A journal of world insect systematics

INSECTA MUNDI

1058

Synopsis of the subfamily Prosympiestinae in New Zealand (Heteroptera: Aradidae)

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Neadenocoris hoarei Larivière and Larochelle, new species

Date of issue: June 28, 2024

Center for Systematic Entomology, Inc., Gainesville, FL

Larivière M-C, Larochelle A. 2024. Synopsis of the subfamily Prosympiestinae in New Zealand (Heteroptera: Aradidae). Insecta Mundi 1058: 1–42.

Published on June 28, 2024 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
http://centerforsystematicentomology.org/

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1058: 1–42 **INSECTA MUNDI** 2024

Synopsis of the subfamily Prosympiestinae in New Zealand (Heteroptera: Aradidae)

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Abstract. The subfamily Prosympiestinae (Heteroptera: Aradidae) is revised for New Zealand. Three genera and thirteen species are recognized.

Five species are described as new: *Neadenocoris centralis* Larivière and Larochelle **new species**, *Neadenocoris hoarei* Larivière and Larochelle **new species**, *Neadenocoris northlandicus* Larivière and Larochelle **new species**, *Neadenocoris pseudovatus* Larivière and Larochelle **new species**, *Neadenocoris wellingtonensis* Larivière and Larochelle **new species**.

One **new synonymy** is established: *Neadenocoris reflexus* Usinger and Matsuda, 1959 becomes a junior synonym of *Neadenocoris acutus* Usinger and Matsuda, 1959.

A revision of all taxa is provided. Descriptions, identification keys, illustrations of male parandria, habitus photos, distributional data and maps are given. Extensive information on biology is included for each species.

Key words. Taxonomy, new species, keys, geographic distribution, biology.

ZooBank registration. urn:lsid:zoobank.org:pub:BFF9716E-100D-492F-8F11-6F8EFBADF940

Introduction

The subfamily Prosympiestinae (Heteroptera: Aradidae) occurs in New Zealand, Australia, and Chile (Schuh and Weirauch 2020). It contains two tribes, five genera, and 18 species (Cassis and Gross 2002; Larivière and Larochelle 2004, 2014; Schuh and Weirauch 2020), including new species described in this synopsis.

The tribe Llaimacorini is monotypic, with a single species (*Llaimacoris penai* Kormilev, 1964) described from Chile. The tribe Prosympiestini comprises four genera: *Prosympiestus* Bergroth, 1894, endemic to eastern Australia; *Adenocoris* Usinger and Matsuda, 1959, *Mesadenocoris* Kirman, 1985, and *Neadenocoris* Usinger and Matsuda, 1959, endemic to New Zealand.

Prosympiestinae are primarily found in temperate rainforests as well as nearby shrublands and scrublands. In New Zealand, most species live in the moist ground litter composed of dead leaves, branchlets, and bark. Many species can also be found on the moist, often moldy bark (with or without visible wood-decay fungi) on the underside of rotting fallen branches and logs lying on the forest floor.

Prosympiestines are diverse and highly distinctive in New Zealand. The fauna includes 73% of world taxa and is 100% endemic at the genus and species levels. Among New Zealand genera, *Neadenocoris* is the most diversified with 10 species. Six species are restricted to the South Island, three species are found only on the North Island, and one species is shared between the North Island and northern areas of the South Island. The north and west of the South Island, where 60–70% of the New Zealand fauna occurs (eight species in two genera), are the most taxonomically diverse regions of the country.

All New Zealand Prosympiestinae are micropterous, in contrast with the submacropterous or macropterous Chilean and Australian faunas. Most *Neadenocoris* species as well as *Mesadenocoris robustus* Kirman, 1985 have a dull and punctate body surface that is partially coated with incrustations, a mixture of waxy cuticular secretions,

soil, and debris. None of the New Zealand species exhibits the polished isodermine-like appearance of *Prosympiestus* (Australia). The majority of New Zealand prosympiestines exhibit strong sexual dimorphism in the male where the posterolateral angle of the sixth or seventh connexival segment is produced into a spine. Similarly placed long, curved hooks are present in the male of *Llaimacoris penai* (Chile; Heiss 2017, habitus photo).

The New Zealand Prosympiestinae have recently been catalogued by Larivière and Larochelle (2004, 2014). The same authors published an overview of New Zealand Aradidae genera (Larivière and Larochelle 2006), with keys and descriptions to supraspecific taxa of Prosympiestinae and a detailed discussion of faunal diversification and affinities.

Usinger and Matsuda (1959), in their seminal work on world Aradidae, described all New Zealand genera and species known before this synopsis, with the exception of *Mesadenocoris robustus*.

The current taxonomic revision deals with three genera and 13 species, five of which are new to science.

This synopsis provides a detailed treatment of the taxonomy of New Zealand Prosympiestinae, identification keys to all taxa, and information on species distribution and biology. The male parandria are described and illustrated for *Neadenocoris* species, and habitus photos are provided for all taxa.

This revision is another step in the authors' goal of contributing to the understanding of the New Zealand Hemiptera fauna, especially Heteroptera, by providing comprehensive treatments that make large amounts of information available for practical use by a wide range of users. It follows the publication of a revision of Cydnidae, Acanthosomatidae, and Pentatomidae (Larivière 1995), a revision of the family Cixiidae (Larivière 1999), a catalogue and a checklist of New Zealand Heteroptera (Larivière and Larochelle 2004, 2014), an overview of Aradidae genera (Larivière and Larochelle 2006), a catalogue of Auchenorrhyncha (Larivière et al. 2010), a review of the family Peloridiidae (Larivière et al. 2011), revisions and a supplement to the world catalogue of Saldidae (Larivière and Larochelle 2015–2019), and a synopsis of the subfamily Carventinae, Aradidae (Larivière and Larochelle 2022).

Materials and Methods

This study is based on the examination of over 1,800 specimens from more than 300 New Zealand localities. This included nearly 600 specimens collected by the authors (1992–2018) and deposited in the New Zealand Arthropod Collection (NZAC), Auckland.

Other specimens were kindly provided by the following museums and collections: Auckland War Memorial Museum, Auckland, New Zealand (AMNZ); Canterbury Museum, Christchurch, New Zealand (CMNZ); Entomology Research Collection, Lincoln University, Lincoln, New Zealand (LUNZ); Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand (MONZ); The Natural History Museum, London, U.K. (NHMUK, formerly BMNH).

The morphological terminology used in this work generally follows Larivière and Larochelle (2022) who discussed historical ambiguities in the application of particular terms relating to the segments of the abdomen, cuticular callosities, and apodemal markings in Aradidae taxonomy.

The term 'mediotergite(s)' refers to the median part of abdominal segments III–VII and 'laterotergite(s)' to the surface of connexival segments. Abbreviations are as follows: dmtg, dorsal mediotergite(s); vmtg, ventral mediotergite(s); dltg, dorsal laterotergite(s); vltg, ventral laterotergite(s). The dorsal mediotergites (dmtg) III–VI are more or less fused, distinct from previous and subsequent segments, and forming the tergal plate (tergal disk of Usinger and Matsuda 1959). In the female, the ventral mediotergite (vmtg) VII is split into two subtriangular plates.

The term 'parandria' (singular 'parandrium') relates to the pair of plates that divide the posterior rim and wall of the male pygophore (Fig. 8); a terminology based on Leston (1955), Monteith (1966, 1997), and Schaefer (1977). These structures were referred to as 'styles' by Usinger and Matsuda (1959) who may have overlooked their diagnostic value and did not include them in their descriptions of New Zealand Prosympiestinae.

The term 'teneral(s)' indicates newly emerged adults, i.e., individuals recently emerged from the final nymphal stage, with an exoskeleton that is yet to harden and take its final color and form. Tenerals are very common in collections and pose a significant challenge to accurate identification. They have a soft cuticle that

can be deceptively pale compared to fully mature adults. Morphological characters traditionally used to diagnose Prosympiestinae can be oddly shaped or abnormally developed, e.g. thoracic callosities, anterolateral and posterolateral angles of thoracic and connexival segments, antennal segments, antenniferous tubercles, or even genitalic structures. When collecting in the field, it is difficult to judge if sampled individuals represent fully mature adults. It is therefore important to collect long series of specimens from any given population and to sample Prosympiestinae at the height of the New Zealand summer season (December–February) when fully mature adults are more abundant.

Collecting methods (Fig. 51–62) involve sifting rotting leaf and branchlet litter over a white sheet or tray, gathering litter samples and using extraction methods to obtain specimens (e.g. Berlese funnels), examining the underside of rotting fallen branches or brushing branches over a white sheet or tray, and taking individual specimens with forceps. When using Berlese funnels, bulk litter samples are preferred over litter that has been pre-sifted in the field; it allows samples to slowly dry up and insects to gradually come out of the vegetal debris. The use of a headlamp is helpful when examining or brushing rotting fallen branches in dark, heavily forested habitats or overcast situations.

Taxonomic descriptions are based on the same list of characters for all taxa of equivalent rank. The subfamily description, generic descriptions, and key to genera update those published by Larivière and Larochelle (2006). Characters and character states apply to both sexes, unless otherwise specified. At the species level, males are fully described first and a differential diagnosis follows for the female.

In the identification keys to genera and species, additional helpful but not necessarily exclusive characters are provided in brackets. The taxonomic arrangement of genera in the text follows their order in the identification key. Type species descriptions appear first within each genus. The sequence of habitus photos and illustrations of male parandria generally follows the order of taxa in the text. Synonyms and type data are given for all taxa.

For detailed examination of the external morphology, it was often necessary to clear the body surface of incrustations. Since the material for this study consisted mostly of pinned or card-mounted specimens, incrustation removal was done by stabilizing individual specimens on a small piece of soft foam and by scraping away the incrustation coating with a fine entomological pin attached to a pin holder. For specimens kept in alcohol, a fine paint brush with bristles cut very short, was used to remove incrustations before examination or prior to dry-mounting specimens. For routine identification, only incrustations obstructing diagnostic characters were removed.

Measurements, sometimes expressed as ratios, were taken as follows: *body length*, in dorsal view, from visible apex of head to apex of fully retracted male or female terminalia; *head length*, along midline, from visible apex of head; *head width*, across middle of eyes; *antennal segment length*, from base to apex of each segment; *antennal segment II width*, from side to side about middle; *antenniferous tubercle length*, in front of eye; *pronotum width,* across posterolateral angles; *pronotum length,* along midline, from anterior margin to posterior margin; *scutellum length,* along midline, from anterior/basal margin to posterior/apical margin; *hemelytral pad length,* along midline or as close to midline as possible, from anterior/basal margin to posterior/apical margin; *hemelytral pad width,* from side to side at apex; *abdominal width,* between lateral margins of widest tergite; *dmtg VII length (male)* along midline; *dmtg VII width (male)* between lateral margins; *vmtg VI length*, along midline, from anterior margin to posterior margin; *vmtg VII length*, along midline (male), along inner margin of each plate (female).

Species of *Adenocoris* and *Mesadenocoris* were easily characterized using characters of the external morphology. The male pygophore (genital capsule) was studied and parandria were found to be diagnostic at the species level in the genus *Neadenocoris*. These external outgrowths of the posterior rim and wall of the pygophore are more easily examined than internal male parameres and can even be used for routine identification. They appear as two symmetrical, most often subtriangular plates placed below the posterior rim of the pygophore. Each parandrium is often divided into a basal portion and a usually thinner, paler apical portion.

The two-letter abbreviation codes of Crosby et al. (1976, 1998) for areas of New Zealand (Fig. 37) were used to record geographic distributions. Full distributional information is given for lesser known or insufficiently sampled species and geographic areas. Appendix 1 provides decimal degree coordinates for localities cited in the text. Maps summarizing species distribution are alphabetically arranged (Fig. 38–50).

Notes on biology are based on an analysis and synthesis of specimen label data and field observations by the authors. The terminology and style of presentation follow previous publications by the authors.

Systematics

Subfamily Prosympiestinae

Tribe Prosympiestini

Description (based on New Zealand taxa). **Head.** Juga well developed, extending on each side of clypeus for about half its length. Rostrum reaching beyond hind margin of head; bordered by bucculae at base; arising from an open atrium. Gula without rostral groove. Labrum fused with clypeus. Feeding stylets coiled into an anticlockwise circle. **Thorax.** Metathoracic scent gland openings conspicuous, with a long curved seta in middle and well-developed evaporatory area. Tarsal claws with non-lamellate triangular (spatulate) pseudopulvilli. **Abdomen.** Posterior margin of dorsal mediotergites (dmtg) III–V sinuate, projected backward about middle. Dorsal abdominal scent glands (or scars thereof) three in number, all about equally developed, placed medially along backward projection of dmtg III–V. Pattern of apodemal markings 2:1:1 (dorsal); 2:2:1 (ventral). ***Male genitalia.*** Pygophore rounded, posterior wall and rim of dorsal opening divided into a pair of subtriangular or rounded-subrectangular parandria (Fig. 8–18); parameres symmetrical; paratergites VIII well developed ventrally, without projecting lateral lobes.

References. Larivière and Larochelle 2004: 57–59, 229–231, 285, 288–289 (catalogue, biology, distribution, maps, references, type photos), 2006 (descriptions of subfamily and genera, habitus photos, key to genera, faunal diversification and affinities), 2014: 351 (updated checklist).

Remark. All New Zealand taxa belong to the tribe Prosympiestini as described by Kormilev and Froeschner (1987: 7).

Alphabetical checklist of taxa

Valid genus- and species-group taxa are listed alphabetically (all are endemic).

Subfamily **Prosympiestinae**
- Tribe **Prosympiestini**
  - Genus ***Adenocoris*** Usinger and Matsuda, 1959
    - ***brachypterus*** Usinger and Matsuda, 1959
    - ***spiniventris*** Usinger and Matsuda, 1959
  - Genus ***Mesadenocoris*** Kirman, 1985
    - ***robustus*** Kirman, 1985
  - Genus ***Neadenocoris*** Usinger and Matsuda, 1959
    - ***abdominalis*** Usinger and Matsuda, 1959
    - ***acutus*** Usinger and Matsuda, 1959
    - ***centralis*** Larivière and Larochelle, new species
    - ***glaber*** Usinger and Matsuda, 1959
    - ***hoarei*** Larivière and Larochelle, new species
    - ***northlandicus*** Larivière and Larochelle, new species
    - ***ovatus*** Usinger and Matsuda, 1959
    - ***pseudovatus*** Larivière and Larochelle, new species
    - ***spinicornis*** Usinger and Matsuda, 1959
    - ***wellingtonensis*** Larivière and Larochelle, new species

Key to genera of Prosympiestinae (New Zealand)

1. Apex of antenniferous tubercles subtruncate (not produced into a spine) (Fig. 1). Metathoracic scent gland openings directly connected to channel of evaporatory area (Fig. 3). Fig. 19–31. [Body length about 2.6–4.2 mm (male), 3.2–4.9 mm (female). North Island, South Island] . . . . . **Genus *Neadenocoris* Usinger and Matsuda**

— Apex of antenniferous tubercles strongly produced into a spine (Fig. 2). Metathoracic scent gland openings not directly connected to channel of evaporatory area (Fig. 4) **2**

2(1). Rostrum not reaching procoxae. Lateral margins of pronotum barely rounded, unproduced near middle, anterolateral angles narrowly rounded-subtriangular, slightly to moderately produced anteriorly. Abdominal venter without a median longitudinal furrow. Fig. 32–33. [Body length 5.5 mm (male), 7.9 mm (female). North Island: ND] . . . . . **Genus *Mesadenocoris* Kirman**

— Rostrum reaching procoxae. Lateral margins of pronotum angularly rounded, more or less produced near middle, anterolateral angles broadly rounded, unproduced or barely produced anteriorly. Abdominal venter with a shallow, smooth, laterally carinate median depression on each segment, forming a longitudinal furrow from base to apex. Fig. 34–36. [Body length about 4.1–5.7 mm (male), 5.2–6.5 mm (female). North Island, northwestern South Island and DN] . . . . . **Genus *Adenocoris* Usinger and Matsuda**

Genus *Neadenocoris* Usinger and Matsuda, 1959

Fig. 19–31, 41–50

Neadenocoris Usinger and Matsuda, 1959: 71.

Type species. *Neadenocoris spinicornis* Usinger and Matsuda, 1959, by original designation.

Description. Micropterous. Body subtriangular to subovate; length 2.6–4.2 mm (male), 3.2–4.9 mm (female). **Head.** Clypeus posteriorly reaching middle of eyes, anteriorly reaching or nearly reaching middle of antennal segment I. Juga anteriorly reaching middle of clypeus. Apex of antenniferous tubercles subtruncate (not produced into a spine). Rostrum reaching a short distance behind collar. **Thorax.** Pronotum with lateral margins straight or nearly so, not produced near middle; anterolateral angles narrowly to broadly rounded-subtriangular or rounded-subrectangular, more or less produced anteriorly. Hemelytra reduced to short pads, not extending beyond apex of scutellum. Metathoracic scent gland openings directly connected to channel of evaporatory area, the latter moderately or strongly developed, occupying a relatively small or large portion of metapleuron, with channel extending anteriorly and laterally, reaching or not reaching lateral margin. ***Legs.*** Trochanters and femora demarcated from each other. Femora about as long as tibiae; ventral surface unarmed. Tibiae without rounded denticles along ventral surface; protibiae with fine ventral spines and apical comb. Tarsal claws with long, curved, filamentous parempodia (much longer than claws). **Abdomen.** Dorsal mediotergites (dmtg) I–II well separated, dmtg III–VI more or less fused, intersegmental divisions distinct, strongly sinuate on each side of scent gland openings, or indistinct. Posterolateral angle of dorsal laterotergites (dltg) VI in male, produced into a spine or unproduced. Spiracles II ventral (not visible from above), III–VII lateral (visible from above, VII often very small in male), VIII apical. ***Venter*** without median longitudinal furrow from base to apex.

Other characters as for subfamily.

Remarks. The genus *Neadenocoris* is morphologically heterogeneous. On the one hand, there is a group of four species (*N. glaber*, *N. ovatus*, *N. pseudovatus, N. spinicornis*) with a subovate body in both sexes, a relatively large size and long antennal segments (especially segment II relative to segment I), mostly distinct intersegmental divisions on the tergal plate of abdomen, and a somewhat restricted evaporatory area around the metathoracic scent gland openings. On the other hand, there is a group of six species (*N. abdominalis, N. acutus, N. centralis, N. hoarei, N. northlandicus, N. wellingtonensis*) with a subtriangular body in the male, a rather small size and short antennal segment II, more or less distinct intersegmental divisions on the tergal plate of abdomen, and a more strongly developed evaporatory area around the metathoracic scent gland openings. The species in the second group are also characterized by the presence of a posterolateral spine or spinous projection on the sixth segment of the dorsal connexivum (dltg VI) in the male; a highly reduced version of this is seen in one species of the first group, *N. glaber*. Most species of the second group have a dorsoapical swelling on the third antennal segment, a feature not seen in the first group although a strongly developed dorsoapical projection is present in *N. spinicornis*. The species *N. glaber* stands out within the first group, with its rather narrow, elongate body, comparatively long appendages, sides of connexivum strongly reflexed anteriorly (male), and the tiny posterolateral spine on dltg VI (male). The genus *Neadenocoris* was previously known only from the South Island. It is hereby recorded from the North Island with the description of four new species.

