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Bronze as a non-customary intervention in the interpretation of insects from the natural world of Māori

VOLUME THREE

An exhibition report presented in partial fulfilment
of the requirements for the degree of

Doctor of Philosophy
in
Fine Arts

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Elizabeth Anne Grant

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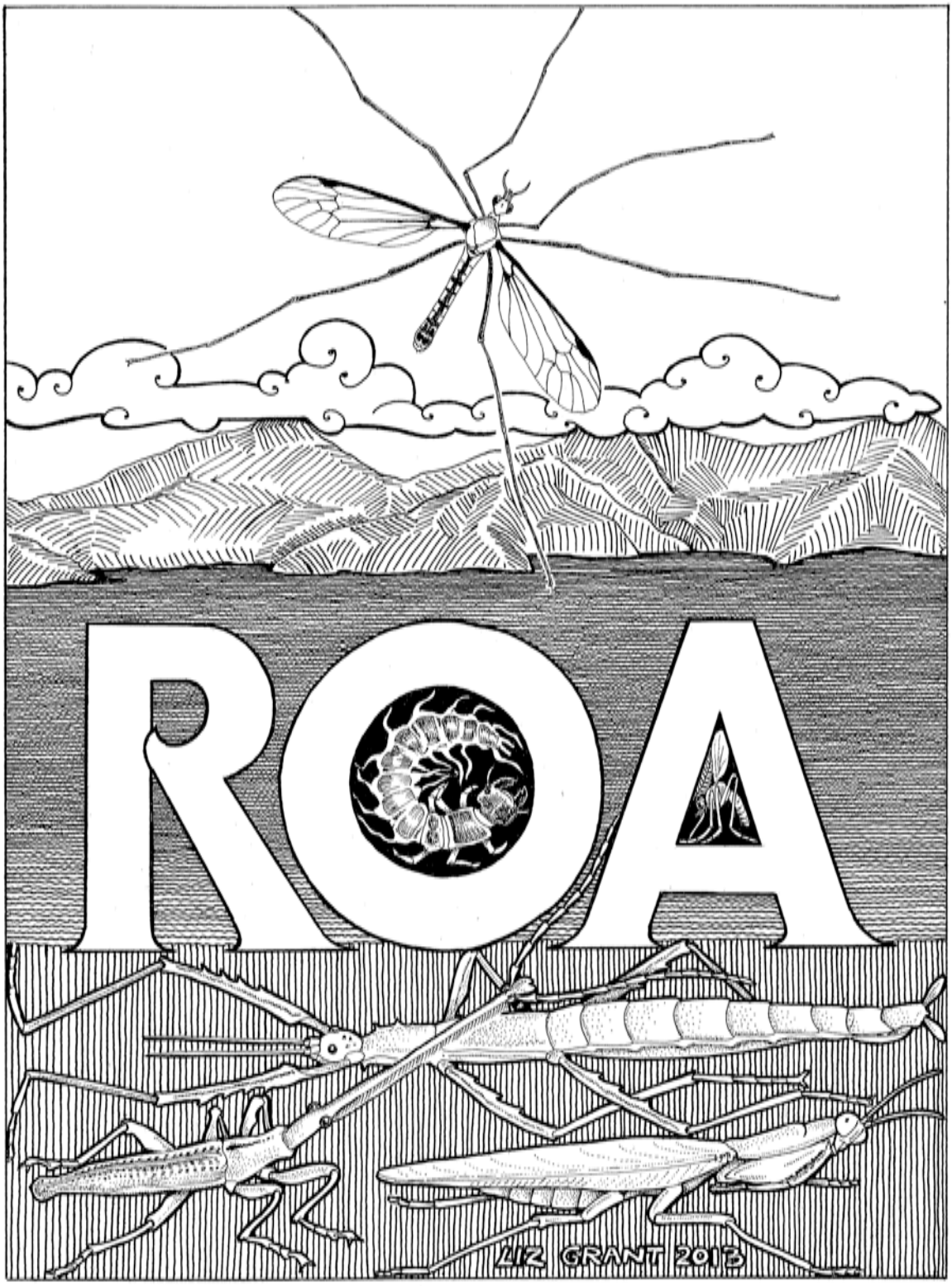
Art lies in nature

Dürer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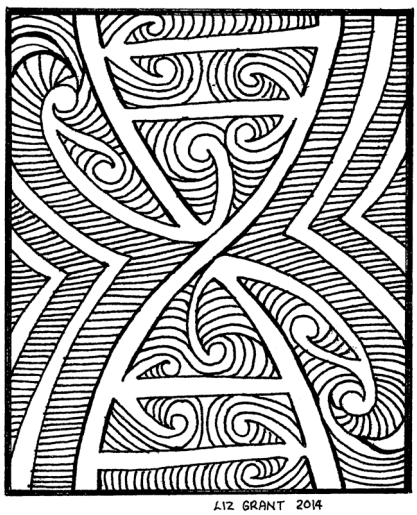
LIZ GRANT 2013

Chapter Six

Summary and conclusions



Chapter 6: Summary and Conclusion

For early Māori, a close association and observation of the natural world was not only essential for physical survival, but also mental and spiritual wellbeing. This investigation has shown that Māori were aware of a wide variety of insects, although the role they played in everyday life, varied greatly.

6.1 Thesis summary

Chapter One 'set the scene' by initially outlining the reasons for New Zealand's geographical and biological uniqueness. It then considered the varied sociological approaches taken by two different cultures - Māori and European - and the way they have valued and interpreted the insect world.

For Māori, insects have cosmo-genealogical connections to the primal gods, and to Tāne Mahuta in particular. And, in consideration of the order of creation subsequent to the separation of Rangi and Papa, the **ngārara** were the first animals to be created (Smith, 1913, p. 136), and represent therefore, not only the original **tāngata whenua** (inhabitants of the land) of Aotearoa, but also the older siblings of 'man.' This is reflected in the sequencing of the thesis.

By contrast, over the decades spanning from the fifteenth through to the nineteenth century, Europeans viewed insects as subjects for a variety of artistic practices, as well as curiosities, commodities, and later, as scientific collectables.

Chapter one also documented the investigatory questions and aims that have underpinned the artistic approach taken to represent insects identified as having had significance for Māori around the time of European colonisation.

Chapter Two outlined some principle entomological terms. Then for each insect identified, a brief biology was provided followed by published historical evidence substantiating the cultural significance for Māori. For some insects, their presence and significance was registered simply by a name. A number of insect entries did not have any apparent documented evidence, but their inclusion was based on deductive logic and reasoning.

This thesis has shown that Māori variously viewed insects as ancestors, as visual representations of gods, spirits or omens, as seasonal indicators, as destructive pests, as well as harvestable items of food.

Chapter Three as consistent with genealogical succession, considered the work of other Māori artists working in bronze and noted that most are male. The work produced and disciplines used by artists like Lyonel Grant and Brett Graham show a great affinity to the carving tradition. Chapter Three also discussed the practices of both national and international artists whose work is relevant, in some way or other, to the various disciplines utilised within the work presented for exhibition. The works of Miro and Johns demonstrate how the application of paint to bronze changes perceptions and initiates illusionary engagement.

Casting a series of works that contrasts solid geometric forms against small, intricate organic forms, was fraught with difficulties and ultimately required two different casting processes. The hurdles confronted, the mechanisms, processes and choices made to resolve the issues, were discussed in Chapter Four. Each drawer contains a series of thematically related insects, pertaining to the Māori world-view of insects. These concepts were also discussed in Chapter Four.

Chapter Five discussed the nature of the European documentation of matauranga Māori pertaining to insects. Written documentation was subject to interpretation by these recorders but the recordings of waiata and whakataukī captured original Māori phraseology although it was acknowledged that the deeper meanings are likely to have been lost over time.

Oral transfer of knowledge was the Māori practice, but written European documentation had greater longevity and was able to be disseminated more widely. My belief is that Māori-insect relationships and its associated cultural knowledge would have eroded quickly and this erosion, inversely proportional to European colonisation. However, as proposed in Chapter Four, and apart from my own speculative interpretations, it is because this knowledge of insects was written down, albeit sparsely scattered, that it has been saved from total extinction.

Chapter Five also discussed how the overall presentation of works constitutes linear chronological inversion, though it can be equally viewed chronologically.

Some implications relating to an alternative interpretation of the activity of flies was also posed and how a growing interest in entomophagy could be applied to the commercial cultivation and harvesting of the huhu grub, by Māori.

6.2 Visual summary and outcomes

An analysis of the work submitted, has revealed a multitude of underlying dichotomies within both the artwork and thesis, where the subject, - the insects, comprise the critical linkages. Essentially, the work represents two alternating, diverging and converging cultures, Māori and European. Two cultures brought together by virtue of time and travel. The European approach to insects has been to collect, catalogue and later to comprehend the 'functionings' of insects. This is more or less, a 'remote' appreciation of insects that one could view as coming under the term, **science**. Māori, by contrast viewed insects more intimately as part of their own whakapapa, and also as a resource that helped them adapt to a new land, and, as a source of inspiration and regulation for the teachings of 'man.' One could view this as coming under the term, **con-science** as in being able to judge one state from another, or rather, what is **tapu** and what is **noa**.

These alternate narratives converged when people like Elsdon Best, began writing down matauranga Māori that had formerly **intra-culturally**[204] been based on oral tradition. Thus we have another **inter-cultural**[205] dichotomy, one **oral** and one **written**.

For the purposes of this thesis and specifically for the manner in which the artwork has been conceived and resolved, my response to these dichotomies is to describe them as **Linked, Alternating Manawa**[206] **Lines** (**LAML**[207]). The insects are the cross-links that have brought two cultures moving in opposite directions, together, but are themselves unchanged by the differential cultural interpretations.

[204] Within a culture.

[205] Between different cultures, or cross-cultural.

[206] Manawa lines or heart lines are continuous sinusoidal lines within particular patterns of kowhaiwhai from which other motif radiate and relate to genealogy (Bob Jahnke, Pers. comm. 1993 in the paper Elements of Māori Design, 50.106)

[207] Liz Grant phraseology, 3rd October 2013.

Conceptually this LAML could take the form of a horizontal helix, and I propose to call this helix, **DNA**, or the **Dialectic Nature of Art**.[208] And, it is an actuality that this DNA runs through all forms of art just as its original counterpart deoxyribonucleic acid is the genetic building block that runs through all living organisms. As a broad summary of this thesis and exhibition of works, I have produced the following image, which is based on the original DNA configuration, to capture the helix visually.

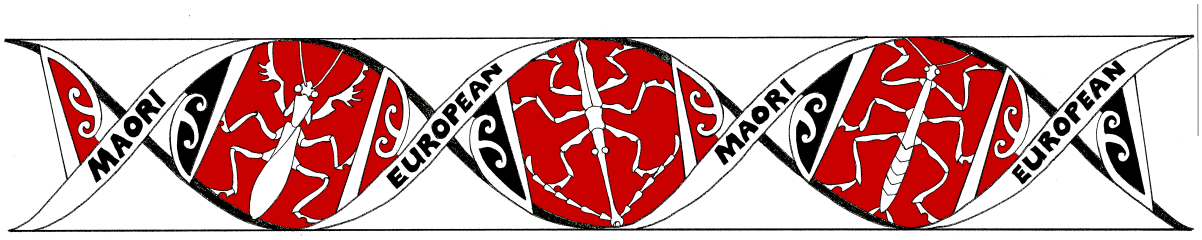


Fig. 6.1 The DNA of art as it pertains to this thesis

In two-dimensions, this DNA helix overtly references painted kowhaiwhai[209] and I believe that the highly skilled Māori artists that historically composed patterns of kowhaiwhai were influenced and inspired by their appreciation and understandings of their cultural ancestral dichotomies, that were then and now, rendered as aesthetic patterns of negative and positive spaces. And, when the three-dimensional helix is rotated along its horizontal axis a koru[210] is formed, as viewed in the following diagram.

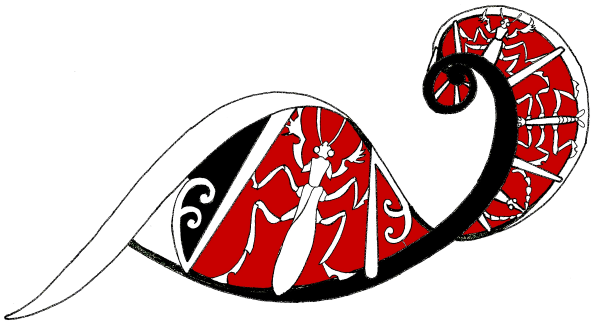


Fig 6.2 The three-dimensional DNA helix when rotated forms a koru

[208] Bacronym created by Liz Grant, August 2013.

[209] Defined in Williams (1957, p. 152) as "painted scroll ornamentation" and is usually associated with heke (rafter boards).

[210] 'Koru' is defined in Williams (1852, p. 61) as "to be bent or folded" but by 1957, Williams (p.147) defined the koru as "a bulbed motif in carving and scroll painting."

6.3 The artwork

The colonisation of New Zealand by Europeans impacted greatly on Māori. This thesis has suggested that the old knowledge pertaining to insects would have struggled to be passed on orally to any great extent because of an increased reliance on the written word and a changing society. This thesis also suggests that paradoxically, it is because this sacred knowledge was written down (albeit given a European perspective), that some of the information relating to insects within Māori culture has been saved, although widely dispersed. As a foundation to the process of producing an exhibition of artworks, it has been my mission to locate and collate the published historical and cultural documentation concerning insects and Māori.

I have furthered the entomological platform by creating a series of nine collector's cabinets and drawers, to present the Māori narratives identified from the research, in a unique and compelling way. These, and the apparent eclectic arrangement of insects are intended to stimulate interest and challenge audience perception. The format of the artwork combines the science of entomology, with culture, and impelled me to formulate a new word to describe the outcome, **ento-articulture**.

Conceptually, the artworks are cultivated illusions of reality. A series of entomological drawers presented publically for display, like a small museum. And yet, what is contained in each drawer is steeped in cultural philosophy and belief systems. Superficially, each drawer contains a multitude of 'fragile' insects that can be viewed with ease and in their entirety. The artistic reality is further accentuated by being contained within the framework of an altered presentation of perspectives. And, another disguised reality is that while the cabinets appear wooden and the insects 'organic' as a result of painting, they are entirely made in bronze. The successful outcome has been audience deception on many levels.

For many, the idea of painting the bronze has been somewhat of an enigma. This was particularly so for some of those who witnessed the process of creating each art piece, and in particular, the insects. For these people, the works have not been so successful, with many pleas to keep them in their 'raw' bronze state. However, like all art, the most effective, is that which harvests the emotions. And, while the colourful beauty of the insects is acknowledged, the response was more to question why one would create works in bronze if the medium cannot be seen (and maybe therefore,

verified). It is here that the **idea of the art process**, has over-ridden the **appearance of the artwork**. For some, this has been psychologically confronting. But, as part of the process of questioning the motives for the approach adopted, debate has resulted, and for these reasons, the works are successful.

Also, the trompe l'oeil approach to the highly distorted cabinets and drawers has been effective in actively requiring the audience to physically negotiate the illusion. Physically approaching each cabinet/drawer combination permitted the viewing of both construction and form. And when the 'correct' position was attained the illusion visibly snapped into place. This has been successful in creating an interesting and memorable experience for the audience.

While at first glance the insects appear 'standard' it is the labels in te reo Māori, that further urged the viewer to question the rationale. The brochure/catalogue here has provided the insight with brief narratives of two drawers and a selection of vignettes from the final wall. To be fully informative however, the narratives within all drawers should be made publically accessible by ultimately being published. Following on from this work, future studies and artwork could consider other members of the invertebrate communities that historically came under the term, ngārara.

6.4 Conclusion

This thesis has collated a considerable amount of historical documentation regarding insects and their significance for Māori. But, it is my entomological background, my artistic abilities and my Māori ancestry that has stimulated this unique fusion of disciplines to produce this exegesis. This has therefore been a personal opportunity to bring about a change in people's consciousness and relationship with insects, and reveal how these small animals have importance in our lives.

Both the thesis and artworks represent my contribution to mātauranga Māori, and to the national understanding of the complex roles insects have played in our New Zealand environment and history. It has also provided insights into how intricately entwined early Māori culture was with nature. To reconcile entomological science with Māori culture has also extended the more formal entomological knowledge regarding the insects of Aotearoa, New Zealand. In a sense, the Māori perspective has privileged the science. And, when the scientific construction of reality is

combined with the Māori world-view a more positive outcome towards the conservation of insects, can be achieved. Often, it is the small 'stories' that can leave a big impression, and when visually supported, may engender a more positive and enduring appreciation of these insects. Subsequent to viewing the exhibition, it is my hope that when any of these insects are encountered in life, the memory of their cultural dimension, may help overcome any feelings of repugnance that many people hold for insects - even for those that are or were once considered pests.

Insects are a fundamental and integral part of our environment, and moving forwards in time, Māori are going to be progressively more, the custodians of New Zealand's natural environment. And, while human occupation has changed this country's landscape, European colonisation has been particularly destructive by turning a natural paradise of bush, grasslands and wetlands into sparsely wooded sheep paddocks subject to erosion, and polluted rivers. So then, perhaps this thesis exhibition will act as a reference point and an additional taputapu (tool) in the Māori kete to help bring about and ensure that Māori are the kaitiaki of all native kīrehe (animals) and especially insects, in accordance with Article two of the Treaty of Waitangi, of which the first part stated, as recorded in Orange (1990, p. 22),

> *Ko te Kuini o Ingarani ka wakarite ka wakaae ki nga Rangatira ki nga hapu – ki nga tangata katoa o Nu Tirani te tino rangatiratanga o o ratou wenua o ratou kainga me o ratou taonga katoa.*

And may be translated as,

> *The Queen of England guarantees to the chiefs, the sub-tribes and to all the people of New Zealand, the full and exclusive control and possession of their land, their homes and all else considered of value by them.*

Broadly, this has been referred to as Wai 262, or the fauna and flora claim. However, Māori must be responsible, effective and conscientious in taking on this role.

This study has culminated in the production of a unique series of artworks in bronze that provide a modern context to a blend of documented Māori historical understanding of the natural world with entomological science. It has also showcased an aspect of the natural environment that makes New Zealand unique. The objective has been to inform and revitalise narratives about insects visually, as a means for imparting knowledge in an enduring and informative way. In this, I believe the work

has been successful. Concurrently, the work has brought about a general renaissance in insect awareness and consciousness, which may ultimately help with their conservation. In particular, the insects have appealed to children, who will hopefully, ultimately, move forward with a stimulated interest in insects in some form or other.

Challenging the conventional finish of bronze has intensely challenged audience perceptions and this positively claws at the boundaries of what is deemed to be convention. Art needs to challenge, it needs to affect, it needs to be memorable and it needs to initiate change. I believe these art works have accomplished this.
This work has generated debate and debate stimulates interest.

Pooling this knowledge and information by virtue of this thesis, - that was grounded by the work that David Miller presented in 1952, has not only enabled it to be more readily passed on, but can empower and also add credence to those who support the preservation of not only insects, but, by default, the habitat of insects. And ultimately, when the small living things are accommodated for the larger living things will thrive.

Most, if not all entomologists interested in the native and endemic insects of New Zealand want to protect and therefore also conserve them. A cultural point of view can arguably, in consideration of the Wai 262 clause, add considerable weight to this cause. And, since oral knowledge is subject to extinction, this thesis has allowed the collected information also to be readily accessed by others in the future, to ensure that the stories continue to be told as taonga tuku iho (treasures to be handed down).

These are the collective narratives of Aotearoa.

