

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

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Fauna of New Zealand
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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P R E S S**

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POPULAR SUMMARY

HE WHAKARAĀPOPOTOTANGA

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

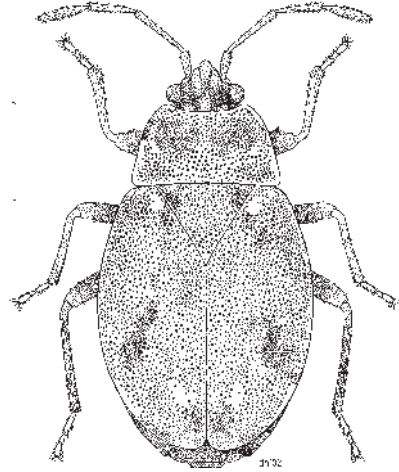


Illustration / Whakaahua: *Nothochromus maoricus* Slater, Woodward & Sweet, 1962 (Artheneidae) (Illustrator / Kaiwhakaahua: D. W. Helmore).

E whakaetia wh~nuitia ana he pāoi iti a Heteroptera (ng~pepeke wahangote tāuru) nCng~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 anC i whakaahuatia. Kua wehewehea ng~momo ki 'tahi wh~nau ~hua 75 nei. Ko te maha o ng~momo i ng~k~hui e kaha ake ana te mQiotia, p'r~i C Amerika ki te Raki, i Cāropi, i CAhitereiria, ko tQa 2 000–2 500 pea. He tokoiti tonu te k~hui Heteroptera ki Aotearoa ina whakatairitea ki C'r~whenua rahi, in~r~, e 29 noa ng~wh~nau, 136 ng~puninga, e 305 ng~momo, engari me kCero tQa ahurei ka tika. Hei taura, ko t' tahi 82% o ng~momo o konei e mQiotia ana, k~ore e kitea i whenua k'. Me kS' nei ake, he ~huru mCwai tonu a Aotearoa mCng~pepeke wahangote. Ina oti katoa ng~mea o Aotearoa te whakaahua ~kupu, t'r~te eke ki te 400–500 momo. Ko Qa 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 anC e toru ng~huatanga tinana matua e mQiotia ai te nuinga o ng~pepeke wahangote: he whai w~hanga ngote te waha, ar~, he ngutu w~hanga-maha ka rere mai i mua o te āpoko ki raro r~anC ko ng~parirau o mua ka ~hua Sakinaki, me te tatao anCki te puku; he m~totoru noa ake te pāake o te parirau o mua, t'n~i te pito (nCreira 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).

Ahakoia m~m~pea te whakatau ~e, he pepeke wahangote t'r~k~ore r~nei, ka uaua ake te ~ta 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 kaiao 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 epigeal (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

(continued overleaf)

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 tā~tipu hua, he maha ng~ tā~tipu punua (e 5 Ċte nuinga), ng~ tā~tipu r~nei ka rite haere ki tĊte 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 anĊ~ 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 anĊi 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~punga 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~iane mĊng~ pepeke wahangote. Koinei i tuhia ai t'nei r~rangi hou, e whai ana ki te whakautu i ng~p~tai e uia nuitia 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 tĊr~tou tā~anga (hei taura, he momo m~ori, he r~waho, he riha, he whaihua ki te tangata i te mea he hoariri nĊi tahi hanga kino)? He aha ng~rauemi e w~tea ana hei tautuhi, hei rangahau i ng~ mea nei? Kei hea ake ng~ momo me ng~ puninga (hei taura, te tohanga ki Aotearoa, ki t~w~hi r~nei, Ċr~tou ripoinga, he p'hea r~nei te ~hua o t~ r~tou whakamarara i a r~tou anĊ? ~hea korikori ai (hei taura, ~ r~tou korikori ~kaupeka, te ai, te wh~nau hua, te w~hi noho i te takuraa)? P'hea ai t~ r~tou noho (hei taura, ~ r~tou tino kai, ng~ tipu ka nohoia e r~tou, me Ċr~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 kĊero anĊng~ momo ahurei e noho ana ki ng~ raorao p~tSS me ng~ koraha ~hua teitei. Noho ai te nuinga o ng~ momo m~ori ki ng~ripoinga m~ori, engari ko t' 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 tĊr~tou k~inga. Engari ko ng~ t~huahua, ng~ wahapā me ng~ w~hi kĊeporepo o te takutai ng~ tino k~inga o ng~ r~waho. Ar~ anĊhoki t' tahi momo ka piri tata ki ng~ k~inga tangata.

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

(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 moep^ŋ pakeke o te nuinga o ng~ wh~ nau, ~, ahakoa kei te oreore pea m^ŋ te nuinga o te tau, ko ng~ w~ e kaha ai te korikori, mai i Whiringa~rangi ki Poutā~te-rangi, ar~, mai i te hiku o te k^ŋ (Mahuru~Whiringa~rangi), te raumati (Hakihea~Hui-tanguru), ki te tīmatanga o te ngahuru (Poutā~te-rangi~Haratua). Heoi, k~ore e tino m^ŋ iotia ana ng~ oreore ~kaupeka o ng~ k^ŋ ŋahunga, te w~ r~ nei e whakaputa uri ai te nuinga o ng~ momo. He tata ki te kore ng~ k^ŋ o kua tuhia m^ŋ te koiora taupori me ng~ tikanga tītari.

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~ an^ŋ '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 tukuna he mate i t' nei mahi ~na.

He iti te m^ŋ iotia ki ng~ hoariri tāuru 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 pā~ng~ werewere, he pepeke wahangote damsel, he p^ŋ Sara noho papa, me te pāvereriki 'tahi o ŋa hoariri i Aotearoa, engari he ruarua ng~ tuhinga kua puta m^ŋ nei ~hua. I runga i ng~ kitenga o ng~ kaituhi, ko ng~ pā~ng~ werewere pea ng~ tino hoariri, ~, e tino h~ ngai ana t' nei ki ng~ ripoinga m~ rakerake p' r~ i ng~ whenua p~ sse me ng~ maunga.

He iti ake pea ng~ p~ nga ohaoha (hei taura, te kaikainga o ng~ m~ ra me te tuku mate) o ng~ i Heteroptera i 'r~ atu pāoi pepeke m~ t~ mua, engari ar~ tonu 'tahi momo m~ ori me 'tahi r~ waho i Aotearoa kua tuhia he k^ŋ o kua r~ tou mahi p' nei (hei taura, i ng~ m~ ra k~ kano, huawhenua, me te tupeka). I tua atu i t' nei, ar~ ng~ momo e k^ŋ 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 t^ŋ ŋa ŋa. Hei taura, mai r~ an^ŋ kua noho ko te pepeke wahangote chinch me 'tahi atu o te wh~ nau kai k~ kano hei rihā kai tipu kino rawa atu i ng~ whenua maha o te ao. N^ŋ reira, me whakahou haere te r~ rangi o ng~ pepeke wahangote i Aotearoa me ng~ whenua p~ tata ka tika, m~ te whakahaere rangahautanga tā~ nuku ka tahi, m~ te tiroiro an^ŋ i ng~ whakar^ŋ ŋa ka rua.

Heoi, he ~whina an^ŋ kei ng~ Heteroptera m^ŋ te tangata me te taiao. 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 an^ŋ rangahaua te nuinga o ng~ momo m~ ori o Aotearoa he kai pepeke, he kaikiota r~ nei, m^ŋ te pai o t~ r~ tou here o ng~ rauropi kino, engari kua whakamahia 'tahi i t~ w~ hi hei here i ng~ thrip, ng~ pāvereriki, ng~ hua pā' hua, ng~ torongā, ng~ pekerau, ng~ waeroa me ng~ peketipu. Waihoki, he painga an^ŋ pea ŋ' tahi huinga pepeke wahangote ki te tangata, i roto r~ nei i ng~ mahi tiaki taiao. Hei taura, ar~ ng~ Heteroptera noho wai koia pea te tino kai a 'tahi ika, ka pai an^ŋ heoi waitohu i te pai o te wai.

He rerekore t' tahi 25% o ng~ i Heteroptera nui tonu,

(continued overleaf)

(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 tSaringa: 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 Whakataā ki te Uru-m~raki.

K~ore e tino m~tiotia ana p'hea te huhua, te tSaringa r~nei o ng~momo e whakapaetia ana kua m~gearea te noho, e m~tiotia ai me p'hea rawa te kaha o te tiaki. E 65 ng~momo kua kitea e whakapaetia ana t'r~pea me ~ta rauhS 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 tSaringa 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~kei k~T'r~r~nei kei te herea ki t'tahi kohinga koiora kotahi. Ko te t~ananako, m~t'nei r~rangi ka ~hei ng~tohunga pepeke me ng~ihu hāp' an~ki ng~k~ero katoa e w~tea ana m~te whakar~āanga, te tohanga, te koiora me te tSaringa 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~punga me ng~momo, me te tuitui haere i ng~raraunga. Ki t~ng~kaituhi, 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~te 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 Aromatawai i ng~Koiora i runga i te Whakamahi i te Hangarau M~tiotia 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 tohanga me te h~sori m~ori o ng~Hemiptera me ng~Carabidae (Coleoptera). He tuhinga an~kua puta i a ia m~ng~Orthoptera me ng~Carabidae o Amerika ki te Raki. Kua mahi tahi an~r~ua ko tana hoa t~ne, a André, ki te whakaputa i ng~tuhinga huhua. Ko te t~ananako, 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 tukutuku.

Contributor **André Larochelle** 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 Larochelle**, i Québec. I reira anÇia e kura ana, ~, nÇte 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 Québec*. 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 kaipāaiao 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~ kÇero kua tuhia e André mÇte 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 t' 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~ HSori M~ori o ng~ Carabidae" mÇtaua takiw~anÇKo te aronga nui o ~na rangahau i t' nei w~, ko te ~hua me te whakarÇāanga 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 ākaipÇo **Birgit E. Rhode**, i kuraina anÇia ki reira. NÇte 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 wahapā me te takutai 'tahi kaupapa i ~ta tirohia e ia (i te Pāahi M~tai i ng~ Wai o Papatānuku, Moutere o Norderney, Moana Raki), ka tirohia anÇte hanga o ng~ w~hanga rongo o ng~ noke polychaete, ~, he pākenga anÇia mÇte 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 tiroiro 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~iane, 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* (Herrich-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 (Mesoveliidae), 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 epigeal, 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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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>consors</i> White, 1879	45
<i>poweri</i> White, 1879	46
Tribe ORIINI	46
Genus <i>Orius</i> Wolff, 1811 ^A	46
Subgenus <i>Heterorius</i> Wagner, 1952 ^A	46
<i>vicinus</i> (Ribaut, 1923) ^A	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 ^A	47
Subgenus <i>Proxylocoris</i> Carayon, 1972 ^A	47
<i>galactinus</i> (Fieber, 1836) ^A	47
Subfamily LYCTOCORINAE	47
Tribe LYCTOCORINI	47
Genus <i>Lyctocoris</i> Hahn, 1836 ^A	47
Subgenus <i>Lyctocoris</i> Hahn, 1836 ^A	48
<i>campestris</i> (Fabricius, 1794) ^A	48
Family ARADIDAE	48
Subfamily ANEURINAE	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>reflexus</i> Usinger & Matsuda, 1959	58
<i>spinifera</i> Usinger & Matsuda, 1959	52	<i>spiniornis</i> Usinger & Matsuda, 1959	58
Genus <i>Clavaptera</i> Kirman, 1985	52	Family ARTHENEIDAE	59
<i>ornata</i> Kirman, 1985	52	Subfamily NOTHOCHROMINAE	59
Genus <i>Leuraptera</i> Usinger & Matsuda, 1959	52	Genus <i>Nothochromus</i> Slater, Woodward & Sweet, 1962	
<i>yakasi</i> Heiss, 1990	52	59
<i>zealandica</i> Usinger & Matsuda, 1959	52	<i>maoricus</i> Slater, Woodward & Sweet, 1962	59
Genus <i>Lissaptera</i> Usinger & Matsuda, 1959	52	Family BERYTIDAE	59
<i>completa</i> (Usinger & Matsuda, 1959)	53	Subfamily BERYTINAE	60
Genus <i>Modicarventus</i> Kirman, 1989	53	Tribe BERYTINI	60
<i>wisei</i> Kirman, 1989	53	Genus <i>Bezu</i> Štusák, 1989	60
Genus <i>Neocarventus</i> Usinger & Matsuda, 1959	53	<i>wakefieldi</i> (White, 1878)	60
<i>angulatus</i> Usinger & Matsuda, 1959	53	Family CANTACADERIDAE	60
<i>uncus</i> Kirman, 1989	53	Subfamily CARLDRAKEANINAE	60
Subfamily CHINAMYERSIINAE	53	Genus <i>Carldrakeana</i> Froeschner, 1968	60
Tribe CHINAMYERSIINI	54	<i>socia</i> (Drake & Ruhoff, 1961)	60
Genus <i>Chinamyersia</i> Usinger, 1943	54	Genus <i>Cyperobia</i> Bergroth, 1927	60
<i>Pseudaradus</i> Myers & China, 1928. Preoccupied.		<i>carectorum</i> Bergroth, 1927	61
<i>cinerea</i> (Myers & China, 1928)	54	Family CERATOCOMBIDAE	61
<i>viridis</i> (Myers & China, 1928)	54	Subfamily CERATOCOMBINAE	61
Tribe TRETOCORINI	54	Tribe CERATOCOMBINI	61
Genus <i>Tretocoris</i> Usinger & Matsuda, 1959	54	Genus <i>Ceratocombus</i> Signoret, 1852	61
<i>grandis</i> Usinger & Matsuda, 1959	54	<i>aotearoae</i> sp. nov.	61
Subfamily ISODERMINAE	54	<i>novaezealandiae</i> sp. nov.	62
Genus <i>Isodermus</i> Erichson, 1842	54	Family CIMICIDAE	63
<i>Anchomichon</i> Spinola, 1852		Genus <i>Cimex</i> Linnaeus, 1758 ^A	63
<i>Ecpiestocoris</i> Blanchard, 1852		<i>lectularius</i> Linnaeus, 1758 ^A	63
<i>crassicornis</i> Usinger & Matsuda, 1959	55	Family COREIDAE	63
<i>maculosus</i> Pendergrast, 1965	55	Subfamily COREINAE	63
<i>tenuicornis</i> Usinger & Matsuda, 1959	55	Tribe COLPURINI	63
Subfamily MEZIRINAE	55	Genus <i>Acantholybas</i> Breddin, 1899 ^A	64
Genus <i>Ctenoneurus</i> Bergroth, 1887	55	<i>Acanthocolpura</i> Breddin, 1900	
<i>hochstetteri</i> (Mayr, 1866)	55	<i>brunneus</i> (Breddin, 1900) ^A	64
<i>attenuata</i> Walker, 1873, <i>Crimia</i>		Family CORIXIDAE	64
<i>maorica</i> Walker, 1873, <i>Mezira</i>		Subfamily CORIXINAE	64
<i>myersi</i> Kormilev, 1953	56	Tribe CORIXINI	64
<i>pendergrasti</i> Kormilev, 1971	56	Genus <i>Sigara</i> Fabricius, 1775	64
<i>setosus</i> Lee & Pendergrast, 1977	56	<i>Basileocorixa</i> Kirkaldy, 1898	
Genus <i>Woodwardiessa</i> Usinger & Matsuda, 1959	56	Subgenus <i>Tropocorixa</i> Hutchinson, 1940	64
<i>quadrata</i> Usinger & Matsuda, 1959	56	<i>arguta</i> (White, 1878)	65
Subfamily PROSYMPIESTINAE	57	<i>zealandica</i> Hudson, 1892, <i>Corixa</i>	
Tribe PROSYMPIESTINI	57	<i>infrequens</i> Young, 1962	65
Genus <i>Adenocoris</i> Usinger & Matsuda, 1959	57	<i>limnochares</i> Young, 1962	65
<i>brachypterus</i> Usinger & Matsuda, 1959	57	<i>potamius</i> Young, 1962	65
<i>spiniventris</i> Usinger & Matsuda, 1959	57	<i>uruana</i> Young, 1962	66
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		

Subfamily DIAPREOCORINAE	66	Family GERRIDAE	71
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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 synonymic 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/...>, 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.landcare-research.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.landcare-research.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).

ENICOCEPHALOMORPHA	CIMICOMORPHA	
Enicocephaloidea	Reduivoidea	Chinamyersiinae
Enicocephalidae	Reduviidae	Chinamyersiini
Enicocephalinae	Emesinae	Tretocorini
Systelloderini	Emesini	Isoderminae
Phthirocorinae	Leistarchini	Mezirinae
Phthirocorini	Ploiariolini	Prosypmpestinae
Aenictopecheidae		Prosypmpestini
Maoristolinae	Miroidea	Lygaeoidea
Nymphocorinae	Miridae	Artheneidae
DIPSOCOROMORPHA	Bryocorinae	Nothochrominae
Dipsocoroidea	Dicyphini	Berytidae
Ceratocombidae	Cylapinae	Berytinae
Ceratocombinae	Cylapini	Berytini
Ceratocombini	Deraeocorinae	Cymidae
Schizopteridae	Deraeocorini	Cyminae
Hypselosomatinae	Mirinae	Heterogastridae
GERROMORPHA	Mirini	Lygaeidae
Mesovelioidae	Stenodemini	Lygaeinae
Mesoveliidae	Orthotylinae	Orsillinae
Mesoveliinae	Halticini	Nysiini
Hydrometroidea	Orthotylini	Rhyparochromidae
Hydrometridae	Phylinae	Plinthisinae
Hydrometrinae	Leucophoropterini	Plinthisini
Gerroidea	Phylini	Rhyparochrominae
Veliidae	Cantacaderidae*	Antillocorini
Microveliinae	Carldrakeaninae	Drymini
Gerridae	Tingidae	Lethaeini
Halobatinae	Tinginae	Myodochini
LEPTOPODOMORPHA	Naboidea	Rhyparochromini
Saldoidea	Nabidae	Stygnocorini
Saldidae	Nabinae	Targaremini
Saldinae	Nabini	Udeocorini
Saldoidini	Prostemmatinae	Coreoidea
NEPOMORPHA	Prostemmatini	Coreidae
Corixoidea	Cimicoidea	Coreinae
Corixidae	Anthocoridae	Colpurini
Corixinae	Anthocorinae	Pentatomoidea
Corixini	Dufouriellini	Cydnidae
Diaprepocorinae	Oriini	Cydninae
Notonectoidea	Scolopini	Cydnini
Notonectidae	Xylocorini	Geotomini
Anisopinae	Lyctocorinae	Acanthosomatidae
	Lyctocorini	Acanthosomatinae
	PENTATOMOMORPHA	Pentatomidae
	Aradoidea	Asopinae
	Aradidae	Pentatominae
	Aneurinae	Carpocorini
	Aradinae	Myrocheini
	Calisiinae	Nezarini
	Carventinae	Rhynchocorini

and restores the family status of the Cymidae, Heterogastridae, and Rhyparochromidae. In addition Lis' (1999) proposed higher classification for the Tingioidea 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 synonymical 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 Tingioidea).

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
ENICOCEPHALOMORPHA						
Enicocephaloidea						
Enicocephalidae	3(2)	3(1)	50	4(4)	5(5)	180
Aenictopecheidae	3(2)	2(1)	10	4(4)	2(2)	20
DIPSOCOROMORPHA						
Dipsocoroidea						
Ceratocombidae	1(0)	1(0)	7	2(2)	1(1)	35
[Dipsocoridae]	0	1(0)	2	0	4(4)	40
[Hypsipterygidae]	0	0	1	0	0	3
Schizopteridae	1(0)	13(9)	42	1(1)	61(61)	221
[Stemmocryptidae]	0	0	1	0	0	1
GERROMORPHA						
Mesovelioidae						
Mesoveliidae	2(1)	2(0)	11	2(1)	5(3)	41
[Hebroidea]						
[Hebridae]	0	2(0)	7	0	5(5)	163
Hydrometroidea						
[Paraphrynoveiliidae]	0	0	1	0	0	2
[Macroveliidae]	0	0	3	0	0	3
Hydrometridae	1(0)	1(0)	7	1(0)	6(4)	119
Gerroidea						
[Hermatobatidae]	0	1(0)	1	0	2(1)	8
Veliidae	1(0)	4(0)	46	1(1)	17(14)	673
Gerridae	1(0)	10(3)	69	1(0)	29(17)	586
LEPTOPODOMORPHA						
[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
Saldidae	1(0)	3(0)	28	7(7)	10(9)	274
NEPOMORPHA						
[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						
Corixidae	2(0)	5(0)	36	6(6)	31(25)	556
[Naucoroidea]						
[Naucoridae]	0	4(0)	39	0	9(6)	391
Notonectoidea						
Notonectidae	1(0)	6(2)	11	2(2)	39(25)	350

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
[Helotrephidae]	0	0	16	0	0	47
CIMICOMORPHA						
Reduvioidea						
[Pachynomidae]	0	0	4	0	0	15
Reduviidae	3(0)	100(62)	961	7(4)	226(198)	6601
[Velocipedoidea]						
[Velocipedidae]	0	0	1	0	0	4
[Microphysoidea]						
[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
Miridae	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
Nabidae	2(0)	7(0)	31	4(2)	22(16)	380
Cimicoidea						
[Plokiophilidae]	0	0	4	0	0	13
Anthocoridae	6(1)	16(5)	81	8(4)	29(19)	523
Cimicidae	1(0)	1(0)	23	1(0)	1(0)	108
[Polycetenidae]	0	2(0)	5	0	2(1)	32
Totals	72(27)	352(158)	3120	170(137)	909(757)	23898
PENTATOMOMORPHA						
Aradoidea						
Aradidae	19(12)	38(19)	230	39(38)	143(127)	1909
[Termitaphididae]	0	1(0)	2	0	1(1)	9
Idiostoloidea						
[Henicocoridae]	0	1(1)	1	0	1(1)	1
[Idiostolidae]	0	2(2)	3	0	3(3)	4
Lygaeoidea						
Artheneidae	1(1)	1(1)	8	1(1)	2(2)	20
Berytidae	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
Cymidae	1(0)	4(0)	9	1(0)	10(6)	54
[Geocoridae]	0	4(2)	25	0	20(18)	275
Heterogastridae	1(0)	3(1)	23	1(0)	5(4)	97
Lygaeidae	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
Rhyparochromidae	22(10)	75(32)	368	42(34)	185(142)	1824
Coreoidea						
[Alydidae]	0	7(2)	42	0	16(5)	250
Coreidae	1(0)	43(26)	252	1(0)	83(59)	1802
[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
Pentatomoidea						
Acanthosomatidae	2(1)	17(12)	47	4(4)	45(43)	180
[Aphylidae]	0	2(2)	2	0	3(3)	3
[Canopidae]	0	0	1	0	0	8
Cydnidae	4(1)	21(9)	120	4(1)	83(76)	751
[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
Pentatomidae	8(1)	134(94)	642	8(1)	363(333)	4110
[Phloeidae]	0	0	2	0	0	3
[Plataspidae]	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
Totals	64(28)	442(232)	2350	135(112)	1184(977)	15410
TOTAL FAUNA						
Enico-Cimicomorpha	72(27)	352(158)	3120	170(137)	909(757)	23898
Pentatomomorpha	64(28)	442(232)	2350	135(112)	1184(977)	15410
TOTALS	136(55)	794(390)	5470	305(249)	2093(1734)	39308

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

Families Subfamilies Tribes Genera	Number of genera and status	Number of species		
Acanthosomatidae	2(1)[0]	4(4)[0]		
Acanthosomatinae				
<i>Oncacontias</i>	Endemic	1(1)[0]		
<i>Rhopalimorpha</i>	Native	3(3)[0]		
Aenictopecheidae	3(2)[0]	4(4)[0]		
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]		
Anthocoridae	6(1)[3]	8(4)[3]		
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]		
Aradidae	19(12)[0]	39(38)[0]		
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>Carvaptera</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]		
Chinamyersinae				
Chinamyersiini				
<i>Chinamyersia</i>	Endemic	2(2)[0]		
Tretocorini				
<i>Tretocoris</i>	Endemic	1(1)[0]		
Isoderminae				
<i>Isodermus</i>	Native	3(3)[0]		
Mezirinae				
<i>Ctenoneurus</i>	Native	4(4)[0]		
<i>Woodwardiessa</i>	Endemic	1(1)[0]		
Prosympiestinae				
Prosympiestini				
<i>Adenocoris</i>	Endemic	2(2)[0]		
<i>Mesadenocoris</i>	Endemic	1(1)[0]		
<i>Neadenocoris</i>	Endemic	6(6)[0]		
Artheneidae	1(1)[0]	1(1)[0]		
Nothochrominae				
<i>Nothochromus</i>	Endemic	1(1)[0]		
Berytidae	1(0)[0]	1(1)[0]		
Berytinae				
Berytini				
<i>Bezu</i>	Native	1(1)[0]		
Cantacaderidae	2(1)[0]	2(1)[0]		
Carldrakeaninae				
<i>Carldrakeana</i>	Native	1(0)[0]		
<i>Cyperobia</i>	Endemic	1(1)[0]		
Ceratocombidae	1(0)[0]	2(2)[0]		
Ceratocombinae				
Ceratocombini				
<i>Ceratocombus</i>	Native	2(2)[0]		
Cimicidae	1(0)[1]	1(0)[1]		
<i>Cimex</i>	Adventive	1(0)[1]		
Coreidae	1(0)[1]	1(0)[1]		
Coreinae				
Colpurini				
<i>Acantholybas</i>	Adventive	1(0)[1]		
Corixidae	2(0)[0]	6(6)[0]		
Corixinae				
Corixini				
<i>Sigara</i>	Native	5(5)[0]		
Diaprepocorinae				
<i>Diaprepocoris</i>	Native	1(1)[0]		
Cydnidae	4(1)[1]	4(1)[1]		
Cydninae				
Cydnini				
<i>Chilocoris</i>	Native	1(0)[0]		
Geotomini				
<i>Cydnocchoerus</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		
Cymidae	1(0)[0]	1(0)[0]
Cyminae		
<i>Cymus</i>	Native	1(0)[0]
Enicocephalidae	3(2)[0]	4(4)[0]
Enicocephalinae		
Systelloderini		
<i>Systelloderes</i>	Native	2(2)[0]
Phthiroporinae		
Phthiroporini		
<i>Gourlayocoris</i>	Endemic	1(1)[0]
<i>Phthirostenus</i>	Endemic	1(1)[0]
Gerridae	1(0)[0]	1(0)[0]
Halobatinae		
<i>Halobates</i>	Native	1(0)[0]
Heterogastridae	1(0)[1]	1(0)[1]
<i>Heterogaster</i>	Adventive	1(0)[1]
Hydrometridae	1(0)[0]	1(0)[0]
Hydrometrinae		
<i>Hydrometra</i>	Native	1(0)[0]
Lygaeidae	4(2)[1]	33(32)[1]
Lygaeinae		
<i>Arocatus</i>	Adventive	1(0)[1]
Orsillinae		
Nysiini		
<i>Lepiorsillus</i>	Endemic	1(1)[0]
<i>Nysius</i>	Native	3(3)[0]
<i>Rhyppodes</i>	Endemic	28(28)[0]
Mesoveliidae	2(1)[1]	2(1)[1]
Mesoveliinae		
<i>Mesovelia</i>	Adventive	1(0)[1]
<i>Mniovelia</i>	Endemic	1(1)[0]
Miridae	39(20)[12]	115(98)[12]
Bryocorinae		
Dicyphini		
<i>Engytatus</i>	Adventive	1(0)[1]
<i>Felisacus</i>	Native	1(0)[0]
Cylapinae		
Cylapini		
<i>Peritropis</i>	Native	1(1)[0]
Deraeocorinae		
Deraeocorini		
<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>Tingnotum</i>	Native	1(0)[0]
<i>Tuicoris</i>	Endemic	2(2)[0]
<i>Wekamiris</i>	Endemic	1(1)[0]
Stenodemini		
<i>Chaetodus</i>	Native	3(1)[0]
<i>Megaloceroea</i>	Adventive	1(0)[1]
<i>Trigonotylus</i>	Adventive	1(0)[1]
Orthotyliinae		
Halticini		
<i>Coridromius</i>	Adventive	1(0)[1]
<i>Halticus</i>	Adventive	1(0)[1]
Orthotylini		
<i>Cyrtorhinus</i>	Native	1(1)[0]
<i>Josemiris</i>	Endemic	1(1)[0]
Phylinae		
Leucophoropterini		
<i>Sejanus</i>	Native	1(0)[0]
<i>Tytthus</i>	Adventive	1(0)[1]
Phylini		
<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]
Nabidae	2(0)[0]	4(2)[1]
Nabinae		
Nabini		
<i>Nabis</i>	Native	3(1)[1]
Prostemmatinae		
Prostemmatini		
<i>Alloeorhynchus</i>	Native	1(1)[0]
Notonectidae	1(0)[0]	2(2)[0]
Anisopinae		
<i>Anisops</i>	Native	2(2)[0]

Table 3 (continued)

Families Subfamilies Tribes Genera	Number of genera and status	Number of species
Pentatomidae	8(1)[4]	8(1)[4]
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]
Reduviidae	3(0)[1]	7(4)[1]
Emesinae		
Emesini		
<i>Stenolemus</i>	Adventive	1(0)[1]
Leistarchini		
<i>Ploiaria</i>	Native	2(1)[0]
Ploiariolini		
<i>Empicoris</i>	Native	4(3)[0]
Rhyparochromidae	22(10)[5]	42(34)[5]
Plinthisinae		
Plinthisini		
<i>Plinthisus</i>	Adventive	1(0)[1]
Rhyparochrominae		
Antillocorini		
<i>Tomocoris</i>	Native	2(2)[0]
Drymini		
<i>Brentiscerus</i>	Native	1(1)[0]

<i>Grossander</i>	Adventive	1(0)[1]
<i>Paradrymus</i>	Adventive	1(0)[1]
Lethaeini		
<i>Paramyocara</i>	Native	1(0)[0]
Myodochini		
<i>Horridipamera</i>	Adventive	1(0)[1]
<i>Remaudiereana</i>	Native	2(0)[0]
Rhyparochromini		
<i>Dieuches</i>	Adventive	1(0)[1]
<i>Stizocephalus</i>	Native	1(1)[0]
Stygnocorini		
<i>Margareta</i>	Endemic	1(1)[0]
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]
Saldidae	1(0)[0]	7(7)[0]
Saldinae		
Saldoidini		
<i>Saldula</i>	Native	7(7)[0]
Schizopteridae	1(0)[0]	1(1)[0]
Hypselosomatinae		
<i>Hypselosoma</i>	Native	1(1)[0]
Tingidae	2(0)[1]	2(0)[1]
Tinginae		
<i>Stephanitis</i>	Adventive	1(0)[1]
<i>Tanybyrsa</i>	Native	1(1)[0]
Veliidae	1(0)[0]	1(1)[0]
Microveliinae		
<i>Microvelia</i>	Native	1(1)[0]

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
Acanthosomatidae								
<i>Acanthosomatinae</i>								
<i>Rhopalimorpha</i>	x	x						
Aenictopecheidae								
<i>Nymphocorinae</i>								
<i>Nymphocoris</i>	x		x					
Anthocoridae								
<i>Anthocorinae</i> , Dufouriellini								
<i>Buchananella whitei</i>	x	x	x		x			
Aradidae								
<i>Aradinae</i>								
<i>Aradus australis</i>	x	x	x			x		
<i>Carventinae</i>								
<i>Acaraptera</i>	x	x			x			Solomon Islands
<i>Lissaptera</i>	x				x			
<i>Chinamyersiinae</i>	x	x						
<i>Isoderminae</i>	x	x	x					x(Argentina, Chile)
<i>Isodermus</i>	x	x	x					x(Argentina, Chile)
<i>Prosympiestinae</i>	x	x	x					x(Chile)
Berytidae								
<i>Berytinae</i> , Berytini								
<i>Bezu</i>	x	x	x					
Corixidae								
<i>Diaprepocorinae</i>								
<i>Diaprepocoris</i>	x	x	x					
Cydnidae								
<i>Cydninae</i> , Cydnini								
<i>Chilocoris neozealandicus</i>	x	x						
<i>Geotomini</i>								
<i>Macroscytus australis</i>	x	x	x		x			Indonesia (Java)
Cymidae								
<i>Cyminae</i>								
<i>Cymus novaezealandiae</i>	x	x						
Enicocephalidae								
<i>Phithorocorinae</i>	x (incl. AU)							Crozet Island, New Guinea
Hydrometridae								
<i>Hydrometrinae</i>								
<i>Hydrometra strigosa</i>	x	x	x		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
Miridae								
Bryocorinae, Dicyphini								
<i>Felisacus elegantulus</i>	x	x	x					
Mirinae, Mirini								
<i>Tingitotum minutum</i>	x	x						
Mirinae, Stenodemini								
<i>Chaetodus</i>	x (incl. KE)	x	x	x				Papua New Guinea
<i>Chaetodus longiceps</i>	x	x	x					
<i>Chaetodus plumalis</i>	x(KE)			x				
Phylinae, Leucophoroterini								
<i>Sejanus albisignatus</i>	x	x						
Nabidae								
Nabinae, Nabini								
<i>Nabis bifformis</i>	x	x	x					
Pentatomidae								
Asopinae								
<i>Cermatulus nasalis</i>	x	x	x					East Timor
<i>Oechalia schellenbergii</i>	x	x	x					South Pacific, Philippines
Pentatominae, Nezarini								
<i>Glaucias amyoti</i>	x	x			x			East Timor, Indonesia, Palau, Papua New Guinea
Rhyparochromidae								
Rhyparochrominae								
Drymini								
<i>Brentiscerus</i>	x	x	x	x	x			
Lethaeini								
<i>Paramyocara</i>	x	x						
<i>Paramyocara iridescens</i>	x	x						
Mydochini								
<i>Remaudiereana inornata</i>	x	x		x	x	x		Caroline Is, Palau
<i>Remaudiereana nigriceps</i>	x(KE)	x				x		Christmas I., South Pacific, Oriental Region
Rhyparochromini								
<i>Stizocephalus</i>	x	x	x					
Targaremini	x	x	x					Vanuatu
<i>Geratarma</i>	x		x					
Udeocorini								
<i>Udeocoris</i>	x	x	x					East Timor, Indonesia (West Timor)
Tingidae sensu lato								
Carldrakeaninae								
<i>Carldrakeana</i>	x	x	x					New Guinea
<i>Carldrakeana socia</i>	x	x	x					
Tinginae								
<i>Tanybyrsa</i>	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 Blandusinae 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 *Oncacantias* 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 Aenictopecheidae, the tribe Nymphocorini comprises only *Nymphocoris*, with two species, one from New Zealand and one from Tasmania. In the Enicocephalidae, the subfamily Phthiroporini includes two tribes from the southwest Pacific and the subantarctic islands. The Phthiroporini 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 Prosymptestinae 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 *Chaetodus* is known from four species in New Zealand, Australia, and New Guinea. *Chaetodus longiceps* is shared by New Zealand, continental Australia, and Tasmania. *Chaetodus 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 epigeal (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 epigeal group, except for the genus *Rhyphodes* 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 epigeal, 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 clypeine *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 *Rhyphodes* (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. *Closterotomus 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: *Oncacanthias vittatus* (Acanthosomatidae), *Ctenoneurus hochstetteri* (Aradidae), some *Rhyphodes* species (Lygaeidae), *Cermatulus nasalis nasalis*, *Oechalia schellenbergii* (Pentatomidae), and *Targarema stali* (Rhyparochromidae), in exotic forests; *Rhopalimorpha lineolaris* and *R. obscura* (Acanthosomatidae), *Cymus novaezealandiae* (Cymidae), *Deraeocoris mauricus*, *Lincolnia lucernina* (Miridae), in pastures; *Chaetodus longiceps*, some *Diomocoris* species, *Romna scotti*, *Sejanus albisignatus* (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: *Clavoptera ornata*, *Modicarventus wisei* (Aradidae), *Chilocoris neozealandicus* (Cydnidae), *Chinamiris aurantiacus* (Miridae), in coastal lowland forests and shrublands; *Chaetodus 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 *Rhyphodes* (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 predacious on insects and other arthropods (e.g., subfamily Deraeocorinae in the Miridae), and there are entire families that are predominantly predacious (e.g., Anthocoridae, Ceratocombidae, Nabidae, Enicocephaloidea). Some predacious 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—*Engytatus nicotianae* (vector of velvet tobacco virus), *Closterotomus norwegicus* (pest on various seed and vegetable crops), *Sidnia kinbergi* (pest on seed crops, strawberries, carrots); Pentatomidae—*Cuspidata 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 predacious 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 Anthoridae, 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.
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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=ative,

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=ative, 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=ative, 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 extralimital 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 epigeal, 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 sub-species. 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^E

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)^E

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*, *Meliclytus 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^N

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^E

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^E**

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. [Epigeal, 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^N

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^E**

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^E**

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^E**

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^E**

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. Epigeal, [corticulous]. 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)^E**

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. Epigeal, 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^N

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^E**

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. Epigeal. 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^E**

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^E**

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. Epigeal. 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^N

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).

Genus *Buchananiella whitei* Reuter, 1884^N

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. Epigeal, planticolous (mostly), [corticulous]. Found on the vegetation and in ground litter in broadleaf–podocarp and mixed beech forests. Collected on native trees (e.g., *Meliclytus 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^N

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

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

Dasypterus Reuter, 1871b: 564. Type species: *Xylocoris limbatellus* 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).

Genus *Cardiastethus brounianus* White, 1878^E

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, [corticulous]. 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.

Genus *Cardiastethus consors* White, 1879^E

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, [corticulous]. Mostly found on shrubs and trees in broadleaf–podocarp forests, shrublands, and scrublands. Collected on live trees or dried branches of *Beilschmiedia tawaroa*, *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, *Melanchna 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^E**

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, [corticolous]. 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, *Melanchna* [= *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^A

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^A

Synonymy (Péricart, 1996a).

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

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

Orius (*H.*) *vicinus* (Ribaut, 1923)^A

Synonymy (Péricart, 1996a).

Geographic distribution (Map p. 284). South Island: CO–Clyde (NZAC). Conroys Road (OMNZ). Earnsclough (NZAC). Muttontown (Larivière & Wearing, 1994). MC–Lincoln (NZAC). First New Zealand record: Earnsclough, 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* (Acari: 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^E

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^E

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^A

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^A

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)^A

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. Epigeal, 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^A

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^A

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)^A**

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). Extralimital range: Nearly worldwide (native to the Northern Hemisphere, adventive elsewhere).

Biology. Terrestrial. Lowland, montane. Epigeal, 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. Predacious: 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^E

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^E**

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

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

Biology. Terrestrial. [Lowland.] [Epigeal.] [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^N

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^E

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^E

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. [Epigeal.] 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^E

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. [Epigeal], 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^E

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. Epigeal, 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^E

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

Biology. Terrestrial. Lowland, montane. [Epigeal, 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 ^E

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. [Epigeal], 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 ^E

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. Epigeal, arboreal (mostly), corticolous. Collected on a range of trees and shrubs, e.g., *Alseuosmia macrophylla*, *Beilshmiedia 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 ^N

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. Parshley, 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 ^N

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^N

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

Aradosyrtris A. Costa, 1864: 132. Type species: *Aradosyrtris 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^E

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. [Epigeal, 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^N

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^E

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. [Epigeal.] 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^E

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. Epigeal. 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^E

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).

Carventaptera spinifera Usinger & Matsuda, 1959^E

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. Epigeal, [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^E

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

Geographic distribution. New Zealand.

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

Clavaptera ornata Kirman, 1985^E

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. [Epigeal.] 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^E

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).

Leuraptera yakasi Heiss, 1990^E

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. [Epigeal.] Found in a mixed broadleaf–podocarp forest. Collected in leaf and log litter. Seasonality: April. [Fungivorous.]

Dispersal power. Apterous, [dispersing by walking].

Leuraptera zealandica Usinger & Matsuda, 1959^E

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. [Epigeal.] 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^N

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)^E

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 Pahi (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. [Epigeal.] 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^E

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

Geographic distribution. New Zealand.

Modicarventus wisei Kirman, 1989^E

Type photograph p. 229.

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

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

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

Dispersal power. Apterous, [dispersing by walking].

Genus *Neocarventus* Usinger & Matsuda, 1959^E

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^E

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. [Epigeal.] 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^E

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. [Epigeal.] 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^E

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)^E

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. Epigeal, 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)^E

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). Cawthron Park (LUNZ). Whangapeka Valley (NZAC).

Biology. Terrestrial. [Lowland.] [Epigeal, 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^E

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

Geographic distribution. New Zealand.

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

Tretocoris grandis Usinger & Matsuda, 1959^E

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. [Epigeal.] 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^N

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.

Ecpiestocoris Blanchard, 1852: 223. Type species: *Ecpiestocoris 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, world).

***Isodermus crassicornis* Usinger & Matsuda, 1959^E**

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^E**

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 eugenioides* 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^E**

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^N

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)^E**

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 *Aneuris brouni* and *Aneuris 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^E**

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^E**

Type photograph p. 227.

Ctenoneurus pendergrasti Kormilev, 1971: 58. Holotype female (AMNZ); BP, Tarowera [=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^E**

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^E

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^E**

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. [Epigeal, 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., *Knightsia 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^E

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^E

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. [Epigeal, 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^E

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. Epigeal, 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^E

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^E

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. [Epigeal.] [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^E

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^E

Type photograph p. 229.

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

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

Biology. Terrestrial. Lowland. [Epigeal.] [*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^E**

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. [Epigeal.] [*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^E**

Type photograph p. 230.

Neadenocoris glaber [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. [Epigeal.] [*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 *glaber* 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^E**

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. [Epigeal.] [*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^E**

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. [Epigeal.] [*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^E**

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. Epigeal. *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 (cytotaxonomy, 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^E

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^E

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. Epigeal. [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^N

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)^E

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^N

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)^N

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. [Epigeal, 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^E

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^E**

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^N**

Ceratocombus Signoret, 1852: 542. Type species: *Astemma mulsanti* Signoret, 1852 (= *Anthocoris coleopratus* 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 fieldwork, 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.^E**

Type photograph p. 232.

Type data. Holotype: Male (NZAC) labelled "NEW ZEALAND BP Whinray Sce Res [= Scenic Reserve] 381500S/1773600E 28.XI.1997 Larivière, Laroche / 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 suprahumeral; 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. Epigeal. 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 novaezealandiae*. 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*, *Meliccytus*, *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 novaezealandiae sp. nov.^E

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 suprahumeral 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 cavities or depressions at basis. Pleura without distinguishing features. **Wings.** Forewings shorter than abdomen, almost elytrid (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. Epigeal. 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^A

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^A

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). Extralimital range: Nearly worldwide.

Biology. Terrestrial. Sanguinivorous (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^A

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)^A**

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 rhaponticum* (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 (*Agraptocorixa*, 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^N**

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^N

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)^E**

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.

Arctocorixa 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 limnochaes*, *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^E**

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.) limnochaes* Young, 1962^E**

Type photograph p. 233.

Sigara (T.) limnochaes Young, 1962: 342. Holotype male (CMNZ); KA, Blue Duck Stream.

Sigara limnochaes: 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^E**

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 ^E

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 DIAPREOCORINAE

Genus *Diaprepocoris* Kirkaldy, 1897 ^N

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 ^E

Diaprepocoris zealandiae Hale, 1924: 9. Holotype* female (BMNH); New Zealand.

Diaprepocoris nova-zealandiae [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 ^N

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 ritzema* 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^N

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—Waikawau Bay. ND—Kerikeri, Airport Road. Extralimital range: Australia (New South Wales, Queensland).

Biology. Terrestrial. Lowland (coastal). Epigeal, 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 *Cydnocnocherus* Lis, 1996^E

Cydnocnocherus 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 (Australian Region, distribution, taxonomy). Lis, 1999c: 195 (catalogue, Old World). Cassis & Gross, 2002: 401–402 (Australia, catalogue).

Cydnocnocherus nigrosignatus (White, 1878)^E

Choerocydnus nigrosignatus White, 1878a: 275. Lectotype male (designated by Larivière, 1995; BMNH); New Zealand.

Choerocydnus albosignatus [sic]: Signoret, 1882a: 167.

Choerocydnus [sic] *nigrosignatus*: Hutton, 1898b: 172.

Adrisa nigrosignata: Bergroth, 1909a: 331.

Choerocydnus nigrosignata [sic]: Kirkaldy, 1909a: 25.

Chaerocydnus [sic] *nigrosignatus*: Myers, 1922: 4; 1926: 510.

Cydnocnocherus 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. Epigeal, 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^N

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)^N

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: Froggatt, 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. Epigeal, 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^A

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)^A

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. Epigeal, 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^N

Cymus Hahn, 1832: 76. Type species: *Lygaeus clavicolus* 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^N

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 uniloides* (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 *Styelloderes* Blanchard, 1852^N

Styelloderes Blanchard, 1852: 224. Type species: *Styelloderes moschatus* Blanchard, 1852, by monotypy. *Systelloderus* 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 *Styelloderes* into species groups one of which, the *maclachlani*-group, includes only the two New Zealand species.

Styelloderes maclachlani (Kirkaldy, 1901)^E

Henicocephalus maclachlani Kirkaldy, 1901: 218. Holotype female (BMNH); WN, Wellington. *Enicocephalus maclachlani*: Kirkaldy, 1909a: 26. *Systelloderes maclachlani*: Jeannel, 1942: 308.

Geographic distribution (Map p. 291). North Island: AK, CL, ND, RI, TO, WA, WI, WN.

Biology. Terrestrial. Lowland, montane. Epigeal, [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).

Styelloderes notialis Woodward, 1956^E

Type photograph p. 235.

Styelloderes 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. Epigeal, [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^E

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)^E

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. Epigeal,

[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^E

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)^E

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. Epigeal, [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^N

Subgenus *Halobates* Eschscholtz, 1822^N

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^N

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 ^A

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) ^A

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 *Rhypodis 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^N

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)^N

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). Linnavuori, 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^A

Arocatus Spinola, 1837: 257. Type species: *Lygaeus melanocephalus* Fabricius, 1798, by monotypy.

Tetralaccus Fieber, 1860a: 44. Type species: *Lygaeus roseli* [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)^A**

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^E

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^E**

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.] [Epigeal.] 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^N

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)^E

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. Epigeal. 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^E

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. Epigeal, 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^E

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. Epigeal, [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 *Rhyodes* Stål, 1868^E

Rhyodes 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).

***Rhyodes anceps* (White, 1878)^E**

Nysius anceps White, 1878a: 32. Holotype female (BMNH); New Zealand.

Hudsona anceps: Evans, 1929a: 353.

Rhyodes 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. Epigeal, 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 (cytotaxonomy). Eyles, 1990 (biology, distribution, key, taxonomy). Slater & O'Donnell, 1995: 37 (catalogue, world).

***Rhyodes argenteus* Eyles, 1990^E**

Type photograph p. 236.

Rhyodes 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. [Epigeal, 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).

***Rhyodes atricornis* Eyles, 1990^E**

Type photograph p. 236.

Rhyodes 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. Epigeal, 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).

***Rhyodes brachypterus* Eyles, 1990^E**

Type photograph p. 237.

Rhyodes brachypterus Eyles, 1990: 364. Holotype male (NZAC); NN, Mount Arthur.

Geographic distribution (Map p. 293). South Island: NN–Mount Arthur.

Biology. Terrestrial. Subalpine, alpine. Epigeal, 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).

***Rhyodes brevifissas* Eyles, 1990^E**

Type photograph p. 237.

Rhyodes 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. Epigeal, 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.

***Rhyodes brevipilis* Eyles, 1990^E**

Type photograph p. 237.

Rhyodes 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. Epigeal, 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. brevipilus*).

***Rhyodes bucculentus* Eyles, 1990^E**

Type photograph p. 237.

Rhyodes 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. Epigeal, planticolous. Collected on *Epilobium pycnostachyum* (possible host plant) on screens; 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).

***Rhyodes celmisiae* Eyles, 1990^E**

Type photograph p. 238.

Rhyodes 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. Epigeal, 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, tenerals, 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*.

***Rhyodes chinai* Usinger, 1942^E**

Rhyodes 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. Epigeal, 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*, *Chionochoa*, *Dolichoglottis scorzonerooides*, *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).