Key to species of *Neadenocoris*

1. Antennal segment III with a large dorsoapical projection (Fig. 5) or antennal segment I long, about as long as clypeus **2**

— Antennal segment III without a large dorsoapical projection and antennal segment I distinctly shorter than clypeus **3**

2(1). Antennal segment III with a large dorsoapical projection (Fig. 5); segment I shorter than clypeus. Scutellum with apical half broadly U-shaped to rounded-subquadrate, slightly longer than hemelytral pads. Abdominal scent gland openings placed on thick, strongly swollen tubercles. Tergal plate with sparse coarse punctures. Fig. 19–20. [Connexivum of male regularly reflexed throughout. Posterolateral angle of male dltg VI unproduced. Body length: 3.5–4.2 mm (male), 3.7–4.5 mm (female). Western South Island: BR to FD–SL] . . . . . ***Neadenocoris spinicornis*** **Usinger and Matsuda**

— Antennal segment III without a large dorsoapical projection; segment I about as long as clypeus. Scutellum with apical half narrowly rounded-subtriangular, subacutely tipped, much longer than hemelytral pads. Abdominal scent gland openings placed on thin, flat plates. Tergal plate nearly impunctate. Fig. 21–22. [Connexivum of male more strongly reflexed anteriorly. Posterolateral angle of male dltg VI produced into a tiny spine. Body length: 3.4–4.1 mm (male), 3.7–4.6 mm (female). Southern South Island: FD] . . . . . ***Neadenocoris glaber*** **Usinger and Matsuda**

3(1). Antennal segment II slightly longer than I. Posterolateral angle of male dltg VI unproduced. [Rather large species, body length 3.4–4.2 mm (male), 3.8–4.9 mm (female)] **4**

— Antennal segment II as long as or slightly shorter than I. Posterolateral angle of male dltg VI produced into a spine. [Rather small species, body length 2.6–3.8 mm (male), 3.1–4.5 mm (female)] **5**

4(3). Lateral margins of pronotum rather thick, bead-like in appearance; anterolateral angles narrowly rounded-subtriangular, strongly produced, reaching or surpassing anterior margin of collar. Hemelytral pads moderately narrow, about 1.5× longer than wide apically, outer and apical margins moderately to strongly rounded. Dorsal abdomen rather uniformly colored. Fig. 23. [Male dltg VII unproduced. Body length: 3.5–4.2 mm (male), 3.8–4.6 mm (female). Northern South Island: MB, SD] . . . . . ***Neadenocoris ovatus*** **Usinger and Matsuda**

— Lateral margins of pronotum neither thick nor bead-like in appearance; anterolateral angles broadly rounded-subtriangular, less strongly produced, reaching or slightly surpassing middle of collar. Hemelytral pads very narrow, about 1.8× longer than wide apically, outer and apical margins slightly to moderately rounded. Dorsal abdomen with blackish areas medially on tergites II–III, VII or a median stripe from base to apex. Fig. 24. [Male dltg VII very slightly produced posteriorly. Body length: 3.4–4.1 mm (male), 3.9–4.9 mm (female). North Island (widespread). Northern South Island: NN–Lee Valley; Whangamoa Saddle] . . . . . ***Neadenocoris pseudovatus*** **Larivière and Larochelle, new species**

5(3). Antennal segment II long (4–5× longer than wide), rather slender in appearance **6**

— Antennal segment II short (about 3× longer than wide), rather thick in appearance **8**

6(5). Scutellum about as long as pronotum. Hemelytral pads broad, rounded (1.3–1.4× longer than wide apically; outer and apical margins distinctly rounded). Fig. 25. [Body length: 2.6–3.1 mm (male), 3.2–3.7 mm (female). Northern North Island: AK (north), ND] . . . . . ***Neadenocoris northlandicus*** **Larivière and Larochelle, new species**

— Scutellum 1.2× longer than pronotum. Hemelytral pads narrow, subrectangular to slightly rounded-subrectangular (1.7–1.9× longer than wide apically; outer and apical margins subrectilinear to slightly rounded) **7**

7(6). Antennal segment III broadly subtriangular in lateral view, with subtruncate apex and distinct, small dorsoapical swelling (Fig. 6). Hemelytral pads rounded-subrectangular (outer lateral margin slightly rounded, apical margin subrectilinear to slightly rounded). Body subtriangular, sides of abdomen rather strongly rounded (male) or subovate, about 2.0× longer than wide, sides of abdomen rather

strongly rounded (female). Fig. 26. [Body length: 3.1–3.8 mm (male), 3.7–4.5 mm (female). Southern North Island: WA, WN] .... ***Neadenocoris wellingtonensis*** **Larivière and Larochelle, new species**

— Antennal segment III narrowly subtriangular in lateral view, with rounded apex and very small or evanescent dorsoapical swelling. Hemelytral pads more strongly subrectangular (outer lateral and apical margins subrectilinear). Body more strongly subtriangular, sides of abdomen subrectilinear and posteriorly divergent (male) or ovate-subtriangular, about 2.2× longer than wide, sides of abdomen subrectilinear to slightly rounded (female). Fig. 27–28. [Body length: 3.1–3.7 mm (male), 3.7–4.3 mm (female). Distribution: Western South Island: NN to WD] ..... ***Neadenocoris acutus*** **Usinger and Matsuda**

8(5). Antennal segment III without dorsoapical swelling (Fig. 7). Hemelytral pads very narrow, about 2.0× longer than wide apically, subrectangular (outer margin subrectilinear). Male vmtg VII 3.5× longer than VI medially. Fig. 29. [Body length: 2.6–3.2 mm (male), 3.2–3.8 mm (female). North Island: AK to WI–HB] ..... ***Neadenocoris centralis*** **Larivière and Larochelle, new species**

— Antennal segment III with distinct, small dorsoapical swelling (Fig. 6). Hemelytral pads moderately narrow, about 1.6–1.7× longer than wide apically, subrectangular or rounded-subrectangular (outer margin slightly rounded). Male vmtg VII 4.5× longer than VI medially **9**

9(8). Scutellum distinctly longer than pronotum; apical half narrowly U-shaped to rounded-subtriangular; apex reaching or slightly surpassing posterior margin of dmtg I of abdomen. Hemelytral pads distinctly shorter than scutellum. Body subtriangular (male), sides of abdomen moderately rounded. Fig. 30. [Body length: 2.8–3.2 (male), 3.5–4.2 mm (female). Western South Island: NN to FD] .... ***Neadenocoris abdominalis*** **Usinger and Matsuda**

— Scutellum about as long as pronotum; apical half broadly U-shaped to rounded-subquadrate; apex reaching about middle of dmtg I of abdomen. Hemelytral pads slightly shorter than scutellum. Body more strongly subtriangular (male), sides of abdomen barely rounded. Fig. 31. [Body length: 2.6–3.2 (male), 3.5–4.2 mm (female). Northern South Island: NN to KA] ..... ***Neadenocoris hoarei*** **Larivière and Larochelle, new species**

Neadenocoris spinicornis Usinger and Matsuda, 1959

Fig. 9, 19–20, 49

Neadenocoris spinicornis Usinger and Matsuda 1959: 72. Holotype: male (CMNZ) labeled "N. ZEALAND: S.I. [FD] Lake Hankerson [=Hankinson], Te Anau. II-23-53 G. Ramsey [=Ramsay] (C.M.) (typed) / EX LEAF MOLD (typed) / HOLOTYPE (typed) Neadenocoris spinicornis (hand-written) Usinger-Matsuda (pink label; typed) / Neadenocoris spinicornis Us. & Mats. (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 231).

Description. Male (Fig. 19). Body subovate; sides of abdomen rather strongly rounded; length 3.5–4.2 mm. Dorsal color dark reddish brown to reddish black; yellowish brown on pronotum, scutellum, hemelytral pads, and abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs brown to yellowish brown; coxae, trochanters, and middle of femora usually paler. Ventral color mostly matching main dorsal color. **Head.** About 0.9× as long as wide across eyes. Antenniferous tubercles slightly divergent, about 1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.7: 0.9 (incl. peduncle): 0.7. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, short (about 3.0× longer than wide), somewhat thick in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with sinuate apex and large dorsoapical projection (with or without dorsoapical swelling in other species); IV fusiform, slightly shorter than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.2–2.3× wider than long medially, including collar; about 0.7× as long as head. Anterolateral angles narrowly rounded-subtriangular, moderately to rather strongly produced, reaching or slightly surpassing anterior margin of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly U-shaped to rounded-subquadrate. Apical margin notched, reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** moderately narrow (about 1.5× longer than

wide apically), rounded-subrectangular (outer lateral margin strongly rounded, apical margin slightly rounded), reaching anterior margin of dmtg I of abdomen, slightly shorter than scutellum. **Abdomen** widest across tergite IV. Dorsal mediotergite (dmtg) II moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc moderately elevated; surface with sparse coarse punctures; intersegmental divisions distinct; apodemal markings distinct. Scent gland openings (or scars thereof) strongly developed, placed medially on thick, strongly swollen tubercles (less strongly developed on dmtg V). Dmtg VII about 3.0× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins rather strongly rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, slightly longer than wide across base. Posterolateral angles of dltg III–VII rounded-subquadrate, unproduced. ***Genitalia*.** Parandria (Fig. 9) subtriangular, rather narrow; apical margin moderately sinuate, with angular projection and notch near outer corner; pale apical portion strongly developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum moderately elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) well demarcated from each other, mostly impunctate; II very short, in the shape of a thin transverse band; VII about 2.0× longer than VI medially. Apodemal spots of vmtg III–VI distinct; paired spots of outer rows with posterior spot more visible, larger, surrounded by coarse punctures. Connexivum not demarcated from remainder of venter by a suture, coarsely punctate along inner side, impunctate along outer side. Apodemal spots of ventral laterotergites (vltg) III–VII more or less distinct.

Female (Fig. 20) resembling male, larger in size (3.7–4.5 mm). Body subovate; sides of abdomen moderately to strongly rounded, somewhat broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 2.1–2.3× longer than vmtg VI medially and apical margin sinuate.

Material examined. 253 specimens (CMNZ, LUNZ, NZAC (mostly)).

Geographic distribution (Fig. 49). South Island: BR, FD, MK–Hakataramea Pass (NZAC), OL, SL, WD.

Biology. Altitudinal range. Lowland to subalpine (up to 1200 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), broadleaf-podocarp forests, mixed native forests, shrublands, and scrublands. Collected in large numbers in leaf litter; also found in mixed leaf and moss litter, ground moss, mat plants, rotten wood, and on the wet bark from the underside of fallen rotting branches (4–8 cm diameter). **Seasonality.** Adults: October–May (abundant in November–February, May). Tenerals: November, January–February. Nymphs: November, January–February, April–June (abundant in February).

Remarks. *Neadenocoris spinicornis* is unique among New Zealand Prosympiestinae in having a large dorsoapical projection on antennal segment III. It is the only species of *Neadenocoris* with strongly developed abdominal scent gland openings (or scars thereof) that are placed on prominent tubercles. The male of *N. spinicornis* lacks the posterolateral spinous projection of the dorsal laterotergites (dltg) VI seen in most *Neadenocoris* species; a feature shared with *N. ovatus* and *N. pseudovatus*. *Neadenocoris spinicornis* is known mostly from western areas of the South Island, from the Buller region (BR) to the Fiordland (FD)–Southland (SL) regions. The easternmost record for this species is a female from Hakataramea Pass, MK (NZAC). The NC record listed by Larivière and Larochelle (2004) could not be confirmed.

Neadenocoris glaber Usinger and Matsuda, 1959

Fig. 10, 21–22, 44

Neadenocoris glabrus [*sic*] Usinger and Matsuda 1959: 78. Holotype: female (CMNZ) labeled "N. ZEALAND: (typed) S.I. [FD] L. McArthur [=Lake Macarthur] Dusky Sound 30-3-1953 T. Riney (CM) (hand-written) / Ex Moss (hand-written) / L. McArthur, Dusky Sound, S. Is., N. Zealand. (moss) 30.III.53. T. Riney (C.M.) (hand-written) / HOLOTYPE (typed) Neadenocoris glabrus (hand-written) Usinger-Matsuda (pink label; typed) / Neadenocoris glabrus Us. & Mats. (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 230).

Neadenocoris glaber: Larivière and Larochelle 2004: 58. Emended spelling.

Description. Male (Fig. 21). Body elongate-subovate; sides of abdomen slightly rounded and strongly reflexed anteriorly; legs and antennae appearing long relative to the slender body (as opposed to other species); length

3.4–4.1 mm. Dorsal color pale to dark reddish brown; yellowish brown on vertex of head, lateral portions of pronotum, scutellum, hemelytral pads, and abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs yellowish brown. Ventral color mostly matching main dorsal color. **Head.** About 0.9× as long as wide across eyes. Antenniferous tubercles slightly divergent, about 1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.9: 0.9 (incl. peduncle): 0.9. Segment I slightly curved, gradually thickened toward apex, thicker than other segments, about as long as clypeus (shorter than clypeus in other species); II subcylindrical, long (about 5× longer than wide), rather slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with rounded apex, without dorsoapical swelling; IV fusiform, barely longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads mostly smooth. ***Pronotum*** about 2.4× wider than long medially, including collar; about 0.8× as long as head. Anterolateral angles rounded-subrectangular to rounded-subtriangular, slightly produced (sometimes barely so), reaching posterior margin to middle of collar. ***Scutellum*** about 1.2× longer than pronotum medially, including collar. Apical half narrowly rounded-subtriangular, with subacute tip. Apical margin entire (unnotched), reaching anterior margin to middle of dmtg II of abdomen. ***Hemelytral pads*** rather broad (about 1.4× longer than wide), rounded (outer lateral and apical margins rounded), reaching anterior margin to middle of dmtg I of abdomen, distinctly shorter than scutellum. **Abdomen** widest across tergite IV. Dorsal mediotergite (dmtg) II slightly to moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly to moderately elevated; surface nearly impunctate (with or without a few, very sparse, rather fine punctures); intersegmental divisions distinct; apodemal markings more or less distinct. Scent gland openings (or scars thereof) rather well developed, placed medially on thin, flat plates. Dmtg VII about 2.0× wider than long medially. ***Connexivum*** strongly reflexed anteriorly, slightly to moderately reflexed in apical half; lateral margins slightly rounded anteriorly, subrectilinear in apical half. Dorsal laterotergites (dltg) II–III fused (faint suture sometimes visible), IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, much longer than wide across base. Posterolateral angles of dltg II–V, VII unproduced, VI produced into a tiny, upturned spine (about 0.1× as long as apical width of dltg VI). ***Genitalia.*** Parandria (Fig. 10) subtriangular, rather narrow; apical margin strongly sinuate, with rounded projection and notch near outer corner; pale apical portion slightly developed, reduced. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (metasternum more sparsely so, sometimes nearly impunctate medially); prosternum slightly elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) well demarcated from each other; II very short, in the shape of a thin transverse band with a narrow posteromedial concavity; VII about 1.5× longer than VI. Apodemal spots of vmtg III–VI faint; paired spots of outer rows with posterior spot more visible, larger, not surrounded by coarse punctures. Connexivum not demarcated from remainder of venter by a suture, nearly impunctate. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct.

Female (Fig. 22) resembling male, larger in size (3.7–4.6 mm). Body elongate-subovate; sides of abdomen slightly to moderately rounded and reflexed throughout, slender in appearance (about 2.2× longer than wide across tergites IV–V of abdomen). Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 35 specimens (CMNZ, LUNZ, NZAC).

Geographic distribution (Fig. 44). South Island: FD–Breaksea Sound, Gilbert Island No 6 (NZAC). Doubtful Sound, Deep Cove (NZAC). Dusky Sound, Lake Macarthur (CMNZ). Murchison Mountains, East McKenzie Burn (LUNZ). Secretary Island, Grono Bay Track (NZAC); Mount Grono (NZAC); ridge toward Mount Grono (NZAC). Turret Range, Wolfe Flat (NZAC). Wilmot Pass (NZAC).

Biology. Altitudinal range. Lowland to subalpine (up to 1100 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), mixed native shrublands, and tussock-broadleaf scrublands. Collected in leaf litter, mixed mat plant, moss, and tussock litter, mixed tussock and *Veronica* (previously *Hebe*) litter. **Seasonality.** Adults: November–January, May. Tenerals: November–January. Nymphs: November.

Remarks. This species had previously been known only from the female. *Neadenocoris glaber* is a relatively large species with legs and antennae appearing long relative to its slender body, antennal segments II–IV of subequal

length, hemelytral pads much shorter than the scutellum, and a mostly impunctate dorsal and ventral abdomen. The male is easily recognized by its elongate-subovate body, sides of connexivum strongly reflexed anteriorly, dorsal mediotergite (dmtg) VII of abdomen 2.0× wider than long medially, posterolateral angle of dorsal laterotergites (dltg) VI produced into a tiny, upturned spine, and ventral mediotergite (vmtg) VII only 1.5× longer than VI. *Neadenocoris glaber* is known only from the southwest of the South Island, in Fiordland (FD).

Neadenocoris ovatus Usinger and Matsuda, 1959

Fig. 11, 23, 47

Neadenocoris ovatus Usinger and Matsuda 1959: 75. Holotype: male (CMNZ) labeled "N. ZEALAND: (typed) S.I. [MB] Pelorus Bridge Marlborough 17-XII-1951 R. Pilgrim (CM) (hand-written) / Pelorus Bridge Marlborough, S.I., N. Zealand. 17.XII.51 R. Pilgrim (C.M.) (hand-written) / HOLOTYPE (typed) Neadenocoris ovatus (hand-written) Usinger-Matsuda (pink label; typed) / Neadenocoris ovatus Us. & Mats. (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 230).

Description. Male (Fig. 23). Body subovate; sides of abdomen slightly rounded; length 3.5–4.2 mm. Dorsal color pale to dark reddish brown; yellowish brown on vertex of head, pronotum, scutellum, and hemelytral pads. Eyes reddish. Antennae, rostrum, and legs yellowish brown to pale reddish brown; coxae, trochanters, and middle of femora often paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8–0.9× as long as wide across eyes. Antenniferous tubercles distinctly divergent, about 1.5× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 1.1: 0.8 (incl. peduncle): 1.2. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, long (about 4.5× longer than wide), rather slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with rounded-subtruncate apex and very small or evanescent dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.3–2.5× wider than long medially, including collar; 0.7–0.8× as long as head. Anterolateral angles narrowly rounded-subtriangular, rather strongly produced, reaching or slightly surpassing anterior margin of collar. Lateral margins rather thick, bead-like in appearance (as opposed to other species). ***Scutellum*** about as long as pronotum medially, including collar. Apical half subquadrate. Apical margin notched, reaching anterior margin to middle of dmtg I of abdomen. ***Hemelytral pads*** moderately narrow (about 1.5× longer than wide apically), rounded-subrectangular (outer lateral and apical margins moderately to strongly rounded), reaching anterior margin to middle of dmtg I of abdomen, about as long as scutellum. **Abdomen** widest across tergite IV. Dorsal mediotergite (dmtg) II slightly to moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly (mostly) to moderately elevated; surface with sparse coarse punctures; intersegmental divisions distinct or evanescent; apodemal markings more or less distinct. Scent gland openings (or scars thereof) slightly to moderately developed, placed medially on thin, slightly swollen plates or low tubercles. Dmtg VII about 3.0× wider than long medially. ***Connexivum*** slightly to moderately reflexed; lateral margins slightly rounded. Dorsal laterotergites (dltg) II–III fused (sometimes with superficial suture in between), IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about as long as wide across base. Posterolateral angles of dltg III–VII unproduced. ***Genitalia.*** Parandria (Fig. 11) subtriangular, very narrow; apical margin slightly sinuate, without noticeable projection or notch near outer corner; pale apical portion strongly developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum slightly elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (dmtg) II–III narrowly fused medially, other mediotergites well demarcated from each other, mostly impunctate; VII about 2.5× longer than VI medially. Apodemal spots of vmtg III–VI faint, inner rows sometimes more visible; paired spots of outer rows with posterior spot more visible, larger, not surrounded by coarse punctures (except sometimes on vmtg III). Connexivum not distinctly demarcated from remainder of venter by a suture, finely to somewhat coarsely punctate along inner side, mostly impunctate along outer side. Apodemal spots of ventral laterotergites (vltg) III–VII faint or indistinct.