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Appendices

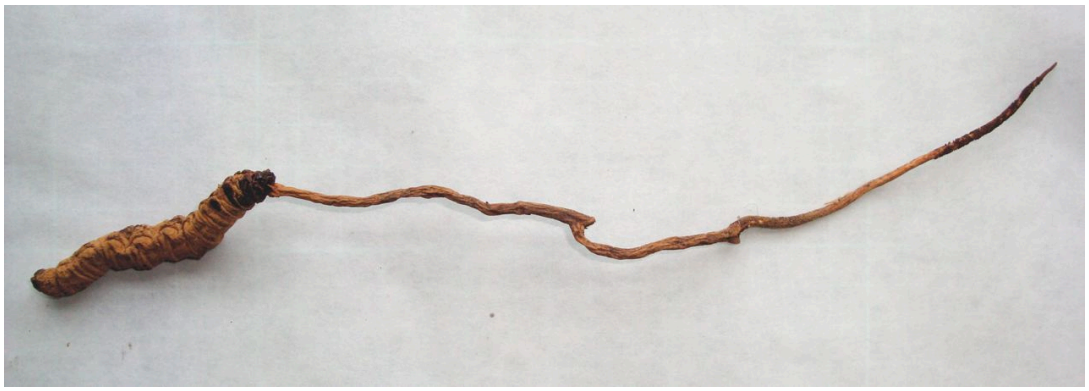
Appendix 1a: Green and white colouration of the male pūriri moth, *Aenetus virescens*.

Appendix 1b: Moss green and brown colouration of the female pūriri moth, *Aenetus virescens*.

Appendix 2a: Split houhere branch showing pūriri caterpillar chamber and operculum.

Appendix 2b: Puta-puta-wētā tree showing entrance to two evacuated chambers.

Appendix 3a: Vegetable caterpillar, *Cordycepts robertsii* showing fruiting body. Length, 260mm.



Appendix 3b: Close up of mummified caterpillar. Caterpillar length, 65mm.

Appendix 4a: Bag moth cocoon, *Liothula omnivorus* on mānuka branch.

Appendix 4b: Cocoon of the moth that the goddess of music, Hine Raukatauri, first used as her flute and later as her dwelling place. This narrative also inspired the form of the uniquely Māori bugle flute, the pūtōrino. At times, the empty cocoon shows holes that may be the result of parasitic damage. Such holes may also have inspired the locality of the mangai (central hole) in the pūtōrino.

Appendix 5a: Greasy cutworm moth, *Agrotis ipsilon aneituma*.

Appendix 5b: Greasy cutworm caterpillar, *Agrotis ipsilon aneituma*.

Appendix 6: Resting position of the wattle moth, *Dasypodia cymatodes*. Length, 75mm.

Appendix 7: The eating behaviour of the flax notcher caterpillar, *Tmetolophota steropastis* results in the appearance of triangular notches along the edge of the leaf blade.

Appendix 8a: The eating behaviour of the flax looper caterpillar, *Orthoclydon praefectata* results in the appearance of 'windows' along the leaf blade.

Appendix 8b: The flax looper caterpillar revealed when a dead curled leaf blade is unrolled. Length, 25mm.

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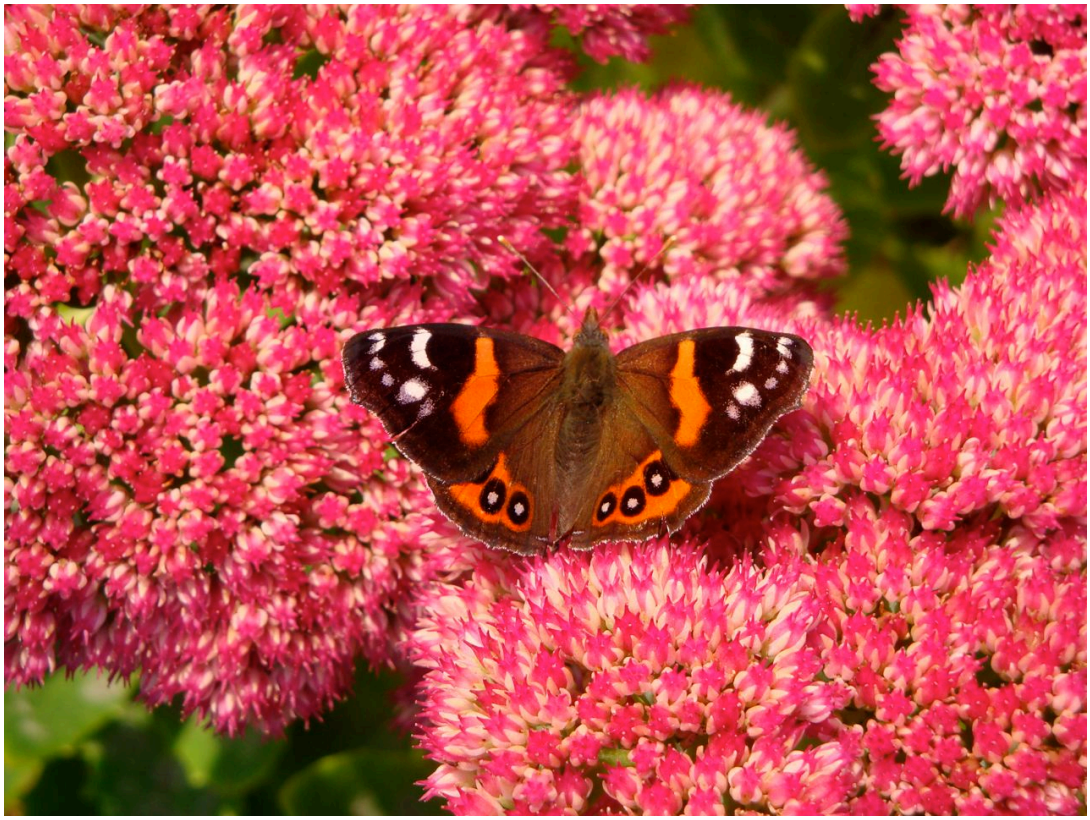
Appendix 9a: The moth of the cabbage tree looper, *Epiphryne verriculata*. Width, 36mm.

Appendix 9b: Cabbage tree looper caterpillar resting head down at leaf base. Length, 17mm.

Appendix 10a: The eating pattern of the kawakawa looper caterpillar, *Cleora scriptaria*.

Appendix 10b: The kawakawa looper caterpillar on underside of leaf.

Appendix 11a: The red admiral butterfly, *Vanessa gonerilla* on Sedum plant.



Appendix 11b: Dorsal view of the wing.

Appendix 12a: The forest ringlet butterfly, *Dodonidia helmsii*. Dorsal surface.

Appendix 12b: The forest ringlet butterfly, *Dodonidia helmsii*. Ventral surface.

Appendix 13a: kānuka longhorn beetle, *Ochrocydus huttoni*.

Appendix 13b: Fine frass or excretal sawdust at the base of kānuka or mānuka is evidence of the presence of kānuka longhorn beetle larvae.

Appendix 14: The mānuka beetle, *Pyronota festiva*.

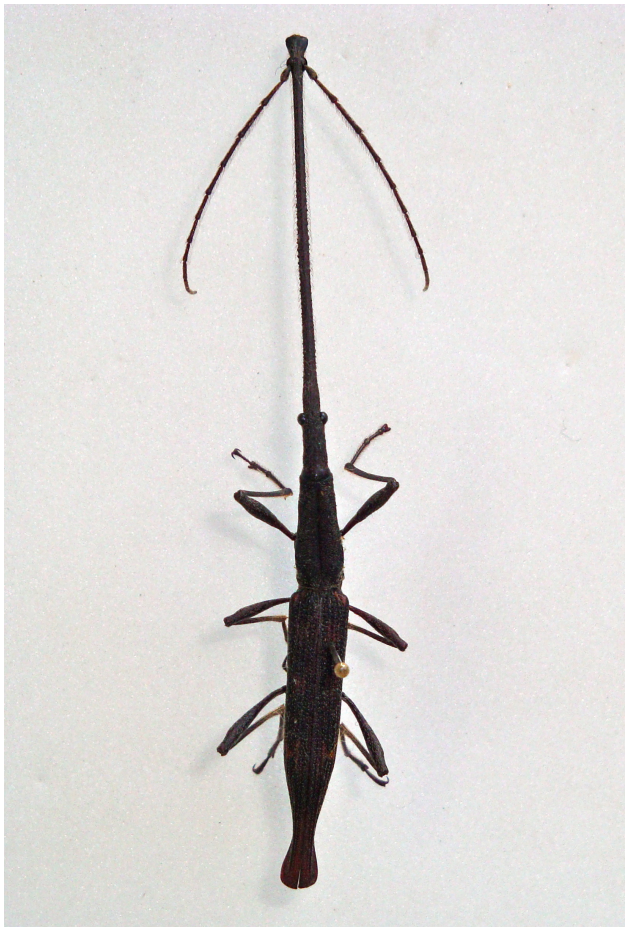
Appendix 15: The grass grub larva, *Costelytra zealandica* in the classic 'C' pose. Diameter approximately 12mm.

Appendix 16: Mūmū chafer, *Stethaspis longicornis*.

Appendix 17a: Adult male sand scarab, *Pericoptus truncatus*. Length approximately 30mm.

Appendix 17b: Sand scarab grub in sand cavity beneath rotting log.

Appendix 18a: The male giraffe weevil, *Lasiorhynchus barbicornis* showing antennae arising from the tip of the rostrum.



Appendix 18b: The smaller female giraffe weevil, *Lasiorhynchus barbicornis* showing antennae arising from midway along the rostrum.

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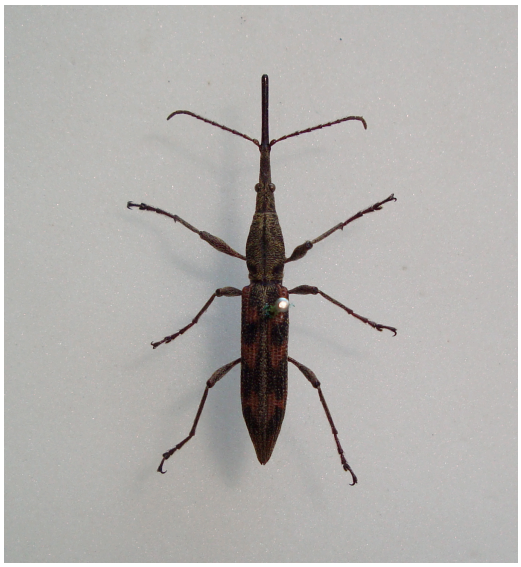


Appendix 19: The ground beetle, *Megadromus capito*. Total length approximately 40mm.

Appendix 20: The orange spotted ladybird, *Coccinella leonine* on the right and an immature praying mantid to the left.

Appendix 21: Giant dragonfly, *Uropetala carovei*. Note the wings held out stretched when at rest.

Appendix 22a: Blue damselfly, *Austrolestes colensonis*. Note the wings held together when at rest.

Appendix 22b: Red damselfly, *Xanthocnemis zealandica*.

Appendix 23a: The dobsonfly larva, *Archichauliodes diversus* revealed beneath a large stone above the water line.

Appendix 23b: The dobsonfly larva showing the gill filaments.

Appendix 24a: Male wētā, *Hemideina thoracica* displaying his large head and extended mandibles.

Appendix 24b: Male wētā displaying aggressive stance with hind legs over his head, ready to strike.

Appendix 25a: The male small black field cricket, *Bobilla* sp.

Appendix 25b: The female small black field cricket, *Bobilla* sp. Note the short wings.

Appendix 26: The common small grasshopper, *Phaulacridium marginale*.

Appendix 27: The katydid *Caedicia simplex* feeding on totara.

Appendix 28a: The male chorus cicada, *Amphisalta zealandica*. The pale orange circular vibratory tympanal flaps can be seen on the ventral surface.

Appendix 28b: The empty shells of many chorus cicadas on fence post and surrounding foliage.

Appendix 29: The little grass cicada, *Kihia muta*.

Appendix 30: The black-spined stick insect, *Acanthoxyla prasina inermis* feeding on feijoa foliage.

Appendix 31a: The green praying mantid, *Orthodera novaezealandiae*.

Appendix 31b: The green praying mantid, showing its mobile triangular head and the folded raptorial forelegs.

Appendix 32: The female seashore earwig, *Anisolabis littorea* displaying protective behaviour over her eggs.

Appendix 33: Fly maggots

Appendix 34: The metallic blue-black blowfly, *Calliphora quadrimaculata*.

Appendix 35: The yellow-brown blow fly, *Calliphora stygia*.

Appendix 36: The parasitic tachinid bristle fly, *Protohistricia alcis*.

Appendix 37: The metallic blue hoverfly, *Helophilus hochstetteri*.

Appendix 38: The rat-tail hoverfly maggot, revealed when stagnant water was tipped out of container. Note the terminal breathing siphon.

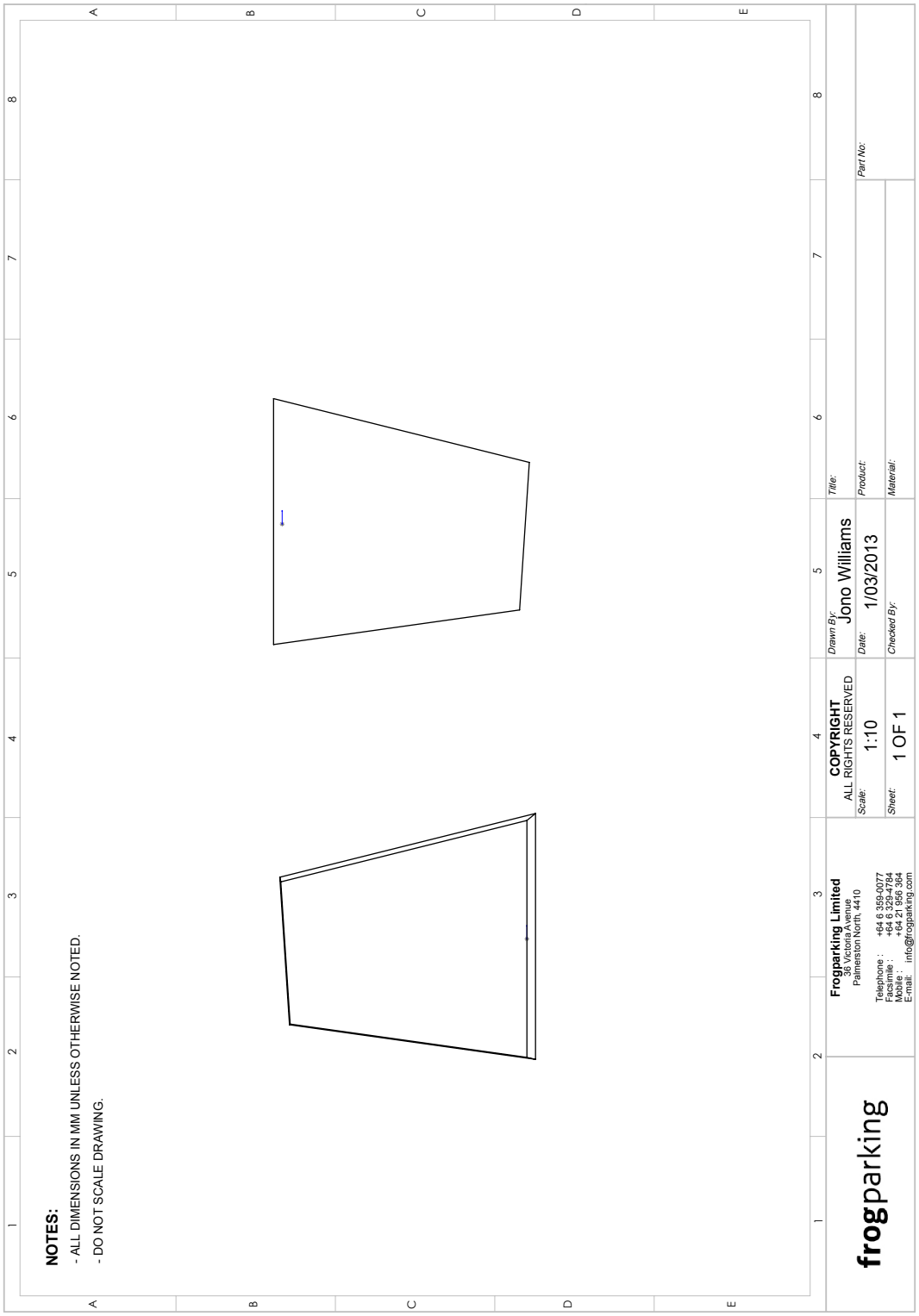
Appendix 39a: Adult female striped mosquito, *Aedes notoscriptus* showing her white-spotted legs.

Appendix 39b: Mosquito larvae and two pupae. Commonly called wrigglers and tumblers.

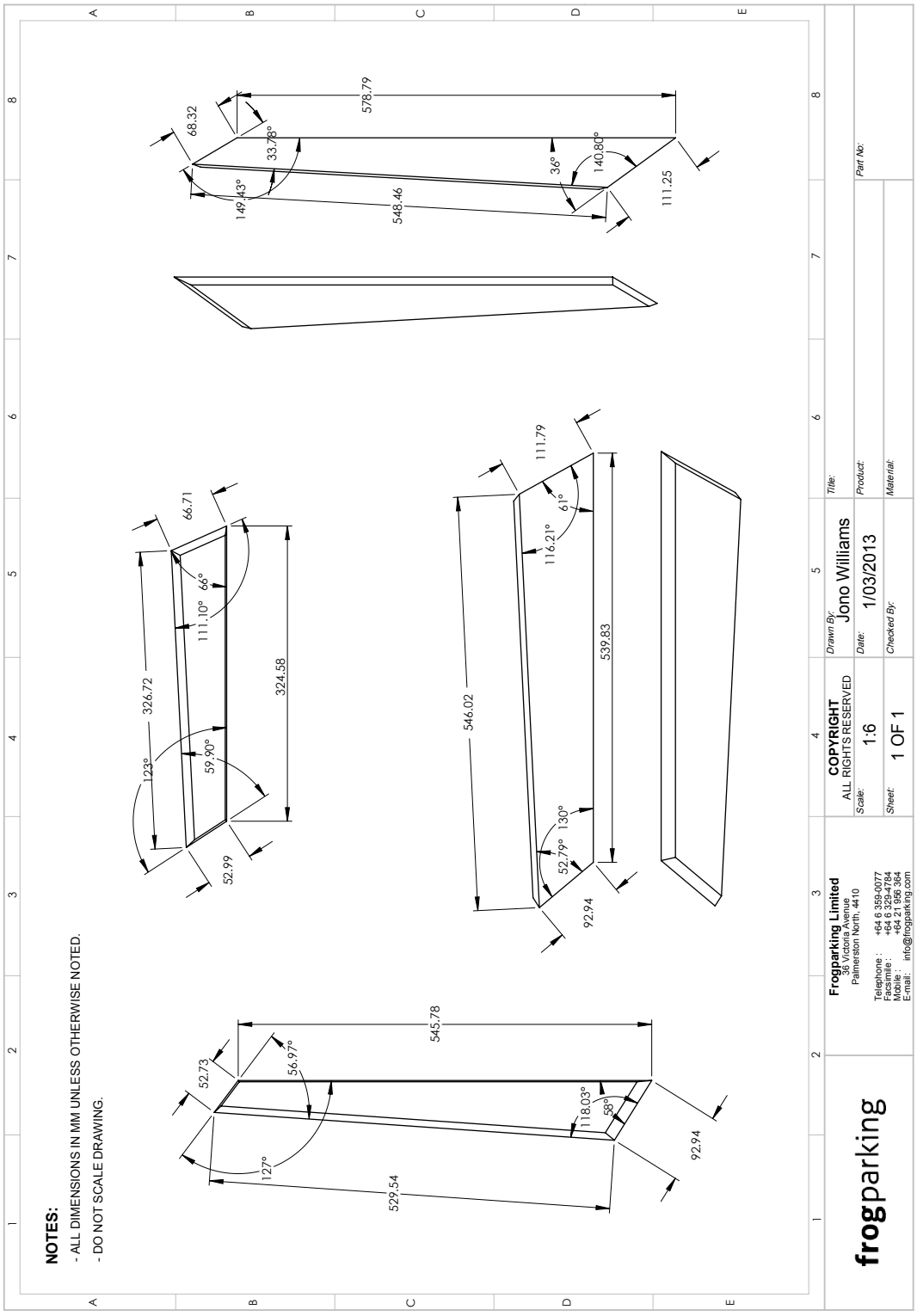
Appendix 40: The green crane fly, *Leptotarsus viridus*.

