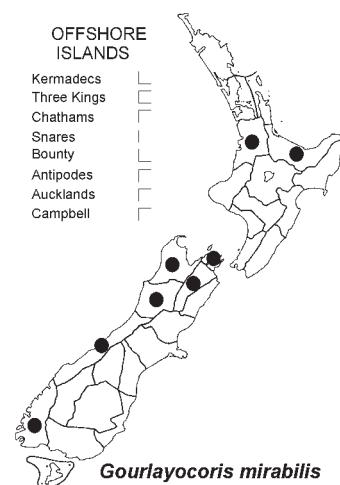
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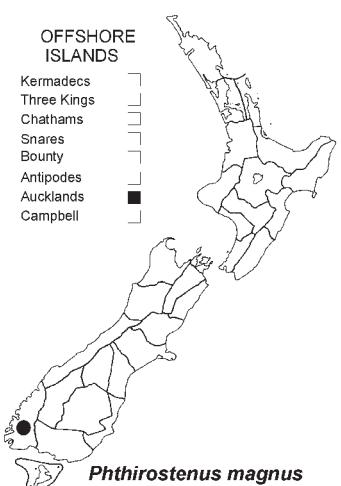
## OFFSHORE ISLANDS

**ENICOCEPHALIDAE**

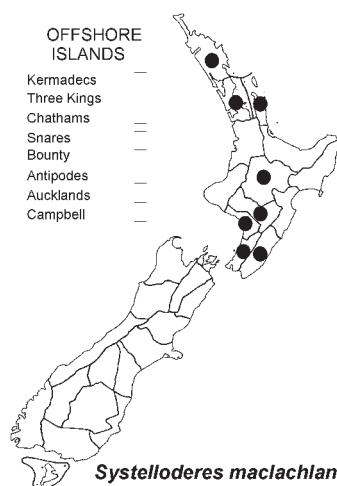
## OFFSHORE ISLANDS



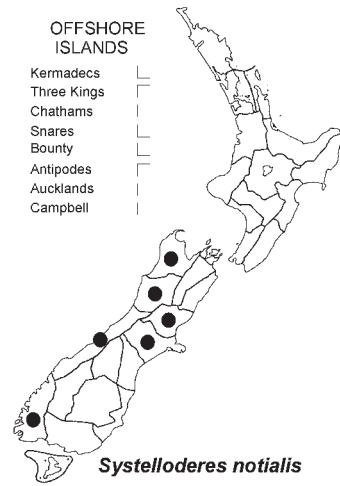
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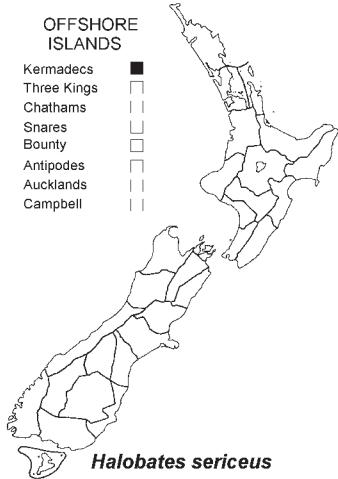
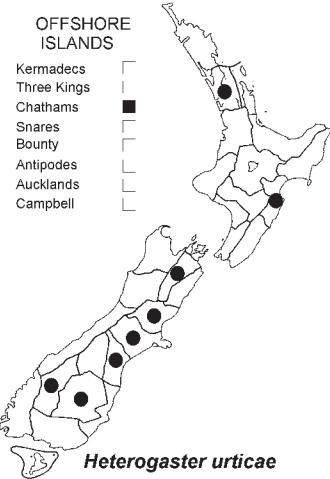
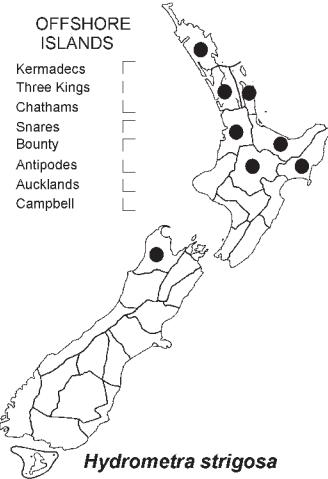


## OFFSHORE ISLANDS



## OFFSHORE ISLANDS

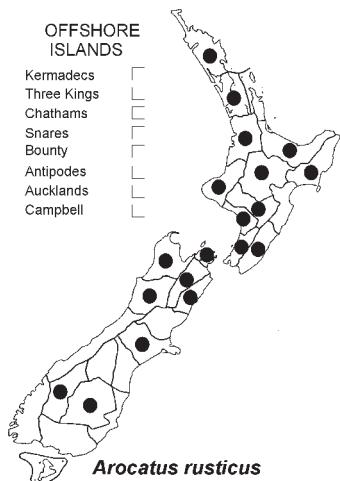


**GERRIDAE****HETEROGASTRIDAE****HYDROMETRIDAE**

## LYGAEIDAE

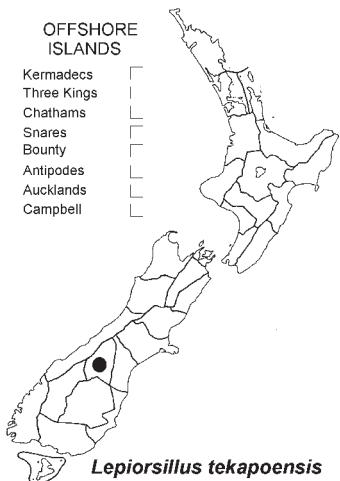
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Arocatus rusticus*

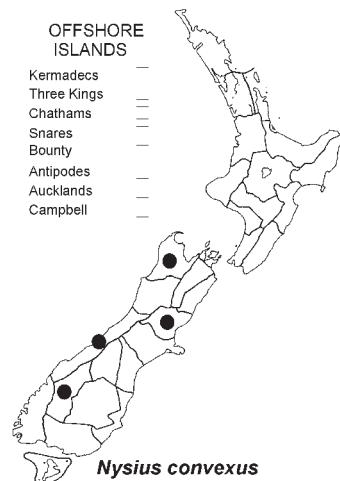
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Lepiosillus tekapoensis*

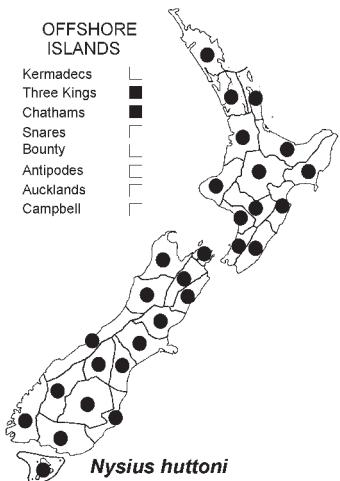
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Nysius convexus*

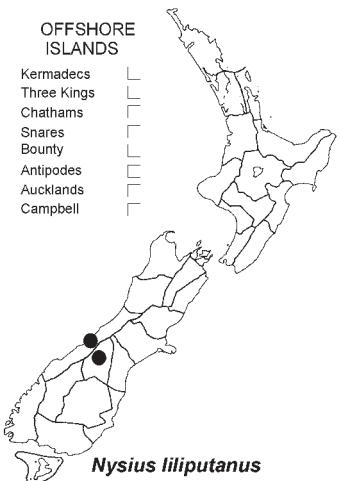
## OFFSHORE ISLANDS

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Campbell

*Nysius huttoni*

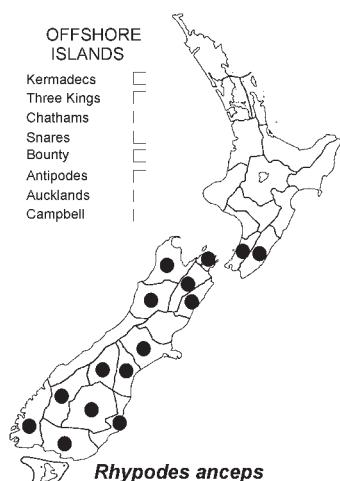
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Nysius liliputanus*

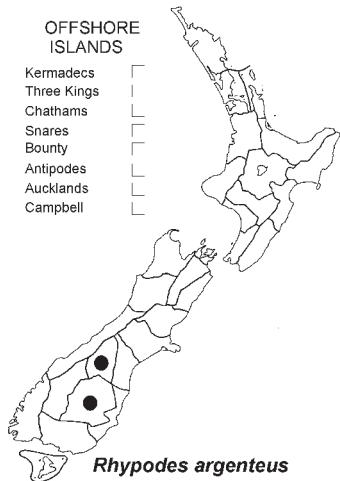
## OFFSHORE ISLANDS

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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes anceps*

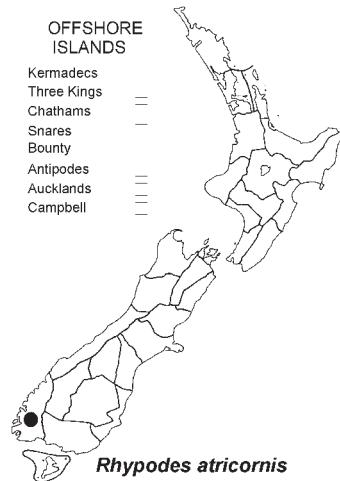
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes argenteus*

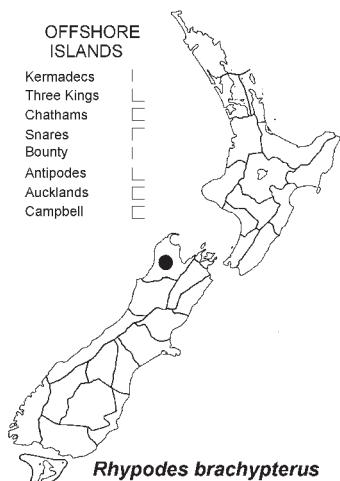
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes atricornis*

## OFFSHORE ISLANDS

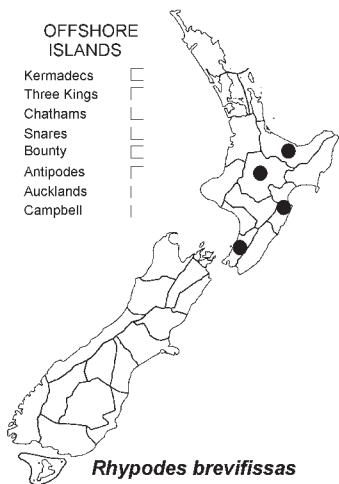
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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes brachypterus*

## LYGAEIDAE

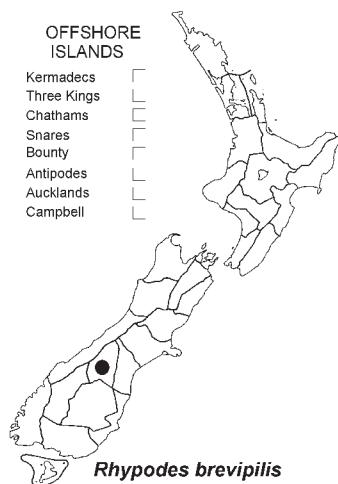
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Chathams  
Snares  
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Antipodes  
Auckland  
Campbell



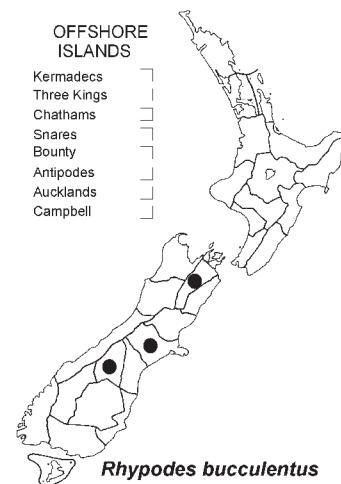
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Snares  
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Antipodes  
Auckland  
Campbell



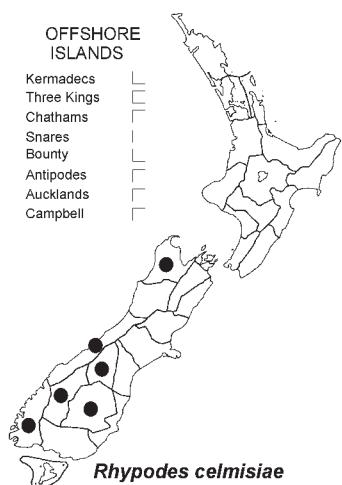
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Snares  
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Auckland  
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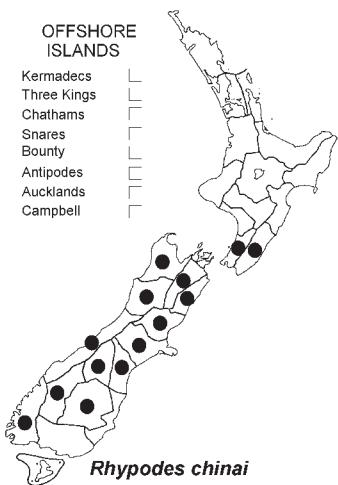
## OFFSHORE ISLANDS

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Antipodes  
Auckland  
Campbell



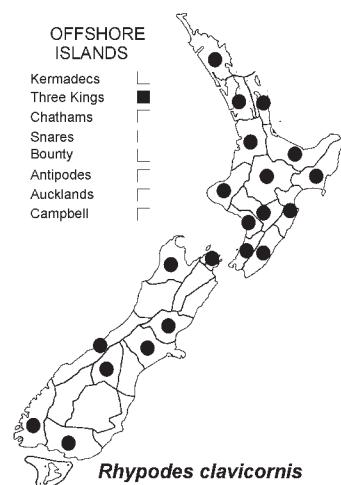
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Campbell



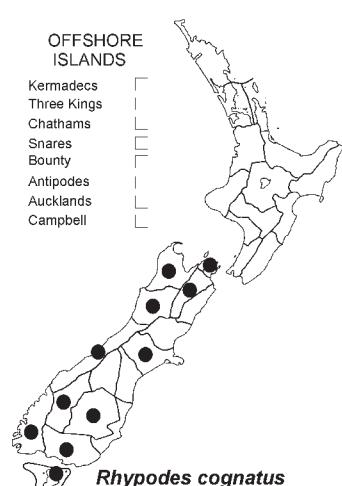
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Auckland  
Campbell



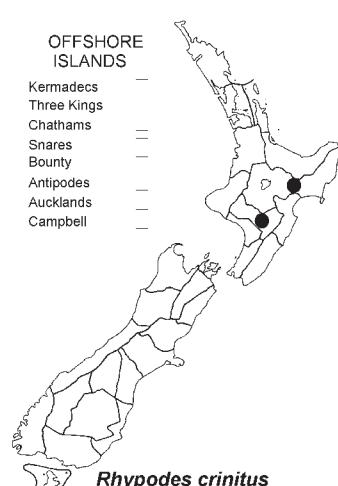
## OFFSHORE ISLANDS

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Campbell



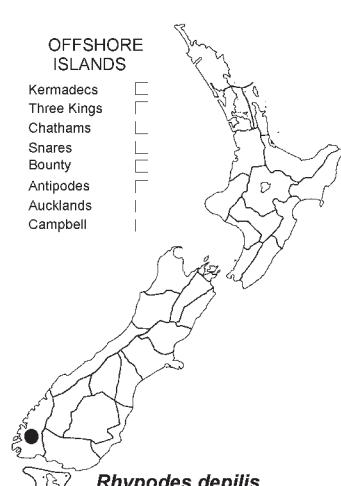
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Chathams  
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Auckland  
Campbell



## OFFSHORE ISLANDS

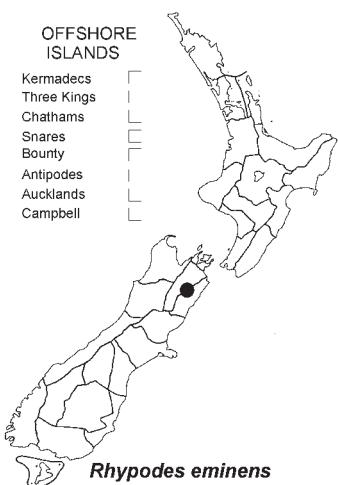
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Antipodes  
Auckland  
Campbell



## LYGAEIDAE

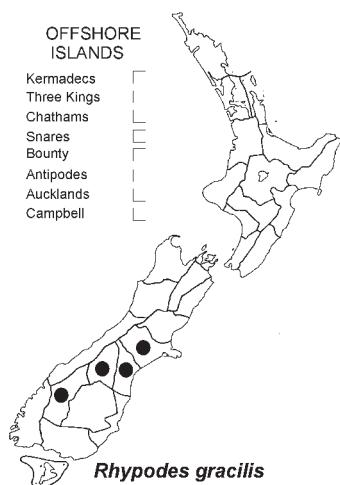
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes eminens*

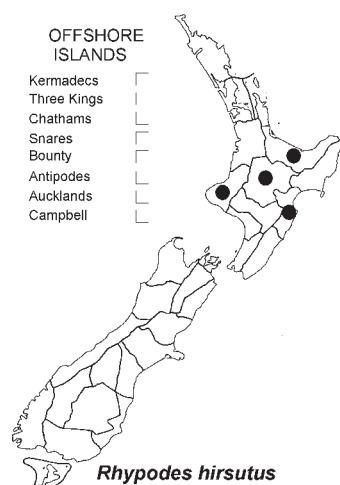
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes gracilis*

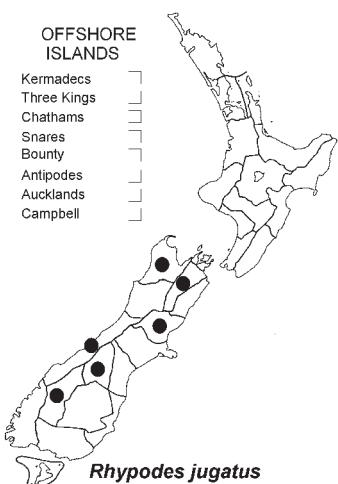
## OFFSHORE ISLANDS

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Chathams  
Snares  
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Antipodes  
Auckland  
Campbell

*Rhypodes hirsutus*

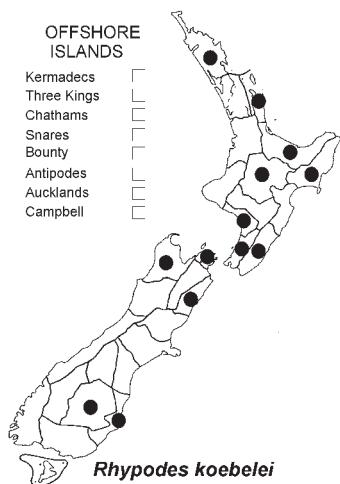
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes jugatus*

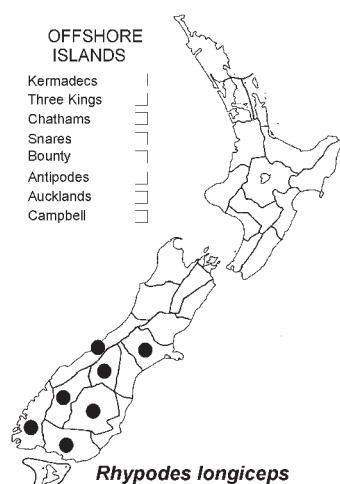
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes koebelei*

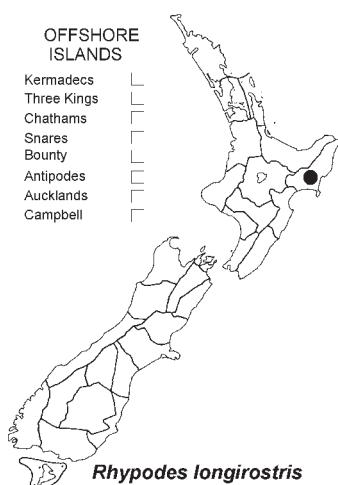
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes longiceps*

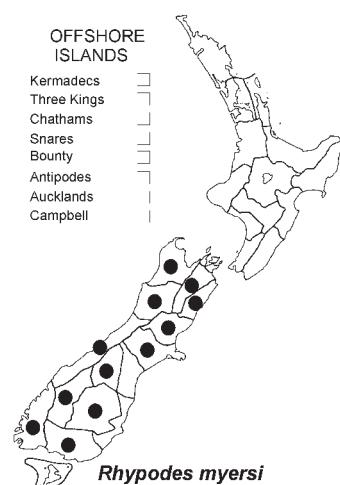
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes longirostris*

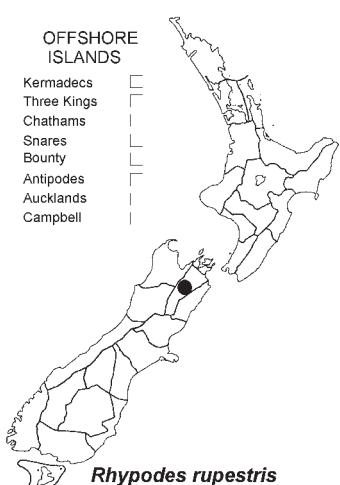
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes myersi*

## OFFSHORE ISLANDS

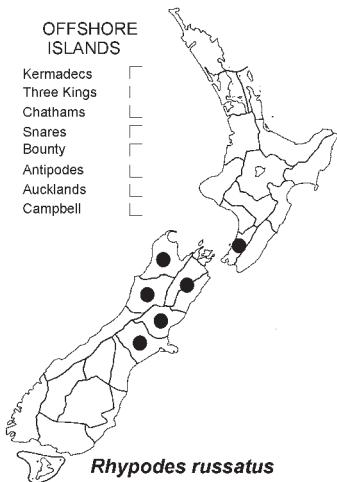
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes rupestris*

**LYGAEIDAE**

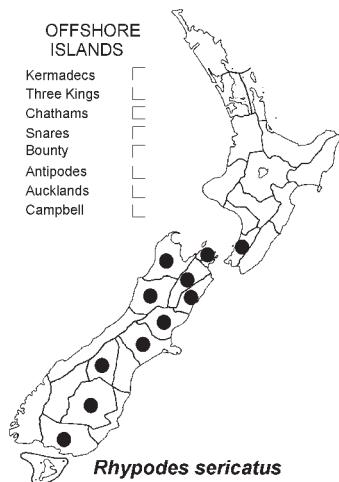
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes russatus*

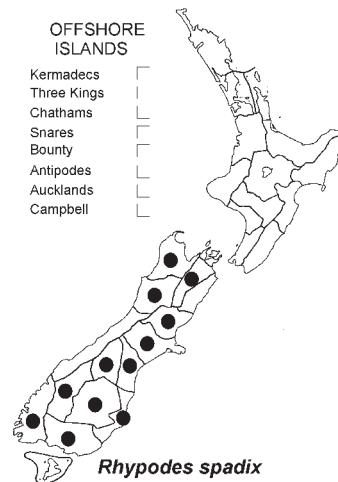
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes sericatus*

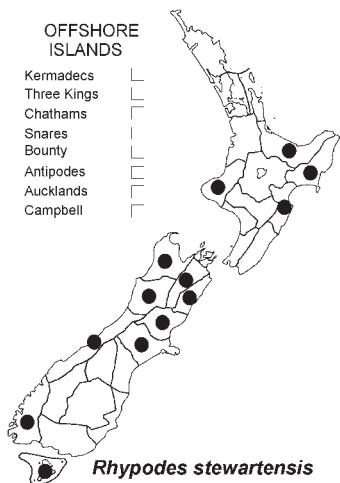
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes spadix*

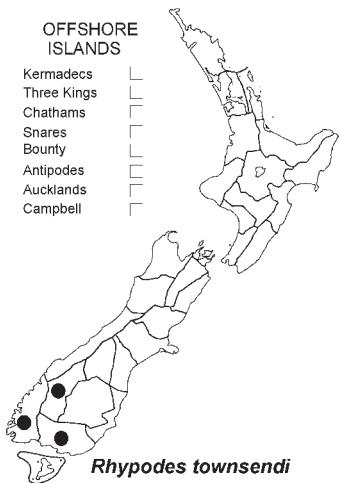
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes stewartensis*

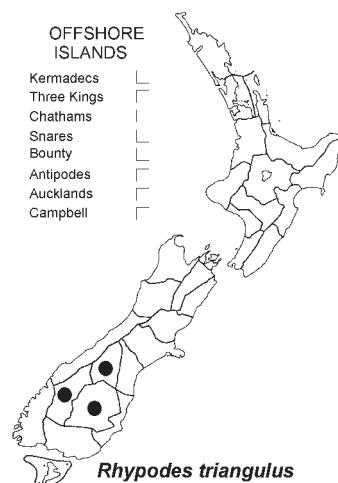
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes townsendi*