Female resembling male, larger in size (3.8–4.6 mm). Body subovate; sides of abdomen moderately rounded, somewhat broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Ventral mediotergite

(vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 2.5× longer than vmtg VI medially and apical margin sinuate.

Material examined. 16 specimens (CMNZ, NZAC).

Geographic distribution (Fig. 47). South Island: MB–Pelorus Bridge (CMNZ, NZAC), Scenic Reserve (NZAC). Port Underwood Saddle (NZAC). Wairau Valley, Top Valley, Staircase Creek [=Stream] (NZAC). SD–Opouri Saddle, summit (NZAC).

Biology. Altitudinal range. Lowland to lower montane (up to 600 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), mixed native forests, and shrublands. Collected in leaf litter and moss; also found by brushing the moist bark from the underside of fallen rotting branches and by sifting thick leaf and twig litter at the base of *Blechnum* ferns. **Seasonality.** Adults: September–October, February–April, July–August. Tenerals: November, January–February. Nymphs: September, April.

Remarks. A number of specimens were seen with an atypical dorsoapical projection on the third antennal segment, reminiscent of although not as strongly developed as the large dorsoapical projection seen in *N. spinicornis*. In such cases, *N. ovatus* were easily identified by the longer, slender antennal segment II (slightly longer than I; about 4.5× longer than wide), broader pronotum, subquadrate scutellum, less developed scent gland openings, ventral mediotergites (vmtg) II–III of abdomen narrowly fused medially. The male of *N. ovatus* lacks the posterolateral spinous projection of the dorsal laterotergites (dltg) VI seen in most *Neadenocoris* species; a feature shared with *N. spinicornis* and *N. pseudovatus*. *Neadenocoris ovatus* is known from the north of the South Island (MB, SD). Larivière and Larochelle (2004)'s record from Haast Pass (WD) was based on misidentified specimens of *N. spinicornis*.

Neadenocoris pseudovatus Larivière and Larochelle, new species

Fig. 12, 24, 48

Neadenocoris pseudovatus Larivière and Larochelle, new species. Holotype: male (NZAC) labeled "NEW ZEALAND BP Kaimai Ra [=Range], Uplands [=Upland] Rd [=Road] end Tk [=Track] –37.39 175.54 250m 17.XII.2008 Larivière, Larochelle (typed) / Kamahi forest: Underside, dead fallen branch (3-5cm. diam.) BRANCH no 1 (typed) / HOLOTYPE [male symbol] *Neadenocoris pseudovatus* Larivière & Larochelle, 2024 (red label; typed)." Paratypes: 3 males, 4 females (AMNZ, NZAC) with same data as holotype, bearing blue paratype labels.

Description. Male (Fig. 24). Body ovate-subtriangular; sides of abdomen rather strongly rounded; length 3.4–4.1 mm. Dorsal color pale to dark reddish brown; yellowish brown on pronotum, scutellum, and abdominal scent gland openings; blackish on middle of dmtg II–III, VII (sometimes with a blackish median stripe from base to apex of tergal plate). Eyes reddish. Antennae, rostrum, and legs yellowish brown to pale reddish brown; coxae, trochanters, and middle of femora often paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8–0.9× as long as wide across eyes. Antenniferous tubercles distinctly divergent, 1.2–1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 1.1: 0.9 (incl. peduncle): 1.2. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, long (4.5–5.0× longer than wide), rather slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with rounded-subtruncate apex and very small or evanescent dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence rather long, curved or suberect on I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** about 2.2× wider than long medially, including collar; about 0.7× as long as head. Anterolateral angles broadly rounded-subtriangular, moderately produced, reaching or slightly surpassing middle of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half subquadrate. Apical margin notched, reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** very narrow (about 1.8× longer than wide apically), rounded-subrectangular (outer lateral and posterior margins slightly to moderately rounded), reaching about middle of dmtg I of abdomen, about as long as scutellum. **Abdomen** widest across tergite IV. Dorsal mediotergite (dmtg) II moderately to rather strongly elevated medially. ***Tergal plate*** (dmtg III–VI). Disc moderately to rather strongly elevated; surface with sparse coarse punctures; intersegmental divisions distinct; apodemal markings more or less distinct. Scent gland openings (or scars thereof) moderately to strongly developed, placed medially on thick,

rather strongly swollen tubercles (less strongly developed on dmtg V). Dmtg VII about 3.5× wider than long medially. ***Connexivum*** slightly to moderately reflexed; lateral margins rather strongly rounded. Dorsal laterotergites (dltg) II–III fused (faint suture sometimes visible), IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about 1.5× longer than wide across base. Posterolateral angles of dltg III–VI unproduced, VII very slightly produced posteriorly (unproduced in *N. ovatus*). ***Genitalia*.** Parandria (Fig. 12) subtriangular, moderately narrow; apical margin slightly sinuate-concave, without noticeable projection or notch near outer corner; pale apical portion strongly developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III broadly fused medially, other mediotergites well demarcated from each other, mostly impunctate; VII about 2.7× longer than VI medially. Apodemal spots of vmtg III–VI faint, inner rows usually more visible; paired spots of outer rows with posterior spot more visible, larger, not surrounded by coarse punctures. Connexivum not distinctly demarcated from remainder of venter by a suture, mostly punctate. Apodemal spots of ventral laterotergites (vltg) III–VII faint or indistinct.

Female resembling male, larger in size (3.9–4.9 mm). Body subovate; sides of abdomen moderately rounded, somewhat broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Anterolateral angles of pronotum often more produced, reaching or surpassing anterior margin of collar. Posterolateral angle of dorsal laterotergites (dltg) VII of connexivum unproduced. Abdominal venter with sparse coarse punctures laterally. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 549 specimens (AMNZ, MONZ, NZAC (mostly)).

Geographic distribution (Fig. 48). North Island: AK, BP, CL, GB, ND, RI, TK, TO, WO. South Island: NN–Lee [River] Valley (NZAC). Whangamoa Saddle (NZAC).

Biology. Altitudinal range. Lowland to subalpine (up to 1200 m). **Habitat.** Occurs in broadleaf-podocarp forests, beech forests (*Nothofagus* sensu lato), mixed native forests, shrublands, and tussock-broadleaf scrublands. Can be locally abundant in wet forests where broadleaved trees are dominant, e.g. *Didymocheton* (previously *Dysoxylum*), *Beilschmiedia*, *Pittosporum*, *Pterophylla* (previously *Weinmannia*). Collected in large numbers on the moist, often moldy bark from the underside of small to large fallen rotting branches (2–10 cm in diameter); also found in leaf litter or mixed leaf and twig litter. **Seasonality.** Adults: throughout most of the year (abundant in December–January). Tenerals: October to January, June (abundant in December). Nymphs: October–March, June, August (abundant in December). Mating observed in December. Ovigerous females seen in December.

Remarks. The species name is based on the prefix pseudo- from the Greek *pseudes*, meaning false and commonly used in science to distinguish between similar concepts or objects, and *ovatus*, the name of the species this taxon resembles most. *Neadenocoris pseudovatus* and *N. ovatus* are morphologically close. In addition to characters of the male parandria, *N. pseudovatus* has the following main distinguishing features: body ovate-subtriangular (male); antenniferous tubercles shorter, about 1.2–1.3× longer than eye; antennae with rather long, more erect pubescence; pronotum narrower, about 2.2× wider than long, with lateral margins thin, not bead-like in appearance and anterolateral angles more broadly rounded, less strongly produced; hemelytral pads narrower, less strongly rounded; tergal plate of abdomen generally more strongly elevated, with blackish areas about middle of dorsal mediotergites (dmtg) II–III, VII or sometimes with a median blackish stripe from base to apex; abdominal scent gland openings more strongly developed, placed on thick, rather strongly swollen tubercles (dmtg III–V); male dorsal laterotergite (dltg) VII very slightly produced posteriorly. *Neadenocoris pseudovatus* is broadly distributed on the North Island. It also occurs on the South Island, in the eastern part of the Northwest Nelson (NN) area.

Neadenocoris northlandicus Larivière and Larochelle, new species

Fig. 13, 25, 46

Neadenocoris northlandicus Larivière and Larochelle, new species. Holotype: male (NZAC) labeled "NEW ZEALAND ND Mangamuka Gorge Walkway 350m 351140S 1732725E 27 May 99 Litter 99-30 Larivière Larochelle (typed) / Wet broadleaf forest (Taraire dom [=dominant]) (typed) / HOLOTYPE [male symbol] *Neadenocoris northlandicus*

Larivière & Larochelle, 2024 (red label; typed)." Paratypes: 2 males, 2 females (NZAC), with same data as holotype; 1 female (AMNZ), from same locality as holotype, 550m, 17 Sep 99, litter 99/60, wet broadleaf forest; 1 male (NZAC), Mangamuka Gorge Summit Walkway (First 1.5 km) 400-500m 23.XI.2015, wet broadleaf-podocarp forest, four fallen broadleaf branches (3-6 cm diam.); humid undersurface, brushing; 1 female (NZAC), Mangamuka Road, 21 Jan 1972, GW Ramsay, litter 72/61; bearing blue paratype labels.

Description. Male (Fig. 25). Body ovate-subtriangular; sides of abdomen strongly rounded; length 2.6–3.1 mm. Dorsal color reddish brown, usually paler brown on part of head, pronotum, scutellum, hemelytral pads, and tergal plate of abdomen including abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish brown; middle of femora sometimes paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles slightly divergent, about 1.4× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 1.0: 0.9 (incl. peduncle): 1.3. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, long (4.0–5.0× longer than wide), rather slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with rounded apex, without dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.4–2.5× wider than long medially, including collar; 0.7–0.8× as long as head. Anterolateral angles narrowly rounded to rounded-subtriangular, moderately to strongly produced, reaching or surpassing anterior margin of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly U-shaped to rounded-subquadrate. Apical margin entire (unnotched), reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** broad (1.3–1.4× longer than wide apically), rounded (outer lateral margin strongly rounded, apical margin more slightly rounded), reaching about middle of dmtg I of abdomen, about as long as scutellum. **Abdomen** widest across tergites IV–V. Dorsal mediotergite (dmtg) II slightly to moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly to moderately elevated; surface with sparse, rather fine punctures; intersegmental divisions distinct; apodemal markings evanescent (inner rows sometimes more prominent). Scent gland openings (or scars thereof) rather well developed, placed medially on rather thick, flat to slightly swollen plates. Dmtg VII about 3.0× wider than long medially. ***Connexivum*** slightly to moderately reflexed; lateral margins rather strongly rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about as long as wide across base. Posterolateral angles of dltg III–V, VII unproduced, VI produced into a short, rather thick, subtriangular spine (about 0.2× as long as apical width of dltg VI, sometimes more faintly developed). ***Genitalia.*** Parandria (Fig. 13) subtriangular, rather narrow; apical margin moderately sinuate, with rounded projection near outer corner; pale apical portion slightly developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (metasternum more sparsely so, sometimes nearly impunctate medially); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III superficially unfused medially (faint suture or row of punctures visible), other mediotergites well demarcated from each other, mostly impunctate; VII about 2.5× longer than VI medially. Apodemal spots of vmtg III–VI barely distinct; a single large spot, not surrounded by coarse punctures, often more visible on each segment in outer rows. Connexivum not demarcated from remainder of venter by a suture, mostly impunctate. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct (posterior spot of segmental pairs sometimes more distinct).

Female resembling male, larger in size (3.2–3.7 mm). Body subovate; sides of abdomen rather strongly rounded, broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 1.7–2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 66 specimens (AMNZ, NZAC).

Geographic distribution (Fig. 46). North Island: AK (north)–Dome Forest Walkway (NZAC). Moirs Hill Walkway, [Pohuehue Reserve] (NZAC). ND–Mangamuka Gorge (AMNZ), Hills (AMNZ), Road (NZAC), Summit (AMNZ, NZAC), Walkway (AMNZ, NZAC). Mangawhai, Gorge Hills (AMNZ). Ngaiotonga Reserve Walkway

(NZAC). Omahuta Forest (NZAC), Reserve/Sanctuary (NZAC). Parihaka Park [Whangarei] (NZAC). Pukekaroro Scenic Reserve (NZAC). Puketi Forest, Kauri Reserve, Waiare Road, 10 m South Kaea [=Puketi Forest, Manginangina Kauri Reserve, 16 km South of Kaeo] (NZAC). Trounson [Kauri] Park (NZAC). Waipoua Forest (NZAC), Te Matua Ngahere (NZAC); Waipoua Stream [=River] (NZAC).

Biology. Altitudinal range. Lowland to lower montane (up to 600 m). **Habitat.** Occurs in broadleaf-podocarp (including *Agathis australis*) forests. Can be locally abundant where *Beilschmiedia* is dominant. Collected in leaf litter, leaf-decaying wood litter, moss and lichen on the bark of fallen trees; also found by brushing the humid underside of fallen rotting branches (3–6 cm in diameter). **Seasonality.** Adults: throughout most of the year (mostly December–February). Tenerals: October–December. Nymphs: January–February.

Remarks. This species is named after Northland region where it occurs, and the Latin suffix *-icus*, meaning 'of' or 'pertaining to'. *Neadenocoris northlandicus* is easily distinguished from *N. wellingtonensis* and *N. centralis,* the two other North Island species with a subtriangular body and 'spinous' posterolateral angle of dltg VI in the male. The main characteristics of *N. northlandicus* are as follows: rather small size; strongly rounded abdominal sides in both sexes; long and slender antennal segment II; narrowly subtriangular antennal segment III without dorsoapical swelling; rather strongly produced anterolateral angles of pronotum (reaching or surpassing anterior margin of collar); broadly rounded hemelytral pads; posterolateral angle of dltg VI (male) produced into a short, rather thick, subtriangular spine (about 0.2× as long as apical width of dltg VI); rather narrow parandria without inner projection along apical margin. *Neadenocoris northlandicus* is a northern North Island species known from the Northland Region (ND) and northern areas of the Auckland (AK) region.

Neadenocoris wellingtonensis Larivière and Larochelle, new species

Fig. 14, 26, 50

Neadenocoris wellingtonensis Larivière and Larochelle, new species. Holotype: male (NZAC) labeled "NEW ZEALAND WA [=WN] Rimutaka FP [=Forest Park] Orongorongo Tk [=Track] (W half), 10 Mar 1997 Larivière Larochelle (typed) / Dead fallen *Nothofagus fusca* branch (diam. 4.5 cm), mesic, on mouldy underside (typed) / HOLOTYPE [male symbol] *Neadenocoris wellingtonensis* Larivière & Larochelle, 2024 (red label; typed)." Paratypes: 3 males, 4 females (MONZ, NZAC), with same data as holotype, bearing blue paratype labels.

Description. Male (Fig. 26). Body subtriangular; sides of abdomen rather strongly rounded; length 3.1–3.8 mm. Dorsal color yellowish brown to dark reddish brown, often reddish black; yellowish brown on part of head, pronotum, sides of scutellum, hemelytral pads, and abdominal scent glands openings. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish brown; coxae, trochanters, and middle of femora often paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles barely divergent, 1.1–1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.9: 0.9 (incl. peduncle): 1.1. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, long (4.0–4.5× longer than wide), rather slender in appearance; III briefly pedunculate basally, rather broadly subtriangular in lateral view, with subtruncate apex and distinct, small dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** about 2.2× wider than long medially, including collar; about 0.7× as long as head. Anterolateral angles narrowly rounded-subtriangular, slightly to moderately produced, reaching middle to anterior margin of collar. ***Scutellum*** about 1.2× longer than pronotum medially, including collar. Apical half broadly rounded-subquadrate. Apical margin notched (sometimes barely so), reaching about posterior margin of dmtg I of abdomen. ***Hemelytral pads*** very narrow (1.8–1.9× longer than wide apically), rounded-subrectangular (outer lateral margin slightly rounded, apical margin subrectilinear to slightly rounded), reaching anterior margin of dmtg I of abdomen, slightly shorter than scutellum. **Abdomen** widest across tergites IV–V. Dorsal mediotergite (dmtg) II moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly to moderately elevated; surface with sparse coarse punctures; intersegmental divisions distinct; apodemal markings distinct. Scent gland openings (or scars thereof) more or less developed, placed medially on thin, flat plates. Dmtg VII about 3.0× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins moderately rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–V subquadrate, VI

subrectangular, VII subtriangular, slightly shorter than wide across base. Posterolateral angles of dltg III–V, VII unproduced, VI produced into a long, rather thick, acuminate and upturned subtriangular spine (about 0.4× as long as apical width of dltg VI). ***Genitalia.*** Parandria (Fig. 14) subtriangular, very broad; apical margin strongly sinuate, with strongly developed subtriangular projection near inner corner, and slight, rounded projection near outer corner; pale apical portion moderately developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III nearly fused (faint suture visible or not), other mediotergites well demarcated from each other, mostly impunctate; VII about 4.5× longer than VI medially. Apodemal spots of vmtg III–VI mostly distinct; paired spots of outer rows with posterior spot more visible, larger, surrounded by coarse punctures. Connexivum not demarcated from remainder of venter by a suture, mostly impunctate or with sparse coarse punctures. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct (posterior spot of segmental pairs sometimes more visible).

Female resembling male, larger in size (3.7–4.5 mm). Body subovate; sides of abdomen rather strongly rounded, broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Apical half of scutellum often more narrowly rounded-subquadrate. Intersegmental divisions and apodemal markings generally more distinct on tergal plate of abdomen. Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 1.8–2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 70 specimens (MONZ, NZAC).

Geographic distribution (Fig. 50). North Island: WA (southwest)–Haurangi, Aorangi Mountains (NZAC). WN–Kaitoke Regional Park, Waterworks Road end (NZAC). Rimutaka Forest Park/Range, Orongorongo Forest Station/Research Station (NZAC); Orongorongo Track, Western half (MONZ, NZAC). Silverstream (NZAC). Tararua Range, Akatarawa Saddle (NZAC); Dundas Hut Ridge (NZAC); Kiriwhakapapa Road end, Mikimiki [Stream] Track (NZAC); Mount Holdsworth, Gentle Annie Track (NZAC); Otaki Gorge, Waiotauru Track (NZAC).

Biology. Altitudinal range. Lowland to montane (up to 950 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato) and mixed native forests (e.g. beech-*Elaeocarpus*, beech-*Dacrydium*-*Pterophylla*, beech-*Pterophylla*); also found in broadleaf-podocarp forests where *Beilschmiedia* is dominant. Collected in leaf litter, often near streams or at the base of *Blechnum* ferns, and on the moldy bark from the underside of fallen rotting branches (5 cm in diameter). **Seasonality.** Adults: September–December, February–March (mostly November–December, March). Tenerals: September–December, February, May. Nymphs: September, November–December, March.