Appendix 41: The cascading threads produced by the glow-worm, *Arachnocampa luminosa*.

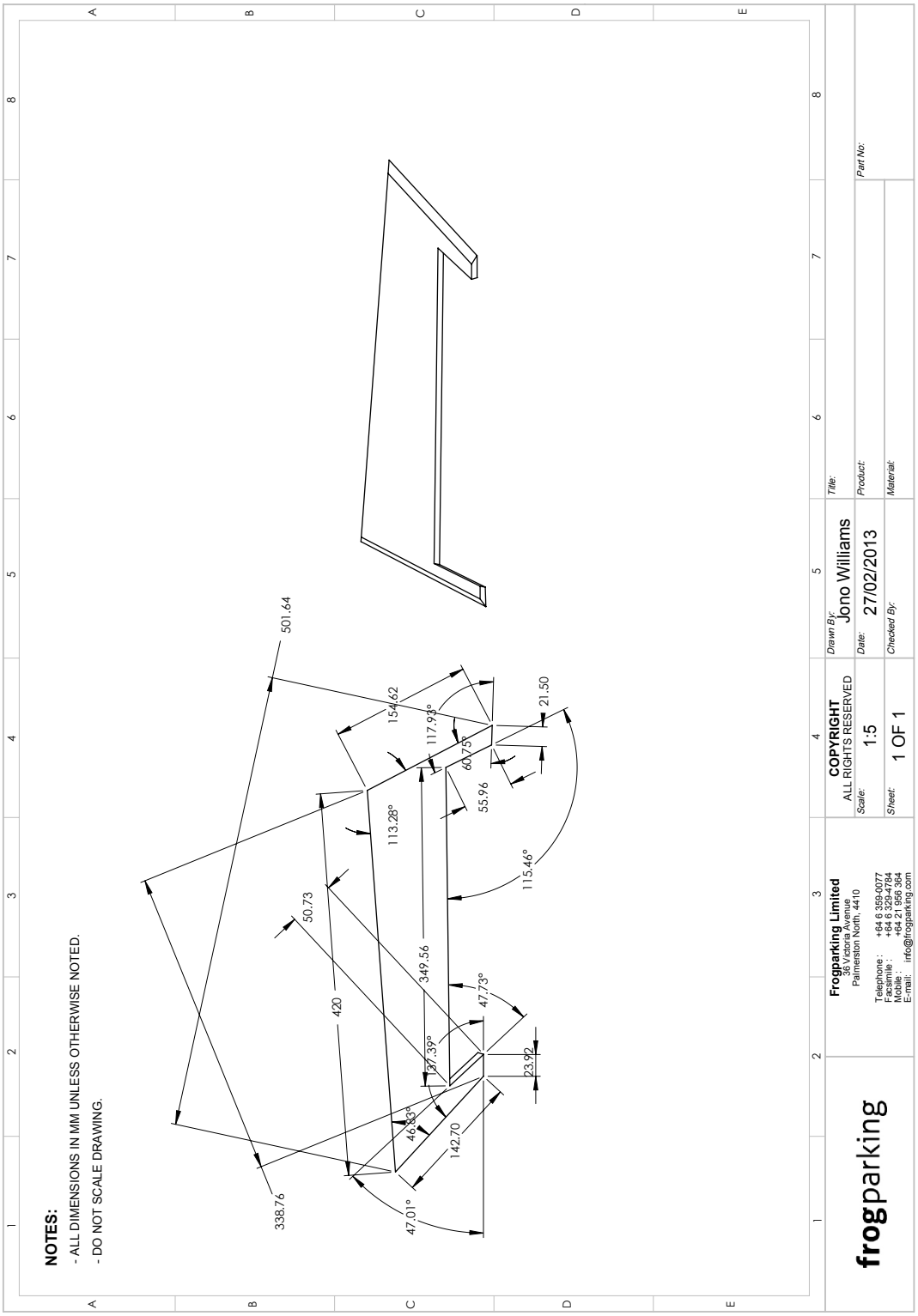
Appendix 43: Technical drawing of the drawer base showing mitre angles



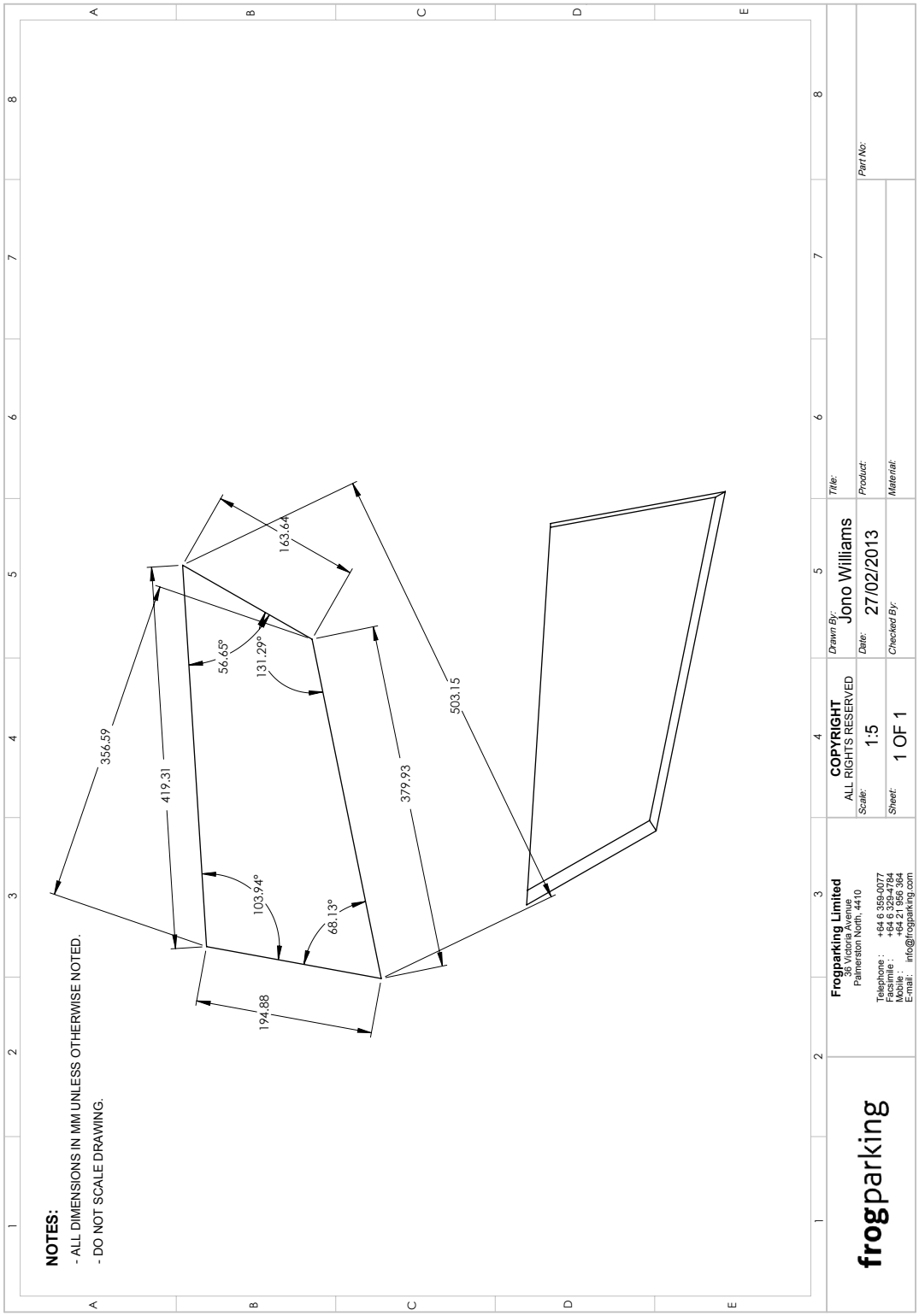
Appendix 44: Technical drawing of the drawer sides showing mitre angles



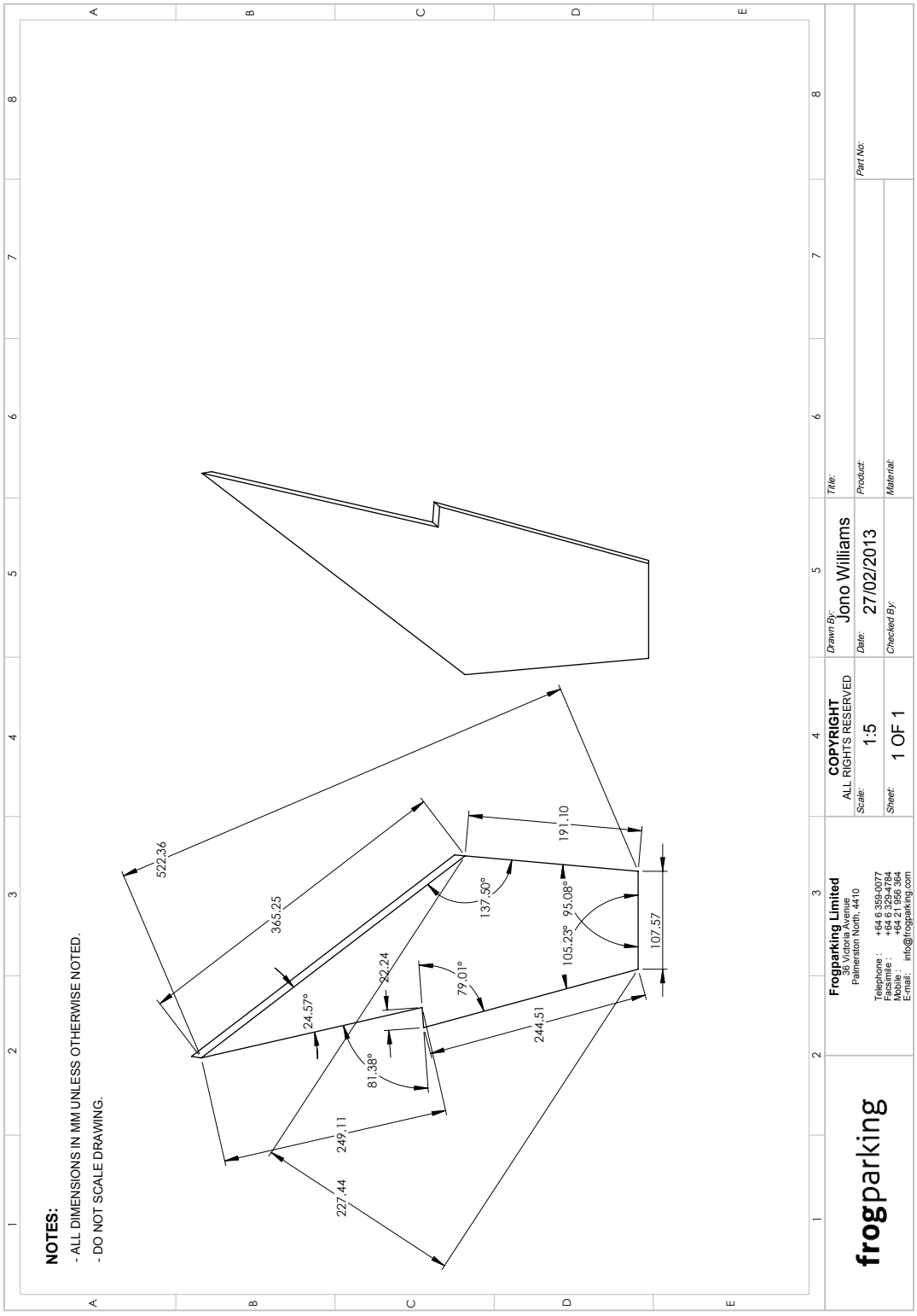
Appendix 45: Technical drawing of the front face, Cabinet One



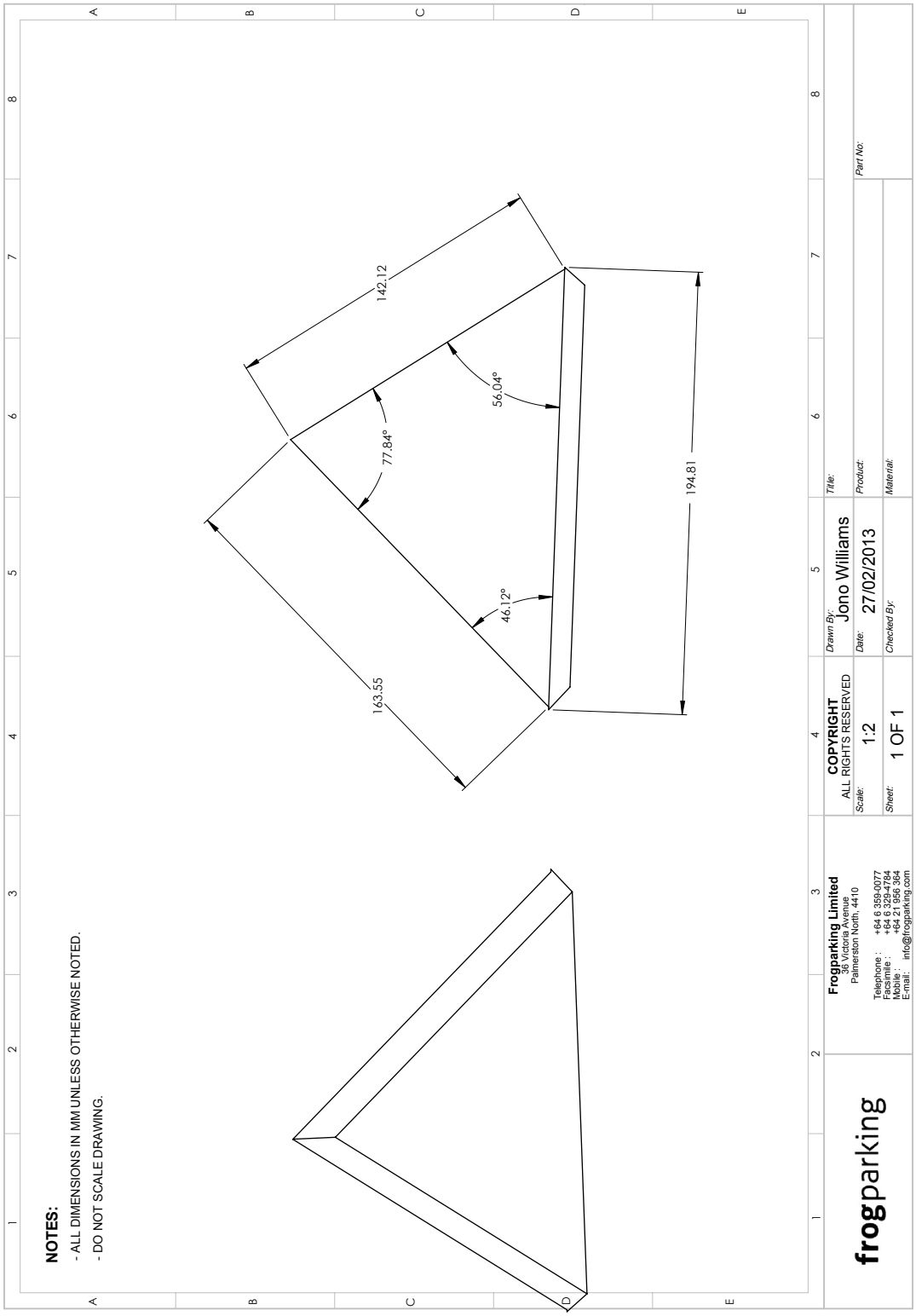
Appendix 46: Technical drawing of the top, Cabinet One



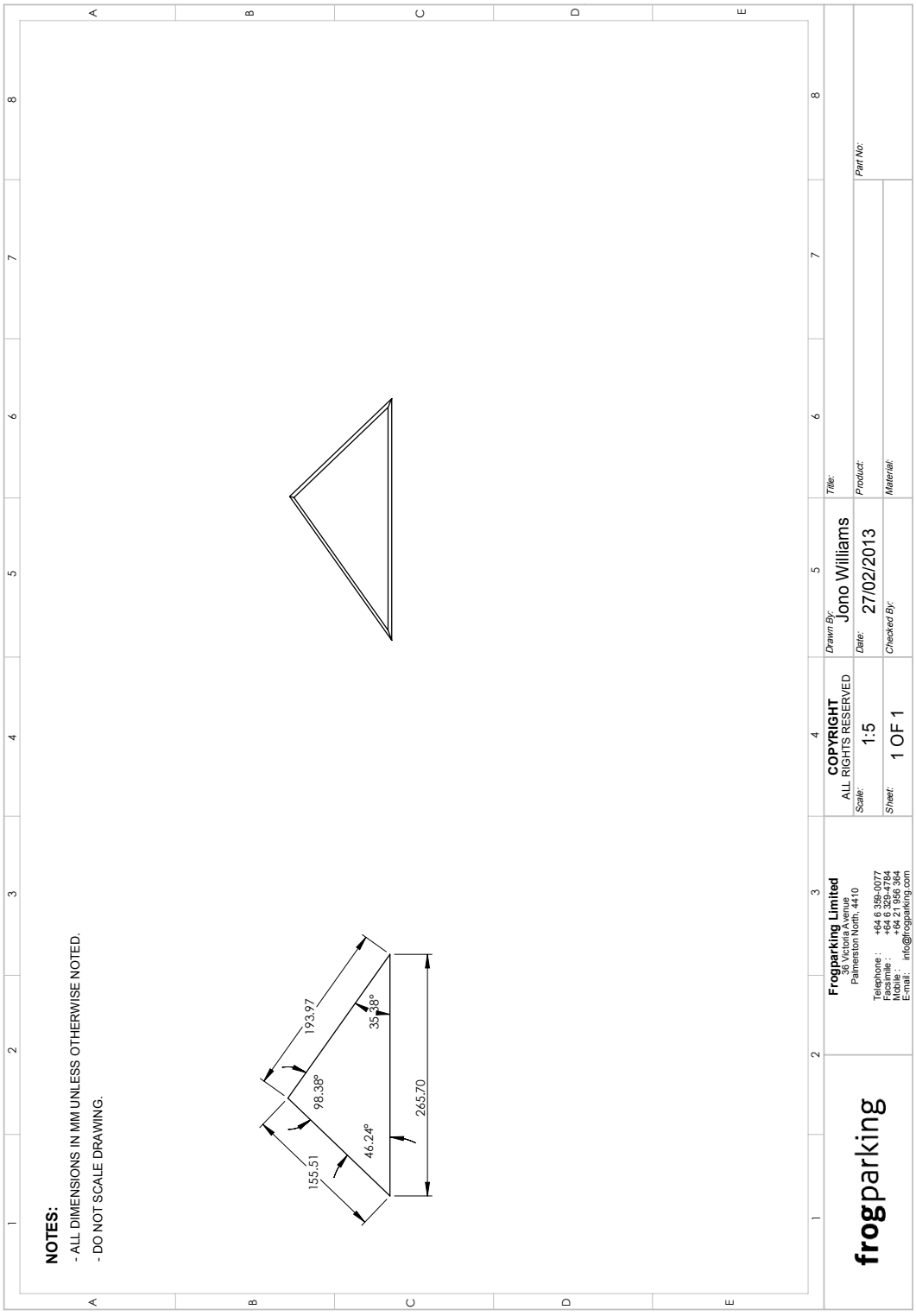
Appendix 47: Technical drawing of the flat element, Cabinet One