Rhyphodes clavicornis (Fabricius, 1794)^E

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.

Rhyphodes 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. Epigeal, 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*–*Astelium*–*Brachyglottis*–*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 (cytotaxonomy). 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).

Rhyphodes cognatus Eyles, 1990^E

Type photograph p. 238.

Rhyphodes 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. Epigeal, planticolous, arboreal. Collected in numbers on tussock and *Olearia angustifolia*; also on *Brachyglottis 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).

Rhyphodes crinitus Eyles, 1990^E

Type photograph p. 238.

Rhyphodes 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. Epigeal, 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).

Rhyodes depilis Eyles, 1990^E

Type photograph p. 238.

Rhyodes 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. Epigeal, 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).

Rhyodes eminens Eyles, 1990^E

Type photograph p. 239.

Rhyodes 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. Epigeal, 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).

Rhyodes gracilis Eyles, 1990^E

Type photograph p. 239.

Rhyodes 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. Epigeal, 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).

Rhyodes hirsutus Eyles, 1990^E

Type photograph p. 239.

Rhyodes 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. Epigeal, 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).

Rhyodes jugatus Eyles, 1990^E

Type photograph p. 239.

Rhyodes 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. Epigeal, 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).

***Rhyphodes koebeleri* Eyles, 1990^E**

Type photograph p. 240.

Rhyphodes koebeleri 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. Epigeal, 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).

***Rhyphodes longiceps* Eyles, 1990^E**

Type photograph p. 240.

Rhyphodes 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. Epigeal, 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*.

***Rhyphodes longirostris* Eyles, 1990^E**

Type photograph p. 240.

Rhyphodes longirostris Eyles, 1990: 390. Holotype male (NZAC); GB, Mount Arowhana [=Arowhana].

Geographic distribution (Map p. 295). North Island: GB=Mount Arowhana.

Biology. Terrestrial. Montane, subalpine. Epigeal,

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).

***Rhyphodes myersi* Usinger, 1942^E**

Rhyphodes 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. Epigeal, 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).

***Rhyphodes rupestris* Eyles, 1990^E**

Type photograph p. 240.

Rhyphodes rupestris Eyles, 1990: 393. Holotype male (NZAC); MB, Black Birch Station.

Geographic distribution (Map p. 295). South Island: MB=Altmarlock Peak (Eyles, 1990). Black Birch Station.

Biology. Terrestrial. Subalpine, alpine. Epigeal, 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).

Rhyodes russatus Eyles, 1990^E

Type photograph p. 241.

Rhyodes 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. Epigeal, 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).

Rhyodes sericatus Usinger, 1942^E

Rhyodes 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. Epigeal, 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).

Rhyodes spadix Eyles, 1990^E

Type photograph p. 241.

Rhyodes 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. Epigeal, 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).

Rhyodes stewartensis Usinger, 1942^E

Rhyodes 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. Epigeal, 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 *Raoulia*, *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).

***Rhyodes townsendi* Eyles, 1990^E**

Type photograph p. 241.

Rhyodes 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. [Epigeal, 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).

***Rhyodes triangulus* Eyles, 1990^E**

Type photograph p. 241.

Rhyodes 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. Epigeal, 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, *Mesovelvia*, 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 *Mesovelvia* Mulsant & Rey, 1852^A**

Mesovelvia Mulsant & Rey, 1852: 138. Type species: *Mesovelvia furcata* Mulsant & Rey, 1852, by monotypy.

Fieberia Jakovlev, 1874: 32. Type species: *Fieberia lacustris* Jakovlev, 1874 (= *Mesovelvia 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.

***Mesovelvia hackeri* Harris & Drake, 1941^A**

Mesovelvia hackeri Harris & Drake, 1941: 277. Holotype* (USNM); Asharove [=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. Predacious.

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^E

Mniovelia Andersen & Polhemus, 1980: 377. Type species: *Mniovelia kuscheli* Andersen & Polhemus, 1980, by original designation.

Geographic distribution. New Zealand.

***Mniovelia kuscheli* Andersen & Polhemus, 1980^E**

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. Epigeal, 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^A

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).

Genus *Engytatus* *nicotianae* (Koningsberger, 1903)^A

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^N

Liocoris Motschulsky, 1863: 86. Type species: *Liocoris glabratus* 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).

Genus *Felisacus* *elegantulus* (Reuter, 1904)^N

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^N

Peritropis Uhler, 1891: 121. Type species: *Peritropis saldaeformis* 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^E

Type photograph p. 260.

Peritropis aotearoae Gorczyca & Eyles, 1997: 226. Holotype male (NZAC); CL, Maunapaki.

Geographic distribution (Map p. 306). North Island: CL–Maunapaki.

Biology. Terrestrial. Lowland, montane. [Epigeal], corticolous. Occurs in broadleaf–podocarp forests. Collected under the bark of rotten logs, in association with fungi. Seasonality: November (adults, nymphs). [Predacious 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^N

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.

Euarmentos Reuter, 1876: 76. Type species: *Euarmentos 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.

Mycterocoris 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^E

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^E

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^E

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 soothy 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^E

Morna White, 1878a: 130. Type species: *Morna capsoides* 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^E

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^E

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)^E**

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^E**

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 Hut (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^E**

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–Anised 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^E**

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^E**

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^E**

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)^E**

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^E**

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^E**

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^E**

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^E**

Anexochus Eyles, 2001: 208. Type species: *Anexochus crassicornis* Eyles, 2001, by original designation.

Geographic distribution. New Zealand.

Reference. Eyles, 2001 (key, taxonomy, including egg).

***Anexochus crassicornis* Eyles, 2001^E**

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^E

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^E**

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 leptophyllus*] 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^E**

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^E**

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 *Brachyglottis 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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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 vesus* Eyles & Carvalho, 1995^E**

Type photograph p. 246.

Bipuncticoris vesus 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^E**

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 *Closterotomus*)

Genus *Chinamiris* Woodward, 1950^E

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E

Type photograph p. 249.

Chinamiris elongatus Eyles & Carvalho, 1991: 286. Holotype male (NZAC); WD, Oтира.

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. Arbooreal. 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^E

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. Arbooreal. 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^E

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^E

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^E

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^E**

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)^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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^E**

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** ^E

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** ^E

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** ^E

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** ^E

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** ^E

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). Omih (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** ^E

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 hepatics 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^E**

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 *whakapapae*, 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 zygotus* Eyles & Carvalho, 1991^E**

Type photograph p. 254.

Chinamiris zygotus 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^A

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.

Poecilnotus Reuter, 1896: 167. Type species: *Poecilnotus 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 norvegicus* (Gmelin, 1790)^A**

Cimex bipunctatus Fabricius, 1779: 346. Syntypes*, male, female (ZMUC, 1 syntype); Norway, Lokken S of Trondheim (Kerzhner & Josifov, 1999: 87). Preoccupied.

Cimex norvegicus 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 scorzoneroides*, *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^E

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^E

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^E

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)^E**

Leptomercoris maoricus Walker, 1873: 146. Lectotype* female (designated by Eyles, 2000a; BMNH); New Zealand.

Lygus maoricus: Distant, 1904a: 111.

Lygus 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 *Lygus buchani* and *L. plebejus*. Eyles, 2000a (biology, distribution, key, taxonomy).

***Diomocoris ostiolum* Eyles, 2000^E**

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^E**

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^E**

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 brisbanensis*, *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^E**

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, Ottau 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^E**

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^E**

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^E

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^E**

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^E**

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^E**

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^E**

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^E**

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^E

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^E**

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 leguminose 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 leguminose 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 & Footitt, 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^E

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^E**

Type photograph p. 260.

Monopharsus 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. [Planticolous.] 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^A

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)^A

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. Planticolous (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^A

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)^A**

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–*Meliclytus 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^A

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)^A**

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 Pahi 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 *Tinginitotum* Kirkaldy, 1902^N

Tinginitotum Kirkaldy, 1902b: 263. Type species: *Tinginitotum 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^N

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^E

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^E

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^E

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 Rereauri 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^E

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^E

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, *Raukawa 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 *Chaetodus* Eyles, 1975^N

Chaetodus 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).

Chaetodus longiceps Eyles, 1975^N

Type photograph p. 247.

Chaetodus 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).

Chaetodus plumalis Eyles, 1975^N

Type photograph p. 247.

Chaetodus 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).

Chaetodus reuterianus (White, 1878)^F

Megaloceroea (Megaloceroea) reuteriana White, 1878a: 130 (for *Megaloceroea*). Lectotype* female (designated by Eyles, 1975; BMNH): NN, Wakefield.

Megaloceroea reuteriana: Hutton, 1898b: 176.

Chaetodus 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^A

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)^A

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^A

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^A

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^A

Ocybus Montrouzier, 1861: 67. Type species: *Ocybus variegatus* Montrouzier, 1861, by monotypy. Preoccupied.

Coridromius Signoret, 1862: v [5]. Replacement name for *Ocybus*.

Neocybus Distant, 1914: 378. Unjustified replacement name for *Ocybus*.

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)^A

Ocybus variegatus Montrouzier, 1861: 68. Holotype*, sex unknown (NHMW); New Caledonia (as Nouvelle-Calédonie).

Leptomerochoris 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^A

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^A

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^N

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 Linnavuori, 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^E

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^E

Josemiris Eyles, 1996: 209. Type species: *Josemiris carvalhoi* Eyles, 1996, by original designation.

Geographic distribution. New Zealand.

Josemiris carvalhoi Eyles, 1996^E

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^N

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 albisignatus (Knight, 1938)^N

Idatiella albisignata Knight, 1938: 25. Holotype* male (USNM, Knight Collection); New Zealand, NN, Nelson.

Sejanus albisignatus: Carvalho, 1958a: 141.

Sejanus albosignatus [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*, *Clianthus 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. baileyana* [= *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 *Pananychus 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^A

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)^A**

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^E**

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^E**

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^A

Campylomma Reuter, 1878: 52. Type species: *Campylomma nigrinasuta* 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 Linnavuori, 1993: 240. *Sthenaromma* Linnavuori, 1975: 108 (as subgenus of *Campylomma*). Type species: *Campylomma acaciae* Linnavuori, 1961, by original designation. Synonymised by Linnavuori, 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^A**

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^E

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).

Cyrtodiridius aurantiacus Eyles & Schuh, 2003^E

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^E

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).

Halormus velifer Eyles & Schuh, 2003^E

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^A

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)^A

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 & AliNiazee, 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^E

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^E

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 *Prumnopytis 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^E

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^E

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^E

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^E

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* (*prostrata* 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^E**

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^E**

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^E

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^E**

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^E

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^E**

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** ^E

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 *Lepidophthannus 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** ^E

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)** ^E

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 *Alnus*, *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 *Alnus*) 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** ^E

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** ^E

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 (bionomics, 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^N

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^N

Australonabis Strommer, 1988: 80 (as subgenus of *Nabis*). Type species: *Reduviolus biformis* Bergroth, 1927, by original designation.

Geographic distribution. Australia, New Zealand.

Reference. Cassis & Gross, 1995: 220 (Australia, catalogue).

Nabis (*A.*) *biformis* (Bergroth, 1927)^N

Reduviolus 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^N

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^A

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^E

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 Bergröth, 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^N

Subgenus *Alloeorhynchus* Fieber, 1860^N

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 Bergröth, 1927^E

Alloeorhynchus [sic] myersi Bergröth, 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. Epigeal (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). Papáèk, 2000 (biology, economic importance, world).

Subfamily ANISOPINAE

Genus *Anisops* Spinola, 1837^N

Anisops Spinola, 1837: 58. Type species: *Anisops sardeus* 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 ^E

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 ^E

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 ^N

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^E**

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)^N**

Aelia nasalis Westwood, 1837: 32. Syntypes*, five specimens (OUME); Melville Island, Northern Territory; Australia (as New Holland).

Asopus nummularis 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 nasalis turbotti* Woodward, 1950^E**

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^N

Oechalia Stål, 1862: 93. Type species: *Pentatoma schellenbergii* Guérin, 1831, by subsequent designation (Kirkaldy, 1909b: 25).

Hawaiicola Kirkaldy, 1909e: 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)^N

Pentatoma schellenbergii [sic] Guérin, 1831: plate 11, figure 9. Syntypes* (MNHP); Port Jackson, New South Wales, Australia (see Guérin-Méneville, 1838: 166).

Pentatoma consociata 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). Predacious; known to feed on the larvae of Lepidoptera (mostly; several families), Coleoptera (leaf beetles, weevils). Enemies: Eggs parasitised by scelionid wasps (e.g., *Trisolcus 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^A

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)^A

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^A

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)^A

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^N

Zangis Stål, 1867: 514. Type species: *Rhaphigaster amyoti* Dallas, 1851: 278, designated by Kirkaldy, 1909b. Pre-occupied.

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)^N

Rhaphigaster 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^A

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)^A

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^A

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^A**

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^E**

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^E**

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. Epigeal, 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 REDUVIDAE**Assassin 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^A

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^A

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). Off-shore 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 *Ploiaria* Scopoli, 1786^N

Ploiaria Scopoli, 1786: 60. Type species: *Ploiaria domestica* Scopoli, 1786, by monotypy.

Cerascopus Heineken, 1830: 36. Type species: *Cerascopus marginatus* Heineken, 1830 (= *Ploiaria domestica* Scopoli, 1786), by monotypy. Synonymised by Van Duzee, 1917: 235.

Ploearia Burmeister, 1835: 211. Unjustified emendation.

Emesodema Spinola, 1837: 84. Type species: *Ploiaria 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.

Ploiariopsis Champion, 1898: 173. Type species: *Ploiariopsis 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 gaboensis* Villiers, 1948, by original designation. Synonymised by Wygodzinsky, 1966: 158.

Wahrmania Dispons, 1964: 71. Type species: *Wahrmania katznelsoni* Gispons, 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 *Ploiaria antipodum* Bergroth, 1927^E

Ploearia [*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).

Ploiaria antipodum: Wygodzinsky, 1950a: 246.

Ploiaria 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, *antipodum*, is a valid Latin plural genitive.

***Ploiaria chilensis* (Philippi, 1862)^N**

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.

Ploiaria canariensis Noulhier, 1895: 168. Syntypes* (probably MNHP): "Iles Canaries, Ténérife (Santa Cruz!); Grande Canarie, Arganiguin (*Ch. Alluaud*).” Synonymised by Wygodzinsky, 1948: 473.

Ploiaria huttoni: Kirkaldy, 1909a: 26.

Ploearia [sic] *huttoni*: Bergroth, 1923: 398.

Ploiaria chilensis: Wygodzinsky, 1966: 177.

Geographic distribution (Map p. 312). North Island: AK, BP, GB, RI, TK, TO, WA, WN, WO. South Island: BR, NN. Extralimital 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 PLOIARIOLINI**Genus *Empicoris* Wolff, 1811^N**

Empicoris Wolff, 1811: iv. Type species: *Cimex vagabundus* Linnaeus, 1758, by monotypy.

Ploiariodes White, 1881: 58. Type species: *Ploiariodes whitei* Blackburn, 1881, by monotypy. Synonymised by McAtee & Malloch, 1923: 162.

Ploeariodes Lethierry & Severin, 1896: 71. Unjustified subsequent spelling.

Ploiariola Reuter, 1888: 357. Type species: *Cimex vagabundus* Linnaeus, 1758, by original designation. Synonymised with *Ploiariodes* by Champion, 1898: 162.

Ploeariola Bergroth, 1906: 305. Unjustified subsequent spelling.

Corempis Dispons, in Stichel, 1959: 85. Type species: *Ploiaria xambeui* Montandon, 1885, by monotypy. Synonymised by Wygodzinsky, 1966: 366.

Empicorella Dispons, in Stichel, 1959: 97. Type species: *Empicoris tingitanus* Dispons, 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)^E**

Ploeariodes 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)^E**

Ploeariodes 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)^N**

Ploiariodes rubromaculata Blackburn, 1889: 349. Holotype* female (BPBM); Hawaii, Mauna Loa.

Ploiariodes euryale Kirkaldy, 1908b: 372. Lectotype* male (BPBM; designated by Wygodzinsky, 1966, according to Cassis & Gross (1995)). Synonymised by McAtee & Malloch, 1922: 95.

Ploiariodes 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.

Ploeariodes [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 Dispons, 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 Dispons, 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 Dispons, 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 (Bergroth, 1927)^E

Ploeariodes seorsus Bergroth, 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. [Planticolous, 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). Linnavuori, 1978 (Sudan, taxonomy). Scudder, 1978 (taxonomy, types, world). Woodward, 1978 (Australia, taxonomy). Malipatil, 1979a, 1980a (Australia, biology, cytotaxonomy, 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^A

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^A

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^A

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. Epigeal. [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. leucoxyton* (Myrtaceae), *Freycinetia* (Pandanaeae). 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^N

Tomocoris Woodward, 1953b: 212. Type species: *Tomocoris truncatus* Woodward, 1953b, by original designation.

Longihastrum Woodward, 1953b: 214. Type species: *Longihastrum 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)^E**

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. Epigeal. 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^E**

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. [Epigeal.] 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^N

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)^E**

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. Epigeal. *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^A

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)^A**

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^A

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^A**

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.] Epigeal. [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^N

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^N**

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. [Epigeal, 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^A

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).

Horridipamera robusta Malipatil, 1978^A

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^N

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)^N

Rhyparochromus inornatus Walker, 1872: 112. Lectotype* male (designated by Scudder, 1967; BMNH); New Zealand.

Plociomerus inornatus: Hutton, 1898b: 174.

Pamera inornata: Alfken, 1904: 599.

Orthoëa [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)^N**

Rhyparochromus nigriceps Dallas, 1852: 577. Lectotype* female (designated by Scudder, 1967; BMNH); Hawaii (as Sandwich Islands).

Plociomerus nigriceps: Mayr, 1868: 128.

Pamera 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.

Pamera douglasi: Lethierry & Severin, 1894: 192.

Orthoëa [sic] *nigriceps*: Kirkaldy, 1902c: 159; Myers, 1926: 482.

Orthoëa (*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. Epigeal, 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^A

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)^A**

Rhyarochromus 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. Epigeal (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^N

Stizocephalus Eyles, 1970b: 500. Type species: *Stizocephalus brevis* 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 brevis* Eyles, 1970^N**

Type photograph p. 271.

Stizocephalus brevis 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. Epigeal. 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^E**

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^E**

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^E

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^E

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. Epigeal. 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)^E

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. [Epigeal.] 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^E

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. Epigeal. [*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^E

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. Epigeal. [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^N

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^E**

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. Epigeal. Collected in *Chionochloa* and *Poa* humus, and under stones near these plants; also in mat plants. Seasonality: January (adults, tenerals). [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^E**

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. Epigeal. 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 *Metagera* White, 1878^E

Metagera White, 1878a: 34. Type species: *Metagera 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).

***Metagera angusta* Eyles, 1967^E**

Type photograph p. 269.

Metagera 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. Epigeal. 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).

***Metagera helmsi* (Reuter, 1890)^E**

Paresuris helmsi Reuter, 1890: 192. Holotype* female (UZMH); New Zealand.

Metagera helmsi: Bergroth, 1892: 264; Malipatil, 1976: 307.

Paresuris 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. Epigeal, 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*, *Meliccytus 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), *Paresuris 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^E**

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. Epigeal. [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^E**

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. Epigeal, 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^E**

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. Epigeal. [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^E

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)^E

Type photograph p. 270.

Eminocoris conus Eyles, 1967: 411. Holotype male (NZAC); ND, Unuwahao, 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, Unuwahao (AMNZ, NZAC). Te Paki Trig (NZAC). Waimatenui (AMNZ).

Biology. Terrestrial. Lowland, montane. Epigeal. 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^E

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. Epigeal, [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^E

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)^E

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. Epigeal. [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^E

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^E

Type photograph p. 271.

Regatarma forsteri Woodward, 1953b: 197. Holotype male (CMNZ); RI, Raetihī.

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. Epigeal. [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 (teneral); 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 stephensis* [sic]). Malipatil, 1977c (distribution, taxonomy). Wise, 1977: 123 (checklist, New Zealand; as *R. forsteri*, *R. forsteri obsolescens*, *R. forsteri stephensis*). Slater & O'Donnell, 1995: 111 (catalogue, world).

Genus Targarema White, 1878^E

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^E

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. Epigeal, 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 *Brachyglottis repanda* (adults, teneral, and nymphs together), *Carex*, and in the soil at the base of *Gahnia procera*. Seasonality: Throughout the year, mostly January to March (adults); December (teneral); 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^E

Targarema stali White, 1878a: 73. Lectotype* female (designated by Scudder, 1967; BMNH); New Zealand.

Targarema staali [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. Epigeal, planticolous, arboreal. Found in broadleaf–podocarp, *Nothofagus*, mixed forests, and adjoining areas; also in *Pinus radiata* plantations. Collected in leaf litter (adults and teneral) 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 *Brachyglottis 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 avicemiifolia*, *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^E

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^E

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. Epigeal. 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^E

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. [Epigeal.] 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^E

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. Epigeal. 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^E

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. Epigeal. 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^E

Trypetocoris Woodward, 1953b: 216. Type species:
Trypetocoris rudis 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^E**

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. Epigeal. 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 rudis* Woodward, 1953^E**

Type photograph p. 273.

Trypetocoris rudis Woodward, 1953b: 216. Holotype male (CMNZ); SL, Orepuke.

Geographic distribution (Map p. 316). South Island: BR, FD, NN, SL. Stewart Island.

Biology. Terrestrial. Lowland, montane. Epigeal. 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^E**

Type photograph p. 273.

Trypetocoris separatus Woodward, 1953b: 218. Holotype male (AMNZ); AK, Matakana.

Geographic distribution (Map p. 317). North Island: AK, CL, ND.

Biology. Terrestrial. Lowland (coastal). [Epigeal.] 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).

Genus *Woodwardiana* Malipatil, 1977^E

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)^E**

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. Epigeal (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 *Regaterma forsteri evagorata*). Slater & O'Donnell, 1995: 112 (catalogue, world).

***Woodwardiana nelsonensis* (Woodward, 1953)^E**

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. Epigeal. 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)^E**

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–Opoho Bush (OMNZ). Wangaloa, East of Kaitangata (Malipatil, 1977c). SL–Tapanui.

Biology. Terrestrial. Lowland, montane. [Epigeal.] 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^E**

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. Epigeal. 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^N

Udeocoris Bergroth, 1918: 310. Type species: *Pachymerus nigroaeneus* 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 levis* Eyles, 1971^E**

Type photograph p. 273.

Udeocoris levis 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. Epigeal. [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 macropterous, [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^N

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)^E

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)^E

Salda butleri White, 1878a: 160. Holotype male (BMNH); New Zealand.

Salda bulteri [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)^E

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^E**

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^E**

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^E**

Saldula stoneri Drake & Hoberlandt, 1950b: 1. Holotype* female, brachypterous (USNM); [BP], Hotorua [=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–Tahunanui [,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^E**

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 Rotorua (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^N

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^E**

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. Epigeal. 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^A

Subgenus *Stephanitis* Stål, 1873^A

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^A**

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 (Australasian 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^N

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^E**

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^N**

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)^E**

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. Off-shore 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. Predacious; 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 scree, 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.

corticolous — 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.

epigeal — 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., epigeal, 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>	browntop	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>	alysium	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 divulsa</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>Clianthus puniceus</i>	kaka beak	Fabaceae
<i>Collospermum hastatum</i>	kahakaha	Liliaceae
* <i>Colocasia esculenta</i>	taro	Araceae
* <i>Conium maculatum</i>	hemlock	Apiaceae
* <i>Conyza 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
Cyperaceae	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 australe</i>	horokaka	Aizoaceae
<i>Dodonaea viscosa</i>	akeake	Sapindaceae
<i>Dodonaea viscosa</i> var. <i>purpurea</i>	pink akeake	Sapindaceae
<i>Dolichoglottis scorzoneroides</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>	kohekohe	Meliaceae
<i>Einadia triandra</i>	poipapa	Chenopodiaceae
<i>Elaeocarpus</i>	hinau	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>	—	Thymelaeaceae
<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>	rauhua	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>Meliccytus 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. <i>cliffortioides</i>	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>	tweedia	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 eugenioides</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-leafed 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>	haumakaroa	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>	kamaha	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/000°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
Altmarlock 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
Earnsclough, 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
Hanmer Forest Park, MB	4233/17253	Koruenga Island, CL	3644/17550
Hastings, HB	3939/17651	Kyeburn, CO	4509/17015
Hawkdun Range, CO	4449/16959	Lake Alabaster, WD	4431/16809
Haywards Point, SL	4630/16943	Lake Benmore, MK	4432/17012
Head Basin, Takahe Valley, FD	4518/16737	Lake Hankinson, Te Anau, FD	4504/16734
Helena Bay, ND	3526/17421	Lake Janet, Mount Grey, NC	4308/17233
Henderson, Auckland, AK	3652/17438	Lake Manapouri, FD	4531/16719
Herbert Peak Scenic Reserve, Banks Peninsula, MC	4342/17245	Lake McArthur, Dusky Sound, FD	4553/16639
Herne Bay, Auckland, AK	3651/17444	Lake Monk, FD	4601/16701
Hilltop, MC	4345/17252	Lake Monowai, FD	4553/16725
Hobson Co, AK	—/—	Lake Ohau, MK	4415/16949
Hokitika Gorge, WD	4257/17102	Lake Ohia, ND	3458/17322
Homer (Tunnel), FD	4446/16759	Lake Orbell, FD	4518/16740
Hoods Bush, Malvern, MB	4146/17334	Lake Pukaki, Te Kohai Island, MK	4410/17008
Hoods Bush, Malvern Hills, MC	4328/17148	Lake Rerewhakaaitu, BP	3818/17630
Hope River bridge, BR/NC	4235/17227	Lake Rotoiti, BR	4149/17250
Hope Stream Valley, CL	3634/17523	Lake Rotoroa, BR	4149/17237
Horahora, ND	3541/17429	Lake Sedgemere, MB	4208/17255
Horahora, WO	3759/17538	Lake Sylvester, NN	4106/17238
Huia, AK	3700/17434	Lake Te Au, FD	4515/16723
Hunter Mountains, FD	4540/16724	Lake Tekapo, MK	4352/17034
Hunters Hills, SL	4627/16921	Lake Tennyson, MB	4212/17243
Hunua Ranges, Hunua Falls, AK	3704/17506	Lake Tikitapu Scenic Reserve, BP	3811/17620
Hunua Ranges, Otau Valley, AK	3701/17504	Lake Waikaremoana, GB	3846/17705
Hydro Road, Lake Benmore, MK	4420/17010	Lake Wairarapa, WA	4114/17513
Invercargill, SL	4625/16822	Lake Wakatipu, OL	4506/16832
Island Bay, WN	4120/17446	Lees Valley, NC	4309/17212
Island Saddle, MB	4211/17248	Leith, DN	4548/17031
Iwikau Village, Mount Ruapehu, TO	3914/17534	Leslie Valley, FD	4500/16717
Kaeo, ND	3506/17346	Lincoln, MC	4338/17229
Kaherekoau Mountains, Lake Monowai, FD	4554/16723	Little Barrier Island, CL	3612/17505
Kaihoka Lakes, NN	4033/17236	Little Barrier Island, Awaroa Stream, CL	3613/17504
Kaikohe, ND	3524/17348	Little Bush, Puketitiri, HB	3919/17632
Kaimanawa Forest Park, TO	3857/17610	Little Hellfire Beach, SI	4652/16745
Kaimanawa Road, S Taupo, TO	3907/17549	Little Kuri Bay, SI	4707/16808
Kaitaia, ND	3507/17316	Little Kye Burn, Naseby—Dansey Pass Roads, CO	4500/17013
Kaitoke, WN	4105/17510	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 Mounaki, 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 Dewar 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
Manginangina 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		
Maunapaki, CL	3658/17534	Napier, HB	3930/17654
Maungataniwha Range, ND	3510/17327	Nelson, NN	4117/17317
Mercury Islands, Red Mercury Island, CL	3637/17556	Nelson Lakes National Park, BR	4156/17241
Mercury Islands, Stanley (Atiu) Island, CL	3638/17553	Nervous Knob, Craigieburn Range, MC	4308/17140
Meyer Island, KE	2915/17752	Nevis Valley, CO	4504/16902
Middle Range, Kaweka Range, HB	3914/17620	New Plymouth, TK	3904/17404
Mill Bay, AK	3700/17436	Newmarket, Auckland, AK	3652/17447
Minaret Peaks, Lake Wanaka, OL	4426/16900	Ngaio, WN	4115/17446
Miranda, AK	3711/17519	Ngaiotonga, ND	3519/17418
Mitimiti, ND	3526/17316	Ngaiotonga Scenic Reserve, ND	3520/17415
Moana (Lake Brunner), BR	4237/17127	Nihotupu, AK	3658/17435
Moerewa, ND	3523/17401	Noises Islands, Motuoropapa Island, AK	3641/17458
Mohaka River, HB/GB	3907/17707	Noises Islands, Otata Island, AK	3641/17458
Motutapu Island, AK	3646/17455	Norfolk Road (to Mount Holdsworth), WN	—/—
Mount Albert, Auckland, AK	3653/17443	North Cape, ND	3425/17303
Mount Alexander, NC	4254/17249	North East Island, TH	3408/17210
Mount Algidus, MC	4314/17121	North Egmont, TK	3916/17403
Mount Alpha, OL	4443/16904		
Mount Arowhana, GB	3807/17752	Oaro, KA	4231/17330
Mount Arthur, NN	4113/17241	Obelisk Range, CO	4519/16913
Mount Arthur Tableland, NN	4111/17240	Ohakune, TO	3925/17525
Mount Aurum, OL	4446/16838	Ohau River, WN	4040/17510
Mount Barber, FD	4530/16713	Ohena Islands, CL	3644/17550
Mount Burns, FD	4545/16725	Ohoka, NC	4322/17235
Mount Camel Peninsula, ND	3449/17310	Ohura, TK	3851/17459
Mount Cook National Park, MK	4337/17010	Okarito, WD	4314/17010
Mount Cook National Park, Kea Wal, MK	4342/17004	Old Man Range, CO	4523/16913
Mount Dewar, BR	4205/17133	Omahuta State Forest, ND	3512/17337
Mount Dick, Eyre Mountain, OL	4516/16840	Omeru Scenic Reserve, AK	3633/17428
Mount Domett, NN	4104/17219	Omihi, KA	4302/17251
Mount Dundas, WN	4044/17527	Oparara, NN	4113/17209
Mount Egmont, Kapuni Valley, TK	3928/17411	Opoho Bush, DN	4551/17032
Mount Egmont, Manganui Gorge, TK	3917/17417	Orakei, Auckland, AK	3651/17450
Mount Egmont, Plateau, TK	3916/17403	Orakeikorako, TO	3829/17609
Mount Egmont/Taranaki, TK	3918/17404	Orepuki, SL	4617/16744
Mount Grey, FD	4533/16714	Orongorongo Valley, WN	4125/17454
Mount Hector, Tararua Range, WN	4057/17517	Otaki, WN	4046/17509
Mount Hutt, MC	4328/17132		

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
Parengarenga 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
Puketii 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	Tarako 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 Pahi, ND	3433/17247	Waipoua Forest, Yakas Tree track, ND	3537/17332
Te Rereauira, 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, Ruamahuaiti 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
		Westland National Park, adjacent Canavans Knob, WD	4323/17010
Unuwaho, North Cape, ND	3426/17253	Westland National Park, Castle Rocks Valley, WD	4327/17009
Upper Hollyford Valley, Homer, FD	4446/16759	Westport, NN	4146/17136
Upper Hutt, WN	4107/17504	Whakapapa Village, Mount Ruapehu, TO	3912/17533
Upper Takaka, NN	4103/17251	Whakapara, ND	3532/17416
Upper Wairau Valley, Lake Sedgemere, MB	4208/17254	Whakarewarewa, BP	3810/17615
Upper Wairau Valley, Wairau Bridge above Judges Creek, MB	4204/17256	Whakarewarewa State Forest, BP	3812/17618
Urewera National Park, Huiarau Range, Putaihinu Ridge, GB	3837/17704	Whangamoa Saddle, NN	4113/17326
		Whangarei, ND	3543/17419
Victoria Range, Rahu Saddle, BR	4219/17207	Whangarei Heads, ND	3552/17432
Vinegar Hill Reserve (Upper Rangitikei River), RI	3955/17537	Whareana, North Cape, ND	3428/17300
Waiau, NC	4239/17303	Whenuapai, AK	3647/17438
Waiho Gorge/River, WD	4325/17010	Whinray Scenic Reserve, BP	3814/17733
Waihohonu, TO	3912/17545	Wilberforce Valley, Burnet Stream, MC	4303/17122
Waikaia [River] Bush, Whitcomb Creek, CO	4534/16905	Wilmot Pass, FD	4531/16711
Waikanae, WN	4053/17504	Wilton's Bush, WN	4116/17445
Waikawau Bay, CL	3636/17532	Woodhaugh Reserve, DN	4551/17030
Waikumete, Auckland, AK	3654/17437	Woodhill, AK	3644/17425
Waimate, SC	4444/17103	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

Oncacantias vittatus ^E
Rhopalimorpha (*Lentimorpha*)
alpina ^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris ^E
Rhopalimorpha (*Rhopalimorpha*)
obscura ^E

Aenictopecheidae

Aenictocoris powelli ^E
Maoristolus parvulus ^E
Maoristolus tonnoiri ^E
Nymphocoris maoricus ^E

Anthocoridae

Buchananiella whitei ^N
Cardiastethus brounians ^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

Carldrakeana socia ^N
Cyperobia carectorum ^E

Ceratocombidae

Ceratocombus aotearoae ^E
Ceratocombus novaezealandiae ^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
Sigara (*Tropocorixa*) *potamius* ^E
Sigara (*Tropocorixa*) *uruana* ^E

Cydniidae

Chilocoris neozealandicus ^N
Cydnocorixus nigrosignatus ^E
Macroscytus australis ^N
Microporus thoreyi ^A

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E
Phthirostenus magnus ^E
Systelloderes maclachlani ^E
Systelloderes notialis ^E

Gerridae

Halobates sericeus ^N

Heterogastridae

Heterogaster urticae ^A

Hydrometridae

Hydrometra strigosa ^N

Lygaeidae

Arocatus rusticus ^A
Lepiorsillus tekapoensis ^E
Nysius convexus ^E
Nysius huttoni ^E
Nysius liliputanus ^E
Rhyphodes anceps ^E
Rhyphodes argenteus ^E
Rhyphodes atricornis ^E
Rhyphodes brachypterus ^E
Rhyphodes brevifissas ^E
Rhyphodes brevipilis ^E
Rhyphodes bucculentus ^E
Rhyphodes celmisiae ^E
Rhyphodes chinai ^E
Rhyphodes clavicornis ^E
Rhyphodes cognatus ^E
Rhyphodes crinitus ^E
Rhyphodes depilis ^E
Rhyphodes eminens ^E
Rhyphodes gracilis ^E
Rhyphodes hirsutus ^E
Rhyphodes jugatus ^E
Rhyphodes koebeleri ^E
Rhyphodes longiceps ^E
Rhyphodes longirostris ^E
Rhyphodes myersi ^E
Rhyphodes rupestris ^E
Rhyphodes russatus ^E
Rhyphodes sericatus ^E
Rhyphodes spadix ^E
Rhyphodes stewartensis ^E
Rhyphodes townsendi ^E
Rhyphodes triangulus ^E

Mesoveliidae

Mesovelvia hackeri ^A
Mniovelvia kuscheli ^E

Mirididae

Aenoxochus 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 vesus ^E
Bipuncticoris xestus ^E
Campylomma novocaledonica ^A
Chaetodus longiceps ^N
Chaetodus plumalis ^N
Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris brachycerus ^E
Chinamiris citrinus ^E

Chinamiris cumberi ^E
Chinamiris daviesi ^E
Chinamiris dracophylloides ^E
Chinamiris elongatus ^E
Chinamiris fascinans ^E
Chinamiris guttatus ^E
Chinamiris hamus ^E
Chinamiris indeclivis ^E
Chinamiris juvans ^E
Chinamiris laticinctus ^E
Chinamiris marmoratus ^E
Chinamiris minutus ^E
Chinamiris muehlenbeckiae ^E
Chinamiris niculatus ^E
Chinamiris nigrifrons ^E
Chinamiris opacus ^E
Chinamiris ovatus ^E
Chinamiris punctatus ^E
Chinamiris quadratus ^E
Chinamiris rufescens ^E
Chinamiris secundus ^E
Chinamiris testaceus ^E
Chinamiris unicolor ^E
Chinamiris virescens ^E
Chinamiris viridicans ^E
Chinamiris whakapapae ^E
Chinamiris zygotus ^E
Closterotomus norwegicus ^A
Coridromius variegatus ^A
Cyrtodiridius aurantiacus ^E
Cyrtorhinus cumberi ^E
Deraeocoris maoricus ^E
Diomocoris fasciatus ^E
Diomocoris granosus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Diomocoris punctatus ^E
Diomocoris raoulensis ^E
Diomocoris russatus ^E
Diomocoris sexcoloratus ^E
Diomocoris woodwardi ^E
Engytatus nicotianae ^A
Felisacus elegantulus ^N
Halormus velifer ^E
Halticus minutus ^A
Josemiris carvalhoi ^E
Kiwimiris bipunctatus ^E
Kiwimiris coloratus ^E
Kiwimiris concavus ^E
Kiwimiris melanocerus ^E
Kiwimiris niger ^E
Lincolnia lucernina ^E
Lopus decolor ^A
Mecenopa albiapex ^E
Megaloceroea recticornis ^A
Monopharsus annulatus ^E
Monospatha distincta ^E
Peritropis aotearoae ^E
Pimeleocoris luteus ^E
Pimeleocoris roseus ^E
Pimeleocoris viridis ^E
Polyozus galbanus ^E
Reuda mayri ^E

Romna albata ^E
Romna bicolor ^E
Romna capsoides ^E
Romna cuneata ^E
Romna nigrovenosa ^E
Romna oculata ^E
Romna ornata ^E
Romna pallida ^E
Romna scotti ^E
Romna tenera ^E
Romna uniformis ^E
Romna variegata ^E
Sejanus albignatus ^N
Sidnia kinbergi ^A
Stenotus binotatus ^A
Taylorilygus apicalis ^A
Tingnotum minutum ^N
Trigonotylus tenuis ^A
Tuicoris excelsus ^E
Tuicoris lipurus ^E
Tyththus chinensis ^A
Wekamiris auropilosus ^E
Xiphoides badius ^E
Xiphoides luteolus ^E
Xiphoides multicolor ^E
Xiphoides myersi ^E
Xiphoides regis ^E
Xiphoides vacans ^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 hudsoni ^E
Cermatulus nasalis nasalis ^N
Cermatulus nasalis turbotti ^E
Cuspicona simplex ^A
Dictyotus caenosus ^A
Glaucias amyoti ^N
Hypsithocus hudsonae ^E
Monteithiella humeralis ^A
Nezara viridula ^A
Oechalia schellenbergii ^N

Reduviidae

Empicoris aculeatus ^E
Empicoris angulipennis ^E
Empicoris rubromaculatus ^N
Empicoris seorsus ^E
Ploiaria antipodum ^E
Ploiaria chilensis ^N
Stenolemus fraterculus ^A

Rhyparochromidae

Brentiscerus putoni ^E

Dieuches notatus ^A
Forsterocoris bisinuatus ^E
Forsterocoris salmoni ^E
Forsterocoris sinuatus ^E
Forsterocoris stewartensis ^E
Geratarma eylesi ^E
Geratarma manapourensis ^E
Grossander major ^A
Horridipamera robusta ^A
Margareta dominica ^E
Metagerra angusta ^E
Metagerra helmsi ^E
Metagerra kaikourica ^E
Metagerra obscura ^E
Metagerra truncata ^E
Millerocoris conus ^E
Millerocoris ductus ^E
Paradrymus exilirostris ^A
Paramyocara iridescens ^N
Paratruncala insularis ^E
Plinthisus (Locutius) woodwardi ^A
Regatarma forsteri ^E
Remaudiereana inornata ^N
Remaudiereana nigriceps ^N
Stizocephalus brevirostris ^E
Targarema electa ^E
Targarema stali ^E
Tomocoris ornatus ^E
Tomocoris truncatus ^E
Truncala hirsuta ^E
Truncala hirta ^E
Truncala insularis ^E
Truncala sulcata ^E
Trypetocoris aucklandensis ^E
Trypetocoris rudis ^E
Trypetocoris separatus ^E
Udeocoris levis ^E
Woodwardiana evagorata ^E
Woodwardiana nelsonensis ^E
Woodwardiana notialis ^E
Woodwardiana papparia ^E

Saldidae

Saldula australis ^E
Saldula butleri ^E
Saldula laelaps ^E
Saldula maculipennis ^E
Saldula parvula ^E
Saldula stoneri ^E
Saldula trivialis ^E

Schizopteridae

Hypselosoma acantheen ^E

Tingidae

Stephanitis (Stephanitis) rhododendri ^A
Tanybyrsa cumberi ^E

Veliidae

Microvelia macgregori ^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

Oncacantias 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
Maoricoris benefactor ^E
Xylocoris (*Proxylocoris*)
galactinus ^A

Aradidae

Acaraptera myersi ^E
Aneuris (*Aneurodellus*) *brouni* ^E
Aneuris (*Aneurodellus*) *maoricus* ^E
Aneuris (*Aneurodellus*)
prominens ^E
Aneuris (*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 novaezealandiae ^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 novaezealandiae ^N

Enicocephalidae

Systelloderes maclachlani ^E

Heterogastridae

Heterogaster urticae ^A

Hydrometridae

Hydrometra strigosa ^N

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes clavicornis ^E

Mesoveliidae

Mesovelia hackeri ^A
Mniovelia kuscheli ^E

Miridae

Bipuncticoris triplex ^E
Chaetodus longiceps ^N
Chaetodus reuterianus ^E
Chinamiris aurantiacus ^E
Chinamiris cumberi ^E
Chinamiris elongatus ^E
Chinamiris fascians ^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 kinbergi ^A
Stenotus binotatus ^A
Taylorilygus apicalis ^A
Tingnotum 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 antipuncti ^E
Ploiaria chilensis ^N
Stenolemus fraterculus ^A

Rhyparochromidae

Brentiscerus putoni ^E
Dieuches notatus ^A
Grossander major ^A
Horridipamera robusta ^A
Margareta dominica ^E
Paramyocara iridescens ^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

Oncacantias vittatus ^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris ^E
Rhopalimorpha (*Rhopalimorpha*)
obscura ^E

Aenictopecheidae

Maoristolus tonnoiri ^E

Anthocoridae

Cardiastethus consors ^E

Cardiastethus poweri ^E
Lyctocoris (*Lyctocoris*)
campestris ^A

Aradidae

Acaraptera myersi ^E
Aneurus (*Aneurodellus*) *brouni* ^E
Aneurus (*Aneurodellus*) *maoricus* ^E
Aneurus (*Aneurodellus*)
prominens ^E
Aneurus (*Aneurodellus*)
zealandensis ^E

Aradus australis ^N

Chinamyersia cinerea ^E
Ctenoneurus hochstetteri ^E
Ctenoneurus pendergrasti ^{E, R}
Ctenoneurus setosus ^E
Isodermus maculosus ^E
Neocarventus angulatus ^E
Tretocoris grandis ^E
Woodwardiessa quadrata ^E

Ceratocombidae

Ceratocombus aotearoae ^E
Ceratocombus novaezealandiae ^E

Coreidae

Acantholybas brunneus ^A

Corixidae

Diaprepocoris zealandiae ^E
Sigara (*Tropocorixa*) *arguta* ^E
Sigara (*Tropocorixa*) *infrequens* ^E
Sigara (*Tropocorixa*) *limnochaeres* ^E

Cydnidae

Macroscytus australis ^N

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E

Hydrometridae

Hydrometra strigosa ^N

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyodes brevifissas ^E
Rhyodes clavicornis ^E
Rhyodes hirsutus ^E
Rhyodes koebelei ^E
Rhyodes stewartensis ^E

Mesoveliidae

Mniovelia kuscheli ^E

Miridae

Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris indeclivis ^E
Chinamiris laticinctus ^E
Chinamiris muehlenbeckiae ^E
Chinamiris ovatus ^E
Chinamiris testaceus ^E
Chinamiris zygotus ^E
Closterotomus norwegicus ^A
Deraeocoris maoricus ^E
Diomocoris fasciatus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E

Diomocoris sexcoloratus ^E

Felisacus elegantulus ^N

Halticus minutus ^A

Lopus decolor ^A

Mecenopa albiapex ^E

Reuda mayri ^E

Romna scotti ^E

Romna tenera ^E

Sejanus albisignatus ^N

Sidnia kinbergi ^A

Stenotus binotatus ^A

Tingitotum minutum ^N

Tuicoris lipurus ^E

Wekamiris auropilosus ^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 rubromaculatus ^N

Ploiaria antipodum ^E

Ploiaria chilensis ^N

Stenolemus fraterculus ^A

Rhyparochromidae

Brentiscerus putoni ^E

Dieuches notatus ^A

Margareta dominica ^E

Metagerra helmsi ^E

Metagerra obscura ^E

Paramyocara iridescens ^N

Plinthisus (*Locutius*) *woodwardi* ^A

Remaudiereana inornata ^N

Targarema electa ^E

Targarema stali ^E

Udeocoris levis ^E

Saldidae

Saldula parvula ^E

Tingidae

Tanybyrsa cumberi ^E

Veliidae

Microvelia macgregori ^E

CL

88 taxa

E, 60; N, 15; A, 13; R, 1.

Acanthosomatidae

Oncacantias vittatus ^E

Rhopalimorpha (*Rhopalimorpha*)

lineolaris ^E

Rhopalimorpha (*Rhopalimorpha*)
obscura ^E

Anthocoridae

Buchananiella whitei ^N

Cardiastethus brounianus ^E

Cardiastethus consors ^E

Cardiastethus poweri ^E

Aradidae

Acaraptera myersi ^E

Adenocoris spiniventris ^E

Aneurus (*Aneurodellus*) *brouni* ^E

Aneurus (*Aneurodellus*) *maoricus* ^E

Aneurus (*Aneurodellus*)
zealandensis ^E

Calisius zealandicus ^E

Carventaptera spinifera ^E

Ctenoneurus hochstetteri ^E

Ctenoneurus setosus ^E

Leuraptera zealandica ^E

Neocarventus angulatus ^E

Neocarventus uncus ^E

Tretocoris grandis ^E

Woodwardiessa quadrata ^E

Ceratocombidae

Ceratocombus aotearoae ^E

Ceratocombus novaezealandiae ^E

Cydnidae

Chilocoris neozealandicus ^N

Macroscytus australis ^N

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Systelloderes maclachlani ^E

Hydrometridae

Hydrometra strigosa ^N

Lygaeidae

Nysius huttoni ^E

Rhyodes clavicornis ^E

Rhyodes koebelei ^E

Mesoveliidae

Mniovelia kuscheli ^E

Miridae

Chaetodus longiceps ^N

Chinamiris acutospinosus ^E

Chinamiris aurantiacus ^E

Chinamiris elongatus ^E

Chinamiris indeclivis ^E

Chinamiris laticinctus ^E

Chinamiris testaceus ^E

Closterotomus norwegicus ^A

Diomocoris fasciatus ^E

Diomocoris maoricus ^E

Diomocoris ostiolum ^E

Diomocoris russatus ^E

Felisacus elegantulus ^N

Halticus minutus ^A

Lopus decolor ^A

Mecenopa albiapex ^E

Peritropis aotearoae ^{E, R}

Pimeleocoris luteus ^E

Romna ornata ^E

Sejanus albisignatus ^N

Sidnia kinbergi^A
Stenotus binotatus^A
Tingitotum minutum^N
Wekamiris auropilosus^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

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 iridescens^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
Trypetocoris separatus^E

Tingidae

Tanybyrsa cumberi^E

Veliidae

Microvelia macgregori^E

GB

60 taxa

E, 39 N, 10; A, 11; R, 1.