Remarks. This species is named after the Wellington region where it mostly occurs, and the Latin suffix *-ensis*, meaning 'pertaining to' or 'originating in'. *Neadenocoris wellingtonensis* is a rather large, dark species with several distinguishing morphological characters as follows: body subtriangular, with sides of abdomen moderately to strongly rounded (male) or subovate, with sides of abdomen rather strongly rounded, broad in appearance (female); antennal segments II long (4.0–4.5× longer than wide), rather slender in appearance, slightly shorter than I; antennal segment III rather broadly subtriangular in lateral view, with distinct, small dorsoapical swelling; scutellum slightly longer than pronotum medially; hemelytral pads very narrow, rounded-subrectangular, slightly shorter than scutellum; posterolateral angle of dltg VI (male) produced into a long, rather thick, acuminate and upturned subtriangular spine (about 0.4× as long as apical width of dltg VI). The configuration of the male parandria superficially resembles that of *N. centralis* although the apical margin is more strongly sinuate and has a more strongly developed, more acutely subtriangular inner projection. *Neadenocoris wellingtonensis* is a southern North Island species with a narrow distribution in the Tararua (WN), Rimutaka (WN), and Aorangi (southwestern WA) Ranges.

Neadenocoris acutus Usinger and Matsuda, 1959

Fig. 15, 27–28, 42

Neadenocoris acutus Usinger and Matsuda 1959: 76. Holotype: male (CMNZ) labeled "[BR] Moana (L. Brunner) Mar. 10, 1950 R.R. Forster Leaf mould (hand-written) / HOLOTYPE (typed) Neadenocoris acutus (hand-written)

Usinger-Matsuda (pink label; typed) / Neadenocoris acutus Us. & Mats. (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 230).

Neadenocoris reflexus Usinger and Matsuda 1959: 79. Holotype: female (CMNZ) labeled "N. ZEALAND: (typed) S.I. [NN] Jo [=Junction] Brown and Aorere River 9-1-54. W. Dukes (hand-written) / C.M. (hand-written) / Jn Brown + Aorere River 9/1/54 W. Dukes (hand-written) / HOLOTYPE (typed) Neadenocoris reflexus (hand-written) Usinger-Matsuda (pink label; typed) / Neadenocoris reflexus Us. & Mats. (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 230). **New synonym.**

Description. Male (Fig. 27). Body subtriangular; sides of abdomen subrectilinear, posteriorly divergent; length 3.1–3.7 mm. Dorsal color reddish brown; yellowish to yellowish brown on part of head, pronotum, scutellum, hemelytral pads, and abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish brown; coxae, trochanters, and middle of femora usually paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles slightly divergent, 1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.9: 1.0 (incl. peduncle): 1.1. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, long (4.0–5.0× longer than wide), rather slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with rounded apex and very small or evanescent dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.2×–2.4× wider than long medially, including collar; 0.7×–0.8× as long as head. Anterolateral angles broadly rounded-subrectangular, slightly produced (often barely so), reaching posterior margin to middle of collar. ***Scutellum*** about 1.2× longer than pronotum medially, including collar. Apical half broadly U-shaped to rounded-subquadrate. Apical margin notched, reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** very narrow (1.7–1.8× longer than wide apically), subrectangular (outer lateral and apical margins subrectilinear), reaching anterior margin of dmtg I of abdomen, slightly shorter than scutellum. **Abdomen** widest across tergite VI. Dorsal mediotergite (dmtg) II slightly elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly elevated; surface with sparse coarse punctures; intersegmental divisions distinct or evanescent; apodemal markings distinct or evanescent (especially outer rows). Scent gland openings (or scars thereof) well-developed, placed medially on thin, flat plates. Dmtg VII about 3.5× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins subrectilinear, posteriorly divergent. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about as long as wide across base. Posterolateral angles of dltg III–V, VII unproduced, VI produced into a moderately long, rather thick, subtriangular spine (about 0.3× as long as apical width of dltg VI). ***Genitalia.*** Parandria (Fig. 15) subtriangular, rather broad; apical margin mostly convex, with sinuation near outer corner; pale apical portion moderately developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III nearly fused medially (faint suture or row of punctures visible or not), other mediotergites well demarcated from each other, mostly impunctate; VII about 3.5× longer than VI medially. Apodemal spots of vmtg III–VI barely distinct; a single large spot surrounded by coarse punctures often more visible on each segment of outer rows. Connexivum not demarcated from remainder of venter by a suture, finely to somewhat coarsely punctate between smooth areas. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct.

Female (Fig. 28) resembling male, larger in size (3.7–4.3 mm). Body ovate-subtriangular; sides of abdomen subrectilinear to slightly rounded, somewhat slender in appearance (about 2.2× longer than wide across tergite IV of abdomen). Anterolateral angles of pronotum often more narrowly rounded and more strongly produced. Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 1.6–2.1× longer than vmtg VI medially and apical margin sinuate.

Material examined. 82 specimens (CMNZ, LUNZ, NZAC).

Geographic distribution (Fig. 42). South Island: BR, NN (west), WD–Hokitika Gorge (NZAC).

Biology. Altitudinal range. Lowland to montane (up to 900 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), broadleaf-podocarp forests, mixed native forests, and shrublands; also a *Pinus radiata* plantation adjacent to native forests. Collected mostly in leaf litter; also found in mixed leaf litter and moss or mixed moss and lichen. Can be found in association with *Neadenocoris abdominalis*. **Seasonality.** Adults: September–November, January–August (mostly November, January, March). Tenerals: November, January, March–April. Nymphs: November, March, July–August.

Remarks. This species was previously known only from the male. *Neadenocoris acutus* is morphologically close to *N. abdominalis* and *N. hoarei* (see Remarks under *N. abdominalis*). The followings are the main diagnostic characters of *N. acutus*: male body subtriangular with sides of abdomen subrectilinear, posteriorly divergent, 3.1–3.7 mm in length; female body ovate-subtriangular, slender in appearance, about 2.2× longer than wide; antennal segment II long (4.0–5.0× longer than wide), rather slender in appearance; antennal segment III narrowly subtriangular in lateral view, with very small or evanescent dorsoapical swelling; scutellum longer than pronotum; hemelytral pads slightly shorter than scutellum; dorsal laterotergites (dltg) VI of male with a moderately long, rather thick posterolateral spine; ventral mediotergite (vmtg) VII of male about 3.5× longer than VI medially. The male parandria are rather broad, differently shaped than in *N. abdominalis*, and have a rather convex surface and apical margin compared to *N. hoarei.* The authors have checked the male holotype of *N. acutus* and the female holotype of *N. reflexus* against males and females from their respective type localities as well as nearby areas, and they found the two taxa to be conspecific. *Neadenocoris acutus* and *N. abdominalis* have a similar western South Island distribution although only *N. acutus* is known from western areas of the Northwest Nelson (NN) region. The two species have often been found together in leaf litter samples from the same locality (BR, WD; NZAC).

Neadenocoris centralis Larivière and Larochelle, new species

Fig. 16, 29, 43

Neadenocoris centralis Larivière and Larochelle, new species. Holotype: male (NZAC) labeled "NEW ZEALAND TO Mt [=Mount] Ruapehu 950 m Whakapapanui Tk [=Track] 7 Dec 1994 J S Dugdale (typed) / Litter 94-18 (typed) / HOLOTYPE [male symbol] *Neadenocoris centralis* Larivière & Larochelle, 2024 (red label; typed)." Paratypes: 3 males, 4 females (MONZ, NZAC), with same data as holotype, bearing blue paratype labels.

Description. Male (Fig. 29). Body subtriangular; sides of abdomen barely rounded; length 2.6–3.2 mm. Dorsal color reddish brown; yellowish brown on part of head, pronotum, scutellum, hemelytral pads, and tergal plate of abdomen including scent gland openings. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish brown; coxae, trochanters, and middle of femora often paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles slightly divergent, about 1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.9: 1.0 (incl. peduncle): 1.4. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, short (about 3.0× longer than wide), rather thick in appearance; III briefly pedunculate basally, narrowly to somewhat broadly subtriangular in lateral view, with rounded-subtruncate apex, without dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely-set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.3–2.4× wider than long medially, including collar; 0.7–0.8× as long as head. Anterolateral angles broadly rounded-subtriangular, slightly to moderately produced, reaching middle to anterior margin of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly rounded-subquadrate. Apical margin notched, reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** very narrow (about 2.0× longer than wide apically), subrectangular (outer lateral margin subrectilinear, apical margin subrectilinear to barely rounded), reaching about middle of dmtg I of abdomen, about as long as scutellum. **Abdomen** widest across tergites IV–V. Dorsal mediotergite (dmtg) II moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly elevated; surface with sparse coarse punctures; intersegmental divisions distinct or evanescent; apodemal markings evanescent. Scent gland openings (or scars thereof) more or less developed, placed medially on thin, flat plates. Dmtg VII about 3.0× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins barely rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about as long as wide across base. Posterolateral angles of

dltg III–V, VII unproduced, VI produced into a short, very thin, acuminate, and usually upturned subtriangular spine (about 0.2× as long as apical width of dltg VI). ***Genitalia*.** Parandria (Fig. 16) subtriangular, very broad; apical margin moderately to strongly sinuate, with slightly to moderately developed rounded-subtriangular projection near inner corner, and slight, angular projection near outer corner; pale apical portion moderately developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III superficially unfused medially (faint suture or row of punctures visible), other mediotergites well demarcated from each other, mostly impunctate; VII about 3.5× longer than VI medially. Apodemal spots of vmtg III–VI barely distinct; a single large spot surrounded by coarse punctures often more visible on each segment of outer rows. Connexivum not distinctly demarcated from remainder of venter by a suture, finely to somewhat coarsely punctate between smooth areas. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct.

Female resembling male, larger in size (3.2–3.8 mm). Body subovate; sides of abdomen slightly rounded, somewhat slender in appearance (about 2.1× longer than wide across tergite IV of abdomen). Anterolateral angles of pronotum often more narrowly rounded, sometimes more strongly produced. Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 181 specimens (AMNZ, MONZ, NZAC).

Geographic distribution (Fig. 43). North Island: AK, BP, CL, GB, HB, TK, TO, WI, WO.

Biology. Altitudinal range. Lowland to subalpine (up to 1200 m). **Habitat.** Occurs in broadleaf-podocarp forests, southern beech forests (*Nothofagus* sensu lato), mixed native forests, shrublands, and tussock-broadleaf scrublands. Collected in leaf litter, especially along or under fallen rotten branches, logs, or other decaying wood. **Seasonality.** Adults: throughout most of the year (mostly December–January). Tenerals: November–January, March. Nymphs: November, January, March.

Remarks. The species name is based on the Latin adjective *centralis*, meaning 'centrally located'; it is distributed on the North Island between *N. northlandicus* in the north and *N. wellingtonensis* in the south. *Neadenocoris centralis* superficially resembles *N. wellingtonensis* although it is a smaller and generally paler species with characters as follows: body subtriangular with sides of abdomen barely rounded (male) or subovate with sides of abdomen slightly rounded, somewhat slender in appearance (female); antennal segment II short (about 3.0× longer than wide), rather thick in appearance; segment III narrowly to somewhat broadly subtriangular in lateral view, without dorsoapical swelling; scutellum about as long as pronotum; hemelytral pads very narrow, subrectangular, about as long as scutellum; posterolateral angle of dltg VI (male) produced into a short, very thin, acuminate, and usually upturned subtriangular spine (about 0.2× as long as apical width of dltg VI). The shape of the male parandria closely resembles that of *N. wellingtonensis* although the apical margin has a less developed, more rounded subtriangular inner projection. *Neadenocoris centralis* is a widespread North Island species. It is known from most areas of the island, except the northernmost region of Northland (ND) where *N. northlandicus* is common, and the southernmost regions of Wellington (WN) and Wairarapa (WA) where *N. wellingtonensis* occurs.

Neadenocoris abdominalis Usinger and Matsuda, 1959

Fig. 17, 30, 41

Neadenocoris abdominalis Usinger and Matsuda 1959: 74. Holotype: male (CMNZ) labeled "N. ZEALAND: S.I. [NN] Upper Takaka, Nelson. V-27-53 C. Holmes (C.M.) (typed) / EX LEAF MOULD (typed) / HOLOTYPE (typed) Neadenocoris abdominalis (hand-written) Usinger-Matsuda (pink label; typed) / Neadenocoris abdominalis Us. & Mats. (hand-written)" Photo of holotype and associated labels (Larivière and Larochelle 2004: 229).

Description. Male (Fig. 30). Body subtriangular; sides of abdomen moderately rounded; length 2.8–3.2 mm. Dorsal color reddish brown; yellowish to yellowish brown on part of head, pronotum, scutellum, hemelytral pads, and abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish

brown; coxae, trochanters, and middle of femora usually paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles slightly divergent, about 1.5× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 0.9: 1.0 (incl. peduncle): 1.1. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, short (about 3.0× longer than wide), rather thick in appearance; III briefly pedunculate basally, broadly subtriangular in lateral view, with subtruncate apex and distinct, small dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.1–2.3× wider than long medially, including collar; 0.7–0.8× as long as head. Anterolateral angles narrowly rounded-subtriangular (more acute than in *N. hoarei*), slightly to moderately produced, reaching middle to anterior margin of collar. ***Scutellum*** 1.3–1.4× longer than pronotum medially, including collar. Apical half narrowly U-shaped to rounded-subquadrate. Apical margin entire or notched, reaching or slightly surpassing posterior margin of dmtg I of abdomen. ***Hemelytral pads*** rather narrow (about 1.6× longer than wide apically), rounded-subrectangular (outer lateral margin slightly rounded, apical margin subrectilinear to slightly rounded), reaching anterior margin of dmtg I of abdomen, distinctly shorter than scutellum. **Abdomen** widest across tergites IV–V. Dorsal mediotergite (dmtg) II slightly to moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc moderately elevated; surface with sparse coarse punctures; intersegmental divisions distinct or evanescent; apodemal markings distinct or evanescent (especially outer rows). Dmtg III–V with scent gland openings (or scars thereof) more or less developed, placed medially on thin, flat plates. Dmtg VII about 3.5× wider than long medially. ***Connexivum*** moderately reflexed; lateral margins moderately rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subquadrate, VII subtriangular, about as long as wide across base. Posterolateral angles of dltg III–V, VII unproduced, VI produced into a short, rather thick, subtriangular spine (about 0.2× as long as apical width of dltg VI; sometimes more faintly developed). ***Genitalia.*** Parandria (Fig. 17) subtriangular, very narrow; apical margin moderately to strongly sinuate, with slight rounded projection near outer corner; pale apical portion strongly developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III superficially unfused medially (faint suture or row of punctures visible), other mediotergites well demarcated from each other, mostly impunctate (often more coarsely punctate laterally); VII about 4.5× longer than VI medially. Apodemal spots of vmtg III–VI barely distinct; a single large spot surrounded by coarse punctures often more visible on each segment of outer rows. Connexivum not demarcated from remainder of venter by a suture, coarsely punctate between smooth areas. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct.

Female resembling male, larger in size (3.5–4.2 mm). Body subovate; sides of abdomen moderately rounded, rather broad in appearance (1.8–2.0× longer than wide across tergite IV of abdomen). Apical half of scutellum generally more broadly U-shaped or rounded-subquadrate. Dorsal mediotergite II of abdomen often more strongly elevated. Intersegmental divisions and apodemal markings generally more distinct on tergal plate of abdomen. Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 2.2–2.7× longer than vmtg VI medially and apical margin sinuate.

Material examined. 237 specimens (CMNZ, LUNZ, NZAC (mostly)).

Geographic distribution (Fig. 41). South Island: NN–Upper Takaka (CMNZ). BR (mostly), FD–Wilmot Pass (NZAC). WD–North [of] Fox Glacier (NZAC).

Biology. Altitudinal range. Lowland to montane (up to 900 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), broadleaf-podocarp forests, mixed native forests, and shrublands. Collected in large numbers in leaf litter; also found in mixed leaf litter and moss, or mixed moss and lichen. A long series of adults, tenerals, and nymphs collected in a red beech forest, near a stream, by brushing the wet bark from the underside of a fallen rotting branch about 4–8 cm diameter (BR). Can be found in association with *Neadenocoris acutus*. **Seasonality.** Adults: September–April, June (abundant in December, March). Tenerals: November–December, March, June. Nymphs: September, November–December, March–April, June (mostly November, March).

Remarks. This species is morphologically close to *N. acutus* and *N. hoarei*. The male parandria of *N. abdominalis* are long and narrow, and of a completely different shape than those of *N. acutus* and *N. hoarei*. *Neadenocoris abdominalis* and *N. hoarei* have a short antennal segment II (about 3.0× longer than wide) that is rather thick in appearance, and a broadly subtriangular segment III with a distinct, small dorsoapical swelling. *Neadenocoris acutus* has a longer antennal segment II (4.0–5.0× longer than wide) that is rather slender in appearance, and a narrowly subtriangular segment III with a very small or evanescent dorsoapical swelling. In addition to diagnostic characters of antennae and male parandria, *N. abdominalis* differs from *N. acutus* and *N. hoarei* as follows: sides of abdomen more strongly rounded; anterolateral angles of pronotum more narrowly rounded-subtriangular, subacute (usually more strongly produced); scutellum narrower and longer; hemelytral pads slightly more rounded, distinctly shorter than scutellum. *Neadenocoris abdominalis* and *N. acutus* have a similar western South Island distribution although *N. abdominalis* is absent from western areas of the Northwest Nelson (NN) region. The two species have often been found together in leaf litter samples from the same locality (BR, WD; NZAC).

Neadenocoris hoarei Larivière and Larochelle, new species

Fig. 18, 31, 45

Neadenocoris hoarei Larivière and Larochelle, new species. Holotype: male (NZAC) labeled "[NN] Summit 2539' Jenkins Hill 15.10.65 Nel. [=Nelson] A.K. Walker (typed) / moss, edge of bush (partly hand-written) / HOLOTYPE [male symbol] *Neadenocoris hoarei* Larivière & Larochelle, 2024 (red label; typed)." Paratypes: 3 males, 2 females (LUNZ, NZAC) with same data as holotype;1 female (NZAC), Dun Mt [=Mountain] Track, Nelson, 6 Dec 69, G.W. Ramsay, litter; 1 female (NZAC), Wooded Peak, Dun Track Sdle [=Saddle], Nelson, 14 Sept 71, G. Ramsay, litter; bearing blue paratype labels.