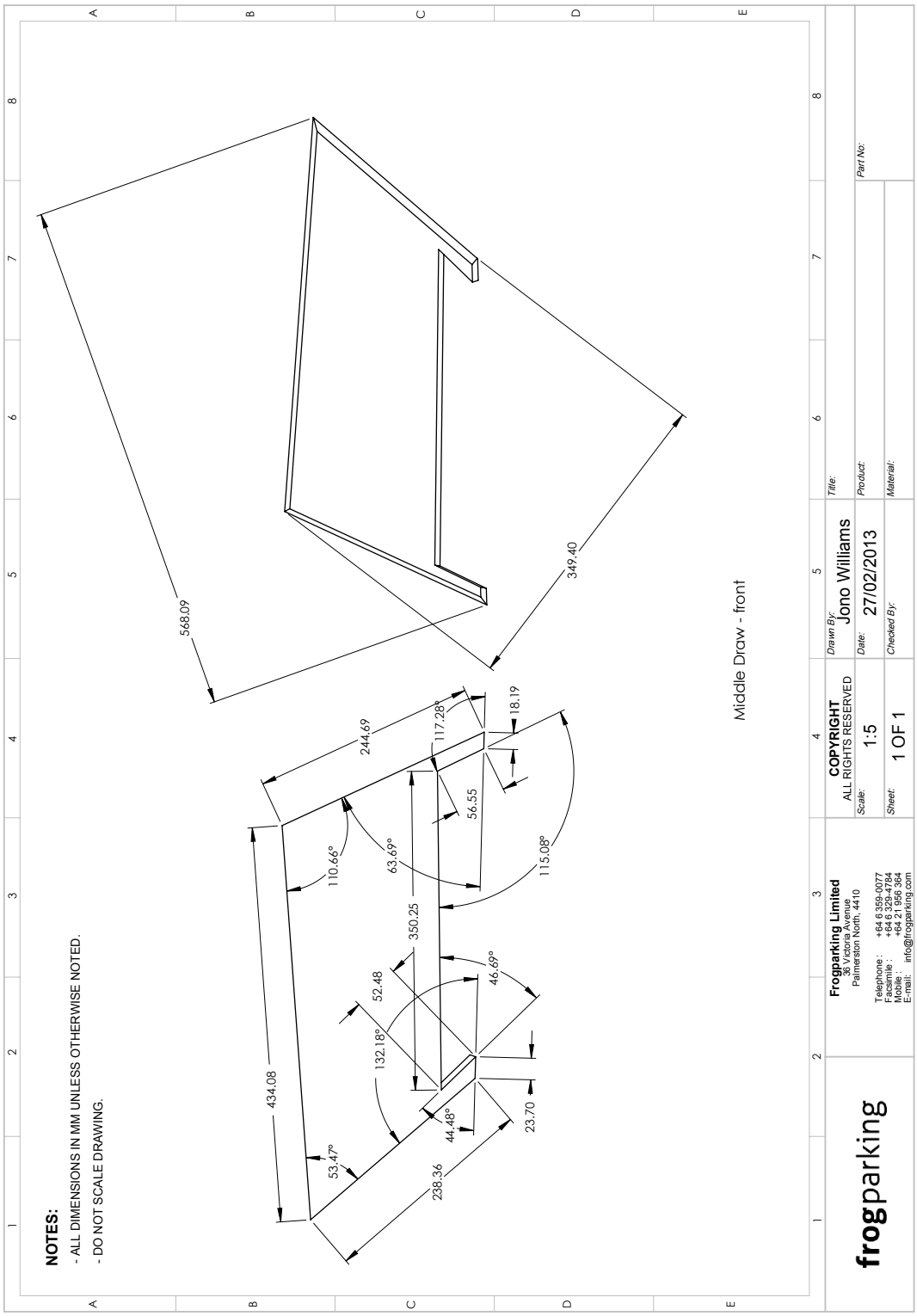
Appendix 48: Technical drawing of the left hand side, Cabinet One



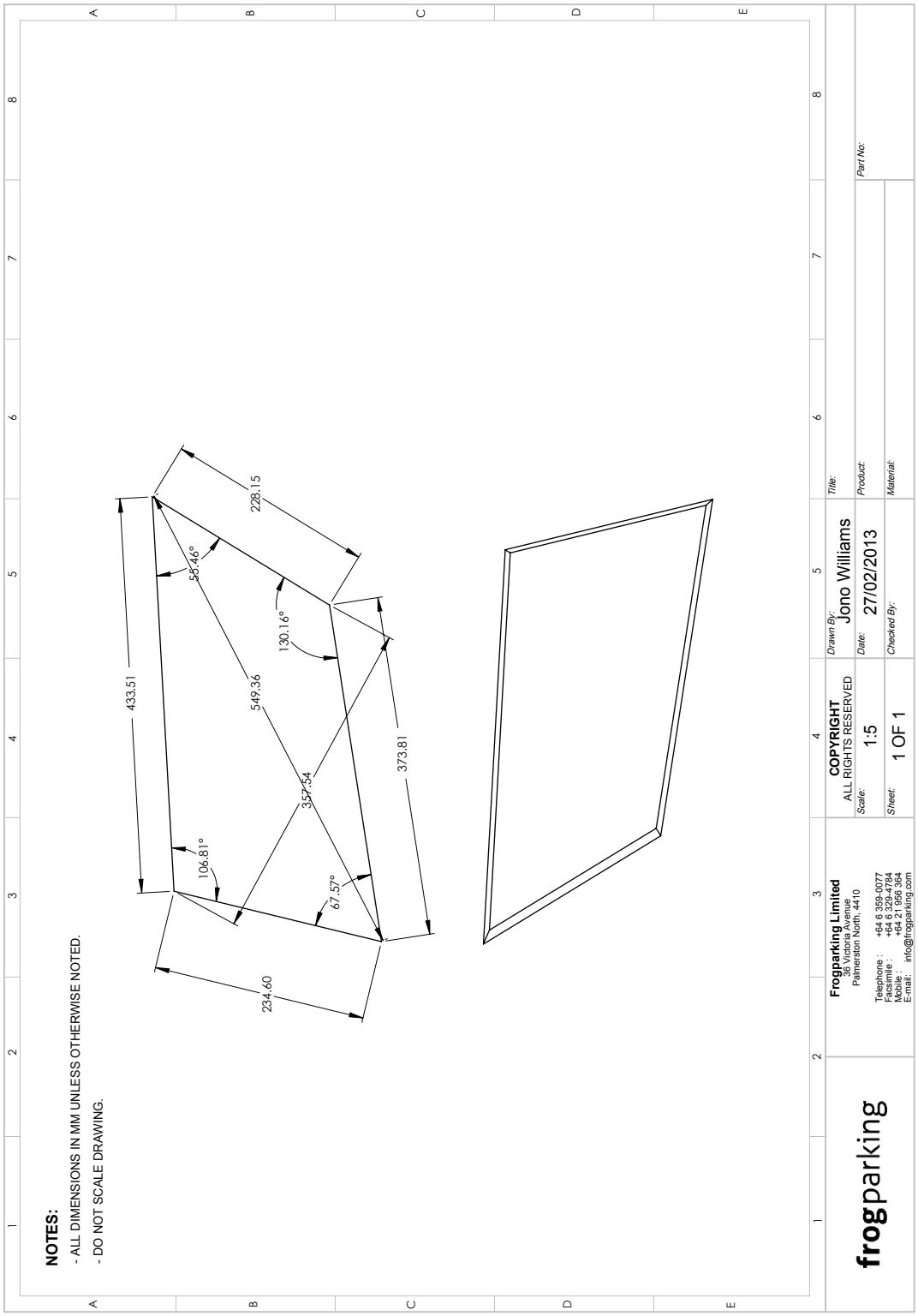
Appendix 49: Technical drawing of the right hand side, Cabinet One



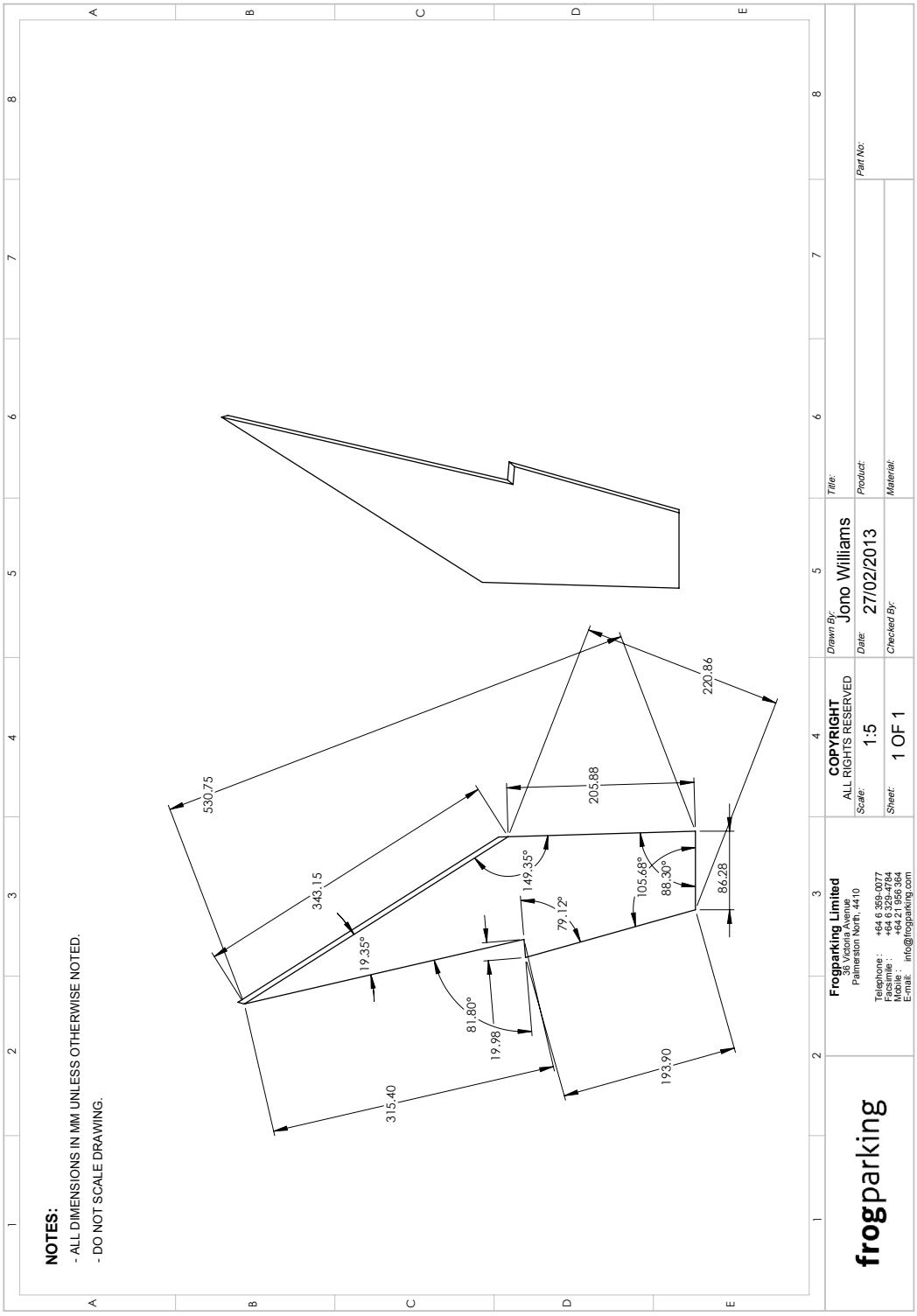
Appendix 50: Technical drawing of the front face, Cabinet Two



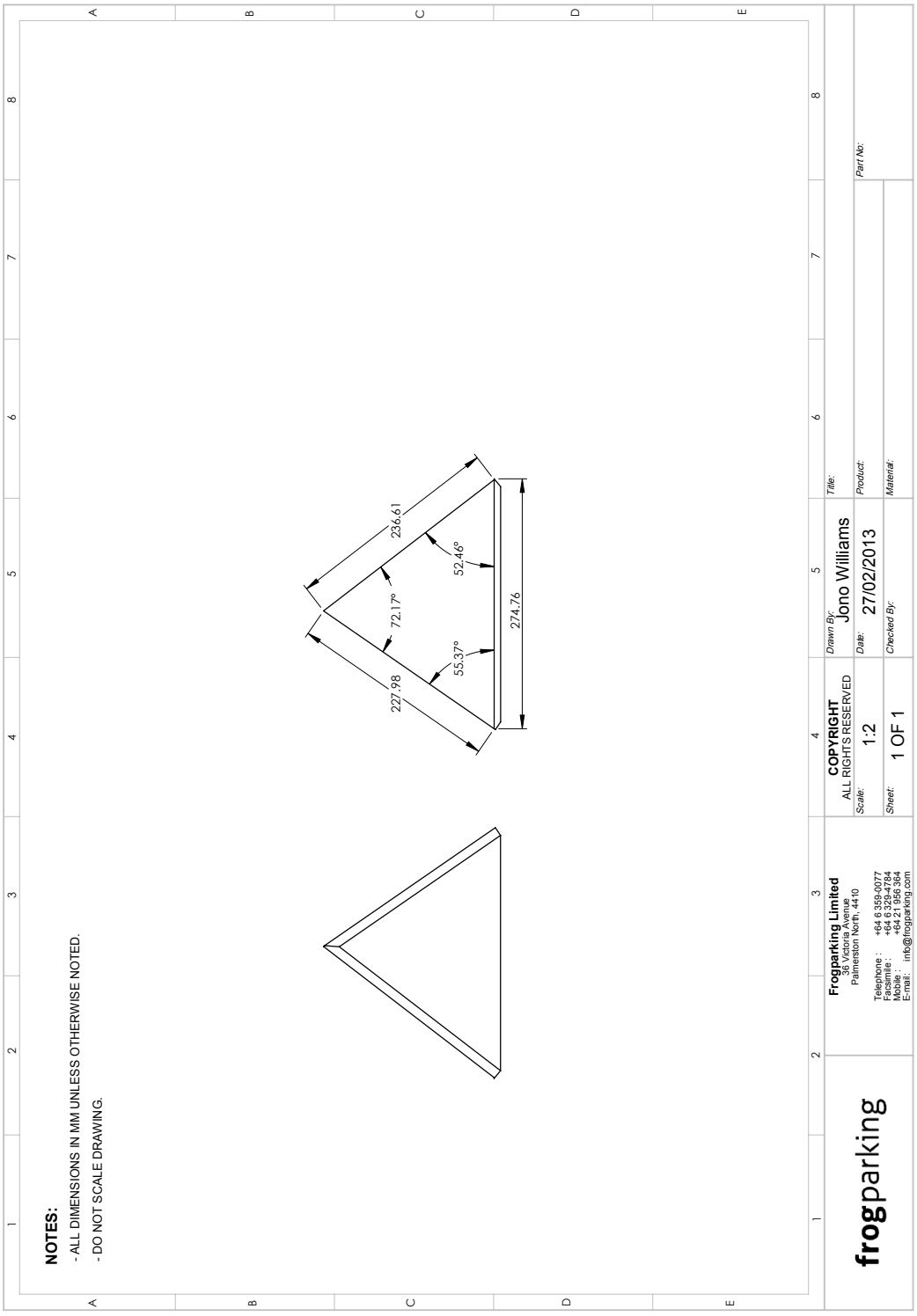
Appendix 51: Technical drawing of the top, Cabinet Two



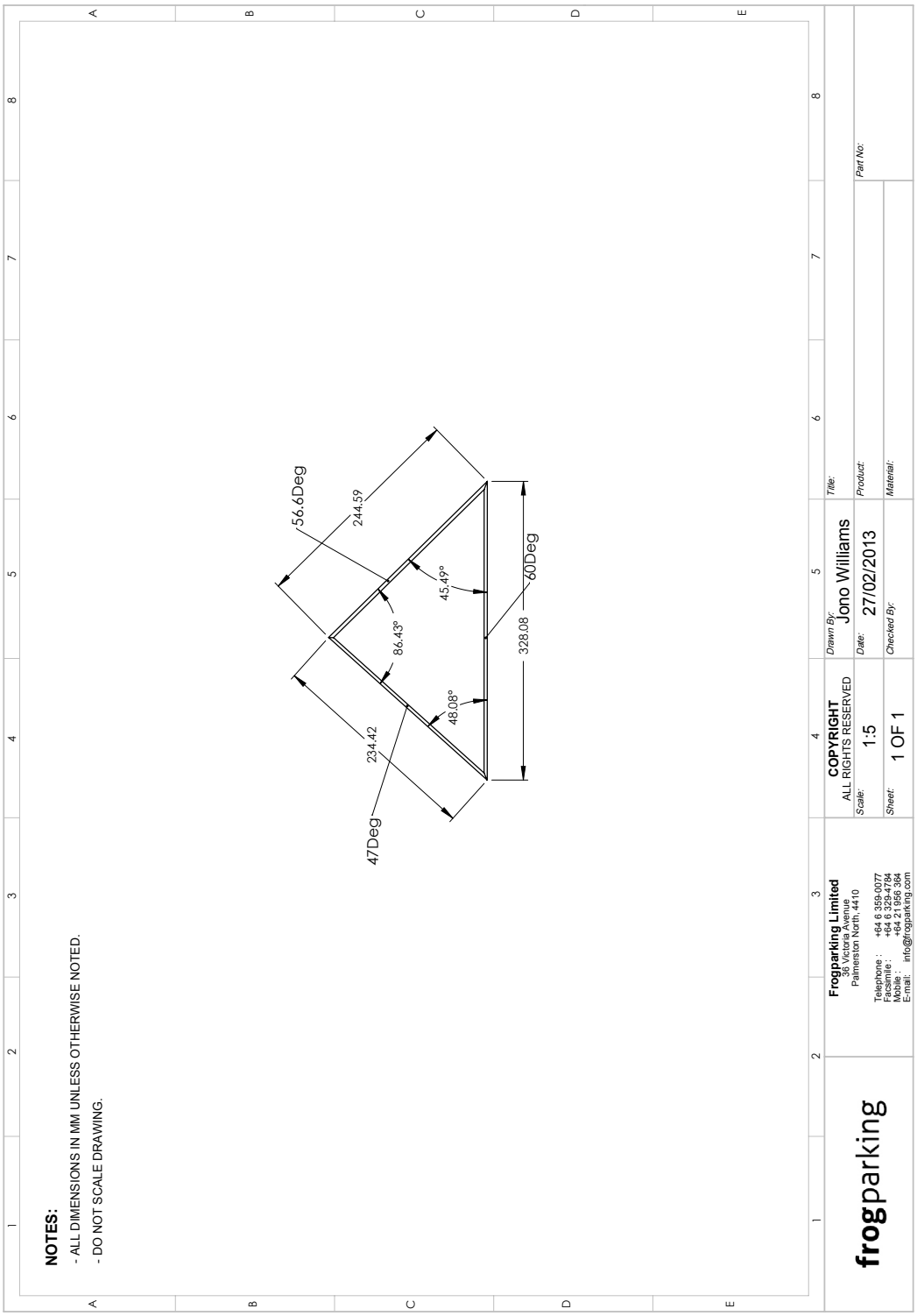
Appendix 52: Technical drawing of the flat element, Cabinet Two