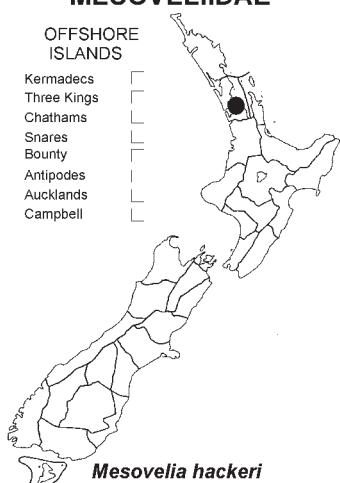
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Rhypodes triangulus***MESOVELLIIDAE**

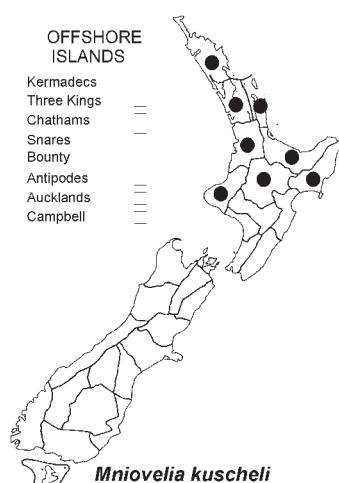
## OFFSHORE ISLANDS

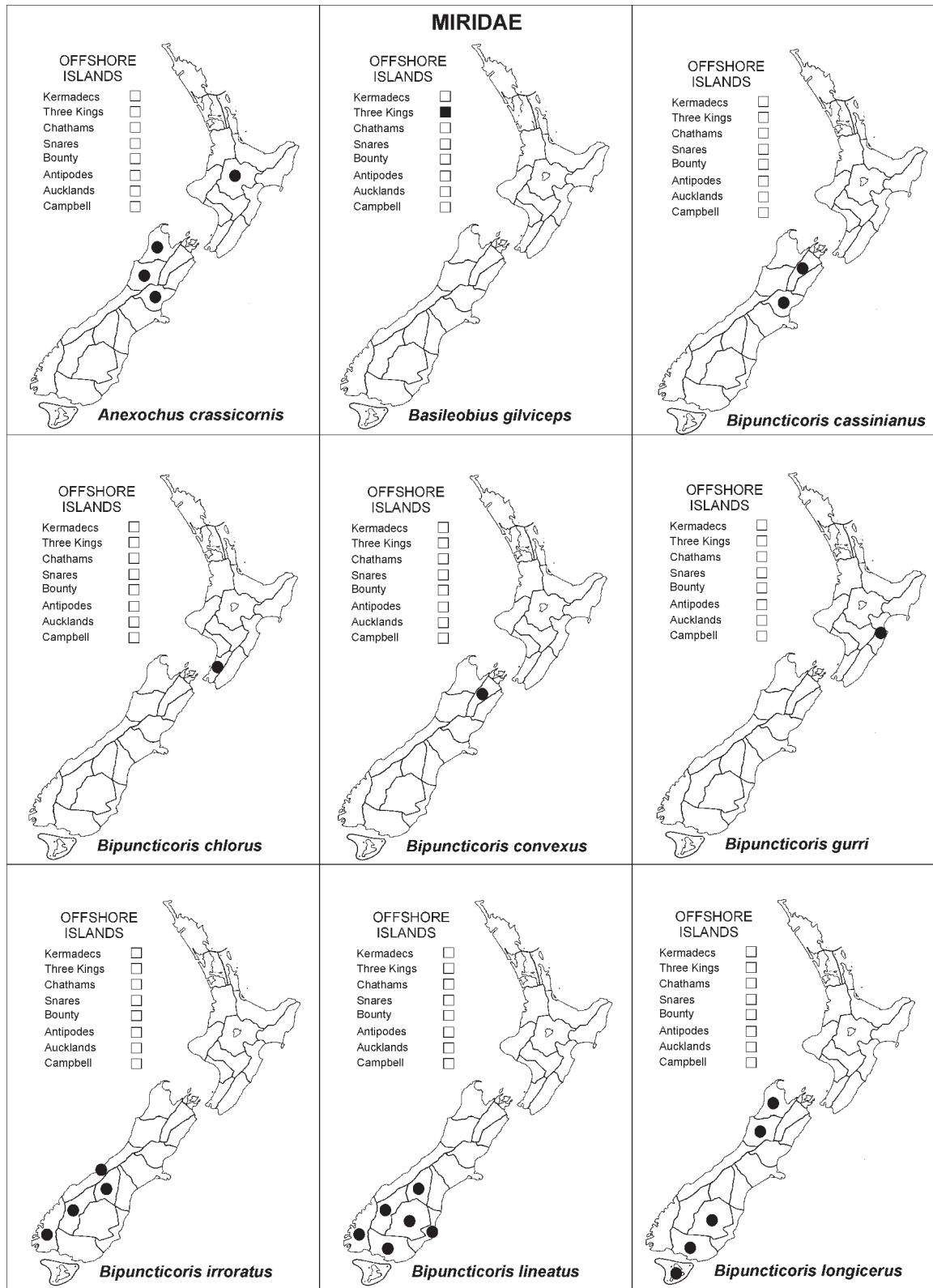
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Mesovelia hackeri*

## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

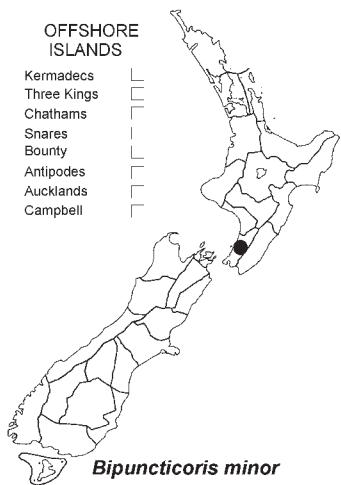
*Mniovelia kuscheli*



## MIRIDAE

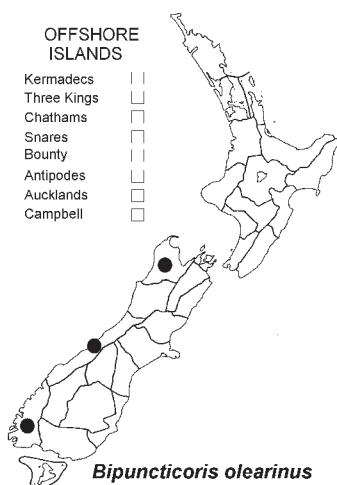
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris minor*

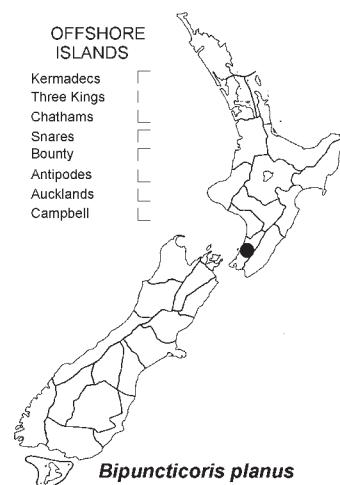
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris olearinus*

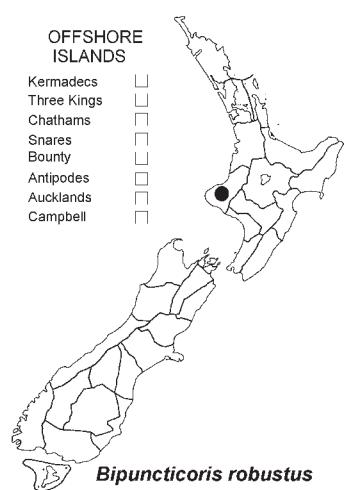
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris planus*

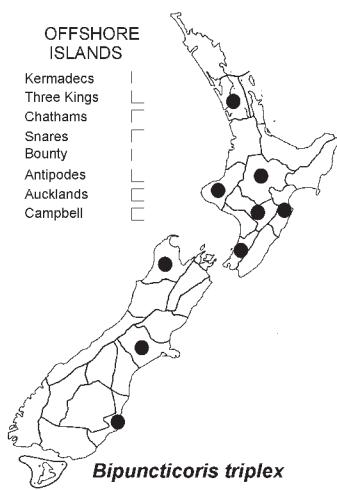
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris robustus*

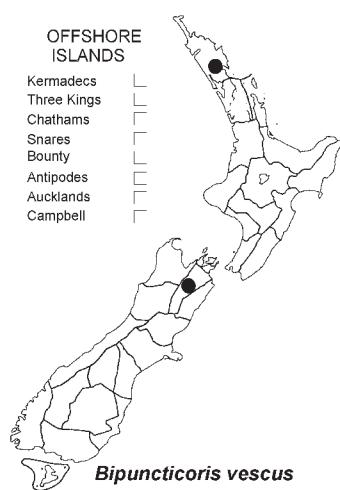
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris triplex*

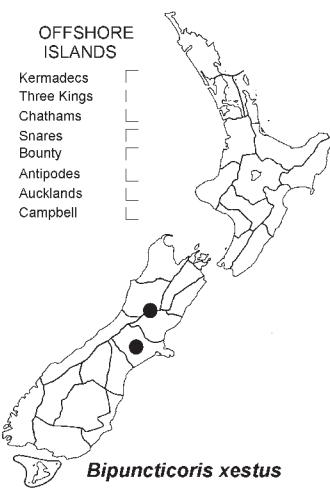
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris vescus*

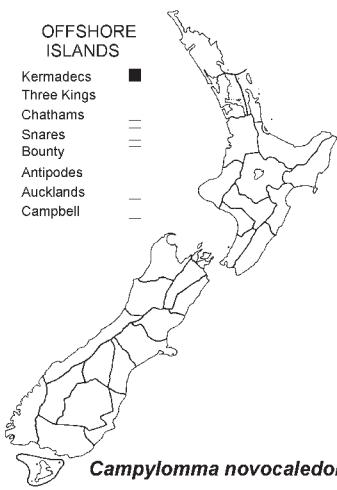
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Bipuncticoris xestus*

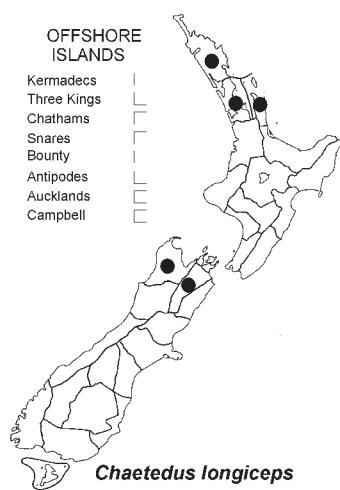
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Campylomma novocaledonica*

## OFFSHORE ISLANDS

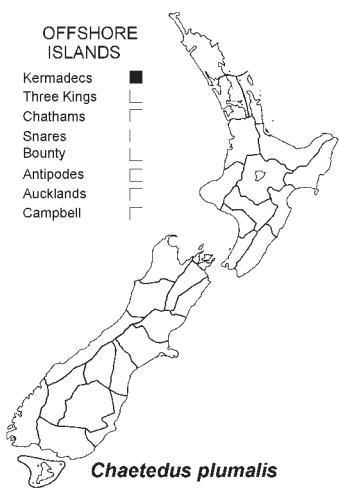
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Chathams  
Snares  
Bounty  
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Auckland  
Campbell

*Chaetedus longiceps*

## MIRIDAE

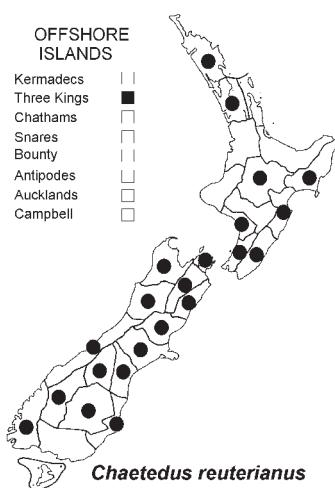
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chaetedus plumalis*

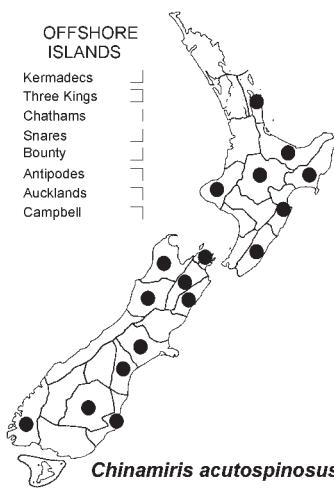
## OFFSHORE ISLANDS

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Antipodes  
Auckland  
Campbell

*Chaetedus reuterianus*

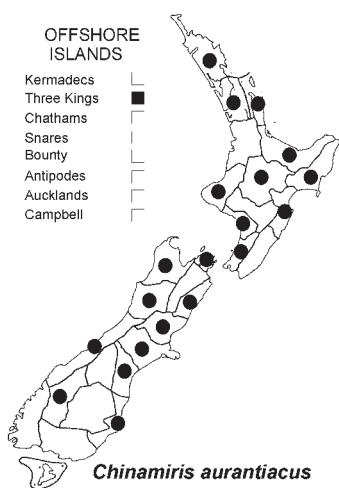
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris acutospinosus*

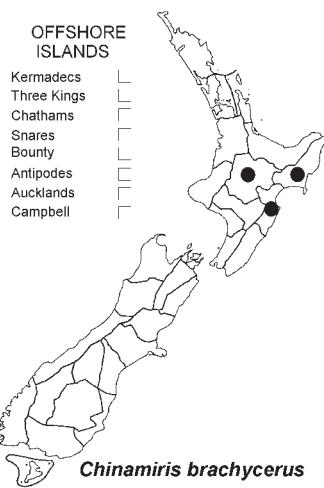
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris aurantiacus*

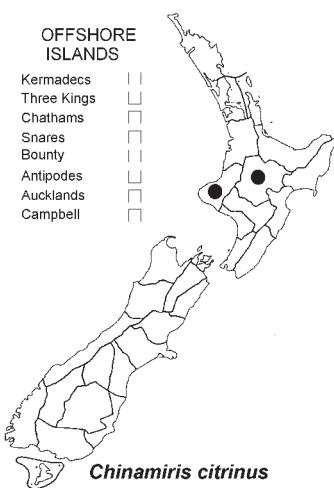
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris brachycerus*

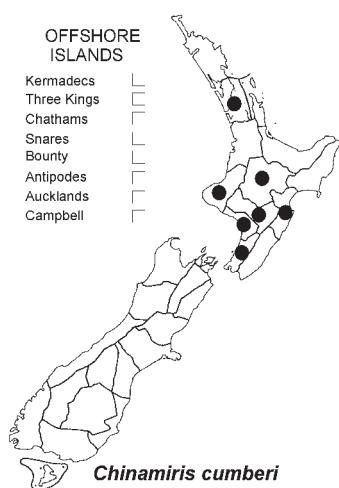
## OFFSHORE ISLANDS

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Antipodes  
Auckland  
Campbell

*Chinamiris citrinus*

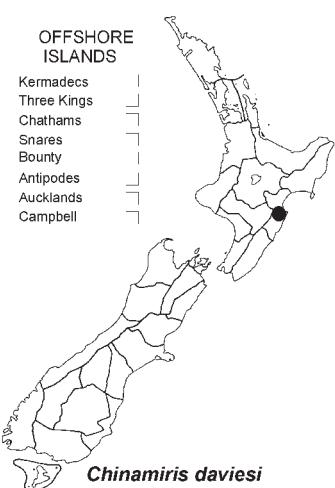
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris cumberi*

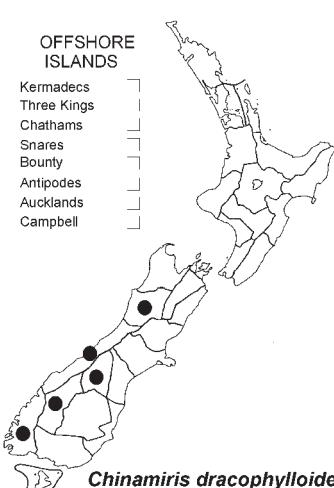
## OFFSHORE ISLANDS

Kermadecs  
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Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris daviesi*

## OFFSHORE ISLANDS

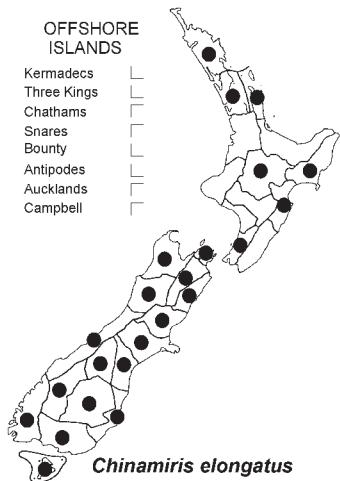
Kermadecs  
Three Kings  
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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris dracophylloides*

## MIRIDAE

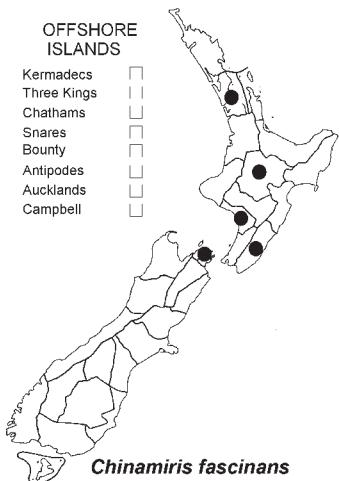
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris elongatus*

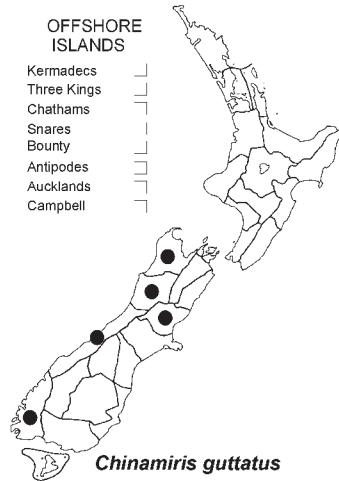
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris fascinans*

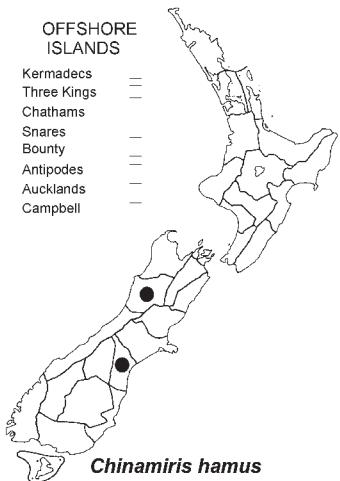
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris guttatus*

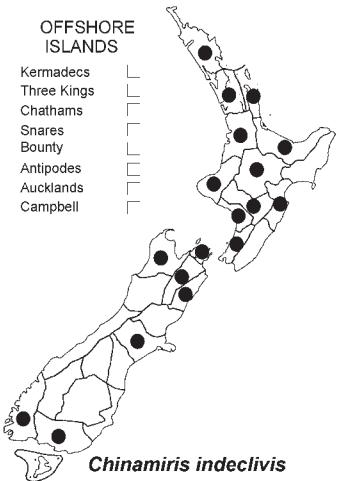
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris hamus*

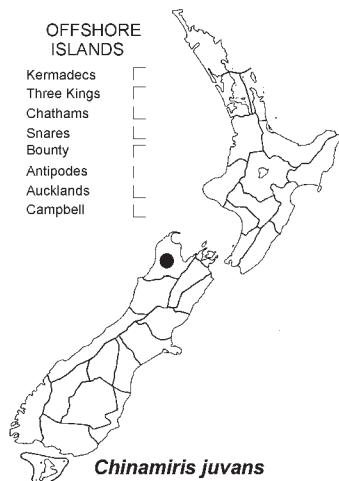
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris indeclivis*

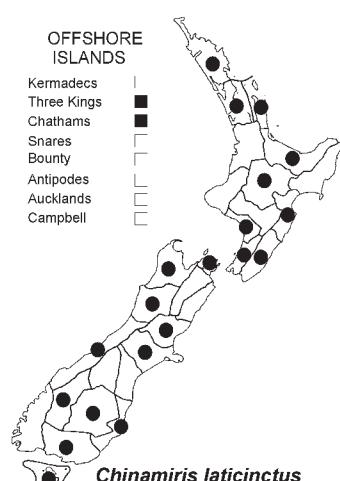
## OFFSHORE ISLANDS

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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris juvans*

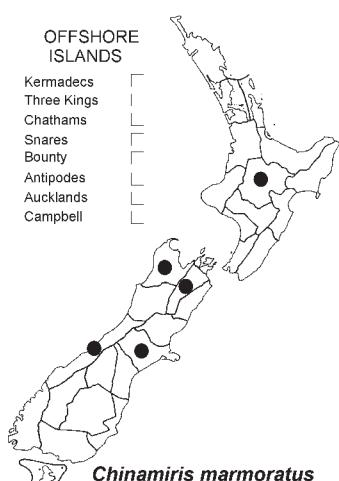
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris laticinctus*

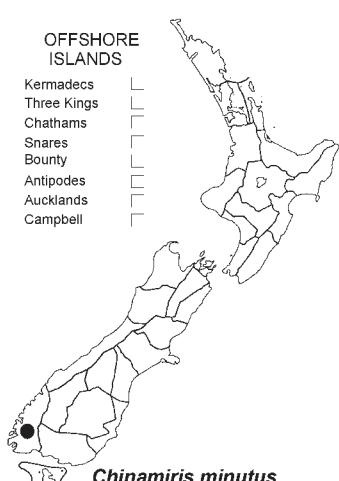
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris marmoratus*

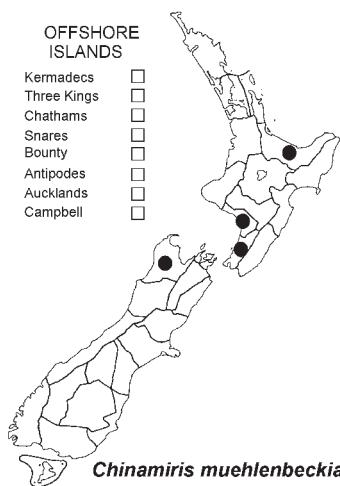
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

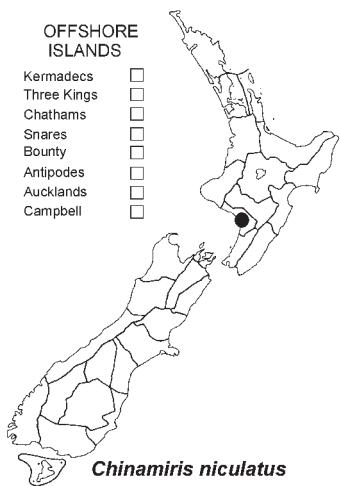
*Chinamiris minutus*

**MIRIDAE****OFFSHORE ISLANDS**

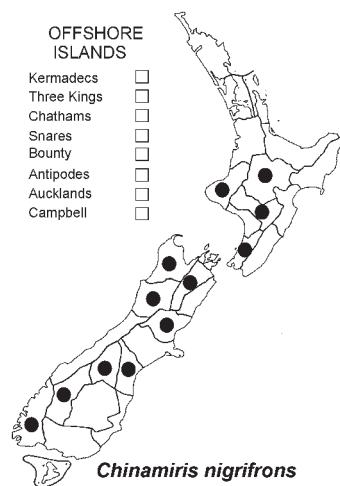
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 Chathams   □  
 Snares   □  
 Bounty   □  
 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris muehlenbeckiae***OFFSHORE ISLANDS**

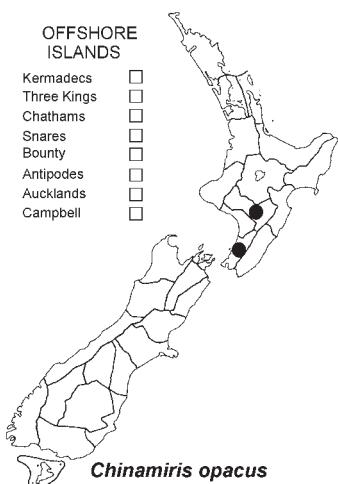
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 Chathams   □  
 Snares   □  
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 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris niculatus***OFFSHORE ISLANDS**