Acanthosomatidae

Oncacantias 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
Rhyphodes clavicornis^E
Rhyphodes crinitus^E
Rhyphodes koebelii^E
Rhyphodes longirostris^{E, R}
Rhyphodes stewartensis^E

Mesoveliidae

Mniovelia kuscheli^E

Miridae

Chaetodus reuterianus^E
Chinamiris acutospinosus^E
Chinamiris aurantiacus^E
Chinamiris brachycerus^E
Chinamiris elongatus^E
Chinamiris viridicans^E
Closterotomus norwegicus^A
Cyrtorhinus cumberi^E
Deraecoris 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 auropilosus^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
Nezara viridula^A
Oechalia schellenbergii^N

Reduviidae

Ploiaria antipodum^E
Ploiaria chilensis^N
Stenolemus fraterculus^A

Rhyparochromidae

Plinthisus (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

Oncacantias vittatus^E
Rhopalimorpha (Rhopalimorpha) lineolaris^E
Rhopalimorpha (Rhopalimorpha) obscura^E

Anthocoridae

Cardiastethus poweri^E
Lyctocoris (Lyctocoris) campestris^A
Xylocoris (Proxylocoris) 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

Cydnidae

Macroscyrtus australis^N

Cymidae

Cymus novaezelandiae^N

Heterogastridae

Heterogaster urticae^A

Lygaeidae

Nysius huttoni^E
Rhyphodes brevifissas^E
Rhyphodes clavicornis^E
Rhyphodes hirsutus^E
Rhyphodes stewartensis^E

Miridae

Bipuncticoris gurri^{E, R}
Bipuncticoris triplex^E
Chaetodus 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 kinbergi^A
Stenotus binotatus^A
Taylorilygus apicalis^A
Tingnotum 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
Oncacantias 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}
Aneururus (Aneurodellus) brouni^E
Aneururus (Aneurodellus) zealandensis^E
Aradus australis^N
Calisius 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 novaezealandiae^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
Cydnidae
Chilocoris neozealandicus^N
Macroscytus australis^N
Microporus thoreyi^A
Cymidae
Cymus novaezealandiae^N
Enicocephalidae
Styelloderes maclachlani^E
Hydrometridae
Hydrometra strigosa^N
Lygaeidae
Arocatus rusticus^A
Nysius huttoni^E
Rhyphodes clavicornis^E
Rhyphodes koebeleji^E
Mesoveliidae
Mniovelia kuscheli^E

Miridae
Bipuncticoris vescus^E
Chaetodus longiceps^N
Chaetodus reuterianus^E
Chinamiris aurantiacus^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
Cyrtodiridium aurantiacus^E
Deraeocoris maoricus^E
Diomocoris fasciatus^E
Diomocoris maoricus^E
Diomocoris ostiolum^E
Engytatus 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 kinbergi^A
Stenotus binotatus^A
Taylorilygus apicalis^A
Tingnotum minutum^N
Trigonotylus tenuis^A
Tuicoris excelsus^E
Wekamiris auropilosus^E
Xiphoides badius^E
Xiphoides myersi^E
Nabidae
Alloeorhynchus 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 iridescens^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
Trypetocoris aucklandensis^{E, R}
Trypetocoris 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
Oncacantias 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
Rhyphodes clavicornis^E
Rhyphodes 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
Locus decolor^A

Megaloceroea relicticornis^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
Oncacantias 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
Rhyphodes clavicornis^E
Rhyphodes hirsutus^E
Rhyphodes stewartensis^E
Mesoveliidae
Mniovelia kuscheli^E
Miridae
Bipuncticoris robustus^{E, R}
Bipuncticoris triplex^E
Chinamiris acutospinosus^E
Chinamiris aurantiacus^E
Chinamiris citrinus^E
Chinamiris cumberi^E
Chinamiris indeclivis^E
Chinamiris nigrifrons^E

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
Oncacantias vittatus^E
Rhopalimorpha (Rhopalimorpha) lineolaris^E
Rhopalimorpha (Rhopalimorpha) obscura^E
Aenictopecheidae
Maoristolus tonnoiri^E
Anthocoridae
Cardiastethus consors^E
Aradidae
Acaraptera myersi^E
Adenocoris spiniventris^E
Aneurus (Aneurodellus) prominens^E

Aneurus (Aneurodellus) zealandensis ^E
Aradus australis ^N
Ctenoneurus hochstetteri ^E
Ctenoneurus myersi ^E
Ctenoneurus setosus ^E
Isodermus crassicornis ^E
Isodermus maculosus ^E
Neocarventus angulatus ^E
Tretocoris grandis ^E
Ceratocombidae
Ceratocombus aotearoae ^E
Ceratocombus novaezealandiae ^E
Corixidae
Sigara (Tropocorixa) arguta ^E
Sigara (Tropocorixa) infrequens ^E
Sigara (Tropocorixa) limnochares ^E
Cymidae
Cymus novaezealandiae ^N
Enicocephalidae
Systelloderes maclachlani ^E
Hydrometridae
Hydrometra strigosa ^N
Lygaeidae
Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes brevifissus ^E
Rhyphodes clavicornis ^E
Rhyphodes crinitus ^E
Rhyphodes hirsutus ^E
Rhyphodes koebelei ^E
Mesoveliidae
Mniodelia kuscheli ^E
Miridae
Anexochus crassicornis ^E
Bipuncticoris triplex ^E
Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris brachycerus ^E
Chinamiris citrinus ^E
Chinamiris cumberi ^E
Chinamiris elongatus ^E
Chinamiris fascians ^E
Chinamiris indeclivis ^E
Chinamiris laticinctus ^E
Chinamiris marmoratus ^E
Chinamiris nigrifrons ^E
Chinamiris ovatus ^E
Chinamiris testaceus ^E
Chinamiris viridicans ^E
Chinamiris whakapapae ^E
Chinamiris zygotes ^E
Closterotomus norwegicus ^A
Deraeocoris maoricus ^E
Diomocoris fasciatus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Lopus decolor ^A
Mecenopa albiapex ^E
Megaloceroea recticornis ^A
Pimeleocoris luteus ^E

Romna capsoides ^E
Romna scotti ^E
Romna tenera ^E
Romna variegata ^E
Sejanus albisignatus ^N
Sidnia kinbergi ^A
Stenotus binotatus ^A
Taylorilygus apicalis ^A
Tingnotum minutum ^N
Tuicoris excelsus ^E
Wekamiris auropilosus ^E
Xiphoides badius ^E
Xiphoides multicolor ^E
Xiphoides myersi ^E
Nabidae
Nabis (Australonabis) biformis ^N
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
Ploiaria chilensis ^N
Rhyparochromidae
Brentiscerus putoni ^E
Margareta dominica ^E
Metagerra helmsi ^E
Metagerra obscura ^E
Regatarma forsteri ^E
Remaudiereana inornata ^N
Targarema electa ^E
Targarema stali ^E
Truncala hirsuta ^E
Udeocoris levis ^E
Saldidae
Saldula stoneri ^E
Veliidae
Microvelia macgregori ^E

WA

51 taxa
E, 38; N, 5; A, 8; R, 1.

Acanthosomatidae
Oncaontias vittatus ^E
Rhopalimorpha (Rhopalimorpha) lineolaris ^E
Rhopalimorpha (Rhopalimorpha) obscura ^E
Anthocoridae
Buchananiella whitei ^N
Aradidae
Acaraptera myersi ^E
Chinamyersia cinerea ^E

Ctenoneurus hochstetteri ^E
Cantacaderidae
Carldrakeana socia ^N
Ceratocombidae
Ceratocombus aotearoae ^E
Corixidae
Diaprepocoris zealandiae ^E
Sigara (Tropocorixa) arguta ^E
Sigara (Tropocorixa) infrequens ^E
Sigara (Tropocorixa) limnochares ^E
Cymidae
Cymus novaezealandiae ^N
Enicocephalidae
Systelloderes maclachlani ^E
Lygaeidae
Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes anceps ^E
Rhyphodes chinai ^E
Rhyphodes clavicornis ^E
Rhyphodes koebelei ^E
Miridae
Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris fascians ^E
Chinamiris laticinctus ^E
Chinamiris ovatus ^E
Closterotomus norwegicus ^A
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Lopus decolor ^A
Pimeleocoris luteus ^E
Romna capsoides ^E
Sidnia kinbergi ^A
Stenotus binotatus ^A
Wekamiris auropilosus ^E
Xiphoides myersi ^E
Nabidae
Nabis (Tropiconabis) kinbergii ^A
Nabis (Tropiconabis) maoricus ^E
Notonectidae
Anisops assimilis ^E
Pentatomidae
Cermatulus nasalis nasalis ^N
Dictyotus caenosus ^A
Monteithiella humeralis ^A
Reduviidae
Empicoris angulipennis ^{E, R}
Ploiaria antipodum ^E
Ploiaria chilensis ^N
Rhyparochromidae
Margareta dominica ^E
Metagerra helmsi ^E
Metagerra obscura ^E
Regatarma forsteri ^E
Targarema stali ^E
Truncala hirsuta ^E

WI

62 taxa
E, 40; N, 9; A, 13; R, 2.

Acanthosomatidae

Oncacantias vittatus^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris^E
Rhopalimorpha (*Rhopalimorpha*)
obscura^E

Anthocoridae

Lyctocoris (*Lyctocoris*)
campestris^A

Aradidae

Adenocoris brachypterus^{E, R}
Aradus australis^N
Ctenoneurus setosus^E

Berytidae

Bezu wakefieldi^E

Cimicidae

Cimex lectularius^A

Corixidae

Diaprepocoris zealandiae^E
Sigara (*Tropocorixa*) *arguta*^E
Sigara (*Tropocorixa*) *infrequens*^E
Sigara (*Tropocorixa*) *limnochares*^E

Cydnidae

Macroscythus australis^N

Cymidae

Cymus novaezealandiae^N

Enicocephalidae

Systelloderes maclachlani^E

Lygaeidae

Arocatus rusticus^A
Nysius huttoni^E
Rhyphodes clavicornis^E
Rhyphodes koebeleii^E

Miridae

Chaetodus reuterianus^E
Chinamiris aurantiacus^E
Chinamiris cumberi^E
Chinamiris fascians^E
Chinamiris indeclivis^E
Chinamiris laticinctus^E
Chinamiris muehlenbeckiae^E
Chinamiris niculatus^{E, R}
Chinamiris virescens^E
Closterotomus norwegicus^A
Cyrtorhinus cumberi^E
Deraeocoris maoricus^E
Diomocoris maoricus^E
Diomocoris ostiolum^E
Engytatus nicotianae^A
Halormus velifer^E
Lopus decolor^A
Polyozus galbanus^E
Romna scotti^E
Sejanus albisignatus^N
Sidnia kinbergi^A
Stenotus binotatus^A
Wekamiris auropilosus^E
Xiphoides myersi^E

Nabidae

Nabis (*Australonabis*) *biformis*^N
Nabis (*Tropiconabis*) *kinbergii*^A
Nabis (*Tropiconabis*) *maoricus*^E

Notonectidae

Anisops assimilis^E

Pentatomidae

Cermatulus nasalis nasalis^N
Cuspicona simplex^A
Dictyotus caenosus^A
Monteithiella humeralis^A
Nezara viridula^A
Oechalia schellenbergii^N

Reduviidae

Empicoris rubromaculatus^N

Ploiaridae

Ploiaria antipodum^E

Rhyparochromidae

Metagerra helmsi^E
Metagerra obscura^E
Regatarma forsteri^E
Remaudiereana inornata^N
Targarema electa^E
Targarema stali^E

WN

109 taxa
E, 84; N, 13; A, 12; R, 4.

Acanthosomatidae

Oncacantias vittatus^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris^E
Rhopalimorpha (*Rhopalimorpha*)
obscura^E

Aenictopecheidae

Maoristolus tonnoiri^E

Anthocoridae

Cardiastethus brounianus^E
Cardiastethus consors^E

Aradidae

Adenocoris spiniventris^E
Aneurus (*Aneurodellus*)
zealandensis^E
Aradus australis^N
Calisius zealandicus^E
Carventaptera spinifera^E
Chinamyersia cinerea^E
Chinamyersia viridis^E
Ctenoneurus hochstetteri^E
Isodermus crassicornis^E
Neocarventus angulatus^E

Berytidae

Bezu wakefieldi^E

Cantacaderidae

Carldrakeana socia^N
Cypherobia carectorum^E

Ceratocombidae

Ceratocombus aotearoae^E

Cimicidae

Cimex lectularius^A

Corixidae

Diaprepocoris zealandiae^E

Sigara (*Tropocorixa*) *arguta*^E
Sigara (*Tropocorixa*) *infrequens*^E
Sigara (*Tropocorixa*) *limnochares*^E

Cydnidae

Cydnocoeurus nigrosignatus^E
Macroscythus australis^N

Cymidae

Cymus novaezealandiae^N

Enicocephalidae

Systelloderes maclachlani^E

Lygaeidae

Arocatus rusticus^A
Nysius huttoni^E
Rhyphodes anceps^E
Rhyphodes brevifissas^E
Rhyphodes chinai^E
Rhyphodes clavicornis^E
Rhyphodes koebeleii^E
Rhyphodes russatus^E
Rhyphodes sericatus^E

Miridae

Bipuncticoris chlorus^{E, R}
Bipuncticoris minor^{E, R}
Bipuncticoris planus^{E, R}
Bipuncticoris triplex^E
Chaetodus reuterianus^E
Chinamiris aurantiacus^E
Chinamiris cumberi^E
Chinamiris elongatus^E
Chinamiris indeclivis^E
Chinamiris laticinctus^E
Chinamiris muehlenbeckiae^E
Chinamiris nigrifrons^E
Chinamiris opacus^E
Chinamiris secundus^E
Chinamiris testaceus^E
Chinamiris viridicans^E
Closterotomus norwegicus^A
Coridromius variegatus^A
Cyrtorhinus cumberi^E
Deraeocoris maoricus^E
Diomocoris fasciatus^E
Diomocoris maoricus^E
Diomocoris ostiolum^E
Diomocoris sexcoloratus^E
Felisacus elegantulus^N
Halormus velifer^E
Kiwimiris coloratus^{E, R}
Mecenopa albiapex^E
Polyozus galbanus^E
Romna capsoides^E
Romna nigrovenosa^E
Romna pallida^E
Romna scotti^E
Romna variegata^E
Sejanus albisignatus^N
Sidnia kinbergi^A
Stenotus binotatus^A
Taylorilygus apicalis^A
Wekamiris auropilosus^E
Xiphoides badius^E
Xiphoides myersi^E

Nabidae

Nabis (Australonabis) biformis ^N
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 rubromaculatus ^N
Empicoris seorsus ^E
Ploiaria antipodum ^E
Ploiaria chilensis ^N

Rhyparochromidae

Brentiscerus putoni ^E
Margareta dominica ^E
Metagerra helmsi ^E
Metagerra obscura ^E
Paradrymus exilirostris ^A
Regatarma forsteri ^E
Remaudiereana inornata ^N
Targarema electa ^E
Targarema stali ^E
Truncala hirsuta ^E

Saldidae

Saldula australis ^E
Saldula maculipennis ^E
Saldula parvula ^E
Saldula trivialis ^E

Veliidae

Microvelia macgregori ^E

WO

56 taxa
 E, 33; N, 11; A, 12; R, 0.

Acanthosomatidae

Rhopalimorpha (Rhopalimorpha) lineolaris ^E

Anthocoridae

Lyctocoris (Lyctocoris) campestris ^A

Aradidae

Acaraptera myersi ^E
Adenocoris spiniventris ^E
Aneurus (Aneurodellus) brouni ^E
Aneurus (Aneurodellus) maoricus ^E
Aneurus (Aneurodellus) prominens ^E

Aradus australis ^N

Ctenoneurus hochstetteri ^E
Neocarventus angulatus ^E
Tretocoris grandis ^E
Woodwardiessa quadrata ^E

Ceratocombidae

Ceratocombus aotearoae ^E

Ceratocombus novaezealandiae ^E

Corixidae

Sigara (Tropocorixa) limnochares ^E

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E

Hydrometridae

Hydrometra strigosa ^N

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes clavicornis ^E

Mesoveliidae

Mniovelia kuscheli ^E

Miridae

Chinamiris indeclivis ^E
Closterotomus norwegicus ^A
Deraeocoris maoricus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Felisacus elegantulus ^N
Halticus minutus ^A
Lopus decolor ^A
Romna capsoides ^E
Romna variegata ^E
Sidnia kinbergi ^A
Stenotus binotatus ^A
Tinginoxotum minutum ^N

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
Dieuches notatus ^A
Paramyocara iridescens ^N
Regatarma forsteri ^E
Remaudiereana inornata ^N
Targarema electa ^E
Targarema stali ^E
Tomocoris ornatus ^E
Truncala hirsuta ^E

Tingidae

Tanybyrsa cumberi ^E

Veliidae

Microvelia macgregori ^E

South Island**BR**

98 taxa
 E, 84; N, 3; A, 11; R, 0.

Acanthosomatidae

Oncacantias vittatus ^E

Rhopalimorpha (Lentimorpha) alpina ^E

Rhopalimorpha (Rhopalimorpha) lineolaris ^E

Rhopalimorpha (Rhopalimorpha) obscura ^E

Aenictopecheidae

Maoristolus tonnoiri ^E

Anthocoridae

Cardiastethus poweri ^E

Lyctocoris (Lyctocoris) campestris ^A

Maoricoris benefactor ^E

Aradidae

Aneurus (Aneurodellus) brouni ^E

Aneurus (Aneurodellus) salmoni ^E

Aneurus (Aneurodellus) zealandensis ^E

Calisius zealandicus ^E

Chinamyersia cinerea ^E

Ctenoneurus hochstetteri ^E

Isodermus crassicornis ^E

Isodermus maculosus ^E

Neadenocoris abdominalis ^E

Neadenocoris acutus ^E

Neadenocoris reflexus ^E

Neadenocoris spinicornis ^E

Ceratocombidae

Ceratocombus aotearoae ^E

Ceratocombus novaezealandiae ^E

Cimicidae

Cimex lectularius ^A

Corixidae

Diaprepocoris zealandiae ^E

Sigara (Tropocorixa) arguta ^E

Sigara (Tropocorixa) infrequens ^E

Sigara (Tropocorixa) limnochares ^E

Sigara (Tropocorixa) potamius ^E

Sigara (Tropocorixa) uruana ^E

Cydnidae

Cydnocoeurus nigrosignatus ^E

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E

Styelloderes notialis ^E

Lygaeidae

Arocatus rusticus ^A

Nysius huttoni ^E

Rhyphodes anceps ^E

Rhyphodes chinai ^E

Rhyphodes cognatus ^E

Rhyphodes myersi ^E

Rhyphodes russatus ^E

Rhyphodes sericatus ^E

Rhypodes spadix ^E*Rhypodes stewartensis* ^E**Miridae***Anexochus crassicornis* ^E*Bipuncticoris longicerus* ^E*Bipuncticoris xestus* ^E*Chaetodus 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 zygopus* ^E*Closterotomus norwegicus* ^A*Deraeocoris maoricus* ^E*Diomocoris maoricus* ^E*Diomocoris ostiolum* ^E*Diomocoris punctatus* ^E*Engytatus nicotianae* ^A*Kiwimiris melanocerus* ^E*Megaloceroea recticornis* ^A*Reuda mayri* ^E*Romna capsoides* ^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 rudis* ^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*Oncacantias vittatus* ^E*Rhopalimorpha (Rhopalimorpha)**lineolaris* ^E**Anthocoridae***Lyctocoris (Lyctocoris)**campestris* ^A*Orius (Heterorius) vicinus* ^A*Xylocoris (Proxycoris) 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**Cydnidae***Cydnocoeurus nigrosignatus* ^E*Macroscyrtus 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 koebeli* ^E*Rhypodes longiceps* ^E*Rhypodes myersi* ^E*Rhypodes sericatus* ^E*Rhypodes spadix* ^E*Rhypodes triangulus* ^E**Miridae***Bipuncticoris lineatus* ^E*Bipuncticoris longicerus* ^E*Chaetodus reuterianus* ^E*Chinamiris acutospinosus* ^E*Chinamiris elongatus* ^E*Chinamiris laticinctus* ^E*Chinamiris zygopus* ^E*Closterotomus norwegicus* ^A*Diomocoris maoricus* ^E*Diomocoris ostiolum* ^E*Diomocoris punctatus* ^E*Halormis 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 albisignatus* ^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***Hypselosoma acantheen* ^E**Veliidae***Microvelia macgregori* ^E**DN**

54 taxa

E, 45; N, 4; A, 5; R, 0.

Acanthosomatidae*Oncacantias 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*^A**Corixidae***Diaprepocoris zealandiae*^E*Sigara (Tropocorixa) arguta*^E*Sigara (Tropocorixa) infrequens*^E**Cydnidae***Cydnocoriscus nigrosignatus*^E*Macroscytus australis*^N**Cymidae***Cymus novaezealandiae*^N**Lygaeidae***Nysius huttoni*^E*Rhyphodes anceps*^E*Rhyphodes koebeleii*^E*Rhyphodes spadix*^E**Miridae***Bipuncticoris lineatus*^E*Bipuncticoris triplex*^E*Chaetodus reuterianus*^E*Chinamiris acutospinosus*^E*Chinamiris aurantiacus*^E*Chinamiris elongatus*^E*Chinamiris laticinctus*^E*Chinamiris punctatus*^E*Chinamiris secundus*^E*Chinamiris unicolor*^E*Chinamiris viridicans*^E*Chinamiris zygotus*^E*Closterotomus norwegicus*^A*Diomocoris maoricus*^E*Diomocoris ostiolum*^E*Polyozus galbanus*^E*Romna pallida*^E*Romna scotti*^E*Sejanus albisignatus*^N*Stenotus binotatus*^A*Tuicoris lipurus*^E*Wekamiris auropilosus*^E**Nabidae***Nabis (Tropiconabis) maoricus*^E**Notonectidae***Anisops assimilis*^E*Anisops wakefieldi*^E**Pentatomidae***Cermatulus nasalis nasalis*^N*Dictyotus caenosus*^A*Monteithiella humeralis*^A**Rhyparochromidae***Brentiscerus putoni*^E*Forsterocoris bisinuatus*^E*Metagerra helmsi*^E*Metagerra obscura*^E*Metagerra truncata*^E*Targarema stali*^E*Woodwardiana notialis*^E**Veliidae***Microvelia macgregori*^E**FD**

82 taxa

E, 78; N, 2; A, 2; R, 8.

Acanthosomatidae*Oncacontias vittatus*^E*Rhopalimorpha (Lentimorpha)**alpina*^E*Rhopalimorpha (Rhopalimorpha)**lineolaris*^E*Rhopalimorpha (Rhopalimorpha)**obscura*^E**Aenictopecheidae***Maoristolus parvulus*^E*Nymphocoris maoricus*^E**Aradidae***Aneurus (Aneurodellus) brouni*^E*Chinamyersia cinerea*^E*Ctenoneurus hochstetteri*^E*Isodermus maculosus*^E*Neadenocoris glaber*^{E, R}*Neadenocoris spinicornis*^E**Artheneidae***Nothochromus maoricus*^E**Ceratocombidae***Ceratocombus aotearoae*^E**Corixidae***Diaprepocoris zealandiae*^E*Sigara (Tropocorixa) arguta*^E*Sigara (Tropocorixa) uruana*^E**Cydnidae***Cydnocoriscus nigrosignatus*^E**Cymidae***Cymus novaezealandiae*^N**Enicocephalidae***Gourlayocoris mirabilis*^E*Phthirostenus magnus*^E*Systelloderes notialis*^E**Lygaeidae***Nysius huttoni*^E*Rhyphodes anceps*^E*Rhyphodes atricornis*^{E, R}*Rhyphodes celmisiae*^E*Rhyphodes chinai*^E*Rhyphodes clavicornis*^E*Rhyphodes cognatus*^E*Rhyphodes depilis*^{E, R}*Rhyphodes longiceps*^E*Rhyphodes myersi*^E*Rhyphodes spadix*^E*Rhyphodes stewartensis*^E*Rhyphodes townsendi*^E**Miridae***Bipuncticoris irroratus*^E*Bipuncticoris lineatus*^E*Bipuncticoris olearinus*^E*Chaetodus reuterianus*^E*Chinamiris acutospinosus*^E*Chinamiris dracophylloides*^E*Chinamiris elongatus*^E*Chinamiris guttatus*^E*Chinamiris indeclivis*^E*Chinamiris minutus*^{E, R}*Chinamiris nigrifrons*^E*Chinamiris quadratus*^{E, R}*Chinamiris secundus*^E*Chinamiris viridicans*^E*Closterotomus norwegicus*^A*Diomocoris maoricus*^E*Diomocoris punctatus*^E*Kiwimiris concavus*^{E, R}*Lincolnia lucernina*^E*Polyozus galbanus*^E*Reuda mayri*^E*Romna bicolor*^E*Romna capsoides*^E*Romna nigrovenosa*^E*Romna scotti*^E*Romna tenera*^E*Stenotus binotatus*^A*Xiphoides badius*^E*Xiphoides multicolor*^E**Nabidae***Nabis (Tropiconabis) maoricus*^E**Notonectidae***Anisops assimilis*^E**Pentatomidae***Cermatulus nasalis hudsoni*^E*Cermatulus nasalis nasalis*^N**Rhyparochromidae***Brentiscerus putoni*^E*Forsterocoris bisinuatus*^E*Forsterocoris sinuatus*^E*Geratarma eylesi*^{E, R}*Geratarma manapourensis*^{E, R}*Metagerra angusta*^E*Metagerra helmsi*^E*Metagerra obscura*^E*Targarema electa*^E*Targarema stali*^E*Trypetocoris rudis*^E*Woodwardiana evagorata*^E**Saldidae***Saldula australis*^E**Schizopteridae***Hypselosoma acantheen*^E**KA**

46 taxa

E, 35; N, 3; A, 8; R, 0.

Acanthosomatidae*Oncacontias vittatus*^E**Aradidae***Isodermus tenuicornis*^E*Neocarventus angulatus*^E**Corixidae***Sigara (Tropocorixa) arguta*^E*Sigara (Tropocorixa) limnochares*^E*Sigara (Tropocorixa) potamius*^E**Cydnidae***Cydnocoriscus nigrosignatus*^E*Macroscytus australis*^N

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes anceps ^E
Rhyphodes chinai ^E
Rhyphodes eminens ^E
Rhyphodes koebelei ^E
Rhyphodes myersi ^E
Rhyphodes russatus ^E
Rhyphodes sericatus ^E
Rhyphodes stewartensis ^E

Miridae

Chaetodus 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 albisignatus ^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
Plinthisus (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

Oncacantias 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 ^E

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

Cydniidae

Cydnochoerus nigrosignatus ^E

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E

Heterogastridae

Heterogaster urticae ^A

Lygaeidae

Arocatus rusticus ^A

Nysius huttoni ^E

Rhyphodes anceps ^E

Rhyphodes bucculentus ^E

Rhyphodes chinai ^E

Rhyphodes cognatus ^E

Rhyphodes eminens ^E

Rhyphodes jugatus ^E

Rhyphodes myersi ^E

Rhyphodes rupestris ^{E, R}

Rhyphodes russatus ^E

Rhyphodes sericatus ^E

Rhyphodes spadix ^E

Rhyphodes stewartensis ^E

Miridae

Bipuncticoris cassinianus ^E

Bipuncticoris convexus ^{E, R}

Bipuncticoris vespucii ^E

Chaetodus longiceps ^N

Chaetodus 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 ^E

Closterotomus norwegicus ^A

Diomocoris fasciatus ^E

Diomocoris maoricus ^E

Diomocoris ostiolum ^E

Diomocoris punctatus ^E

Kiwimiris melanocerus ^E

Romna capsoides ^E

Romna cuneata ^E

Romna nigrovenosa ^E

Sejanus albisignatus ^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, R}

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

Oncacantias 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 (Heterorius) 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

Ceratocombidae

Ceratocombus aotearoae ^E
Ceratocombus novaezelandiae ^E

Cimicidae

Cimex lectularius ^A

Corixidae

Diaprepocoris zealandiae ^E
Sigara (Tropocorixa) arguta ^E
Sigara (Tropocorixa) infrequens ^E
Sigara (Tropocorixa) potamius ^E
Sigara (Tropocorixa) uruana ^E

Cydnidae

Cydnocoeus nigrosignatus ^E
Macroscytus australis ^N

Cymidae

Cymus novaezelandiae ^N

Enicocephalidae

Systelloderes notialis ^E

Heterogastridae

Heterogaster urticae ^A

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes anceps ^E
Rhyphodes bucculentus ^E
Rhyphodes chinai ^E
Rhyphodes clavicornis ^E
Rhyphodes cognatus ^E
Rhyphodes gracilis ^E
Rhyphodes longiceps ^E
Rhyphodes myersi ^E
Rhyphodes russatus ^E
Rhyphodes sericatus ^E
Rhyphodes spadix ^E
Rhyphodes stewartensis ^E

Miridae

Bipuncticoris triplex ^E
Bipuncticoris xestus ^E
Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris elongatus ^E
Chinamiris indeclivis ^E
Chinamiris laticinctus ^E
Chinamiris marmoratus ^E
Chinamiris ovatus ^E
Chinamiris unicolor ^E
Chinamiris virescens ^E
Chinamiris viridicans ^E
Closterotomus norwegicus ^A
Coridromius variegatus ^A
Deraeocoris maoricus ^E
Diomocoris fasciatus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Diomocoris punctatus ^E
Engytatus nicotianae ^A
Halormus velifer ^E
Josemiris carvalhoi ^E
Kiwimiris melanocerus ^E
Kiwimiris niger ^E
Lincolnia lucernina ^E
Megaloceroea recticornis ^A

Monospatha distincta ^E

Pimeleocoris roseus ^E

Polyozus galbanus ^E

Romna capsoides ^E

Romna nigrovenosa ^E

Romna oculata ^E

Romna pallida ^E

Romna scotti ^E

Romna variegata ^E

Sejanus albisignatus ^N

Sidnia kinbergi ^A

Stenotus binotatus ^A

Tingnotum minutum ^N

Tulcoris lipurus ^E

Xiphoides badius ^E

Xiphoides myersi ^E

Xiphoides vacans ^E

Nabidae

Nabis (Tropiconabis) maoricus ^E

Notonectidae

Anisops assimilis ^E

Anisops wakefieldi ^E

Pentatomidae

Cermatulus nasalis hudsoni ^E

Cermatulus nasalis nasalis ^N

Cuspicona simplex ^A

Dictyotus caenosus ^A

Monteithiella humeralis ^A

Nezara viridula ^A

Reduviidae

Empicoris rubromaculatus ^N

Rhyparochromidae

Brentiscerus putoni ^E

Metagerra helmsi ^E

Metagerra obscura ^E

Plinthinus (Locutius) woodwardi ^A

Targarema stali ^E

Truncala hirta ^E

Saldidae

Saldula australis ^E

Schizopteridae

Hypselosoma acantheen ^E

Tingidae

Stephanitis (Stephanitis)

rhododendri ^A

Veliidae

Microvelia macgregori ^E

MK

58 taxa

E, 53; N, 2; A, 3; R, 2.

Acanthosomatidae

Oncacantias vittatus ^E

Rhopalimorpha (Rhopalimorpha)

lineolaris ^E

Aradidae

Ctenoneurus hochstetteri ^E

Neadenocoris spinicornis ^E

Corixidae

Diaprepocoris zealandiae ^E

Sigara (Tropocorixa) arguta ^E

Sigara (Tropocorixa) uruana ^E

Cydnidae

Cydnocoeus nigrosignatus ^E

Macroscytus australis ^N

Cymidae

Cymus novaezelandiae ^N

Lygaeidae

Lepiorsillus tekapoensis ^{E, R}

Nysius huttoni ^E

Nysius liliputanus ^E

Rhyphodes anceps ^E

Rhyphodes argenteus ^E

Rhyphodes brevipilis ^{E, R}

Rhyphodes bucculentus ^E

Rhyphodes celmisiae ^E

Rhyphodes chinai ^E

Rhyphodes clavicornis ^E

Rhyphodes gracilis ^E

Rhyphodes jugatus ^E

Rhyphodes longiceps ^E

Rhyphodes myersi ^E

Rhyphodes sericatus ^E

Rhyphodes spadix ^E

Rhyphodes triangulus ^E

Miridae

Bipuncticoris irroratus ^E

Bipuncticoris lineatus ^E

Chaetodus reuterianus ^E

Chinamiris dracophylloides ^E

Chinamiris elongatus ^E

Chinamiris nigrifrons ^E

Chinamiris unicolor ^E

Closterotomus norwegicus ^A

Diomocoris maoricus ^E

Diomocoris ostiolum ^E

Diomocoris punctatus ^E

Halormus velifer ^E

Kiwimiris niger ^E

Reuda mayri ^E

Romna capsoides ^E

Romna cuneata ^E

Romna nigrovenosa ^E

Romna tenera ^E

Stenotus binotatus ^A

Nabidae

Nabis (Tropiconabis) maoricus ^E

Notonectidae

Anisops assimilis ^E

Pentatomidae

Cermatulus nasalis hudsoni ^E

Dictyotus caenosus ^A

Rhyparochromidae

Brentiscerus putoni ^E

Forsterocoris bisinuatus ^E

Metagerra angusta ^E

Metagerra helmsi ^E

Metagerra obscura ^E

Truncala hirta ^E

Woodwardiana evagorata ^E

Schizopteridae

Hypselosoma acantheen ^E

NC

75 taxa
E, 61; N, 4; A, 10; R, 0.

Acanthosomatidae

Oncacantias vittatus^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris^E
Rhopalimorpha (*Rhopalimorpha*)
obscura^E

Aenictopecheidae

Nymphocoris maoricus^E

Anthocoridae

Lyctocoris (*Lyctocoris*)
campestris^A
Xylocoris (*Proxylocoris*)
galactinus^A

Aradidae

Aneurus (*Aneurodellus*) *brouni*^E
Aneurus (*Aneurodellus*) *salmoni*^E
Chinamyersia cinerea^E
Ctenoneurus myersi^E
Isodermus crassicornis^E
Neadenocoris spinicornis^E

Berytidae

Bezu wakefieldi^E

Corixidae

Diaprepocoris zealandiae^E
Sigara (*Tropocorixa*) *arguta*^E
Sigara (*Tropocorixa*) *limnochares*^E
Sigara (*Tropocorixa*) *potamius*^E
Sigara (*Tropocorixa*) *uruana*^E

Cydnidae

Cydnocrochus nigrosignatus^E

Cymidae

Cymus novaezealandiae^N

Enicocephalidae

Systelloderes notialis^E

Heterogastridae

Heterogaster urticae^A

Lygaeidae

Nysius convexus^E
Nysius huttoni^E
Rhyphodes chinai^E
Rhyphodes clavicornis^E
Rhyphodes jugatus^E
Rhyphodes myersi^E
Rhyphodes russatus^E
Rhyphodes sericatus^E
Rhyphodes spadix^E
Rhyphodes stewartensis^E

Miridae

Anexochus crassicornis^E
Bipuncticoris cassinianus^E
Bipuncticoris xestus^E
Chaetodus reuterianus^E
Chinamiris elongatus^E
Chinamiris guttatus^E
Chinamiris laticinctus^E
Chinamiris nigrifrons^E
Chinamiris ovatus^E
Chinamiris punctatus^E

Chinamiris secundus^E
Chinamiris unicolor^E
Closterotomus norwegicus^A
Diomocoris maoricus^E
Diomocoris ostiolum^E
Diomocoris punctatus^E
Kiwimiris melanocerus^E
Lincolnia lucernina^E
Megaloceroea recticornis^A
Romna capsoides^E
Romna nigrovenosa^E
Romna scotti^E
Sejanus albissignatus^N
Sidnia kinbergi^A
Stenotus binotatus^A
Taylorilygus apicalis^A
Wekamiris auropilosus^E

Nabidae

Nabis (*Tropiconabis*) *maoricus*^E

Notonectidae

Anisops assimilis^E
Anisops wakefieldi^E

Pentatomidae

Cermatulus nasalis hudsoni^E
Cermatulus nasalis nasalis^N
Cuspicona simplex^A
Dictyotus caenosus^A
Oechalia schellenbergii^N

Rhyparochromidae

Brentiscerus putoni^E
Metagerra helmsi^E
Metagerra obscura^E
Targarema stali^E
Tomocoris truncatus^E
Truncala hirta^E
Woodwardiana evagorata^E

Veliidae

Microvelia macgregori^E

NN

147 taxa
E, 114; N, 14; A, 19; R, 5.

Acanthosomatidae

Oncacantias vittatus^E
Rhopalimorpha (*Lentimorpha*)
alpina^E
Rhopalimorpha (*Rhopalimorpha*)
lineolaris^E
Rhopalimorpha (*Rhopalimorpha*)
obscura^E

Aenictopecheidae

Aenictocoris powelli^{E, R}
Maoristolus tonnoiri^E

Anthocoridae

Buchananiella whitei^N
Cardiastethus poweri^E
Lyctocoris (*Lyctocoris*)
campestris^A
Maoricoris benefactor^E

Aradidae

Aneurus (*Aneurodellus*) *brouni*^E

Aneurus (*Aneurodellus*) *salmoni*^E
Aneurus (*Aneurodellus*)
zealandensis^E

Aradus australis^N
Calisius zealandicus^E
Carventaptera spinifera^E
Chinamyersia cinerea^E
Chinamyersia viridis^E
Ctenoneurus hochstetteri^E
Ctenoneurus myersi^E
Isodermus crassicornis^E
Isodermus maculosus^E
Neadenocoris abdominalis^E
Neadenocoris reflexus^E

Berytidae

Bezu wakefieldi^E

Cimicidae

Cimex lectularius^A

Corixidae

Diaprepocoris zealandiae^E
Sigara (*Tropocorixa*) *arguta*^E
Sigara (*Tropocorixa*) *limnochares*^E
Sigara (*Tropocorixa*) *potamius*^E
Sigara (*Tropocorixa*) *uruana*^E

Cymidae

Cymus novaezealandiae^N

Enicocephalidae

Gourlayocoris mirabilis^E
Systelloderes notialis^E

Hydrometridae

Hydrometra strigosa^N

Lygaeidae

Arocatus rusticus^A
Nysius convexus^E
Nysius huttoni^E
Rhyphodes anceps^E
Rhyphodes brachypterus^{E, R}
Rhyphodes celmisiae^E
Rhyphodes chinai^E
Rhyphodes clavicornis^E
Rhyphodes cognatus^E
Rhyphodes jugatus^E
Rhyphodes koebelei^E
Rhyphodes myersi^E
Rhyphodes russatus^E
Rhyphodes sericatus^E
Rhyphodes spadix^E
Rhyphodes stewartensis^E

Miridae

Anexochus crassicornis^E
Bipuncticoris longigerus^E
Bipuncticoris olearinus^E
Bipuncticoris triplex^E
Chaetodus longiceps^N
Chaetodus reuterianus^E
Chinamiris acutospinosus^E
Chinamiris aurantiacus^E
Chinamiris elongatus^E
Chinamiris guttatus^E
Chinamiris indeclivis^E
Chinamiris juvans^{E, R}
Chinamiris laticinctus^E
Chinamiris marmoratus^E

Chinamiris muehlenbeckiae ^E
Chinamiris nigrifrons ^E
Chinamiris ovatus ^E
Chinamiris punctatus ^E
Chinamiris rufescens ^{E, R}
Chinamiris secundus ^E
Chinamiris unicolor ^E
Chinamiris viridicans ^E
Closterotomus norwegicus ^A
Coridromius variegatus ^A
Deraeocoris maoricus ^E
Diomocoris fasciatus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Diomocoris punctatus ^E
Engytatus nicotianae ^A
Felisacus elegantulus ^N
Halormus velifer ^E
Josemiris carvalhoi ^E
Kiwimiris bipunctatus ^{E, R}
Kiwimiris melanocerus ^E
Lopus decolor ^A
Megaloceroea relicticornis ^A
Monospatha distincta ^E
Polyozus galbanus ^E
Reuda mayri ^E
Romna capsoides ^E
Romna nigrovenosa ^E
Romna scotti ^E
Romna tenera ^E
Romna uniformis ^E
Romna variegata ^E
Sejanus albisignatus ^N
Sidnia kinbergi ^A
Stenotus binotatus ^A
Taylorilygus apicalis ^A
Tingnotum minutum ^N
Trigonotylus tenuis ^A
Tuicoris excelsus ^E
Xiphoides badius ^E
Xiphoides myersi ^E
Nabidae
Alloeorhynchus myersi ^E
Nabis (Tropiconabis) kinbergii ^A
Nabis (Tropiconabis) maoricus ^E
Notonectidae
Anisops assimilis ^E
Anisops wakefieldi ^E
Pentatomidae
Cermatulus nasalis hudsoni ^E
Cermatulus nasalis nasalis ^N
Cuspicona simplex ^A
Dictyotus caenosus ^A
Glaucias amyoti ^N
Monteithiella humeralis ^A
Nezara viridula ^A
Oechalia schellenbergii ^N
Reduviidae
Empicoris rubromaculatus ^N
Ploiaria antipodum ^E
Ploiaria chilensis ^N
Rhyparochromidae
Brentisceris putoni ^E

Dieuches notatus ^A
Forsterocoris bisinuatus ^E
Grossander major ^A
Margareta dominica ^E
Metagerra helmsi ^E
Metagerra kaikourica ^E
Metagerra obscura ^E
Regatarma forsteri ^E
Remaudiereana inornata ^N
Targarema electa ^E
Targarema stali ^E
Tomocoris ornatus ^E
Truncala hirta ^E
Truncala sulcata ^E
Trypetocoris rudis ^E
Woodwardiana nelsonensis ^E
Woodwardiana paparia ^E

Saldidae

Saldula australis ^E
Saldula maculipennis ^E
Saldula stoneri ^E
Saldula trivialis ^E

Schizopteridae

Hypselosoma acantheen ^E

Tingidae

Tanybyrsa cumberi ^E

Veliidae

Microvelia macgregori ^E

OL

68 taxa

E, 58; N, 4; A, 6; R, 0.

Acanthosomatidae

Oncacantias vittatus ^E
Rhopalimorpha (Rhopalimorpha)
lineolaris ^E

Aradidae

Aneurys (Aneurodellus) browni ^E
Aradus australis ^N
Ctenoneurus hochstetteri ^E
Neadenocoris spinicornis ^E

Artheneidae

Nothochromus maoricus ^E

Cantacaderidae

Cyperobia carectorum ^E

Ceratocombidae

Ceratocombus novaezealandiae ^E

Corixidae

Diaprepocoris zealandiae ^E
Sigara (Tropocorixa) arguta ^E

Cydnidae

Cydnocorixus nigrosignatus ^E
Macroscytus australis ^N

Cymidae

Cymus novaezealandiae ^N

Heterogastridae

Heterogaster urticae ^A

Lygaeidae

Arocatus rusticus ^A
Nysius convexus ^E
Nysius huttoni ^E
Rhyphodes anceps ^E

Rhyphodes celmsiae ^E

Rhyphodes chinai ^E

Rhyphodes cognatus ^E

Rhyphodes gracilis ^E

Rhyphodes jugatus ^E

Rhyphodes longiceps ^E

Rhyphodes myersi ^E

Rhyphodes spadix ^E

Rhyphodes townsendi ^E

Rhyphodes triangulus ^E

Miridae

Bipuncticoris irroratus ^E

Bipuncticoris lineatus ^E

Chaetodus reuterianus ^E

Chinamiris aurantiacus ^E

Chinamiris dracophylloides ^E

Chinamiris elongatus ^E

Chinamiris laticinctus ^E

Chinamiris nigrifrons ^E

Chinamiris punctatus ^E

Chinamiris secundus ^E

Chinamiris unicolor ^E

Chinamiris zygotes ^E

Closterotomus norwegicus ^A

Diomocoris maoricus ^E

Diomocoris ostiolum ^E

Diomocoris punctatus ^E

Josemiris carvalhoi ^E

Kiwimiris niger ^E

Lincolnia lucernina ^E

Lopus decolor ^A

Romna capsoides ^E

Romna oculata ^E

Romna pallida ^E

Romna scotti ^E

Romna tenera ^E

Sejanus albisignatus ^N

Stenotus binotatus ^A

Nabidae

Nabis (Tropiconabis) maoricus ^E

Notonectidae

Anisops assimilis ^E

Pentatomidae

Cermatulus nasalis hudsoni ^E

Dictyotus caenosus ^A

Hypsithocus hudsonae ^E

Rhyparochromidae

Forsterocoris bisinuatus ^E

Forsterocoris salmoni ^E

Metagerra helmsi ^E

Metagerra obscura ^E

Targarema stali ^E

Woodwardiana evagorata ^E

Schizopteridae

Hypselosoma acantheen ^E

SC

46 taxa

E, 36; N, 3; A, 7; R, 0.

Acanthosomatidae

Oncacantias vittatus ^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
Rhyphodes anceps ^E
Rhyphodes chinai ^E
Rhyphodes gracilis ^E
Rhyphodes spadix ^E

Miridae

Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris elongatus ^E
Chinamiris hamus ^E
Chinamiris nigrifrons ^E
Chinamiris secundus ^E
Chinamiris viridicans ^E
Chinamiris zygotus ^E
Closterotomus norwegicus ^A
Diomocoris maoricus ^E
Lincolnia lucernina ^E
Megaloceroea recticornis ^A
Monospatha distincta ^E
Romna capsoides ^E
Romna nigrovenosa ^E
Romna scotti ^E
Romna variegata ^E
Sejanus albispignatus ^N
Sidnia kinbergi ^A
Stenotus binotatus ^A
Taylorilygus apicalis ^A
Wekamiris auropilosus ^E

Nabidae

Nabis (*Tropiconabis*) *maoricus* ^E

Notonectidae

Anisops assimilis ^E
Anisops wakefieldi ^E

Pentatomidae

Cermatulus nasalis nasalis ^N

Rhyparochromidae

Forsterocoris bisinuatus ^E
Metagerra helmsi ^E
Metagerra obscura ^E
Truncala hirta ^E

SD

71 taxa
E, 51; N, 9; A, 11; R, 0.

Acanthosomatidae

Oncacantias 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

Cydnocorerus nigrosignatus ^E

Cymidae

Cymus novaezealandiae ^N

Enicocephalidae

Gourlayocoris mirabilis ^E

Lygaeidae

Arocatus rusticus ^A
Nysius huttoni ^E
Rhyphodes anceps ^E
Rhyphodes clavicornis ^E
Rhyphodes cognatus ^E
Rhyphodes koebeleii ^E
Rhyphodes sericatus ^E

Miridae

Chaetodus reuterianus ^E
Chinamiris acutospinosus ^E
Chinamiris aurantiacus ^E
Chinamiris elongatus ^E
Chinamiris fascians ^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 ^A
Pimeleocoris luteus ^E

Romna scotti ^E

Sejanus albispignatus ^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

Brentiscercus 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

Oncacantias 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 novaezealandiae ^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
Rhyphodes anceps ^E
Rhyphodes clavicornis ^E
Rhyphodes cognatus ^E
Rhyphodes longiceps ^E
Rhyphodes myersi ^E
Rhyphodes sericatus ^E
Rhyphodes spadix ^E
Rhyphodes 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 albisignatus ^N
Sidnia kinbergi ^A
Stenotus binotatus ^A
Wekamiris auropilosus ^E
Xiphoides badius ^E
Xiphoides myersi ^E
Xiphoides vacans ^E

Nabidae

Nabis (Tropiconabis) 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 rudis ^E
Woodwardiana notialis ^E

Saldidae

Saldula trivialis ^E

WD

66 taxa
 E, 59; N, 3; A, 4; R, 0.