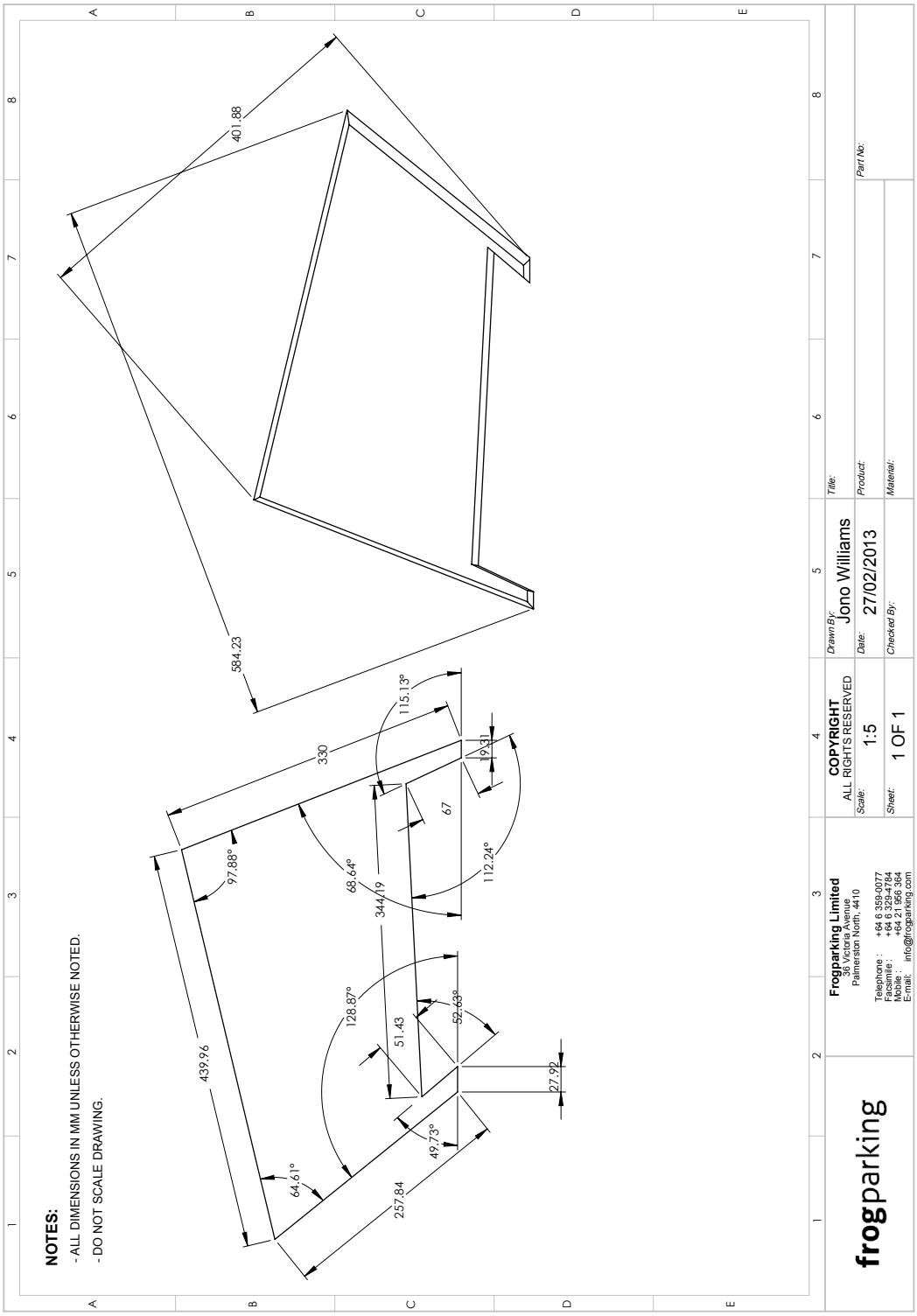
Appendix 53: Technical drawing of the left hand side, Cabinet Two



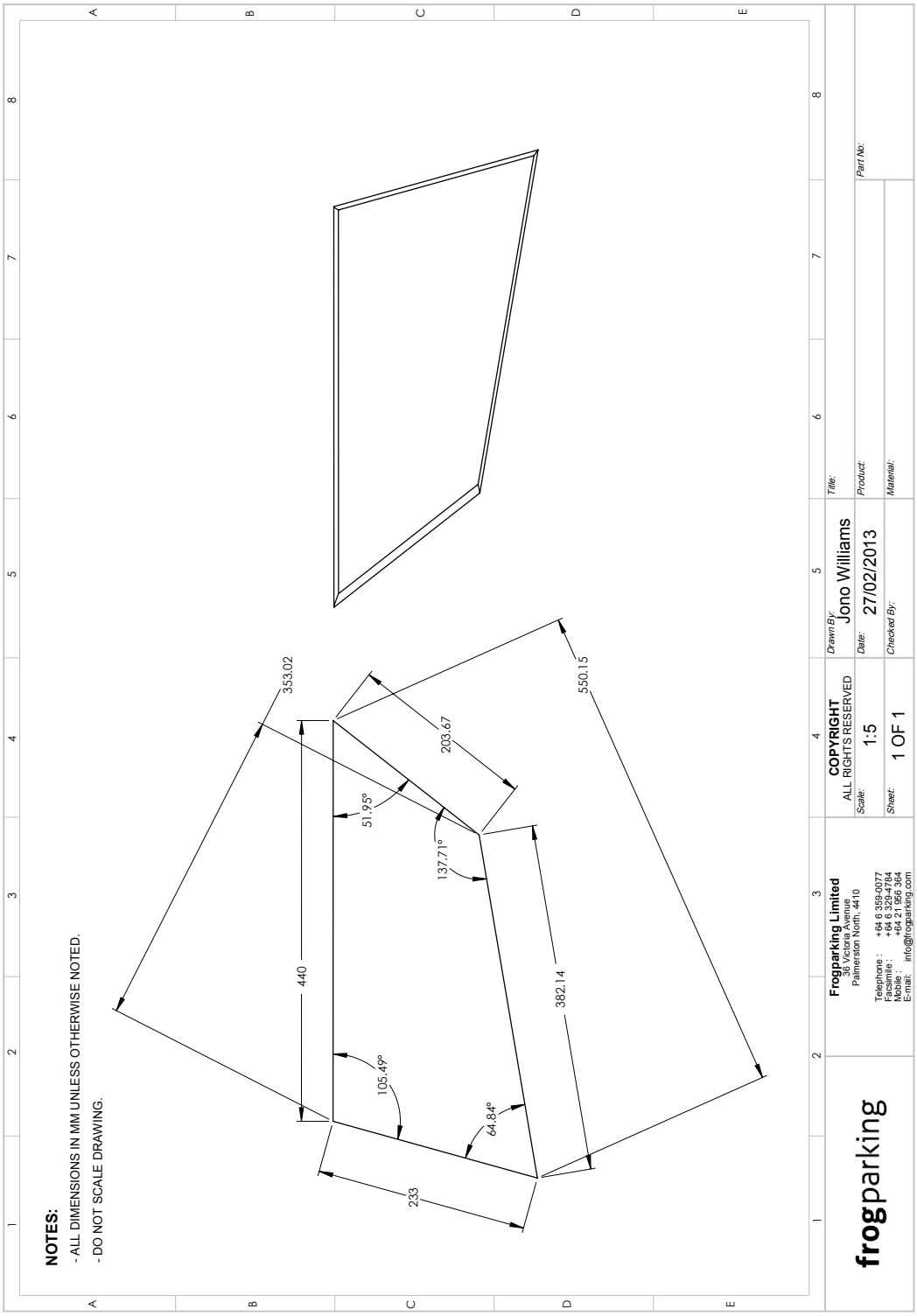
Appendix 54: Technical drawing of the right hand side, Cabinet Two



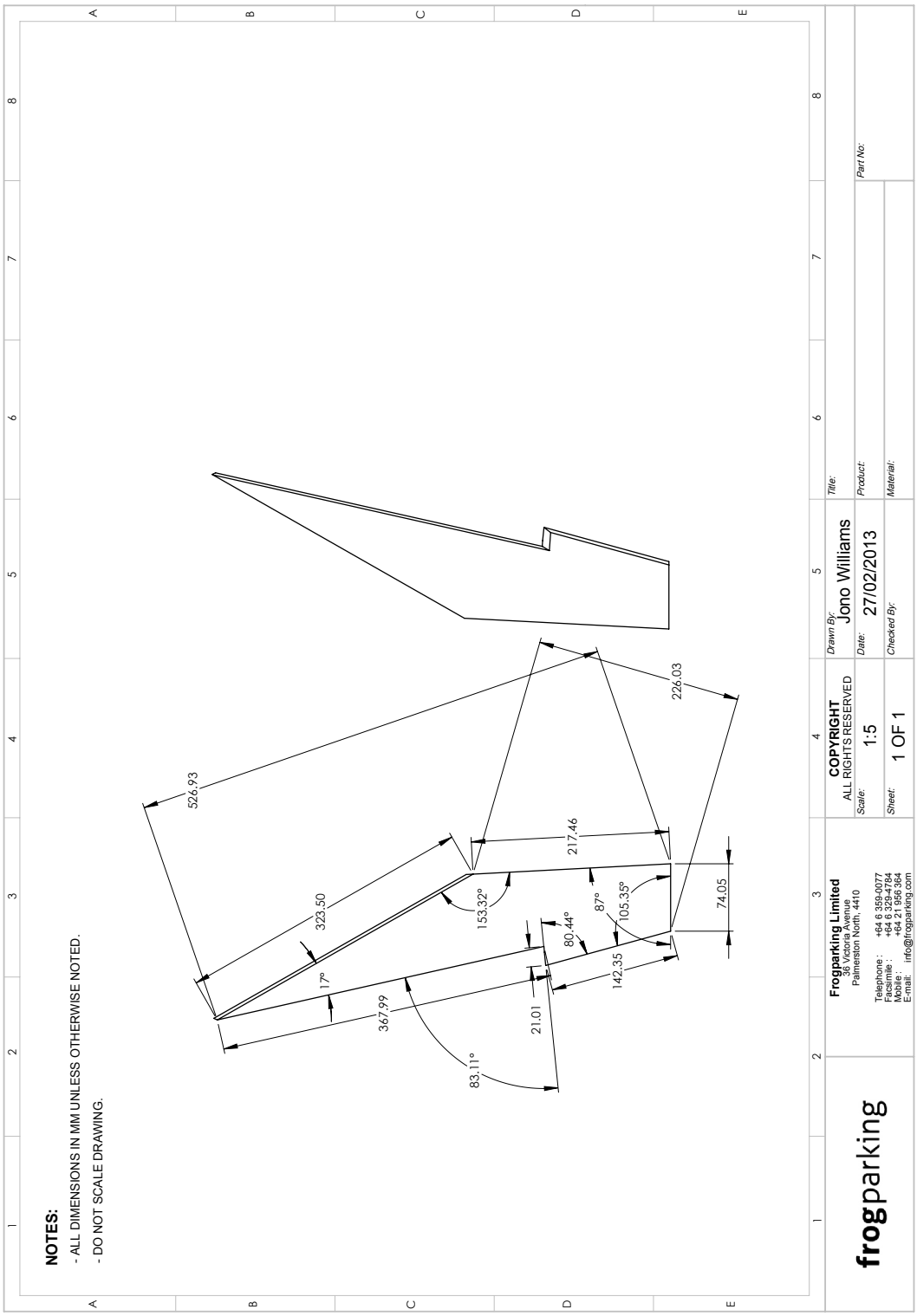
Appendix 55: Technical drawing of the front face, Cabinet Three



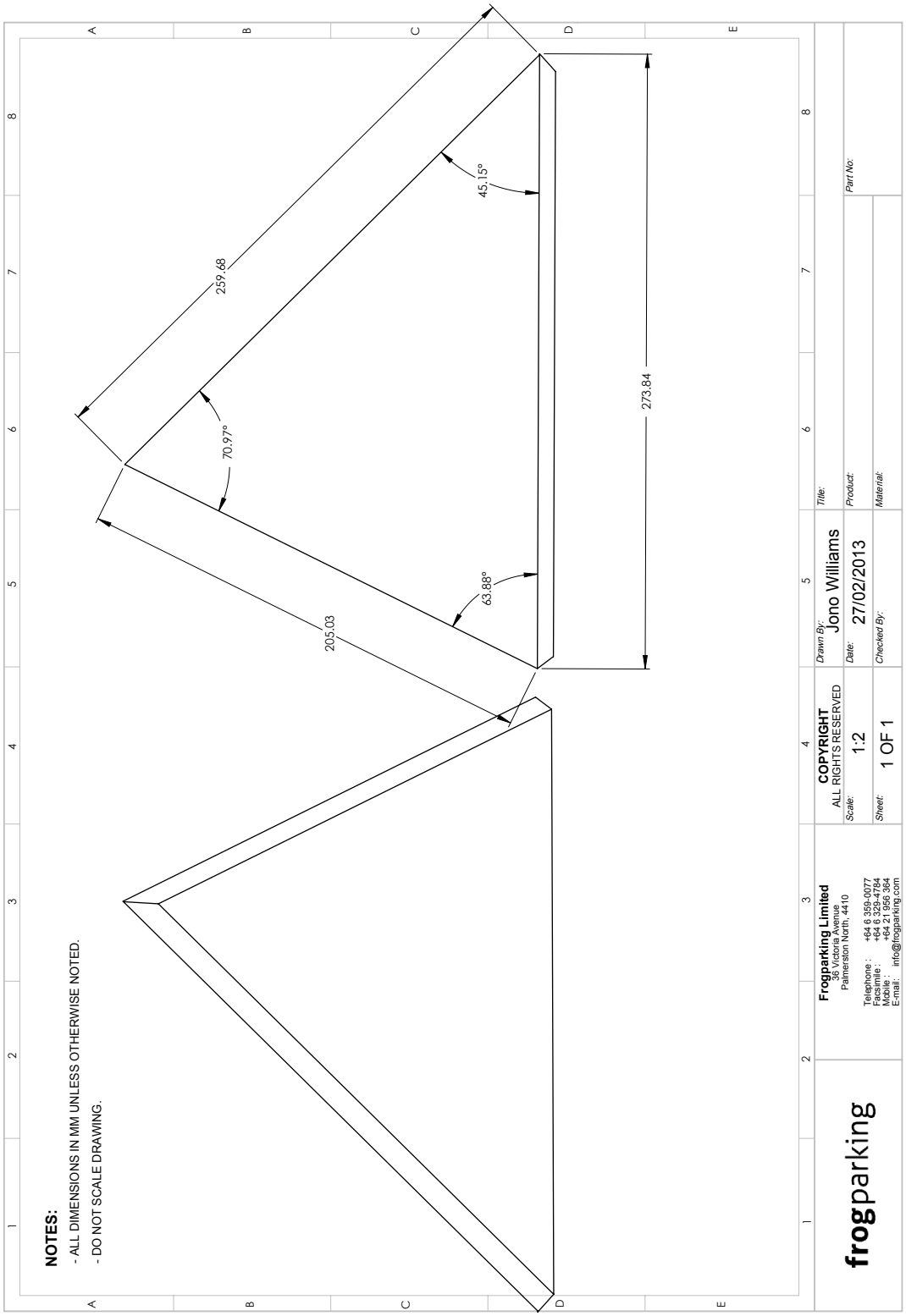
Appendix 56: Technical drawing of the top, Cabinet Three



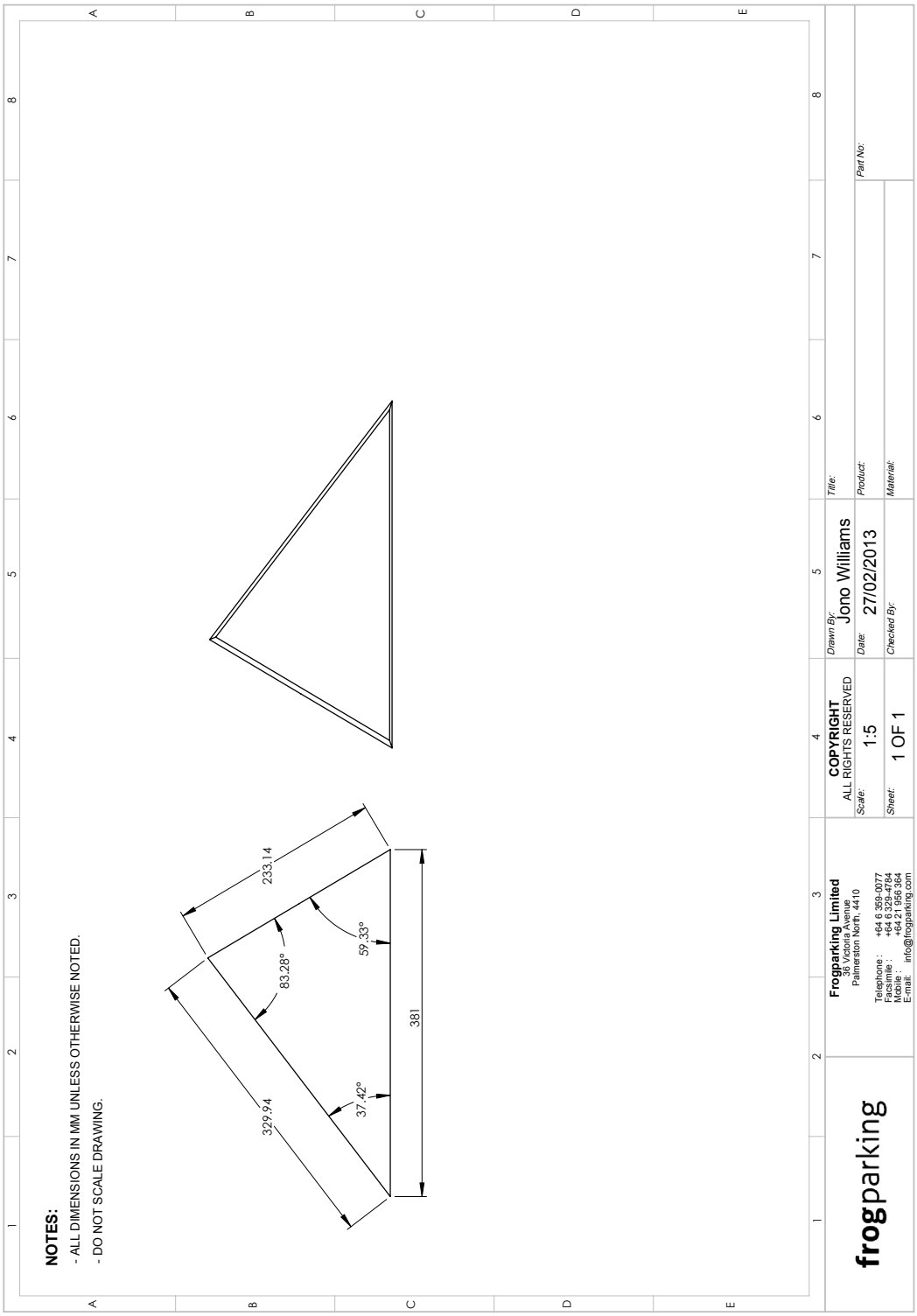
Appendix 57: Technical drawing of the flat element, Cabinet Three



Appendix 58: Technical drawing of the left hand side, Cabinet Three



Appendix 59: Technical drawing of the right hand side, Cabinet Three



Appendix 60: List of insects deemed to have had significance for early Māori

(Numbers in brackets refer to the number of parts of the lifecycle sculpted or depicted stances, and includes sexual dimorphism)

In order of appearance:

Moths and butterflies

1. **Pūriri moth** and caterpillar, *Aenetus virescens (8)*
2. **Vegetable caterpillar**, *Cordyceps robertsii (1)*
3. **Bag moth** and cocoon, *Liothula omnivorus (3)*
4. **Leaf roller** caterpillar and moth, *Planotortrix excessana (3)*
5. **Sphinx moth**, pupa and caterpillar, *Agrius convolvuli (3)*
6. **Greasy cutworm** caterpillar and moth, *Agrotis ipsilon aneituma (2)*
7. **Owl moth**, *Dasypodia cymatodes (2)*
8. **Flax notcher** caterpillar and moth, *Tmetolophota steropastis (2)*
9. **Flax looper** caterpillar and moth, *Orthoclydon praefectata (2)*
10. **Cabbage tree looper** caterpillar and moth, *Epiphryne verriculata (2)*
11. **Aristotelia looper** caterpillar and moth, *Epiphryne xanthaspis (2)*
12. **Kawakawa looper** caterpillar and moth, *Cleora scriptaria (2)*
13. **Magpie moth** and caterpillar, *Nyctemera annulata (3)*
14. **Potato moth** and caterpillar, *Phthorimaea operculella (1)*
15. **Red admiral butterfly**, *Vanessa gonerilla gonerilla (2)*
16. **Forest ringlet butterfly**, *Dodonidia helmsii (1)*

Beetles

17. **Huhu beetle**, grub and pupa, *Prionoplus reticularis (3)*
18. **Kānuka longhorn beetle** and grub, *Ochrocydus huttoni (2)*
19. **Mānuka beetle**, *Pyronota festiva (1)*
20. **Grass grub**, *Costelytra zealandica (1)*
21. **Mūmū chafer**, *Stethaspis longicornis (2)*
22. **Tanguru chafer**, *Stethaspis suteralis (2)*
23. **Sand scarab** and grub, *Pericoptus truncates (2)*
24. **Giraffe weevil**, *Lasiorhyncus barbicornis (2)*
25. **Tiger beetle** and larva, *Cicindella tuberculata (3)*
26. **Ground beetle**, *Megadromus capito (1)*
27. **Borer beetle**, *Hadrobregmus magnus (1)*
28. **Orange-spotted ladybird**, *Coccinella leonina (1)*