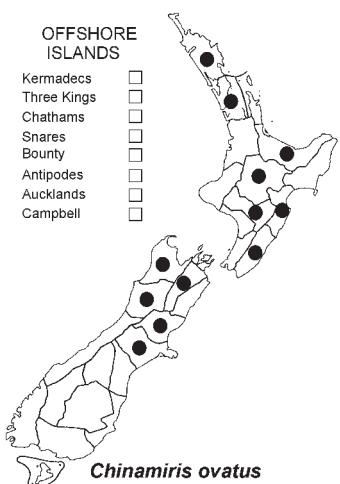
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 Chathams   □  
 Snares   □  
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 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris nigritrons***OFFSHORE ISLANDS**

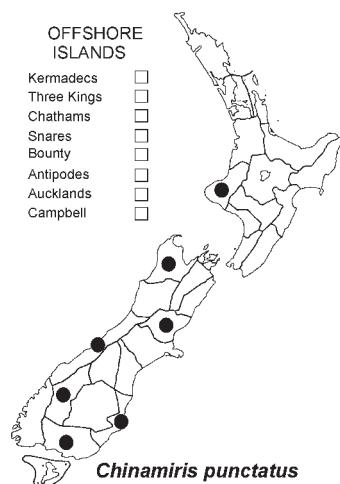
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 Snares   □  
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 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris opacus***OFFSHORE ISLANDS**

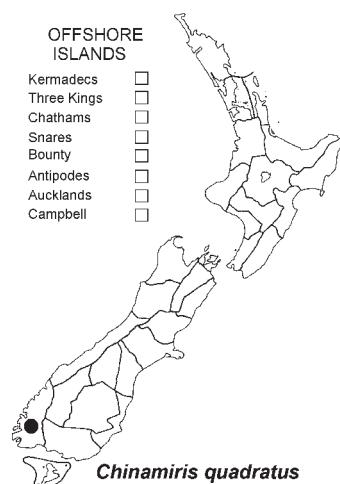
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 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris ovatus***OFFSHORE ISLANDS**

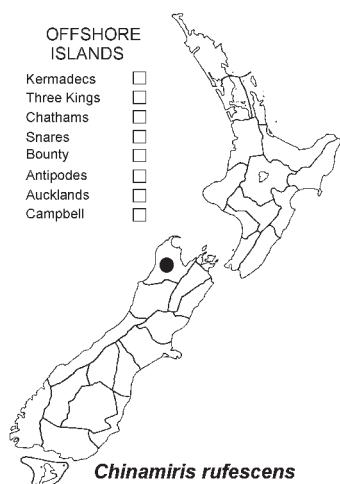
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 Chathams   □  
 Snares   □  
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 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris punctatus***OFFSHORE ISLANDS**

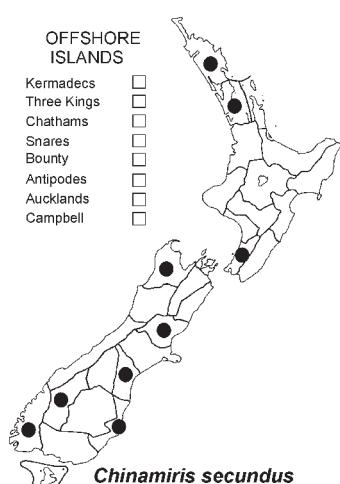
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 Snares   □  
 Bounty   □  
 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris quadratus***OFFSHORE ISLANDS**

Kermadecs   □  
 Three Kings   □  
 Chathams   □  
 Snares   □  
 Bounty   □  
 Antipodes   □  
 Aucklands   □  
 Campbell   □

*Chinamiris rufescens***OFFSHORE ISLANDS**

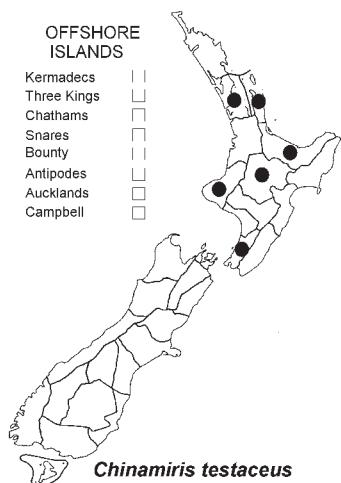
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 Chathams   □  
 Snares   □  
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 Antipodes   □  
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 Campbell   □

*Chinamiris secundus*

## MIRIDAE

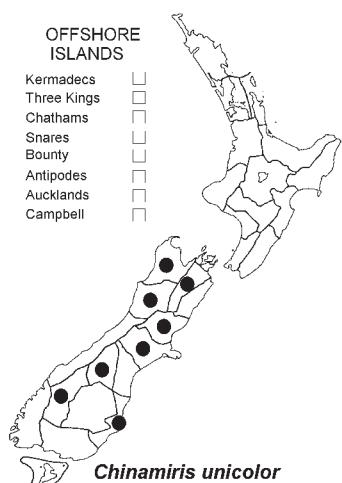
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris testaceus*

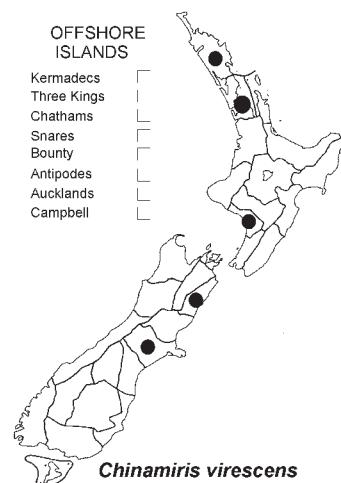
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris unicolor*

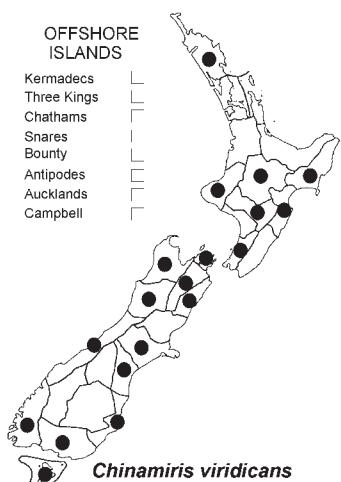
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris virescens*

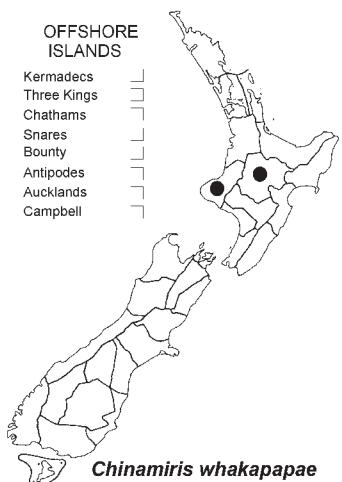
## OFFSHORE ISLANDS

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Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris viridicans*

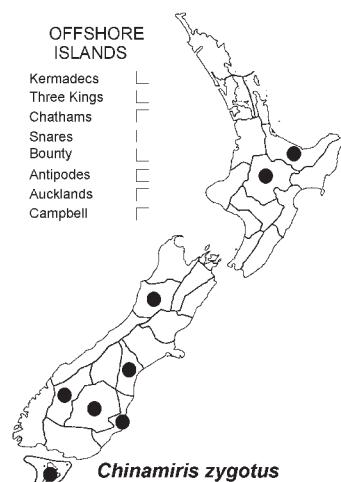
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris whakapapae*

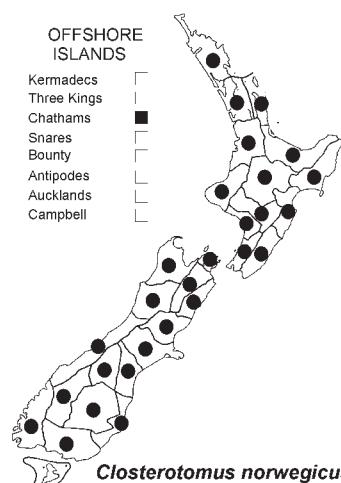
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Chinamiris zygotus*

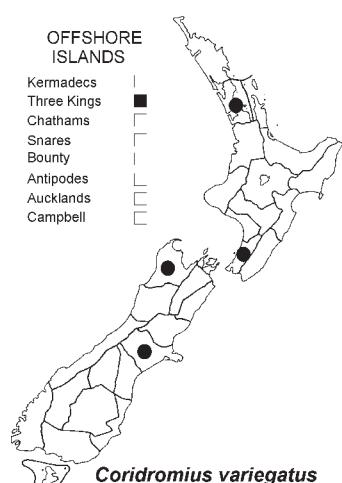
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Closterotomus norwegicus*

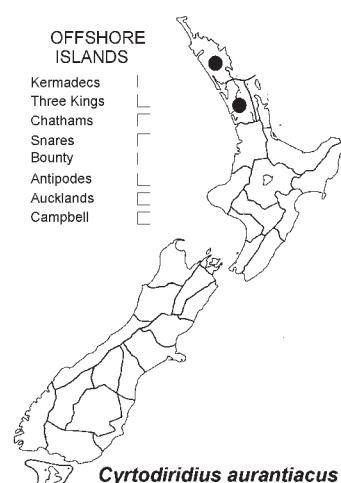
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Coridromius variegatus*

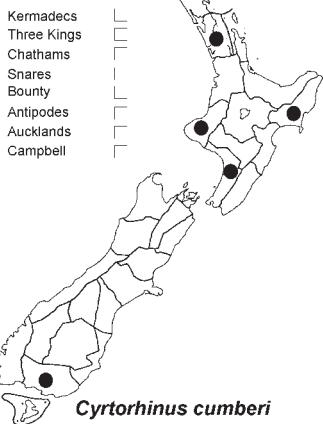
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
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Campbell

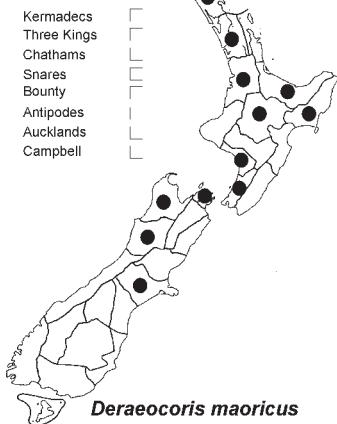
*Cyrtodiridius aurantiacus*

## MIRIDAE

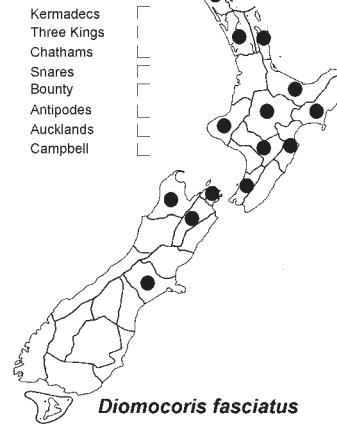
## OFFSHORE ISLANDS

*Cyrtorhinus cumberi*

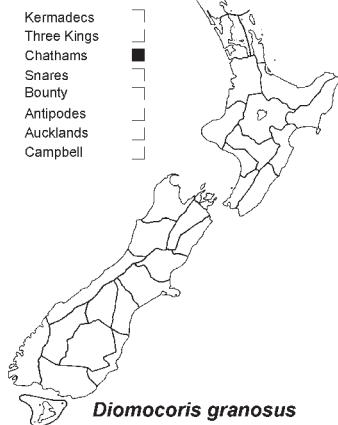
## OFFSHORE ISLANDS

*Deraeocoris maoricus*

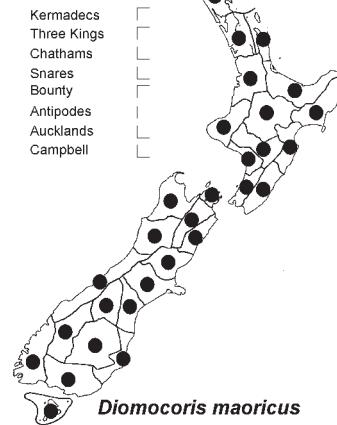
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*Diomocoris fasciatus*

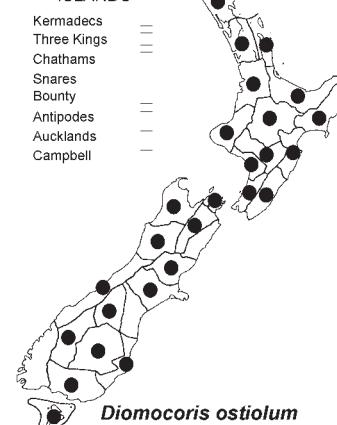
## OFFSHORE ISLANDS

*Diomocoris granosus*

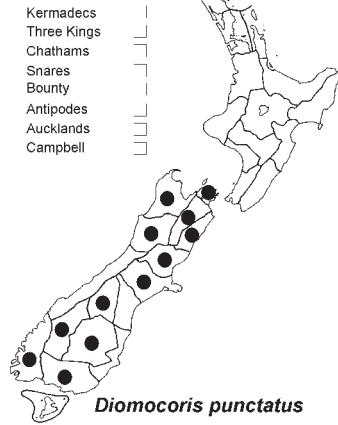
## OFFSHORE ISLANDS

*Diomocoris maoricus*

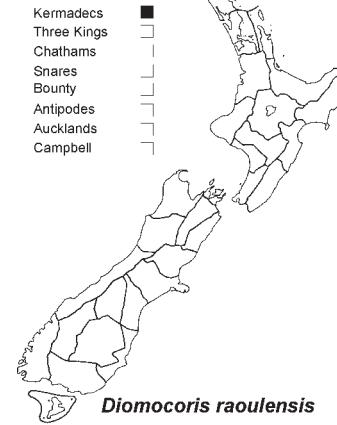
## OFFSHORE ISLANDS

*Diomocoris ostiolum*

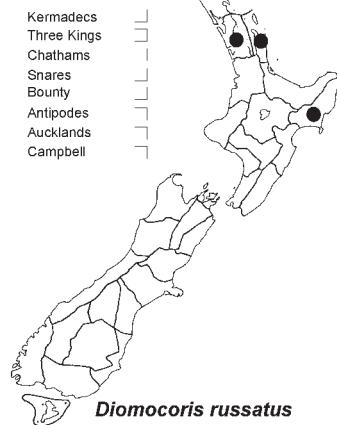
## OFFSHORE ISLANDS

*Diomocoris punctatus*

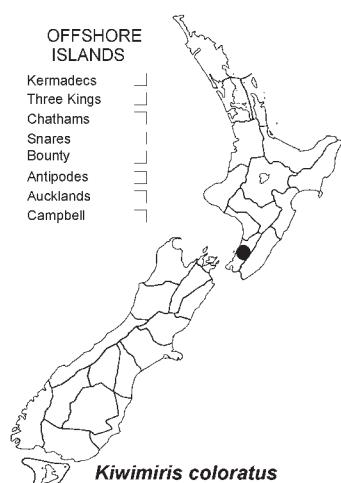
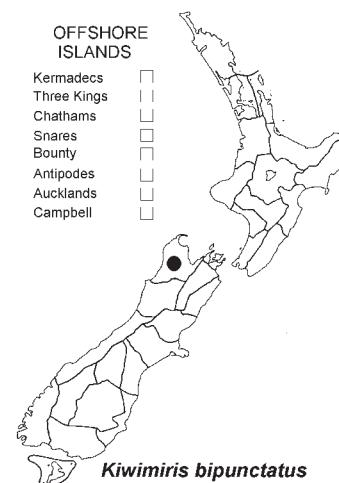
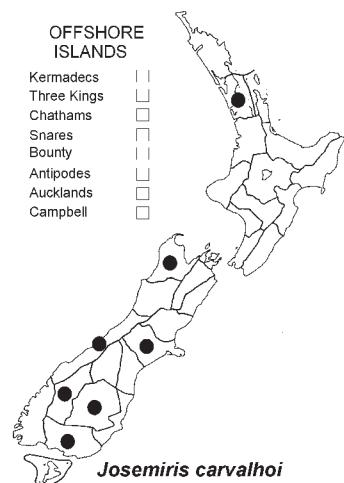
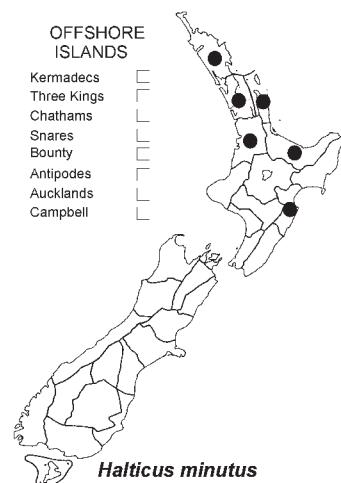
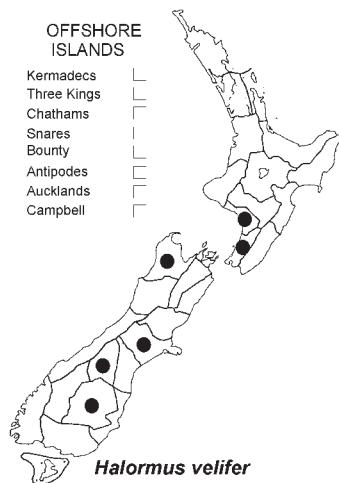
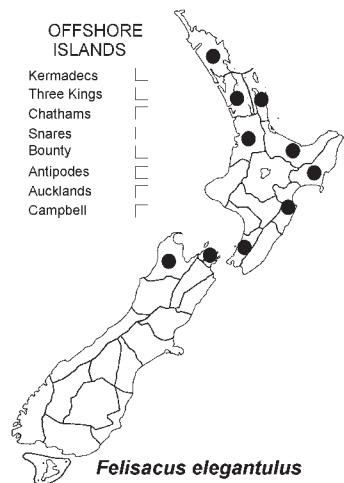
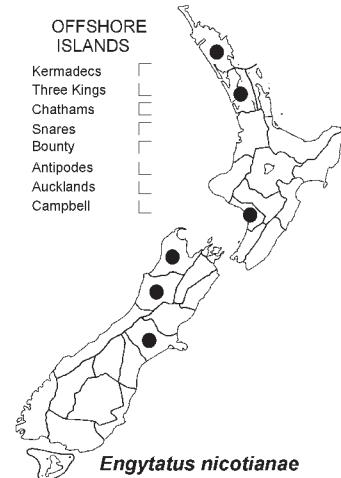
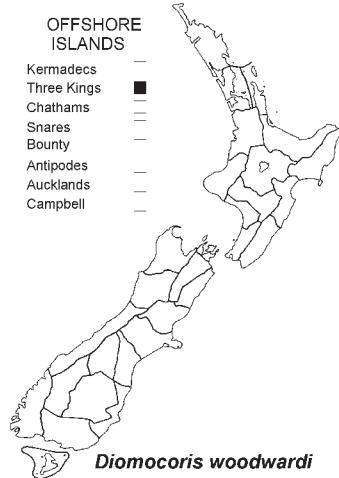
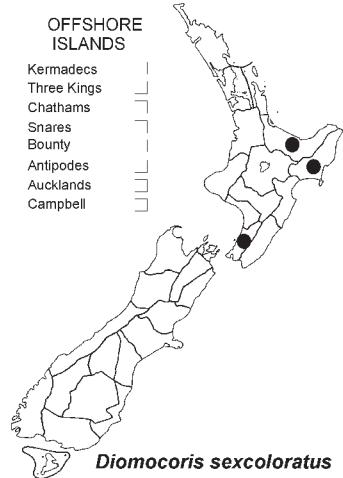
## OFFSHORE ISLANDS

*Diomocoris raoulensis*

## OFFSHORE ISLANDS

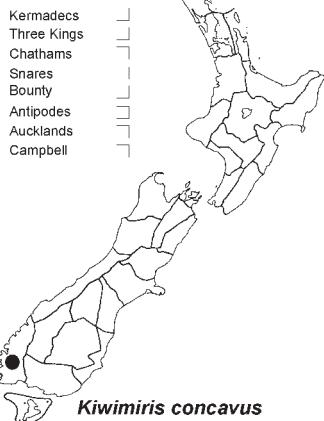
*Diomocoris russatus*

## MIRIDAE

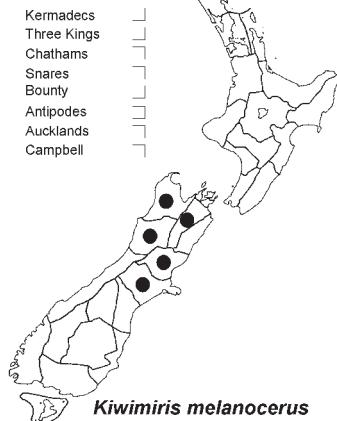


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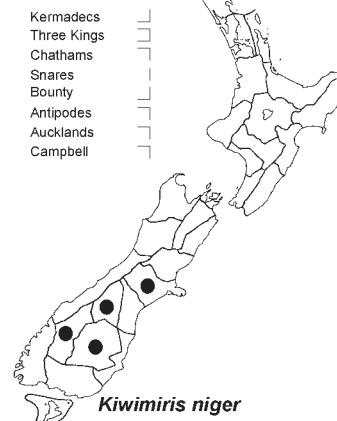
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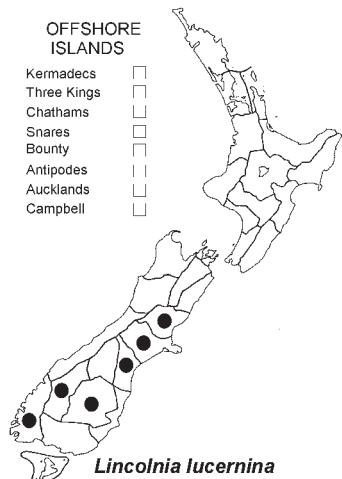
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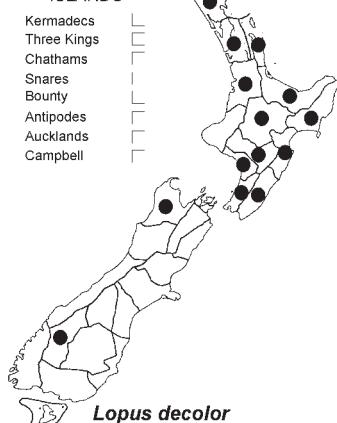
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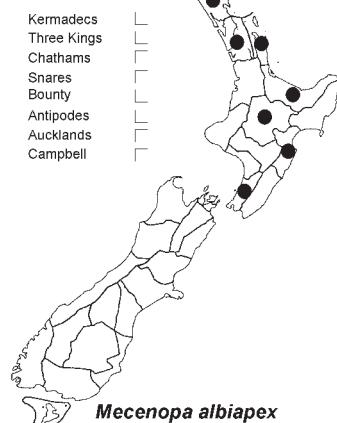
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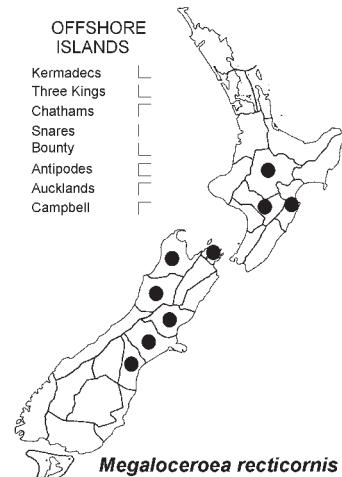
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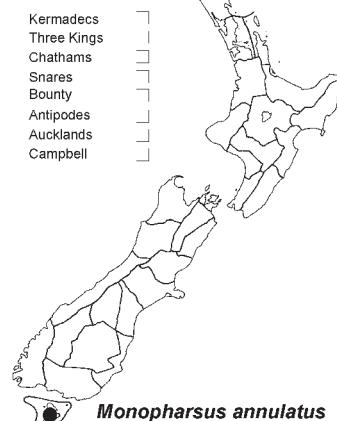
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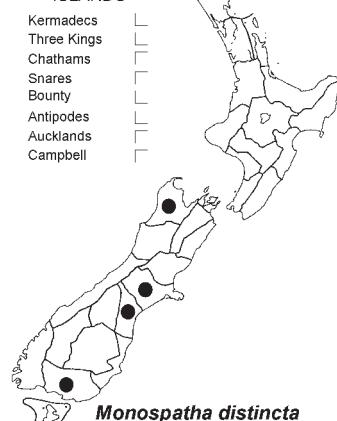
## OFFSHORE ISLANDS