Acanthosomatidae

Oncacantias 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
Rhyphodes celmisiae ^E
Rhyphodes chinai ^E
Rhyphodes clavicornis ^E
Rhyphodes cognatus ^E
Rhyphodes jugatus ^E
Rhyphodes longiceps ^E
Rhyphodes myersi ^E
Rhyphodes stewartensis ^E

Miridae

Bipuncticoris irroratus ^E
Bipuncticoris olearinus ^E
Chaetodus 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

Josemiris carvalhoi ^E

Pimeleocoris roseus ^E

Reuda mayri ^E

Romna capsoides ^E

Romna scotti ^E

Sidnia kinbergi ^A

Stenotus binotatus ^A

Wekamiris auropilosus ^E

Nabidae

Nabis (Tropiconabis) 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

Oncacantias vittatus ^E
Rhopalimorpha (Rhopalimorpha) lineolaris ^E
Rhopalimorpha (Rhopalimorpha) obscura ^E

Aenictopecheidae

Maoristolus tonnoiri ^E

Aradidae

Aneurus (Aneurodellus) brouni ^E
Isodermus maculosus ^E
Isodermus tenuicornis ^E

Corixidae

Diaprepocoris zealandiae ^E

Cydnidae

Macroscythus australis ^N

Lygaeidae

Nysius huttoni ^E
Rhyphodes cognatus ^E
Rhyphodes stewartensis ^E

Miridae

Bipuncticoris longicerus ^E
Chinamiris elongatus ^E
Chinamiris laticinctus ^E
Chinamiris viridicans ^E
Chinamiris zygopus ^E
Diomocoris maoricus ^E
Diomocoris ostiolum ^E
Monopharsus annulatus ^{E, R}

Reuda mayri^E
Romna capsoides^E
Romna uniformis^E
Wekamiris auropilosus^E
Xiphoides vacans^E
Rhyparochromidae
Forsterocoris stewartensis^{E, R}
Margareta dominica^E
Metagerra obscura^E
Targarema stali^E
Trypetocoris rudis^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
Chaetodus plumalis^N
Diomocoris raoulensis^{E, R}
Taylorilygus apicalis^A
Tyththus 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

Cydnidae

Macrocytus australis^N

Cymidae

Cymus novaezelandiae^N

Lygaeidae

Nysius huttoni^E
Rhyphodes clavicornis^E

Miridae

Basileobius gilviceps^{E, R}
Chaetodus reuterianus^E
Chinamiris aurantiacus^E
Chinamiris laticinctus^E
Coridromius variegatus^A
Diomocoris woodwardi^{E, R}
Sidnia kinbergi^A
Xiphoides regis^{E, R}

Nabidae

Alloeorhynchus 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)
Tingitum 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 (Mesoveliidae)
 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 Koomutu
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 zygotus (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
Rhyodes 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 (Aenictopecheidae)
 Leslie Valley Track
Systemloderes 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
Rhyodes atricornis (Lygaeidae)
 Takahe Valley, near Head Basin
Rhyodes 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

Rhypodus longirostris (Lygaeidae)

HB Hawkes Bay

Creek near Middle Range, Kaweka Range

Rhypodus brevifissas (Lygaeidae)

Kaweka Forest Park, Ngahere Loop Track

Ceratocombus novaezelandiae (Ceratocombidae)

Little Bush, Puketitiri

Chinamiris daviesi (Miridae)

Makahu Spur, Kaweka Range

Bipuncticoris gurri (Miridae)

Rhypodus hirsutus (Lygaeidae)

Romna albata (Miridae)

Putaihinu 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 breviostris (Rhyparochromidae)

Black Birch Range

Bipuncticoris cassinianus (Miridae)

Bipuncticoris vesus (Miridae)

Romna nigrovenosa (Miridae)

Black Birch Station

Rhypodus rupestris (Lygaeidae)

Mount Richmond, Fell Range

Bipuncticoris convexus (Miridae)

Pelorus Bridge

Neadenocoris ovatus (Aradidae)

MB/KA Marlborough/Kaikoura

Mount Percival

Metagerra kaikourica (Rhyparochromidae)

Rhypodus 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

Rhypodus bucculentus (Lygaeidae)

Sign of the Bellbird

Tuicoris lipurus (Miridae)

Sumner, Summit track

Chinamiris virescens (Miridae)

MK Mackenzie

Hydro Road, Lake Benmore

Rhypodus argenteus (Lygaeidae)

Rhypodus triangulus (Lygaeidae)

Kea Walk, Mount Cook

Rhypodus brevopilis (Lygaeidae)

Rhypodus spadix (Lygaeidae)

Romna cuneata (Miridae)

Lake Tekapo

Lepiorsillus tekapoensis (Lygaeidae)

Mount Sebastopol

Rhypodus gracilis (Lygaeidae)

Sealy Lake track, Mount Cook National Park

Rhypodus jugatus (Lygaeidae)

NC North Canterbury

Arthur's Pass

Cermatulus nasalis hudsoni (Pentatomidae)

Isodermus crassicornis (Aradidae)

Nymphocoris maoricus (Aenictopecheidae)

Nysius convexus (Lygaeidae)

Rhypodus 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 auropilosus (Miridae)

Helena Bay and Whakapara (between)

Mecenopa albiapex (Miridae)

Kaeo

Mesadenocoris robustus (Aradidae)

Kaitia

Alloeorhynchus myersi (Nabidae)

Kawakawa

Ctenoneurus setosus (Aradidae)

Mangamuka Gorge Reserve
Cyrtodiridius aurantiacus (Miridae)
 Mount Manaia, Taurikura, Whangarei Heads
Romna pallida (Miridae)
 Ngaioitonga
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)
 Unuwahao
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, Tribobite Hut
Chinamiris juvans (Miridae)
 Junction Brown and Aore Rivers
Neadenocoris reflexus (Aradidae)
 Kaihoka Lakes, West Haven
Tuicoris excelsus (Miridae)
 Maitai Valley
Rhyppodes koebelei (Lygaeidae)
Gourlayocoris mirabilis (Enicocephalidae)
 Mount Arthur
Aneurus (Aneurodellus) salmoni (Aradidae)
Chinamiris nigrifrons (Miridae)
Chinamiris rufescens (Miridae)
Kiwimiris bipunctatus (Miridae)
Rhyppodes brachypterus (Lygaeidae)
Rhyppodes russatus (Lygaeidae)
 Nelson
Chinamiris marmoratus (Miridae)
Maoricoris benefactor (Anthocoridae)
Maoristolus tonnoiri (Aenictopecheidae)
Sejanus albisignatus (Miridae)
 Nelson (Botanical Reserve)
Chaetodus 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
Chaetodus 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)
Cydnocoeurus 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 huttoni (Lygaeidae)
Remaudiereana inornata (Rhyparochromidae)
Reuda mayri (Miridae)
Rhopalimorpha (Rhopalimorpha) obscura
 (Acanthosomatidae)
Rhyppodes anceps (Lygaeidae)
Rhyppodes clavicornis (Lygaeidae)
Romna capsoides (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
Rhyppodes celmisiae (Lygaeidae)
Rhyppodes longiceps (Lygaeidae)
Kiwimiris niger (Miridae)

Dart Hut

Hypselosoma 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, Maroepa 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

Rhyodes 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

Rhyodes stewartensis (Lygaeidae)

Table Hill

Bipuncticoris longicerus (Miridae)*Romna uniformis* (Miridae)

Twilight Bay, Port Pegasus

Monopharsus annulatus (Miridae)**SL** Southland

Orepuki

Tryptocoris rudis (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

Rhyodes 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 muelhenbeckiae (Miridae)*Xiphoides myersi* (Miridae)

Paiaka

- Chinamiris cumberi* (Miridae)
Cymus novaezealandiae (Cymidae)
Cyrtorhinus cumberi (Miridae)

Wanganui, Longacre

- Adenocoris brachypterus* (Aradidae)

Wanganui, Longacre Road

- Chinamiris niculatus* (Miridae)

WN Wellington

Gollans Valley

- Cyperobia carectorum* (Cantacaderidae)

Karori

- Ploiaria antipodum* (Reduviidae)

Korokoro

- Chinamyersia cinerea* (Aradidae)
Maoristolus tonnoiri (Aenictopecheidae)

Mount Matthews

- Rhyphodes 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)
Rhyphodes sericatus (Lygaeidae)

Wainui State Forest

- Empicoris seorsus* (Reduviidae)
Ploiaria antipodum (Reduviidae)

Wellington

- Ploiaria antipodum* (Reduviidae)
Systelloderes maclachlani (Enicocephalidae)

York Bay

- Ploiaria 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

Carldrakeana socia ^N

Cydnidae

Chilocoris neozealandicus ^N

Enicocephalidae

Phthirostenus magnus ^E

Lygaeidae

* *Lepiorsillus tekapoensis* ^E

* *Nysius liliputanus* ^E

* *Rhyphodes argenteus* ^E

* *Rhyphodes atricornis* ^E

* *Rhyphodes brachypterus* ^E

Rhyphodes brevifissus ^E

* *Rhyphodes brevipilis* ^E

Rhyphodes bucculentus ^E

* *Rhyphodes crinitus* ^E

Rhyphodes depilis ^E

* *Rhyphodes emimens* ^E

Rhyphodes gracilis ^E

* *Rhyphodes longirostris* ^E

* *Rhyphodes rupestris* ^E

Rhyphodes russatus ^E

* *Rhyphodes townsendi* ^E

* *Rhyphodes triangulus* ^E

Miridae

Anexochus crassicornis ^E

* *Basileobius gilviceps* ^E

* *Bipuncticoris cassinianus* ^E

* *Bipuncticoris chlorus* ^E

* *Bipuncticoris convexus* ^E

* *Bipuncticoris gurri* ^E

* *Bipuncticoris minor* ^E

* *Bipuncticoris planus* ^E

* *Bipuncticoris robustus* ^E

* *Bipuncticoris vesusus* ^E

* *Bipuncticoris xestus* ^E

* *Chinamiris brachycerus* ^E

* *Chinamiris citrinus* ^E

* *Chinamiris daviesi* ^E

Chinamiris fascians ^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

* *Cyrtodiridium aurantiacum* ^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 brevirrostris ^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

NEW ZEALAND ND Mangamuka 100m 35135 / 17333E 21.XI.1999 Larivière, Laroche
Broadleaf forest: under rotten log near stream.

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 Planticolous Epigeal Fossorial Endogean Cavernicolous Corticolous													
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.

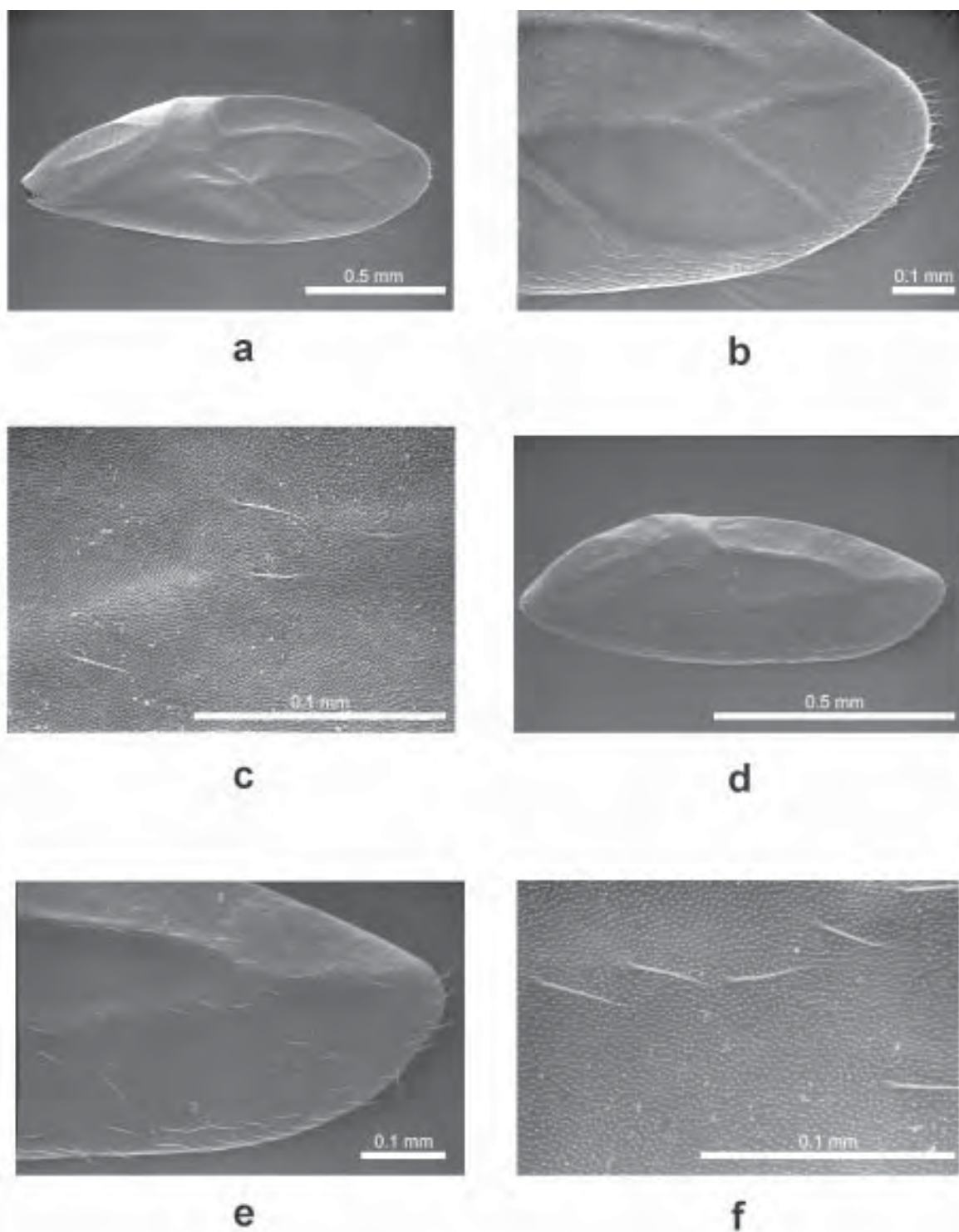
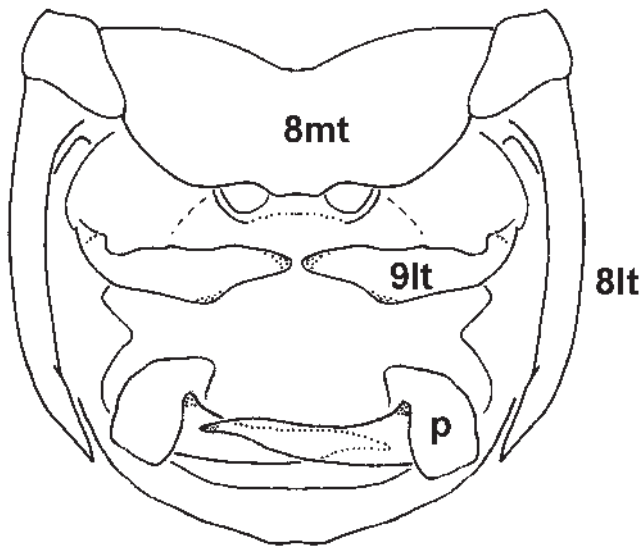


Fig. 3 Scanning electron macrographs of left forewing: (a–c) *Ceratocombus aotearoae* sp. nov. (a) dorsal view, (b–c) chaetotaxy; (d–f) *Ceratocombus novaeselandiae* sp. nov. (d) dorsal view, (e–f) chaetotaxy.



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



(Lectotype)
 Lake Ohu,
 South Island
 NEW ZEALAND
 MURRAY FRISVOLD
 C. E. Clarke
 Collection
 Rhopalimorpha (Rhopalimorpha)
 alpina
 (Lectotype of Rhopalimorpha)
 Type Locality
 Lake Ohu
 SOUTH ISLAND
 NEW ZEALAND
 AMNZ 21727
 BIRGIT RHODE

Rhopalimorpha alpina



Auckland
 2/7/60
 Auckland
 North Island
 NEW ZEALAND
 AUCKLAND MUSEUM
 Rhopalimorpha
 lineolaris ♀
 J. Pondarugan 1950
 PALATYFF
 AMNZ 21728
 BIRGIT RHODE
 NEW ZEALAND

Rhopalimorpha lineolaris

AENICTOPECHEIDAE



Specimens of Mr. W. W. Powell,
 N. Z. (Dead in field)
 10-12-1949, P.O. Box 100
 NEW ZEALAND
 PALATYFF
 BIRGIT RHODE

Aenictocoris powelli



Arthur's Pass, S. Alps,
 N.W. Cant., S.I., New
 Zealand. ex leafhopper.
 10-1-1949, E. Dawson.
 NEW ZEALAND
 PALATYFF
 BIRGIT RHODE

Nymphocoris maoricus

Colour photographs of primary types of Heteroptera (pp. 225-275) deposited in New Zealand collections and museums (Photographs by Birgit Rhode).

ARADIDAE

*Acaraptera waipouensis**Aneurus brevipennis**Aneurus maoricus**Aneurus prominens*



NEW ZEALAND NO
FOUR EIGHTS IS
TAKING EAST -
4 Dec 1980
J. H. B. G. S.

Pseudopanax
lessoni

AMNZ 21723
NEW ZEALAND

Aneurus zealandensis

Mr. A. H. G. S. (1911)
21.11.1911
J. H. B. G. S.

Calisius
zealandicus
Pendergrass
HOLOTYPE

Calisius zealandicus

Leaf litter
Serpentine Avenue Rd.
4 miles from Spinks
Bay Rd.
30.10.1942
J. H. B. G. S.

Wanganui Co.
North Island
NEW ZEALAND
AUCKLAND MUSEUM

Auckland Museum
PLANT / SOIL
SAMPLE 524

AMNZ 21723
NEW ZEALAND

Clavoptera ornata

Tararua
10-14-1961 J.S.

J. H. B. G. S.
Collector

Ctenoneurus
pendergrasti
J. H. B. G. S.

AMNZ 21724
NEW ZEALAND

Ctenoneurus pendergrasti



Kawia, Kawia
Waiotomo Lakes
area.
24-9-56
Coll:
R.A. Croxall
On fruit
bodies of
fungus
Daldinia sp.

**Ctenoneurus
setosus**
R.A. Croxall
HOLOTYPE

AMNZ 21725
MUSEUM
NEW ZEALAND



Waiotomo
15.10.55
Locality
notes on
underside of specimen
card

G. E. Clarke
Collection

**Isodermus
maculosus**
G. E. Clarke
HOLOTYPE

AMNZ 21720
MUSEUM
NEW ZEALAND

Ctenoneurus setosus

Isodermus maculosus



NEW ZEALAND, Waiotomo
Lake Forest, 1000 ft. above
sea level, April 11, 1960
J. R. S. & R. S. S.
Specimens deposited in
the collection of the
New Zealand Museum
for the British Museum
Natural History

If designated as
holotype, specimen
must be returned
to New Zealand.

**Leuraptera
yakasi**
J. R. S. & R. S. S.
HOLOTYPE



**Leuraptera
zealandica**
J. R. S. & R. S. S.
HOLOTYPE

**Leuraptera
zealandica**
J. R. S. & R. S. S.
HOLOTYPE

Leuraptera yakasi

Leuraptera zealandica



5. H. S. G. T. S. G.
K. S. G. T. S. G. 12, 1971
T. S. G. T. S. G.

Lissaptera completa

Lissaptera completa



5 miles east of
Kaitiaki, N. H. C.
R. M. S. G.

Mesadenocoris robustus

Common Name:
P1189

Mesadenocoris robustus



Forest reserve
Dunedin 830
North Cape area
22.11.1967
E. S. G. T. S. G.

Maniotou Co.
North Island
NEW ZEALAND
AUCKLAND MUSEUM

Auckland Museum
PLANT/SOIL
SAMPLE 4/8

Sample 830
Maniotou Co.
22/11/67

Modicarventus wisei
HOLOTYPE ♀
M. S. G. T. S. G. 1969.

AMNZ 6328
AUCKLAND
MUSEUM
NEW ZEALAND

Modicarventus wisei



Neadenocoris abdominalis

U. S. G. T. S. G.

Neadenocoris abdominalis



Moana (L. An
1940s)
Mar. 10, 1953
E. R. Tomlin
Leaf mould

DILOTYPE
*Neadenocoris
acutus*
Larivière & Matile

*Neadenocoris
acutus*
Lar. & Matile

Neadenocoris acutus

K. SALASO, S. I.
L. McArthur
Dusky Junco
30-11-1952
T. Romy (C.M.)
C.M.
Mati

L. McArthur, Dusky Junco
S.I., N. Zealand (1952)
30-11-1952
30-11-1952 T. Romy (C.M.)

DILOTYPE
*Neadenocoris
glaber*
Larivière & Matile

*Neadenocoris
glaber*
Lar. & Matile

Neadenocoris glaber

K. SALASO, S. I.
Victoria Bridge
Marlborough
N. Zealand
6.11.1952

Palora & Burdye
Marlborough, S.I.,
N. Zealand. 17.11.52
R. Pilgrim (C.M.)

DILOTYPE
*Neadenocoris
ovatus*
Larivière & Matile

*Neadenocoris
ovatus*
Lar. & Matile

Neadenocoris ovatus

K. SALASO, S. I.
Du Brown and
Amund River
9-1-54, N. Zealand

C.M.

Su. Brown &
Du Brown River
9/1/54
W. Du Brown

DILOTYPE
*Neadenocoris
reflexus*
Larivière & Matile

*Neadenocoris
reflexus*
Lar. & Matile

Neadenocoris reflexus



N. ZEALANDIS &
Lobbe (Hemiptera,
Tri. Acan. II. 32. 13
G. Hampe (G.M.))

RE
LEAF MOLD

HOLMES &
Neadenocoris
spiniformis
Holmes & Spence

*Neadenocoris
spiniformis*
Ls. & Mats.



Collected from
the forest of the
19/7/58
G. D. B. S. Y.

HOLMES &
Neocarventus
angulatus
Holmes & Spence

Neadenocoris spiniformis

Neocarventus angulatus



HOLMES &
Neocarventus
unicus
Holmes & Spence
19/7/58
G. D. B. S. Y.

HOLMES &
Neocarventus
unicus

Neocarventus unicus

ARTHENEIDAE



Bold Peak,
27-1215 7-1-45
E.S. Gourlay.
Nothochromus
MAORICUS
HOLOTYPE
J. A. Slater
T.E. [unclear]
M.H. 5-871

Nothochromus maoricus

CERATOCOMBIDAE



NEW ZEALAND DP
Whirey Eco Park
381500/177360E
29.XI.1997
Larivière, Laroche

Hauau domherri
forest
Siled 1998

Holotype
Ceratocombus
aotearoae Larivière
& Laroche, 2004

Ceratocombus aotearoae

NEW ZEALAND HB
Kawaka FP, Ngahere
Loop W. 1.Jul.1996
Larivière, Laroche

Mountain beech
for: Litter of
base of trees
& rotten logs

Holotype
Ceratocombus
novaezelandiae Larivière
& Laroche, 1998

Ceratocombus novaezelandiae

CORIXIDAE



Sigara infrequens
Young
Holotype ♂
Barwick 25.5.59
Det. E.C.Y.

HOLOTYPE

Sigara infrequens

Sigara limnochares
Holotype ♂ Young
Blue Duck Str. Waik.
24.9.60 Det. E.C.Y.

HOLOTYPE

Sigara limnochares

Sigara potamius
Young
Holotype ♂
Lun. Whāipara Ror.
24.8.56 Det. E.C.Y.

HOLOTYPE

Sigara potamius

Sigara uruana
Young
Holotype ♂
Waik. Smp. S.West.
22.3.58 Det. E.C.Y.

HOLOTYPE

Sigara uruana

CYDNIDAE

*Chilocoris neozealandicus*

CYMIDAE

*Cymus novaezelandiae*

ENICOCEPHALIDAE

*Gourlayocoris mirabilis**Phthirosternus magnus*

Blackland (n.e. of Leafmound)
 21.1.1944. E. G. Turbutt.
 HOLOTYPE ♂
 (with genitalia mounted)
 (Guthrie Museum, 1992)

*Systelloderes notialis*

Leslie Valley Track
 Leafmound, beech forest.
 23.1.1948. R. R. Forster.

HOLOTYPE ♂
 Systelloderes notialis
 (Guthrie Museum, 1992)

LYGAEIDAE

*Lepiorsillus tekapoensis**Nysius liliputanus**Rhyodes argenteus**Rhyodes atricornis*



49 Arthropods
747m. N.Z.
22. Mar 21
A.C. Evans

under
Habitat plant

Male 1.5 mm ♂
Any 1922
A.C. Evans coll.
C. 1922

Rhyodes brachypterus



C. 1922 collected by
Aqueducts (1922)
21 Dec 11. A.C. Evans
under 6. plant (1922)

Male 1.5 mm ♂
Any 1922
A.C. Evans coll.
C. 1922

Rhyodes brevifissus



Kes Wall
Mt. Cook 7-1-46
A.C. Evans

Hebe,
subalpine

Male 1.5 mm ♂
Any 1922
A.C. Evans coll.
C. 1922

specimen
A.C. Evans

Rhyodes brevipilis



McC. Mt. Cook 1946
12. 12. 1946
A.C. Evans, N.Z. Arthropods
under 6. plant
Psychodidae

Male 1.5 mm ♂
Any 1922
A.C. Evans coll.
C. 1922

Rhyodes bucculentus



Mr. Corneil, Surobayan
 up 4500' - 5000'
 Col. S. L. Townsend 1.11.63
Holotype ♀
RHYPODES
CELMISIAE
 Sjöstr.

Rhypodus celmisiae



1944-1945
 13 Feb. 45
 A.C. Sjöström
 grass and
 woods
Holotype ♂
RHYPODES
COGNATUS
 Sjöstr.

Rhypodus cognatus



Mr. F.
 Thompson
 1000-1100
 R.P. Sjöström
 A.C. Sjöström
 Slope
 grass and
 wood
Holotype ♀
RHYPODES
CRINITUS
 Sjöstr.

Rhypodus crinitus



Takana
 Mr. H. Sjöström
 80, West Park
 U. S. S. R.
 M. S. S. R.
 ...
 in
 California
 fenestrate
Holotype ♂
RHYPODES
DEPILIS
 Sjöstr.

Rhypodus depilis



Mt. Ruahi 3000'
 M. R. & M. J. G. 1961
 10. 10. 1961
 Holotype ♂
 RHYODES
 EMINENS
 Syles

Rhyodes eminentis



Mt. Sebastopol
 4500' 8-1-66
 Syles
 Holotype ♂
 RHYODES
 GRACILIS
 Syles

Rhyodes gracilis



Mt. Ruahi 3000'
 M. R. & M. J. G. 1961
 10. 10. 1961
 On *Saxifraga*
 bledwii
 Holotype ♀
 RHYODES
 HIRsutus
 Syles

Rhyodes hirsutus



South Lake track
 Mt. St. Catherine
 10. 10. 1961
 probably
C. sp.
 Holotype ♂
 RHYODES
 JUGATUS
 Syles

Rhyodes jugatus



Maton Valley,
Nelson
Sweet off L. piteoides
6-11-51 L. Gruy.
HOLOTYPE ♂
RHYPHODES
KOEBELEI
Eyles

Rhyphodes koebelei

Croquet Pt.
Queensland
12-1-66
A. G. Eyles
Holotype ♂
RHYPHODES
LONGICEPS
Eyles

Rhyphodes longiceps

Ms. Australian
Spec. Coll. no. 1
1961/1962 Eyles
coll. in specimen
Holotype ♂
RHYPHODES
LONGIROSTRIS
Eyles

Rhyphodes longirostris

Black Birch
Sta 1963a
18B 19 Feb 70
A. G. Eyles
Habitat gum
Coral Creek
Tobacco Stn
Holotype ♂
RHYPHODES
RUPESTRIS
Eyles

Rhyphodes rupestris



Mt Arthur
12-4 km NW
22 Mar 71
G. Kuschel

Dracophyllum

Holotype
RHYODES
RUSSATUS
1971

Rhyodes russatus



Kaa Waike
Mt Cook 7-1-66
J.L. Townsend

Hebe
subalpina

Holotype ♂
RHYODES
SPADIX
1966

Rhyodes spadix



Kehekeke
Mrs. Monowai
4930' 29-1-63
J.L. Townsend

Holotype
RHYODES
TOWNSENDI
1963

Rhyodes townsendi

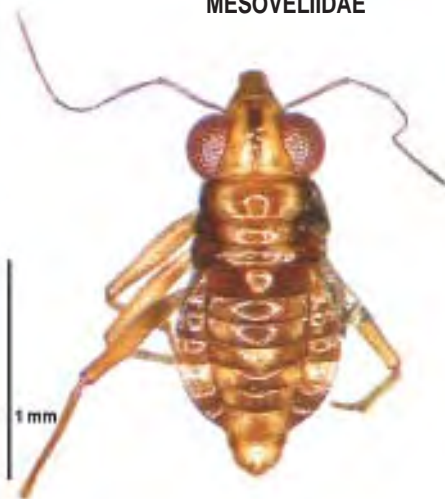


Hydro Rd.
Bentons 1500'
on Ranunculus mats
18-1-66
J.L. Townsend

Holotype ♂
RHYODES
TRIANGULUS
1966

Rhyodes triangulus

MESOVELIIDAE



Mniovelia kuscheli

MIRIDAE



Anexochus crassicornis

NEW ZEALAND, FC
 Loans 1956
 10.1.1956
 C.N. Lawrence
 Herbarium
 Wellington
 Holotype ♂
 ANEXOCHUS
 CRASSICORNIS
 Lawrence



Basileobius gilviceps

Tasman
 Valley
 Three Rivers La
 Grange 1. Nov. 70
 M., INT., 217, 229.
 Holotype ♂
 BASILEOBIUS
 GILVICEPS
 Lawrence & Satchell



Bipuncticoris cassinianus

MR. Black Mt.
 No. 20 Cassin
 6600' 12.3.1970.
 M.C. Eyles.
 Bipuncticoris
 cassinianus
 Eyles & Cassin
 photograph



Bipuncticoris chlorus

NEW ZEALAND
 Tasman Bay
 Mt. Cassin 1970
 12.3.1970
 C.J. Bouché
 Herbarium
 Holotype ♂
 BIPUNCTICORIS
 CHLORUS
 Bouché & Cassin



mt. Richmond
Fell Rd. 13.3.69
4500 A.C. Eyles
Senecioidams
with nymphs.

Holotype ♂
**BIPUNCTICORIS
CONVEXUS**
Eyles & Carvalho

photo Fig. 15

Bipuncticoris convexus



Makahu Spur
4000' Makelaka
Crestline Jukubi
N.C. Eyles, overaria

Holotype ♂
**BIPUNCTICORIS
GURRI**
Eyles & Carvalho

Bipuncticoris gurri



Mr. Barber
above bushline

Mannouri
Exp. Jan. 70
A.C. Eyles

on Olearia
Crispy -
Sunflowers

Holotype ♂
**BIPUNCTICORIS
IRRORATUS**
Eyles & Carvalho

Eyles photo 60

Bipuncticoris irroratus



S. Horland &
Tide

Bunter
Mts

Mannouri
Exp. Jan 70
I. Townsend

Beating
flowers

Olearia
virgata

Holotype ♂
**BIPUNCTICORIS
LINEATUS**
Eyles & Carvalho

Bipuncticoris lineatus



Bipuncticoris longicrus



Bipuncticoris minor



Bipuncticoris olearinus



Bipuncticoris planus

*Bipuncticoris robustus**Bipuncticoris triplex**Bipuncticoris vesus**Bipuncticoris xestus*



M. Yeatesiana
Wilson Botanical
Reserve 29.7.1971
A. Eyles, sweep grass.

HOLOTYPE ♂
CHAETODUS
LONGICEPS
Eyles

Chaetodus longiceps



Black Oak Road
188-214 rd. 24
O.C. WOFF.

subject from
residual
wharfed.

HOLOTYPE ♂
CHAETODUS
PLUMALIS
Eyles

Chaetodus plumalis



4000 ft. level, lower slope
S.T. 1000m above 25/07 1962

HOLOTYPE ♂
CHINAMIRIS
ACUTOSPINOSUS
Eyles & Corvinko

Chinamiris acutospinosus



2000m S.
Sudley Ridge
2.11.1962

HOLOTYPE ♂
CHINAMIRIS
AURANTIACUS
Eyles & Corvinko

Chinamiris aurantiacus



Russische Belg.
Kupfersteinberg
Waldes Nat. Arb.
2. Nov. 71
H. K. Kugel-
Capriolo
**CHINAMIRIS
BRACHYCERUS**
Kugel & Capriolo

1 mm

Chinamiris brachycerus

Iwiku Ruapehu
19-7-65 & 66
G. Kuschel
Heteroptera sp.
CHINAMIRIS
CITRINUS
Kugel & Capriolo

1 mm

Chinamiris citrinus

POULPAC
N. N. 1969
Océanie -
Z. A. COMBES
A. K. Kugel
Kugel & Capriolo
**CHINAMIRIS
CUMBEI**
Kugel & Capriolo
Paratype
**CHINAMIRIS
CUMBEI**
Kugel & Capriolo

1 mm

Chinamiris cumbei

New Zealand, N. N.
Little Bush,
Puketahi.
15. 1. 1971
T. M. & J. M. Davies
Heteroptera sp.
CHINAMIRIS
DAVIESI
Kugel & Capriolo

2 mm

Chinamiris daviesi



Mount No. 1947 m.
 Monrovi
 Exp. Jan 70
 A. C. Klyne
 Dracophyllum
 Upper bush
 edge
 No. 1947 m.
 CHINAMIRIS
 DRACOPHYLLOIDES
 Klyne & Courlay

Chinamiris dracophylloides



Mount No. 1948 m.
 J. L. Trenchard
 CHINAMIRIS
 ELONGATUS
 Klyne & Courlay

Chinamiris elongatus



Mount No. 1949 m.
 J. L. Trenchard
 CHINAMIRIS
 FASCINANS
 Klyne & Courlay

Chinamiris fascinans



Mount No. 1950 m.
 E. S. Gourlay
 CHINAMIRIS
 GUTTATUS
 Klyne & Courlay

Chinamiris guttatus

*Chinamiris hamus**Chinamiris indeclivis**Chinamiris juvenis**Chinamiris marmoratus*



Chinamiris minutus



Chinamiris muelhlenbeckiae



Chinamiris niculatus



Chinamiris nigrifrons



Sumbawa
 Mt. Hender
 Day
 May 1976
 22.6.76
 S. L. Roser
 Coprosma
 Holotype of
 CHINAMIRIS
 OPACUS
 Sjöstedt & Corvalán

Chinamiris opacus

Tudiangaliman
 Napia Island
 1925-26 B.M.
 Holotype of
 CHINAMIRIS
 OVATUS
 Sjöstedt & Corvalán

Chinamiris ovatus

Franz Josef
 450'2 11.55
 J. L. Townsend
 Holotype of
 CHINAMIRIS
 PUNCTATUS
 Sjöstedt & Corvalán

Chinamiris punctatus

St. Barn. Is.
 North Is.
 Missouri
 Exp. Jan 79
 I. Townsend
 Hunter
 Mt.
 Holotype of
 CHINAMIRIS
 QUADRATUS
 Sjöstedt & Corvalán

Chinamiris quadratus



NEW ZEALAND IN
M. Archer
3000m. 11/10
2 Feb 1962
C. F. Burrows

Sampling

HOLOTYPE ♂
CHINAMIRIS
RUFESCENS
Fyfe & Gurney

Chinamiris rufescens



*Also taken
from 11/10 3000m
S.A. MOUNTAIN, 11/10*

HOLOTYPE ♂
CHINAMIRIS
SECUNDUS
Fyfe & Gurney

Chinamiris secundus



Dunedin, Feb 11
Rd. Terminus
523m. 11/10/62

T. G. Gurney
No. 0100013
no. 0100014

HOLOTYPE ♂
CHINAMIRIS
TESTACEUS
Fyfe & Gurney

Chinamiris testaceus



NEW ZEALAND IN
Terminus Pass
Below Horstall
Mts. 8 Feb 1962
C. F. Burrows

Sampling

HOLOTYPE ♂
CHINAMIRIS
UNICOLOR
Fyfe & Gurney

Chinamiris unicolor



*Cyrtodiridius aurantiacus**Cyrtorhinus cumberi**Deraeocoris maoricus**Diomnecoris fasciatus*



CHIKTAM IL SC
L. Kymala
9. 10. July 1980
J.E. Dupont &
S.P. Mullerens

Males 170

HOLOTYPE of
DIOMOCORIS
GRANOSUS
Eyles

U.S. Antarctic
Collection, USAC
Phoenix Is. 9179
AUCKLAND
New Zealand

1 mm

Diomocoris granosus



WA Norfolk Isl
(to M. Holdsworth)
10 Dec 1992
R.C. Eyles

Flourishing
Rear. 2.00
4000 7 det

HOLOTYPE of
DIOMOCORIS
OSTIOLUM
Eyles

1 mm

Diomocoris ostiolum



NEW ZEALAND IS
NANTUO COAST
7000-8000' level
20 Nov 1980
J.E. Eyles

HOLOTYPE of
DIOMOCORIS
PUNCTATUS
Eyles

1 mm

Diomocoris punctatus



Ranol Id.
16-25.1.67
J.C. Watt
in m/v
Light trap

HOLOTYPE of
DIOMOCORIS
RAOULENSIS
Eyles

1 mm

Diomocoris raoulensis



NEW ZEALAND, 18
 EASTERN S. MOUNTAINS
 1881
 M. S. LINDSEY
 Central Otago
 in Victoria
 (see 1881)
 East Cape Group
 1902, 1903
 N.Z. Antenna
 Collection

Neotype of
 DIOMOCORIS
 RUSSETI
 Kyles

Diomocoris russatus



W.A. Stewart Mt
 Hamilton, 1881
 10 Dec 1881, G.C. Kyles

with nymphs
 Diomocoris
 sexcoloratus
 Kyles

Neotype of
 DIOMOCORIS
 SEXCOLORATUS
 Kyles

Diomocoris sexcoloratus



NEW ZEALAND, 18
 EASTERN S. MOUNTAINS
 1881

W. S. LINDSEY
 Central Otago
 in Victoria
 (see 1881)

Three Kings Is.
 N. of Kaitiaki,
 NEW ZEALAND
 1902, 1903

Neotype of
 DIOMOCORIS
 WOODWARDI
 Kyles

AMNZ 18422
 1881
 G.C. Kyles

Diomocoris woodwardi



M.C. Christchurch
 Area, 1881
 2 Dec 1881, G.C. Kyles

Flagellations
 dipteris caulis
 with green fluids

Neotype of
 HALORMUS
 VELIFER
 Kyles & Schulz

Halormus velifer

*Josemiris carvalhoi**Kivimiris bipunctatus**Kivimiris coloratus**Kivimiris concavus*



NEW ZEALAND NC
 OTIHOA PASS
 Nelson, Nelson
 No. 11
 2 Feb 1962
 C. F. Burker
 Drooping
 Holotype ♂
 KIWIMIRIS
 MELANOCERUS
 Burker & Curran 1962

Kiwimiris melanocerus



NEW ZEALAND DL
 HAMILTON
 Forest Creek
 Feb. 1962
 21 Feb 1962
 G. Hussey
 Creeping Lucern
 Holotype ♂
 KIWIMIRIS
 NIGER
 Hussey & Curran 1962

Kiwimiris niger



Flowering lucern
 Kaitake
 Manurewa locality
 11. 2. 1970
 C. F. Burker
 Holotype ♂
 LINCOLNIA
 LUCEMINA
 Burker & Curran 1970

Lincolnia lucemina



478 Wellington
 Bay of Islands
 Colman's Creek
 15. 2. 1962
 G. Hussey
 DA 4/100
 Holotype ♂
 MECENOPA
 ALBIAPEX
 Hussey & Curran

Mecenopa albiapex

*Monopharsus annulatus**Monospatha distincta**Peritropis aotearoae**Pimeleocoris luteus*



NEW ZEALAND WD
 H. J. COCHRAN
 11.10.1972
 5 & 11 Forest

**Holotype of
 PIMELEOCORIS
 ROSEUS
 Eyles & Sahlén**

Pimeleocoris roseus



AD. KUMARU Rd.
 400' above road
 400' to 500' Pimeleocoris
 whitehead 19 June
 1999 A.T. Eyles

**Holotype of
 Pimeleocoris
 VIRIDIS
 Eyles & Sahlén**

Pimeleocoris viridis



Dr. Outram, Whiffie
 11 Dec 1992 A.T. Eyles

**Holotype of
 POLYOZUS
 GALBANUS
 Eyles & Sahlén**

Polyozus galbanus



Motuhia Spur
 Kawaka Rd.
 6000' alt. 1992
 J.L. Sahlén

Basal from
 Phyllostachys

**Holotype of
 ROMNA ALBATA
 Eyles & Sahlén**

specimen
 photographed

Romna albata



Walter Fiat
6000-1900
Currier Ave.

Manassas
Exp. Jan 20
S. District

HOLOTYPE ♂
ROMNA
BICOLOR
Larivière & Laroche

Romna bicolor



Kee Walk
Mt. Gosh 7-1-65
A.C. Ely

Habu
subalpina

HOLOTYPE ♂
ROMNA
CUNEATA
Larivière & Laroche

Romna cuneata



Madison, Va.
Pawling
On Mt. Gosh
12/20/65

HOLOTYPE ♂
ROMNA
NIGROVENOSA
Larivière & Laroche

Specimen
photographed

Romna nigrovenosa



Mt. Gosh
Lanoka
12/20/65

18 Jan 66
S.S. Dugdale

HOLOTYPE ♂
ROMNA
OCULATA
Larivière & Laroche

Specimen
photographed

Romna oculata



A. R. H. B. 1964
 SUPPLY FINE
 RECALCIBED
 TO D.M.C. 1960
 D.M. 1964

HOLOTYPE ♂
 ROMNA
 ORNATA
 S. G. & S. G. 1964

Romna ornata



ROMNA
 TROPICAL
 SPECIES
 FROM
 S. PACIFIC
 ISLANDS

ROMNA sp.
 T. H. Woodward
 Det. Feb 1964

HBM. 160

HOLOTYPE ♂
 ROMNA
 PALLIDA
 S. G. & S. G. 1964

Romna pallida



H. G. S. 1964
 N. S. 1964
 " 1964
 P. G. 1964-67

H. G. S. 1964
 Clifton

HOLOTYPE ♂
 ROMNA
 TENERA
 S. G. & S. G. 1964

Romna tenera



Table III
 1964 16. 11. 64

Stewart I.
 Exp. Feb 1964

Boating

HOLOTYPE ♂
 ROMNA
 UNIFORMIS
 S. G. & S. G. 1964

Romna uniformis



Aniseed V.
29.12.53
E.S. Gourlay

E. S. Gourlay
Acc. 1970
Ent. Div.

HOLOTYPE ♂
ROMNA
VARIEGATA
Eyles & Carvalho

Romna variegata



Auckland, N.Z.
December
at P. Green & Sons
100 J. Green St. N.Z.
10 N. Green St. N.Z.

Holotype ♂
TINGNOTUM
MINUTUM
Eyles

CGNZ Collection
40 Forrest Avenue
Henderson
Auckland 8 N.Z.

Tingnotum minutum



Kaipoko Lakes
West Haven,
28.10.65
J.J. Townsend

~~Tuicoris intermedia~~

Holotype ♂
TUICORIS
EXCELSUS
Eyles & Carvalho

Tuicoris excelsus



MC sign of the
Bill Bond & Jan 1998
A.C. Kyles, T. & L. M.
(Mickelson).

Holotype ♂
TUICORNIS
LIPURUS
Kyles & Bond

Tuicornis lipurus



Deposited at
Christchurch
20-21 Oct. 68.
J.C. Watt.

hosting
scrub

Holotype ♂
WEKAMIRIS
AUROPILUSUS
Kyles & Gurney

Wekamiris auropilosus



To Whangarei Rd
from the entrance
Jan 1998, A.C.
A.C. Kyles & Subuk

Holotype ♂
XIPHOIDES
BADIUS
Kyles & Subuk

Xiphoides badius



AK, Waia, a part of
Karamanawa TC
19 Apr 1998, A.C.
Kyles, Auckland

Holotype ♂
XIPHOIDES
LUTEOLUS
Kyles & Schuch

Xiphoides luteolus



-70 Wainihi Rd
Edge Hill, Auckland
P.O. Box 2000, AK1015

**Neotype of
XIPHOIDES
MULTICOLOR
Eyles & Sclater**

Xiphoides multicolor

Frank R. Myers
Wainihi Road
Edge Hill, Auckland
P.O. Box 2000, AK1015

Wainihi Rd,
North Island,
NEW ZEALAND
ATLANTIC MUSEUM

HOLOTYPE

HOLOTYPE ♂
Atlantic
Museum
Wainihi Road, AK1015

AMNZ 21784
COLLECTOR
NEW ZEALAND

Xiphoides myersi

Frank R. Myers
Wainihi Road
Edge Hill, Auckland
P.O. Box 2000, AK1015

**Neotype of
XIPHOIDES
REGIS
Eyles & Sclater**

STERNARDUS
1994 EPSU
Wainihi Road, AK1015
T. H. Woodward
Det. Oct. 1989

Draw Kings Is.
Is. of North I.
NEW ZEALAND
MUSEUM SYSTEM

AMNZ 28000
COLLECTOR
NEW ZEALAND

Xiphoides regis

NEW ZEALAND, IS
STERNARD ISLAND
Stewart Bay
23.10.91
J.B. White

beaten from bush
N of Duck Cr.

**Neotype of
XIPHOIDES
VACANS
Eyles & Sclater**

Xiphoides vacans

PENTATOMIDAE



Cermatulus nasalis hudsoni



Hypsithocus hudsonae



Cermatulus nasalis turbotti

RHYPAROCHROMIDAE



Cascade Cr, Hollyford Valley,
S.I., N.Zealand (leaf mould).
25.3.51. R.R. Forster.

HOLOTYPE ♂
Forsterocoris bisinuatus
Larivière, 1977

Forsterocoris bisinuatus



L. Manapouri (beech forest, No. 2,
No. 3), N.Zealand. 7.XI.48
(leaf mould). T.T. Salmon.

HOLOTYPE ♂
Forsterocoris salmoni
Larivière, 1977

Forsterocoris salmoni



L. Manapouri, S.I.,
N.Zealand (moss).
22.IV.51. R.R. Forster.

HOLOTYPE ♂
Forsterocoris sinuatus
Larivière, 1977

Forsterocoris sinuatus



Big S. Capt. I.
S.Wickham I.

Nov 68
J. McBurney

litter

HOLOTYPE ♂
Forsterocoris stewartensis
Larivière, 1977

Forsterocoris stewartensis



Geratarma eylesi



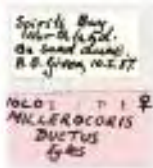
Geratarma manapourensis



Metagerra angusta



Metagerra kaikourica

*Metagerra truncata**Millerocoris conus**Millerocoris ductus**Paratruncata insularis*



Raetihi (central N.Z.) New Zealand, 22.XII.42, coll. R. & R. Forster (no leaf mould)
HOLOTYPE ♂
Regatarma forsteri Forster
 New Zealand, 1952

Regatarma forsteri



Affinities to *A. Black* 1970
 1970a, 1970b, 1970c
 Black Bug, Marlborough, N.Z. Eggleston
HOLOTYPE ♀
STIZOCEPHALUS BREVISROSTRIS
 Eggleston

Stizocephalus brevisrostris



N.W. of Taupiri, N.Z., New Zealand, 3.V.48 (leaf mould) R. J. Moly.
HOLOTYPE ♂
Tomocoris ornatus
 Woodhouse, 1953

Tomocoris ornatus



1. Taupo, Mt. Grey, N. Cant., N.Z., 12.V.48 (leaf mould) T. S. Dugdale.
HOLOTYPE ♀
Tomocoris truncatus
 Woodhouse, 1953

Tomocoris truncatus



Virague Hill Res. (Upper
Range) (E.K. R.) N. Z.
N. Zealand. 17.10.58.
(leaf mould) E.R. Forster

HOLOTYPE ♀
Truncala hirsuta
Larivière, 1972

Truncala hirsuta



Kaikahu, Cant., S. I.,
N. Zealand. 30.11.58.
(leaf mould) E.R. Forster

HOLOTYPE ♀
Truncala hirta
Larivière, 1972

Truncala hirta



Isl. T.
Hervey Is. Co.
O4. Nov. 78
G.M. Samsky

Label
72/232

HOLOTYPE
♂
D.V.L.M.
New Zealand

*Truncala
insularis* (Samsky)

Truncala insularis



Island Charlotte I., Marlborough
New Zealand. 12.08.68. (leaf
mould) - T. T. Salmon.