Dragonflies and damselflies

29. **Giant dragonfly** and nymph, *Uropetala carovei (2)*
30. **Blue damselfly**, *Austrolestes colensonis (1)*
31. **Red damselfly**, *Xanthocnemis zealandica (1)*

Dobsonfly

32. **Dobsonfly** and larva, *Archichauliodes diversus (2)*

Stonefly

33. **Stonefly**, *Stenoperla prasina (1)*

Wēta, crickets, locust, grasshoppers, katydid

34. **Giant wētā**, *Deinacrida heteracantha (1)*
35. **Tree wētā**, *Hemideina thoracica (2)*
36. **Cave wētā**, *Gymnoplectron waitomoensis (1)*
37. **Black field cricket**, *Teleogryllus commodus (2)*
38. **Small field cricket**, *Bobilla* sp. *(1)*
39. **Mole cricket**, *Triamescaptor aotea (1)*
40. **Migratory locust**, *Locusta migratoria (1)*
41. **Large grasshopper**, *Sigaus piliferus (1)*
42. **Small grasshopper**, *Phaulacridium marginale (1)*
43. **Katydid**, *Caedicia simplex (1)*

Bugs

44. **Little grass cicada**, *Kihia muta (1)*
45. **Chorus cicada** and nymphs, *Amphisalta zelandica (4)*
46. **Vegetable bug**, *Glaucias amyoti (1)*

Stick insect

47. **Black-spined stick insect**, *Acanthoxyla prasina (2)*

Praying mantid

48. **Praying mantid**, *Orthodera novaezealandiae (2)*

Cockroach

49. **Black cockroach**, *Platyzosteria novaeseelandiae (1)*

Earwig

50. **Seashore earwig**, *Anisolabis littorea (2)*

Flies

51. **Bluebottle fly**, *Calliphora quadrimaculata (1)*
52. **Blowfly**, *Calliphora stygia (1)*
53. **Maggots** *(1)*
54. **Bristle fly**, *Protohistricia alcis (1)*
55. **Rat-tail hoverfly**, *Helophilus trilineatus (2)*
56. **Hoverfly (metallic blue)**, *Helophilus hochstetteri (1)*
57. **Sandfly**, *Austrosimulium australense (1)*
58. **Biting midge**, *Styloconops myersi (1)*
59. **Vigilant mosquito**, *Culex pervigilans (1)*
60. **Common midge**, *Chironomus zealandicus (1)*
61. **Daddy-long-legs**, *Leptotarsus viridus (1)*
62. **Glow-worm**, *Arachnocampa luminosa (1)*

Ants and wasps

63. **Ant**, *Amblyopone australis (1)*
64. **Spider hunting wasp**, *Priocnemis monachus (2)*
65. **Golden hunting wasp**, *Sphictostethus nitidus (1)*

Louse

66. **Head louse**, *Pediculus humanus capitis (1)*

Fleas

67. **Cat flea,** *Ctenocephalides felis (1)*

Additional sculptures include:

Black tunnelweb spider, *Porrhothele antipodiana*

Pūtorino flute

Total number of species identified as having some significance = 67

Total number of insects created, cast and displayed in drawers (including duplicates and flute) = 148

Total number of insects created for the exhibition including vignettes = 162

Karakia and Waiata

The lines quoted within the text of thesis are in **bold**.

1. White (1887, p.1 English, p.3, Māori) provided and translated the following karakia that was chanted while planting kūmara. Lines nine to eleven reference a caterpillar and other destructive insects and relates to p. 43 of this thesis. The line spacing for the English translation has been amended to match te reo.

Kapakapa, kapakapa tu taku wairua, ki te Ao
Tapiri tu, he maunga
Hekeheke iho i runga o Rehia
Tuhi te uira, raparapa to uira, ko ana hau
Ki te hua ia, ki te hua ia
Ka tangi to pu, ka tangi to pu:
Ka tapu nui a Weka-uea.
Uea te taua iti, uea te taua rahi,
Kia tu tangatanga te ara ki Moko-ia.

My spirit trembles in this world, and,
Whilst down from Rehia [a mountain]
Lightnings flash and winds descend,
I offer sacrifice demanded.
Now rest, great trembling one.
As come the foe
So nimbly, in divisions,
On the road to Moko-ia

I hara te taua, koia Ru
Koia Whe, **Koia Potipoti.**

My enemies are these:
The earthquake, and the caterpillar,
And all devouring insects.

Te tama i torona,

Whakina e koe, ki Wai-roti

Coming from Waero-ti [island in Polynesia]

Kaore (kahore) hoki nga uhi nei,
Nga Kai (Kumara) nei, nga Taro nei
Ka mareretia e te tikitiki o Wahie-roa

And, oh! those uhi (yams), and kumara,
And taro now fall from out
The girdle of Wahie-roa

Taku Manawa ka irihia nei
E tupe tane, tupe Tane
Io.
Tenei au e tupe Tane
Ko Whiti-te-ramarama au e tupe Tane
Ko Tama-to-ahu-iho,
Ko Tama-te-ahu-ake,
Ko Tama-i-ahua-retireti,
Ko Tama-i-ahua-roro-wai,
Taku paenga ruwai, E Apo e:
E Apo e,
Io

My spirit yearns, and now,
O god of man! deprive
My enemies of power.
O Io!
O god of man! I now
Am at my work—
My crops am planting.
Moisten my plantation
And cause my crops to grow.
O Io!

Kapua hekeheke iho i runga o Rehia,
Tuhi te uira, rapa te uira
Ko ana hau, ka tahu ai,
Tena koa te makopu wananga
Te tu mai nei, koia kia toia,
Kia tokona ki te kauwhau ariki

O cloud! descend from Rehia [a mountain],
And lightnings flash and winds descend,
And yield an increase;
Whilst I my offering make,
And chant my sacred song
To him, the One supreme.

Taku rei, taku rei
Taku rei ka whati,
He Toroa, he Toroa, he ata
Io

Oh, that that which to me is precious
May not now be blighted
By the salt sea-wind or gale!
O Io!

He karakia whakatopatopa (whakatapatapa) Kumara.

Incantation chanted whilst planting the kumara.

2. Reference was made to the patterned **anuhe** in a tumoto waiata (avenging song) composed by Hine-i-turama, (Best, 1897, pp. 57, 58). Refer back to p. 43 of this thesis.

E hia hia ana au ki Kai-mokopuna,
Ki te okiokinga o te upoko-kohua nei,
O te Urewera.
He kore nui a te hau, ka uaua ano.
I rere tawheta noa ki te whai,
Ki te kawe nui atu mo Tuhoe, mo Tu-mata-whero.
Kia whakarauikatia te pokai kotuku na Rangitihi;
He paenga pakake ki te ao o te tonga.
Kia tataia ki runga ki te tumutumu poto
Kia titiro iho te hoa o te kai,
Ki a Tawhaki, ki te kiri ra,
Whakataua ki te anuhe tawatawa.

Towards Kai-mokopuna are my thoughts directed,
To the resting place of those cooked heads,
Of the Urewera tribe.
T'was fault of energy, that difficulty caused,
When in disorder the pursuit followed
With fierce onslaught on Tuhoe and Tu-mate-whero.
There fell in heaps the flock of cranes of Rangitihi;
Like stranded whales, in the land of the south.
Their heads to ornament the short straight stakes,
On which the food-contaminated ones might gaze—
On Tawhaki, with the handsome person,
For beauty, likened to the patterned caterpillar.

Whiti Tuarua

Me tika taku tira kahurangi ki te au o Tarawera,
Mo Te Kakara, mo te ngare o 'Tauwhao;
Kia rite ai ki te aitanga a Tama-te-ra
E tu iho nei.
He mana tonu no te whakauruhanga o Te Mahana—
Te Hiko-o-te-rangi. Ka whiriwhiri tonu
Ki nga maunga nunui o Motoi—
O te puhi o Te Arawa,
He ara whakaheke kino i te iwi.

Second Verse

Had my loved ones gone to the current of Tarawera,
For Te Kakara, for the supreme chiefs of Tauwhao;
Then might they have been like the descendants of Tama-te-ra,
That yonder stand.
All powerful would have been the succour of Te Mahana,
And of Te Hiko-o-te-rangi. Instead they chose
The great mountains of Motoi—
The feathered plume of Te Arawa—
A fatal road of death for the tribe.

3. McGregor (1898, pp. 83,84) originally published the following lament where is collection was attributed to Elsdon Best. It subsequently appeared in McGregor (1903, pp. 83,84). Percy Smith's later version (1905, pp. 148, 149) appears below and included a translation. It references pests of the kumara plantation and relates back to p. 44 of this thesis.

Tuku ra, e te wai-kohu o te whitu
He whaitakinga atu naku ki waho ra,
Te matatakinga, i roto te tau mutu,
Te karapatanga atu ki te puke-i-ahua,
Turakina te wai-tao ka hinga ki Rurutu;
Turakina te wai-manu, ka hinga ki Wai-manu-katea
E tia ia nei, ko te one i tahia
Ka rongo ano au,
Ko Moana-uriuri.
Te mara a Rehua, i kai-taua ai a Maru,
I kainga tauatia ai a Maru,
Tikina atu ra ki te aitanga a Hine-makino-kino,
Ki rokohanga iho, ko Mohio te rangi,
Ka hinga te kauwaha, ka hinga te moe-one,
Ka hinga te awheto,
I whakarauikatia ki waenga,
Karia iho te rua, ko Ariki-wareware,
Te pou o roto, te Rangi-whakakapua.
He ai te kopani ko Hahuru-mai-roto,
He ai te whakaata, ko te Rangi-paekura,
Tana papa-ahu, ko Papa-tahia,
Kimihia ki Whatitiri, ko Mitihanga-te-kore,
Nana taku kai, ka utoki (or kaupae) iho
I tu ano au te tahanga i a Rongo,
Ki titiro iho au e tupu auau ake ana,
Ki whawhatia iho te hou a Kahu-kura,
Hei o moku ka kimi ai au
I te whatu i te one, ka rewa ko te iho,
Riariaakina nga whakauru ora,
Ko Ri-rangi, ko te Rangi-tamaru,
Ko te Rangi-hou-kura, ko te Rangi-pae-kura,
Nga waka tena o te Kahui-rongo,
I tere mai i Hawaiki.
Ngaro noa atu koe,
Ma oku tuakanae pupuru mai
I roto te tapuae, e, i

The footnotes listed the meanings for the following:
Kauwaha A large caterpillar
Moeone A grub
Awheto The large green caterpillar which becomes afterwards the vegitable [*sic*] caterpillar.

Come come, O ye mists of the seventh month,
Whilst I go forth to contemplate—
To behold the work of the season of drought,
As I look askance at the moulded hillocks,
Overthrown as by vollies of spears, as when Rurutu fell—
Cast down by swarms of insects, as at Wai-manu-katea
'Tis as if the earth were swept bare as sand.
I have heard it said,
Te Moana-uriuri was the cultivation of Rehua
That was destroyed by war, by Maru,
Who brought the crawling offspring of Hine-makinokino
And found there Mohio-te-rangi,
Then fell the Kauwaha, fell the moe-one,
Destroyed was the awheto,
And laid in serried rows in the midst
There was dug the pit named Ariki-wareware,
With its inside pillar called Rangi-whakakapua
And the covering panel, Haruru-mai-roto.
The reflected light was Te Rangi-pae-kura
They were gathered and burned in ovens.
Seek and ask of Whatitiri at Mitihanga-te-kore,
Who destroyed my crop in heaps,
I stood by the side of (believed in) Rongo
That I might see my crop, as living plants
And delving find Te Hou-o-Kahukura (the kumara)
For sustenance was what I sought
In cultivating the soil; but useless germs remain.
Arise the life-giving canoes
Ri-rangi, Rangi-tamaru
Te Rangi-hou-kura, Te Rangi-pae-kura
For those were the canoes of Te Kahui-Rongo
That hither came from Hawaiki
But now are all lost
Let my deceased elders hold
By their secred life-giving footsteps

4. McGregor (1898[211], [1903 Supplement No.2?] p. 47) documented a waiata that made reference to the **muwharu** in lines 11 to 12 and to **hotete** in lines 13 to 14. These relate to pp. 44 and 49 of this thesis. The translation is by Ngākuru Pene Hare and is derived from the waiata on the next page.

Ko-wai rawa te tangata	What man will survive to live in your land?
Hei noho mo to whenua,	There will be Tuturiwhatu and Tōrea,
Ko Turiwhatu, ko torea,	The sentinel birds of the western inlet,
Ko nga manu matawhanga o te uru.	There you may be set adrift on the great ocean wave
Me puwhata taua he ngaru moana nui,	That roars close by.
E ngunguru mai nei,	There is nought else, O son, in times of war, It is
E tia ra e tama, he turanga riri,	indeed a slippery trail;
He tunga paneke-neke ka pa tau, e.	If we two only had
Ko te toa whenua i to matua i a Tuoha,	The warrior of the land, your uncle Tuoho.
E kore a taea e taua **mahi atu taua,**	Alas, we two are denied (his help).
Ki te tukou no Rongo,	**If we were to grow the tukou for food,**
E noho ia mai ana e te muwharu;	**The muharu will bide his time;**
Mahia atu taua ki te tukou no kai,	**If we were to grow the tukou for Rongo,**
E noho ia mai ana e te hotete.	**The hotete will bide his time.**
Kaore ianei, e, ko te tohu o te mate.	There is nought else but omens of death,
Whakapiri noa ake taua,	Let us in our plight seek refuge
E nga rakau tuhaha,	Among the mighty trees with Karawai yonder,
I a karawai mai ra, e,	The hiding-place of Reremua,
Hei hunanga atu mo reremuru ki reira,	When he is thereabouts,
E kore koe e ora, e	You will not otherwise survive
I nga hau o te tiu, e	The swirling winds that blow
A ianei te puputara ki uta, na i.	The puputara aground upon the shore.

[211] The attribution of 1898 may be correct as per Williams's dictionary (1917) but the inter-loaned photocopy from University of Waikato attributes p.47 (McGregor's songs) to Supplement No.2, 1903, and shows that the page numbers for the two Supplements to have run sequentially.

5. A longer version of the previous waiata appeared in Ngata (1961/1974, pp. 194-197) and was referred to as a whakaoriori (lullaby). The repeated section shows some word variations and may be corrections to McGregor's original version. The composition of the waiata is attributed to Taoho who was a paramount chief of the Ngāti Whatua and was translated by Ngākuru Pene Hare. For the **muharu** refer to p. 49 of this thesis (greasy cutworm) and for **hotete**, refer to p. 44 of this thesis under sphinx moth caterpillar.

E Rae tangi kino i roto te wharekino,	O Rae', crying so fretfully within the house,
Me kohanga taua, e i,	Let us two nestle closer,
Ki te kohanga Taputapuatea,	As if in the haven of Taputapuatea,
Hei pa tu hau, e	A shelter against the wind,
Hei whakarongo tai e tangi haere ana	While we listen to the roar of the sea
I raro Maunganui, e i.	Below Maunganui,
Kia mārama te titiro pukohu whenua, e i,	We might then see clearly the land mist,
Kia whakarongo ake tāua, e,	As we listen, we two,
Nga patu a taka i te nui Ati-Puhi	To the rattling weapons of the many Ati-Puhi
Ka kai putunga tāua, e,	As the chiefs rally their forces,
Ki te riri.	For battle.
Kei hea ra, e, a Te Huki,	Where is he, Te Huki.
Te tangata i whakamaua ai, e,	The man was destined
I te waikowhai,	For the blood-like kowhai waters,
Koko atu a Puriri.	As the multitudes gather within Puriri
Me aha koe, e tama, e i,	What to do about you, O son,
He hurihanga waka taua, e i,	In the overturning of war canoes,
Ko Mahuhu ki te wai?	Of Mahuhu itself, in the deep waters?
Pokaia i te tuanui o te whare o Nukutawhiti, e i,	Hurry, enter the doorway of the house of Nukutawhiti,
Ka mārama te ata	In the light of the dawn.
Kei runga Te Koikoi i a Rona, e i,	Te Koikoi has now risen to vie with Rona.
Kei te marama nui,	There is light all about,
Kei te marama hua ki te pae ra.	There is a bright light o'er yonder horizon
Ehara ko matua hautere tena	That (you see) is but a lightsome cloud
Kei te ra e mau ana, e i.	Fastened there by the sun.
Ko tou mata tena, ko te mata o Tawhaki	The face is that of Tawhaki
I tuhia ai, rapa ana i te rangi	Which shines forth and sets the heavens alight
Tukutuku wai karere, e i.	As the call for war goes forth,
Kia whaia atu to reo kirikiri,	Let your gritty voice be heard and obeyed
Whakarei te whatu, e,	In the glorious slaying (of men),
To tapuae nui ka haruru ki raro ra, na i.	As your renowned footsteps resound in the north.
Ko wai rawa he tangata hei noho mo to whenua, e i?	What man will survive to live in your land?
Ko Tuturiwhatu, Tōrea,	There will be Tuturiwhatu and Tōrea,
Ko nga manu mātai whanga o te uru, e i.	The sentinel birds of the western inlet,
Me puhata koe te ngaru moana nui,	There you may be set adrift on the great ocean wave
E ngunguru mai nei.	That roars close by.
Me aha, e tama e, he turanga riri,	There is nought else, O son, in times of war, It is
He turanga pahekeheke;	indeed a slippery trail;
Ka pa tāua, e i,	If we two only had
Ko te toa whenua i to matua i a Tuoho,	The warrior of the land, your uncle Tuoho.
E kore a taea e tāua.	Alas, we two are denied (his help).
Mahi atu tāua ki te tukou no kai, e,	**If we were to grow the tukou for food,**
E nohoia mai ana e te muharu;	**The muharu will bide his time;**
Mahia atu tāua ki te tukou no Rongo, e,	**If we were to grow the tukou for Rongo,**
E nohoia mai ana e te hotete.	**The hotete will bide his time.**
Kahore ia nei, e, ko te tohu o te mate.	There is nought else but omens of death,
Whakapiri noa ake tāua, e,	Let us in our plight seek refuge

Nga rakau tuhāhā i a Karawai ra, e,
Hei hunanga atu mo Reremura
Ki reira nei, na i.
E kore koe e ora, e i,
I nga hau o te tiu e āia nei
Te pūpūtara ki uta, na i.

Among the mighty trees with Karawai yonder,
The hiding-place of Reremua,
When he is thereabouts,
You will not otherwise survive
The swirling winds that blow
The puputara aground upon the shore.

6. Reference was made to beetles in the first few lines of a waiata in Ngata (1961/1974, pp. 234-235). Refer to p. 59 of this thesis.

He tangi mo tona whare	A lament for his house
(Ngati Awa?)	(Ngati Awa?)
Na Te Uamairangi	By Te Uamairangi
E tu ra, e whare e,	**Remain there, O house**
Ka mahue koe,	**You are now to be abandoned,**
Tarei ra, e te pepeke.	**Bore on O beetle,**
Whaihanga ra, e te tuturi, e;	**Spin on O spider;**
Ka tau te tini o te Hakuturi.	Should the myriads of Hakuturi chant.
I tana tau, e,	Let them chant,
Ko te waraki tauranga ia:	The birds' morning ritual that alights (upon the ear);
"Rere mai te marama, e.	"Fly hither the chips,
Kei hopiri, kei hotau;	Adhere together, be quick about it;
Torotika! E tu te maota."	Be upright! Stand firmly!"
Tahuna mai ki te ahi a Tāne, ra,	Now set it alight with the fire of Tāne,
Ko Tumutumu-whenua,	'Tis now of Tumutumu-whenua,
Ko Aneane-whenua, e,	'Tis now of Aneane-whenua,
Tawhito mamate	'Tis old and decayed,
Ki te umu o te whao o Hareana,	Fit fuel for the oven of Hareana;
Werohia te tao a Tangaroa, e.	Pierce him with the spear of Tangaroa
Tahe ana ana toto,	Until his blood spurts forth,
He umu tao wewehi, e,	(In) a gruesome roasting oven;
He umu takaripo	'Tis the oven of the warding-off ritual,
Ki te umu o te whao o Hareana.	This oven of the chisel of Hareana
E riri hoki au, e,	I am so angry
Ki a Tāne-mahuta i te wao;	With Tānemahuta of the forest;
Kai te kotikoti au, e,	That I am now severing
I nga uaua o Papatuānuku,	The sinews of the Earth Mother,
Nga taero a Kupe,	The obstructions of Kupe,
Nga rōrī o te whare o Uenuku.	(And) the bindings of the house of Uenuku.
Kua mate ki te whanako, e,	The victim of a thief was I;
Ko Ngaehe raua ko Kore?	(Was he) of Ngaehe and Kore?
Ko Ringa raua ko Maka, e?	Of Ringa and Mākā?
Ko Whiro, ko Tamatekapua, e?	Of Whiro, of Tamatekapua?
Ko nga uri o Houmaitawhiti?	Of the descendants of Houmaitawhiti?
Ko Tia? Ko Ririwai?	Of Tia? (Or) was he Ririwai?
Nāna te whanako i Kaihinu ra, e,	(Yes indeed) his was the theft at Kaihinu yonder.
Rere noa i te pari ki Otutauira, e,	(He who) leaped desperately o'er the cliff at Otutauira,
Ka whakatupetia.	A victim of the *tupe* rite;
Whatiwhati ana iwi,	His shattered bones (now lie there),
Mau ana te tohu i te rae	And on (his) brow remains the proof
O Ririwai!	(He) was Ririwai!