## OFFSHORE ISLANDS



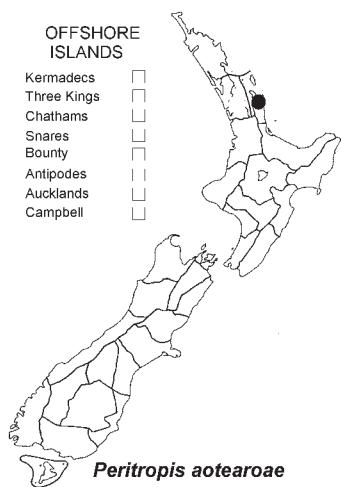
## OFFSHORE ISLANDS



## MIRIDAE

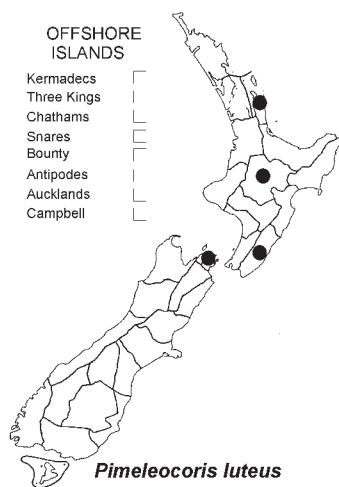
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
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Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Peritropis aotearoae*

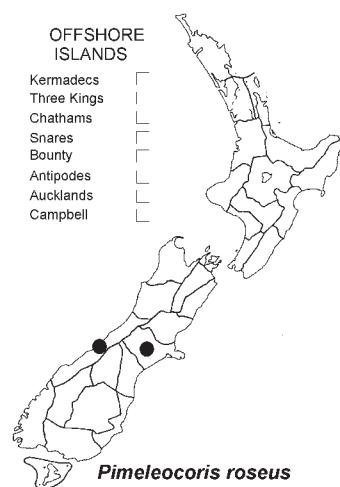
## OFFSHORE ISLANDS

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Chathams  
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Bounty  
Antipodes  
Auckland  
Campbell

*Pimeleocoris luteus*

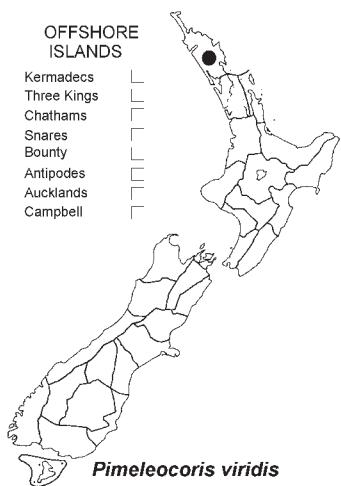
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Pimeleocoris roseus*

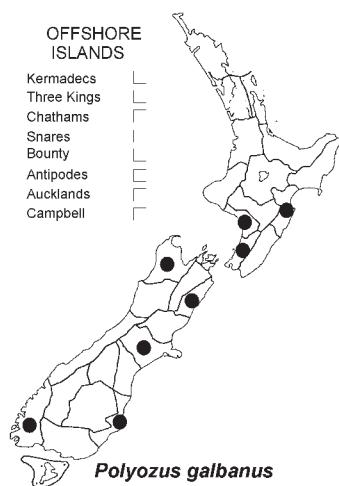
## OFFSHORE ISLANDS

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Bounty  
Antipodes  
Auckland  
Campbell

*Pimeleocoris viridis*

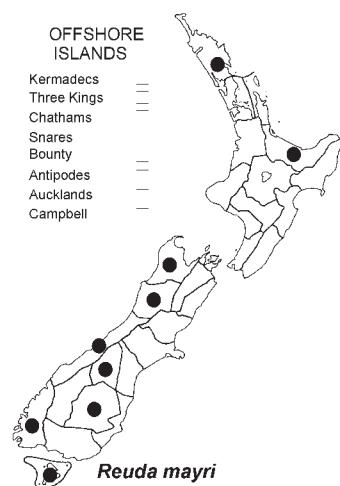
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Polyozus galbanus*

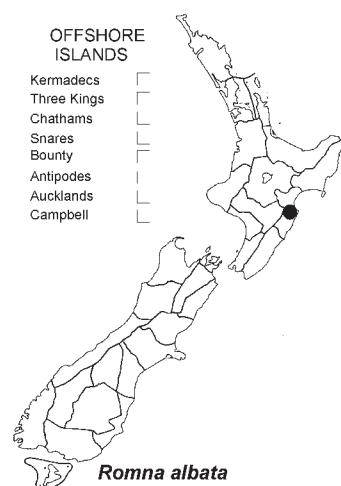
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Reuda mayri*

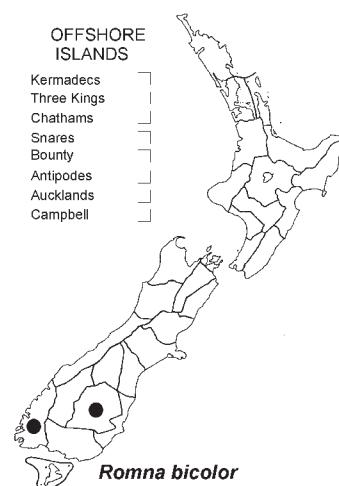
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Romna albata*

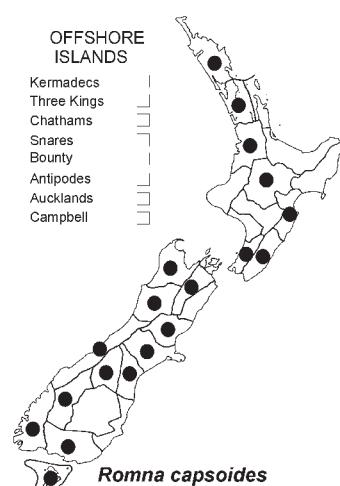
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Romna bicolor*

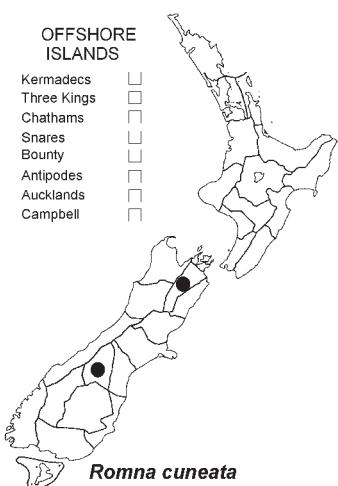
## OFFSHORE ISLANDS

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Campbell

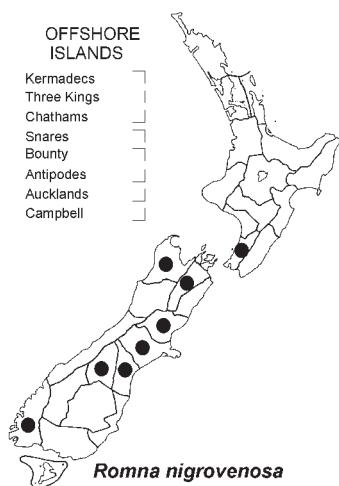
*Romna capsoides*

**MIRIDAE****OFFSHORE ISLANDS**

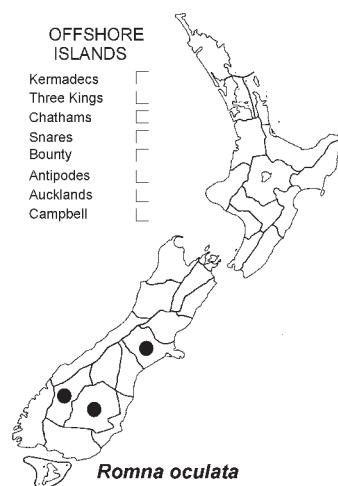
Kermadecs  
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Chathams  
Snares  
Bounty  
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Campbell

*Romna cuneata***OFFSHORE ISLANDS**

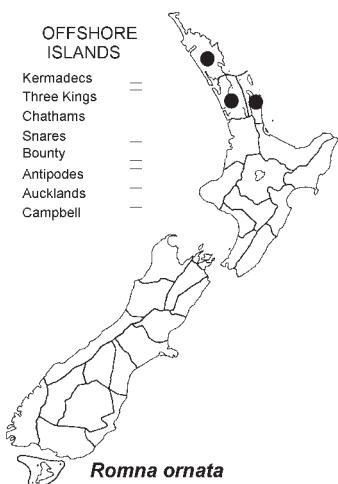
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Romna nigrovenosa***OFFSHORE ISLANDS**

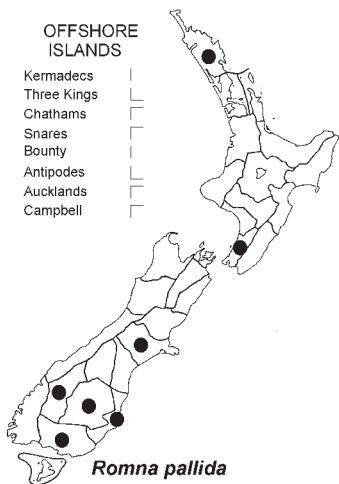
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Campbell

*Romna oculata***OFFSHORE ISLANDS**

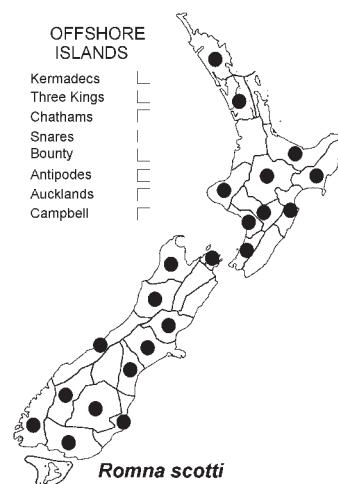
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Snares  
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Campbell

*Romna ornata***OFFSHORE ISLANDS**

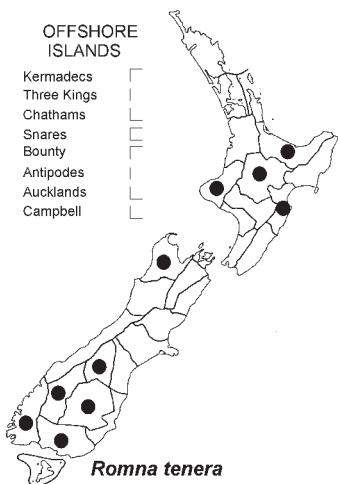
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Antipodes  
Auckland  
Campbell

*Romna pallida***OFFSHORE ISLANDS**

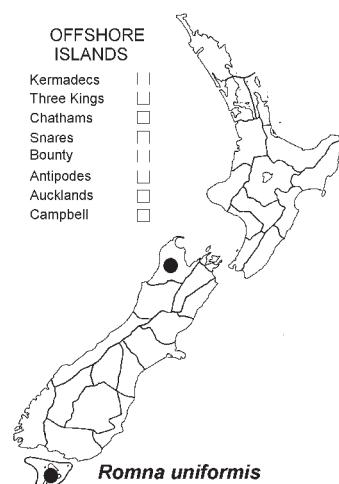
Kermadecs  
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Antipodes  
Auckland  
Campbell

*Romna scotti***OFFSHORE ISLANDS**

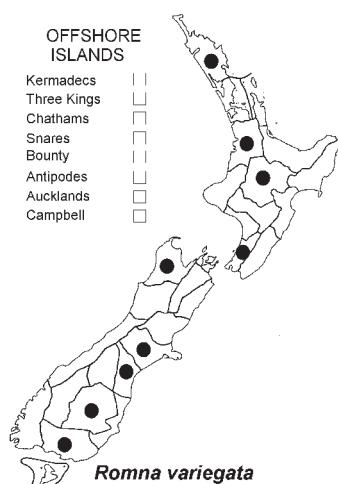
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Romna tenera***OFFSHORE ISLANDS**

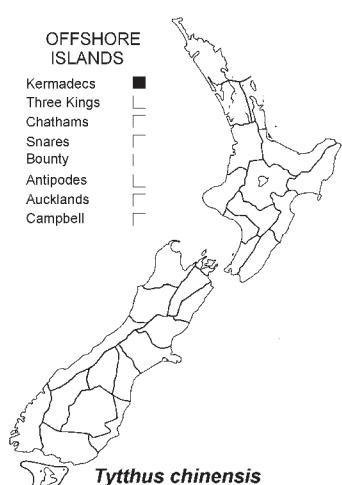
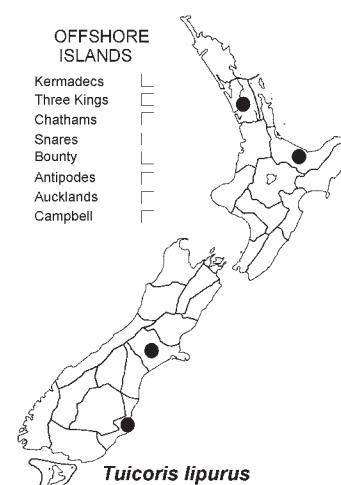
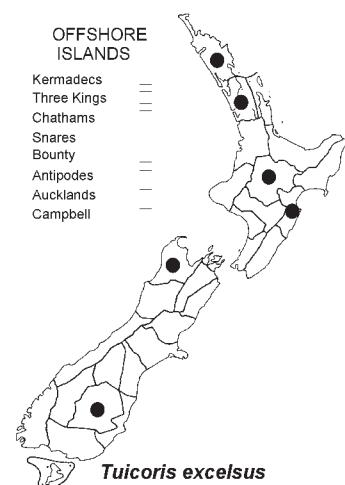
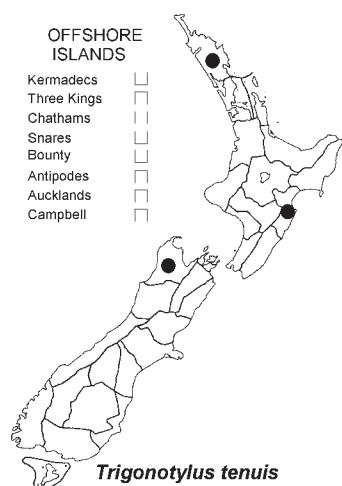
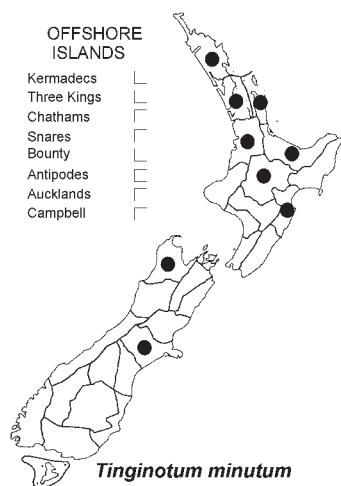
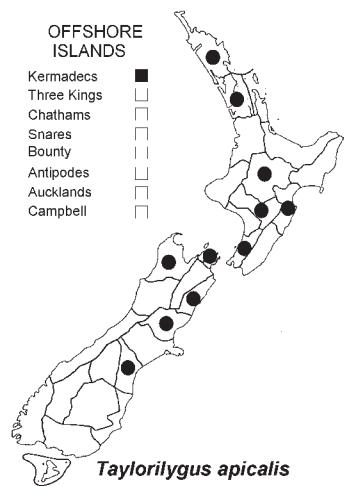
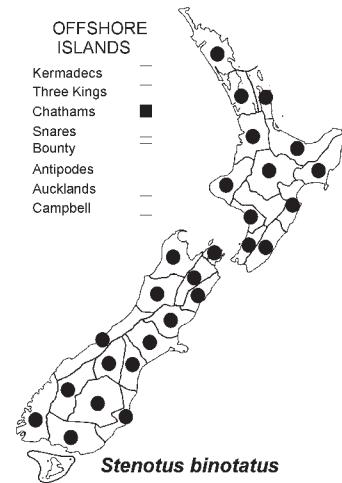
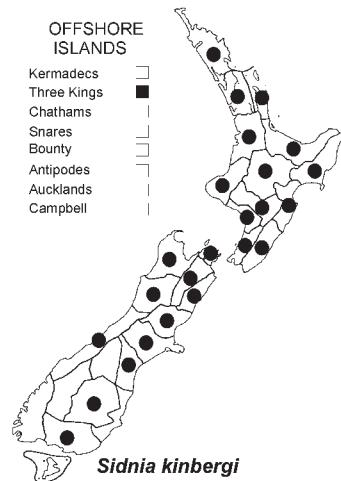
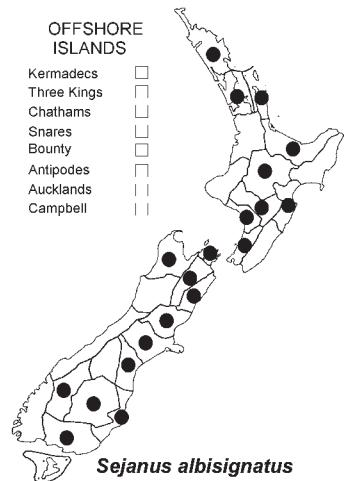
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Romna uniformis***OFFSHORE ISLANDS**

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

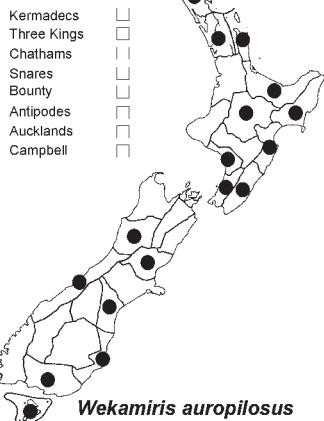
*Romna variegata*

## MIRIDAE

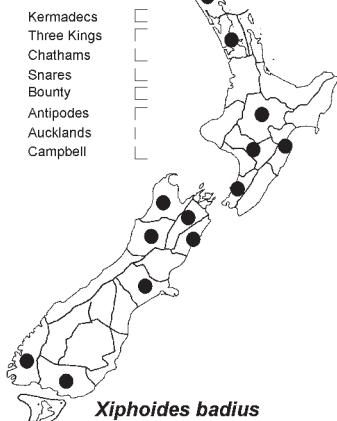


## MIRIDAE

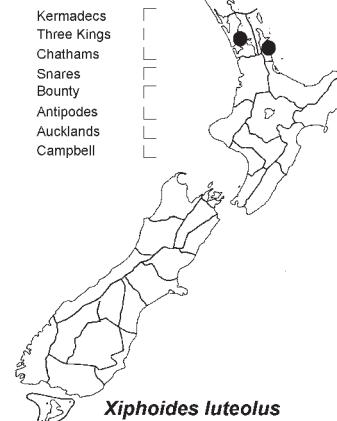
## OFFSHORE ISLANDS

*Wekamiris auropilosus*

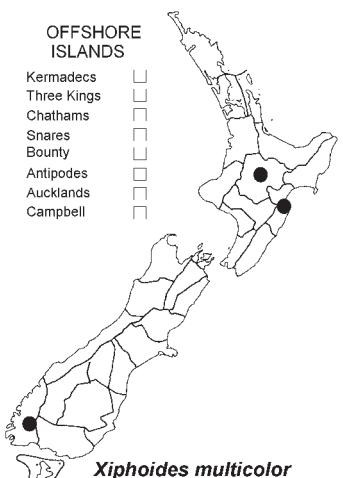
## OFFSHORE ISLANDS

*Xiphoides badius*

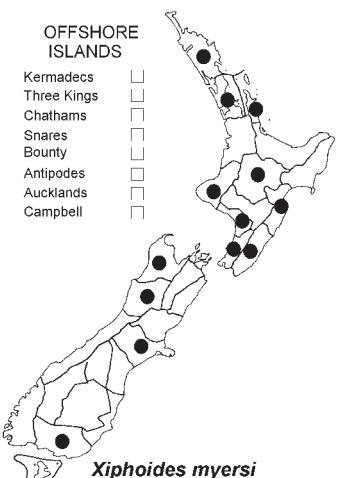
## OFFSHORE ISLANDS

*Xiphoides luteolus*

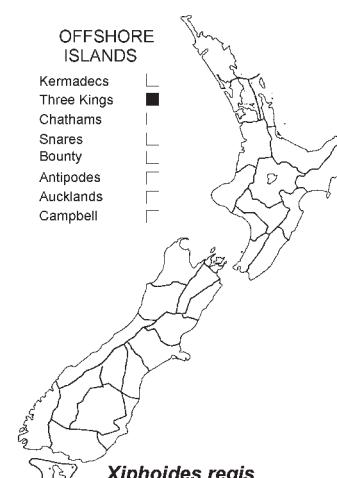
## OFFSHORE ISLANDS

*Xiphoides multicolor*

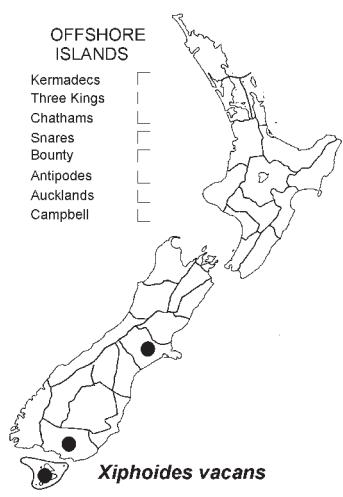
## OFFSHORE ISLANDS

*Xiphoides myersi*

## OFFSHORE ISLANDS

*Xiphoides regis*

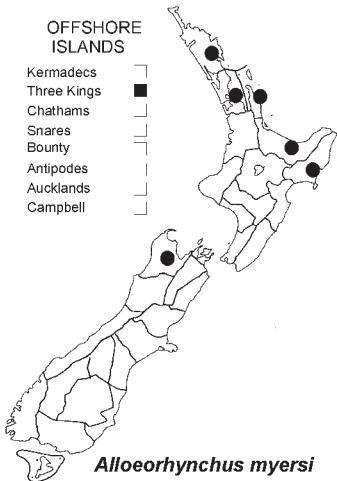
## OFFSHORE ISLANDS

*Xiphoides vacans*

**NABIDAE**

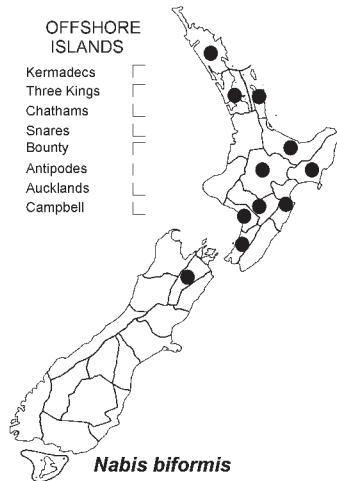
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Alloeorhynchus myersi*

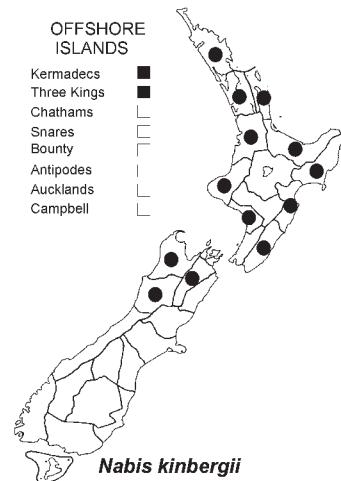
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Nabis biformis*

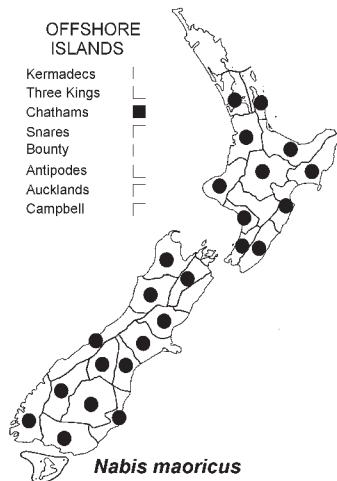
## OFFSHORE ISLANDS

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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Nabis kinbergii***NOTONECTIDAE**

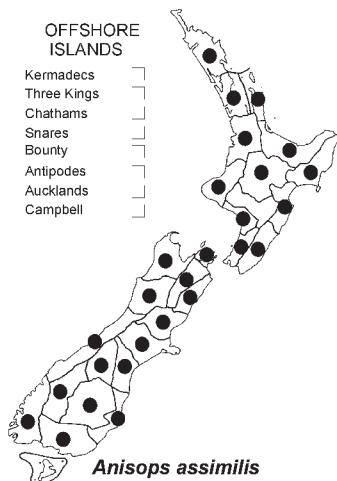
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Nabis maoricus*