Description. Male (Fig. 31). Body subtriangular; sides of abdomen barely rounded; length 2.6–3.2 mm. Dorsal color reddish brown; yellowish to yellowish brown on part of head, pronotum, scutellum, hemelytral pads, and abdominal scent gland openings; often with a dark stripe medially from anterior margin of pronotum to base of abdomen. Eyes reddish. Antennae, rostrum, and legs pale yellowish brown to reddish brown; coxae, trochanters, and middle of femora usually paler. Ventral color mostly matching main dorsal color. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles slightly divergent, 1.2–1.3× longer than eye. ***Antennae***. Ratio of length of segments II–IV/I about 0.9: 1.2 (incl. peduncle): 1.3. Segment I slightly curved, gradually thickened toward apex, thicker than other segments; II subcylindrical, short (about 3.0× longer than wide), rather thick in appearance; III briefly pedunculate basally, broadly subtriangular in lateral view, with subtruncate apex and distinct, small dorsoapical swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to moderately long, curved or appressed on segments I–II, more erect on III–IV, more closely set on IV. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** 2.2–2.3× wider than long medially, including collar; 0.7–0.8× as long as head. Anterolateral angles broadly rounded-subtriangular (more obtuse than in *N. abdominalis*), slightly to moderately produced, reaching middle to anterior margin of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly U-shaped to rounded-subquadrate. Apical margin notched (sometimes barely so), reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** rather narrow (1.6–1.7× longer than wide apically), subrectangular (outer lateral margin subrectilinear, apical margin subrectilinear to barely rounded), reaching anterior margin to middle of dmtg I of abdomen, slightly shorter than scutellum. **Abdomen** widest across tergites IV–V. Dorsal mediotergite (dmtg) II slightly elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly to moderately elevated; surface with sparse coarse punctures; intersegmental divisions evanescent; apodemal markings evanescent. Scent gland openings (or scars thereof) more or less developed, placed medially on thin, flat plates. Dmtg VII about 3.5× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins barely rounded. Dorsal laterotergites (dltg) II–III fused, IV–VII separated from each other; IV–VI subrectangular, VII subtriangular, about as long as wide across base. Posterolateral angles of dltg III–V, VII unproduced, VI produced into a short, thin, acuminate, and usually upturned spine (about 0.2× as long as apical width of dltg VI). ***Genitalia.*** Parandria (Fig. 18) subtriangular, rather broad; apical margin slightly sinuate-concave, with slightly to moderately developed rounded projection near inner corner, and evanescent rounded projection near outer corner; pale apical portion moderately developed. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-,

and metasternum well demarcated from each other, coarsely punctate (except medially on metasternum); prosternum barely elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) II–III superficially unfused (faint suture or row of punctures visible), other mediotergites well demarcated from each other, mostly impunctate (often more coarsely punctate laterally); VII about 4.5× longer than VI medially. Apodemal spots of vmtg III–VI barely distinct; a single large spot surrounded by coarse punctures often more visible on each segment of outer rows. Connexivum not demarcated from remainder of venter by a suture, somewhat coarsely punctate between smooth areas. Apodemal spots of ventral laterotergites (vltg) III–VII barely distinct.

Female resembling male, larger in size (3.5–4.2 mm). Body subovate; sides of abdomen moderately rounded, somewhat broad in appearance (1.8–2.0× longer than wide across tergite IV of abdomen). Intersegmental divisions and apodemal markings generally more distinct on tergal plate of abdomen. Posterolateral angle of dorsal laterotergites (dltg) VI of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin 2.2–2.5× longer than vmtg VI medially and apical margin sinuate.

Material examined. 155 specimens (LUNZ, NZAC).

Geographic distribution (Fig. 45). South Island: KA–Hapuku River (4 miles [=6.4 km] west of Highway 1) (NZAC), MB, NN (north).

Biology. Altitudinal range. Lowland to montane (up to 900 m). **Habitat.** Occurs in southern beech forests (*Nothofagus* sensu lato), broadleaf-podocarp forests, mixed native forests, and shrublands. Collected in large numbers in leaf litter or in ground moss. **Seasonality.** Adults: throughout most of the year (abundant in August–December, March). Tenerals: October–December, April. Nymphs: August–September, November, February–May, July.

Remarks. This species is named after Robert J. B. Hoare (Manaaki Whenua-Landcare Research, Auckland), longtime friend and colleague, for his special help and encouragement in our Heteroptera research and for his special talent and dedication as a manuscript reviewer. *Neadenocoris hoarei* is morphologically close to *N. abdominalis* and *N. acutus* (see Remarks under *N. abdominalis*) but it superficially resembles *N. abdominalis* the most. The main morphological features distinguishing *N. hoarei* from *N. abdominalis* are as follows: a more strongly subtriangular body with sides of abdomen barely rounded; more obtuse anterolateral angles of pronotum; shorter scutellum with wider apex; longer hemelytral pads relative to scutellum length; in the male, a thinner, more acuminate and upturned posterolateral spine on dltg VI and rather broad, differently shaped parandria. *Neadenocoris hoarei* is a northern South Island species mostly found in the northernmost coastal fringe of Northwest Nelson (NN) and Marlborough (MB). The Hapuku River (KA) record suggests that *N. hoarei* might be more widespread in the Seaward Kaikoura Range.

Genus *Mesadenocoris* Kirman, 1985

Fig. 32–33, 40

Mesadenocoris Kirman, 1985: 78.

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

Description. Micropterous. Body ovate; sides of abdomen broadly rounded; length 5.5 mm (male), 7.9 mm (female). **Head.** Clypeus posteriorly reaching anterior margin of eyes, anteriorly reaching about middle of antennal segment I. Juga anteriorly reaching about middle of clypeus. Apex of antenniferous tubercles strongly produced into an acutely rounded spine. Rostrum reaching a short distance behind collar. **Thorax.** Pronotum with lateral margins barely rounded, unproduced near middle; anterolateral angles rounded-subtriangular, slightly to moderately produced anteriorly. Hemelytra reduced to short pads, not extending beyond apex of scutellum. Metathoracic scent gland openings not directly connected to channel of evaporatory area, the latter strongly developed, occupying a large portion of metapleuron, with channel extending anteriorly and laterally, reaching lateral margin. ***Legs.*** Trochanters and femora demarcated from each other. Femora about as long as tibiae; ventral surface unarmed. Tibiae without rounded denticles along ventral surface; protibiae with fine ventral spines and apical comb. Tarsal claws with relatively long seta-like parempodia (about as long as claws). **Abdomen.** Dorsal mediotergites (dmtg) I–II well separated, III–VI more or less fused, intersegmental divisions distinct, slightly

sinuate on each side of scent gland openings, or indistinct. Posterolateral angle of dorsal laterotergites (dltg) VI–VII in male, unproduced. Spiracles II ventral (not visible from above), III–VII lateral (visible from above), VIII apical. ***Venter*** without median longitudinal furrow from base to apex.

Other characters as for subfamily.

Remarks. This enigmatic monotypic genus is known only from the type series (1 male, 1 female) of *Mesadenocoris robustus*, collected in Northland (ND), the northernmost region of the North Island. It is distinguished from *Adenocoris* and *Neadenocoris* by characters given in the key to genera although, as mentioned by Kirman (1985), it also shares important morphological features with both genera. The rather large size, antennae inserted on spine-like tubercles, and metathoracic scent gland opening not directly connected to the channel of the evaporatory area are attributes shared with *Adenocoris*. The barely rounded lateral margins and produced anterolateral angles of pronotum, relatively short rostrum, and rounded sides of abdomen are characters found in *Neadenocoris*. The very short antennal segment III (only half as long as segment IV) is unique to *Mesadenocoris robustus*.

Mesadenocoris robustus Kirman, 1985

Fig. 32–33, 40

Mesadenocoris robustus Kirman, 1985: 80. Holotype: male (CMNZ) labeled "[ND] 5 miles [=8 km] east [=north] of Kaeo. Nth. Auck [=North Auckland] 18.XII.63 P.M. Johns (hand-written) / HOLOTYPE [male symbol] MESADENOCORIS ROBUSTUS KIRMAN. (red label; hand-written) / CANTERBURY MUSEUM (typed) P118q (hand-written)." Photo of holotype and associated labels (Larivière and Larochelle 2004: 229). Note: The type locality should read "5 miles north of Kaeo" (pers. comm. P. M. Johns, 2023).

Description. Male holotype (Fig. 32). Body ovate; sides of abdomen broadly rounded; length 5.5 mm. Dorsal color dark reddish brown; yellowish brown on connexivum; pale reddish brown on tergal plate of abdomen. Eyes dark reddish brown. Antennae, rostrum, and legs brown to yellowish brown; antennal segment IV, coxae, trochanters, and middle of femora paler. Ventral color mostly matching main dorsal color; ventral laterotergites (vltg) II–V and part of adjacent mediotergites yellowish. Head, pronotum, scutellum, hemelytral pads, and base of connexivum with dense pubescence of moderately long, curved setae; lateral margins of pronotum and legs with longer, more erect setae (pubescence less developed in other prosympiestines). **Head.** About 1.1× longer than wide across eyes. Antenniferous tubercles strongly divergent, slightly more than 1.7× longer than eye. ***Antennae***. Ratio of length of segments II–IV/I about 1.1: 0.7 (incl. peduncle): 1.4. Segment I barely curved, gradually thickened from base to about middle, then subparallel, distinctly thicker than other segments; II subcylindrical, long (about 7.0× longer than wide), slender in appearance; III briefly pedunculate basally, narrowly subtriangular in lateral view, with subtruncate apex, without dorsoapical projection or swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence rather long, erect. **Thorax.** Pronotum, scutellum, and hemelytral pads partly smooth, partly punctate. ***Pronotum*** about 2.2× wider than long medially, including collar; about 0.8× as long as head; lateral and posterior margins carinate. Anterolateral angles narrowly rounded-subtriangular, slightly produced, reaching between base and middle of collar. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly subquadrate. Apical margin entire (unnotched), reaching about middle of dmtg I of abdomen. ***Hemelytral pads*** moderately narrow (about 1.5× longer than wide apically), rounded-subrectangular (outer lateral margin barely rounded, apical margins slightly more rounded), nearly reaching anterior margin of dmtg I of abdomen, slightly shorter than scutellum. **Abdomen** widest across tergite V. Dorsal mediotergite (dmtg) II strongly elevated medially. ***Tergal plate*** (dmtg III–VI). Disc moderately elevated; surface with coarse punctures; intersegmental divisions more or less distinct; apodemal markings distinct. Scent gland openings (or scars thereof) strongly developed, placed medially on thick, moderately swollen tubercles. Dmtg VII about 3.8× wider than long medially. ***Connexivum*** strongly reflexed; lateral margins strongly rounded (abdomen appearing dilated about middle). Dorsal laterotergites (dltg) II–VII separated from each other; II–VI subquadrate, VII subtriangular, about 1.2× longer than wide across base. Posterolateral angles of dltg III–V very slightly produced (IV–V somewhat more so), VI–VII unproduced. ***Genitalia.*** Not examined. **Ventral surface. Head.** Rostrum reaching a short distance behind collar. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate; prosternum not elevated between procoxae; suture between

metasternum and abdominal venter well developed**. Abdomen.** Ventral mediotergites (vmtg) well demarcated from each other, nearly impunctate medially, sparsely punctate laterally; II very short, in the shape of a thin transverse band; VII about 3.3× longer than VI medially. Apodemal spots of vmtg III–VI distinct; paired spots of outer rows more visible. Connexivum not demarcated from remainder of venter by a suture. Apodemal spots of ventral laterotergites (vltg) III–VII mostly distinct.

Female allotype (Fig. 33) resembling male, larger in size (7.9 mm). Body more strongly ovate; sides of abdomen strongly rounded, broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Color more uniformly reddish brown; ventral laterotergites (vltg) II–V concolorous with remainder of venter. Dorsal pubescence less developed. Anterolateral angles of pronotum more narrowly subtriangular and more strongly produced, nearly reaching anterior margin of collar. Intersegmental divisions of tergal plate more visible. Posterolateral angles of dltg III–V of connexivum unproduced. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 2.0× longer than vmtg VI medially and apical margin sinuate.

Material examined. 2 specimens (AMNZ, CMNZ).

Geographic distribution (Fig. 40). North Island: ND–Kaeo, about 5 miles [=8 km] east [=north] (CMNZ). Waimatenui (AMNZ).

Biology. Altitudinal range. Lowland. **Habitat.** Occurs in broadleaf–podocarp forests. Collected in leaf litter. **Seasonality.** Adults: October, December.

Genus *Adenocoris* Usinger and Matsuda, 1959

Fig. 34–36, 38–39

Adenocoris Usinger and Matsuda, 1959: 67.

Type species. *Adenocoris brachypterus* Usinger and Matsuda, 1959, by original designation.

Description. Micropterous. Body subrectangular to subovate; length 4.1–5.7 mm (male), 5.2–6.5 mm (female). **Head.** Clypeus posteriorly reaching middle of eyes, anteriorly reaching beyond middle of antennal segment I. Juga anteriorly reaching slightly beyond middle of clypeus. Apex of antenniferous tubercles strongly produced into an acutely rounded spine. Rostrum reaching between procoxae. **Thorax.** Pronotum with lateral margins angularly rounded, more or less produced near middle; anterolateral angles broadly rounded, unproduced or barely produced anteriorly. Hemelytra reduced to short pads, not extending beyond apex of scutellum. Metathoracic scent gland openings not directly connected to channel of evaporatory area, the latter strongly developed, occupying a large portion of metapleuron, with channel extending anteriorly and laterally, reaching lateral margin. ***Legs.*** Trochanters and femora demarcated from each other. Femora about as long as tibiae; ventral surface (male) smooth medially, flanked by a few, moderately strong, variously sized teeth arranged in two irregular rows (one larger tooth about middle or in apical fourth). Tibiae (male) with more or less distinct rounded denticles along ventral surface; protibiae (both sexes) with fine ventral spines and apical comb. Tarsal claws with relatively long, seta-like parempodia (about as long as claws). **Abdomen.** Dorsal mediotergites (dmtg) I–II well separated, III–VI more or less fused, intersegmental divisions mostly indistinct (more distinct submarginally). ***Connexivum.*** Posterolateral angle of dorsal laterotergites (dltg) VII in male, produced into a spine. Spiracles II ventral (not visible from above), III–VI lateral (visible from above), VII sublateral in male (not visible from above), placed below posterolateral projection of segment, lateral in female (visible from above), VIII apical. ***Venter*** with a shallow, smooth, laterally carinate median depression on each segment, forming a longitudinal furrow from base to apex (less strongly developed in female).

Other characters as for subfamily.

Remarks. The genus *Adenocoris* contains the largest species of New Zealand Prosympiestinae. It is easily distinguished from *Mesadenocoris* and *Neadenocoris* by characters given in the key and by being the only genus with an armature of teeth on the underside of the femora in the male.

Key to species of *Adenocoris*

1. Body ovate-subrectangular (male) or subovate (female). Pronotum distinctly shorter than head; lateral margins strongly angular, sinuate and strongly oblique anteriorly, with a rounded protuberance near middle. Hemelytral pads reaching or nearly reaching anterior margin of dmtg I of abdomen, barely shorter than scutellum. Abdomen with scent gland openings (or scars thereof) strongly developed, placed medially on swollen tubercles. Fig. 34–35. [Body length: 4.1–5.1 mm (male), 5.2–6.0 mm (female). North Island: ND to WI] ..... ***Adenocoris brachypterus* Usinger and Matsuda**

— Body subrectangular (male, female). Pronotum about as long as head; lateral margins faintly angular, slightly rounded and oblique anteriorly, briefly more rounded near middle (without protuberance). Hemelytral pads ending some distance in front of posterior margin of metathorax (leaving it partially exposed), distinctly shorter than scutellum. Abdomen with scent gland openings (or scars thereof) moderately developed, placed medially on nearly flat plates. Fig. 36. [Body length: 5.3–5.7 mm (male), 5.5–6.5 mm (female). Southern North Island. South Island: DN, MB, NN] .... ***Adenocoris spiniventris* Usinger and Matsuda**

Adenocoris brachypterus Usinger and Matsuda, 1959

Fig. 34–35, 38

Adenocoris brachypterus Usinger and Matsuda 1959: 68. Holotype: female (NHMUK) labeled "HOLOTYPE (typed) Adenocoris brachypterus (hand-written) Usinger-Matsuda (red label; typed) / [WI] Longacre [Wanganui] 2.IV.23 (hand-written) / J.G. Myers Coll. B.M.1937-789. (typed) / Holotype (circular red-bordered label; typed) / [female symbol] / NHMUK 013589043 (barcode label)."

Description. Male (Fig. 34). Body ovate-subrectangular; sides of abdomen slightly rounded; length 4.1–5.1 mm. Dorsal color pale to dark reddish brown; yellowish brown on part of head, middle and sides of pronotum, on scutellum, hemelytral pads, margin of connexivum, and sometimes near abdominal scent gland openings. Eyes reddish. Antennae, rostrum, and legs yellowish to yellowish brown; femora often darker at base and apex. Ventral color mostly matching main dorsal color; connexivum underside broadly pale. **Head.** About 0.7× as long as wide across eyes. Antenniferous tubercles strongly divergent, about 1.2× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 1.4: 1.1 (incl. peduncle): 1.7. Segment I very slightly curved, gradually thickened from base to about middle, somewhat thicker than other segments; II subcylindrical, long (about 5.3× longer than wide), slender in appearance; III barely pedunculate basally, narrowly subtriangular in lateral view, with rounded apex, without dorsoapical projection or swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to long, semi-erect to erect. **Thorax.** Pronotum, scutellum, and hemelytral pads punctate (punctures rather coarse and moderately deep). ***Pronotum*** 2.4–2.5× wider than long medially, including collar; distinctly shorter than head. Disc with median and lateral callosities separated by shallow depressions; lateral callosities usually less developed than median callosities. Anterolateral angles broadly rounded, unproduced or barely produced. Lateral margins strongly angular, sinuate and strongly oblique anteriorly, with a rounded protuberance near middle. ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly subquadrate. Apical margin entire, reaching slightly beyond anterior margin of dmtg I of abdomen. ***Hemelytral pads*** rather narrow (about 1.6× longer than wide apically), rounded-subtriangular (base narrowed, outer lateral margin subrectilinear, apical margin slightly rounded), reaching or nearly reaching anterior margin of dmtg I of abdomen (covering entire metathorax), barely shorter than scutellum. ***Legs.*** Femora with a few, moderately strong, variously sized teeth arranged in two irregular rows along ventral surface (one larger tooth about middle or in apical fourth). Tibiae with more or less distinct rounded denticles along ventral surface (evanescent on metatibiae). **Abdomen** widest across tergites III–IV. Dorsal mediotergite (dmtg) II moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly to moderately elevated; surface with closely set, fine to rather coarse, moderately deep punctures; intersegmental divisions mostly evanescent (more distinct submarginally); apodemal markings mostly indistinct (outer rows more distinct). Scent gland openings (or scars thereof) rather strongly developed, placed medially on thick, moderately to strongly swollen tubercles. Dmtg VII about 3.5× wider than long medially. ***Connexivum*** moderately to strongly reflexed; lateral margins slightly rounded. Dorsal laterotergites (dltg) II–VII separated from each other; II subtriangular, III–VI subrectangular, VII subtriangular

(excluding posterolateral spine), 1.3–1.4× longer than wide across base. Posterolateral angles of dltg II–VI unproduced, VII produced into a long, thick, subconical spine with narrow base and rounded tip (about 0.5× as long as basal width of segment). ***Genitalia.*** Parandria transverse, rounded-subrectangular, without pale apical portion; apical margin sinuate-concave. **Ventral surface. Head.** Rostrum reaching between procoxae. **Thorax.** Pro-, meso-, and metasternum well demarcated from each other, coarsely punctate (except medially on prosternum); prosternum not elevated between procoxae; suture between metasternum and abdominal venter well developed. **Abdomen.** Ventral mediotergites (vmtg) well demarcated from each other, usually with sparse coarse punctures and some smooth wrinkles; II short, in the shape of a rather thin transverse band; VII about 2.0× longer than VI medially. Apodemal spots of vmtg III–VI more or less distinct; paired spots of outer rows more visible. Connexivum not demarcated from remainder of venter by a suture, mostly impunctate. Apodemal spots of ventral laterotergites (vltg) III–VII more or less distinct.