HOLOTYPE ♀
*Truncala (Hemitegma)
sulcata* (Larivière, 1972)

Truncala sulcata

*Trypetocoris aucklandensis**Trypetocoris rudis**Trypetocoris separatus**Udeocoris levis*



Karito, Wairarapa, S.I.,
N. Zealand (leaf mould)
17. VII. 69. R. R. Forster

HOLOTYPE ♂
Woodwardiana evagorata
Richardson
1973

Woodwardiana evagorata



aparara, W. Nelson, S.I.,
N. Zealand. 20. I. 50.
(leaf mould), R. R. Forster.

HOLOTYPE ♂
Woodwardiana nelsonensis
Richardson
1973

Woodwardiana nelsonensis



Tapanui, S. Otago, S.I.,
N. Zealand. (leaf mould).
26. I. 51. R. R. Forster.

HOLOTYPE ♂
Woodwardiana notialis
Richardson
1973

Woodwardiana notialis



Edwin Hill
Ranch Forest
19. 4. 53
G. Karsch

Form 1.
Latreille

Woodwardiana paparia
Richardson

Woodwardiana paparia

SCHIZOPTERIDAE

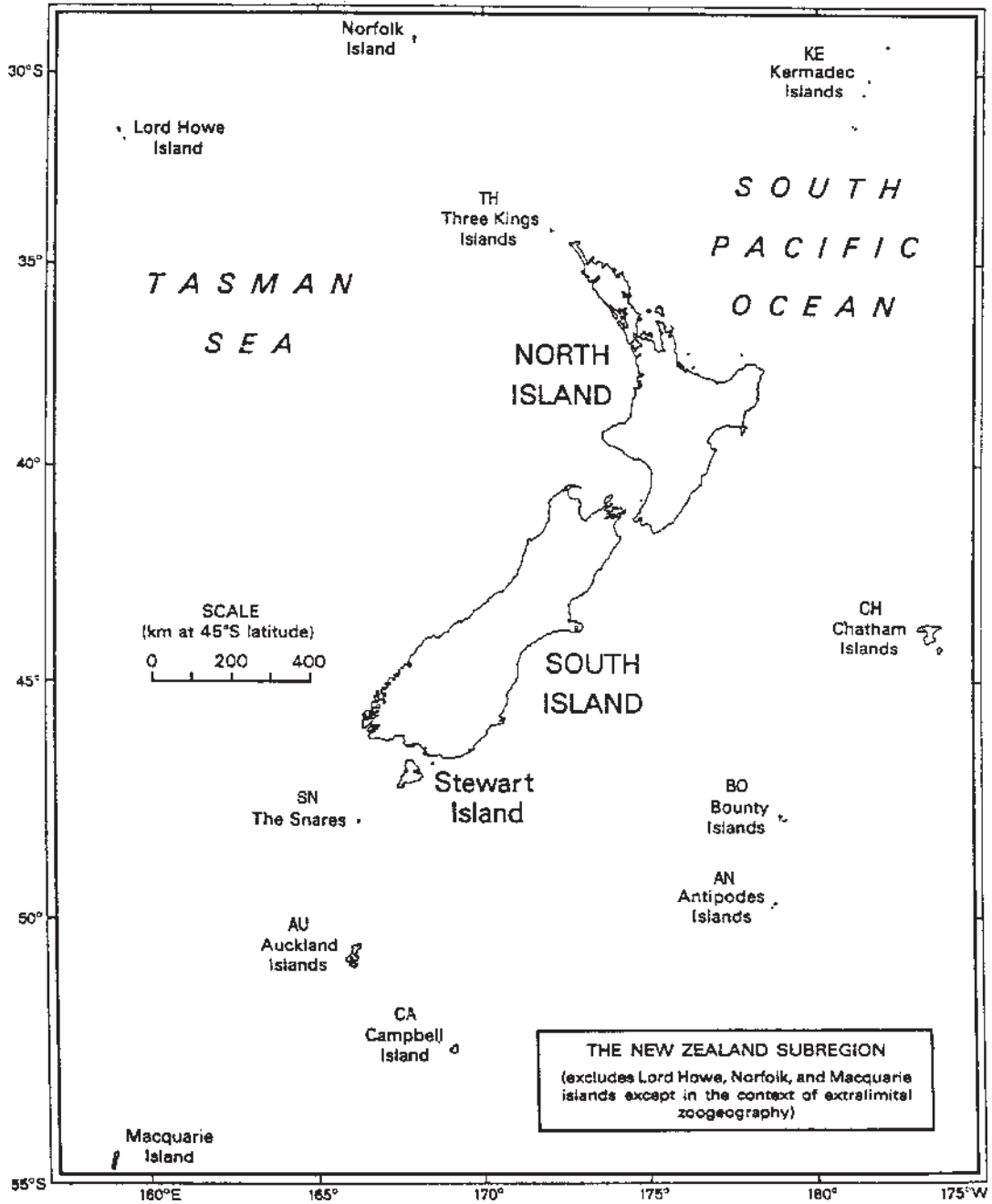


Hypselosoma acantheum

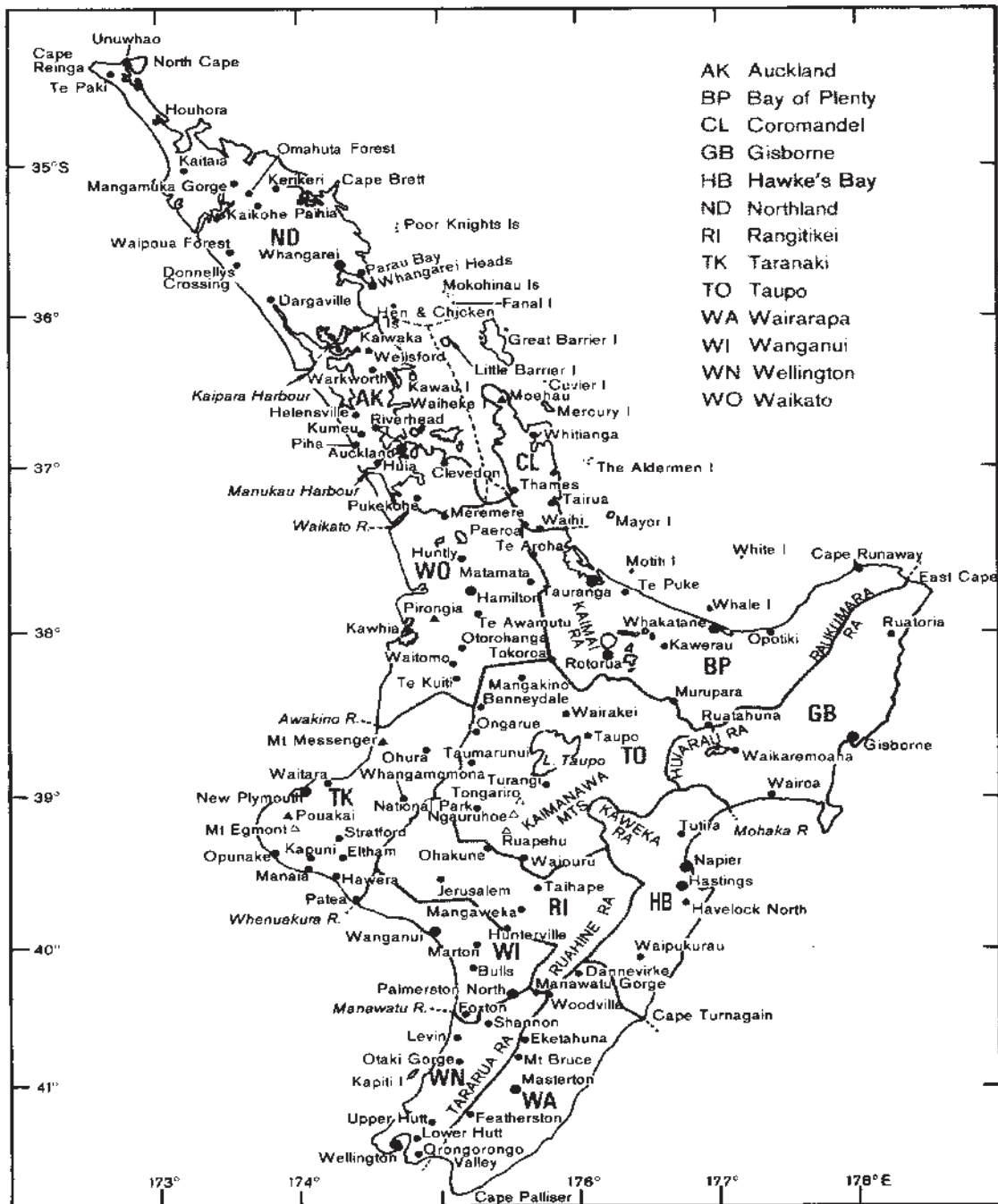
TINGIDAE



Tanybyrsa cumberi



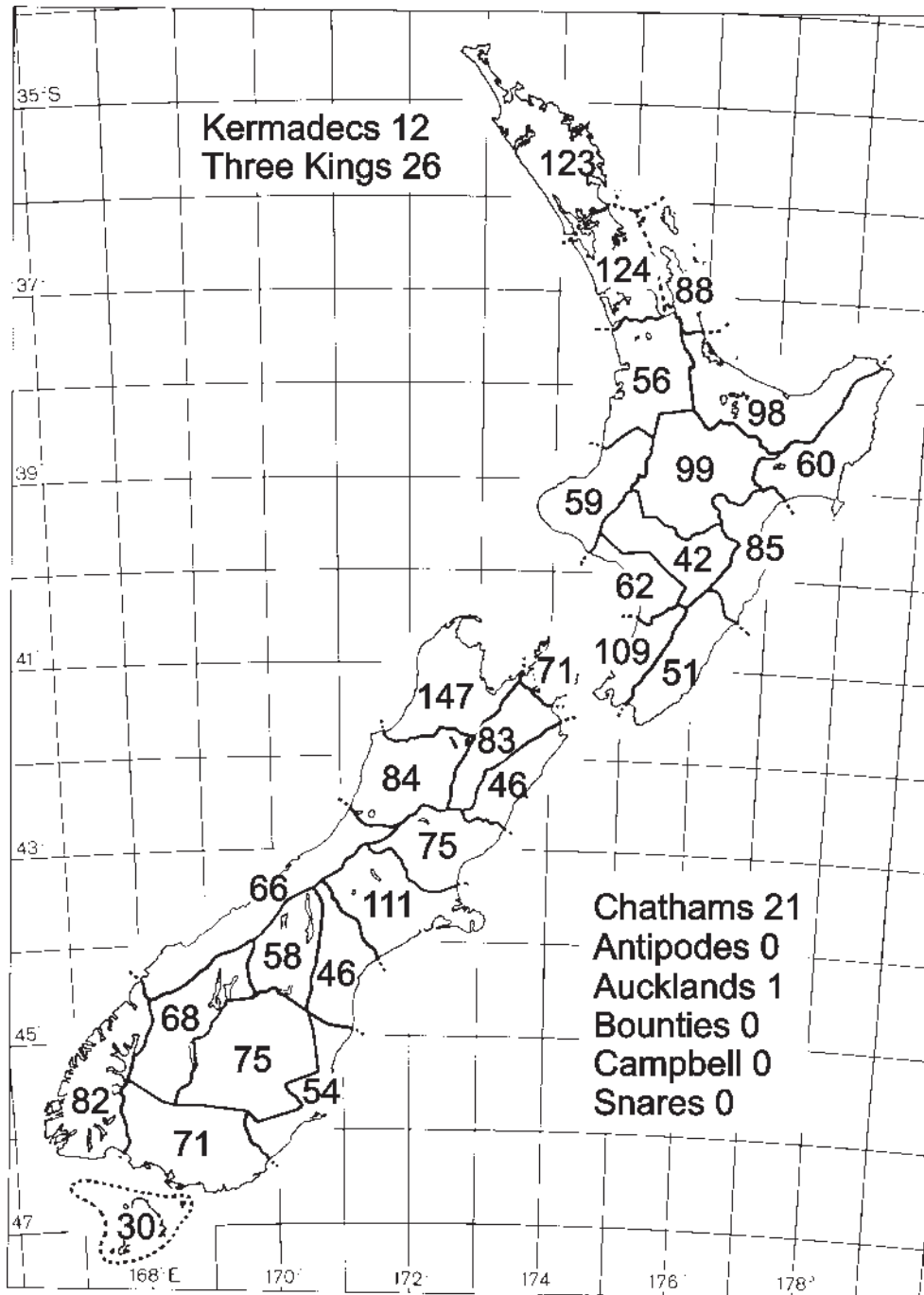
Map 1. The New Zealand subregion with area codes.



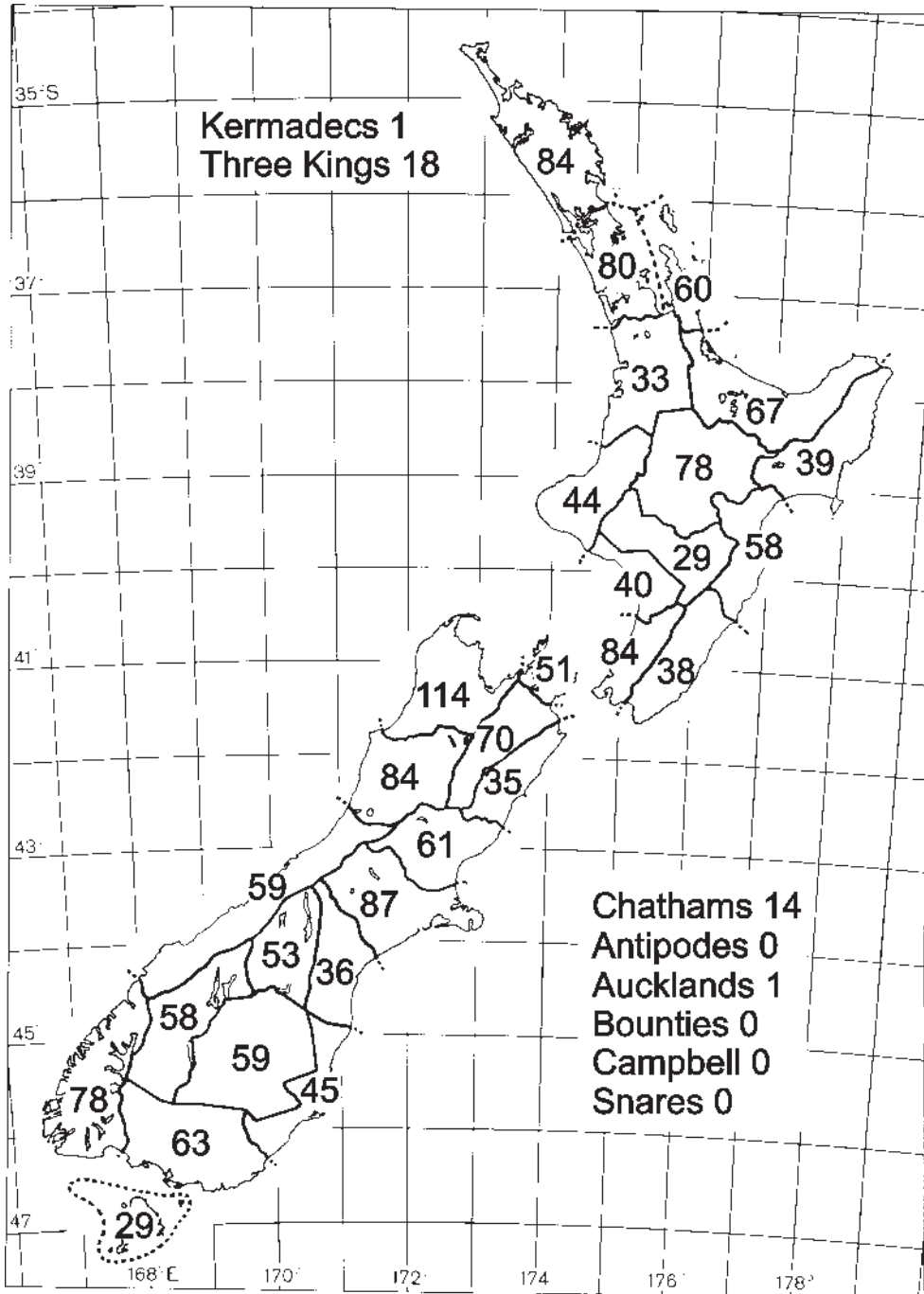
Map 2. Area codes and collecting localities from mainland New Zealand: North Island.



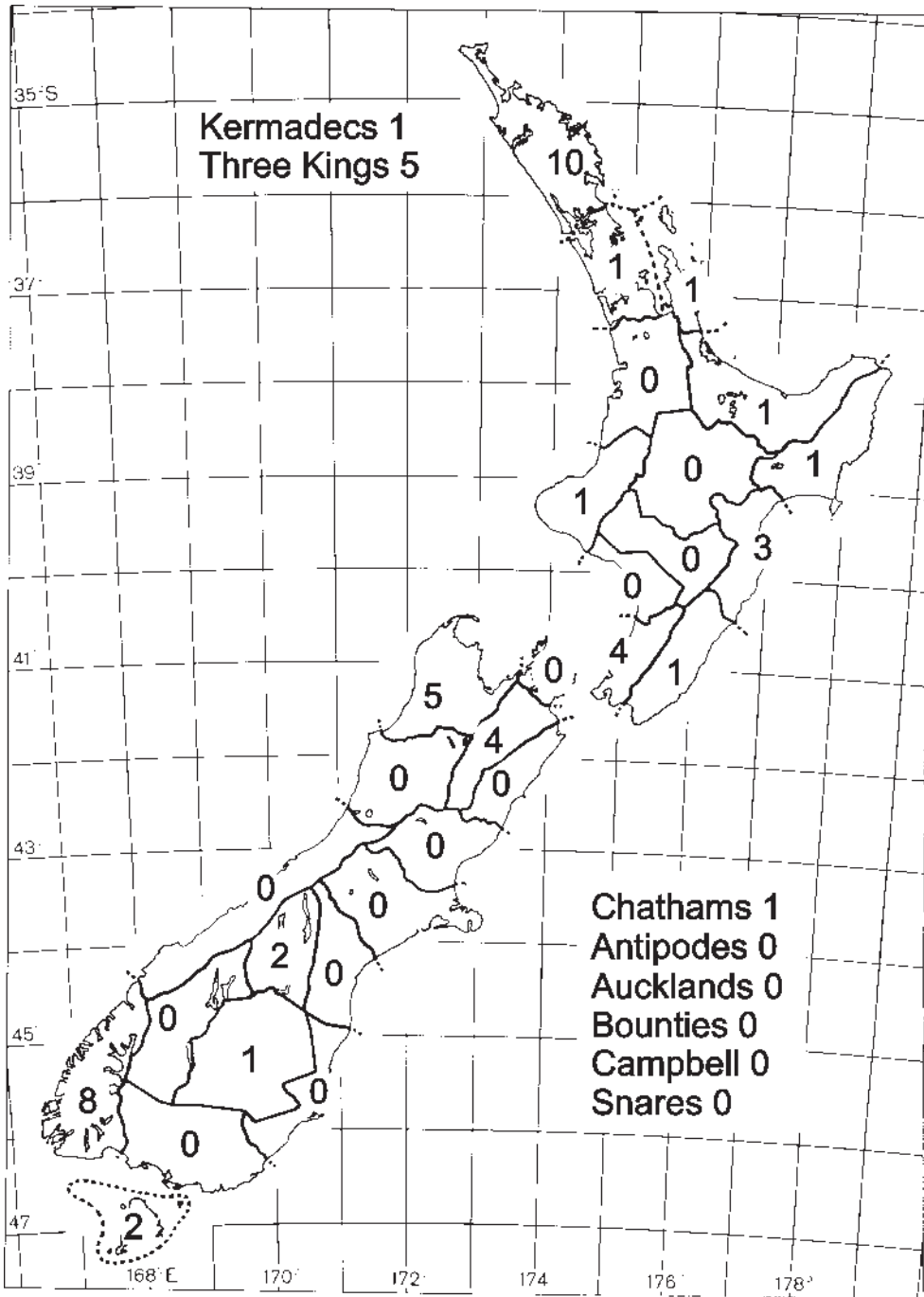
Map 3. Area codes and collecting localities from mainland New Zealand: South Island and Stewart Island.



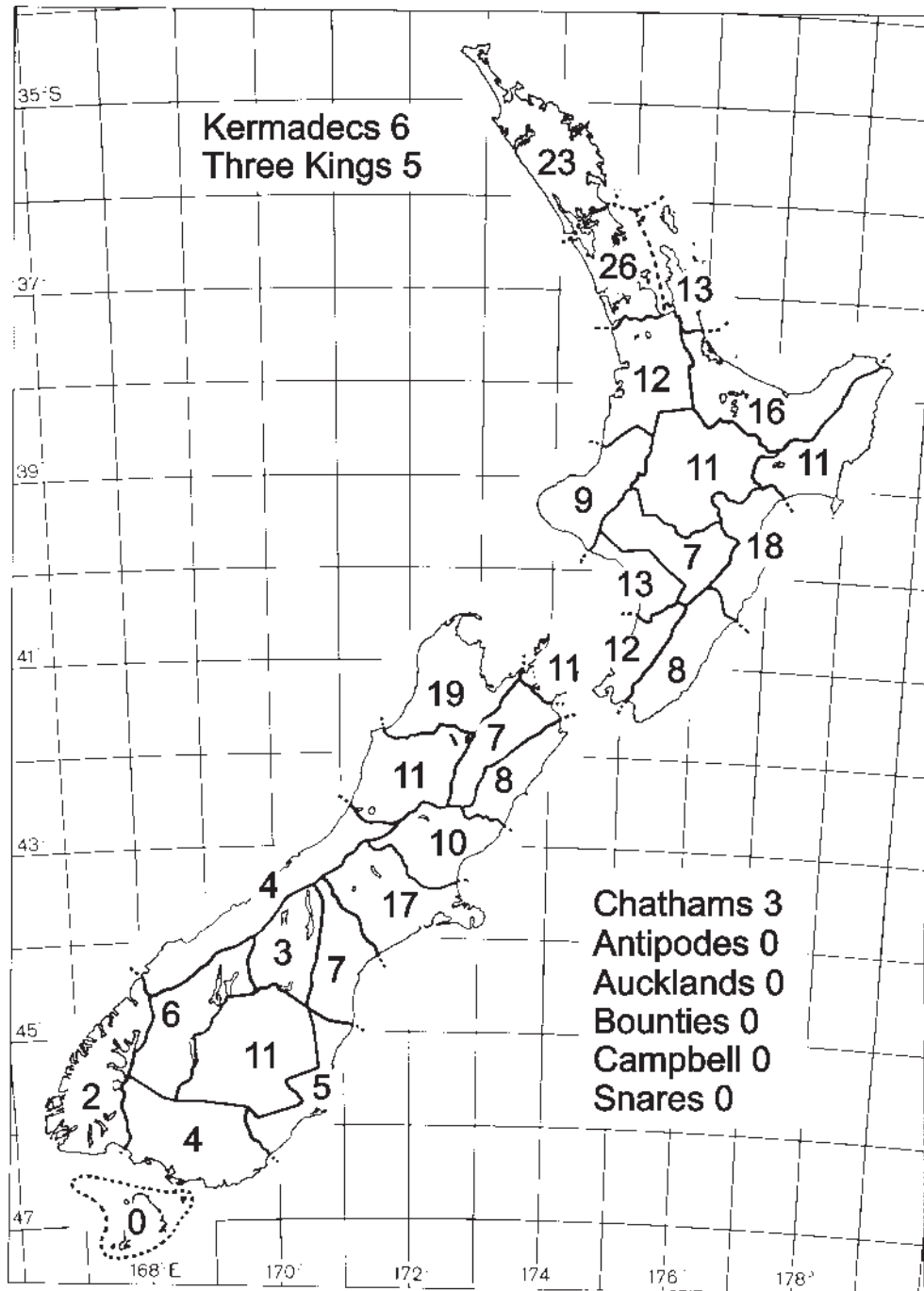
Map 4. Total number of known taxa by areas.



Map 5. Number of known New Zealand endemics by areas.

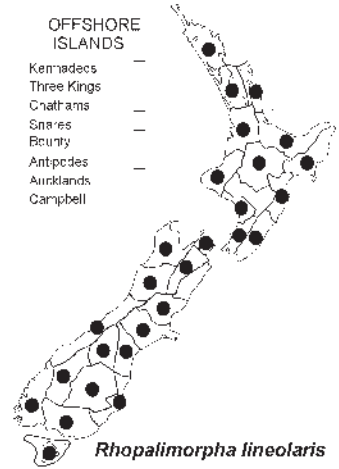
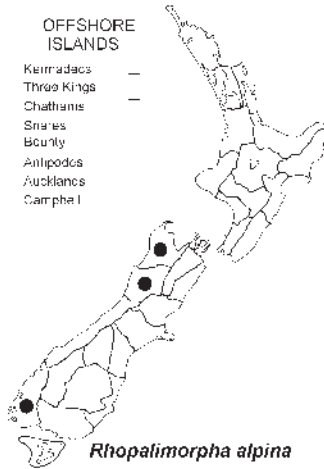
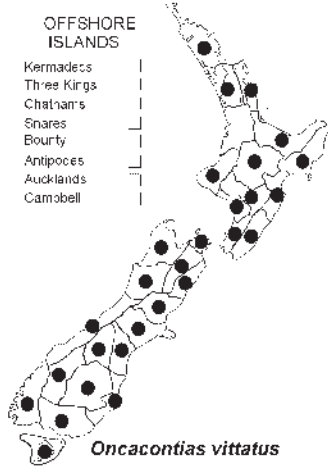


Map 6. Number of native taxa known to be restricted to single areas.

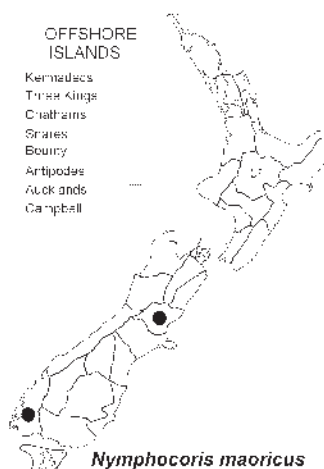
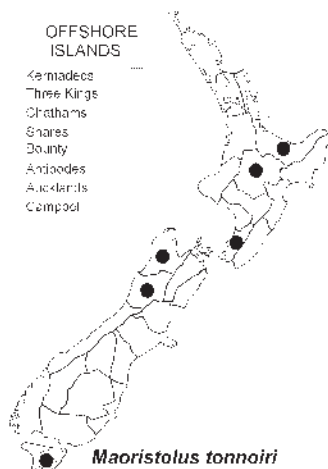
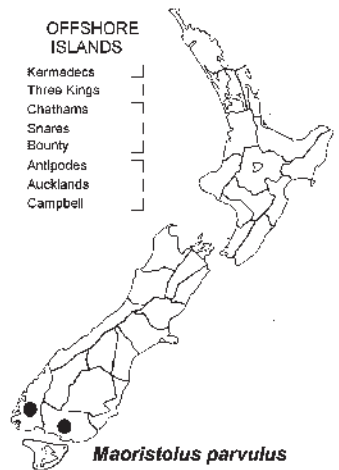
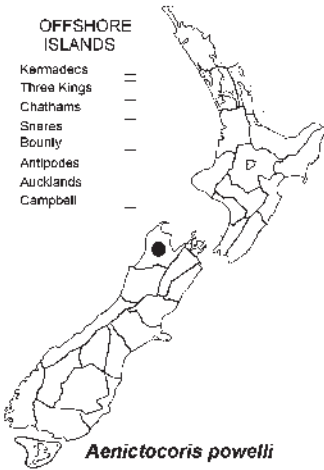
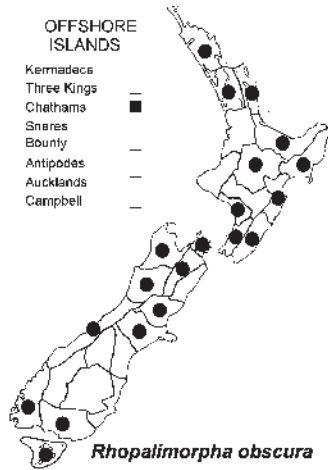


Map 7. Number of known adventive taxa by areas.

ACANTHOSOMATIDAE

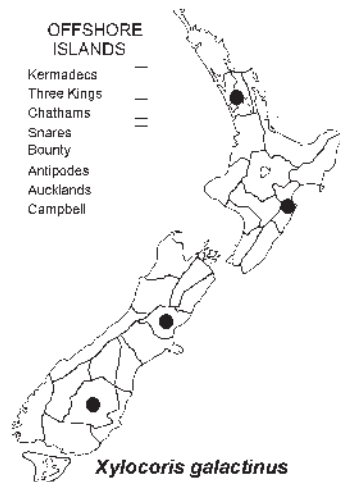
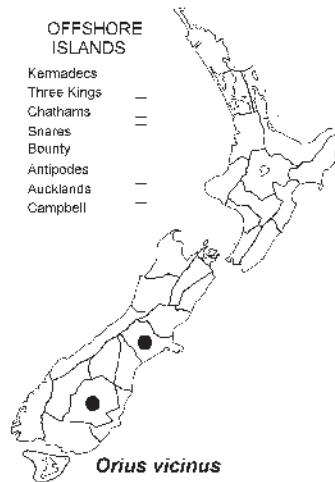
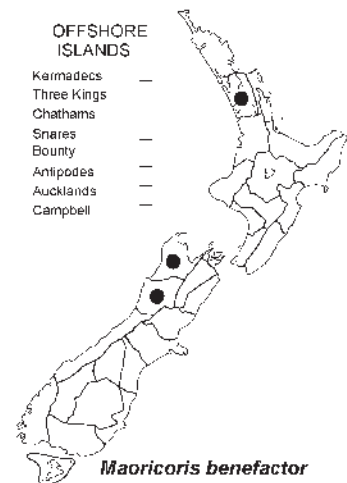
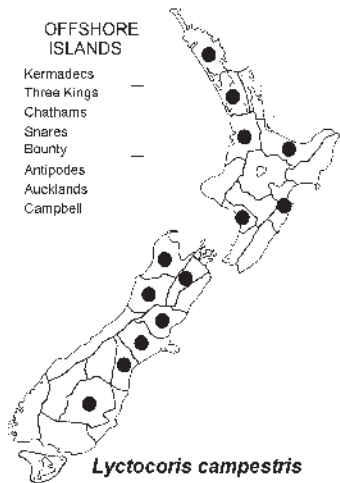
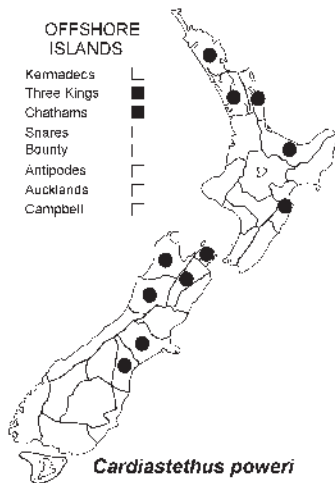
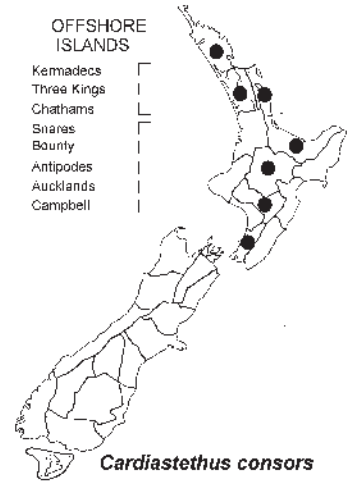
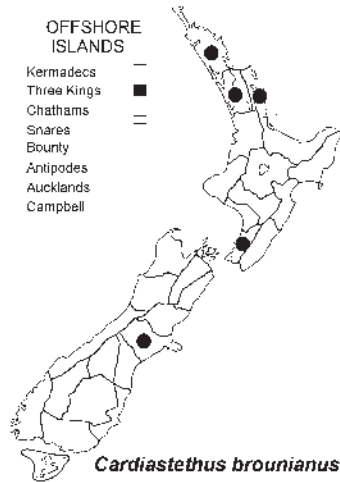
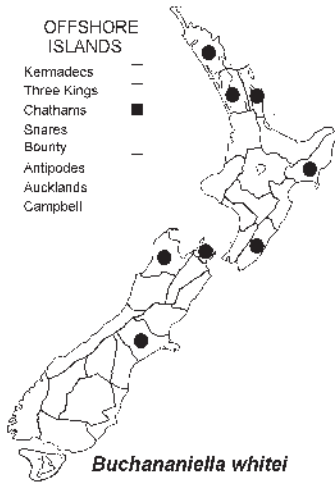


AENICTOPECHEIDAE

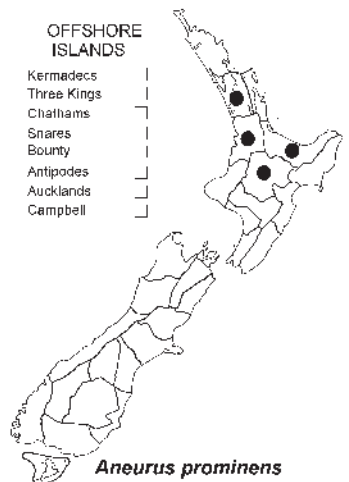
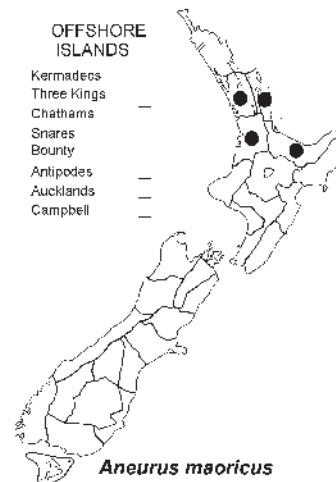
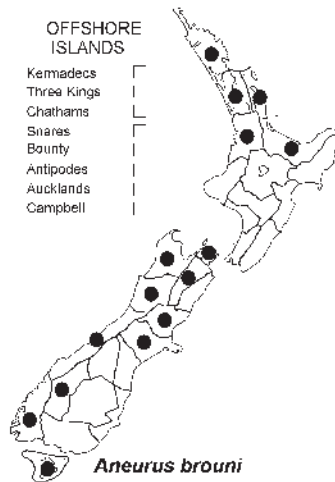
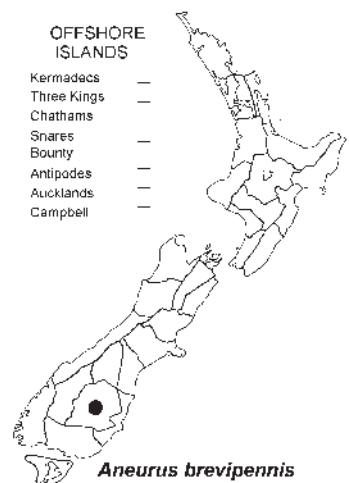
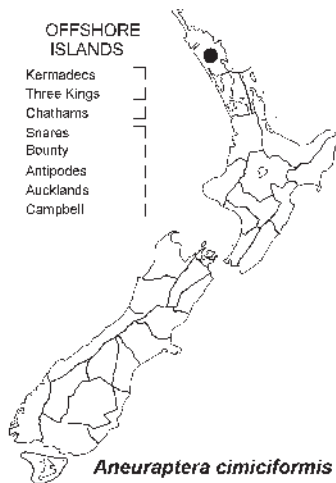
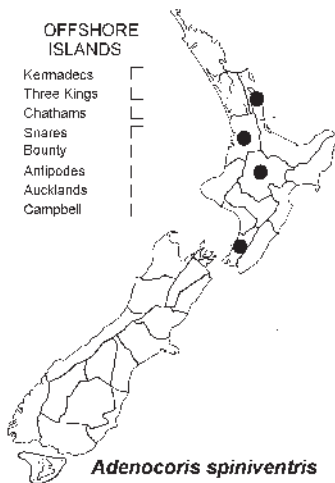
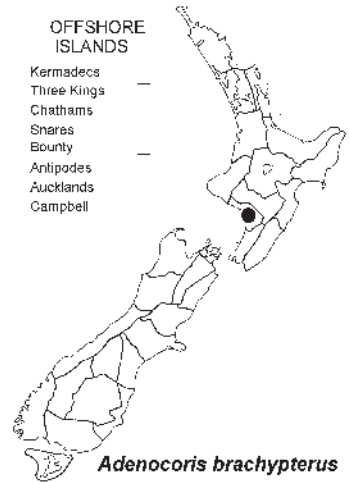
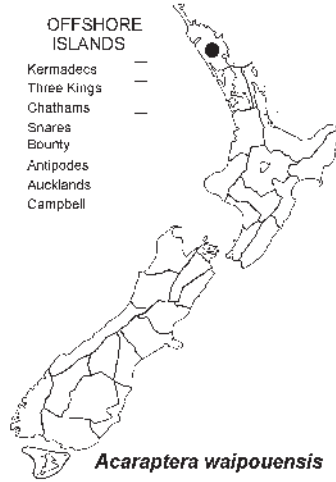
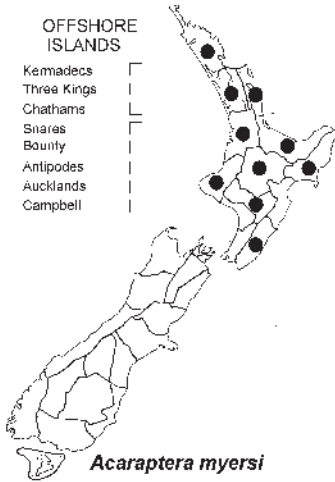


Species distribution maps (pp. 283–318). Presented alphabetically by families, genera, and species. Area boundaries follow area codes of Crosby *et al.* (1976, 1998).

ANTHOCORIDAE



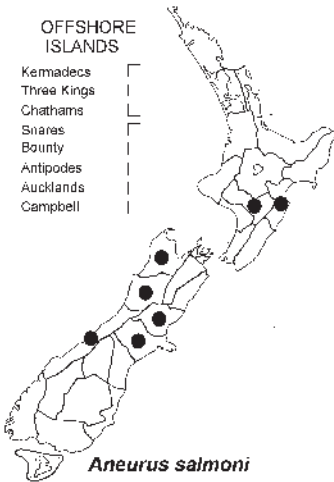
ARADIDAE



ARADIDAE

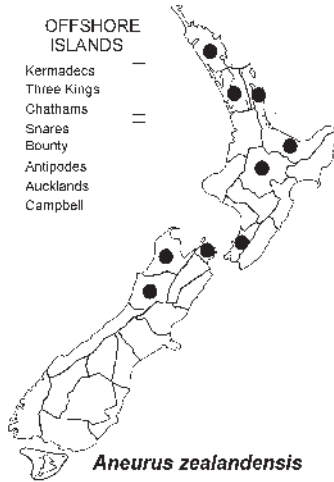
OFFSHORE ISLANDS

Kermadecs
Three Kings
Chathams
Snares
Bounty
Antipodes
Aucklands
Campbell



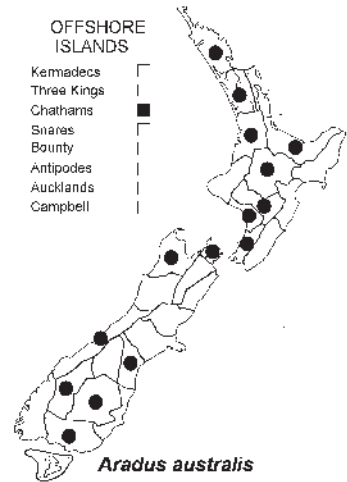
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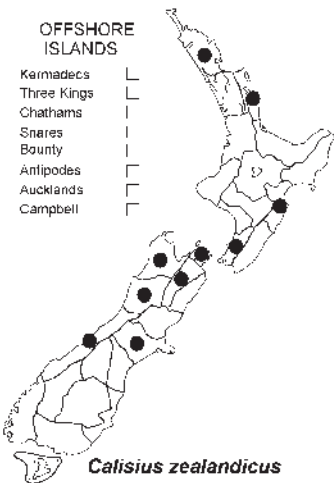
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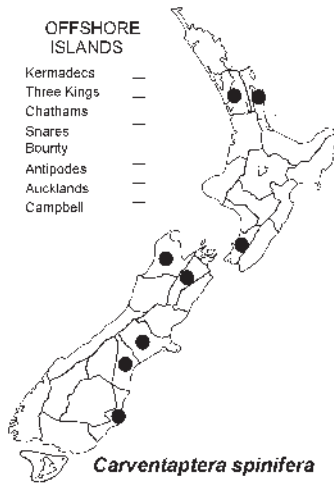
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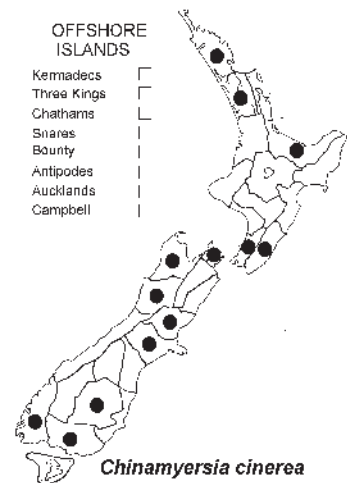
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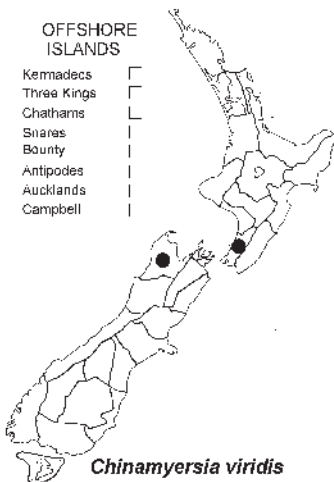
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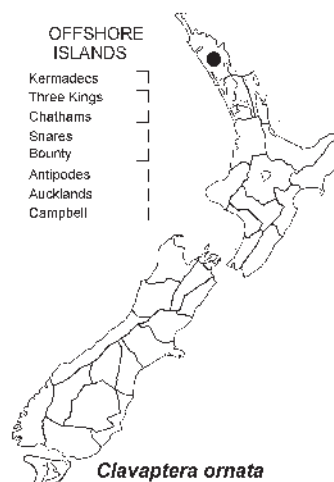
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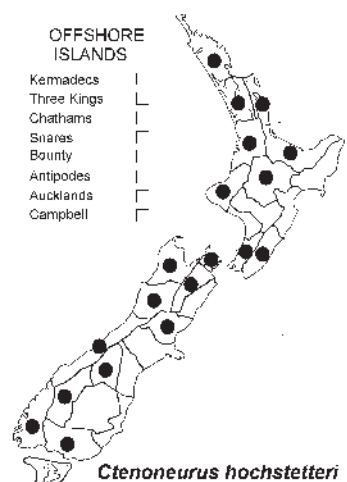
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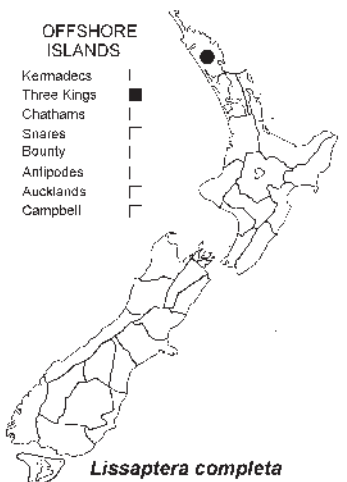
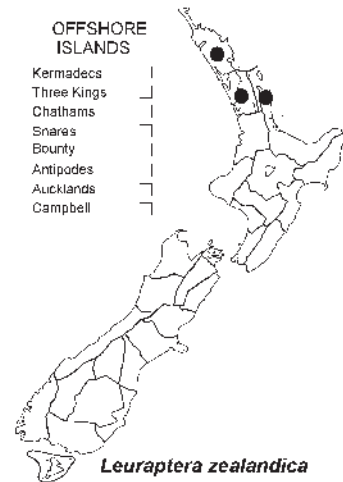
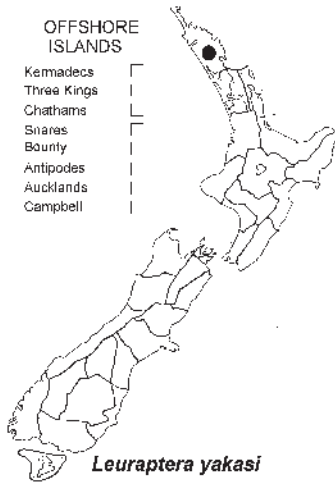
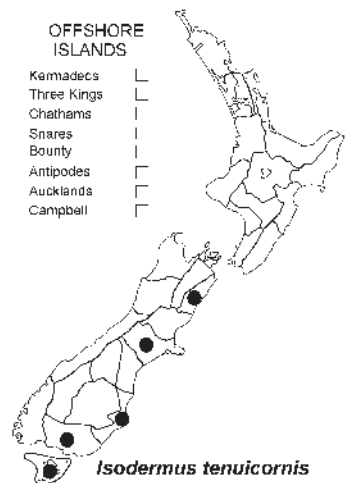
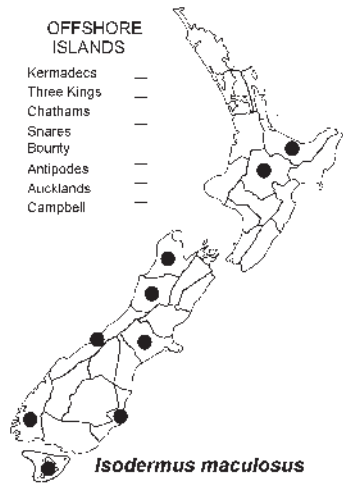
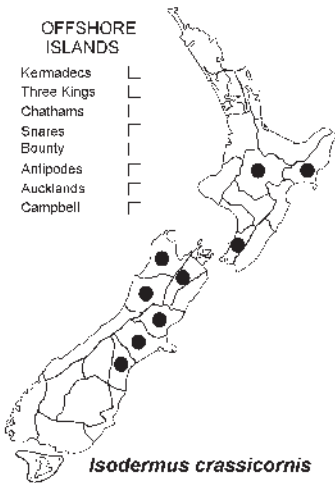
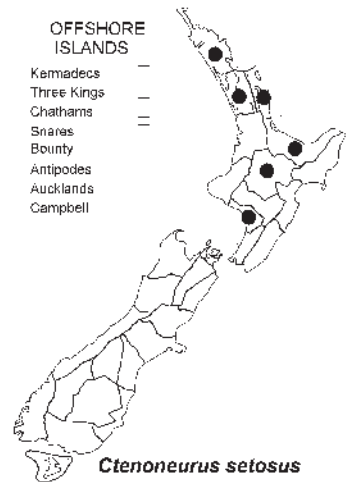
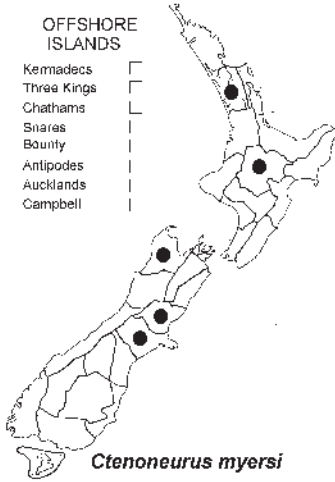


OFFSHORE ISLANDS

Kermadecs
Three Kings
Chathams
Snares
Bounty
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Campbell