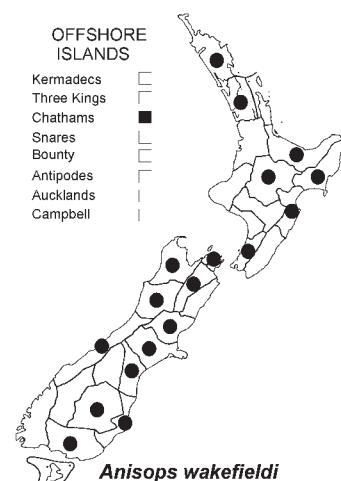
## OFFSHORE ISLANDS

Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Anisops assimilis*

## OFFSHORE ISLANDS

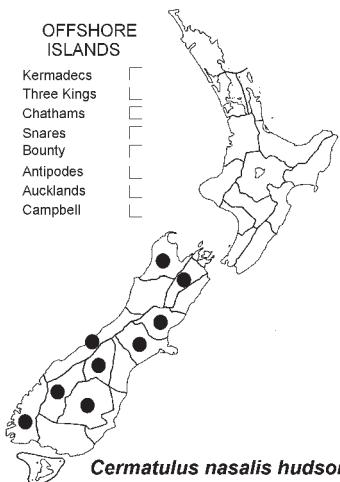
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Anisops wakefieldi*

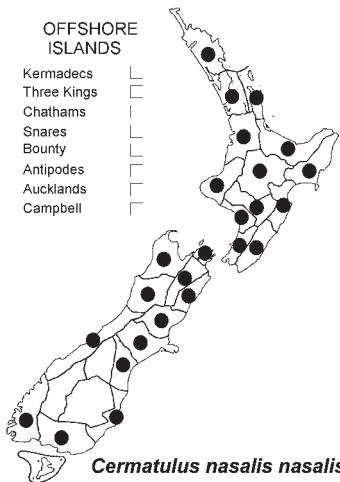
### PENTATOMIDAE

**OFFSHORE ISLANDS**

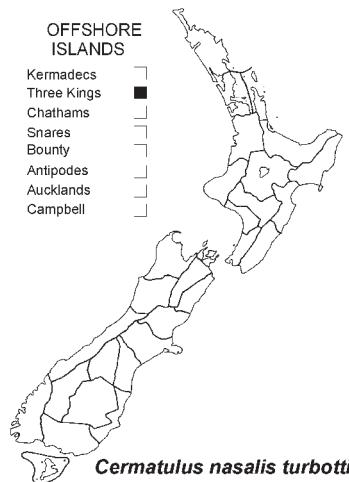
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Antipodes  
Auckland  
Campbell


**OFFSHORE ISLANDS**

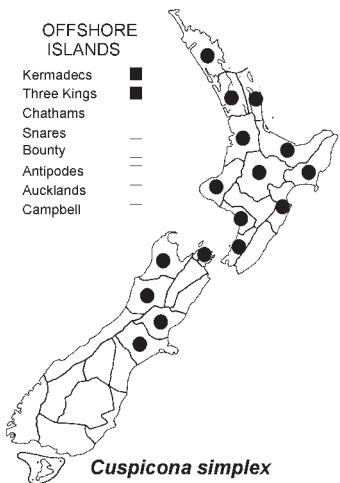
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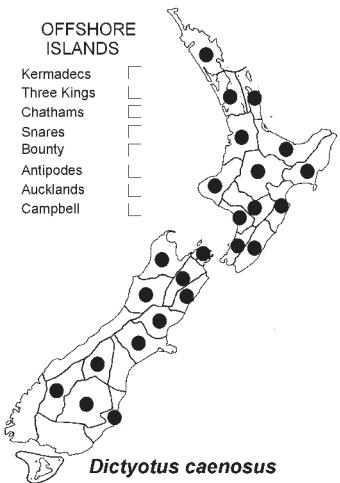
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Campbell


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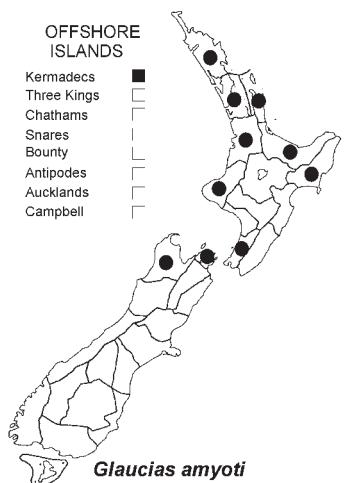
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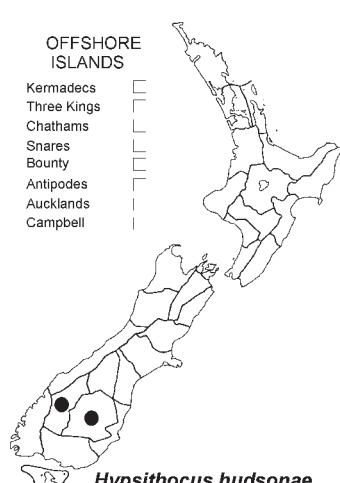
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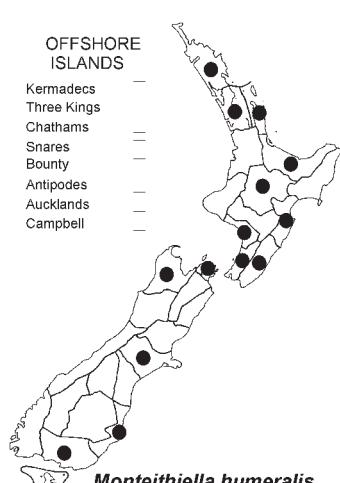
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**OFFSHORE ISLANDS**

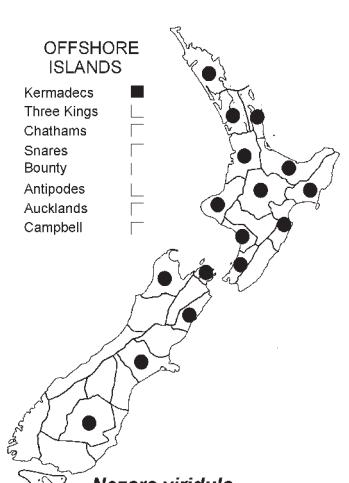
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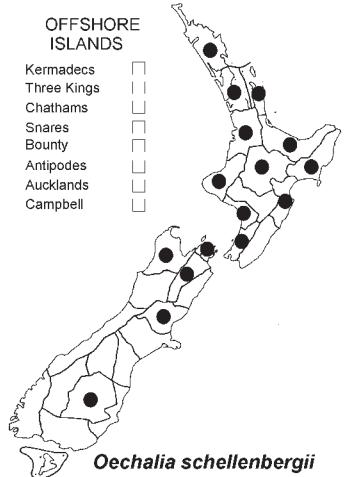
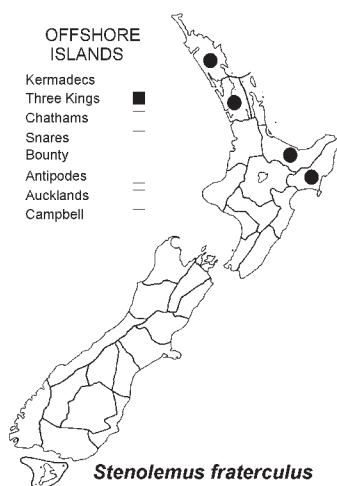
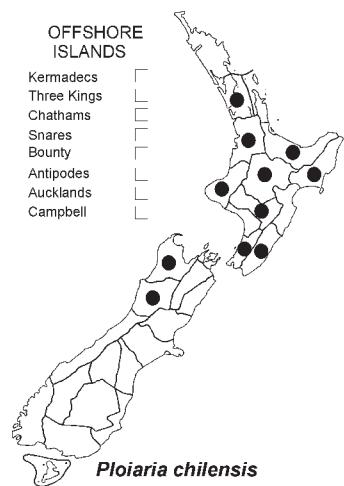
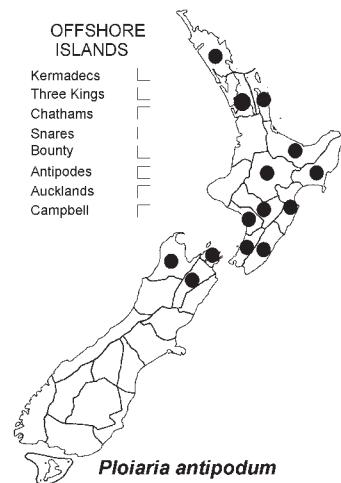
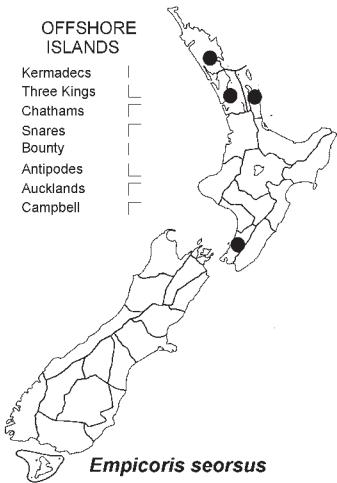
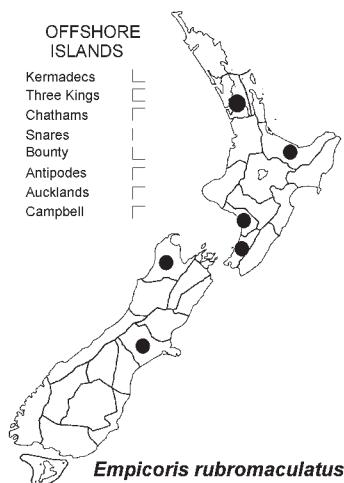
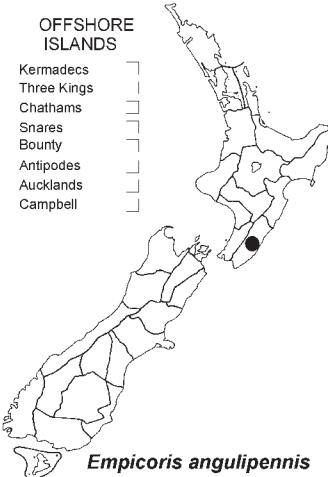
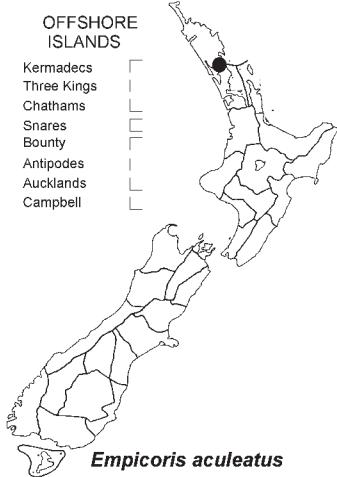

**OFFSHORE ISLANDS**

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell


**OFFSHORE ISLANDS**

Kermadecs  
Three Kings  
Chathams  
Snares  
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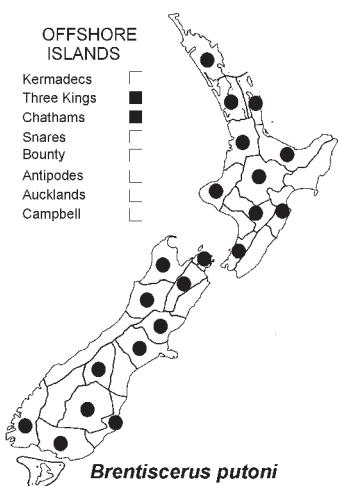


**PENTATOMIDAE****REDUVIIDAE**

**RHYPAROCHROMIDAE**

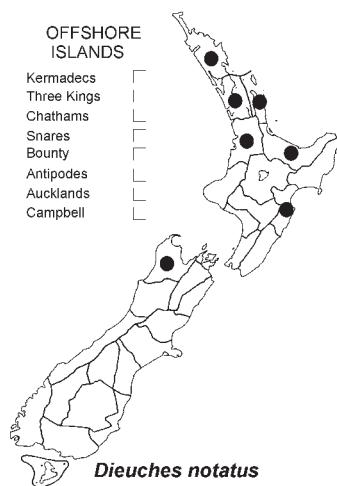
## OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Brentiscerus putoni*

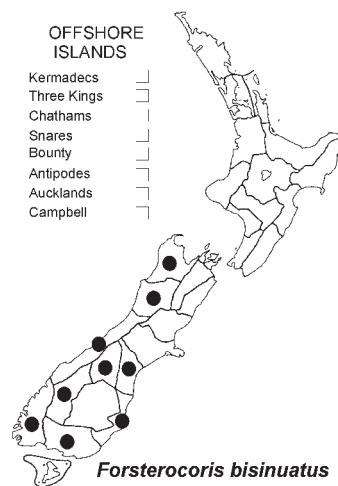
## OFFSHORE ISLANDS

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Chathams  
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Auckland  
Campbell

*Dieuches notatus*

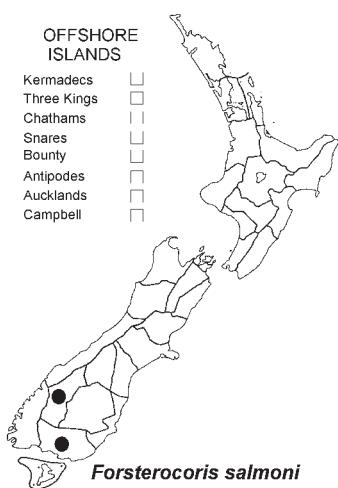
## OFFSHORE ISLANDS

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Auckland  
Campbell

*Forsterocoris bisinuatus*

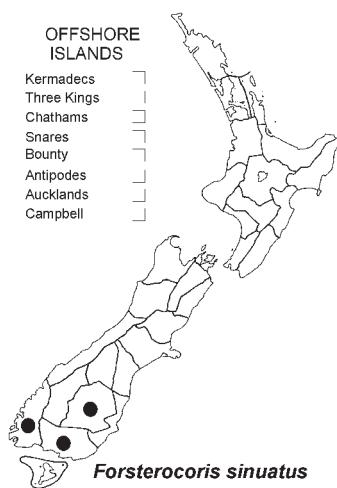
## OFFSHORE ISLANDS

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Chathams  
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Auckland  
Campbell

*Forsterocoris salmoni*

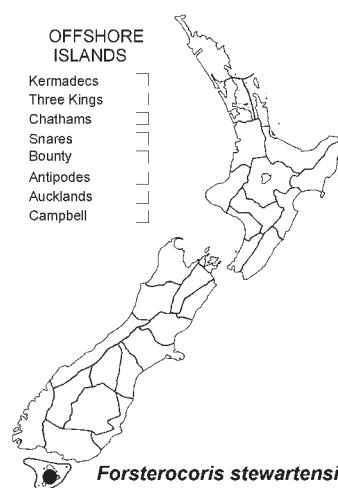
## OFFSHORE ISLANDS

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Campbell

*Forsterocoris sinuatus*

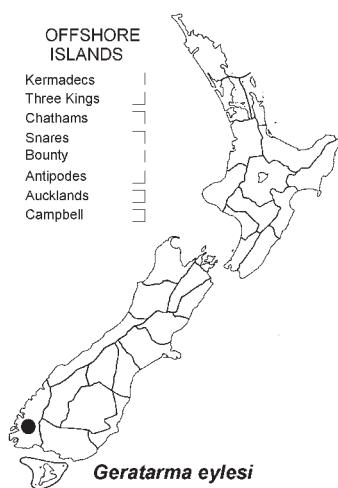
## OFFSHORE ISLANDS

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Campbell

*Forsterocoris stewartensis*

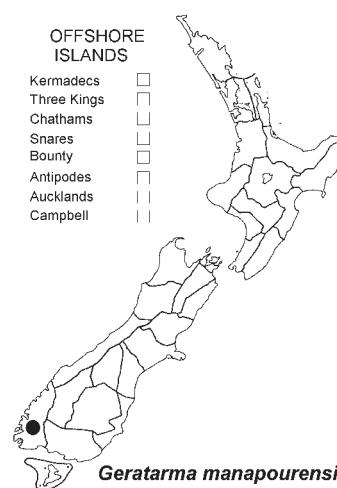
## OFFSHORE ISLANDS

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Campbell

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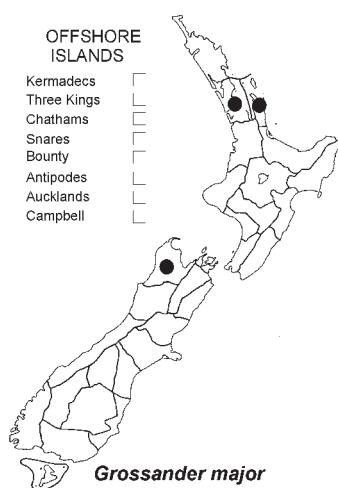
## OFFSHORE ISLANDS

Kermadecs  
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Antipodes  
Auckland  
Campbell

*Geratarma manapourensis*

## OFFSHORE ISLANDS

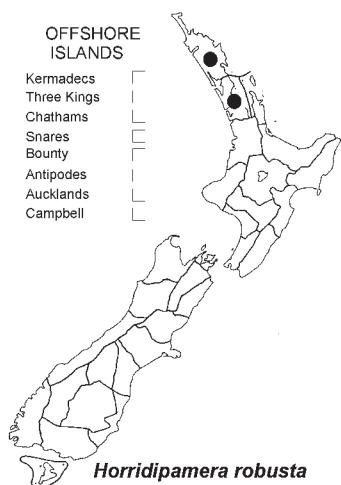
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

*Grossander major*

### RHYPAROCHROMIDAE

#### OFFSHORE ISLANDS

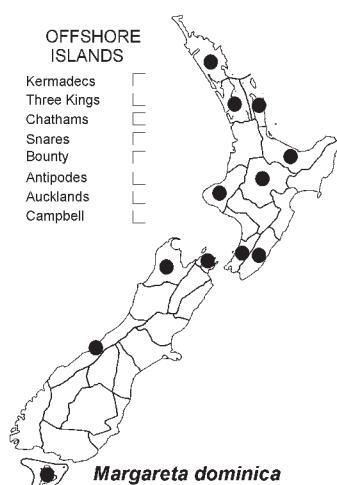
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Horridipamera robusta*

#### OFFSHORE ISLANDS

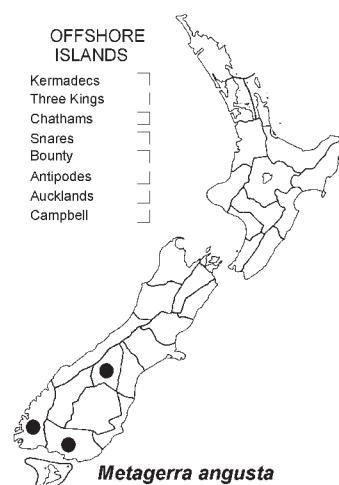
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Margareta dominica*

#### OFFSHORE ISLANDS

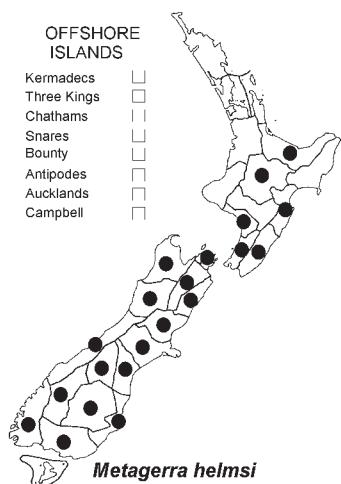
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Metagerra angusta*

#### OFFSHORE ISLANDS

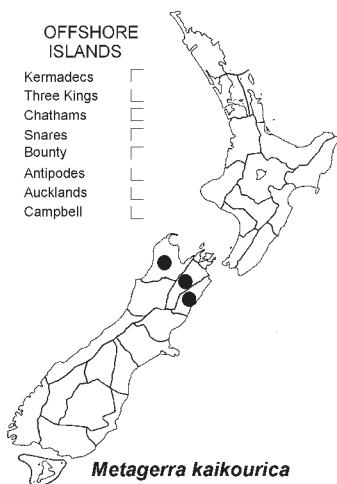
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Metagerra helmsi*

#### OFFSHORE ISLANDS

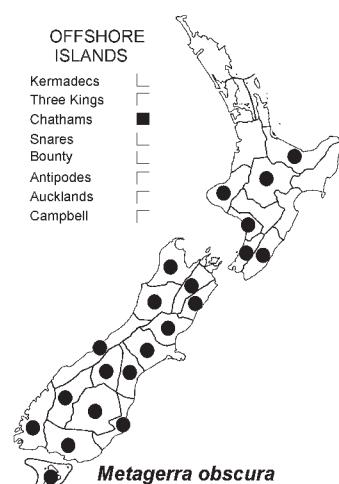
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Metagerra kaikourica*

#### OFFSHORE ISLANDS

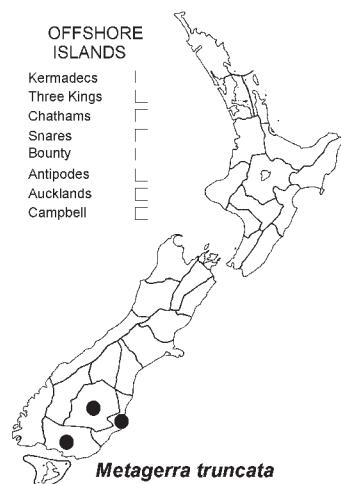
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Metagerra obscura*

#### OFFSHORE ISLANDS

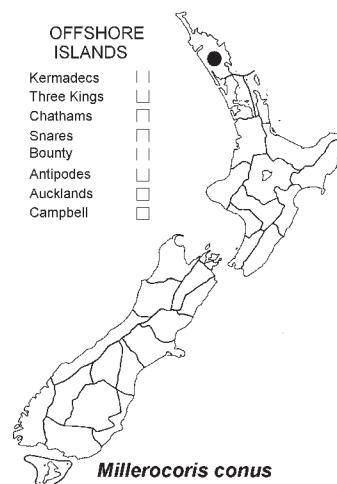
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Metagerra truncata*

#### OFFSHORE ISLANDS

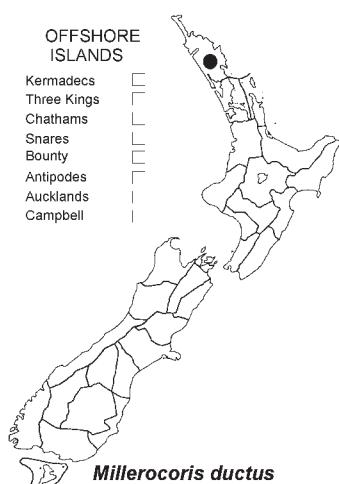
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Millerocoris conus*

#### OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
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Bounty  
Antipodes  
Auckland  
Campbell

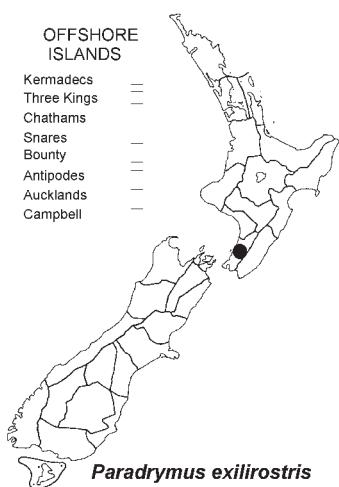


*Millerocoris ductus*

### RHYPAROCHROMIDAE

#### OFFSHORE ISLANDS

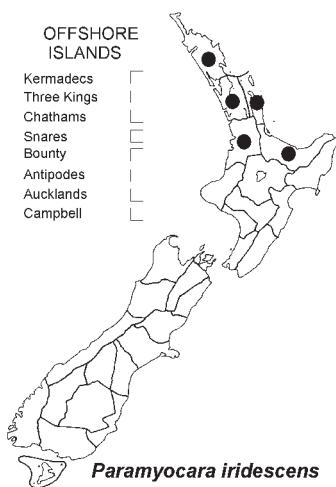
Kermadecs  
Three Kings  
Chathams  
Snares  
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Auckland  
Campbell