Female (Fig. 35) resembling male, larger in size (5.2–6.0 mm). Body subovate; sides of abdomen moderately rounded, broad in appearance (about 2.0× longer than wide across tergite IV of abdomen). Posterolateral angle of dltg VII of connexivum unproduced. Femora and tibiae without ventral rows of teeth or denticles. Underside of connexivum pale basally, darker medially and apically. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 1.7× longer than vmtg VI medially and apical margin slightly convex over most of its length.

Material examined. 137 specimens (AMNZ, MONZ, NHMUK, NZAC).

Geographic distribution (Fig. 38). North Island: AK–Flat Bush, Murphys Bush (NZAC). Goldie Bush (NZAC). Hunua Range, Lilburne Road, Rata Ridge Track (NZAC). Waitakere Ranges, Junction Cutty Grass & Ian Wells Tracks (NZAC). BP–Kaimai Range, Thompsons Track [at] Road end (NZAC); Upland Road end Track (NZAC); Woodland Road, Waitengaue Hut Track (NZAC). Lottin Point Road, Waenga Bush (NZAC). CL–Kirikiri Saddle (NZAC). Little Barrier Island, Summit Track (NZAC). GB–Taikawakawa (NZAC). ND–Kaitaia (NZAC). Russell Forest Track, 0–1 km south of Russell-Whakapara Road (NZAC). Waitangi State Forest (NZAC). Whananaki North, north of (AMNZ). TO–Turangakumu, Napier-Taupo [Road] (NZAC). WI–Longacre, Wanganui (NHMUK; Usinger and Matsuda 1959). WO–Matamata (NZAC).

Biology. Altitudinal range. Lowland to montane (up to 900 m). **Habitat.** Occurs in broadleaf–podocarp forests (e.g. *Didymocheton*-dominant forests); also found in mixed southern beech (*Nothofagus* sensu lato)-broadleaf-podocarp forests. Collected in numbers from wood interstices and dusty debris on the underside of fallen rotting *Didymocheton* branches about 3–10 cm in diameter (BP); found in smaller numbers on the moist to wet, moldy underside of fallen rotting branches (e.g. *Didymocheton*, *Dacrydium*, *Pittosporum-Myrsine*, or southern beech-dominant forests), in rotten wood and bark (e.g. *Dacrydium* or *Beilschmiedia*-dominant forest). Accidentally collected in pitfall traps. **Seasonality.** Adults: August, October–December, March, May (abundant in December). Tenerals: December, March. Nymphs: October–December (abundant in December), March.

Remarks. *Adenocoris brachypterus* can be separated from *A. spiniventris* by characters given in the key to species. Other important diagnostic features are as follows: pronotum broad (2.4–2.5× wider than long), median and lateral callosities separated by shallow depressions, lateral callosities usually less strongly developed than median callosities; apical half of scutellum subquadrate; ventral surface of femora (male) with a few, moderately strong, variously sized teeth arranged in two irregular rows. The holotype and allotype of *A. brachypterus* are represented by pale, somewhat irregularly shaped teneral individuals with a cuticle not yet fully hardened into its final form and color. This is a North Island species so far unrecorded from southernmost areas of the island. However, one specimen (MONZ) was collected by C. Foskett in 1951 from Brooklands, a locality which could not be attributed with certainty to either the Wairarapa (WA), Hawkes Bay (HB), or Taranaki (TK, New Plymouth) region.

Adenocoris spiniventris Usinger and Matsuda, 1959

Fig. 36, 39

Adenocoris spiniventris Usinger and Matsuda, 1959: 70. Holotype: female (NHMUK) labeled "New Zealand. Oct.1901-Nov.1902. J.J. Walker. 1910–384. (typed) / [DN] Port Chalmers. N.I. [=North Island, in error for South Island or N.Z.?] (hand-written) / HOLOTYPE (typed) Adenocoris spiniventris (hand-written) Usinger-Matsuda (pink label; typed) /

Holotype (circular red-bordered label; typed) / [female symbol] / BMNH(E) 1255247 (typed) / NHMUK 013589041 (barcode label)."

Description. Male (Fig. 36). Body subrectangular; sides of abdomen subrectilinear; length 5.3–5.7 mm. Dorsal color dark reddish brown; yellowish brown on apex of scutellum and hemelytral pads as well as on margin of connexivum. Eyes reddish. Antennae, rostrum, and legs yellowish brown to brown; femora often darker at base and apex. Ventral color mostly matching main dorsal color; connexivum underside broadly pale. **Head.** About 0.8× as long as wide across eyes. Antenniferous tubercles strongly divergent, about 1.3× longer than eye. ***Antennae.*** Ratio of length of segments II–IV/I about 1.5: 1.1 (incl. peduncle): 1.8. Segment I very slightly curved, gradually thickened from base to about middle, somewhat thicker than other segments; II subcylindrical, long (about 5.3× longer than wide), slender in appearance; III barely pedunculate basally, narrowly subtriangular in lateral view, with rounded apex, without dorsoapical projection or swelling; IV fusiform, distinctly longer than non-pedunculate portion of III. Pubescence short to long, semi-erect to erect. **Thorax.** Pronotum, scutellum, and hemelytral pads punctate (punctures fine and shallow). ***Pronotum*** 2.2–2.3× wider than long medially, including collar; about as long as head. Disc with median and lateral callosities separated by deep depressions; lateral callosities usually more strongly developed than median callosities. Anterolateral angles broadly rounded, unproduced or barely produced. Lateral margins faintly angular, slightly rounded and oblique anteriorly, briefly more rounded near middle (without protuberance). ***Scutellum*** about as long as pronotum medially, including collar. Apical half broadly rounded-subquadrate. Apical margin entire, reaching slightly beyond anterior margin of dmtg I of abdomen. ***Hemelytral pads*** rather narrow (about 1.7× longer than wide apically), rounded-subtriangular (base narrowed, outer lateral margin subrectilinear, apical margin slightly rounded), ending some distance in front of posterior margin of metathorax (leaving it partially exposed), distinctly shorter than scutellum. ***Legs.*** Femora with several, rather strong, variously sized teeth arranged in two regular rows along ventral surface (one larger tooth about middle or in apical fourth). Tibiae with distinct rounded denticles along ventral surface. **Abdomen** of subequal width from tergites II–V, slightly narrower thereafter. Dorsal mediotergite (dmtg) II slightly to moderately elevated medially. ***Tergal plate*** (dmtg III–VI). Disc slightly elevated; surface with closely set, fine, shallow punctures; intersegmental divisions mostly evanescent (slightly more distinct submarginally); apodemal markings mostly indistinct (outer rows slightly more distinct). Scent gland openings (or scars thereof) moderately developed, placed medially on thin, nearly flat plates. Dmtg VII about 3.5× wider than long medially. ***Connexivum*** rather strongly reflexed; lateral margins subrectilinear. Dorsal laterotergites (dltg) II–VII separated from each other; II subtriangular, III–VI subrectangular, VII subtriangular (excluding posterolateral spine), 1.7–1.8× longer than wide across base. Posterolateral angles of dltg II–VI unproduced, VII produced into a long, thick, subtriangular spine with broad base and acute tip (about 0.5× as long as basal width of segment). ***Genitalia.*** Parandria similar to *A. brachypterus*. **Ventral surface.** As in *A. brachypterus*.

Female resembling male, larger in size (5.5–6.5 mm). Body subrectangular; sides of abdomen slightly rounded, slender in appearance (about 2.3× longer than wide across tergite IV of abdomen). Posterolateral angle of dltg VII of connexivum unproduced. Femora and tibiae without ventral rows of teeth or denticles. Underside of connexivum pale basally, darker medially and apically. Ventral mediotergite (vmtg) VII of abdomen medially split into two subrectangular plates; each plate with inner margin about 1.7× longer than vmtg VI medially and apical margin slightly convex over most of its length.

Material examined. 21 specimens (LUNZ, NHMUK, NZAC).

Geographic distribution (Fig. 39). North Island: RI–Ruahine Range, Rokaiwhenua [=Rokaiwhana] Stream (NZAC). TK–Egmont National Park, tributary of Mangorei Stream (LUNZ). TO–Ohakune (Usinger and Matsuda 1959). WN–Paekakariki (NHMUK). South Island: DN–Port Chalmers (NHMUK). MB–French Pass, near Okuri Bay (NZAC). NN–Belgrove (NZAC). Canaan, Wainui Saddle (NZAC). Eve Valley (NZAC). Whangamoa Saddle (NZAC).

Biology. Altitudinal range. Lowland to montane (up to 900 m). **Habitat.** Occurs in broadleaf–podocarp forests or mixed southern beech (*Nothofagus* sensu lato)-broadleaf-podocarp forests. Collected on the moldy underside of a fallen rotting broadleaf branch about 8 cm in diameter (RI); also found under the bark of a dead *Dacrydium*

tree and in moss. **Seasonality.** Adults: October, December (mostly), August. Tenerals and nymphs: December (NN).

Remarks. *Adenocoris spiniventris* can be separated from *A. brachypterus* by characters given in the key to species. Other important diagnostic features are as follows: pronotum narrower (2.2–2.3× wider than long), median and lateral callosities separated by deep depressions, lateral callosities usually more strongly developed than median callosities; apical half of scutellum rounded-subquadrate; ventral surface of femora (male) with several, rather strong, variously sized teeth arranged in two regular rows. The holotype label indicates Port Chalmers N.I. [=North Island?] as type locality which is located in the South Island, on the northern side of the Otago Harbour in Dunedin (DN). If the holotype label is correct, one would expect *A. spiniventris* to be present in the apparent distribution gap of more than 500 km between populations known from northwest Nelson (NN) and Dunedin (DN).

Acknowledgments

For the opportunity to examine material in their care, the authors thank J. Ridden (Canterbury Museum, Christchurch, New Zealand), J. M. W. Marris (Entomology Research Collection, Lincoln University, Lincoln, New Zealand), J. W. Early and R. Moore (Auckland War Memorial Museum, Auckland, New Zealand), P. Sirvid (Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand), and M. D. Webb (The Natural History Museum, London, U.K.).

The authors wish to thank the following peer reviewers for their helpful comments and suggestions to improve the manuscript: E. Heiss (Tiroler Landesmuseum, Innsbruck, Austria) and R. J. B. Hoare (Landcare Research, Auckland, New Zealand).

The authors are indebted to M. D. Webb and S. Cole (The Natural History Museum, London, U.K.), R. Moore (Auckland War Memorial Museum, Auckland, New Zealand), and J. Ridden (Canterbury Museum, Christchurch) for working photos of the types and labels of *Adenocoris brachypterus*, *A. spiniventris*, and *Mesadenocoris robustus*. Thanks are extended to P. M. Johns (Canterbury Museum, Christchurch) for information on the type locality of *Mesadenocoris robustus*.

The authors are also grateful to G. Hall, S. Malysheva, and L. Elder (Manaaki Whenua-Landcare Research, Auckland) for technical assistance, help with the curation of the New Zealand Arthropod Collection (Auckland) and material borrowed from other collections, as well as access to digital imaging systems.

Most of this research was done using the authors' personal time and resources. Partial financial support – fieldwork from 1992 to 2018 – and in-kind support was also received from the New Zealand Arthropod Collection supported by the Strategic Science Investment Funding for Crown Research Institutes from the Ministry of Business, Innovation and Employment's Science and Innovation Group.

Literature Cited

Bergroth E. 1894. Fortsatta bidrag till Aradidernas kannedom. Entomologisk Tidskrift 15: 97–118.

Cassis G, Gross GF. 2002. Hemiptera: Heteroptera (Pentatomomorpha). In: Houston WWK, Maynard GV (eds.). Zoological Catalogue of Australia. Vol. 27.3B. CSIRO; Melbourne. xiv, 737 p.

Crosby TK, Dugdale JS, Watt JC. 1976. Recording specimen localities in New Zealand: an arbitrary system of areas and codes defined. New Zealand Journal of Zoology 3: 69 (with separate map overleaf).

Crosby TK, Dugdale JS, Watt JC. 1998. Area codes for recording specimen localities in the New Zealand subregion. New Zealand Journal of Zoology 25: 175–183.

Heiss E. 2017. The Aradidae of Chile (Hemiptera: Heteroptera). Linzer biologische Beiträge 49: 147–158.

Kirman M. 1985. A new genus and species of Prosympiestinae (Hexapoda: Hemiptera: Aradidae) from Northland, New Zealand. Records of the Auckland Institute and Museum 22: 77–83.

Kormilev NA. 1964. Neotropical Aradidae XIII (Heteroptera: Aradidae). Journal of the New York Entomological Society 72: 112–119.

Kormilev NA, Froeschner RC. 1987. Flat bugs of the world: A synonymic list (Heteroptera: Aradidae). Entomography 5: 1–246.

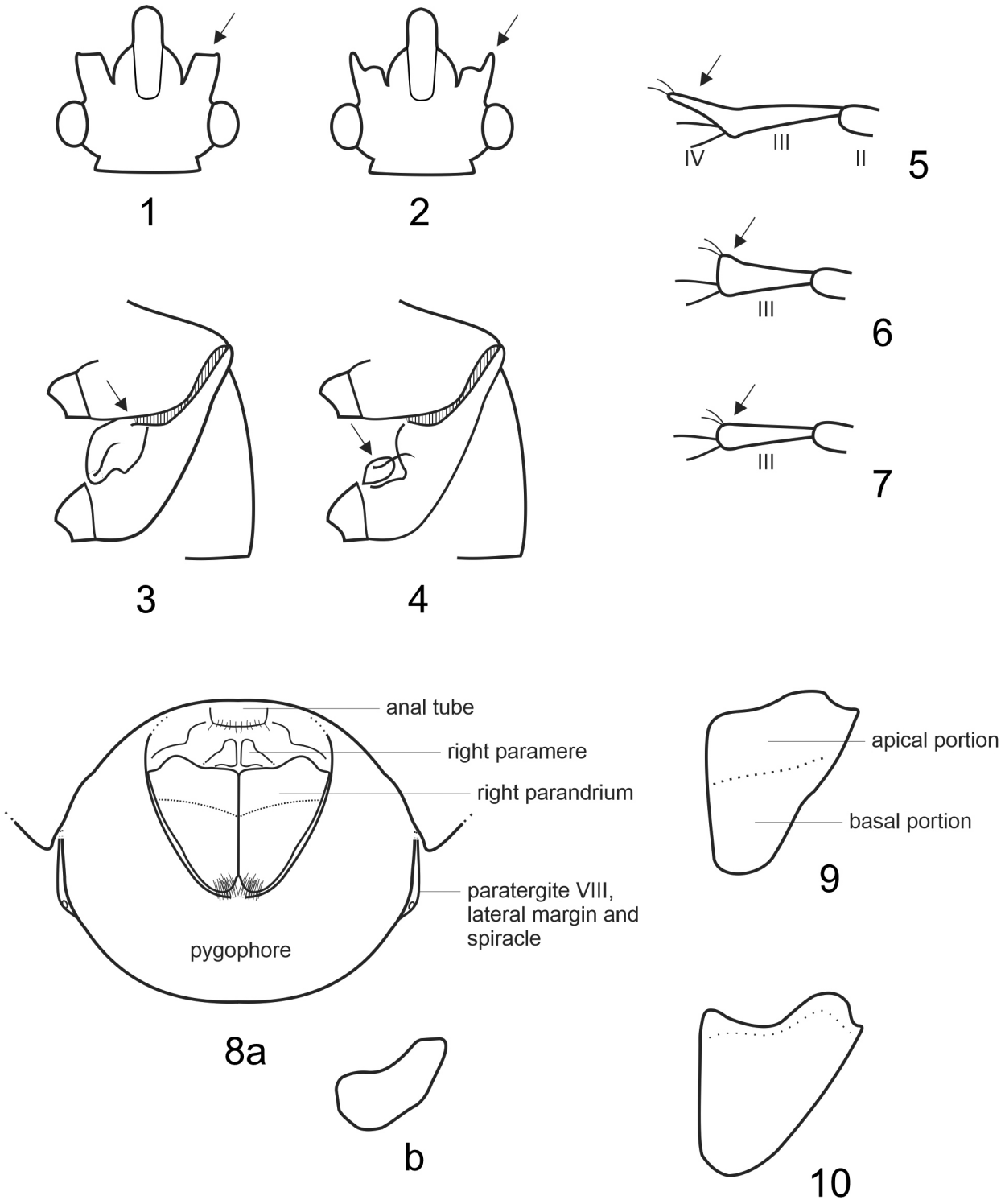
Larivière M-C. 1995. Cydnidae, Acanthosomatidae, and Pentatomidae (Insecta: Heteroptera): systematics, geographical distribution, and bioecology. Fauna of New Zealand 35: 1–112.
Larivière M-C. 1999. Cixiidae (Insecta: Hemiptera, Auchenorrhyncha). Fauna of New Zealand 40: 1–93.
Larivière M-C, Burckhardt D, Larochelle A. 2011. Peloridiidae (Insecta: Hemiptera: Coleorrhyncha). Fauna of New Zealand 67: 1–78.
Larivière M-C, Fletcher MJ, Larochelle A. 2010. Auchenorrhyncha (Insecta: Hemiptera). Fauna of New Zealand 63: 1–232.
Larivière M-C, Larochelle A. 2004. Heteroptera (Insecta: Hemiptera): catalogue. Fauna of New Zealand 50: 1–330.
Larivière M-C, Larochelle A. 2006. An overview of flat bug genera (Hemiptera, Aradidae) from New Zealand, with considerations on faunal diversification and affinities. Denisia 19: 181–214.
Larivière M-C, Larochelle A. 2014. Checklist of the New Zealand Heteroptera (Insecta: Hemiptera): an update based on the 2004 to 2013 literature. Zootaxa 3755: 347–367.
Larivière M-C, Larochelle A. 2015. *Zemacrosaldula*, a new genus of Saldidae (Hemiptera: Heteroptera) from New Zealand: taxonomy, geographic distribution, and biology. Zootaxa 3955: 245–266.
Larivière M-C, Larochelle A. 2016. *Aoteasalda* and *Kiwisaldula*, two new genera of Saldidae (Hemiptera: Heteroptera), with a key to New Zealand genera and a new synonymy in *Zemacrosaldula*. Zootaxa 4085: 451–480.
Larivière M-C, Larochelle A. 2017. *Kiwisaldula waiho* and *K. hurunui*, two new species of Saldidae (Hemiptera: Heteroptera) from the South Island of New Zealand, with redescriptions of *K. butleri* (White) and *K. laelaps* (White). Zootaxa 4341: 41–55.
Larivière M-C, Larochelle A. 2018. *Kiwisaldula* (Hemiptera: Heteroptera: Saldidae) from the South Island of New Zealand: new species and identification key. Zootaxa 4514: 151–166.
Larivière M-C, Larochelle A. 2019. World Saldidae: Supplement (1987–2018) to the catalog and bibliography of the Leptopodomorpha (Heteroptera). Zootaxa 4590: 125–152.
Larivière M-C, Larochelle A. 2022. A synopsis of the subfamily Carventinae in New Zealand (Heteroptera: Aradidae). Insecta Mundi 0961: 1–54.
Leston D. 1955. Remarks on the male and female genitalia and abdomen of Aradidae. Proceedings of the Royal Entomological Society of London (A)30: 63–69.
Monteith GB. 1966. A new genus of Chinamyersiinae (Heteroptera: Aradidae) from Australia, with notes on its relationships and male genitalia. Journal of the Entomological Society of Queensland 5: 46–50.
Monteith GB. 1997. Revision of the Australian flat bugs of the subfamily Mezirinae (Insecta: Hemiptera: Aradidae). Memoirs of the Queensland Museum 41: 1–169.
Schaefer CW. 1977. Genital capsule of the trichophoran male (Hemiptera: Heteroptera: Geocorisae). International Journal of Insect Morphology and Embryology 6: 277–301.
Schuh RT, Weirauch C. 2020. True bugs of the world (Hemiptera: Heteroptera). Classification and natural history (Second edition). Siri Scientific Press Monograph Series 8: 1–768 + 32 plates.
Usinger RL, Matsuda R. 1959. Classification of the Aradidae. British Museum; London. 410 p.