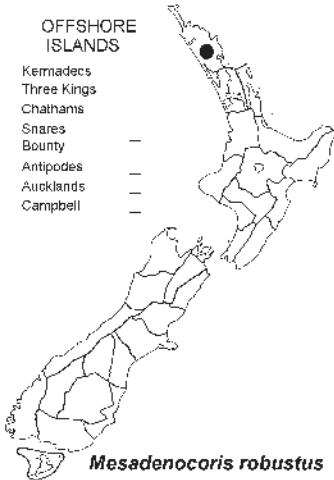
ARADIDAE



ARADIDAE

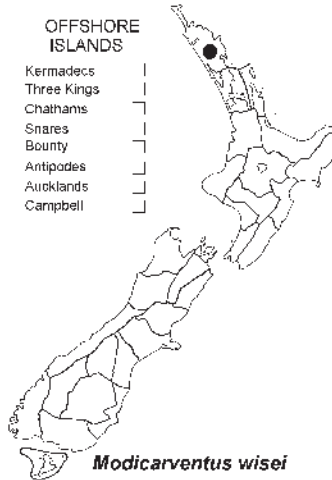
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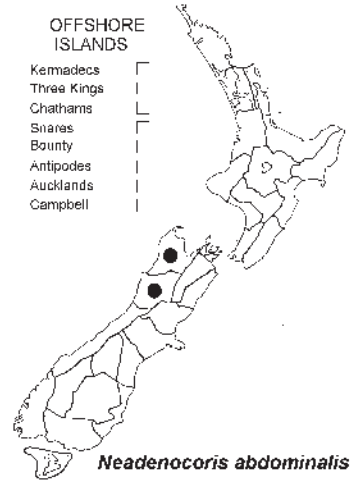
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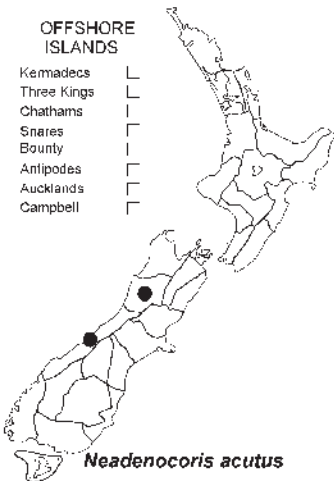
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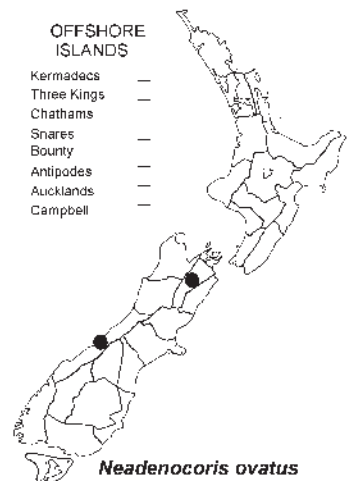
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Aucklands
Campbell



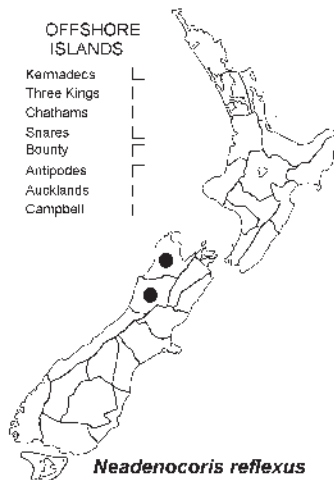
OFFSHORE ISLANDS

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Chathams
Snares
Bounty
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Aucklands
Campbell



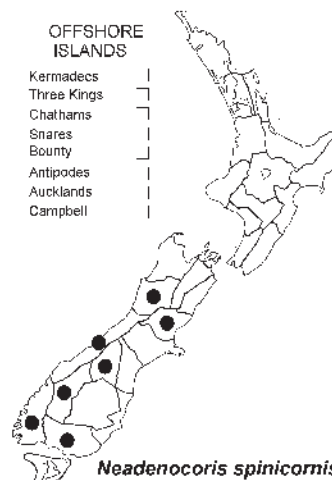
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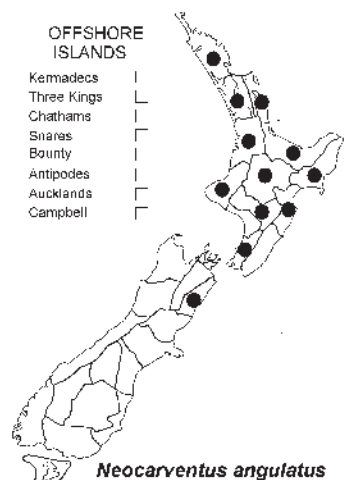
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OFFSHORE ISLANDS

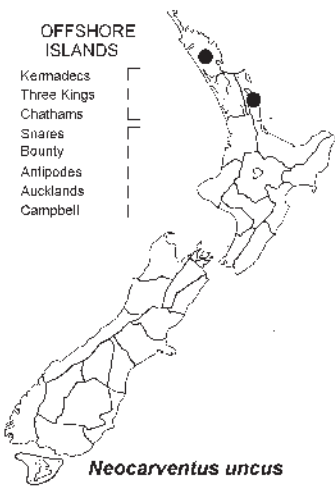
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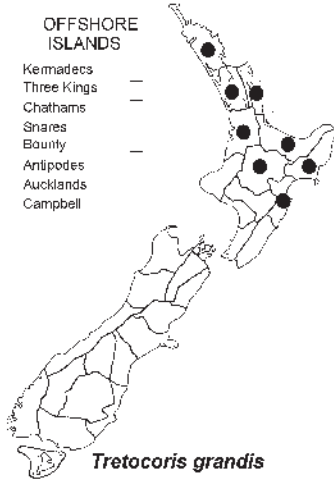
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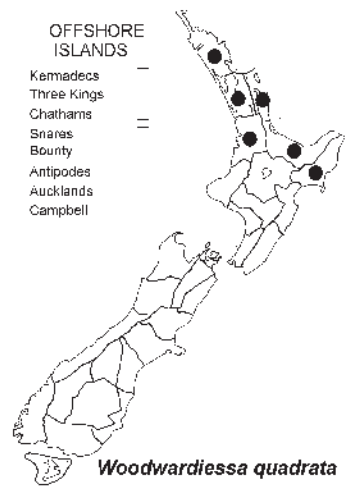
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OFFSHORE ISLANDS

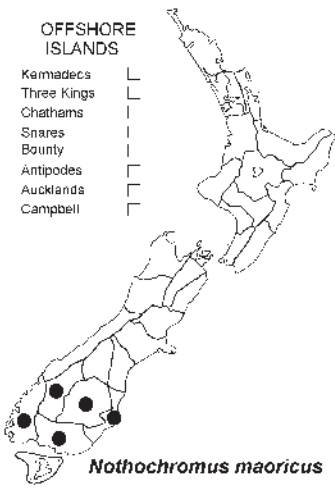
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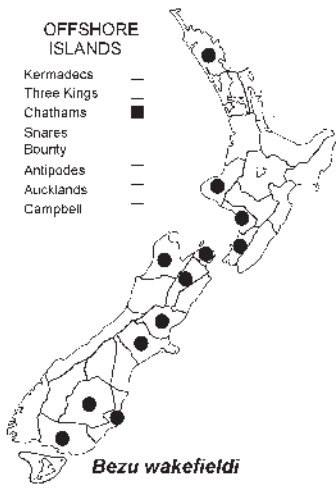
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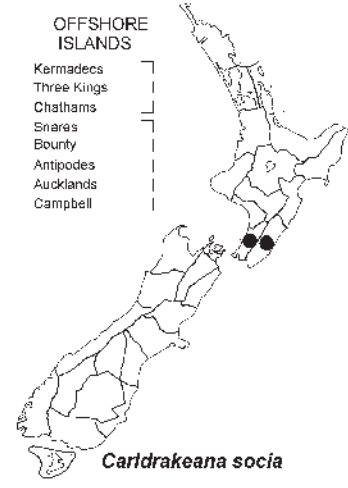
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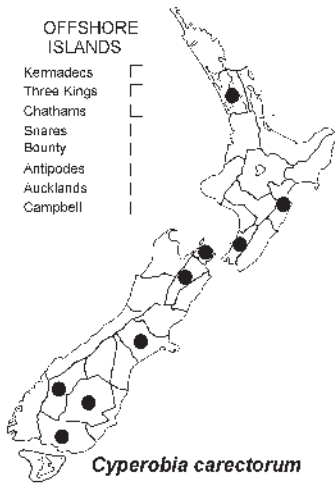
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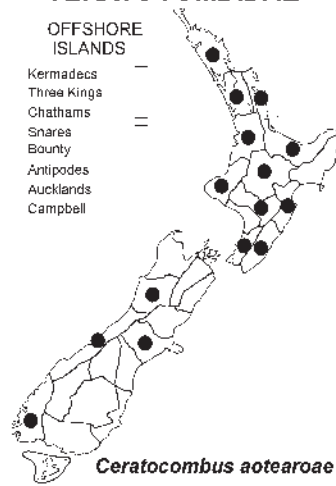
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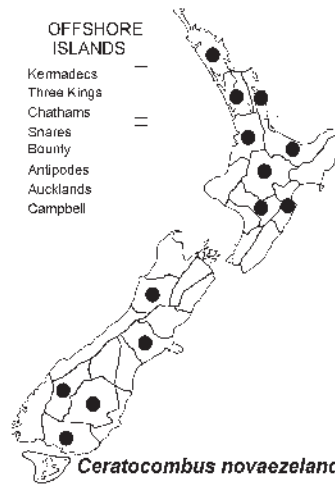
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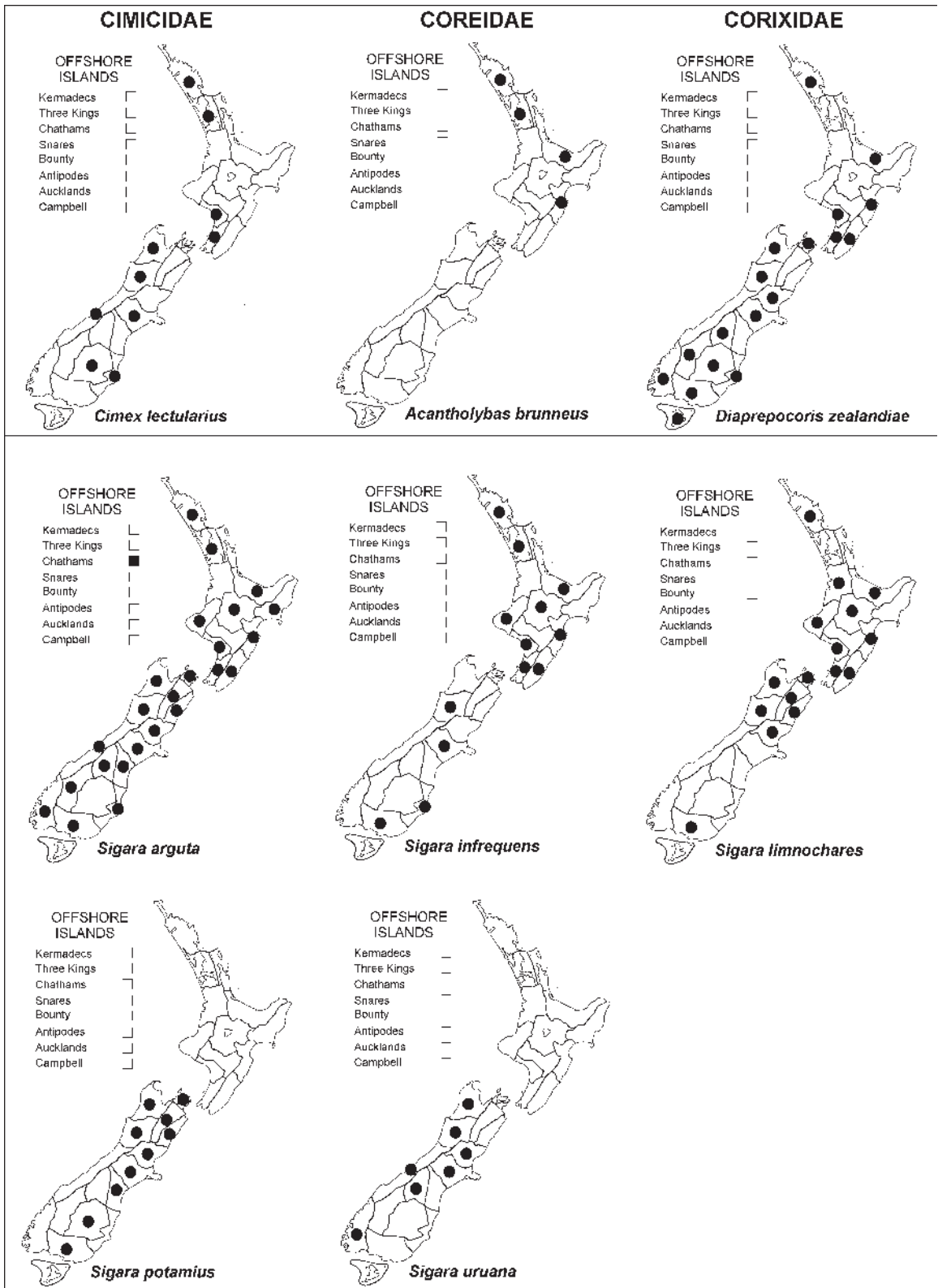
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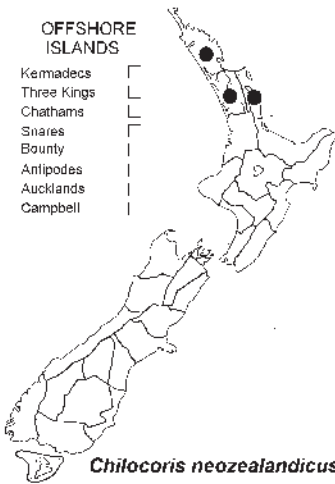




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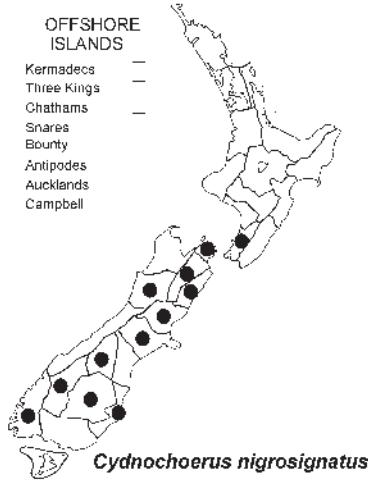
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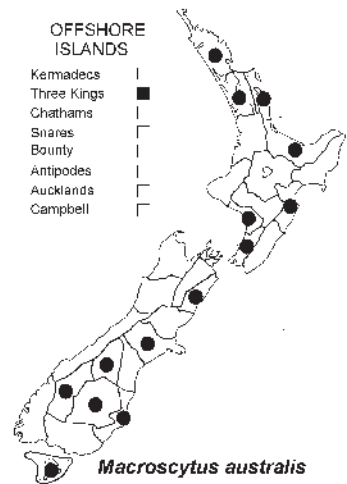
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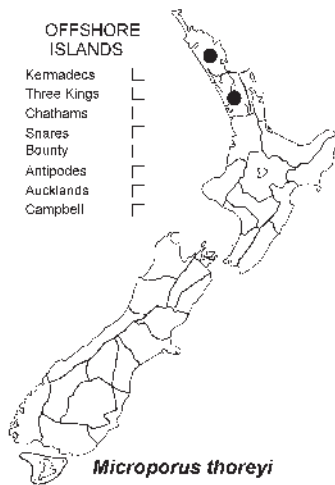
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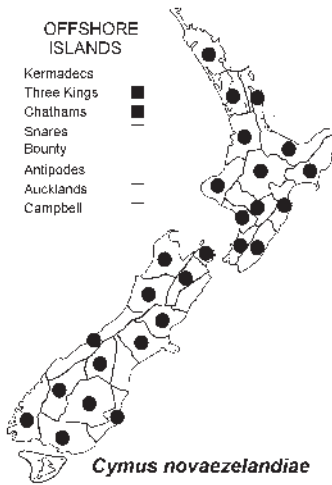
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OFFSHORE ISLANDS

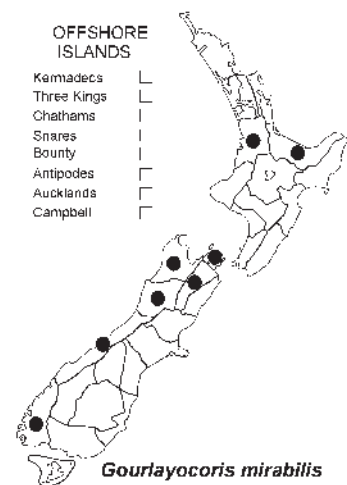
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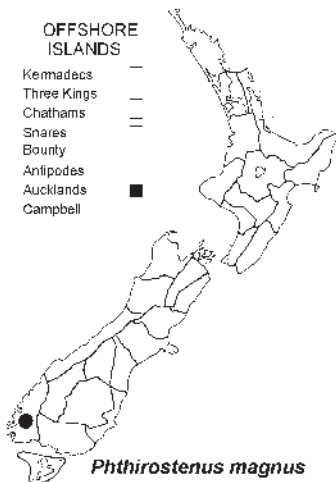
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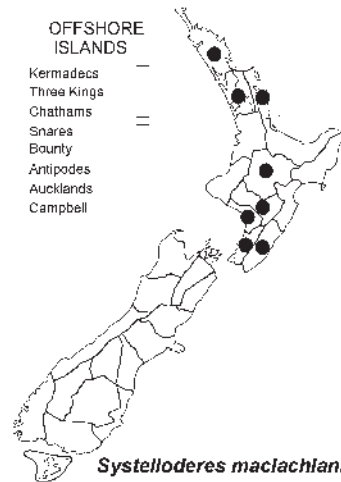
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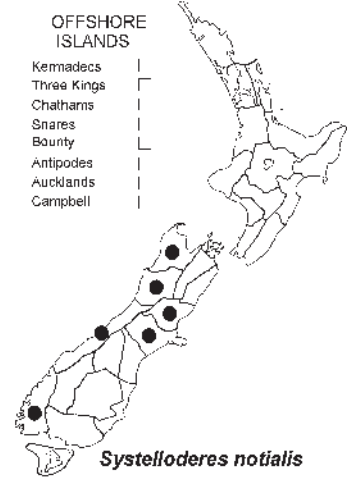
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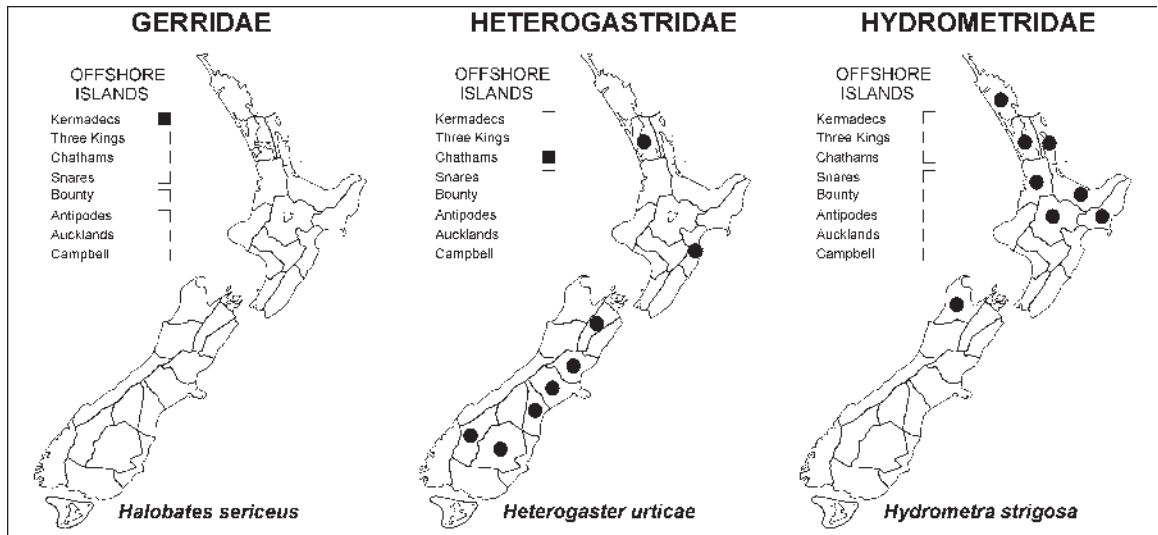
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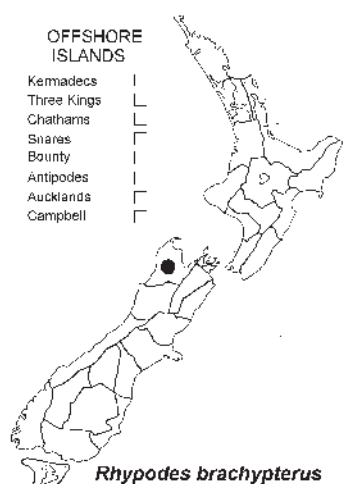
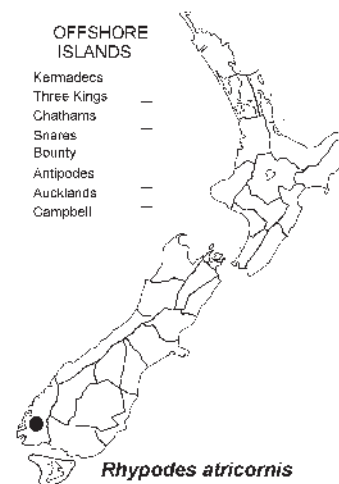
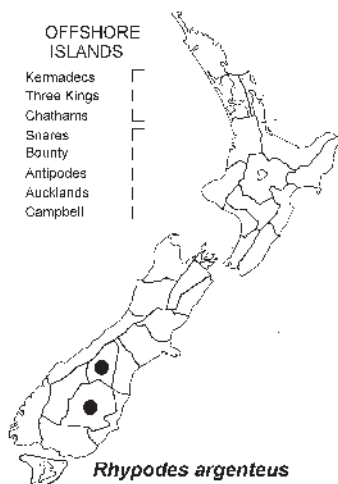
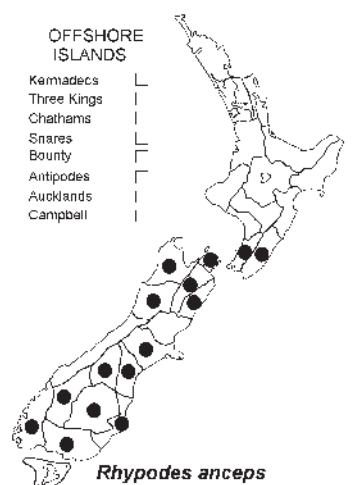
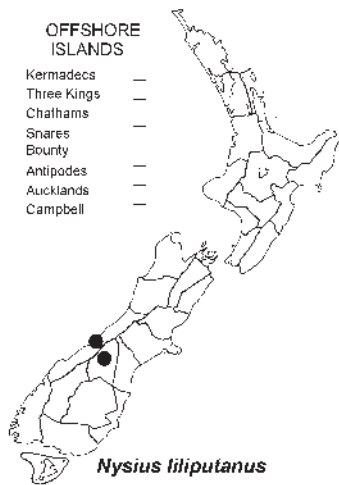
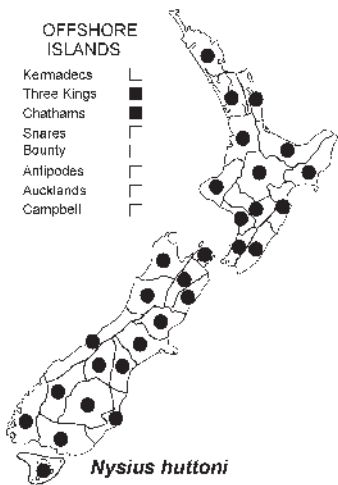
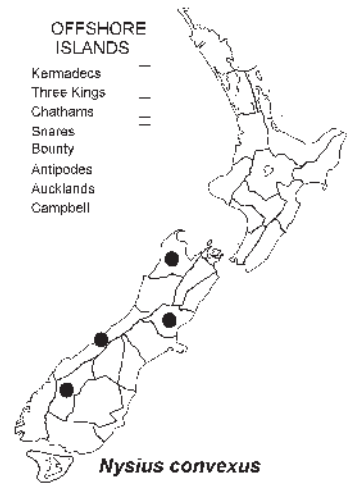
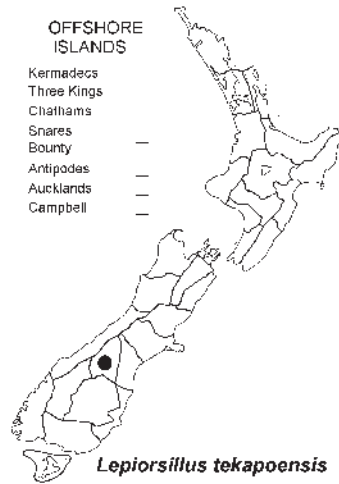
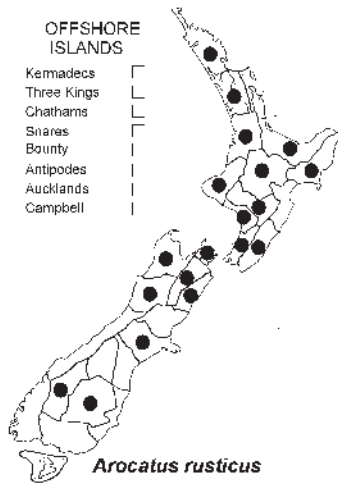
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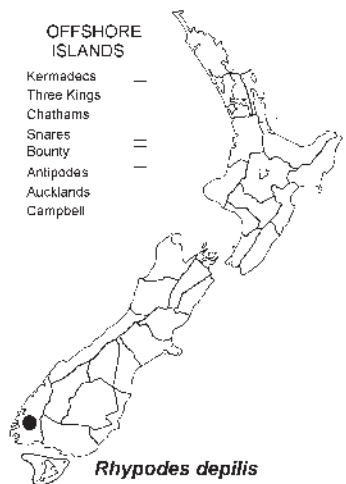
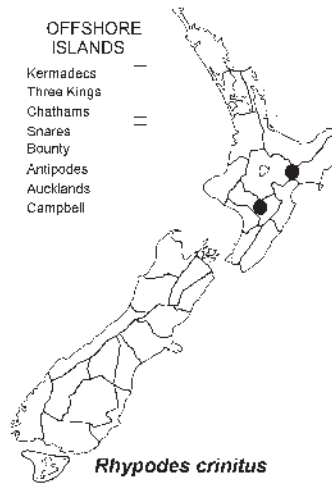
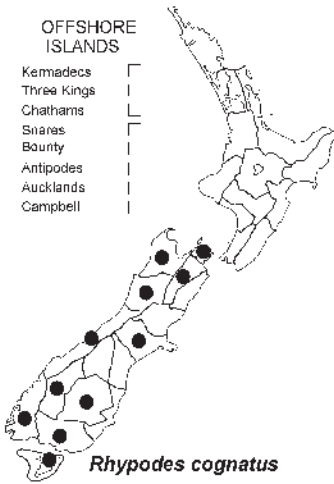
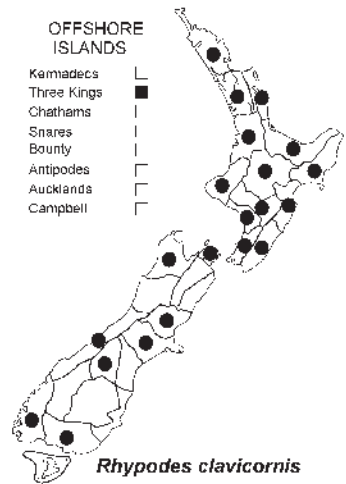
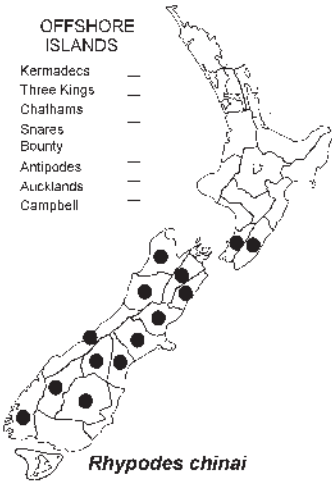
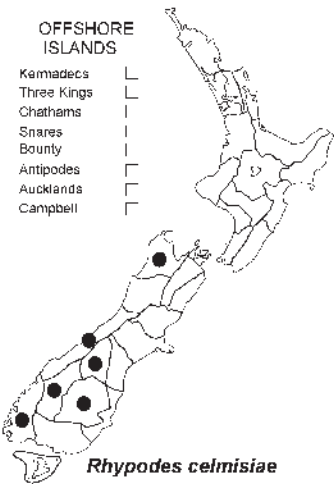
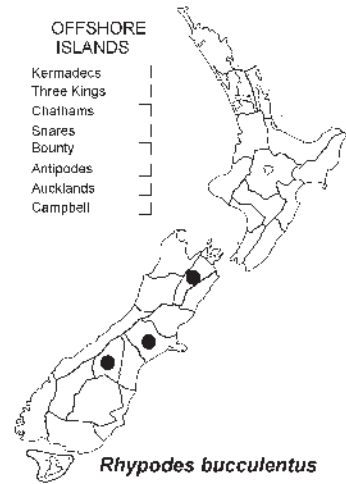
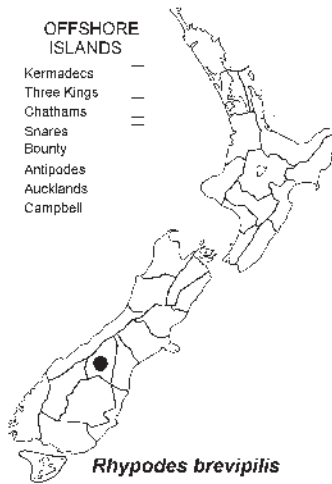
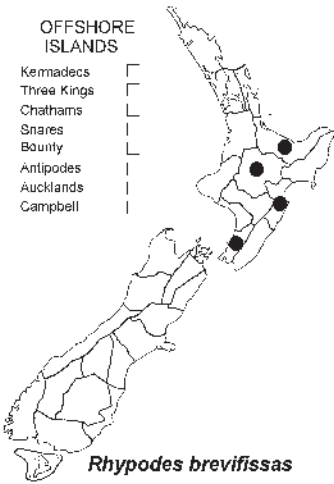




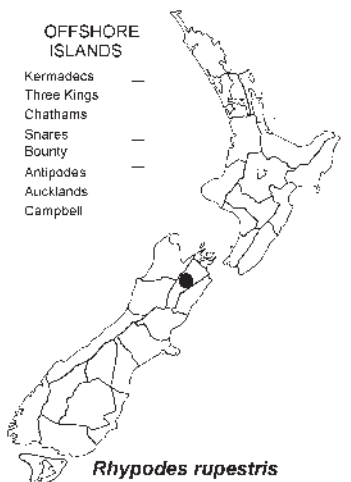
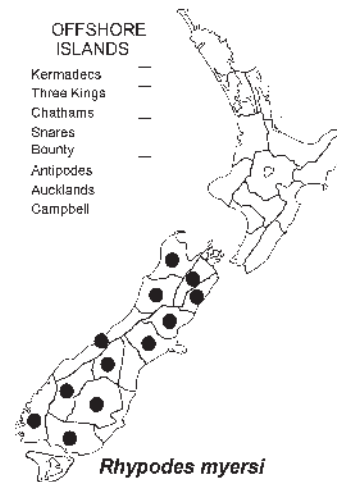
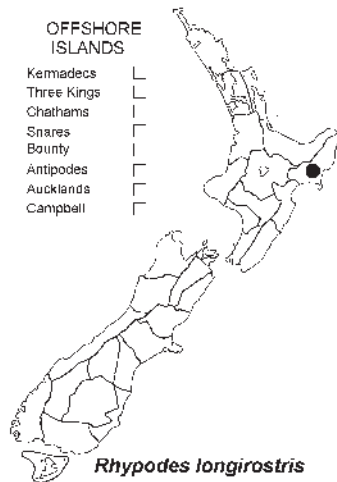
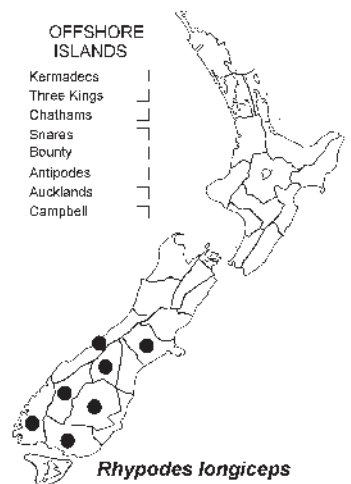
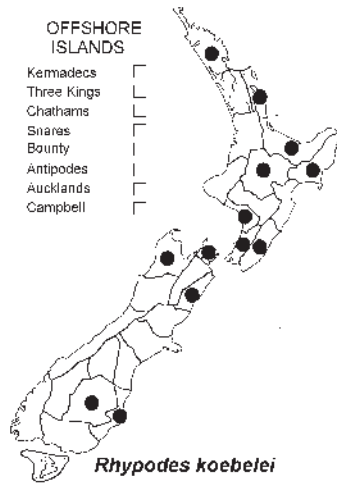
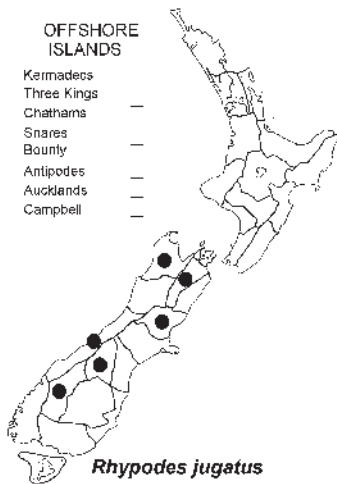
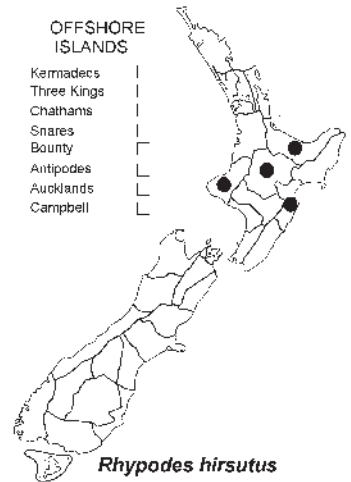
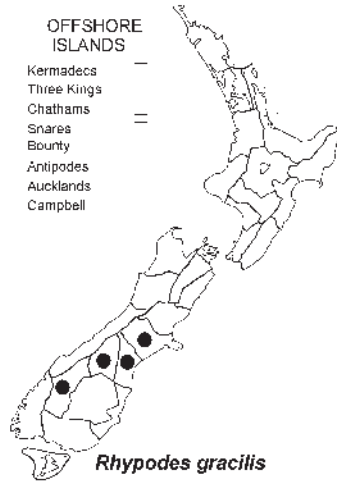
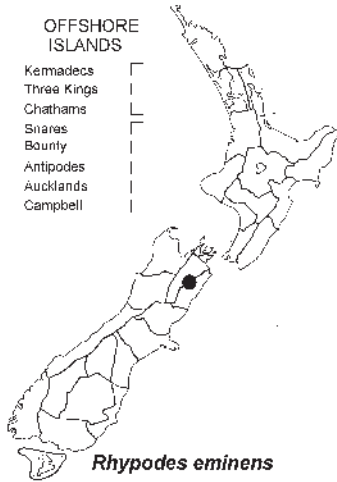
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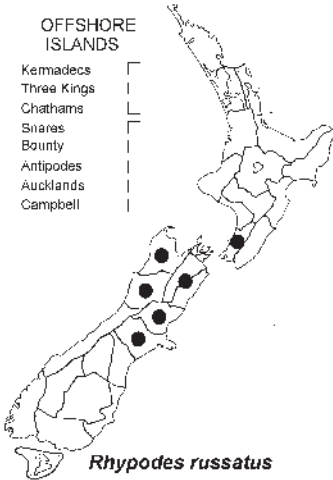
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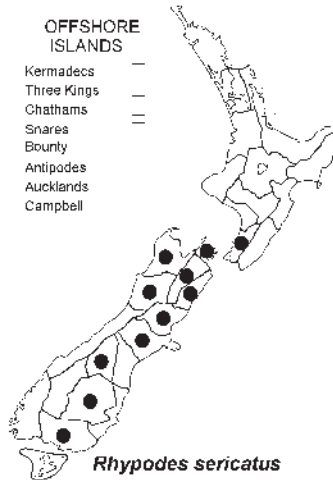
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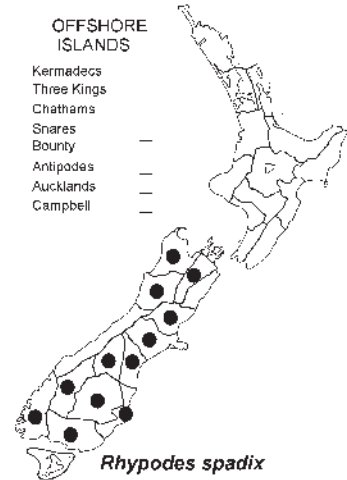
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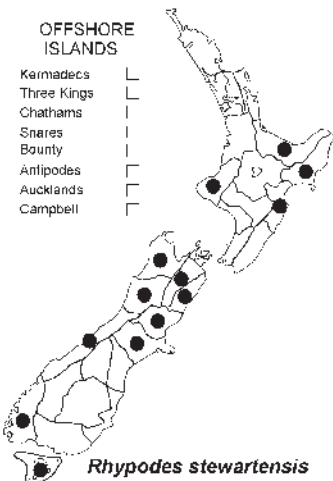
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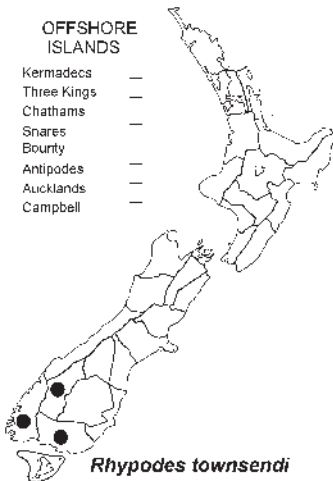
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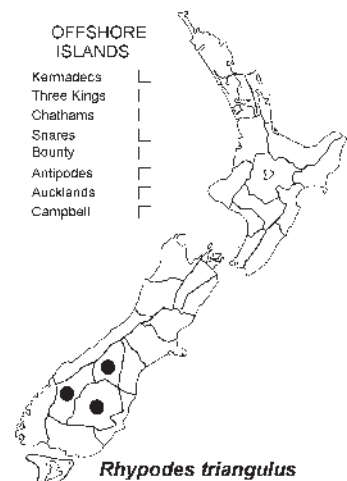
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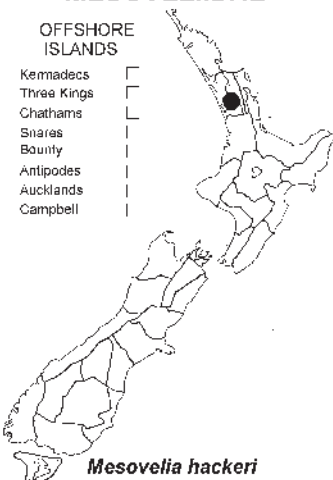
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MESOVELIIDAE

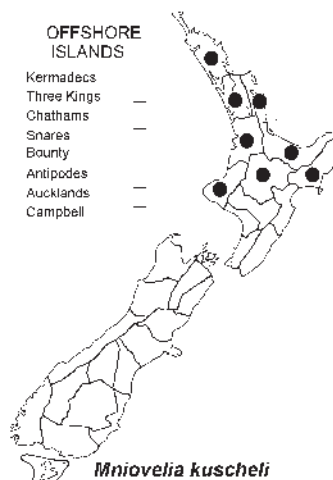
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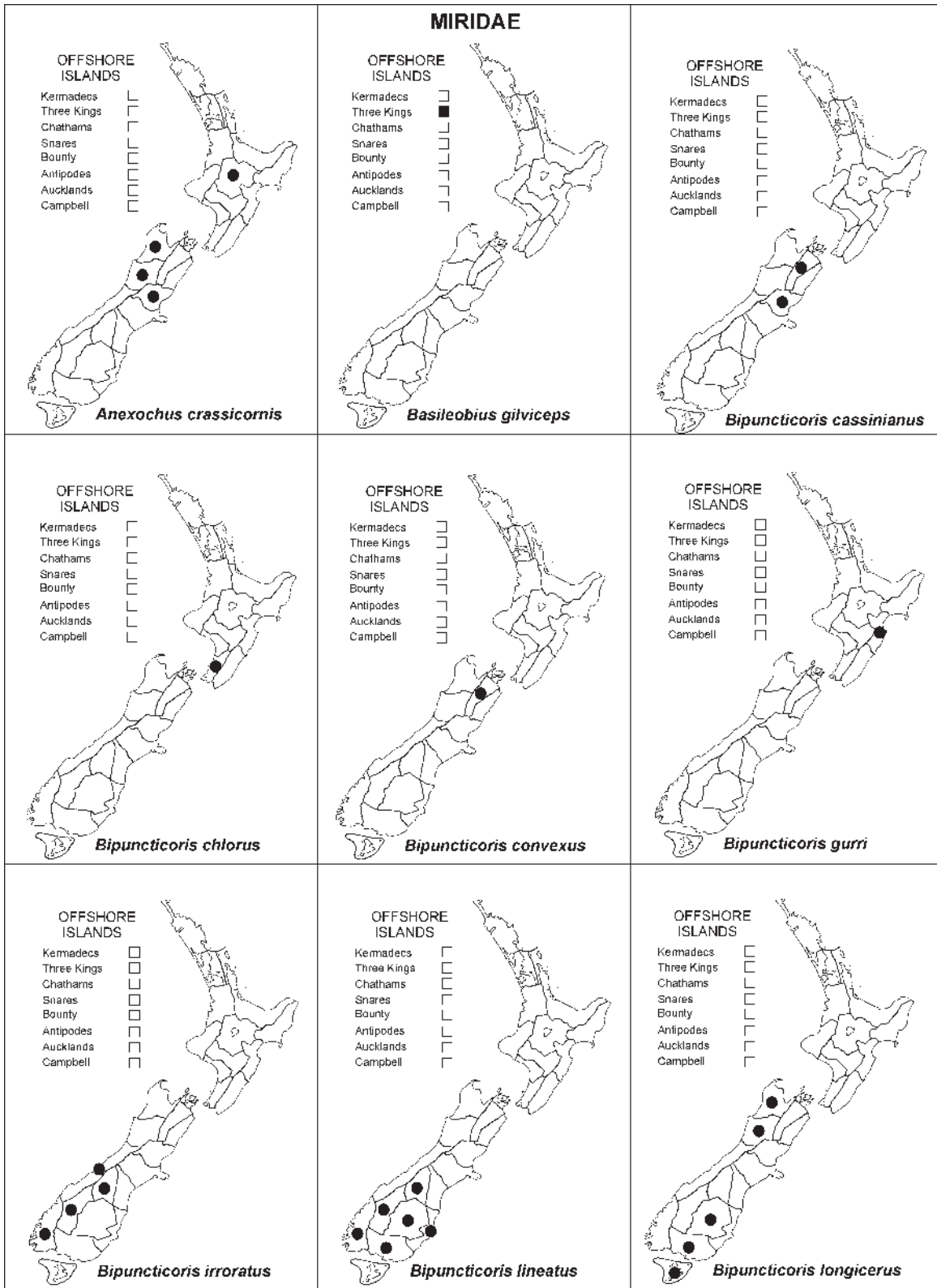


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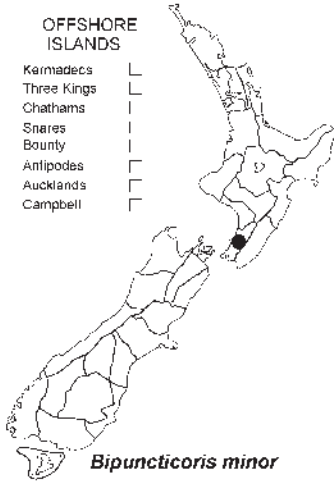
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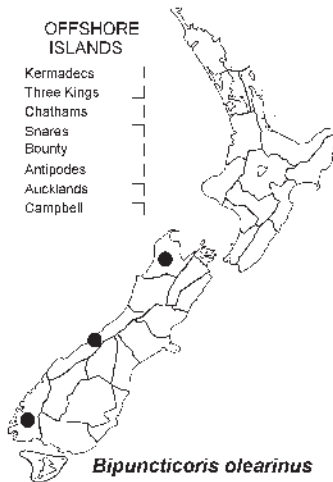
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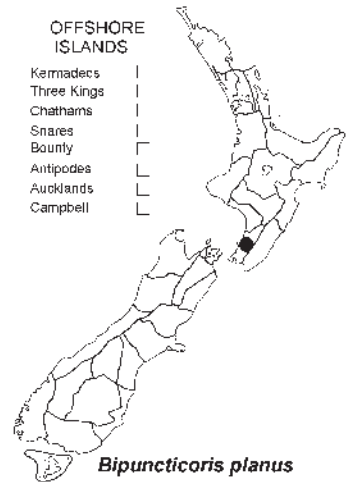
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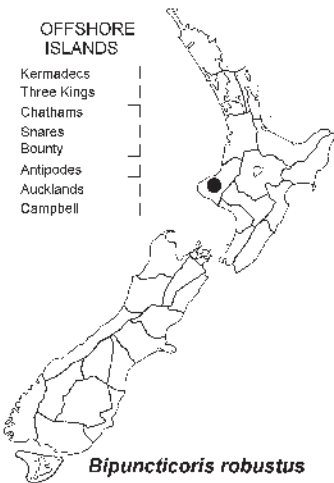
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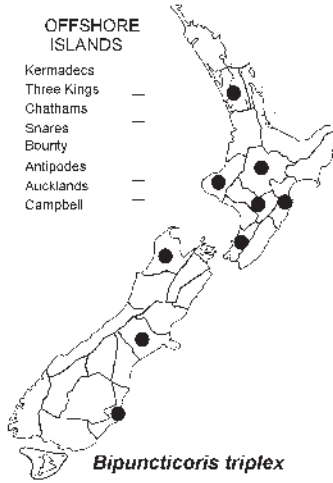
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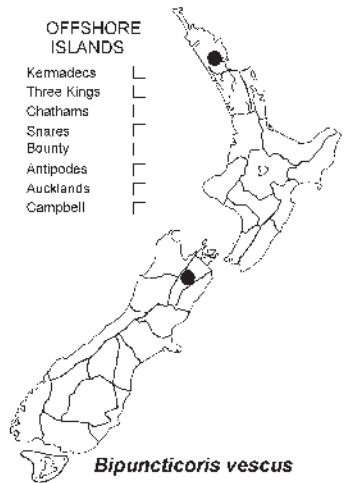
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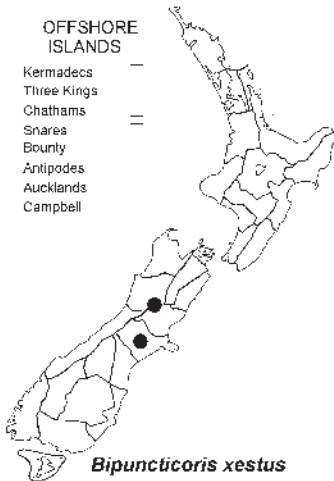
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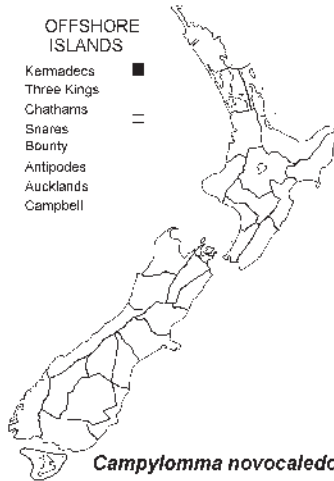
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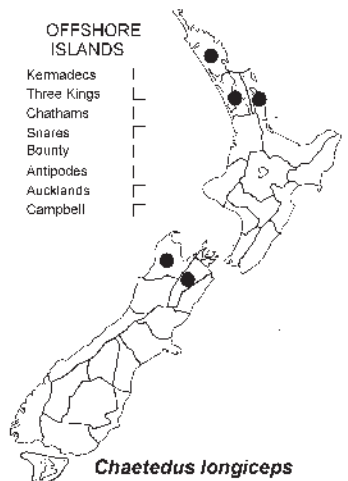
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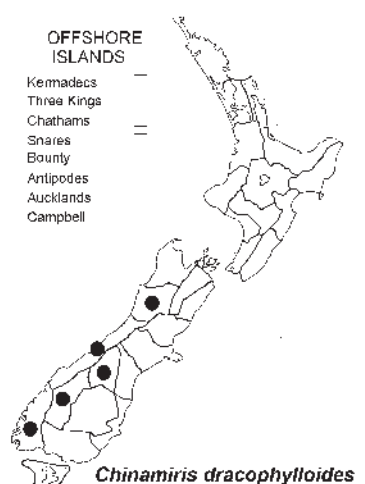
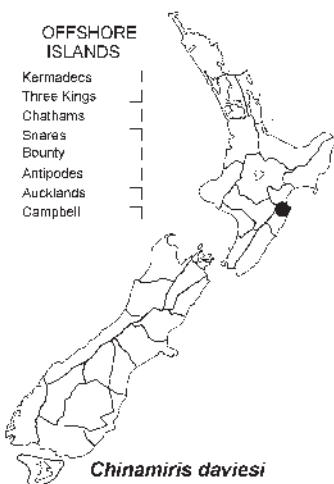
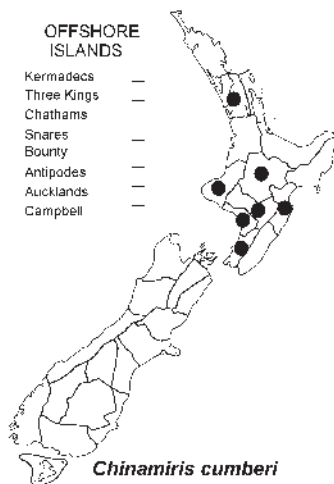
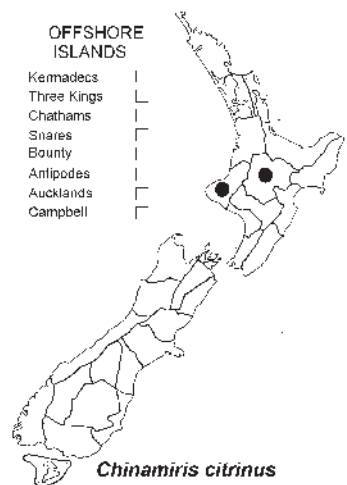
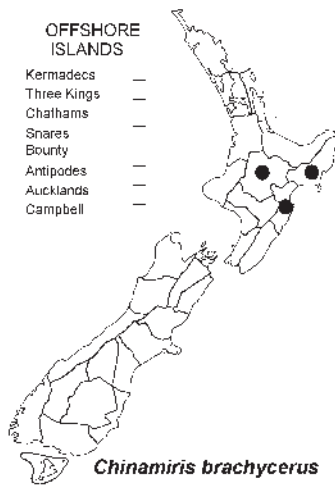
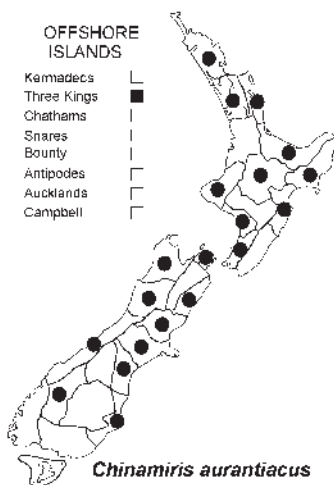
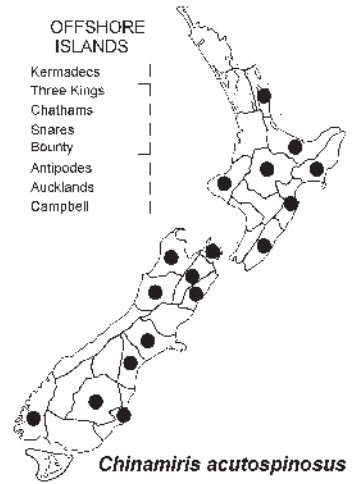
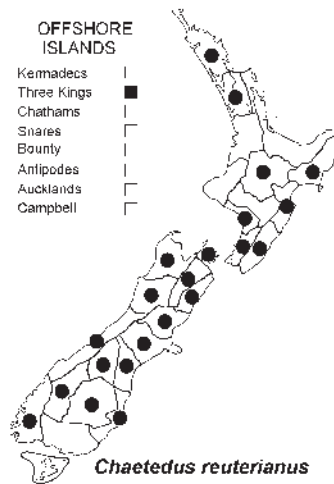
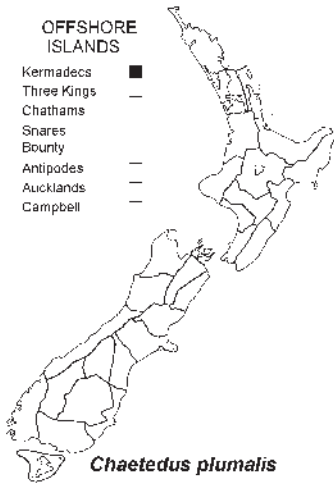