*Paradrymus exilirostris*

#### OFFSHORE ISLANDS

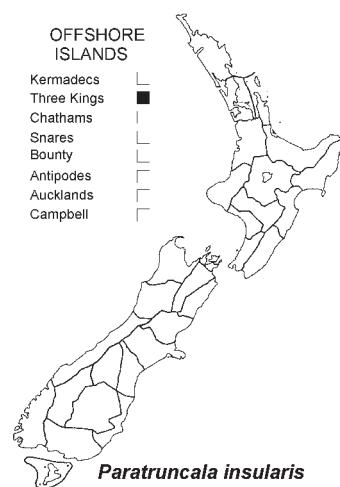
Kermadecs  
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Campbell



*Paramyocara iridescaens*

#### OFFSHORE ISLANDS

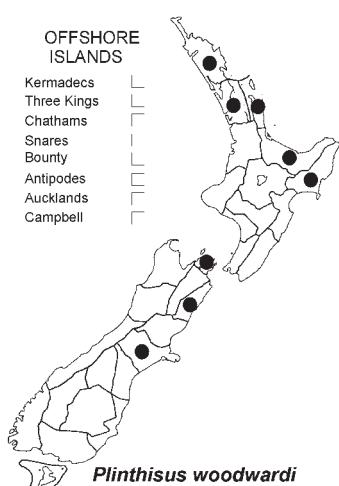
Kermadecs  
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Snares  
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Antipodes  
Auckland  
Campbell



*Paratruncala insularis*

#### OFFSHORE ISLANDS

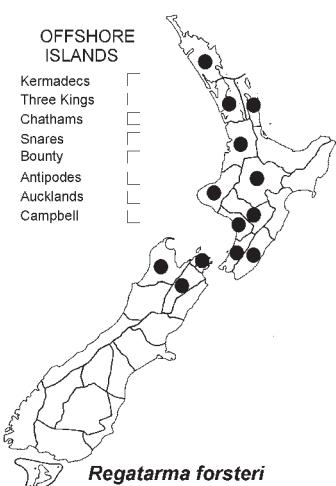
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Chathams  
Snares  
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Auckland  
Campbell



*Plinthisus woodwardi*

#### OFFSHORE ISLANDS

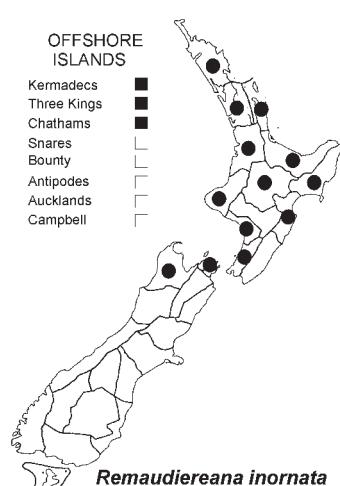
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Snares  
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Auckland  
Campbell



*Regatarma forsteri*

#### OFFSHORE ISLANDS

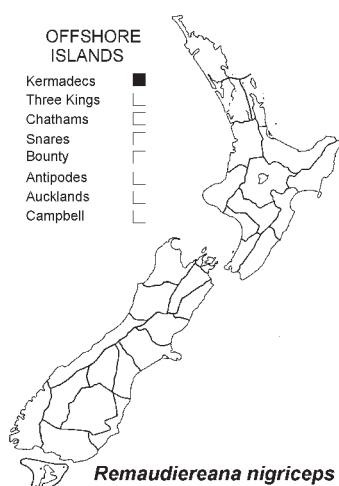
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Snares  
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Auckland  
Campbell



*Remaudiereana inornata*

#### OFFSHORE ISLANDS

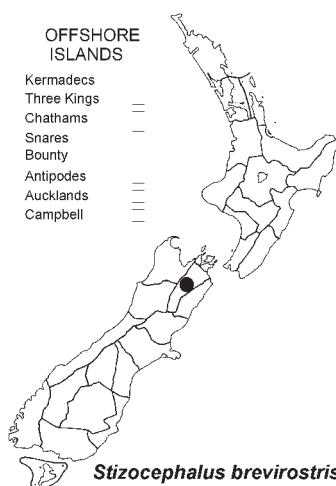
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Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Remaudiereana nigriceps*

#### OFFSHORE ISLANDS

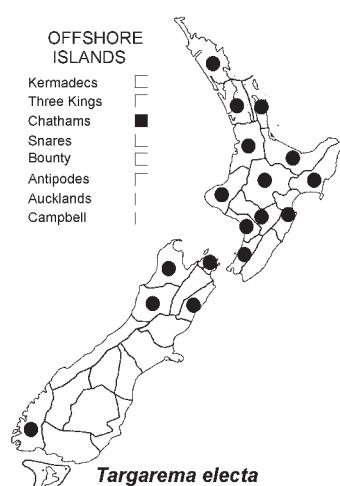
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Stizcephalus brevirostris*

#### OFFSHORE ISLANDS

Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell

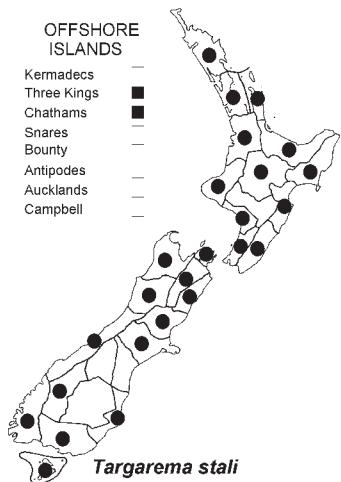


*Targarema electa*

## RHYPAROCHROMIDAE

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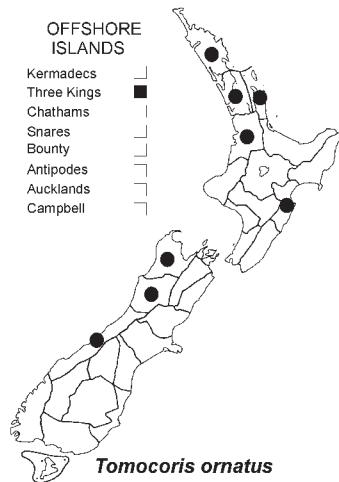
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Targarema stali*

### OFFSHORE ISLANDS

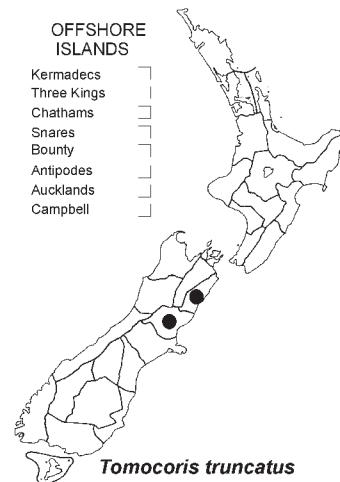
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Tomocoris ornatus*

### OFFSHORE ISLANDS

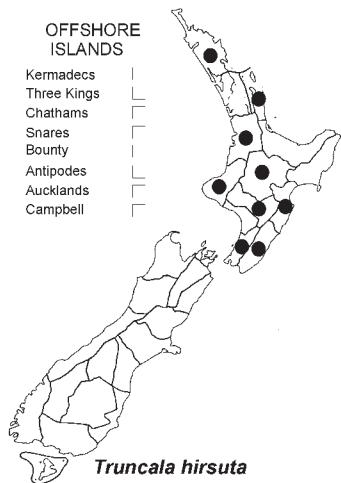
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Tomocoris truncatus*

### OFFSHORE ISLANDS

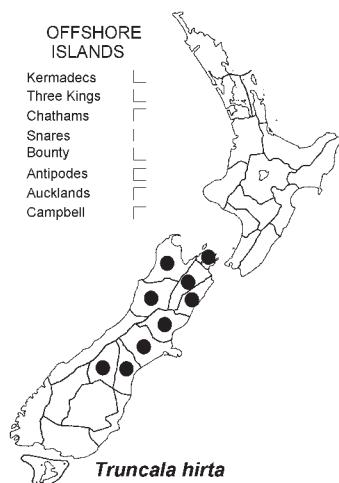
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Truncala hirsuta*

### OFFSHORE ISLANDS

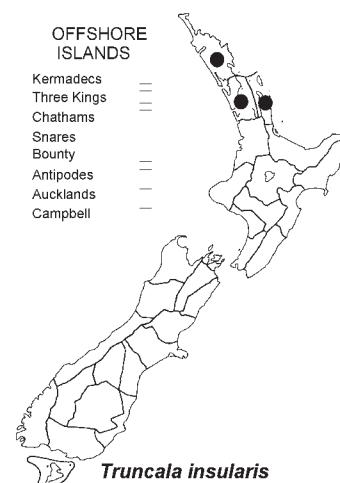
Kermadecs  
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Truncala hirta*

### OFFSHORE ISLANDS

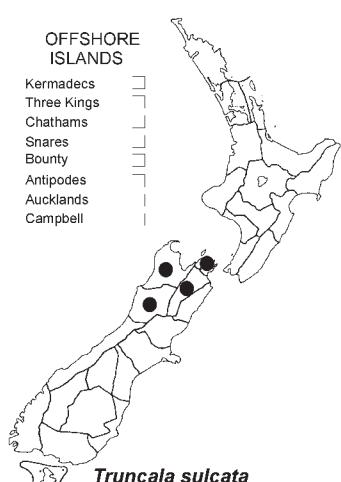
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Truncala insularis*

### OFFSHORE ISLANDS

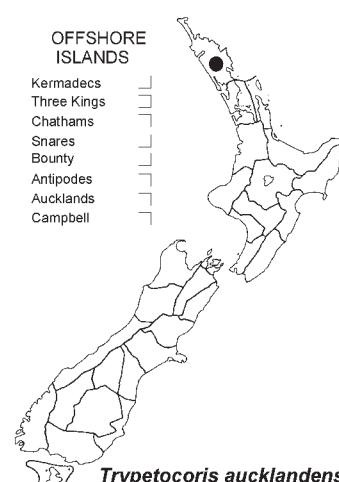
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Truncala sulcata*

### OFFSHORE ISLANDS

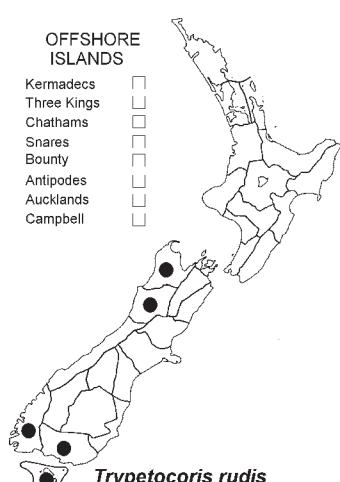
Kermadecs  
Three Kings  
Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



*Trypetocoris aucklandensis*

### OFFSHORE ISLANDS

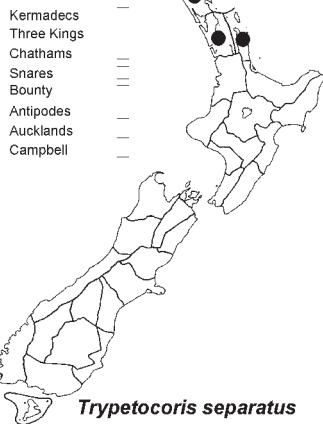
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Chathams  
Snares  
Bounty  
Antipodes  
Auckland  
Campbell



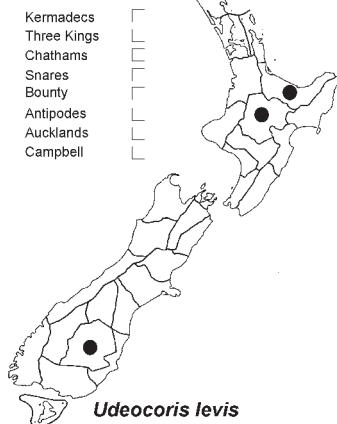
*Trypetocoris rufid*

**RHYPAROCHROMIDAE**

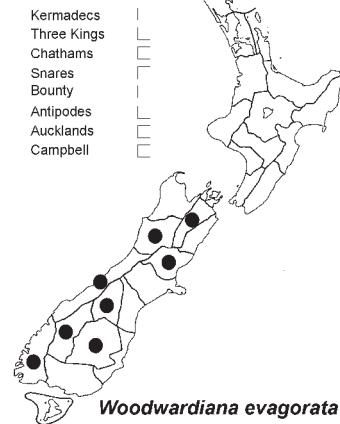
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*Trypetocoris separatus*

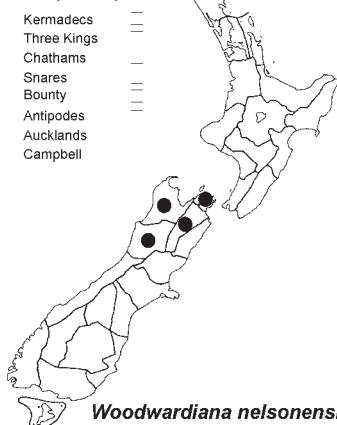
## OFFSHORE ISLANDS

*Udeocoris levis*

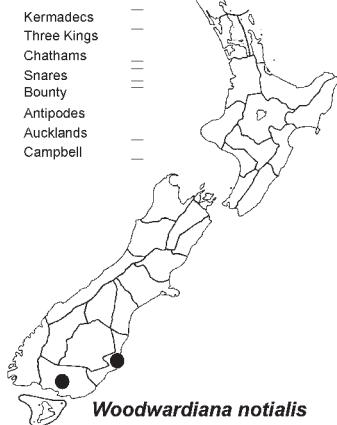
## OFFSHORE ISLANDS

*Woodwardiana evagorata*

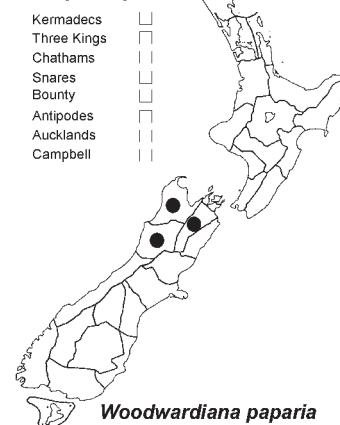
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*Woodwardiana nelsonensis*

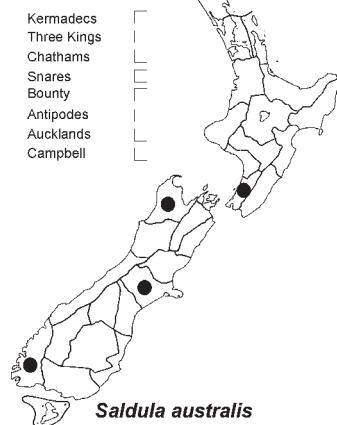
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*Woodwardiana notialis*

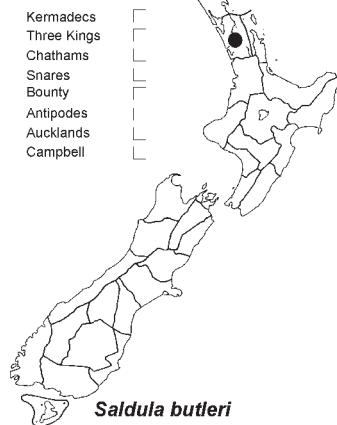
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*Woodwardiana paparia***SALDIDAE**

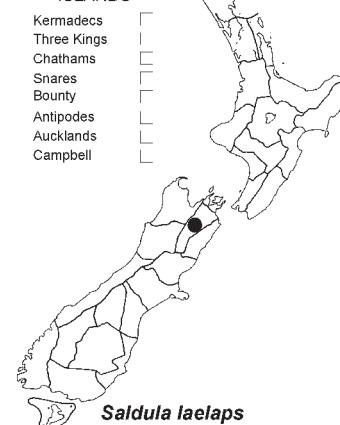
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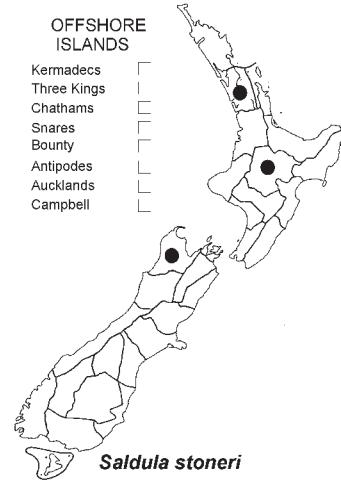
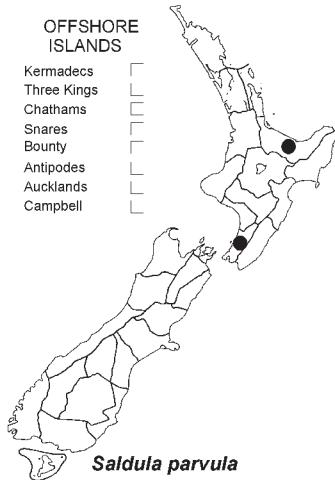
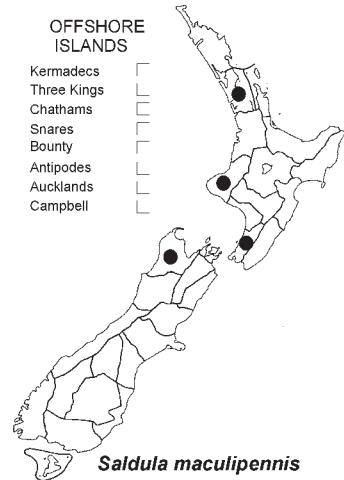
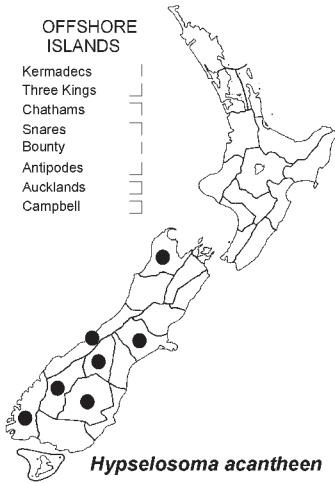
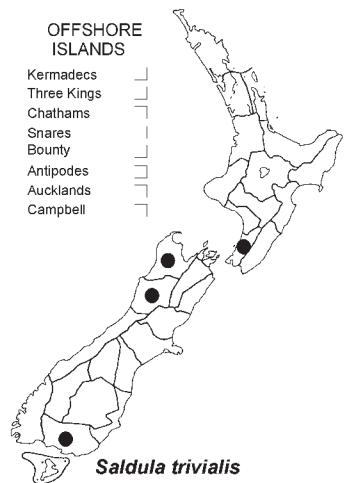
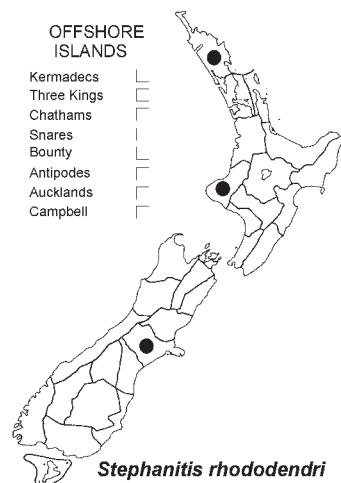
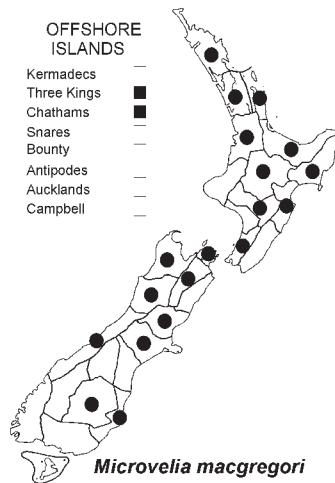
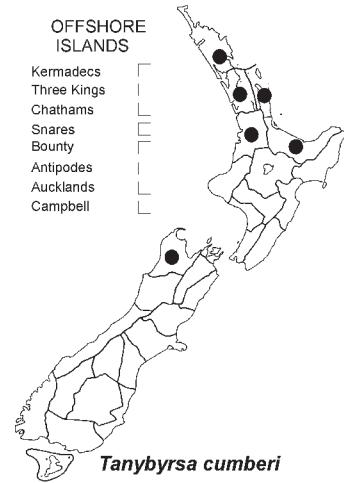
*Saldula australis*

## OFFSHORE ISLANDS

*Saldula butleri*

## OFFSHORE ISLANDS

*Saldula laelaps*

**SALDIDAE****SCHIZOPTERIDAE****TINGIDAE****VELIIDAE**

## TAXONOMIC INDEX

This index covers the nominal taxa mentioned in the text, regardless of their current status in taxonomy. In the case of synonyms, the combinations of generic and specific names listed are those originally published by authors, and may differ from combinations implicit in current usage. Taxa in **bold** indicate valid taxa. Page numbers in **bold** indicate main catalogue entries. The letter “f” after a page indicates a **figure**. The letter “m” indicates a **distribution map**. The letter “p” indicates a **type photograph**.