7. Best (1902b, pp. 147-148) recorded and translated a reference to **wētā**, in line 24 of a kai oraora (a cursing song), and to **kutu** (lice/parasites) in lines 29 and 30. Tamaku of Ngāti Awa composed this waiata, after Tuhoe defeated her iwi, in the battle of Te Kauna. Ngati Awa also discovered that it was one of their kinsmen, Tikitu, who had sent someone to warn Tuhoe of the impending attack by Ngāti Awa. Refer to pp. 80 & 131 of this thesis.

Na Tamaku

“He upoko kākā no Taurua, no Tama-rehe
Kai runga kai te rakau e tarahae ana
He taki tataeto, he tieke rere
He pitoitoi ketuketu para rau rakau
Nana rawa i tua mai taku pokai taniwhaniwha
Ka kite a Te Ure-wera i tana paenga kahurangi
Ka whakakoia te niho o te hua o te pouaru
Homai te haere ota noa atu i te roro
O Ngati-Huri, o Ngati-ra
Kai te kai mo Tawhaki
Ko te wai takataka o Paia
Ma te Huri-kino e horo katoa
Ko te karu mowhiti o Mura-whioi
Ma Hine-ringa e ota ki muri—e.

Tarutu kau au kia Ngaurei kua riro ia ra
Me he tonga ra hau kau o rongo
Kia Te Rau-paraha
Waiho noa i te ao nei tuiri ai taku wao totara
Na Te Hautai nana i rutu atu ki te mate
E tama mahara kore i roto i to ngakau
Tē ringitia i te kaho ki roto ki te kete
He whakatau haerenga mo koutou ki te mate
He kariri takirua ki roto ki nga hamanu
Tē kaha ta te wētā piri rakau
Upoko-kohua here manu
E kore e tīna taku poho i te kainga i a Te Tua
Inu kore a Te Au mo te ngaki mate
O Te Umu-ariki
Ma Te Whata-nui, ma Tukino e wero
Nga kutu o te tipuaki
Tenei taku toto te paheke nei
He wai herunga no Tikitu
No Te Hihira, no te kai tuku karere
Mo te hunga ki atu—paoa te rangi e tu nei
Paoa i te mate o Hoturoa
Kia wawe te tau ki raro ra—e”

By Tamaku (of Ngati Awa, against Tuhoe)

“Those parrot-heads of Taurua and Tama-rehe
Are screaming above on the trees
Like a flock of blight-birds, or fleeing tieke,
Like the pitoitoi bird scratching amidst dead leaves.
T’was they that felled my flock of high-born ones,
And Te Ure-wera saw their heap of slain.
Hence do the many widows sharpen their teeth.
Let them come, that the brains may be eaten raw,
Of Ngati-Huri of Ngati-ra –
Eaten because of Tawhaki,
The liquid brains of Paia
Shall be swallowed up by Te Huri-kino,
The gleaming eyes of Mura-whioi
Shall then be eaten raw by Hine-ringa.

I weep in vain for Ngaurei who is gone,
Like the south wind thy fame extended
Even unto Te Rau-paraha in the south,
Leaving in this world my totara forest, all shivering.
‘Twas Te Hautai who felled him unto death,
O son! In the thoughtlessness of thy heart
Thou didst not provide abundant powder
To accompany you all to death,
Nor double the cartridges in your boxes
(**Against those) tree-adhering wētā** –
Those boil-headed bird spearers.
My appetite will not be satisfied in eating Te Tua,
Nor thirst of Te Au be quenched in seeking revenge
For the death of Te Umu-ariki.
It shall be for Te Whata-nui and Tukino
To spear the parasites of thy head.
Here is my blood downwards coursing
Which shall be used in washing Tikitu
And for Te Hihira, the messenger,
For those who told (our enemies).
Smoking are the heavens, to the face of the moon
(Sign of) their hasty fall below”

8. Reference was made to katydid and cicada in a Tūhoe waiata as recorded by Ngata (1928, pp. 26-27) where it was titled ‘He matakite.’ It was later translated to English in Ngata (1959/1972, pp. 69-71) where the title was lengthened to, ‘He matakite mo te pou Urutake.’ Refer to p. 88 of this thesis.

He matakite	
Na Maungaharuru (Tuhoe)	By Maungaharuru (of Tuhoe)
Whakarongo!	Hearken!
Whakarongo ra te taringa	Let the ear hearken
Ki te hau taua, e hau mai nei	To the rumours of war, that resound
Kai te tai, kai te uru!	From the West.
Hurihia!	But turn—
Hurihia ki muri ki to tuara,	Turn your backs upon them!
Tikina taku ika	Seek my fish
Ki waho ki te moana nui a Kiwa	From the great sea of Kiwa,
E takoto mai nei,	That lies before me.
He koronga!	For I desire,
He koronga noku kia tae au	Greatly I desire to reach
Ki nga uru kahika,	The groves of kahika trees
Ki Ohui, ki Oama	At Ohui, at Oama,
Kia kata noa mai te kikitara,	**That the cicada may freely cackle,**
Kotikotipa, kohurehure,	**The bush wrens laugh**
Kiki pounamu!	**And the green insects too,**
E tangi ana ki tona whenua,	**Lamenting the fate of their land,**
Ka tipuria nei e te maheuheu:	Now desolate and overgrown with weeds:
Tangi kau ana te mapu e	Only a sigh of despair is heard.

A version of this waiata appeared in Mitcalfe (1974, pp. 90-91) that shows subtle variations in te reo and bigger changes in the translation.

He mata	Prophecy
Na Kawiti	By Kawiti
Whakarongo ra, whakarongo ra	Listen, listen
Te taringa ki te hau taua,	The time has come
Te hau taua e hau mai nei	For us to smite
Ki te tai, ki te uru,	The enemy of the land
Huria;	One for the sea; turn,
Huria ki muri ki to tuara,	Turn to me and we
Tikina taku ika ki waho	Will catch my fish
Ki te moana nui	Together in the great sea
A kiwa, i takoto mai nei	Of Kiwa; remain
He korongo naku	And we will bring
Kia tae au ki nga uru kahika	A young white pine
Au kei o awa;	From the river where
Kia kata noa mai te kikitara	Birds call, the riflemen,
Kotikotipa, e kohurehure	Cicadas, wrens and green
Ana ki te whenua	Locusts sing
Ka tupria nei e te maheuheu	For their land will soon
Tangi kau ana te mapu i	Be overgrown, swallowed in green;
	Only wild creatures will remain
	To mourn the absence of man.

9. Grey (1853, p. 380) documented the following waiata that made reference to **tarakihi** (cicada) and their song, in lines seven to eleven. It was noted that with the exception of the two first words, the whole of this was sung as a chorus. This waiata relates to p. 90 of this thesis. The contemporary translation is by Hone Morris, Te Pūtahi a Toi, School of Māori art, Knowledge and Education, Massey University, Palmerston North, New Zealand.

He mata, na Te Kukurarangi	An prophetic song, composed by Te Kukurarangi
Hei ngerengere, aha te houhia,	It's a palisade not to be torn down
Hei ngerengere, aha te houhia,	A palisade not to be entered
A hei ngerengere whakatu kau,	Yes, a palisade standing firm
Ki te patatai o te moana,	On the seashore
Tena te tangata, ka riro ki wiwi,	There's the man gone astray
Tena te tangata, ka riro ki wawa,	There's the man scattered
Taria, **e hara mai ki konei,**	**Wait, coming this way**
Whakakita	**Chirping is the cicada**
Ai, te tarakihi,	**Chirp,**
Kita,	**Chirp.**
Kita.	

10. Best (1908, p. 240) documented the words of an “aged Maori” who recited a waiata about the kihikihi. Refer back to p. 91 of this thesis. This contemporary translation is by Hone Morris.

Kaore te waru nei	**This is indeed the eighth month**
Ka piri au ki a Tane-mahuta	**When I cling to to Tane-mahuta**
Ki toku tupuna	**To my ancestor**
Tu takere! Tu takere! Iere nui au	**And sing lustily**
Kohiti ko Makaro, iere au	The moon rises faintly, I sing
Popo nunui, popo roroa, ko wai e aha atu	Long drawn out nights, who else
Na Tane ano au i awhi ki tua te arorangi	But Tāne to aid me beyond
Ka whiti mai ko te iwa	When the nineth month arrives
Ka hoki au ki raro ra ki tona kainga	I return home below
Maua tahi ko taku taina ko Nuhe	Both me and my sibling caterpillar
I tonoa iho nei ki tona tungane, ki a Rongo	Below to her brother Rongo
Hei manawa mona	To be contented
Koia ka tumoumoutia–ha!	That becomes the cycle

11. A translated waiata of Ngāti Porou origin appeared in Ngata (1959/1972, pp. 72-73) that also made reference to cicadas. Refer to p. 93 of this thesis.

He tangi na te turoro
(Te Whanau a Ruataupare, Ngati Porou)
Na Harata Tangikuku

E timu ra koe e te tai nei,
Rere omaki ana ia ki waho ra.
Hei runga nei au tiro iho ai
Nga roro whare ki Mihimarino;
Naku ia na koe i kakekake
I nga rangi ra, ka hori nei.

E tangi ra koe e te kihikihi;
Tenei koe ka rite mai ki ahau.
Me he huroto au kei ro repo,
Me he kaka, e whakaraoa ana.

Tirohia atu koia me ko Tawera,
Whakakau ana mai ki uta.
Hohoro mai koia, hei hoa moe ake
Moku ra, e tiu nei.
Me he porangi au e keha ana,
He haurangi, kai waipiro;
Me he tahuna rere i te amo hau,
He perehia rere ki tawhiti.

Tiro iho ai au ki ahau,
Rinoi ra e te uaua;
Te koha kore o te kai ki ahau.
Heke rawaho i te kiri ora.
Waiho au kia poaha ana,
He rimu puka, kei te akau.

The soliloquy of an invalid
(Te Whanau a Ruataupare, Ngati Porou)
By Harata Tangikuku

Ebb then, oh tide,
Withdrawing swiftly outwards,
While here above I gaze down
On the open porches at Mihimarino;
Which place I was wont to ascend
In the days that are gone by.

Sing your song, oh cicada;
You are in like case with me.
For I am as the bittern in the swamp,
Or the parrot, making its choking sound.

I look and see the star Tawera
Swimming towards the shore.
Hasten to keep the vigil
With me, who am distraught,
Reeling about as one demented
Or drunken with liquor;
Like pollen carried on the wind
Or the perehia wafted afar.

I look down and regard myself,
See how twisted are the sinews;
For food does not sustain me,
But seems to pass outside my skin.
So let me remain empty,
Like the porous seaweed on the shore.

12. As part of a karakia chanted prior to battle, line eight references **ngaro** (flies) and **iro** (maggots), and intends to demoralise an enemy (Best, 2001, pp. 34, 35). Refer to p. 106 of this thesis.

Kai te umu te ruhi	By this rite shall be exhaustion,
Kai te umu te ngenge	By this rite shall be weariness,
Tuku tonu, heke tonu	Completely gone, descended
Te ika ki te Pō	Is the victim to Hades,
He ika ka ripiripia	The victim is ripped up,
He ika ka toetoea	The victim is torn in shreds,
He ika ka hāparangitia	The victim is disembowelled,
Muimui te ngaro, totoro te iro	**Gathered are the flies, crawling are the maggots,**
Mau ka mate mai	And when thou diest
Kia ū mai	Die for ever

13. When a grave was to be dug for a chief, the kaheru (spade) that was made for the purpose was rendered sacred by the recital of a karakia. The following is the first section of a particularly long karakia chanted for this purpose and lines nine – eleven make reference to the sandfly (Taylor, 1855/1974, p. 98) and refers to p. 114 of this thesis.

Ko pi ko pa hua te ata,	Closed up, closed up,
Ka kai e i nga,	(In the womb of night.)
Kainga ngaki o te	With the early dawn,
Matua, i waiho	Eat the sacrifice of the dead,
I te ao nei,	From the cultivation of your father,
Ko pi ko pa hua te	Which is left in the world.
Ata, ka kai —e —,	Closed up, closed up,
E hinu ra, he taro ra,	In early dawn,
Ko te kai, kai namu,	Eat the spirit of the fat, the taro,
Ai, kia wangai ia,	**Your food to feed you is the fly**,
Kai namu ki pai-rau ru	**Eat it in Pairau your abode**

14. Both the small sandfly (**namu poto**) and the mosquito (**waeroa**) were referenced in a tangi tawhiti that was recorded by Best (1901, pp. 85-86). This is a loose translation by Hone Morris and relates to p. 116 of this thesis.

E hine Marunui i te tapui	You Marunui a maiden set aside
Ka taka i ou tuakana	Bestowed on your elders
Tu ake hoki, e hine! I te tu whararikí	Stand firm young maiden on the mat
Hai whakakakara mo hine ki te moenga	To lend fragrance for your bed
Te moenga tē whita, te moenga tē au	An insecure bed, a unfirm bed
Oti tonu atu koe ki raro—e—e	Which casts you below
Taupae atu ra i tua o Te Wharau—e hine!	Beyond Te Wharau
Ka wehe ko te po, ka wehe ko te ao i a koe	Night leaves you, daylight leaves you
Tokona atu ra ki tawhiti	Promoted to a distance
He tokouri, he tokotea, he mapuna, he kai ure	A dark prop, a clear prop, a chant to ward off witchcraft
Kai ure noa ana, e hine!	To remove the sacredness young maiden
Nga tohunga i nga atua kia mate	So the preists and gods are vanquished
Koi tonu nga niho ki te ngau.	The teeth are real sharp for biting
Na Maui i hangarau, e hine!	Oh dear maiden, it was Māui
Tana ika tapu, ko te whenua nui	Who deceived his sacred fish,
E noho nei taua	The vast land we live on
I tikina ki raro wheuriuri, kia Hine-nui-te-Po	Hine-nui-te-pō was called on from the vast depths to
Hai ngaki i te mate	avenge the death
I tukua mai nei ki āna karere,	**She sent her messengers**
Ki te waeroa, ki te namu poto	**The mosquito and the sandfly**
Hai kakati i te rae.	**To sting his forehead**
I te mata o te hurupiki–e hine!	And through incantation young maiden
Ko ta paua(?) ka ea te mate	The death of the sweet-tailed eel
O te hiku rekareka nei, o te tuna—e-i	Was avenged
Takoto mai ra, e hine!	Lay down young maiden
I roto i te whare papa	In the house
Ko te whare ra tena o to tipuna, o Tama-a-mutu,	The house of your ancestor Tama-a-mutu
I tuhia ai—e-ki te tuhi marei kura	Adorned with the spiral patterns
Koia a Ngai-Tama-tuhi-rae	Thus we have Ngāi Tama-tuhi-rae
I whakairi ai –e-ki runga ki te rakau	Suspended on the stick
Koia te kauhau i to papa, i a Maui, e hine!	That was your father Māui's instruction
Tera ia te rua o tini raua ko mano	That is the pit dug by the multitude
I karia ki te oneone ika nui—hine!	In the soils of the big fish
Hurihuritia iho ra, e hoa ma – e!	Turned over and over friends
Ta tatau mahuri totara	Our young tōtara sapling
No te wao tapu nui a Tane	From the realm of Tāne
No te awa-e-i Oatua	From Oatua river
No runga-e-i Okarakia	From on Okarakia
No nga pinga-e-i roto i te Kopua	Within the pool
Taku totara haemata	My sturdy tōtara
Te rite ai, e hine!	Similar young maiden
Ki a koe—i—a	To you

15. Reference is made to **pongarongaro** (midges) in lines 10 – 11 of a waiata documented by Grey (1853, p. 347-348) and refers to p. 118 of this thesis. This is a contemporary translation by Hone Morris.

He waiata tawhito No namata, Na Tapore	An old song, from ancient times, by Tapore
Takiri mai te ata i runga o Piriaka, Atea kau ana; Ka riro, te tau e, i. Haere e Pa, i te kapa hui rangi, I te ringitanga kura, ki waho ki Takapau, He mounga tangata, Tana kiri aritahi, I motu mai te reinga, Hei matakitaki, **Ka muia koutou,** **E te pongarongaro,** Whakamau te titiro, Ki te apaapa tapu, Ki te kauhanga nui, Kia haematatia; To toto whakarewa, Tuhi ana, I te rangi, E hara te tama na, Te kiri o Uenuku, Ka noa kei muri, To kiri i taitaia, Ki te wai ngarahu; Ka pupu to hinu, Koe wai taramea.	The birds chorus above Piriaka It's a beautiful day The year has gone Travel sir to those assembled above Blood spilt outside of Takapau A handsome man With beautiful skin Survived the carnagae To observe **You will [all] be beset,** **By a swarm of midges.** Fix your gaze On the sacred heap On the battlefield Lacerated bodies The blood flows Red is the sky A noble son From Uenuku Made unrestricted Your skin adorned With the dark pigment The oil prepared With fragrance of the taramea
Tena nga ipu kohu e! Ko Huahua, Ko Pango; Ko Tahuata, Hei wharikiriki; Horea, e Waha', to kiri angaanga, Hei rautao iho, Te umu ki Kahotea, Mo te pu rangitira i tukua ake nei, E waiho ana au, He kai anaanga, Mo te keteiwi ma; Ekore Te Whata; E hunuhunua iho, Me whakakapoai, Kia rato matou, O tapu tuarea, Ka noa i au na, i.	There are the hollow gourds For the preserved birds For preserved eels Prepared at dawn To lay out Scrape your scalp Waha To envelop the food For the earth oven at Kahotea Prepared for the assembly of chiefs I am left here But a morsel Like bleached bones Te whata will never be Left scorched Blinded We release The sacred myriad Made common by me

16. Te Rangikaheke[212] composed this lament (Grey, 1853, p. 49). Line 16 in bold refers to the **titiwai** (glow-worm) and relates to p. 121 of this thesis. The contemporary translation by Hone Morris is found on the next page.

He tangi, i totoa e Te Rangikaheke, mo tana tamaiti,
Mo te Ahuikai, kua mate ki Rotorua

Kati ra te moe, ra ia, maranga mai ki runga, ka tu taua, ki runga, te taowaka, e-e-i
Ka puta ki tua ra, ka titiro te kanohi, ki te auahi, ka mai
Kei o teina, maro tonu atu, e-e-i, taua, ra to whaea,
Kei te matarae e titiro ana, ki te waka no runga.
Ka ki to poho, e-e-i, ka tuku, ki raro ra, kei to tuahine, ra ai,
Kia whangaia mai, ki te kai, moe petipeti.
Maro tonu atu, e-e-i, taua, Te Purangi, hei powhiri mai,
“Nau mai e tama na, a i.”