OFFSHORE ISLANDS

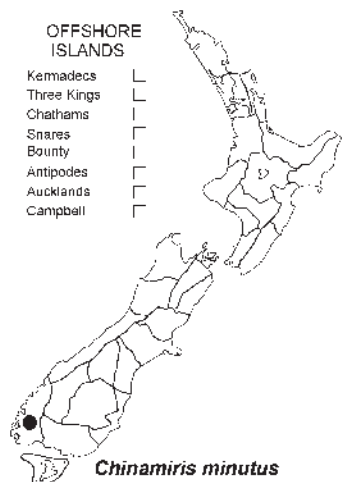
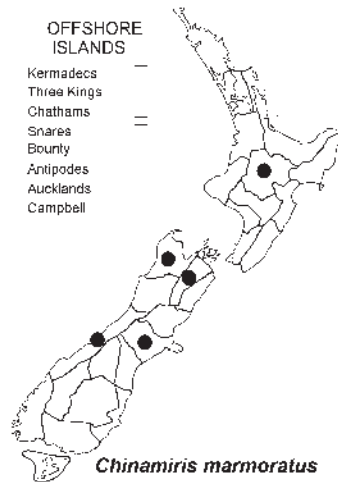
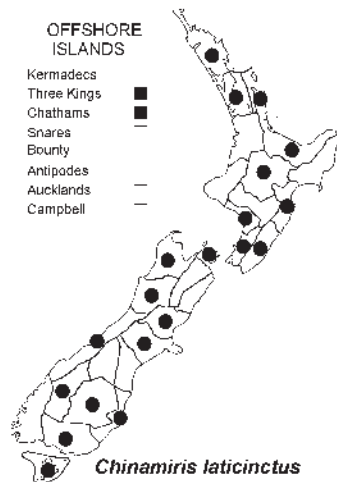
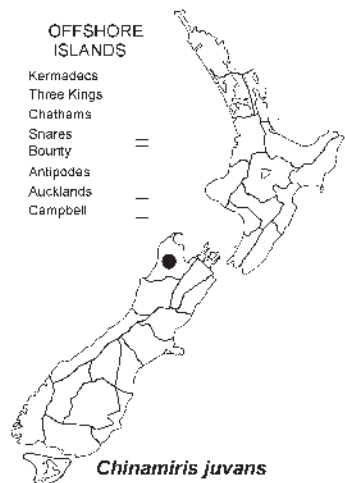
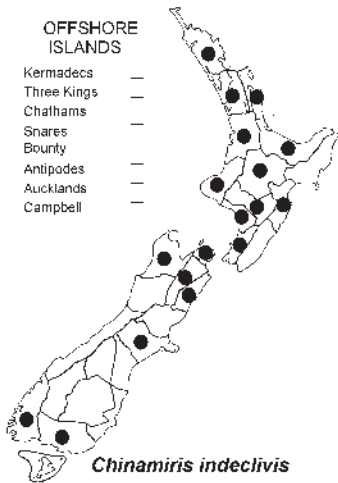
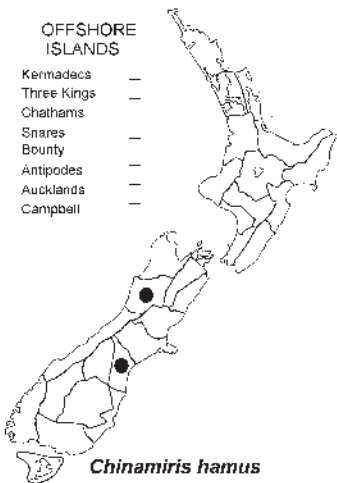
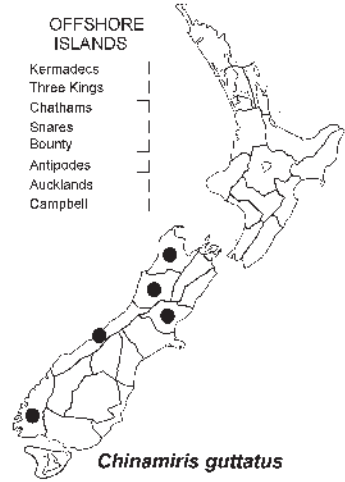
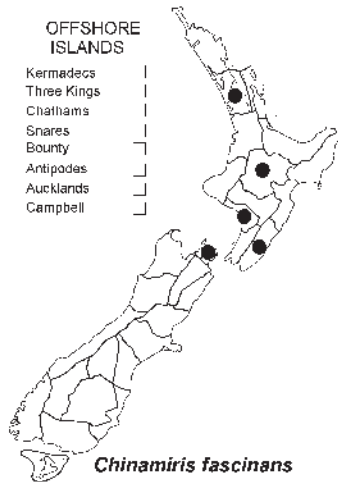
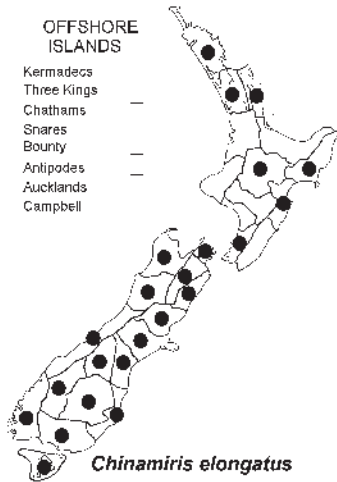
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Snares
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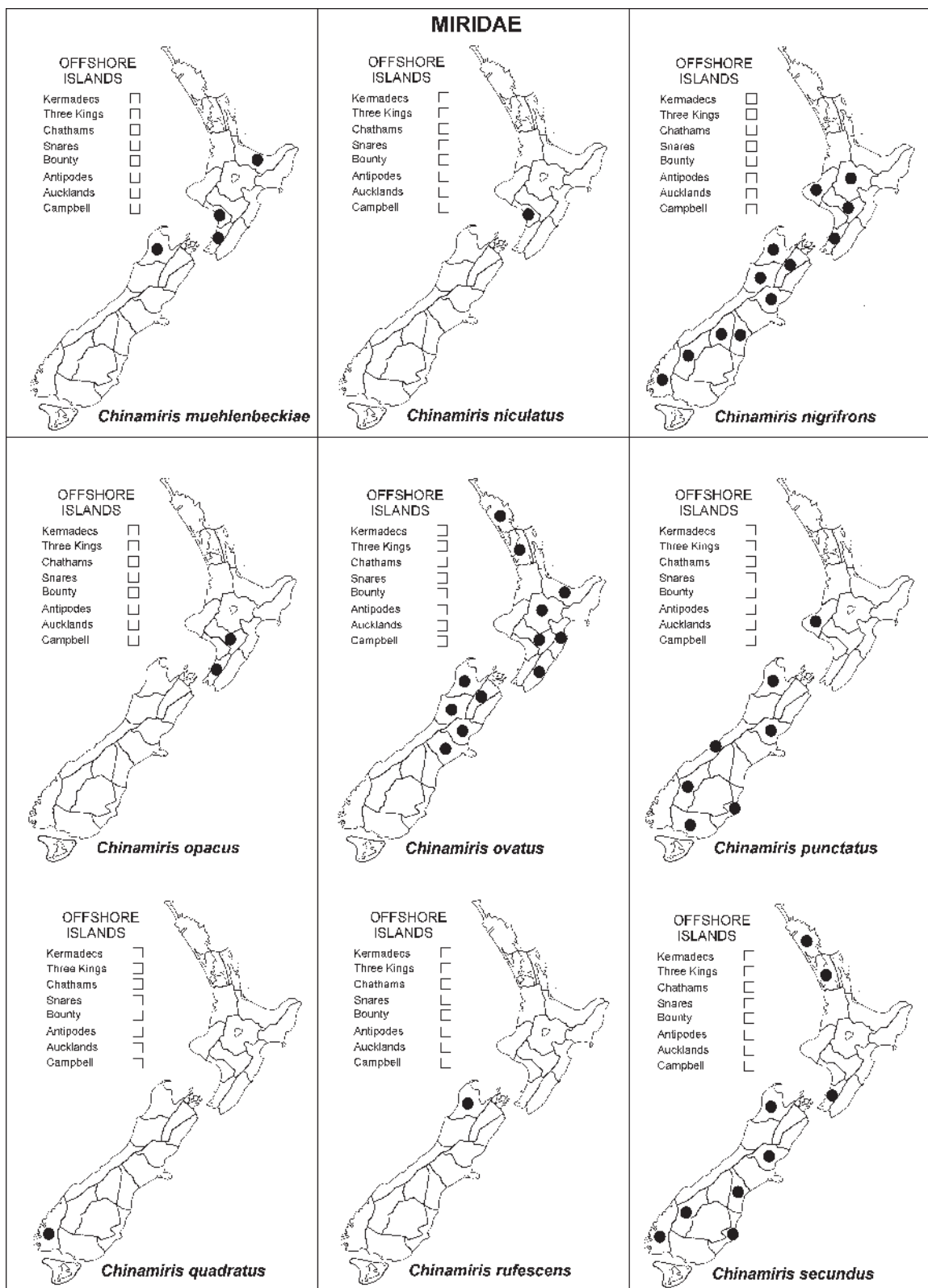
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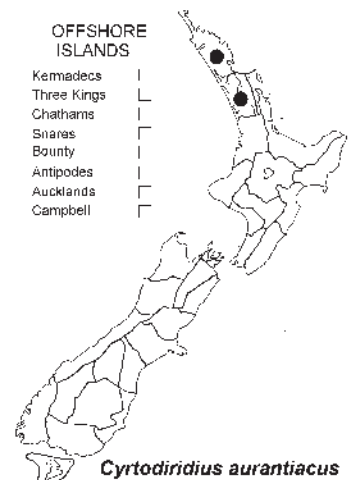
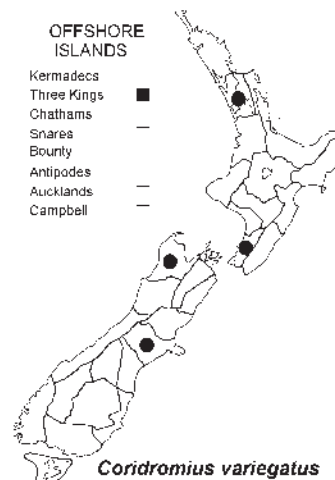
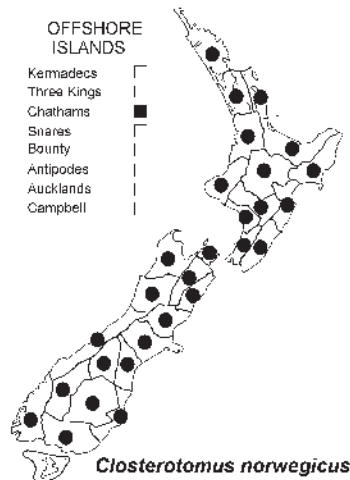
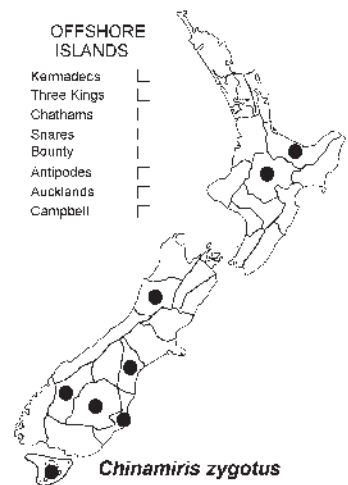
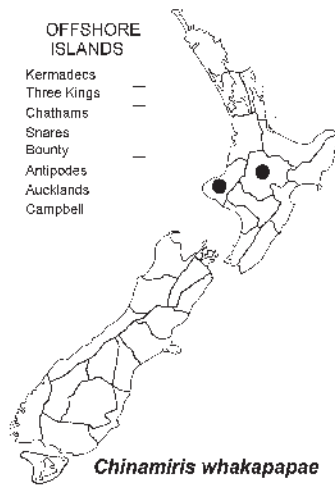
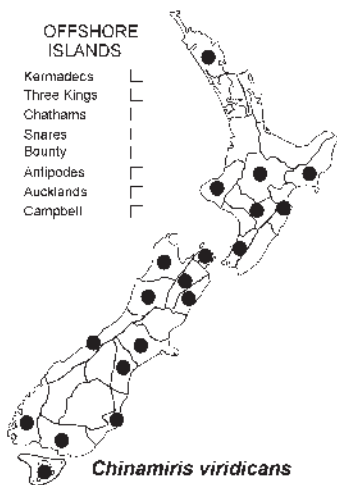
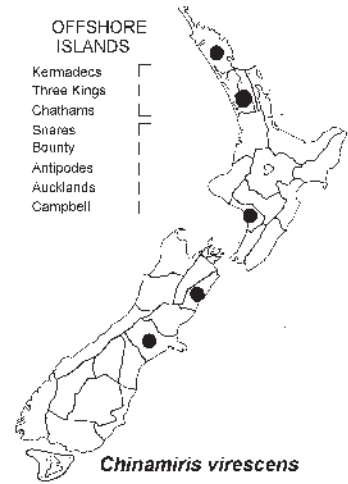
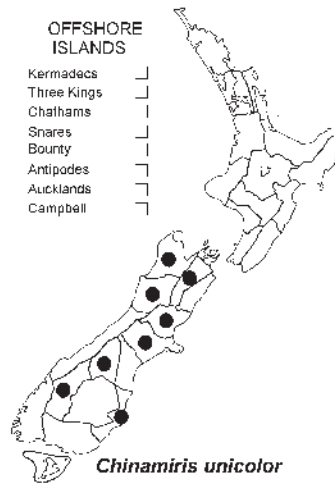
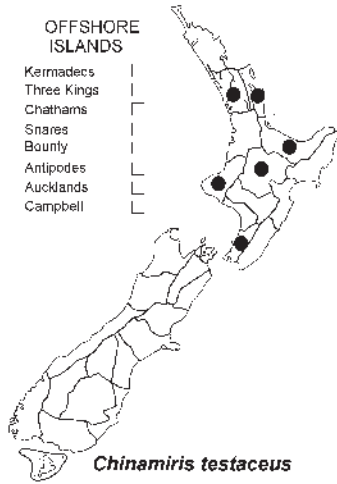
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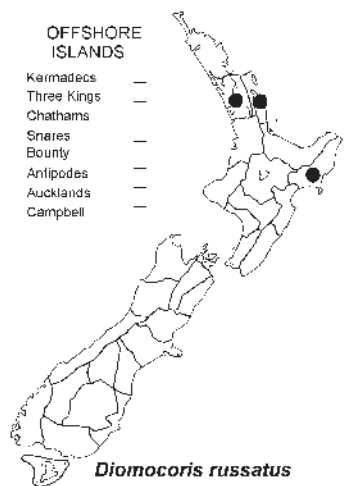
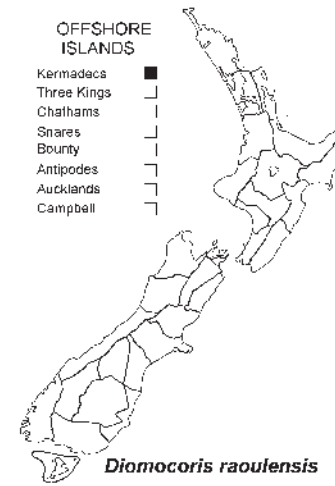
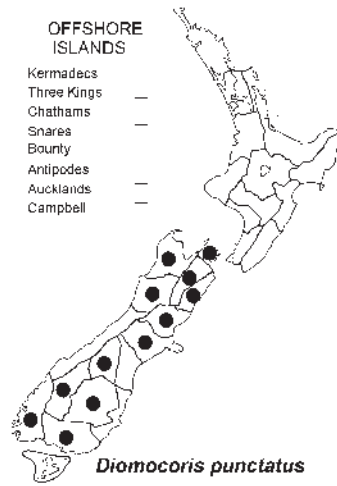
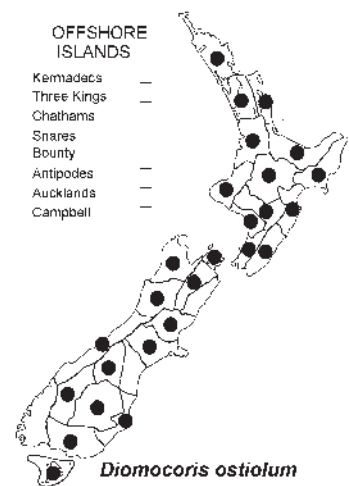
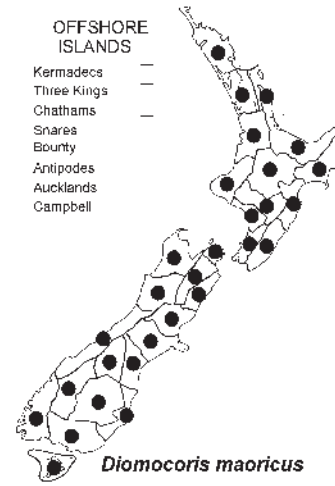
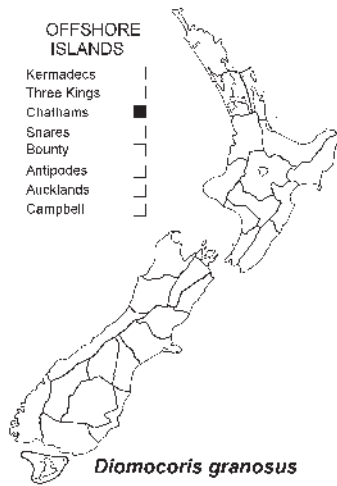
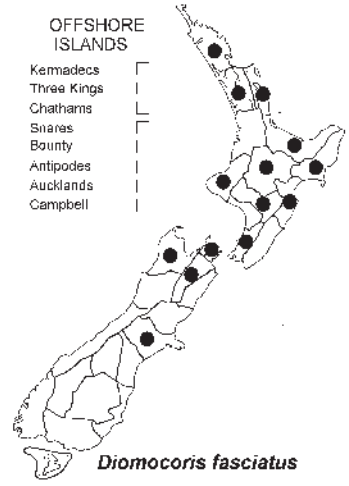
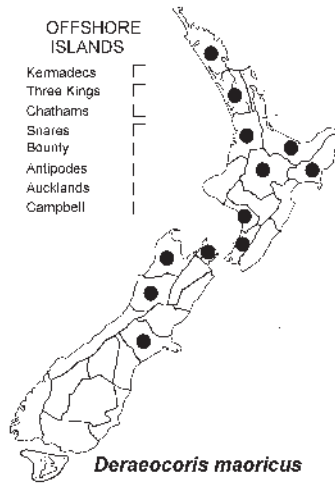
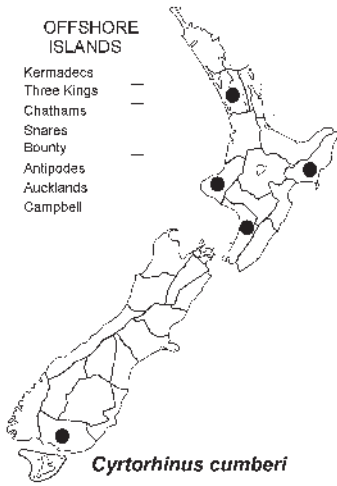
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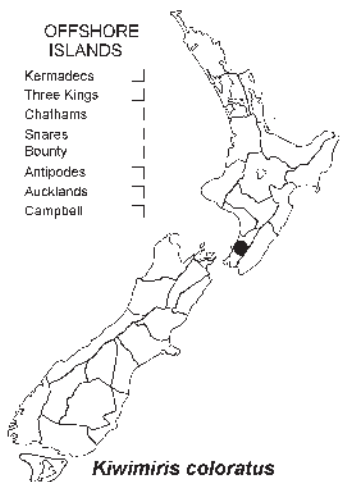
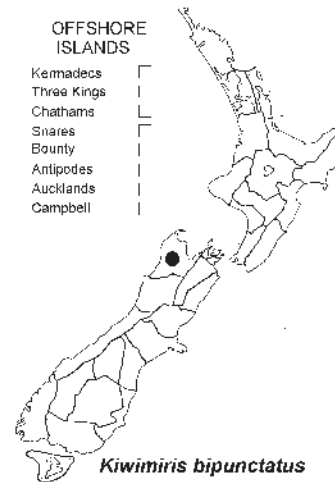
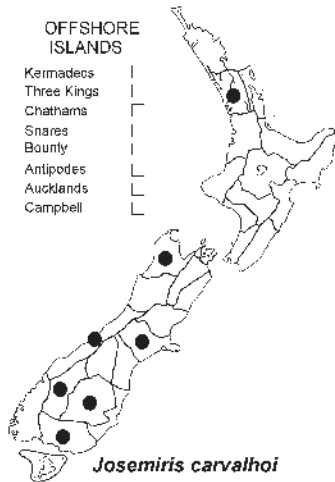
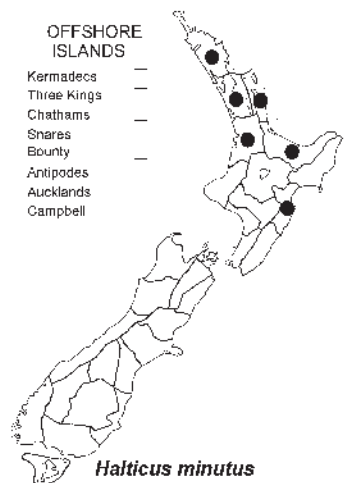
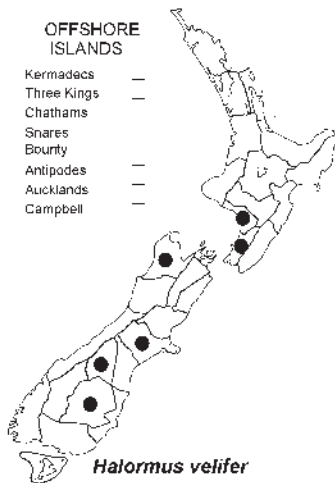
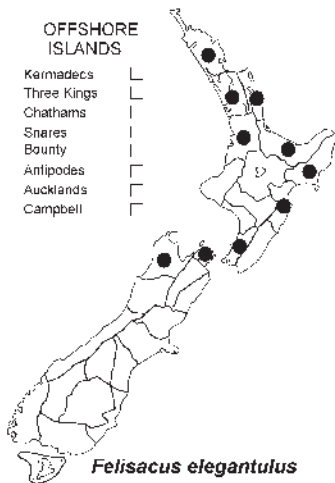
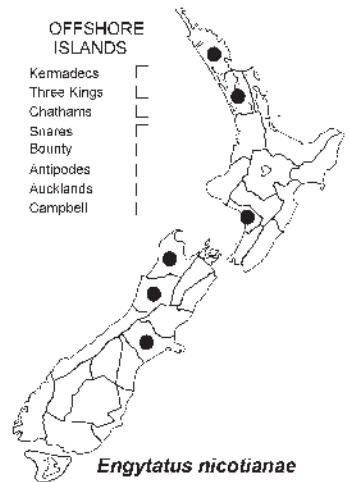
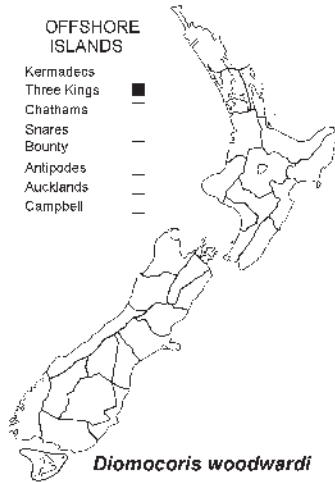
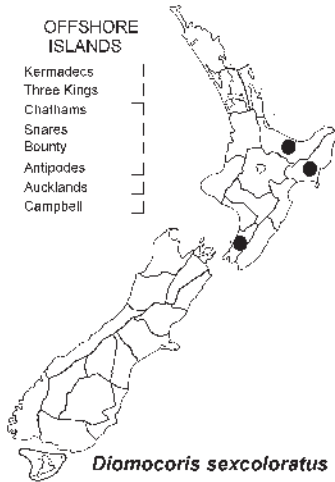
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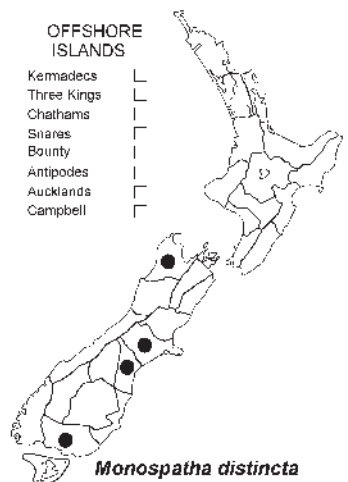
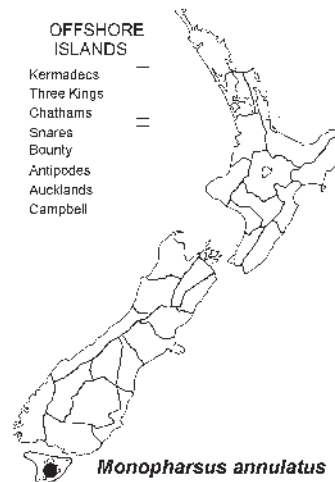
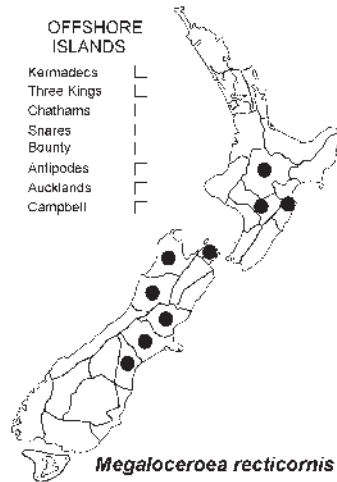
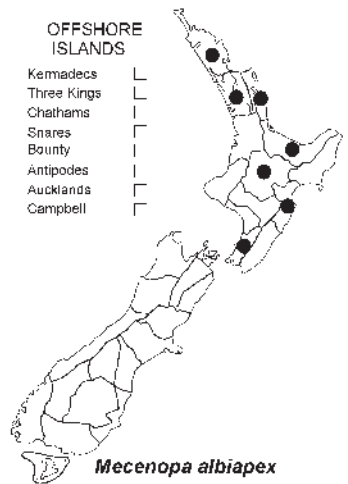
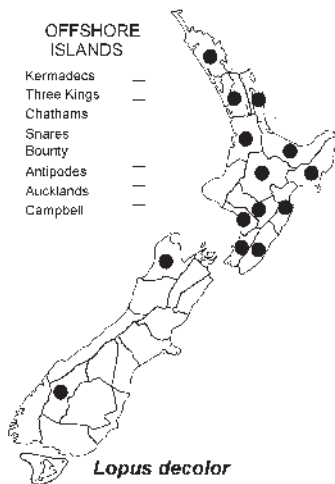
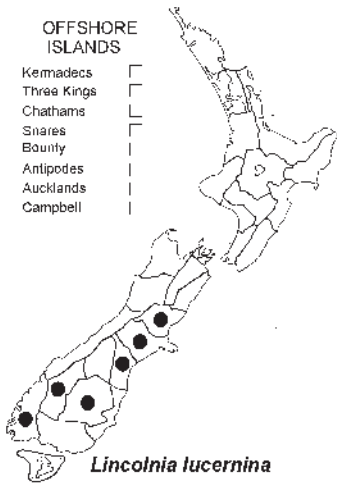
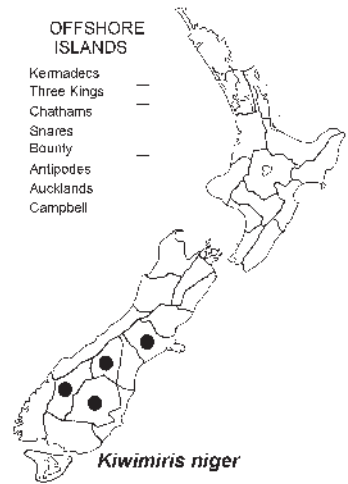
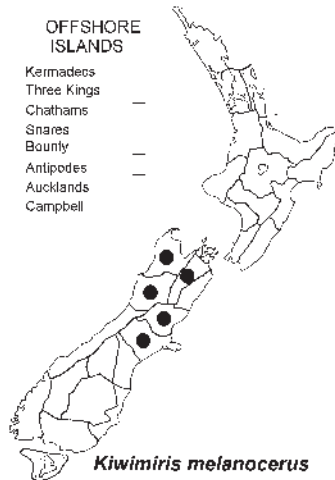
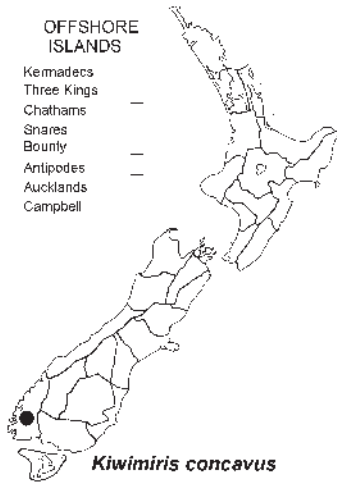
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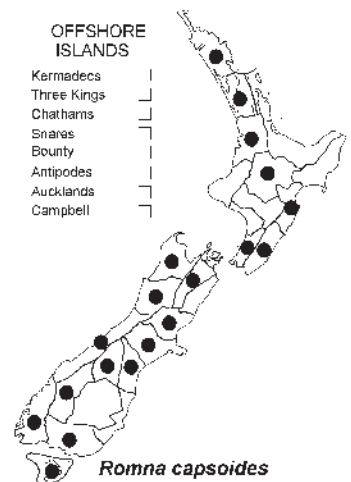
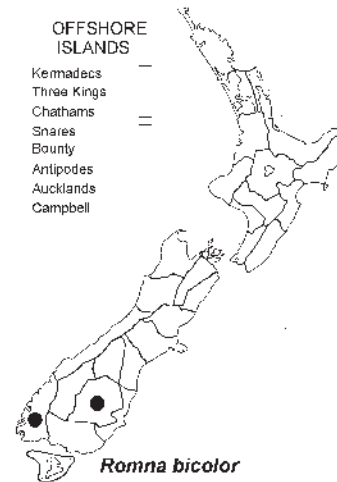
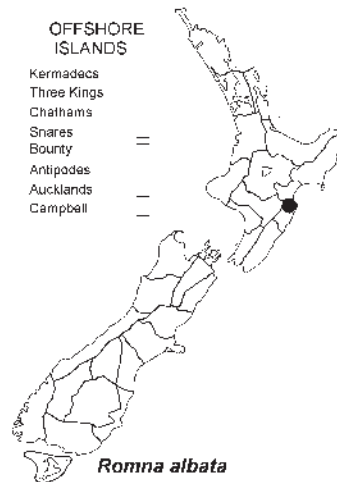
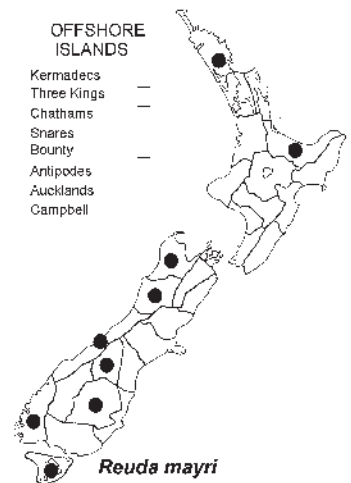
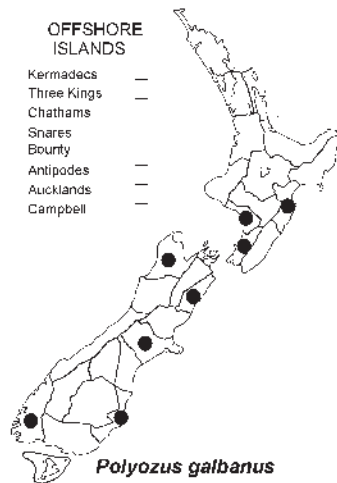
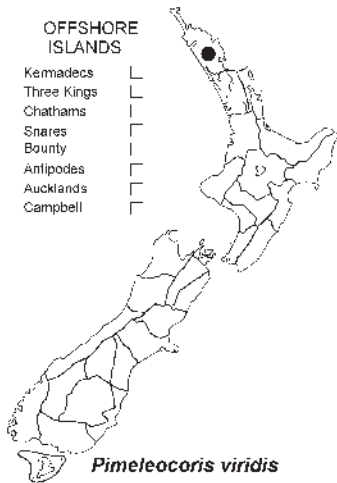
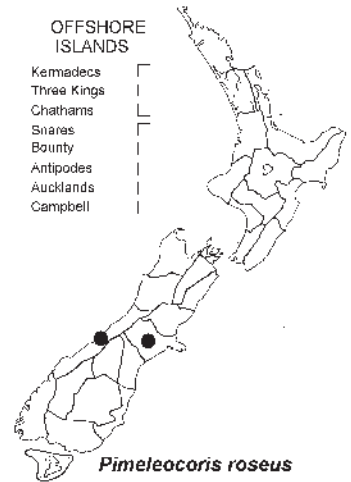
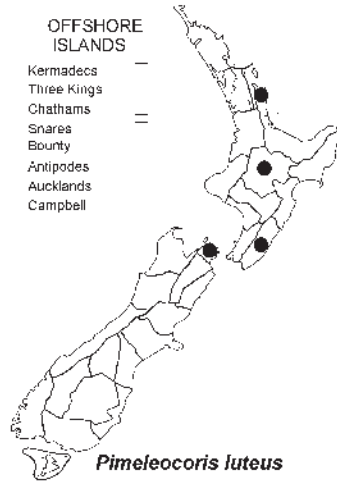
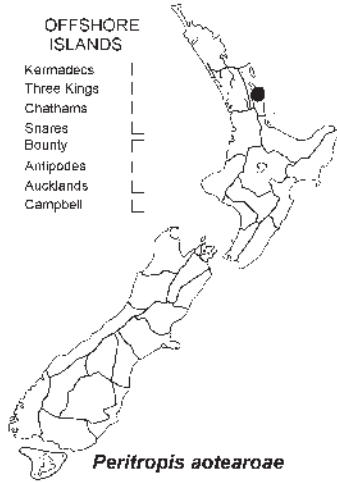
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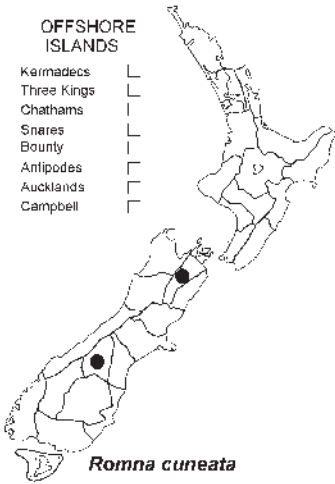
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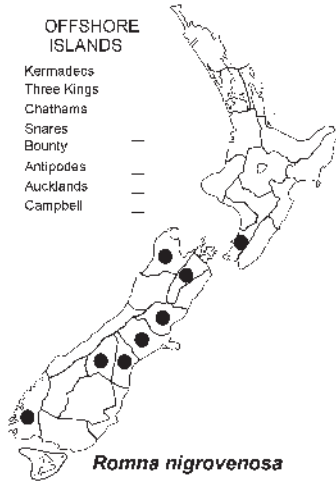
OFFSHORE ISLANDS

- Kermadecs []
- Three Kings []
- Chathams []
- Snares []
- Bounty []
- Antipodes []
- Aucklands []
- Campbell []



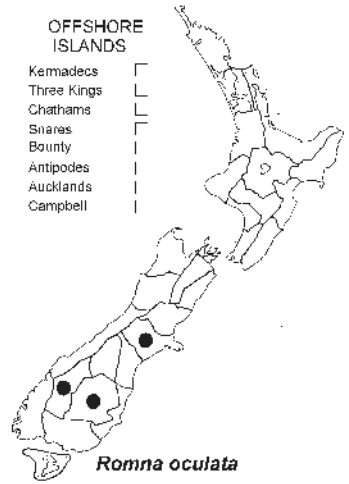
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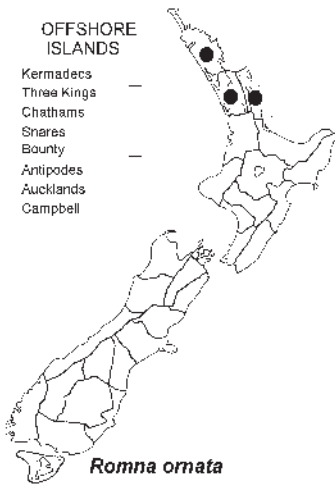
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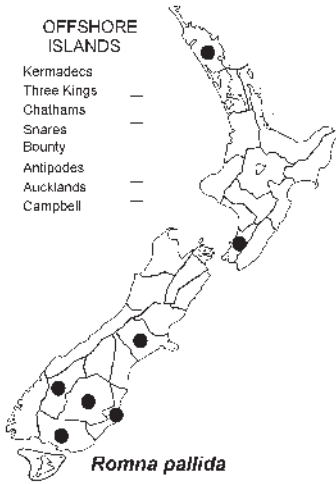
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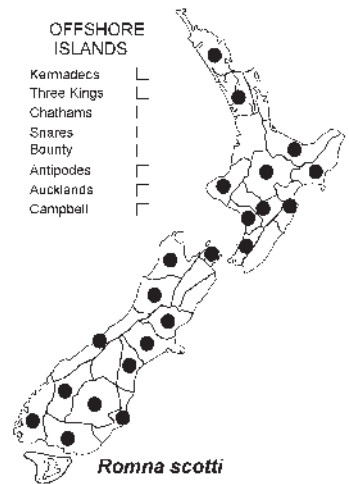
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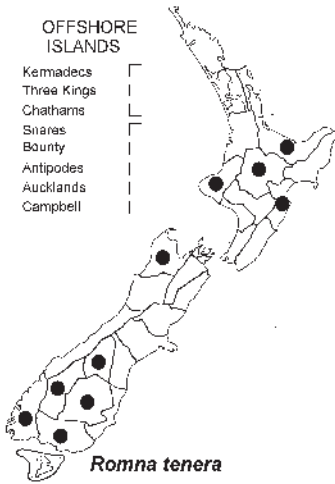
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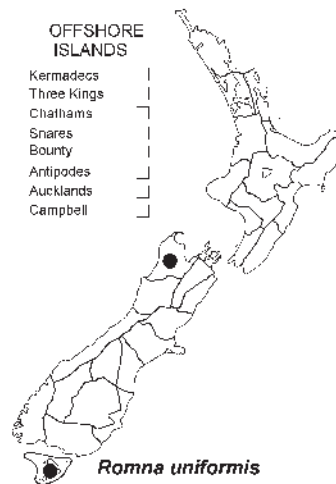
OFFSHORE ISLANDS

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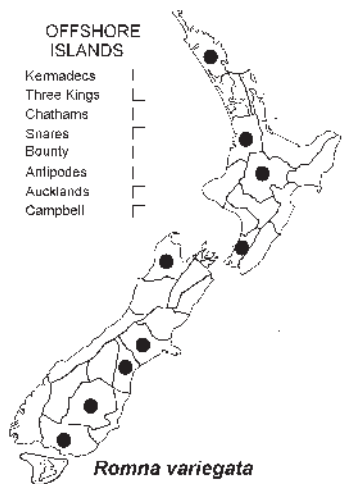
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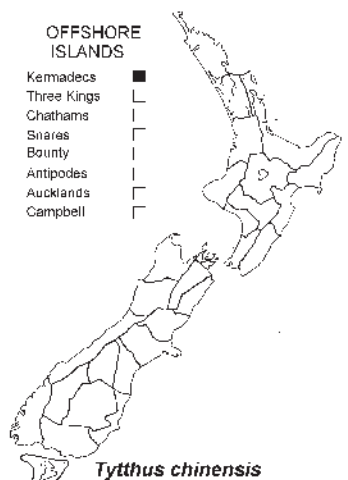
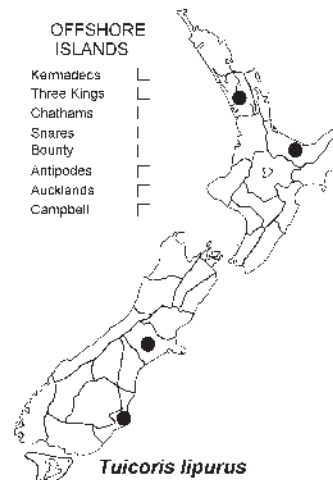
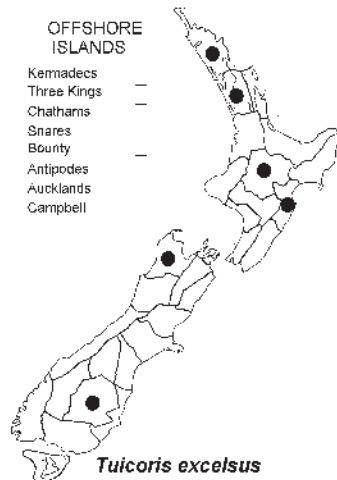
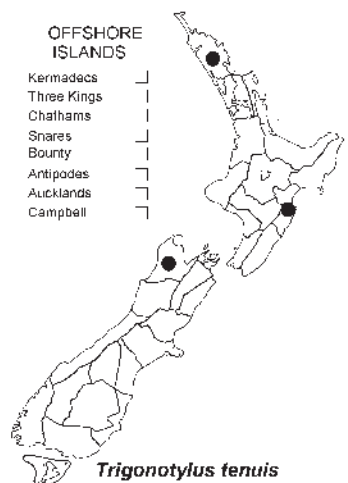
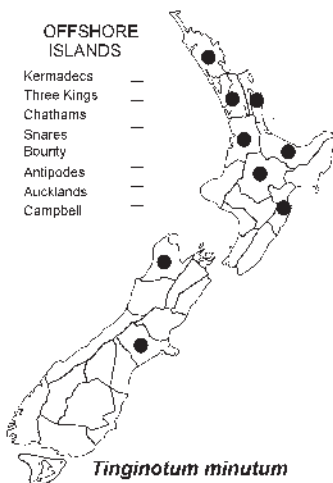
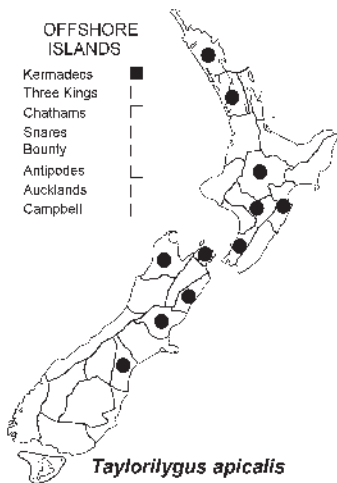
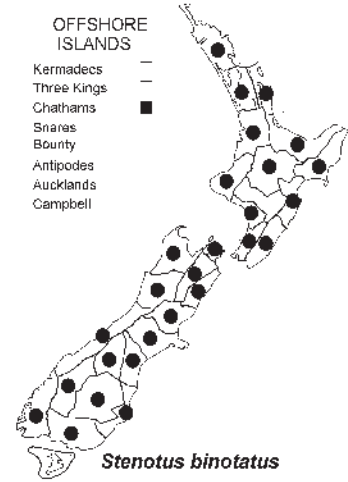
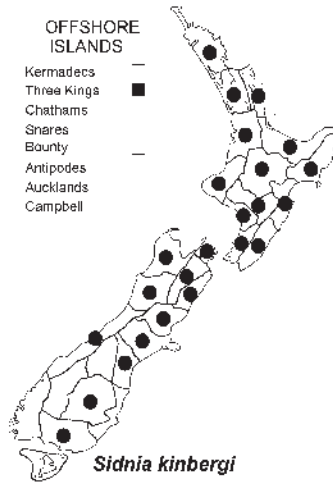
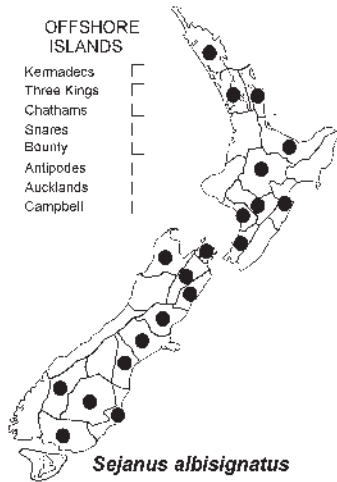