**Abanus** Distant 128  
**abdominalis** Usinger & Matsuda, *Neadenocoris* 57, 229p, 288m  
**acantheen Hill, Hypselosoma** 140, 275p, 318m  
**Acanthia** Fabricius 138  
**Acanthocolpura** Breddin 64  
**Acantholybas** Breddin 64, 290m  
**Acanthosomatidae** 41, 225p, 283m  
**Acanthosomatinae** 41  
**Acaraptera** Usinger & Matsuda 51, 226p, 285m  
**aculeatus** (*Bergroth*), *Empicoris* 37, 122, 312m  
**aculeatus** Bergroth, *Ploeariodes* 122  
**acutospinosus** Eyles & Carvalho, Chinamiris 90, 247p, 299m  
**acutus** Usinger & Matsuda, *Neadenocoris* 58, 230p, 288m  
**Adenocoris** Usinger & Matsuda 57, 285m  
**Aenictocoris** Woodward 44, 225p, 283m  
**Aenictopechidae** 43, 225p, 283m  
**albata** Eyles & Carvalho, Romna 85, 261p, 306m  
**albiapex** Eyles & Schuh, *Mecenopa* 110, 259p, 305m  
*albisignata* Knight, *Idatiella* 107  
**albisignatus** (Knight), *Sejanus* 35, 107, 308m  
**Alloeorhynchus** Fieber 114, 310m

**Alloeorhynchus** (*Alloeorhynchus*) 114  
**Alluaudiella** Poppius 108  
**alpina** Woodward, *Rhopalimorpha* 37, 42, 225p, 283m  
**Alydidae** 190  
**Amnestoides** Signoret 66  
**amyoti** (Dallas), *Glaucias* 118, 311m  
*amyoti* Dallas, *Rhaphigaster* 118  
*anceps* White, *Nysius* 76  
**anceps** (White), *Rhypodes* 76, 293m  
*Anchomichon* Spinola 54  
**Aneuraptera** Usinger & Matsuda 48, 285m  
**Aneurinae** 48  
**Aneurodellus** Heiss 49  
**Aneurus** Curtis 49, 226-227p, 285-286m  
**Aneurus** (*Aneurodellus*) 49  
**Anexochus** Eyles 87, 243p, 297m  
*angulatus* Usinger & Matsuda, *Neocarventus* 53, 231p, 288m  
*angulipennis* (*Bergroth*), *Empicoris* 122, 312m  
*angulipennis* Bergroth, *Ploeariodes* 122  
**angusta** Eyles, *Metagerra* 131, 269p, 314m  
**Anisopinae** 114  
*Anisopoides* Hutchinson 115  
**Anisops** Spinola 114, 310m  
*annulatus* Eyles & Carvalho, *Monophasrus* 100, 260p, 305m  
*Anorthuna* Strand 75  
*Anorthus* Horváth 75  
**Anthocoridae** 44, 284m  
**Anthocorinae** 45  
**Antilocorini** 124  
*antipodum* Bergroth, *Ploaria* 121  
*antipodum* Bergroth, *Ploaria* 121, 312m  
**aotearoae** Larivière & Laroche, *Ceratocombus* 61, 223-224f, 232p, 289m  
**aotearoae** Gorczyca & Eyles, *Peritropis* 35, 84, 260p, 306m  
*apicalis* (Fieber), *Taylorilygus* 102, 308m  
**Aradidae** 48, 226-231p, 285-289m  
**Aradinae** 50  
*Aradosyrtis* A. Costa 51  
**Aradus** Fabricius 50, 286m  
**argenteus** Eyles, *Rhypodes* 76, 236p, 293m  
*arguta* White, *Corixa* 65  
**arguta** (White), *Sigara* 65, 290m  
**Arocatus** Spinola 74, 293m  
*Arphnus* Stål 69  
*Arrategma* Woodward 135  
**Artheneidae** 59, 232p, 289m  
**Asopinae** 115  
*assimilis* White, *Anisops* 115, 310m  
**atricornis** Eyles, *Rhypodes* 76, 236p, 293m  
*attenuata* Walker, *Crimia* 55  
**auklandensis** Woodward, *Trypetocoris* 136, 273p, 316m  
**aurantiacus** Eyles & Carvalho, Chinamiris 35, 91, 247p, 299m  
**aurantiacus** Eyles & Schuh, Cyrtodiridius 109, 255p, 302m  
**europilosus** Eyles & Carvalho, Wekamiris 103, 265p, 309m  
*australia* Bergroth, *Microvelia* 141  
**australis** Erichson, *Aradus* 34, 50, 286m  
*australis* Erichson, *Cydnus* 68  
*australis* Poppius, *Eurystylus* 191  
**australis** (Erichson), *Macroscytus* 68, 291m  
*australis* White, *Salda* 138  
**australis** (White), *Saldula* 138, 317m  
**Australonabis** Strommer 113  
**badius** Eyles & Schuh, *Xiphoides* 111, 265p, 309m  
*balearicus* Dispons, *Empicorella* barcinonis 123  
*barcinonis* Dispons, *Empicorella* 123  
*barcinonis* balearicus Dispons, Empicorella 123  
**Basileobius** Eyles & Schuh 108, 243p, 297m  
*Basileocixia* Kirkaldy 64  
**benefactor** China, *Maoricoris* 47, 284m  
**Berytidae** 59, 289m  
**Berytinae** 60  
**Berytini** 60  
**Bezu Štusák** 60, 289m  
**bicolor** Eyles & Carvalho, Romna 85, 262p, 306m  
**biformis** (*Bergroth*), *Nabis* 113, 310m  
*biformis* Bergroth, *Reduviolus* 113  
*binotatus* Walker, *Asopus* 116  
**binotatus** (Fabricius), *Stenotus* 35, 102, 308m  
*bipunctatus* Fabricius, *Cimex* 96  
*bipunctatus* Dallas, *Dictyotus* 118  
**bipunctatus** Eyles & Carvalho, Kiwimiris 99, 258p, 304m

- Bipuncticoris Eyles & Carvalho**  
35, 88, 243-246p, 297-298m
- bisinuatus Woodward,**  
*Forsterocoris* 130, 268p,  
313m
- brachycerus Eyles & Carvalho,**  
*Chinamiris* 91, 248p, 299m
- Brachynysius Usinger** 75
- brachypterus Usinger &**  
Matsuda, *Adenocoris* 57,  
285m
- brachypterus Eyles, Rhypodes**  
76, 237p, 293m
- Brentiscerus Scudder** 34, 125,  
313m
- brevifissas Eyles, Rhypodes** 77,  
237p, 294m
- brevipennis Heiss, Aneurus** 49,  
226p, 285m
- brevipilis Eyles, Rhypodes** 77,  
237p, 294m
- brevirostris Eyles,**  
*Stizocephalus* 129, 271p,  
315m
- brouni White, Aneurus** 49, 285m
- brounianus White,**  
*Cardiastethus* 45, 47, 284m
- brunneus (Breddin),**  
*Acantholybas* 64, 290m
- Bryocorinae** 83
- bucculentus Eyles, Rhypodes**  
77, 237p, 294m
- buchananii Poppius, Lygus** 98, 100
- Buchananiella Reuter** 45, 284m
- butleri White, Salda** 138
- butleri (White), Saldula** 138,  
317m
- caenos Westwood, Pentatoma** 118
- caenosus (Westwood),**  
*Dictyotus* 35, 36, 118, 311m
- californica Banks, Ploiaroides** 123
- caligatus Walker, Astacops** 74
- Calisiinae** 51
- Calisius Stål** 51, 227p, 286m
- Callicapsus Reuter** 84
- Calocoris Fieber** 90
- campestris (Fabricius),**  
*Lyctocoris* 36, 48, 284m
- Camptobrochis Fieber** 84
- Campylomma Reuter** 108, 298m
- canariensis Noualhier, Ploaria** 122
- Cantacaderidae** 60, 289m
- capsiformis Germar, Nabis** 114
- capsoides White, Morna** 86
- capsoides (White), Romna** 86,  
306m
- Cardiastethus Fieber** 45, 284m
- carectorum Bergroth,**  
*Cyperobia* 61, 289m
- Carldrakeana Froeschner** 34, 60,  
140, 289m
- Carldrakeaninae** 60
- Carpocorini** 117
- carvalhoi Eyles, Josemiris** 107,  
258p, 304m
- Carventaptera Usinger &**  
Matsuda 52, 286m
- Carventinae** 51
- cassinianus Eyles & Carvalho,**  
*Bipuncticoris* 88, 243p, 297m
- celmisiae Eyles, Rhypodes** 77,  
80, 238p, 294m
- Ceratocombidae** 61, 232p, 289m
- Ceratocombinae** 61
- Ceratocombini** 61
- Ceratocombus Signoret** 61,  
232p, 289m
- Cerascopus Heineken** 121
- Cermatulus Dallas** 115, 267p,  
311m
- Chaetedus Eyles** 34, 104, 247p,  
298-299m
- chilensis (Philippi), Ploaria** 122,  
312m
- chilensis Philippi, Stenolemus** 122
- Chilocoris Mayr** 66, 234p, 291m
- Chilocoristoides Distant** 67
- chinai Usinger, Rhypodes** 77,  
294m
- Chinamiris Woodward** 34, 90,  
247-254p, 299-302m
- Chinamyersia Usinger** 54, 286m
- Chinamyersiinae** 53
- Chinamyersiini** 54
- chinensis (Stål), Tytthus** 108,  
308m
- Chlorosomella Reuter** 106
- chorus Eyles & Carvalho,**  
*Bipuncticoris* 88, 243p, 297m
- Cimatalian Distant** 84
- Cimex Linnaeus** 63, 290m
- Cimicidae** 63, 290m
- cimiciformis Usinger &**  
Matsuda, *Aneuraptera* 48,  
285m
- cinerea (Myers & China),**  
*Chinamyersia* 54, 286m
- cinereus Myers & China,**  
*Pseudaradus* 54
- citrinus Eyles & Carvalho,**  
*Chinamiris* 91, 248p, 299m
- Clavaptera Kirman** 52, 227p,  
286m
- clavicornis Fabricius, Lygaeus** 78
- clavicornis (Fabricius),**  
*Rhypodes* 78, 294m
- Closterotomus Fieber** 90, 96,  
302m
- cognatus Eyles, Rhypodes** 78,  
238p, 294m
- coloratus Eyles & Carvalho,**  
*Kiwindris* 99, 258p, 304m
- Colpurini** 63
- completa Usinger & Matsuda,**  
Acaraptera 53
- completa (Usinger & Matsuda),**  
*Lissaptera* 53, 229p, 287m
- Compsoderes Jeannel** 70
- concavus Eyles & Carvalho,**  
*Kiwindris* 99, 258p, 305m
- consociale Boisduval, Pentatoma**  
117
- consors White, Cardiastethus**  
45, 284m
- conus Eyles, Eminocoris** 133
- conus (Eyles), Millerocoris** 133,  
270p, 314m
- convexus Eyles & Carvalho,**  
*Bipuncticoris* 88, 244p, 297m
- convexus Usinger, Brachynysius** 75
- convexus (Usinger), Nysius** 75,  
293m
- Coreidae** 63, 290m
- Coreinae** 63
- Corempis Dispons** 122
- Coridromius Signoret** 105, 302m
- Coriscus Schrank** 113
- Corixanecta Walton** 66
- Corixidae** 64, 233p, 290m
- Corixinae** 64
- Corixini** 64
- craecicornis Eyles, Anexochus**  
88, 243p, 297m
- crassicornis Usinger &**  
Matsuda, *Isodermus* 55,  
287m
- crinitus Eyles, Rhypodes** 78,  
238p, 294m
- Critobulus Distant** 128
- Ctenoneurus Bergroth** 55, 227-  
228p, 286-287m
- Culicimimus Villiers** 121
- cumberi Eyles & Carvalho,**  
*Chinamiris* 91, 248p, 299m
- cumberi Woodward,**  
*Cyrtorhinus* 106, 255p, 303m
- cumberi Drake, Tanybyrsa** 141,  
275p, 318m
- cuneata Eyles & Carvalho,**  
*Romna* 86, 262p, 307m
- Cuspicona Dallas** 119, 311m
- Cydnidae** 66, 234p, 291m

**Cydninae** 66  
**Cydnini** 66  
**Cydnochoerus** Lis 67, 291m  
**Cylapinae** 84  
**Cylapini** 84  
**Cymidae** 69, 234p, 291m  
**Cyminae** 69  
**Cymus Hahn** 69, 234p, 291m  
**Cyperobia Bergroth** 60, 140, 289m  
**Cyrtodiridius Eyles & Schuh** 109, 255p, 302m  
**Cytorhinus Fieber** 106, 255p, 303m  
  
**Dasypterus** Reuter 45  
**daviesi Eyles & Carvalho, Chinamiris** 91, 248p, 299m  
**decolor (Fallén), Lopus** 35, **109, 305m**  
**depilis Eyles, Rhypodes** 79, 238p, 294m  
**Deraeocorinae** 84  
**Deraeocorini** 84  
**Deraeocoris Kirschbaum** 84, 255p, 303m  
**Diaprepocorinae** 66  
**Diaprepocoris Kirkaldy** 34, **66, 290m**  
**Dictyotus Dallas** 118, 311m  
**Dicyphini** 83  
**Dieuches Dohrn** 128, 313m  
**Diomocoris Eyles** 35, **97, 100, 255-257p, 303-304m**  
**distincta Eyles, Metagerra** 132  
**distincta Eyles & Schuh, Monospatha** 110, 260p, 305m  
**doddi (Distant), Trigonotylus** 105  
**dohrni Signoret, Emesella** 122  
**dominica White, Margareta** 35, **129, 314m**  
**douglasi White, Plociomerus** 128  
**dracophylloides Eyles & Carvalho, Chinamiris** 91, 249p, 299m  
**Drymini** 125  
**ductus Eyles, Millerocoris** 133, 270p, 314m  
**Dufouriellini** 45  
  
**Eciestocoris** Blanchard 54  
**electa White, Targarema** 35, **134, 315m**  
**elegantulus (Reuter), Felisacus** 83, 304m  
**elegantulus** Reuter, *Hyaloscytus* 83  
**elongatus Eyles & Carvalho, Chinamiris** 92, 249p, 300m  
**Elymas Distant** 121

**Emesinae** 120  
**Emesini** 121  
**Emesodema Spinola** 121  
**eminens Eyles, Rhypodes** 79, 239p, 295m  
**Eminocoris** Eyles 133  
**Empicarella Dispops** 122  
**Empicoris Wolff** 37, **122, 312m**  
**Engytatus Reuter** 83, 304  
**Enicocephalidae** 69, 235p, 291m  
**Enicocephalinae** 70  
**Eosthenarus Poppius** 107  
**ephippiger White, Peirates** 191  
**Euarmosus** Reuter 84  
**Euratas Distant** 71  
**euryle Kirkaldy, Ploiaroides** 122  
**Eurystylus Stål** 101, 191  
**Eutinginotum Cheesman** 103  
**evagorata Woodward, Regatarma forsteri** 136  
**evagorata (Woodward), Woodwardiana** 35, **136, 274p, 317m**  
**excelsus Eyles & Carvalho, Tuicoris** 103, 264p, 308m  
**exiliostris Bergroth, Paradrymus** 126, 315m  
**eylesi Malipatil, Geratarma** 131, 269p, 313m  
  
**Fabatus Distant** 71  
**Falda Gross** 114  
**fasciatus Eyles, Diomocoris** 97, 255p, 303m  
**fascinans Eyles & Carvalho, Chinamiris** 92, 249p, 300m  
**Felisacus Distant** 83, 304m  
**Fieberia Jakovlev** 82  
**forsteri Woodward, Regatarma** 134, 271p, 315m  
**forsteri evagorata Woodward, Regatarma** 136  
**forsteri nelsonensis Woodward, Regatarma** 137  
**forsteri notialis Woodward, Regatarma** 137  
**forsteri obsoletes Woodward, Regatarma** 134  
**forsteri stephenensis Woodward, Regatarma** 134  
**Forsterocoris Woodward** 130, 268p, 313m  
**forticornis Gross, Scolopostethus** 191  
**fraterculus Wygodzinsky, Stenolemus** 36, **121, 312m**  
**froggatti Horváth, Ploiariola** 123  
**galactinus (Fieber), Xylocoris** 36, **47, 284m**

**galbanus Eyles & Schuh, Polyozus** 111, 261p, 306m  
**Geotomini** 67  
**Geratarma Malipatil** 34, **131, 269p, 313m**  
**Gerridae** 71, 292m  
**gilviceps Eyles & Schuh, Basileobius** 108, 243p, 297m  
**glaber Usinger & Matsuda, Neadenocoris** 58, 230p, 288m  
**glabratus (Motschulsky), Felisacus** 84  
**glabrus Usinger & Matsuda, Neadenocoris** 58  
**Glaucias Kirkaldy** 118, 311m  
**Gourlayocoris Štys** 34, **70, 235p, 291m**  
**gracilis Eyles, Rhypodes** 79, 239p, 295m  
**grandis Usinger & Matsuda, Tretocoris** 54, 289m  
**granosus Eyles, Diomocoris** 97, 256p, 303m  
**gravis (Fabricius), Poecilometis** 191  
**Grossander Slater** 125, 313m  
**gurri Eyles & Carvalho, Bipuncticoris** 88, 244p, 297m  
**guttatus Eyles & Carvalho, Chinamiris** 92, 249p, 300m  
  
**hackeri Harris & Drake, Mesovelia** 35, **82, 296m**  
**Hahnia Elleni** 68  
**halei Esaki, Microvelia** 141  
**Halobates Eschscholtz** 71, 292m  
**Halobates (Halobates) 71**  
**Halobatinae** 71  
**Halormus Eyles & Schuh** 109, 257p, 304m  
**Halticini** 105  
**Halticus Hahn** 106, 304m  
**hamus Eyles & Carvalho, Chinamiris** 92, 250p, 300m  
**Hawaiicola Kirkaldy** 116  
**helmsi (Reuter), Metagerra** 35, 131, 132, 314m  
**helmsi Reuter, Paresurus** 131  
**Hemiptera Leon** 75  
**Hermonitus Distant** 102  
**Heterogaster Schilling** 72, 292m  
**Heterogastridae** 72, 292m  
**Heterorius Wagner** 46  
**hirsuta Woodward, Truncala** 135, 272p, 316m  
**hirsutus Eyles, Rhypodes** 79, 239p, 295m  
**hirta Woodward, Truncala** 135, 272p, 316m

**hochstetteri (Mayr),**  
Ctenoneurus 35, 55, 286m  
**hochstetteri Mayr, Neuroctenus 55**  
**Horridipamera Malipatil 127,**  
314m  
**hospes (Fabricius),**  
Spilostethus 190  
Hudsona Evans 76  
hudsonae Bergroth, Hynsithocus  
120  
**hudsonae Bergroth,**  
Hypsithocus 35, 37, 120,  
267p, 311m  
**hudsoni Woodward,**  
Cermatulus nasalis 116,  
267p, 311m  
**humeralis (Walker),**  
Monteithiella 117, 311m  
humeralis Walker, Strachia 117  
huttoni Scott, Emesodema 122  
**huttoni White, Nysius 35, 36, 75,**  
293m  
Hyaloscytus Reuter 83  
Hydroessa Burmeister 141  
**Hydrometra Latreille 73, 292m**  
**Hydrometridae 73, 292m**  
**Hydrometrinae 73**  
Hymenocetes Uhler 70  
**Hypselosoma Reuter 139, 275p,**  
318m  
**Hypselosomatinae 139**  
**Hypsithocus Bergroth 120, 267p,**  
311m  
  
Idatiella China 107  
Idatius Distant 107  
ignota Hutton, Rhopalimorpha 43  
**immarginata (Dallas), Diemenia**  
191  
**indeclivis Eyles & Carvalho,**  
Chinamiris 92, 250p, 300m  
**infrequens Young, Sigara 65,**  
233p, 290m  
**inornata (Walker),**  
Remaudiereana 127, 315m  
inornatus Walker, Rhyparochromus  
127  
**insularis (Woodward),**  
Paratruncala 133, 270p, 315m  
insularis Woodward, Tomocoris 133  
**insularis Malipatil, Truncala 135,**  
272p, 316m  
**iridescent Woodward &**  
Malipatil, Paramyocara 126,  
315m  
**irroratus Eyles & Carvalho,**  
Bipuncticoris 88, 244p, 297m  
Ischnotarsus Fieber 128

**Isoderminae 54**  
**Isodermus Erichson 54, 228p,**  
287m  
Isopeltus Gross 125  
  
**Josemiris Eyles 106, 258p, 304m**  
**jugatus Eyles, Rhypodes 79,**  
239p, 295m  
**juvans Eyles & Carvalho,**  
Chinamiris 93, 250p, 300m  
  
**kaikourica Eyles, Metagerra**  
132, 269p, 314m  
**kinbergi (Stål), Sidnia 36, 101,**  
191, 308m  
**kinbergii Reuter, Nabis 35, 113,**  
310m  
**Kiwimiris Eyles & Carvalho 35,**  
99, 258-259p, 304-305m  
**koebeli Eyles, Rhypodes 80,**  
240p, 295m  
**kuscheli Andersen &**  
Polhemus, Mniovelia 35, 82,  
242p, 296m  
  
laelaps White, Salda 138  
**laelaps (White), Saldula 138,**  
317m  
Lamprolygus Poppius 85  
lansbergi Signoret, Geotomus 68  
laticinctus Walker, Capsus 93  
**laticinctus (Walker), Chinamiris**  
93, 300m  
latifrons Walker, Pentatomidae 118  
**lectularius Linnaeus, Cimex 35,**  
36, 63, 290m  
**Leiarchini 121**  
**Lentimorpha Woodward 42**  
**Lepiostillus Malipatil 74, 236p,**  
293m  
leptospermi Butler, Aethus 68  
**Lethaeini 126**  
**Leucophoropterini 107**  
**Leuraptera Usinger & Matsuda**  
52, 228p, 287m  
**levis Eyles, Udeocoris 137, 273p,**  
317m  
lifuensis Montrouzier, Aethus 68  
**liliputanus Eyles & Ashlock,**  
Nysius 75, 236p, 293m  
Limnobates Burmeister 73  
**limnochares Young, Sigara 65,**  
233p, 290m  
**Lincolnia Eyles & Carvalho 100,**  
259p, 305m  
**lineatus Eyles & Carvalho,**  
Bipuncticoris 89, 244p, 297m  
lineatus sensu Hutton, Nabis 113  
  
**lineolaris Pendergrast,**  
Rhopalimorpha 35, 42, 225p,  
283m  
Liocoris Motschulsky 83  
**lipurus Eyles, Tuicoris 103,**  
265p, 308m  
**Lissaptera Usinger & Matsuda**  
34, 52, 229p, 287m  
**Locutius Distant 124**  
**longiceps Eyles, Chaetedus 35,**  
104, 247p, 298m  
**longiceps Eyles, Rhypodes 80,**  
240p, 295m  
**longicerus Eyles & Carvalho,**  
Bipuncticoris 89, 245p, 297m  
Longiaustrum Woodward 124  
**longirostris Eyles, Rhypodes**  
80, 240p, 295m  
**Lopus Hahn 109, 305m**  
**lucernina Eyles & Carvalho,**  
Lincolnia 35, 36, 100, 259p,  
305m  
**luteolus Eyles & Schuh,**  
Xiphoides 112, 265p, 309m  
**luteus Eyles & Schuh,**  
Pimeleocoris 110, 260p, 306m  
Luteva Dohrn 121  
**Lyctocorinae 47**  
**Lyctocorini 47**  
Lyctocoris Hahn 47, 284m  
**Lyctocoris (Lyctocoris) 48**  
**Lygaeidae 73, 236-241p, 293-**  
296m  
**Lygaeinae 73**  
Lygus Hahn 100  
  
macgregori Kirkaldy, Hydroessa 141  
**macgregori (Kirkaldy),**  
Microvelia 141, 318m  
maclachlani Kirkaldy,  
Hemiccephalus 70  
**maclachlani (Kirkaldy),**  
Systelloderes 70, 291m  
Macrocapsus Reuter 84  
Macroparius Stål 74  
Macroporus Uhler 66  
**Macroscytus Fieber 68, 291m**  
**maculipennis Cobben, Saldula**  
139, 318m  
**maculosus Pendergrast,**  
Isodermus 55, 228p, 287m  
magnus Woodward, Phthirocoris 71  
**magnus (Woodward),**  
Phthirostenus 71, 235p, 291m  
major Gross, Brentiscerus 126  
**major (Gross), Grossander 126,**  
313m  
**manapourensis Malipatil,**  
Geratarma 131, 269p, 313m

maorica Walker, Mezira 55  
**Maoricoris China** 47, 284m  
**maoricus Heiss, Aneurus** 49, 226p, 285m  
**maoricus Woodward,** *Deraeocoris* 35, 85, 255p, 303m  
**maoricus (Walker), Diomocoris** 36, 98, 303m  
**maoricus Walker, Leptomerocoris** 98  
**maoricus (Walker), Lygus** 97, 100  
**maoricus Walker, Nabis** 114, 310m  
**maoricus Slater, Woodward & Sweet, Nothochromus** 59, 232p, 289m  
**maoricus Woodward,** *Nymphocoris* 44, 225p, 283m  
**Maoristolinae** 43, 283m  
**Maoristolus Woodward** 43  
**Margareta White** 129, 314m  
**margineguttatus Distant,** *Melanacanthus* 190  
**marginicollis Reuter, Oxychiliphora** 86  
**marmoratus Eyles & Carvalho,** *Chinamiris* 93, 250p, 300m  
**Maxaphanus Distant** 128  
**mayri White, Reuda** 85, 306m  
**Mecenopa Eyles & Schuh** 110, 259p, 305m  
**Megaloceroea Fieber** 104, 305m  
**melanocerus Eyles & Carvalho,** *Kiwimiris* 99, 259p, 305m  
**Mesadenocoris Kirman** 57, 229p, 288m  
**Mesovelia Mulsant & Rey** 82, 296m  
**Mesoveliidae** 82, 242p, 296m  
**Mesoveliinae** 82  
**Metagerra White** 131, 269-270p, 314m  
**Mevius Distant** 84  
**Mezirinae** 55  
*Micranisops Hutchinson* 114  
*Microcaenocoris Breddin* 74  
*microcephalus Villiers, Empicoris* 123  
**Microporus Uhler** 68, 291m  
**Microvelia Westwood** 36, 141, 318m  
**Microveliinae** 141  
**Millerocoris Eyles** 133, 270p, 314m  
**minor Eyles & Carvalho,** *Bipuncticoris* 89, 245p, 298m  
**minutum Eyles, Tinginotum** 103, 264p, 308m