Received April 10, 2024; accepted May 8, 2024.
Review editor Joe Eger.

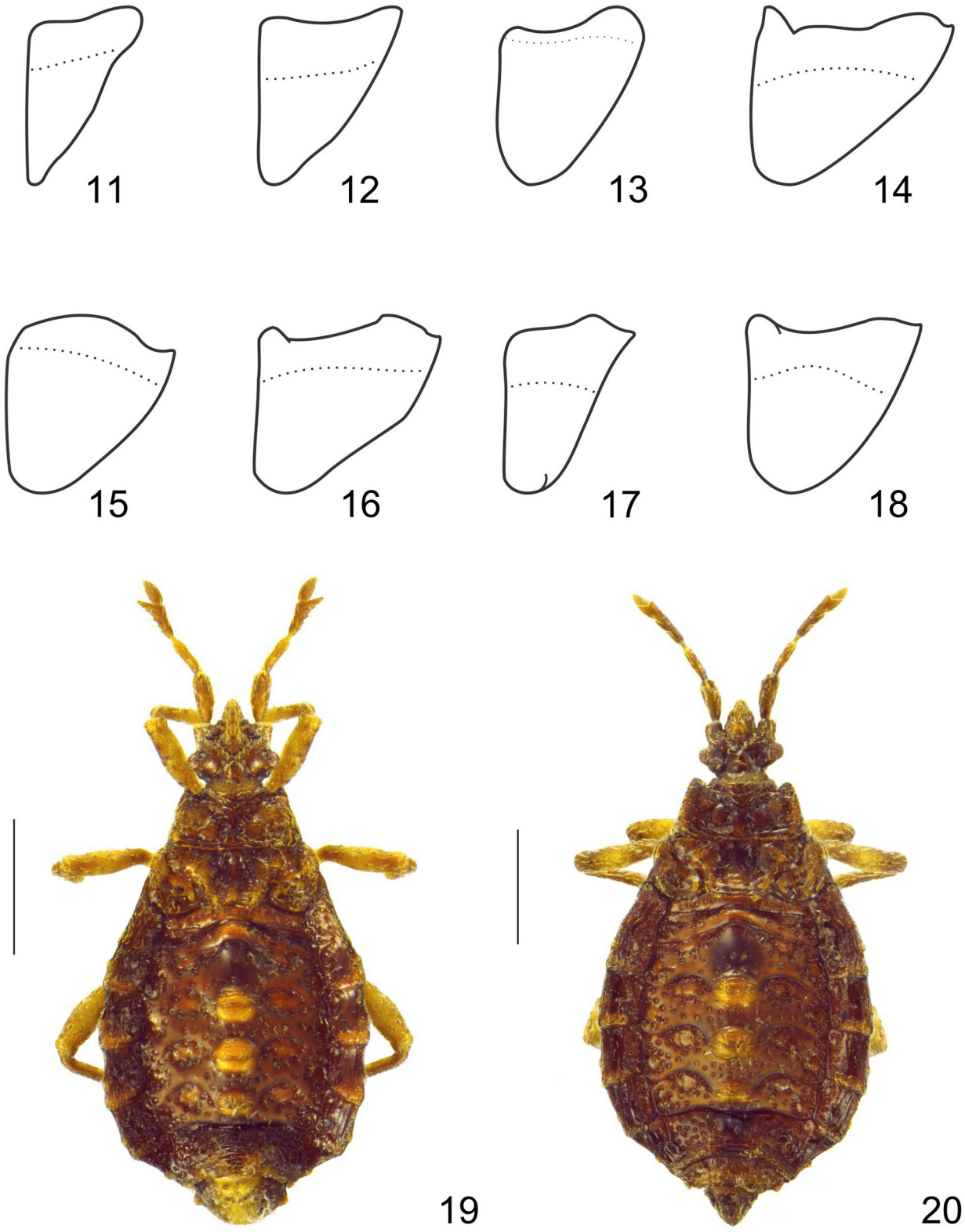
Appendix 1. Geographic coordinates of localities in decimal degrees.

Locality	Area code	Latitute	Longitude
Akatarawa Saddle, Tararua Range	WN	−40.9483	175.1083
Belgrove	NN	−41.4474	172.9534
Brown & Aorere Rivers, Junction	NN	−40.8499	172.4493
Cutty Grass & Ian Wells Tracks (Junction), Waitakere Ranges	AK	−36.9272	174.5349
Deep Cove, Doubtful Sound	FD	−45.4453	167.1423
Dome Forest Walkway	AK	−36.3596	174.6169
Dun Mountain Track	NN	−41.3186	173.3148
Dundas Hut Ridge, Tararua Range	WN	−40.7163	175.4661
Eve Valley	NN	−41.3330	173.0489
Flat Bush, Murphy's Bush	AK	−36.9782	174.9209
Fox Glacier	WD	−43.4666	170.0199
Gentle Annie Track, Mount Holdsworth, Tararua Range	WN	−40.9057	175.4605
Gilbert Island No 6, Breaksea Sound	FD	−45.5966	166.7015
Goldie Bush	AK	−36.8427	174.4700
Grono Bay, Secretary Island	FD	−45.2855	166.9442
Hakataramea Pass	MK	−44.3118	170.5711
Hapuku River	KA	−42.2873	173.6787
Haurangi, Aorangi Mountains	WA	−41.3632	175.3935
Hokitika Gorge	WD	−42.9549	171.0158
Jenkins Hill	NN	−41.3317	173.2808
Kaeo	ND	−35.0996	173.7789
Kaitaia	ND	−35.1140	173.2637
Kaitoke Regional Park, Waterworks Road end	WN	−41.0793	175.1621
Kauri Reserve/Sanctuary, Omahuta Forest	ND	−35.2363	173.6268
Kirikiri Saddle	CL	−37.1519	175.6455
Lake Hankinson, Te Anau	FD	−45.0468	167.5667
Lake Macarthur, Dusky Sound	FD	−45.9093	166.6081
Lee River Valley	NN	−41.4404	173.1486
Little Barrier Island, Summit Track	CL	−36.2110	175.0669
Longacre, Wanganui	WI	−39.8968	175.1515
Lottin Point Road, Waenga Bush	BP	−37.5630	178.1540
Mangamuka Gorge	ND	−35.2067	173.5072
Mangamuka Hills/Summit	ND	−35.1896	173.4554
Mangawhai	ND	−36.1257	174.5758
Manginangina Kauri Reserve, Puketi Forest	ND	−35.1977	173.7983
Mangorei Stream, Egmont National Park	TK	−39.2111	174.0468
Matamata	WO	−37.8110	175.7734
McKenzie Burn, Murchison Mountains	FD	−45.2597	167.4119
Mikimiki Stream Track, Kiriwhakapapa Road end, Tararua Range	WN	−40.8164	175.5365
Moana/Lake Brunner	BR	−42.6425	171.4005
Moirs Hill Walkway, Pohuehue Reserve	AK	−36.4576	174.6494
Mount Grono, Secretary Island	FD	−45.2658	166.9519
Ngaiotonga Reserve	ND	−35.3160	174.2602
Ohakune	TO	−39.4177	175.3995
Okuri Bay, French Pass	SD	−40.9936	173.7818
Omahuta Forest	ND	−35.2460	173.6385

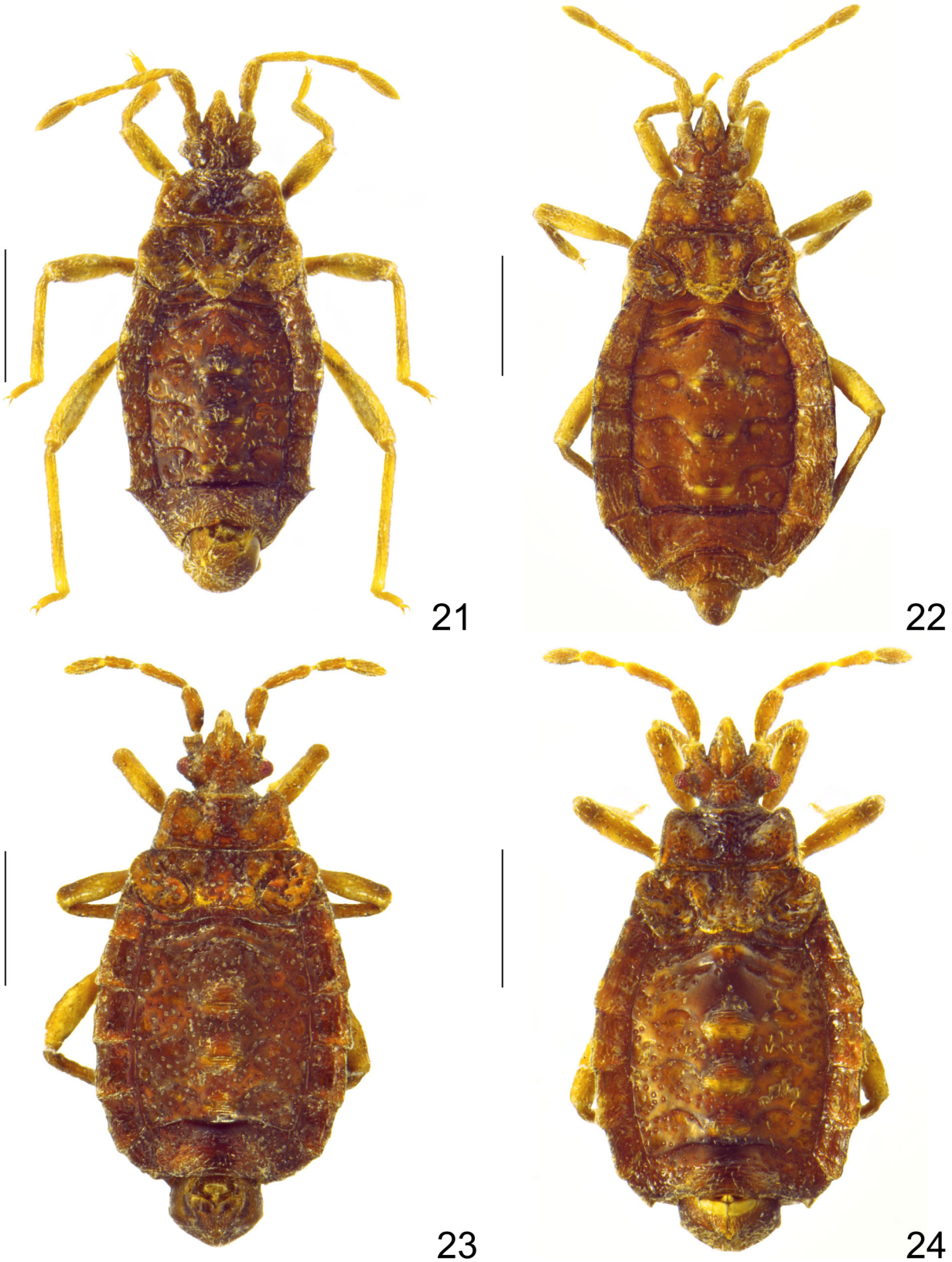
Locality	Area code	Latitute	Longitude
Opouri Saddle, summit	SD	−41.1386	173.7300
Orongorongo Forest Station/Research Station, Rimutaka Range	WN	−41.3500	174.9666
Orongorongo Track, Rimutaka Range	WN	−41.3417	174.9544
Paekakariki	WN	−40.9830	174.9544
Parihaka Park, Whangarei	ND	−35.7126	174.3395
Pelorus Bridge/Scenic Reserve	MB	−41.3002	173.5718
Port Chalmers	DN	−45.8205	170.6223
Port Underwood Saddle	MB	−41.3000	174.1166
Pukekaroro Scenic Reserve	ND	−36.1385	174.4390
Rata Ridge Track, Lilburne Road, Hunua Range	AK	−37.0693	175.1899
Rimutaka Range/Forest Park	WN	−41.3791	174.9632
Rokaiwhana Stream, Ruahine Range	RI	−40.1372	176.0113
Russell Forest Track	ND	−35.3251	174.2633
Silverstream	WN	−41.1523	175.0157
Taikawakawa	GB	−38.8175	177.9223
Te Matua Ngahere, Waipoua Forest	ND	−35.6071	173.5288
Thompsons Track, Kaimai Range	BP	−37.6354	175.8649
Trounson Kauri Park	ND	−35.7274	173.6415
Turangakumu, Napier-Taupo Road	TO	−39.1179	176.5946
Upland Road end Track, Kaimai Range	BP	−37.6594	175.9007
Upper Takaka	NN	−41.0289	172.8228
Waimatenui	ND	−35.6172	173.7121
Wainui Saddle, Canaan	NN	−40.9329	172.9157
Waiotauru Track, Otaki Gorge, Tararua Range	WN	−40.8925	175.2106
Waipoua River, Waipoua Forest	ND	−35.6514	173.5573
Wairau Valley, Top Valley, Staircase Stream	MB	−41.5459	173.3873
Waitangi State Forest	ND	−35.2428	174.0199
Waitengaue Hut Track, Woodland Road, Kaimai Range	BP	−37.5046	175.8623
Whakapapanui Track, Mount Ruapehu	TO	−39.1927	175.5291
Whananaki North	ND	−35.5079	174.4655
Whangamoa Saddle	NN	−41.2209	173.4397
Wilmot Pass	FD	−45.5081	167.1925
Wolfe Flat, Turret Range	FD	−45.5200	167.3200
Wooded Peak	NN	−41.3355	173.3484



Figures 1–10. Head, dorsal: **1)** apex of antenniferous tubercles subtruncate, **2)** apex produced into a spine. Metathoracic scent gland opening: **3)** directly connected to channel of evaporatory area, **4)** not directly connected to channel. Antennal segment III, lateral: **5)** with large dorsoapical projection, **6)** broadly subtriangular, with distinct, small dorsoapical swelling, **7)** narrowly subtriangular, without projection or swelling. **8) a** male pygophore, posterodorsal (based on *Neadenocoris spinicornis*), **b** generalized right parandrium (*Adenocoris*). Right parandrium of male: **9)** *Neadenocoris spinicornis,* **10)** *N. glaber*.

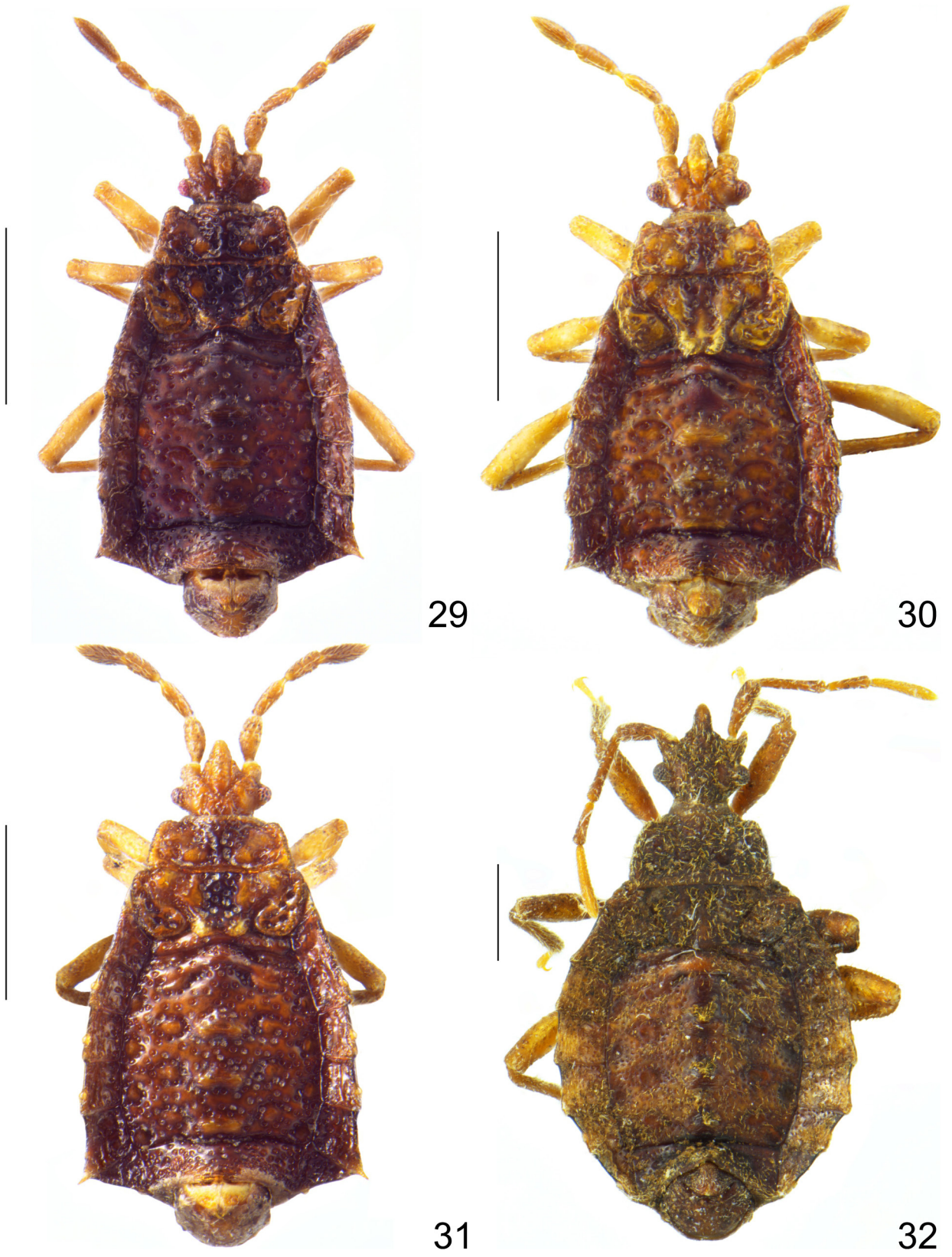


Figures 11–20. Right parandrium of male. **11)** *Neadenocoris ovatus.* **12)** *N. pseudovatus* new species. **13)** *N. northlandicus* new species. **14)** *N. wellingtonensis* new species. **15)** *N. acutus.* **16)** *N. centralis* new species. **17)** *N. abdominalis*. **18)** *N. hoarei* new species. Dorsal habitus. **19)** *N. spinicornis*, male. **20)** *N. spinicornis*, female. Scale line = 1 mm.