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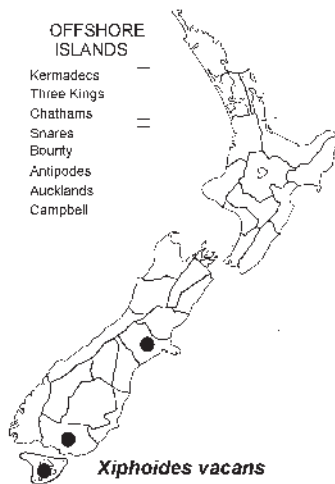
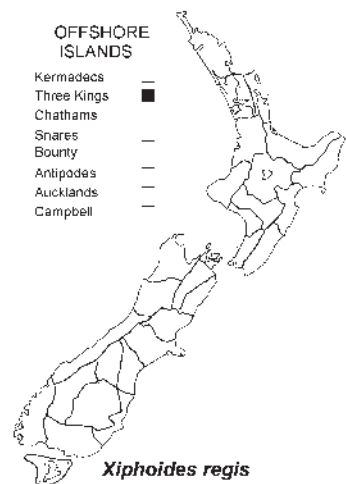
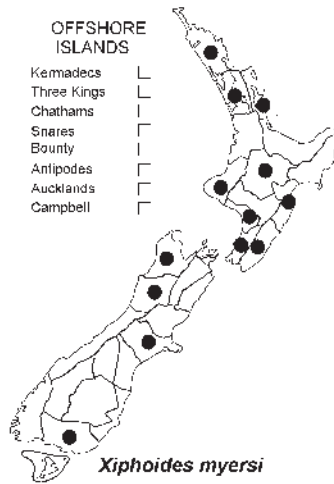
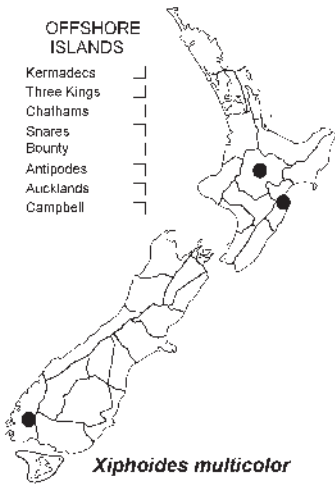
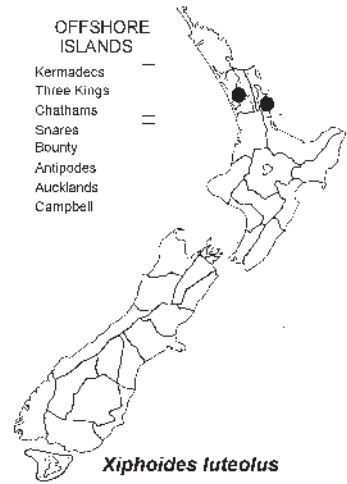
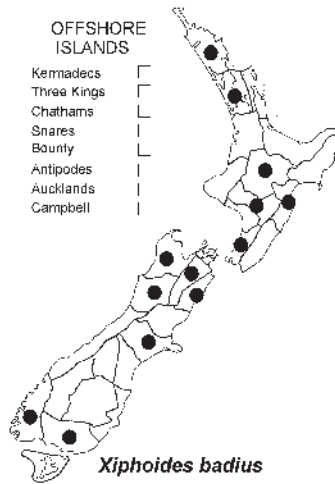
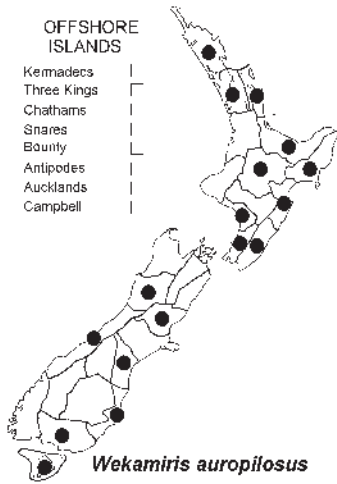
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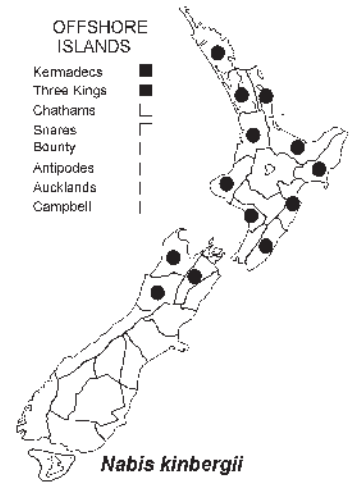
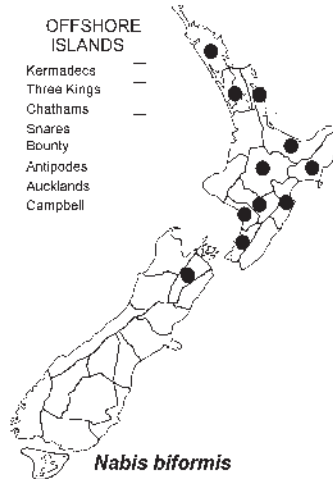
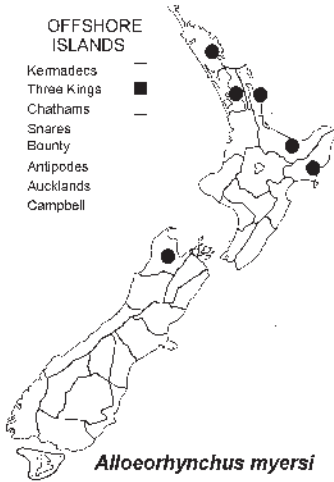
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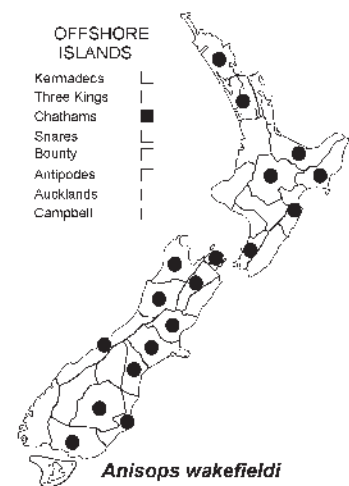
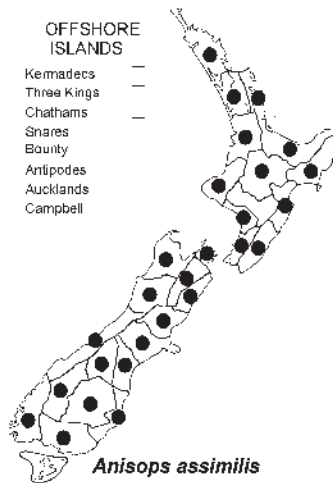
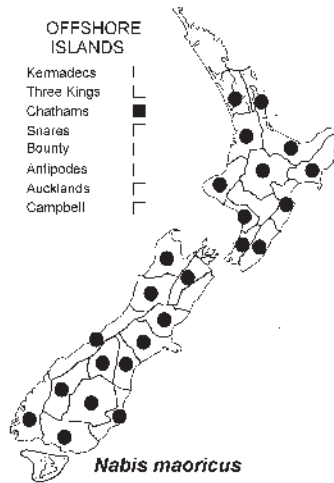
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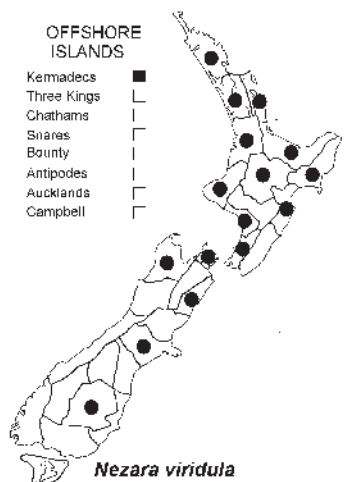
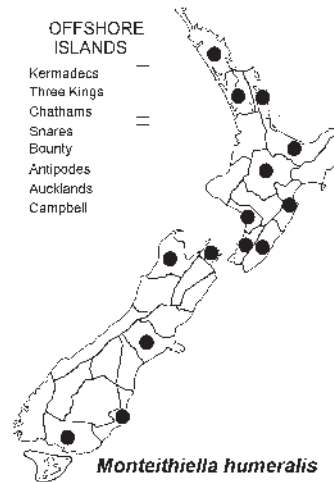
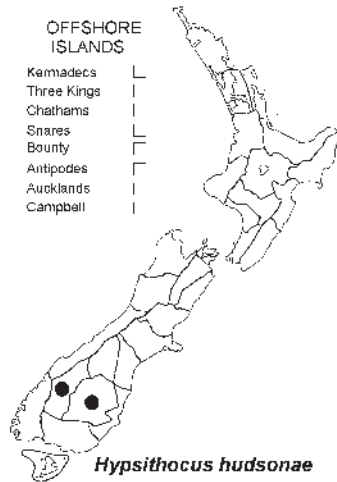
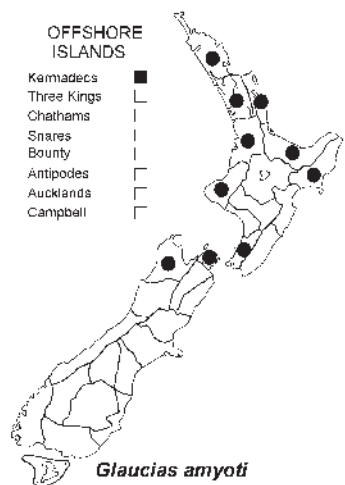
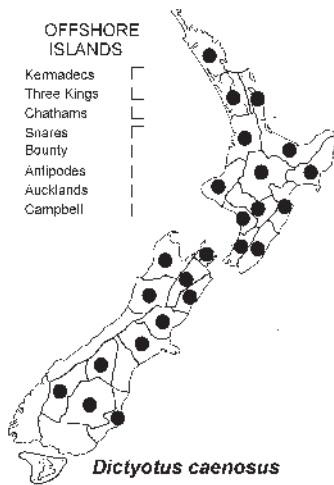
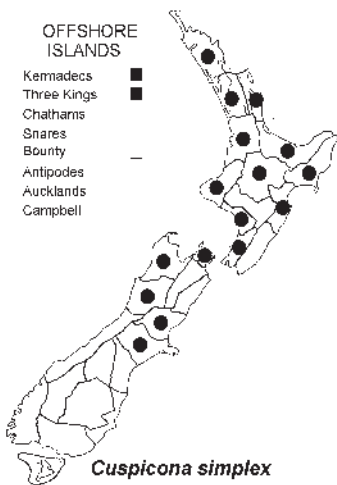
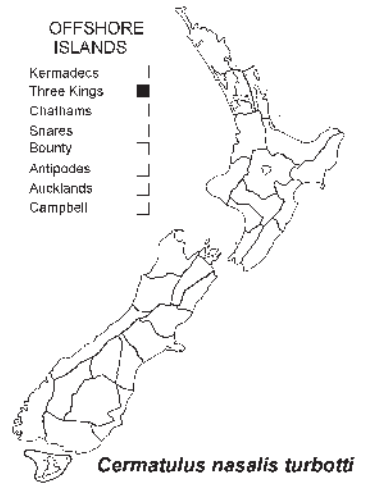
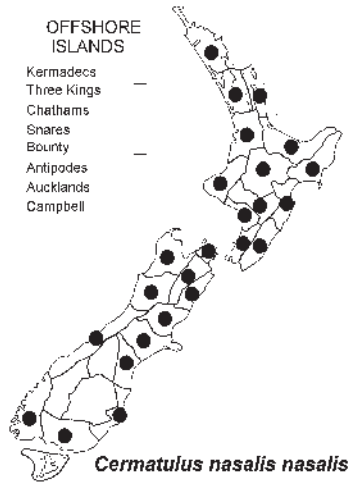
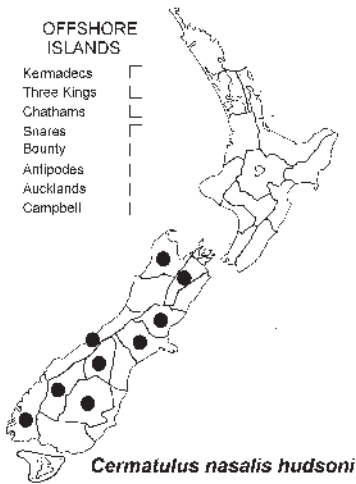
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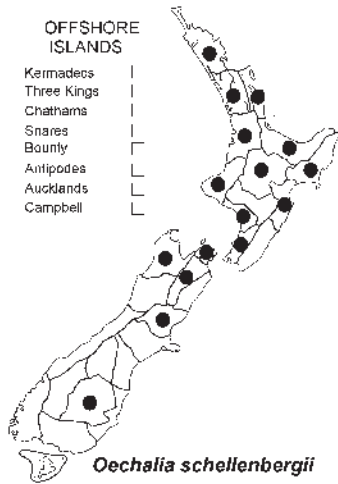
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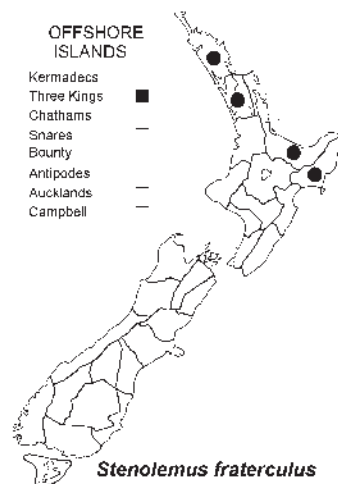
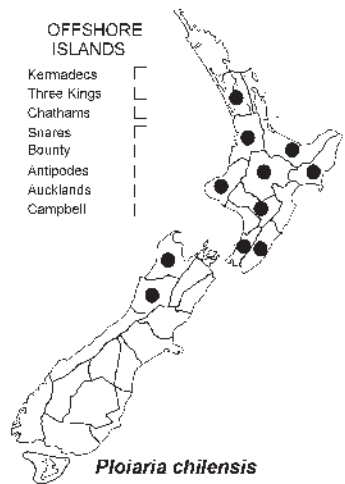
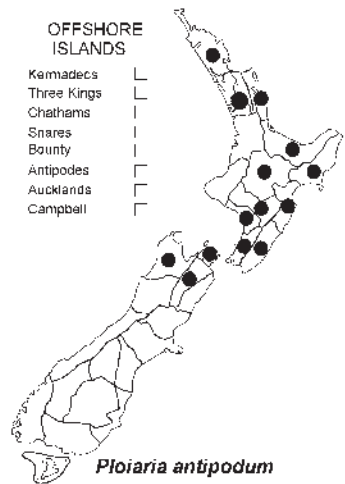
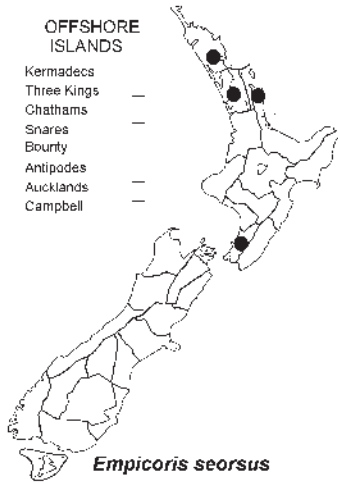
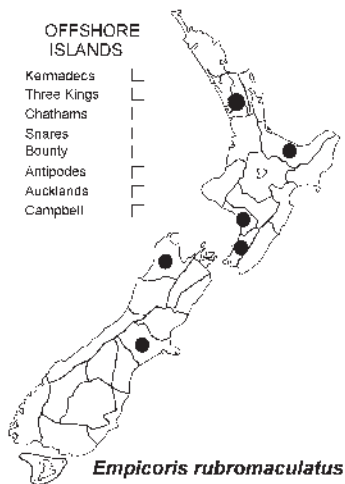
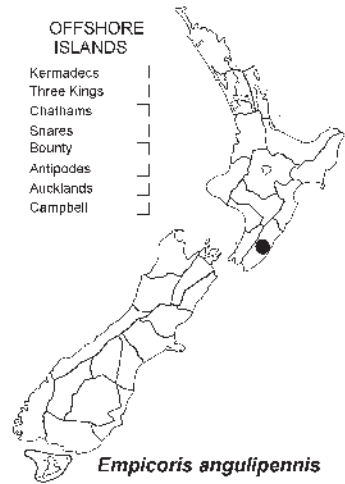
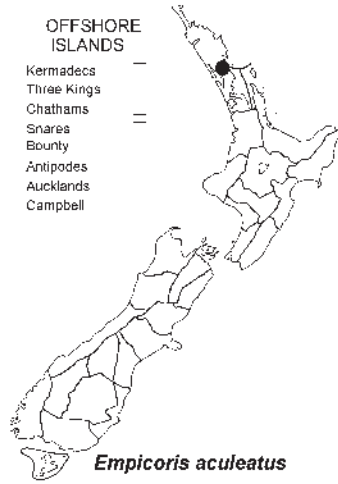
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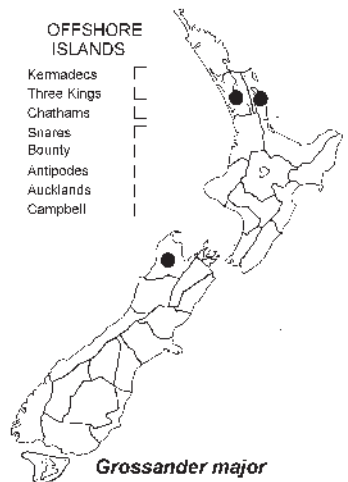
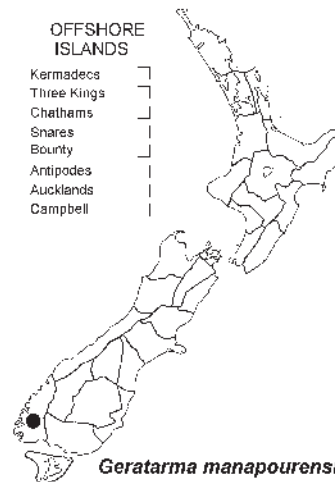
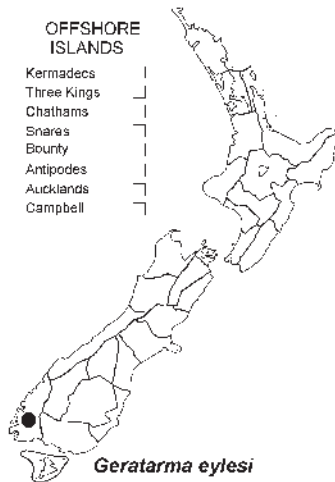
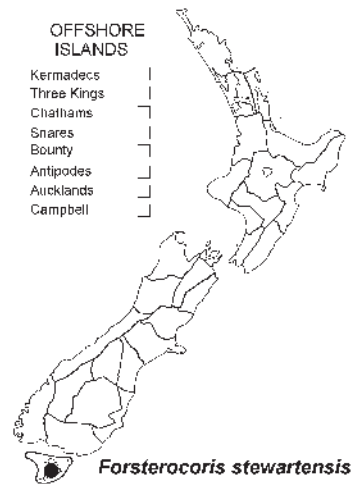
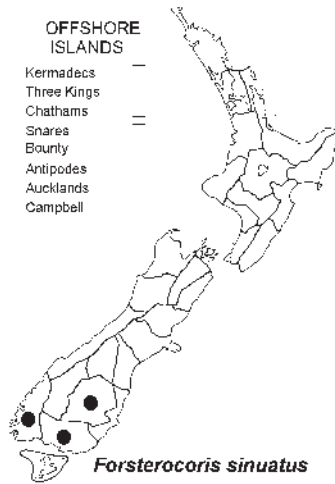
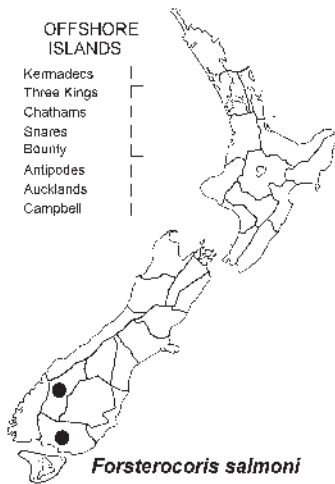
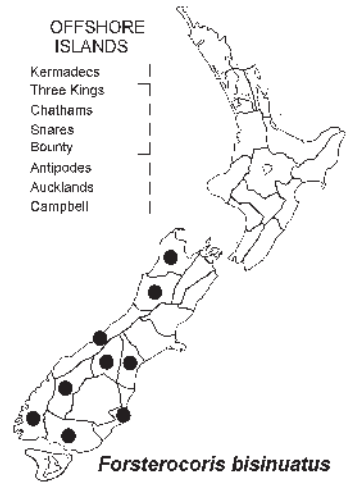
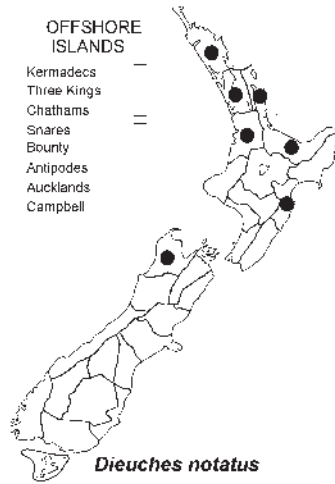
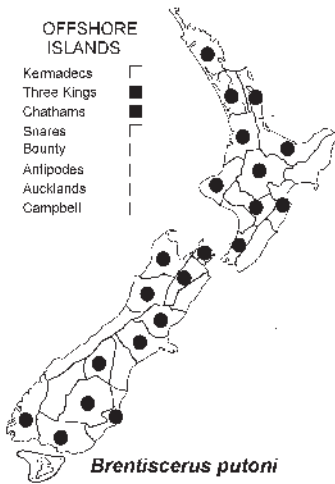
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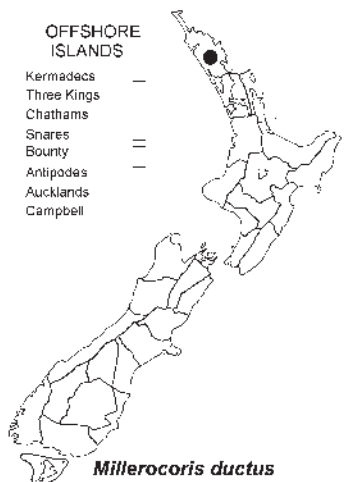
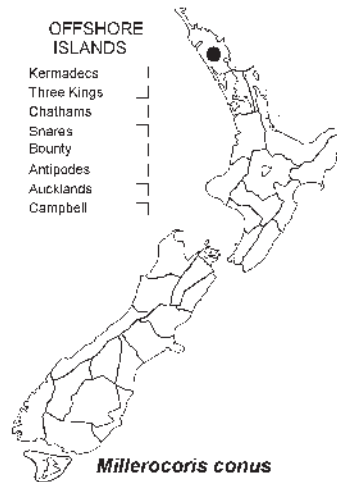
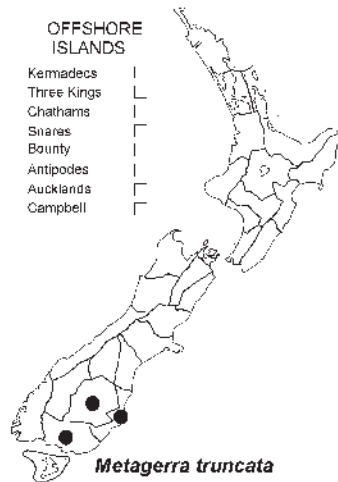
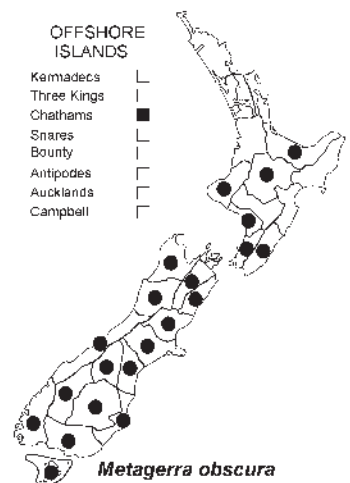
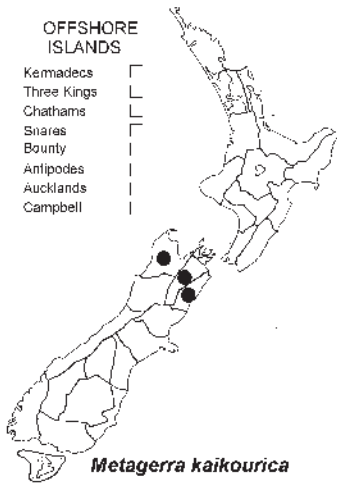
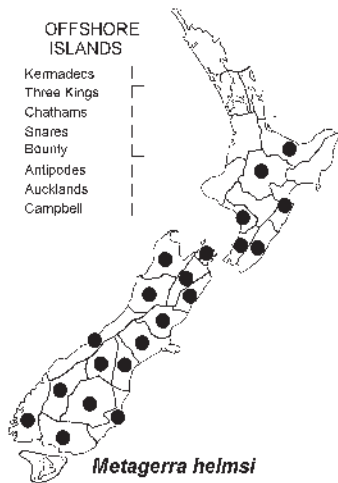
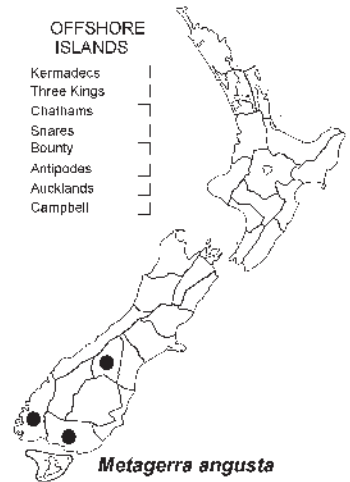
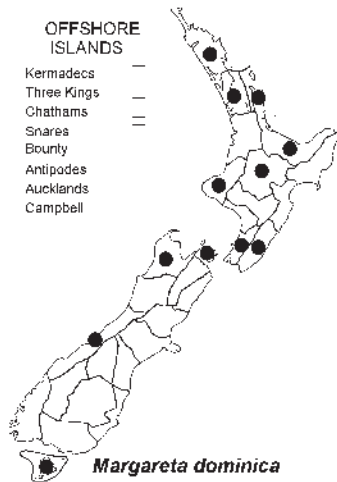
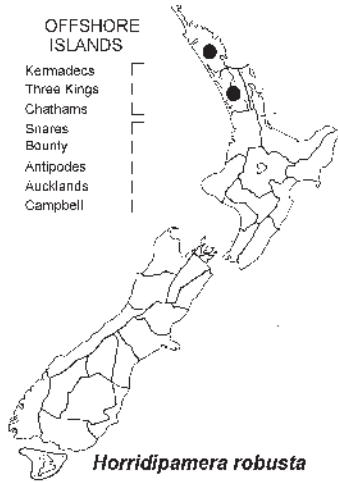
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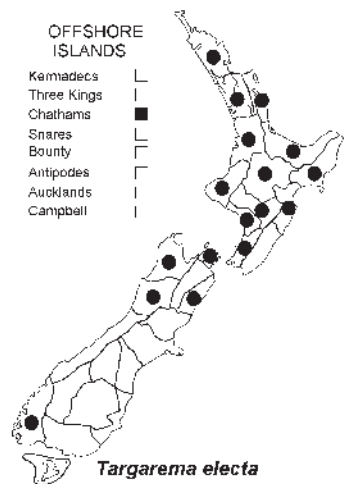
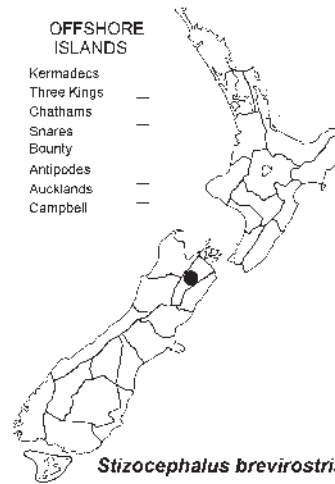
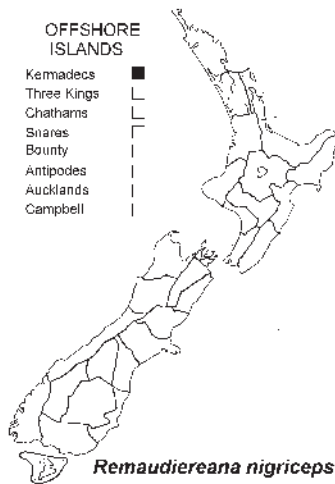
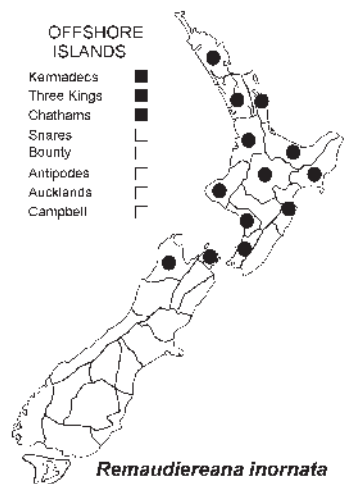
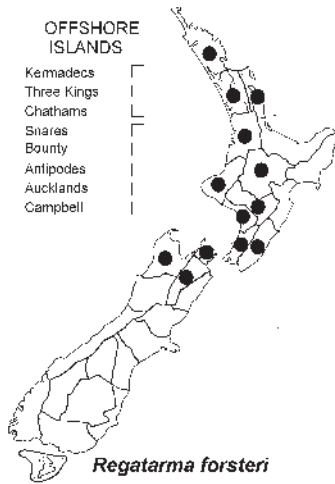
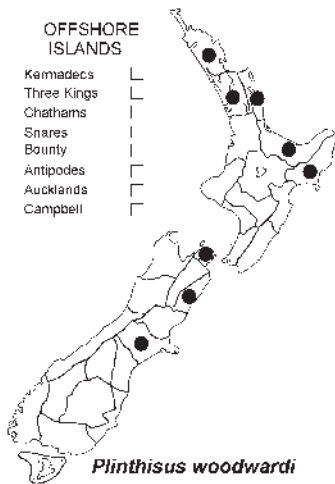
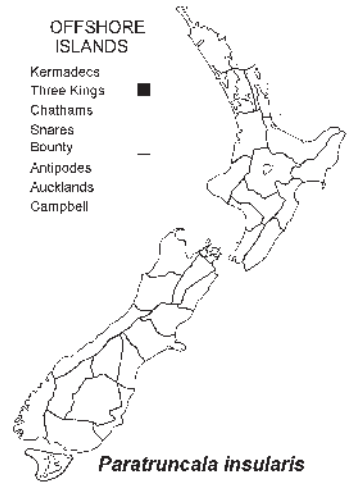
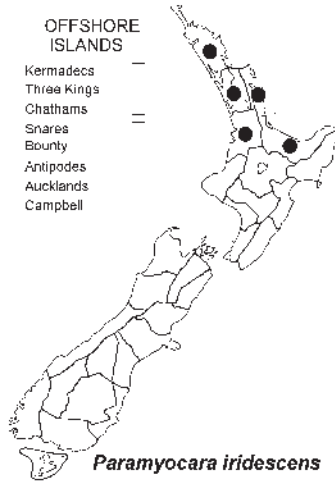
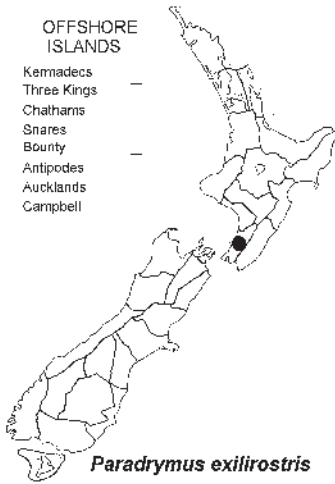
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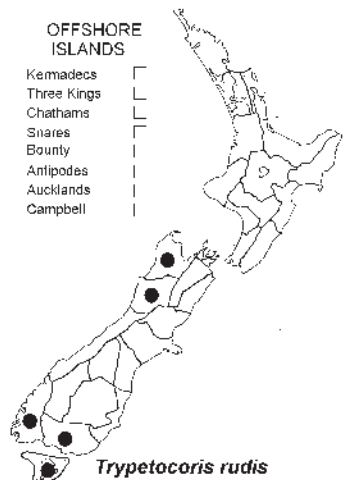
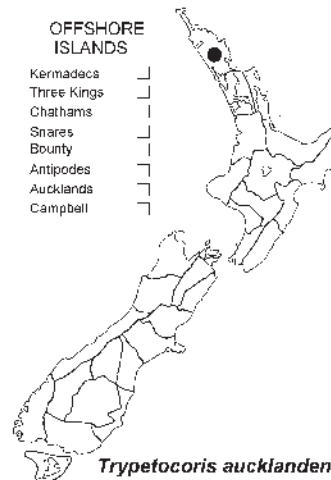
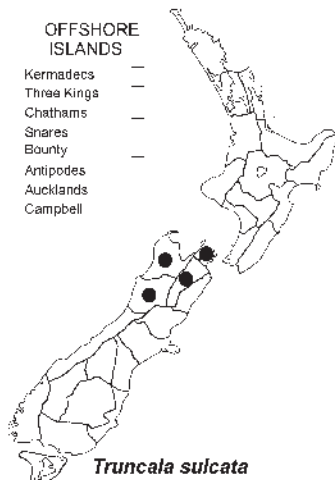
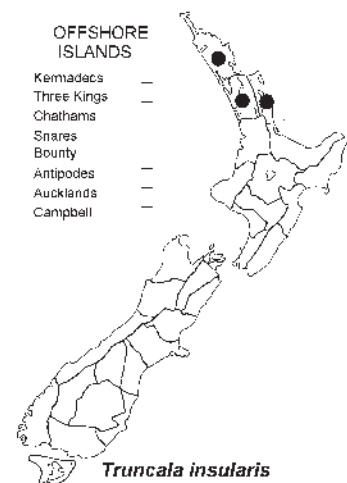
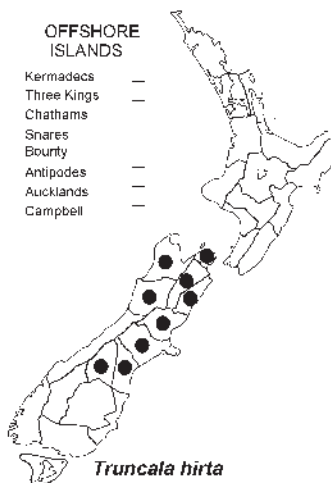
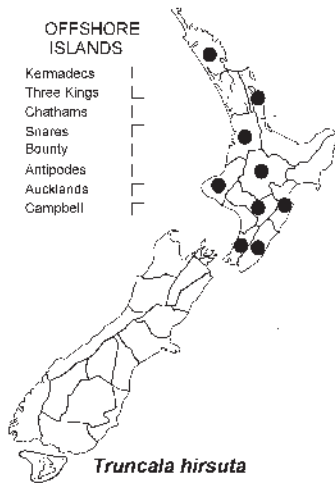
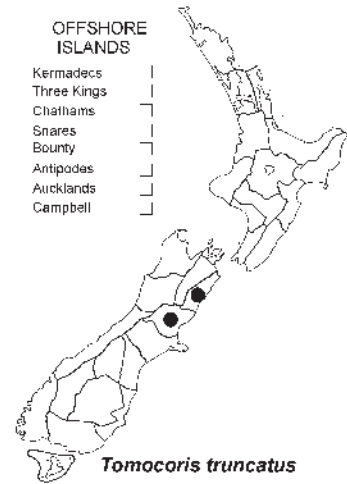
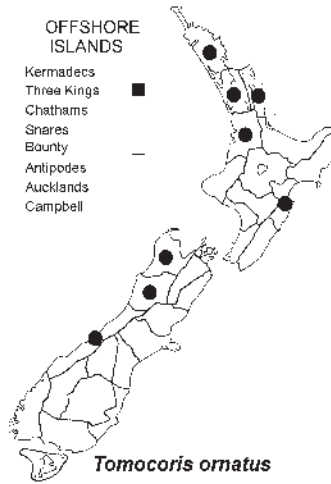
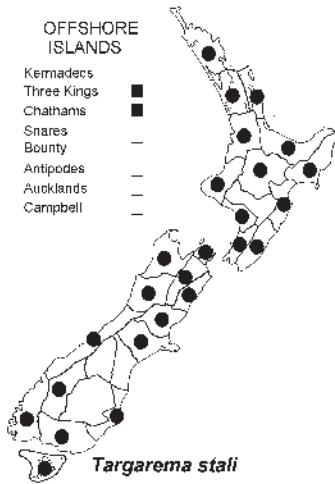
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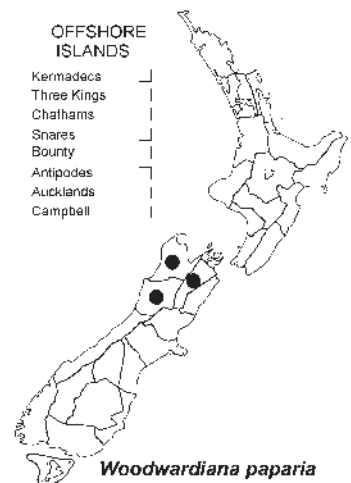
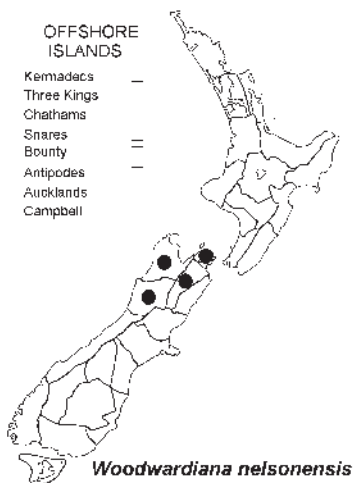
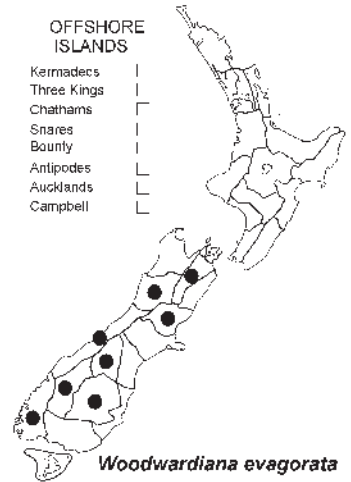
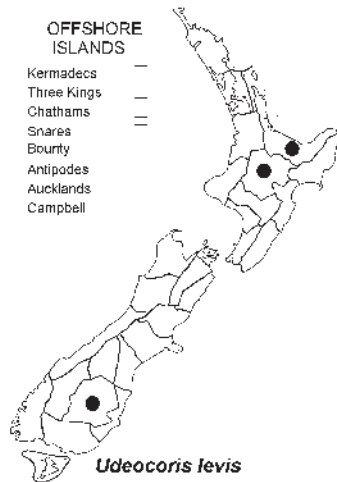
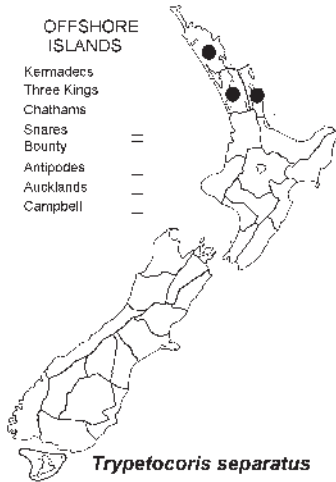
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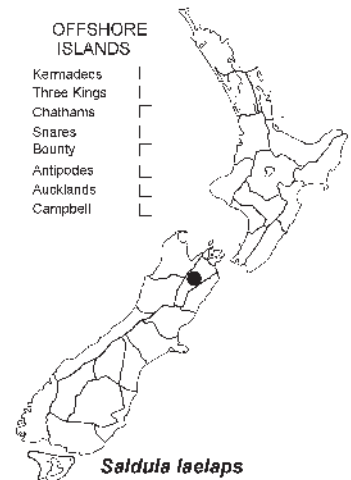
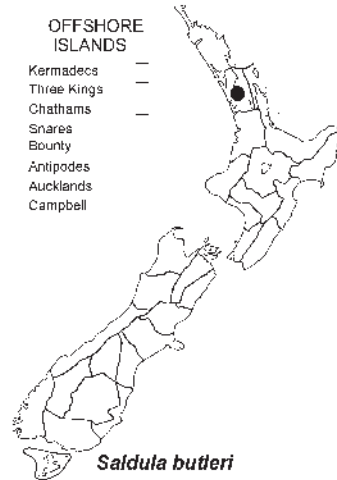
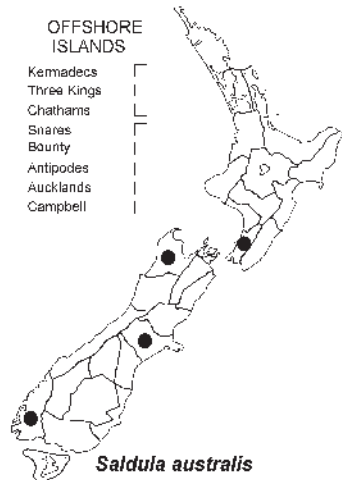
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RHYPAROCHROMIDAE

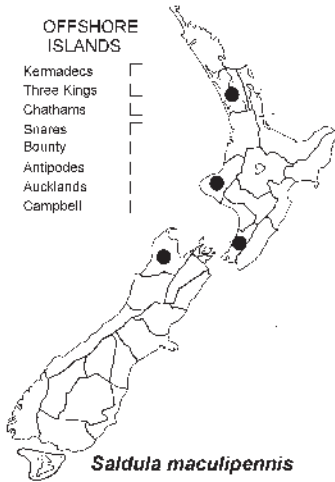


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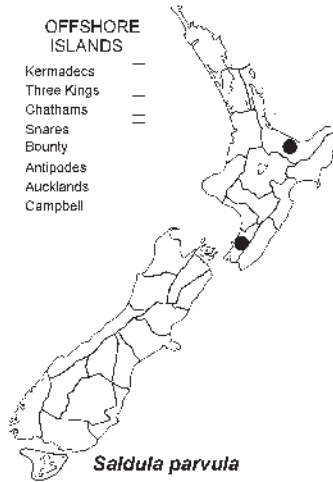


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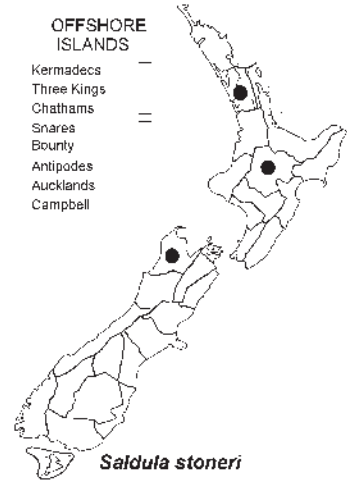
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Three Kings
Chathams
Snarens
Bounty
Antipodes
Aucklands
Campbell

**OFFSHORE ISLANDS**

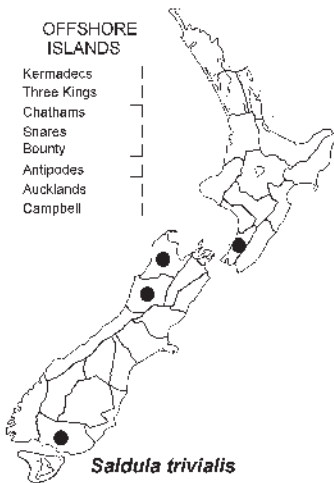
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Three Kings
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**OFFSHORE ISLANDS**

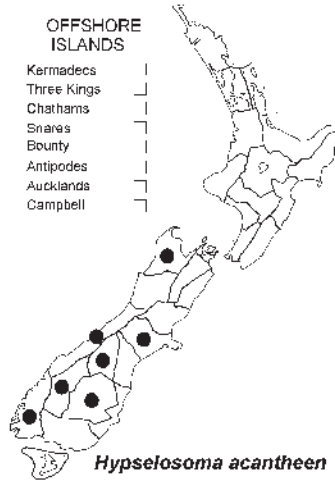
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**SCHIZOPTERIDAE****OFFSHORE ISLANDS**

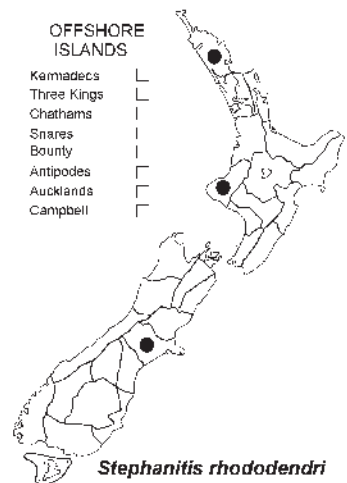
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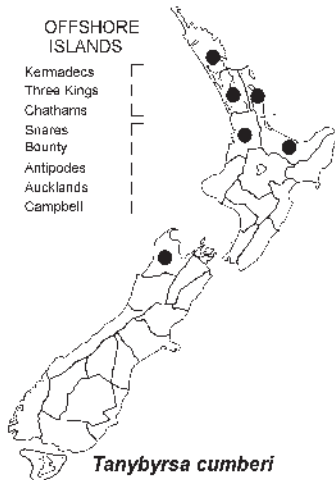
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**TINGIDAE****OFFSHORE ISLANDS**

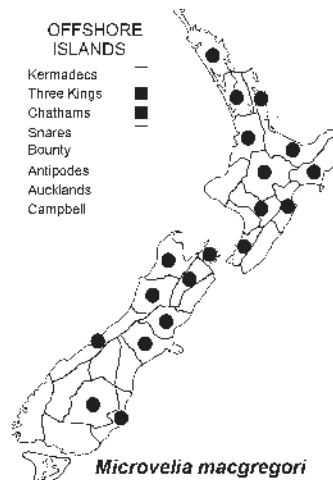
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TAXONOMIC INDEX

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**.

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- Eriophyinae (*D.C.M. Manson*, FNZ 5, 1984)

Araneae

- Lycosidae (*C. J. Vink*, FNZ 44, 2002)

Crustacea

Amphipoda

- Talitridae (*K.W. Duncan*, FNZ 31, 1994)

Mollusca

Gastropoda

- Naturalised terrestrial Stylommatophora (*G.M. Barker*, FNZ 38, 1999)

NOTICES

This series of refereed publications has been established to encourage those with expert knowledge to publish concise yet comprehensive accounts of elements in the New Zealand fauna. The series is professional in its conception and presentation, yet every effort is made to provide resources for identification and information that are accessible to the non-specialist.

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NGĀ PĀNUI

Kua whakatāia t'nei huinga pukapuka hei whakahau hau i ng~tohunga whai m~tauranga kia whakaputa i ng~kōrero poto, engari he whaikiko tonu, e p~ ana ki ng~aitanga pepeke o Aotearoa. He tōka tonu te ~hua o ng~tuhituhi, engari ko te tino wh~inga, kia m~rama te marea ki ng~tohu tautuhi o ia ng~rara, o ia ng~rara, me te roanga atu o ng~kōrero mō' n~, mō' n~.

He tiro wh~iti t~t' nei pukapuka ki ng~mea noho whenua, k~ore he tuar~, i p' nei ai i te mea kei te mōio 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~tohungatanga me ng~rauemi e tutuki pai ai tana mahi. Heoi anō e w~tea ana te Kohinga Angawaho o Aotearoa hei ~ta tiroiro m~te tangata mehemea he ~whina kei reira.

Me wh~ki te kaituhi i tōa whakaaro ki t' tahi o te K~hui } rahi Whakarōāanga Tuar~Kore, ki te •tita r~nei i mua i te t~natanga, ~, m~r~tou a ia e ~rahi mōte w~hi ki tana tuinga.

Ko te hunga pōsangi **hoko pukapuka**, me tuhi ki *Fauna of N.Z.*, Manaaki Whenua Press, Manaaki Whenua, Pouaka Pout~peta 40, Lincoln 8152, Aotearoa.

E rua ng~tānomo kaihoko: "A" – kaihoko tānau, 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 tonu i tōa w~anō.

Te utu (tirohia "Titles in print", wh~rangi 106). Ko te kōpaki 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 whakaheke te utu. Tekau tōa te heke iho o te utu ki ng~toa hoko pukapuka.