**minutus Eyles & Carvalho,** *Chinamiris* 93, 251p, 300m  
**minutus Reuter, Halticus** 35, 106, 304m  
**mirabilis (Gourlay),** *Gourlayocoris* 70, 235p, 291m  
**mirabilis Gourlay, Phthirocoris** 70  
**Miridae** 83, 243-266p, 297-309m  
**Mirinae** 87  
**Mirini** 87  
**mitellata Bergroth, Leptocoris** 191  
**Mniovelia Andersen & Polhemus** 82, 242p, 296m  
**Modicarventus Kirman** 53, 229p, 288m  
**Monopharsus Eyles & Carvalho** 100, 260p, 305m  
**Monospatha Eyles & Schuh** 110, 260p, 305m  
**Monteithiella Gross** 117, 311m  
**Morna White** 85  
**muehlenbeckiae Woodward,** *Chinamiris* 93, 251p, 301m  
**multicolor Eyles & Schuh,** *Xiphoides* 112, 266p, 309m  
*Mycterooris Uhler* 85  
**myersi Usinger & Matsuda,** *Acaraptera* 51, 285m  
**myersi Bergroth,** *Alloeorrhynchus* 114, 310m  
**myersi Kormilev, Ctenoneurus** 56, 287m  
**myersi Usinger, Rhypodes** 77, 80, 295m  
**myersi Woodward, Sthenarus** 111, 112  
**myersi (Woodward), Xiphoides** 112, 266p, 309m  
*Myersia Evans* 76  
**Myodochini** 127  
**Myrocheini** 118  
**Nabidae** 113, 310m  
**Nabinae** 113  
**Nabini** 113  
**Nabis Latreille** 113, 310m  
**Nabis (Australonabis)** 113  
**Nabis (Tropicobasis)** 113  
*nasalis Westwood, Aelia* 116  
**nasalis hudsoni Woodward,** *Cermatulus* 116, 267p, 311m  
**nasalis nasalis (Westwood),** *Cermatulus* 35, 116, 311m  
**nasalis turbotti Woodward,** *Cermatulus* 116, 267p, 311m  
**Neadenocoris Usinger & Matsuda** 57, 229-231p, 288m  
**nelsonensis Woodward, Regatarma forsteri** 137  
**nelsonensis (Woodward), Woodwardiana** 137, 274p, 317m  
**Neocarventus Usinger & Matsuda** 53, 231p, 288-289m  
**Neocypus Distant** 105  
**neozealandicus Larivière & Froeschner, Chilocoris** 35, 67, 234p, 291m  
**Nesodaphne Kirkaldy** 103  
**Nezara Amyot & Audinet-Serville** 119, 311m  
**Nezarini** 118  
**nicotianae (Koningsberger), Engytatus** 36, 83, 304m  
**niculatus Eyles & Carvalho,** *Chinamiris* 94, 251p, 301m  
**niger Eyles & Carvalho,** *Kiwimiris* 100, 259p, 305m  
**nigriceps (Dallas), Remaudiereana** 128, 315m  
**nigriceps Dallas, Rhyparochromus** 128  
**nigritrons Eyles & Carvalho,** *Chinamiris* 94, 251p, 301m  
**nigrolineata Distant, Sastrapada** 113  
**nigrosignatus White, Choerocydus** 67  
**nigrosignatus (White), Cydnochoerus** 67, 291m  
**nigrovenosa Eyles & Carvalho,** *Romna* 86, 262p, 307m  
*norvegicus (Gmelin), Calocoris* 96  
*norwegicus Gmelin, Cimex* 96  
**norwegianus (Gmelin), Closterotomus** 35, 36, 96, 302m  
**notatus (Dallas), Dieuches** 36, 129, 313m  
**notatus Dallas, Rhyparochromus** 129  
**Nothochrominae** 59  
**Nothochromus Slater, Woodward & Sweet** 59, 232p, 289m  
**notialis Woodward, Regatarma forsteri** 137  
**notialis Woodward, Systelloderes** 70, 235p, 291m  
**notialis (Woodward), Woodwardiana** 137, 274p, 317m  
**Notonectidae** 114, 310m  
**novaezelandiae Larivière & Laroche**, *Ceratocombus* 62, 223-224f, 232p, 289m  
**novaezelandiae Woodward, Cymus** 35, 69, 234p, 291m

**novocaledonica** Schuh,  
  *Campylomma* 108, 298m  
*nummularis* Erichson, *Asopus* 116  
**Nymphocorinae** 44  
**Nymphocoris** Woodward 34, 44,  
  225p, 283m  
**Nysiini** 74  
**Nysius** Dallas 74, 236p, 293m

**obscura** White, *Metagerra* 35,  
  132, 314m  
**obscura** White, *Rhopalimorpha*  
  35, 43, 283m  
obsoletes Woodward,  
  *Regatarma forsteri* 134  
obsoletus McAtee & Malloch,  
  *Empicoris rubromaculatus* 123  
**oceania** Distant, *Microvelia* 141  
**oculata** Eyles & Carvalho,  
  *Romna* 86, 262p, 307m  
*Ocyphus* Montrouzier 105  
**Oechalia** Stål 116, 312m  
**olearinus** Eyles & Carvalho,  
  *Bipuncticoris* 89, 245p, 298m  
**Oncacontias** Breddin 34, 41,  
  283m  
**opacus** Eyles & Carvalho,  
  *Chinamiris* 94, 252p, 301m  
*orbona* Kirkaldy, *Antestia* 117  
**Oriini** 46  
**Orius** Wolff 46, 284m  
**Orius (Heterorius)** 46  
**ornata** Kirman, *Clavaptera* 35,  
  52, 227p, 286m  
**ornata** Eyles & Carvalho, *Romna*  
  86, 263p, 307m  
**ornatum** Woodward, *Longihaustrum*  
  125  
**ornatus** (Woodward),  
  *Tomocoris* 125, 271p, 316m  
**Orsillinae** 74  
*Orthosolenia* Reuter 45  
**Orthotylinae** 105  
**Orthotylini** 106  
**ostiolum** Eyles, *Diomocoris* 98,  
  256p, 303m  
**ovatus** Eyles & Carvalho,  
  *Chinamiris* 94, 252p, 301m  
**ovatus** Usinger & Matsuda,  
  *Neadenocoris* 58, 230p, 288m  
*Oxychilophora* Reuter 85

**pacificus** Boisduval, *Lygaeus* 190  
**pacificus (Boisduval),**  
  *Spilostethus* 191  
*palauensis* Barber, *Pachybrachius*  
  127  
**pallida** Eyles & Carvalho, *Romna*  
  87, 263p, 307m

**pallipes** Dallas, *Pentatomida* 117  
**paparia** Malipatil, *Woodwardiana*  
  137, 274p, 317m  
**Paradrymus** Bergroth 126, 315m  
**Paramycocara** Woodward &  
  *Malipatil* 34, 35, 126, 315m  
**Paratruncala** Malipatil 133, 270p,  
  315m  
**parvula** Cobben, *Saldula* 139,  
  318m  
**parvulus** Woodward,  
  *Maoristolus* 43, 283m  
**pendegrasti** Kormilev,  
  *Ctenoneurus* 56, 227p, 287m  
**Pentatomidae** 115, 267p, 311-  
  312m  
**Pentatominae** 117  
pentatomoides Walker, *Rhaphigaster*  
  116  
perfectus Walker, *Rhaphigaster* 117  
**Peritropis** Uhler 84, 260p, 306m  
*Phantasmatophanes* Kirkaldy 121  
*Philapodemus* Kirkaldy 68  
**Phthirocorinae** 70  
**Phthirocorini** 70  
**Phthirostenus** Stys 34, 71, 235p,  
  291m  
**Phylinae** 107  
**Phylini** 108  
Picaultia Distant 141  
Piestosoma Laporte de Castelnau  
  50  
**Pimeleocoris** Eyles & Schuh  
  110, 260-261p, 306m  
**planus** Eyles & Carvalho,  
  *Bipuncticoris* 89, 245p, 298m  
Platycapsus Reuter 85  
plebejus Stål, *Dictyotus* 118  
plebejus Reuter, *Lygus* 97, 98, 100  
Plexaris Kirkaldy 84  
**Plinthisinae** 124  
**Plinthisini** 124  
**Plinthisus** Stephens 124, 315m  
**Plinthisus (Locutius)** 124  
Ploearia Burmeister 121  
Ploeariodes Lethierry & Severin 122  
Ploariola Bergroth 122  
**Ploaria Scopoli** 121, 312m  
Ploarioides White 122  
Ploariola Reuter 122  
**Ploariolini** 122  
Ploariopsis Champion 121  
**plumalis** Eyles, *Chaetedus* 34,  
  104, 247p, 299m  
Poecilonotus Reuter 96  
**Polyozus** Eyles & Schuh 111,  
  261p, 306m  
polystictica Butler, *Sciocoris* 118  
**potamius** Young, *Sigara* 65,  
  233p, 290m

**powelli** Woodward,  
  *Aenictocoris* 44, 225p, 283m  
**poweri** White, *Cardiastethus* 46,  
  284m  
**prominentes** Pendergrast,  
  *Aneurus* 49, 226p, 285m  
**Prostemmatinae** 114  
**Prostemmatini** 114  
**Prosympiestinae** 57  
**Prosympiestini** 57  
**Proxylocoris** Carayon 47  
Pseudaradus Myers & China 54  
**punctatus** Eyles & Carvalho,  
  *Chinamiris* 94, 252p, 301m  
**punctatus** Eyles, *Diomocoris* 98,  
  256p, 303m  
**putoni** (White), *Brentiscerus*  
  125, 313m  
**putoni** White, *Scolopostethus* 125,  
  191  
**Pyrrhocoridae** 191

**quadrata** Usinger & Matsuda,  
  *Woodwardiessa* 56, 289m  
**quadratus** Eyles & Carvalho,  
  *Chinamiris* 94, 252p, 301m  
quadripunctatus Bergroth,  
  *Reduviolus* 114

**raoulensis** Eyles, *Diomocoris*  
  35, 98, 256p, 303m  
**recticornis** (Geoffroy),  
  *Megaloceroea* 104, 305m  
**Reduviidae** 120, 312m  
**reflexus** Usinger & Matsuda,  
  *Neadenocoris* 58, 230p, 288m  
**Regatarma** Woodward 133, 271p,  
  315m  
**regis** Eyles & Schuh, *Xiphoides*  
  112, 266p, 309m  
**Remaudiereana** Hoberlandt 34,  
  35, 127, 315m  
**Reuda** White 85, 306m  
reuteriana White, *Megaloceraea* 104  
**reuterianus** (White), *Chaetedus*  
  104, 299m  
Reuteriessa Usinger 106  
**rhododendri** Horváth,  
  *Stephanitis* 140, 318m  
**Rhopalidae** 191  
**Rhopalimorpha** Dallas 34, 42,  
  225p, 283m  
**Rhopalimorpha (Lentimorpha)**  
  42  
**Rhopalimorpha**  
  (*Rhopalimorpha*) 42  
**Rhynchocorini** 119  
**Rhyparochromidae** 123, 268-  
  274p, 313-317m  
**Rhyparochrominae** 124

**Rhyparochromini** 128  
**Rhypodes** Stål 35, 76, 236-241p,  
  293-296m  
  risbeci Hungerford, Hydrometra 73  
**robusta Malipatil,**  
  *Horridipamera* 127, 314m  
**robustus Eyles & Carvalho,**  
  *Bipuncticoris* 89, 246p, 298m  
**robustus Kirman,**  
  *Mesadenocoris* 57, 229p,  
  288m  
**Romna Kirkaldy** 85, 261-264p,  
  306-307m  
**roseus Eyles & Schuh,**  
  *Pimeleocoris* 111, 261p, 306m  
rubromaculata Blackburn,  
  *Ploiaroides* 122  
**rubromaculatus (Blackburn),**  
  *Empicoris* 122, 312m  
rubromaculatus obsoletus McAtee &  
  Malloch, Empicoris 123  
**rudis Woodward, Trypetocoris**  
  136, 273p, 316m  
**rufescens Eyles & Carvalho,**  
  *Chinamiris* 95, 253p, 301m  
ruficollis Walker, Lygaeus 74  
**rupestris Eyles, Rhypodes** 80,  
  240p, 295m  
**russatus Eyles, Diomocoris** 98,  
  257p, 303m  
**russatus Eyles, Rhypodes** 81,  
  241p, 296m  
**rusticus (Stål), Arocatus** 74,  
  293m  
rusticus Stål, Tetralaccus 74  
  
sagax Horváth, Ploariola 123  
**Saldidae** 138, 317-318m  
**Saldinae** 138  
**Saldoidini** 138  
**Saldula Van Duzee** 138, 317-318m  
**salmoni Pendergrast, Aneurus**  
  50, 286m  
**salmoni (Woodward),**  
  *Forsterocoris* 130, 268p,  
  313m  
**salmoni Woodward, Regatarma** 130  
**saudersi White, Nabis** 114  
**schellenbergii (Guérin),**  
  *Oechalia* 35, 37, 117, 312m  
schellenbergii Guérin, Pentatomidae  
  117  
**Schizopteridae** 139, 275p, 318m  
**Scolopini** 47  
scotti White, Morna 87  
scotti Distant, Ploariola 123  
**scotti (White), Romna** 35, 87,  
  307m  
**scutellatus Uhler, Orthops** 100

**secundus Eyles & Carvalho,**  
  *Chinamiris* 95, 253p, 301m  
**Sejanus Distant** 107, 308m  
**seorsus (Bergrøth), Empicoris**  
  37, 123, 312m  
seorsus Bergrøth, Ploarioides 123  
**separatus Woodward,**  
  *Trypetocoris* 136, 273p, 317m  
**sericatus Usinger, Rhypodes**  
  73, 81, 296m  
**sericeus Eschscholtz,**  
  *Halobates* 35, 71, 292m  
**setosus Lee & Pendergrast,**  
  *Ctenoneurus* 56, 228p, 287m  
**sexcoloratus Eyles, Diomocoris**  
  99, 257p, 304m  
**Sidnia Reuter** 101, 308m  
sidnica Kirkaldy, Orthoea 127  
**Sigara Fabricius** 64, 233p, 290m  
**Sigara (Tropocorixa) 64**  
similis Mayr, Rhopalimorpha 43  
**simplex Walker, Cuspicona** 35,  
  120, 311m  
singularis Walker, Lygaeus 74  
**sinuatus Woodward,**  
  *Forsterocoris* 130, 268p,  
  313m  
**socia (Drake & Ruhoff),**  
  *Carldrakeana* 60, 289m  
socium Drake & Ruhoff,  
  Gonycentrum 60  
**spadix Eyles, Rhypodes** 81,  
  241p, 296m  
**spinicornis Usinger & Matsuda,**  
  *Neadenocoris* 58, 231p, 288m  
**spinifera Usinger & Matsuda,**  
  *Carventaptera* 52, 286m  
**spiniventris Usinger &**  
  *Matsuda, Adenocoris* 57,  
  285m  
**stali White, Targarema** 35, 134,  
  316m  
stali Schouteden, Zangis 118  
Statanus Distant 67  
*Stenocapsus* Bergroth 108  
**Stenodemini** 104  
**Stenolemus Signoret** 121, 312m  
**Stenotus Jakovlev** 101, 308m  
**Stephanitis Stål** 140, 318m  
**Stephanitis (Stephanitis)** 140  
stephenensis Woodward,  
  *Regatarma forsteri* 134  
**stewartensis Malipatil,**  
  *Fosterocoris* 130, 268p, 313m  
**stewartensis Usinger,**  
  *Rhypodes* 81, 296m  
*Sthenaromma* Linnauvori 108  
**Sthenarus Fieber** 111  
*Stigmocorista* Lindberg 108  
  
**Stizocephalus Eyles** 34, 129,  
  271p, 315m  
**stoneri Drake & Hoberlandt,**  
  *Saldula* 139, 318m  
**strigosa (Skuse), Hydrometra**  
  73, 292m  
strigosa Skuse, Limnobates 73  
**Stygnochorini** 129  
subjectus Walker, Lygaeus 74  
**sulcata Woodward, Truncala**  
  135, 272p, 316m  
**Systeloderes Blanchard** 70,  
  235p, 291m  
**Systelloderini** 70  
Systeloderus Stål 70  
  
**tagalicus Burmeister,**  
  *Leptocoris* 191  
**Tanybyrsa Drake** 34, 140, 275p,  
  318m  
**Targarema White** 134, 315-316m  
**Targaremini** 130  
tasmanicus Remane, Nabis 113  
**Taylorilygus Leston** 102, 308m  
**tekapoensis Malipatil,**  
  *Lepiopsis* 74, 236p, 293m  
**tenera Eyles, Romna** 86, 87,  
  263p, 307m  
**tenuicornis Usinger & Matsuda,**  
  *Isodermus* 55, 287m  
**tenuis Reuter, Trigonotylus** 105,  
  308m  
**testaceus Eyles & Carvalho,**  
  *Chinamiris* 95, 253p, 302m  
**Tetralaccus Fieber** 74  
thoreyi Signoret, Cydnus 68  
**thoreyi (Signoret), Microporus**  
  68, 291m  
**tibialis Reuter, Halticus** 106  
**tibialis Walker, Pentatomidae** 118  
**Tingidae** 140, 275p, 318m  
**Tinginae** 140  
**Tinginotum Kirkaldy** 102, 264p,  
  308m  
tingitanus Dispons, Empicoris 123  
**Tomocoris Woodward** 124, 271p,  
  316m  
tonnoiri Bergroth, Gamostolus 44  
**tonnoiri (Bergroth), Maoristolus**  
  44, 283m  
**townsendi Eyles, Rhypodes** 82,  
  241p, 296m  
**Tretocorini** 54  
**Tretocoris Usinger & Matsuda**  
  54, 289m  
**triangulus Eyles, Rhypodes** 82,  
  241p, 296m  
**Trigonotylus Fieber** 105, 308m  
**triplex Eyles & Carvalho,**  
  *Bipuncticoris* 90, 246p, 298m

- trivialis Cobben, Saldula 139,**  
318m
- Tropiconabis Kerzhner 113**
- Tropinopsis Wagner 75**
- Tropocorixa Hutchinson 64**
- Truncala Woodward 135, 272p,**  
316m
- truncata Malipatil, Metagerra**  
132, 270p, 314m
- truncatus Woodward,**  
*Tomocoris* 125, 271p, 316m
- Trypetocoris Woodward 136,**  
273p, 316-317m
- Tuicoris Eyles & Carvalho 103,**  
264-265p, 308m
- turbotti Woodward, Cermatulus 116
- turbotti Woodward, *Cermatulus*  
*nasalis* 116, 267p, 311m
- Tytthus Fieber 108**, 308m
- Udeocorini 137**, 273p
- Udeocoris Bergroth 34, 137,**  
317m
- uncus Kirman, Neocarventus**  
53, 231p, 289m
- unicolor Eyles & Carvalho,**  
*Chinamiris* 95, 253p, 302m
- uniformis Eyles & Carvalho,**  
*Romna* 87, 263p, 307m
- urticae (Fabricius),**  
*Heterogaster* 72, 292m
- uruana Young, Sigara 66**, 233p,  
290m
- ustulatus Walker, Capsus** 93
- vacans Eyles & Schuh,**  
*Xiphoides* 112, 266p, 309m
- variegata Eyles & Carvalho,**  
*Romna* 87, 264p, 307m
- variegatus (Montrouzier),**  
*Coridromius* 105, 302m
- variegatus Montrouzier, Ocypus** 105
- velifer Eyles & Schuh, Halormus**  
109, 257p, 304m
- Veliidae 141**, 318m
- Veliomorpha Carlini 141**
- versicolor (Herrick-Schaeffer),**  
*Dindymus* 191
- vescus Eyles & Carvalho,**  
*Bipuncticoris* 90, 246p, 298m
- vicinus (Ribaut), Orius** 36, 46,  
284m
- vilis Walker, Pentatomida** 118
- virescens Eyles & Carvalho,**  
*Chinamiris* 95, 254p, 302m
- viridicans Eyles & Carvalho,**  
*Chinamiris* 95, 254p, 302m
- viridis (Myers & China),**  
*Chinamyersia* 54, 286m
- viridis Eyles & Schuh,**  
*Pimeleocoris* 111, 261p, 306m
- viridis Myers & China, Pseudaradus**  
54
- viridula (Linnaeus), Nezara** 35,  
36, 119, 311m
- vittatus Fabricius, Cimex** 41
- vittatus (Fabricius), Oncacontias**  
22, 35, 41, 283m
- vitticollis Horváth, Ploiariola** 123
- Wahrmania Dispens** 121
- waipouensis Heiss, Acaraptera**  
51, 226p, 285m
- wakefieldi White, Anisops** 115,  
310m
- wakefieldi (White), Bezu** 60,  
289m
- wakefieldi White, Neides** 60
- Wekamiris Eyles & Carvalho**  
103, 265p, 309m
- whakapapae Eyles & Carvalho,**  
*Chinamiris* 96, 254p, 302m
- whitei Reuter, Buchananiella** 45,  
284m
- whitei (Reuter), Poronotellus** 45
- wisei Kirman, Modicarventus**  
35, 53, 229p, 288m
- woodwardi Eyles, Diomocoris**  
99, 257p, 304m
- woodwardi Slater & Sweet,**  
*Plinthisus* 124, 315m
- Woodwardiana Malipatil 136,**  
274p, 317m
- Woodwardiessa Usinger &**  
**Matsuda 56**, 289m
- xestus Eyles & Carvalho,**  
*Bipuncticoris* 90, 246p, 298m
- Xiphoides Eyles & Schuh** 111,  
265-266p, 309m
- Xylocorini 47**
- Xylocoris Dufour 47**, 284m
- Xylocoris (Proxylocoris) 47**
- yakasi Heiss, Leuraptera** 52,  
228p, 287m
- Zangis Stål 118**
- zealandensis Heiss, Aneurus**  
50, 227p, 286m
- zealandiae Hale, Diaprepocoris**  
66, 290m
- zealandica Hudson, Corixa** 65
- zealandica Usinger & Matsuda,**  
*Leuraptera* 52, 228p, 287m
- zealandicus Pendergrast,**  
*Calisius* 51, 227p, 286m
- zealandicus Dallas, Nysius** 78
- zygotus Eyles & Carvalho,**  
*Chinamiris* 96, 254p, 302m

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*Fauna of N.Z.* deals with non-marine invertebrates only, since the vertebrates are well documented, and marine forms are covered by the series *Marine Fauna of N.Z.*

**Contributions** are invited from any person with the requisite specialist skills and resources. Material from the N.Z. Arthropod Collection is available for study.

Contributors should discuss their intentions with a member of the Invertebrate Systematics Advisory Group or with the Series Editor before commencing work; all necessary guidance will be given.

**Subscribers** should address inquiries to *Fauna of N.Z.*, Manaaki Whenua Press, Landcare Research, P.O. Box 40, Lincoln 8152, New Zealand.

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## NGĀ PĀNU

Kua whakatāria t' nei huinga pukapuka hei whakahauhau i ng~tuhunga whai m~tauranga kia whakaputa i ng~kōero poto, engari he whaikiko tonu, e p~ ana ki ng~aitanga pepeke o Aotearoa. He tāika tonu te ~hua o ng~tuhituhī, engari ko te tino wh~inga, kia m~rama te marea ki ng~tohu tautuhī o ia ng~rara, o ia ng~rara, me te roanga atu o ng~kōero mānā nā mānā nā

He titiro wh~iti t~t~nei pukapuka ki ng~mea noho whenua, k~ore he tuar~i p' nei ai i te mea kei te māgio wh~nuitia ng~mea whai tuar~, ko ng~mea noho moana, koir~te tino kaupapa o te huinga pukapuka *Marine Fauna of N.Z.*

Ka ~hei te tangata ki te **whakauru tuhituhinga** mehemea kei a ia ng~tuhungatanga me ng~rauemī e tutuki pai ai tana mahi. Heoi anā e w~tea ana te Kohinga Angawaho o Aotearoa hei ~ta tirotiro m~te tangata mehemea he ~whina kei reira.

Me wh~ki te kaituhi i **Qa** whakaaro ki t' tahi o te K~hui **Y** rahi Whakarāngā Tuar~Kore, ki te •titā r~nei i mua i te tānatanga, ~, m~r~tou a ia e ~rahi māqe w~hi ki tana tuhinga.

Ko te hunga pāngā hoko pukapuka, me tuhi ki *Fauna of N.Z.*, Manaaki Whenua Press, Manaaki Whenua, Pouaka Pout~peta 40, Lincoln 8152, Aotearoa.

E rua ng~tāmomo kaihoko: "A" – kaihoko tāmau, ka tukua ia pukapuka, ia pukapuka, me te nama, i muri tonu i te t~nga; "B" – ka tukua ng~p~nui whakatairanga me ng~puka tono i **Qa** w~anā

Te utu (tirohia "Titles in print", wh~rangī 106). Ko te kāpaki me te pane kuini kei roto i te utu. Me utu te hunga e noho ana i Aotearoa me Ahitereiria ki ng~t~ra o Aotearoa. Ko 'tahi atu me utu te moni kua tohua, ki ng~t~ra Merikana, ki te nui o te moni r~nei e rite ana.

E toe ana he pukapuka o ng~putanga katoa o mua. Mehemea e hiahia ana koe ki te katoa o ng~pukapuka, ki 'tahi r~nei, tonoa mai kia whakahekeā te utu. Tekau **Gau** te heke iho o te utu ki ng~toa hoko pukapuka.