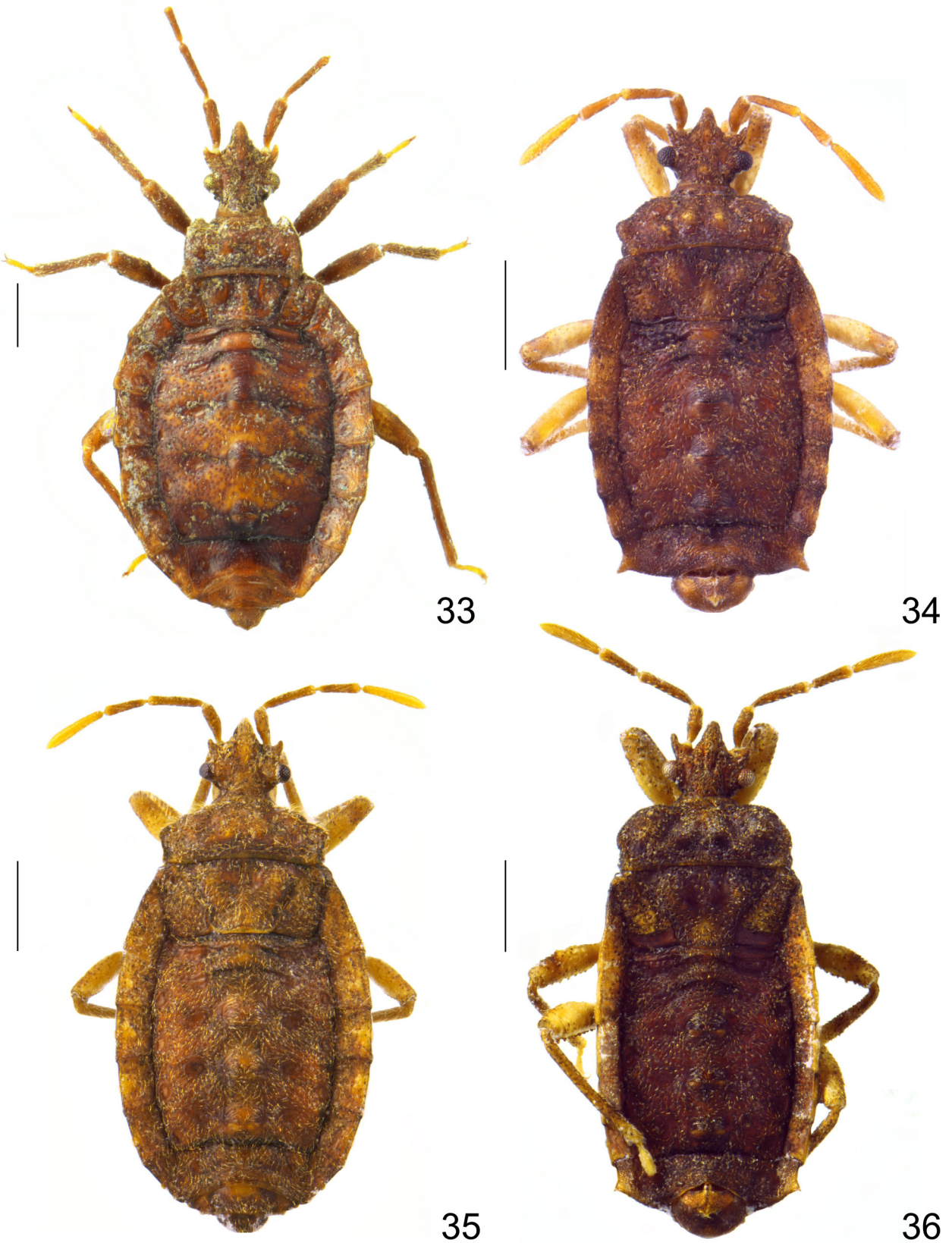


Figures 21–24. Dorsal habitus. **21)** *Neadenocoris glaber*, male. **22)** *N. glaber*, female. **23)** *N. ovatus*, male. **24)** *N. pseudovatus* new species, male. Scale line = 1 mm.

Figures 25–28. Dorsal habitus. **25)** *Neadenocoris northlandicus* new species, male. **26)** *N. wellingtonensis* new species, male. **27)** *N. acutus*, male (teneral). **28)** *N. acutus*, female. Scale line = 1 mm.



Figures 29–32. Dorsal habitus. **29)** *Neadenocoris centralis* new species, male. **30)** *N. abdominalis*, male. **31)** *N. hoarei* new species, male. **32)** *Mesadenocoris robustus*, male (holotype). Scale line = 1 mm.



Figures 33–36. Dorsal habitus. **33)** *Mesadenocoris robustus*, female (allotype). **34)** *Adenocoris brachypterus*, male. **35)** *A. brachypterus*, female. **36)** *A. spiniventris*, male. Scale line = 1 mm.

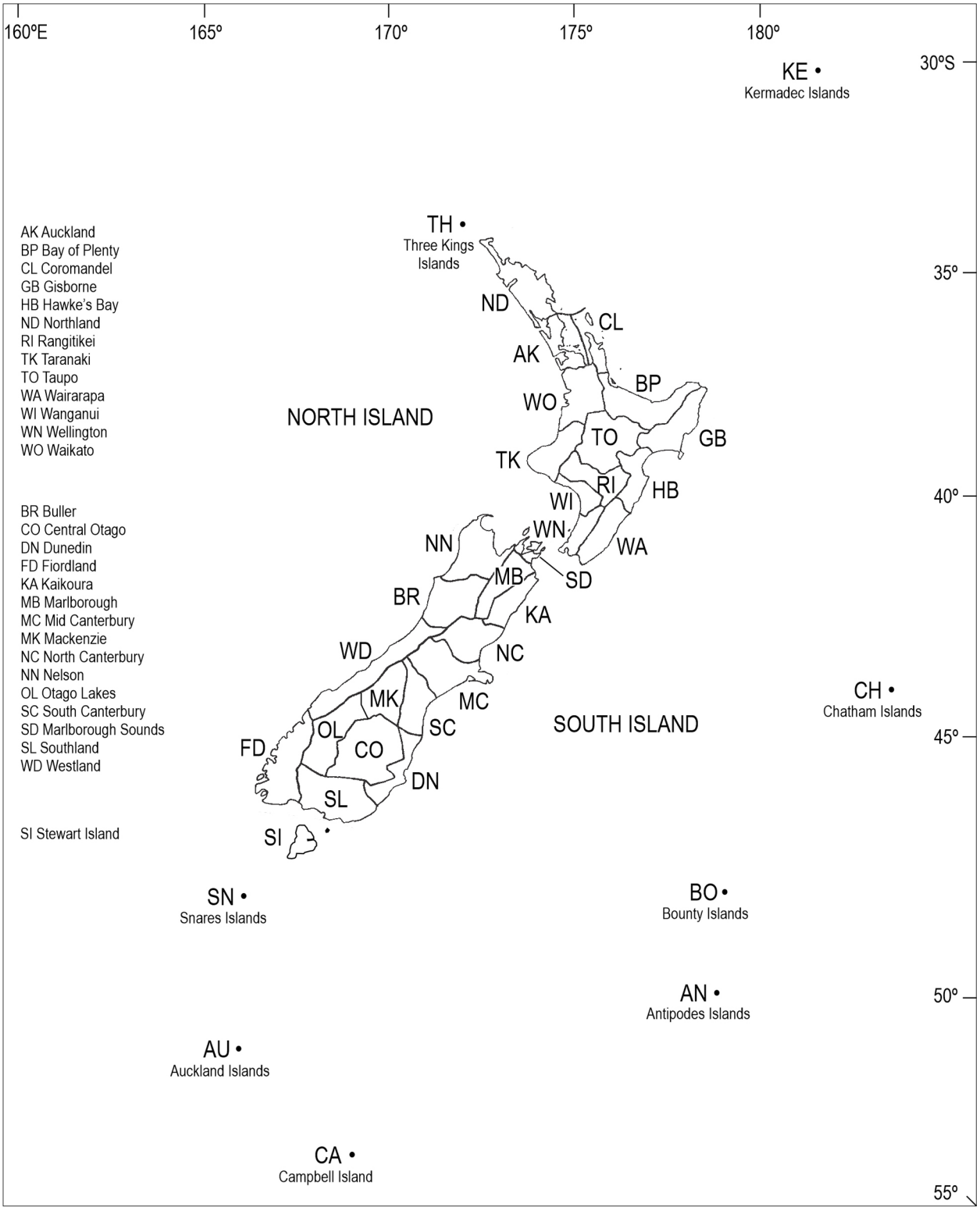


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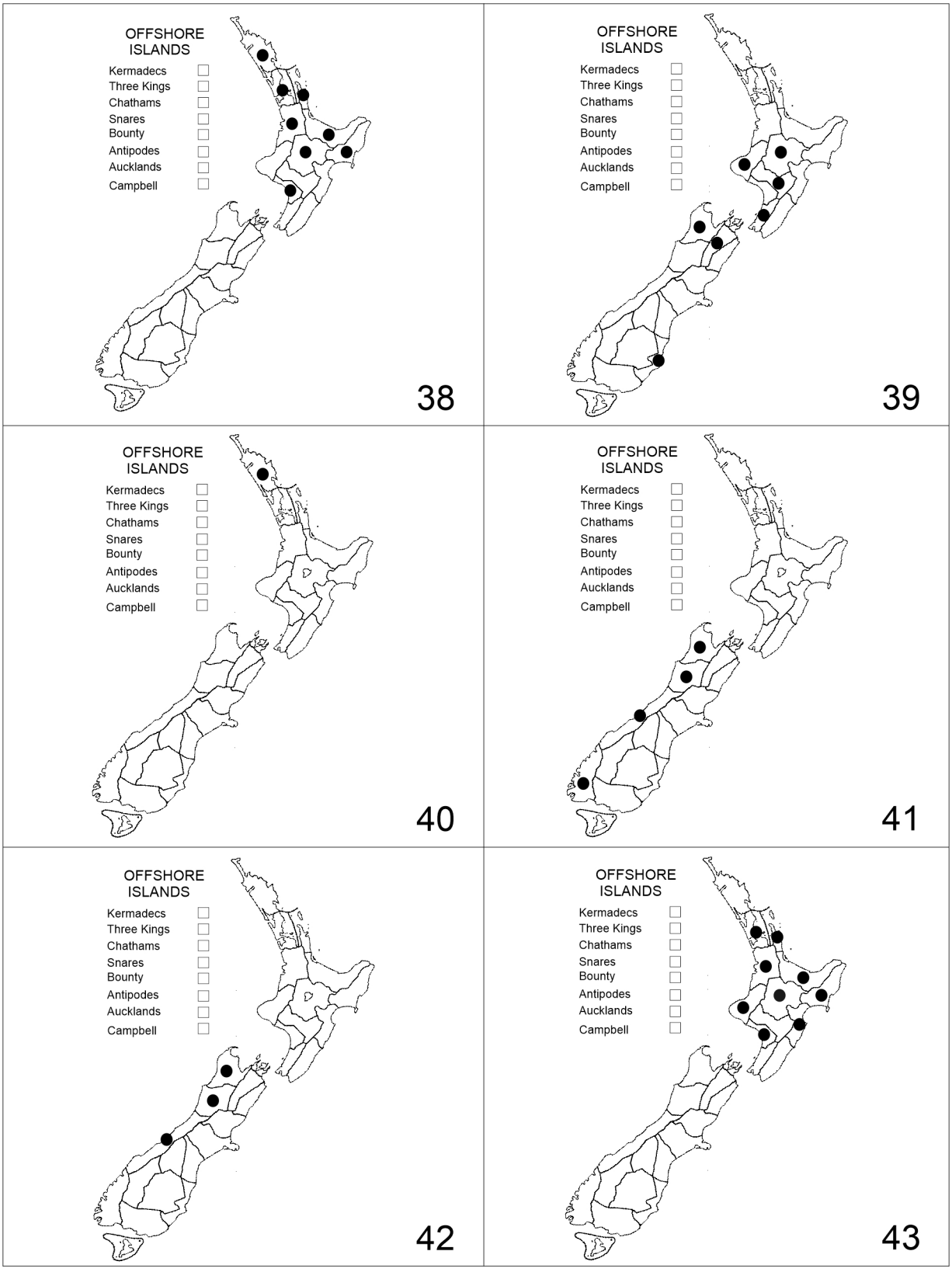
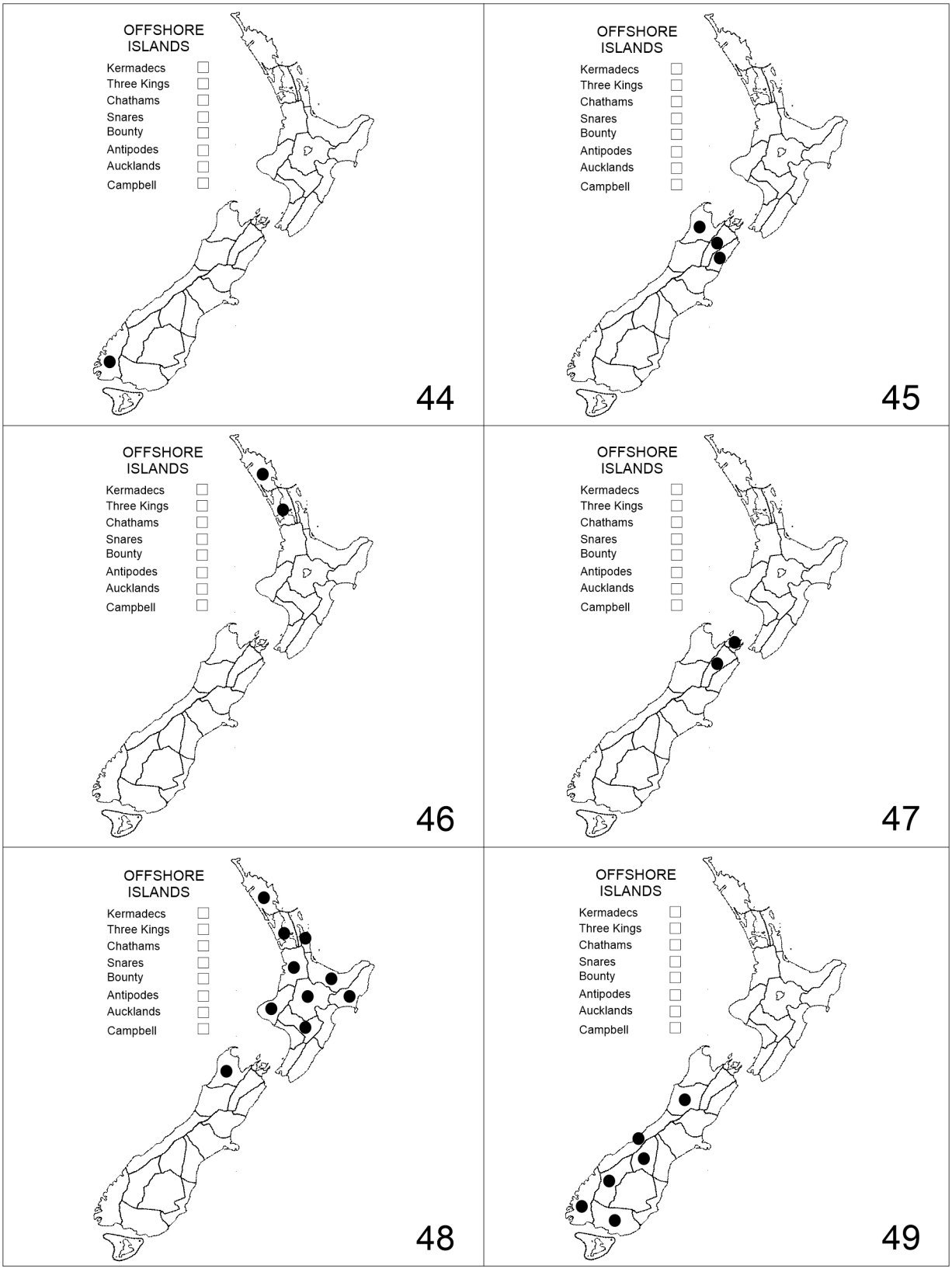
Figure 37. Map of New Zealand, outlying islands, areas and area codes.



Figures 38–43. Species distribution maps. **38)** *Adenocoris brachypterus*. **39)** *A. spiniventris*. **40)** *Mesadenocoris robustus*. **41)** *Neadenocoris abdominalis*. **42)** *N. acutus*. **43)** *N. centralis* new species.



Figures 44–49. Species distribution maps. **44)** *Neadenocoris glaber*. **45)** *N. hoarei* new species. **46)** *N. northlandicus* new species. **47)** *N. ovatus*. **48)** *N. pseudovatus* new species. **49)** *N. spinicornis*.

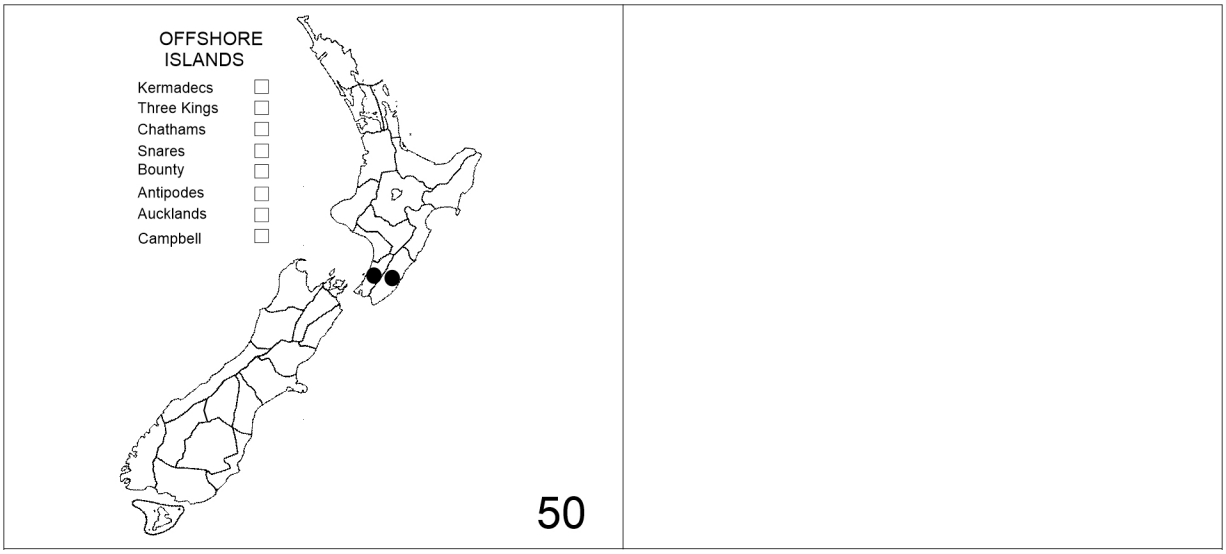


Figure 50. Species distribution map. **50)** *Neadenocoris wellingtonensis* new species.

Figures 51–56. Collecting methods. **51)** M.-C. Larivière sifting rotting leaves and branchlets over a tray. **52)** Examining the underside of a rotting branch. **53)** Brushing a branch over a white sheet. **54)** Picking specimens with forceps. **55)** Putting unsifted ground litter samples into Berlese funnels. **56)** Unsifted ground litter in suspended funnel extractors using natural sunlight to dry samples.

Figures 57–62. Field photos. **57)** André Larochelle next to large Kauri trees (*Agathis australis*) in broadleaf-podocarp forest, Northland region. **58)** In broadleaf forest, Auckland region. **59)** Southern beech forest (*Nothofagus* sensu lato), Buller region. **60)** *Neadenocoris northlandicus* new species, undersurface and moist bark of broadleaf branch, Northland region. **61)** *Adenocoris brachypterus*, undersurface and wood fissures of broadleaf branch, Northland region. **62)** *Neadenocoris abdominalis*, moldy undersurface of southern beech branch, Buller Region.