Kahore he mahi, i ngaro i te tangata, e-i, tena Tangaroa,
Kei te koko, i a Ruamoana, e puta ana ia e.
He tangi kai tou? e-e, na o papa ke i ho mai, te Kanawa,
ko Taipapakirua, e-e-i
Ko te Rauhina-rawa e-e, Ko Hine-rimu, e-e.
Koa, he nui, mo te tangata ki te ao mai.

Heoti hoki, mo Tane, ra ai, taku puripuri ake i to papa,
Kia kite iho taua, i te titiwai, e-e-i
Kei Runanaga-rawa e-i, to Tane, tona rutunga nei, e-e-i
Kei Raroa-rawa e-e-i, kei Ohinekonehu, kei a Tawka tona turumatanga, na-a-i

Hoki mai ki ahau, e-e, kia whakamau ake, taua, te Riu-o-te-mania, te Umu-o-pu-iti, Paepae-tangaroa.
Kei au ranei to hara e-i, i komuhua mai nei taua, i te tara o te whare, ra ai,
Kauaka e koe, inainei, he mate tino tangata, tena erenga mai.

[212] “He tangi, i titoa e Te Rangikaheke, mo tana tamaiti, mo Te Auhikai, kua mate ki Rotorua”

This is a loose contemporary translation by Hone Morris of the previous lament that was composed by Te Rangikaheke for his younger brother, for Ahuikai, who died at Rotorua.

Cease sleeping, arise let us stand on the balanced canoe
And move to the distance to where you can see smoke and fire
Your siblings remain strong a trait from your mother
Standing on the headland observing the canoe
Your heart, full of thoughts for your sister to the north
She is nourished, fed with the jellyfish
We two must remain staunch, Te Pūrangi to beckon
Welcome young man

No deed goes unnoticed, there is Tangaroa
Appearing at the bay, at Ruamoana
Are you hungry? Your elder's will go fishing Kanawa
Taipapakirua
Eels and seaweed
Abundant to please the people of this world
As for Tāne I hold him back
So we can view the glow-worm from above
Tāne is at Rūnanga broken off
To Rāroa, Ōhinekonehu, to Teweka his sacred place
Return to me so we retain Riu-o-te-mānia, Umu-o-pū-iti, Paepae-tangaroa
Do I have your transgressions we shared secretly within the house
Don't you now disclose lest we perish, come hither

17. Predictably, parasites with their negative connotations, featured in songs of war as in the following kai oraora recorded by Best (1902b, pp. 149-150). This is a song of curses, - 'eat-you-alive' song, composed by Kiri-tapoa, wife of slain Piki-huia from Ngāti Hine-uru. An analogous comparison is made between **puruhi** (fleas) and **riki** (lice eggs) in lines 18 - 22 and relates to p. 130 of this thesis.

"Ko wai e korero nei i taku poho	"Who is it that moves me inwardly?
Ko Whiri, ko Rara, ko Pari kawhai	"Tis Whiri, 'tis Ruru [*sic*], 'tis Pari-kawhai
Ko Harehare, Ko Riki	And Harehare with Riki –
Te huinga mahara e tu ake nei	The originators of the evil (that befel [sic] us).
Tenei Whakamaru-rangi	Behold Te Whakamaru-rangi
Te korapa o te manawa, ko te kapekape	Thy heart shall toast on the poker
Tomina tawara taku kaki ki to ti ngahuru	Whilst my throat hungers for thy companions.
Tuki ake ana te puku nui	Beating in anxiety is my heart,
Ma wai au e kawe ki Awa-tarakiki	As to who shall take me away to Awa-tarariki
Ki te ure toa i a Mokai, kia haramai	To the courageous Mokai, that he may come
Hautopea te uru rakau ki Marae-tahia	And fell the clump of wood at Marae-tahia,
Kia kai atu au ko Turere-ao	That I may feed on Turere-ao
I hea koia koe i te tuatahi	Where were you at the commencement?
I te whakaorahanga o to makere i Te Wairoa	When thy head was preserved at Te Wairoa
Pehea, E koro! I whakairia koe mo Te Kawau	How was it, O sir! Thy head was suspended
E toremitia ana hoki e Ngati-Pukeko	On account of Te Kawau,
Ki roto i te hangi	When Ngati-Pukeko concealed you all
	Within the blazing ovens.
Kai te puruhi rere mai.	**Like the flea coming uninvited**
Piri ana i te hukahuka, i te weruweru	**Striking in thrums in the garments—**
Te kuri poapoa whangainga nei ki te kai	**Like the homeless dog fed by anyone,**
Miti ana mai i te pae o te hangi	**Licking up fragments by the oven's side—**
Ko te rite i a Riki	**This is the habit of Riki.**
He aha te tapu o Taha-wai	What signifies the tapu of Taha-wai?
O te tangata whakatari pakanga	The originator of quarrels.
Te topi ai taku waha ki reira	My mouth shall close (on him)
E kore e tapu	His tapu will not avail him,
Tenei taku poho te tuwhera kau ake nei,	My capacious stomach is still open.
E ai ra te wahine upoko-kohua	A cooked-head of a woman
I a te ure pounamu	Has married one of noble descent,
Tē ai he maharatanga iho ki te mea	Hast thou forgotten the fact
Nana to kai piro i ao ki waho	That he ennobles thy rotten off-spring?
Haere, amohia to tara	Be gone! Away with thy affection,
Te wero o te kutu o te taha wai"	Suitable only for your calabash"

18. And a reference to both **kutu** and **riha**, appear in line 28 of another kai oraora that was composed by Kaupoke, of Ngāti Manawa (Best, 1902b, pp. 150-151) and relates to p. 131 of this thesis.

"Tera te marama hikitia ake
I te tautara ki Tawhiuau
Toho ake au ko Ngaro-ara—e
Tenei ka hoki mai, Hoki mai, E hine ma!
Kia whakarerea iho taku putea
Kotahi nei a te awe a toroa.
E hiakai ana au ki to wai takataka
E Te Rua-tara-iti
Nana rawa i tiki mai i taku rau kotara
Horihia koia ki waho ki te koniu
Hoea ki waho ki nga motu
Kia kai mai te ika i Rangiriri
Ana to paenga mimiha ka pau te whakarato e au
Ki Puke-tapu, ki Wharau-rangi
Peke ana ahau nga toka tapu i Whakure-kutu to pu kainga
Takataka tou tini e Te Atiawa
Tango mai koia e Tikitu hai whakakatinga
Mo te ngaki o taku hoa e tuwhera kau ake nei
Kati hoki au ki konei
Ka whakahoki au kai Opuru
Hai te iwi tango pakanga
Nana i tamoe te haupapa e takoto nei
Tenei taku makoi hai wetewete
Hai hereheru mo Tawhiwhi
Mo tona takiritanga makawe e Tamtea-kai-taharua
Ko Tama-i-arohi
Te whai korero i roto i te tohetohe
Ko tona taina te kutu, te riha
Te kai ma taku waha-whio
Nga atua parau o Pari-pohue."

"Behold the moon as it rises up
By the mountain ridge of Tawhinau.
I thought maybe it was Ngaro-ara
Thus returning, Return then, O ladies!
That I may abandon my precious charge,
Containg a single tuft of albatross' down
I am eager for thy liquid brains
O Te Rua-tara-iti!
He who destroyed my sweet scented (one).
Straight be thy course to the river's mouth,
Paddle away to the island,
That the fish of Rangiriri may feed.
There are thy stranded whales (the slain)
Distributed around by me
To Puke-tapu, to Wharau-rangi.
I jump on the scared stones at Whakure-kutu
Thy very own home.
Summon thy thousands, O Te Ati-awi [*sic*]!
Taken by Tikitu as a preventative
To the avenging of my friend
That lies ripped open there.
Let me true remain, (or)
Return me to Opuru, —
To the tribe ever ready for war,
Who 'laid' the slain that there lie
Here is my spear-head to sever
(Or use) as a comb for Tawhiwhi
For his hair pulled out by Tama-kai-taharua.
'Twas Tama-i-arohi
Who made his speech in the strife;
He is the brother of loathsome parasites
And shall be food for my whistling mouth
The false gods of Pari-pohue."

19. A waiata recorded by Grey (1853, p. 200) made reference to both **kutu** (louse) and **tuia** (flea) in lines, one – three, and relates to p. 132 of this thesis. This contemporary translation is by Hone Morris.

He waiata na te Ranginui, mo te kakahu kore	A song by Ranginui,
E kai e, te kutu, **E kai e, te tuiau,** **E kai e, te tara pake, e tu ki Turamoe ra i a;**	**Bite thou, o louse,** **Bite thou, o flea,** **Bite thou, o insect, content with drowsiness.**
Tera te rongo o Paeroa, te hau i raro ra; Ekore ranei a Te Mui, e whiwhi mai, i tona nei hana, Hei whakatau ake ki te tangata nei, ki a Te Moko, Nana i ki mai, He pakaru te ihupuni. Hoki kau mai a Rangitapuarewa, Te kai kawe taonga.	When the wind blowing along the shore is felt Will Te Mui not receive his flax garment But be given over instead to this man, to Te Moko It was he who said the dogskin cloak is ruined Rangitapuarewa the conveyer of treasures returned in vain
Me kawe te hana nei, ki Whakanau, Ki te wai ra o te hinu oke, Hei tamata iho, i taku kiri, Tuku te whero, ki taku tinana i a	The flax garment should be conveyed to Whakanau to the essence of the shark oil And begin to anoint my skin

20. Also, lines one - two of a short Ngai Tahu waiata was documented in Grey, (1853, p. 380) and made reference to the **tuiau** (flea). This contemporary translation is by Hone Morris and relates to p. 132 this thesis.

He waiata, na Ngai-Tahu	A song from Ngai Tahu
Te tuiau, ki te katikati,	**The flea bites,**
Te whakakekeu moe i a au,	**Disturbing my sleep**
Te whiuwhiu taku tatari,	I swat it away
Kei Parakiwitini,	It was a Parakiwitini
E patu mai ra, Taiaroa,	Where Taiaroa killed
I te Kakerangi,	The seal
E takaru ra,	Splashing about
Kei te moana	In the ocean

Key Māori terms and names

Aitanga a Punga The insects 28
Aitanga pepeke Insect family 28, 33
Aitanga-pekepeketua Insects of all kinds 28, 32
Anuhe Caterpillars of pūriri moth and sphinx moth. Vegetable caterpillar 35, 36, 41, 42, 43, 44, 45
Areinga Black crickets, *Teleogryllus commodus* and *Bobilla* sp. 82
Aweto Vegetable caterpillar 21, 36, 37
Āwhato, **āwheto** Sphinx moth caterpillar and vegetable caterpillar 36, 42, 44, 45, 46
Eo Human head louse, *Pediculus humanus capitis* 129
Hakopa Ladybird such as the orange-spotted ladybird, *Coccinella leonine* 71
Hakura To remove lice from hair 131
Hakure To catch lice 131
Hamure To catch vermin in the hair 131
Hapaki To catch lice 131
Hapuku Larva of tiger beetle, *Cicindela tuberculata* 68
Harakeke Flax, *Phormium tenax* 51
Harapaki (v) To crack fleas between thumbnails 132
Haumia-tikitiki God of fern roots and uncultivated food 7
Hauwaha A large caterpillar, probably sphinx moth, *Agrius convovuli* 42
Hawato Vegetable caterpillar 36, 42
He pākehā nohinohi A derogatory comparison to fleas to denote Europeans 132, 133
Heiro Maggot 104
Hīhue Sphinx moth, *Agrius convovuli* 47
Hikawaru Ancestor of the cicada 91
Hine-ahu-one (= Hine-hau-one) The first female woman who mated with Tāne 6, 224
Hine-ata-uira Daughter of gentle lightening with whom Tāne mated to produce minute insects ... 32
Hine-hau-one (=Hine-ahu-one) The first female woman who mated with Tāne 6, 224
Hine-huruhuru Personified by the glow-worm 121
Hine-makohu (=Hine-takohu-rangi, Hine-pukohu) Mist maid 31
Hine-nui-te-pō Goddess of the underworld, who brought death to this world 57, 58, 117, 121, 122
Hine-peke Married Tu-te-ahunga to produce all the insects that can be seen 31
Hine-pukohu (=Hine-makohu, Hine-takohu-rangi) Mist maid 31
Hine-takohu-rangi (=Hine-pukohu, Hine-makohu) Mist maid 31
Honi Mole cricket, *Triamescaptor aotea* 83, 84
Horuhoru Vegetable caterpillar 36
Hōtete Vegetable caterpillar and sphinx moth caterpillar 21, 36, 37, 41, 42, 44
Howaka Tanguru chafer beetle, *Stethaspis suteralis* 66
Huarangi Sphinx moth caterpillar, *Agrius convovuli* 42
Huhu Huhu grub. Moth(?). Huhu beetle, *Prionoplus reticularis;* kānuka longhorn, *Ochrocydus huttoni* 29, 33, 59, 60, 61, 62
Hukuai One of the ancestors that lives in the sky 40
Hūrangi Flies 101
Hururhuru Coarse hair, bristles, diffused glow 122
Ika General term for fish 29, 32
Iro Maggots 104, 106, 108
Iroiro Maggots 104
Kahukura Red Admiral butterfly, *Vanessa gonerilla gonerilla* 57, 58

Kaitiaki Guardian, a person who looks after and cares for 'things' 7
Kaitito Composer or poet..... 91
Kai-wētā A Tūhoe term for the marble leaf tree, *Carpodetus serratus* 79
Kakaraiti Short-horned grasshopper 84
Kapakapa Locust 85
Kapapa Huhu beetle, *Prionoplus reticularis*; kānuka longhorn, *Ochrocydus huttoni* 61, 63
Kapokapowai Dragonfly 72, 73
Kapowai Dragonfly and blue damselfly 73, 74
Karamuimui To swarm upon (of flies) 103
Karanui-hipa One of the ancestors of the stick insects 31, 98
Karara Any lizard or insect 28
Katipō A wasp, designated the spider hunting wasp, *Priocnemis monachus* 126, 127
Kauā A large caterpillar, probably sphinx moth caterpillar, *Agrius convovuli* 42
Kaupapa Foundation, theme, objective 1
Kauwaha A large caterpillar, probably sphinx moth caterpillar, *Agrius convovuli* 42
Kauwhitiwhiti Grasshopper, probably a general term for all grasshoppers 86
Kawhitiwhiti Large short-horned grasshopper like *Sigaus piliferus*, but, probably a general term for all grasshoppers 30, 86, 87
Keha Flea 18, 131, 132
Kekere-ngu Black cockroach, *Platyzosteria novaeseelandiae* 30, 99
Kekereru Black cockroach, *Platyzosteria novaeseelandiae* 99
Kēkerewai Mānuka beetle, *Pyronota festiva* 31, 64
Kekeriru Black cockroach, *Platyzosteria novaeseelandiae* 99, 100
Kekewai Mānuka beetle, dragonfly and damselfly 64, 73, 74
Kēkēwai Dragonfly but designated the blue damselfly, *Austrolestes colensonis* 74
Kērangi Hawk 30
Kerewai Mānuka beetle, *Pyronota festiva* 64
Keroa Mosquito, *Culex pervigilans*; A Nelson term for daddy-long-legs [insect] such as *Leptotarsus viridus* 116, 119
Ketoketo Fly maggot 104
Kihikihi Chrysalis of moth or butterfly, cicada and nymph, and grasshopper 56, 84, 89, 91, 92, 93, 94, 95
Kihikihi kai Little grass cicada, *Kihia muta* 89, 95
Kihikihi pounamu Green cicada, possibly the snoring cicada, *Kikihia cutoria* 94
Kihikihi tara Cicada 89, 94
Kihikihi-wawa Chorus cicada, *Amphisalta zelandica* 89, 95
Kihitara Dragonfly, but designated red damselfly, *Xanthocnemis zealandica* 74
Kikārāru Black cockroach, *Platyzosteria novaeseelandiae* 18, 99,100
Kikiawaru Cricket [but from the description is a cicada] 89, 92
Kīkihi Clapping cicada, *Amphisalta* cingulata and llttle grass cicada, C. muta 89
Kikihitara Cicada, 'tree-locust' 89
Kikihiwaru Maybe dragonfly such as *Uropetala carovei* 73
Kikipounamu Katydid, *Caedicia simplex* 88
Kīkītara Cicada (tree locust) 88, 89
Kikitara Dragonfly 74
Kikiwaru South Island term for katydid, *Caedicia simplex* 88
Kiore tangiwairuru Death-watch beetle, borer beetle, such as *Hadrobregmus magnus* 71
Kiore ti Death-watch beetle, borer beetle such as *Hadrobregmus magnus* 71
Kiriwai Mānuka beetle, *Pyronota festiva* 64

Kiriwai manuka Mānuka beetle, *Pyronota festiva* 64
Kiriwenua Shield bug 96
Kiriwhenua Shield bug 96
Koeke Short-horned grasshopper 84
Kohatu Stone, rock 29
Kohitihiti Daddy-long-legs fly 119
Kopi Bag moth cocoon 38
Koroitaka A Caterpillar 33
Kowenewene Sphinx moth, *Agrius convolvuli* 47
Kōwhitiwhiti Large short-horned grasshopper like *Sigaus piliferus* but, probably a general term for all grasshoppers 31, 44, 86
Kowitiwiti Small grasshopper 87
Kuharu Caterpillar of the greasy cutworm *Agrotis ipsilon aneituma* 49
Kui (Kūī) Tiger beetle larva, *Cicindela tuberculata* 68, 69
Kura To remove lice from the hair 131
Kuranui-hipa Ancestor of stick insects, ants and manuka beetles 31, 98
Kurekure Fly 'blow' 105
Kurikuri Ground beetle such as *Megadromus capito* 70
Kutu Lice*;* Vermin of any kind 18, 129, 131
Kutukutu Vermin infesting earth mother; Fly maggots and also human head louse, *Pediculus humanus capitis* 31, 104, 129
Kuwharu Caterpillar of the greasy cutworm moth, *Agrotis ipsilon aneituma* 49
Mahitihiti Small short-horned grasshopper, such as *Phaulacridium marginale* but, probably a general term for all grasshoppers 87
Mahuika Goddess of fire and sister of Hine-nui-te-pō 39, 58, 79, 80
Makokorori Looper caterpillar 52
Makokōrori Caterpillar of magpie moth, *Nyctemera annulata* 54, 55
Makomako The wineberry, *Aristotelia fruticosa* 53
Mamahiti Small short-horned grasshopper such as *Phaulacridium marginale* but probably a general term for all grasshoppers 87
Mamawhiti Small short-horned grasshopper such as *Phaulacridium marginale* but probably a general term for all grasshoppers 87
Manu General term for birds 29, 32
Manu a Rehua Collective term for a particular group of summer singing insects 64, 65, 82, 83
Manumanu General term for insects 28
Mata Black cockroach, *Platyzosteria novaeseelandiae*; Red stinging 'fly,' probably the golden hunting wasp, *Sphictostethus nitidus*..... 99,128
Matā Seashore earwig, *Anisolabis littorea* 100
Matauranga Māori Māori knowledge, customs and culture 24
Matua kihikihi Cicada nymph 95
Matua wairoa Craneflies 119
Māui A rebel who defied most rules and accomplished great deeds 48, 57, 58, 79, 121, 122
Mauri Emotional connection 216
Māwhitiwhiti Short-horned grasshopper such as *Phaulacridium marginale* but probably a general term for all grasshoppers 87
Mawitiwiti Short-horned grasshopper such as *Phaulacridium marginale* but probably a general term for all grasshoppers 84, 87
Mihamiha Together with Peketua produced all visible insects 31
Moenganui A god who is personified by flies 103

Moeone Tiger beetle and larva, *Cicindela tuberculata* 44, 68, 69
Moeoneone Tiger beetle and larva, *Cicindela tuberculata* 68
Moka Leaf roller caterpillar, and one of three insect pests sent to destroy kūmara 40, 44
Mokamoka An insect; Leaf roller caterpillar 28, 31, 40
Mokarakara Magpie moth, *Nyctemera annulata* and red and black butterfly (probably the red admiral *Vanessa gonerilla gonerilla)* 54, 55, 56, 57
Moko Caterpillar 122
Moko-huruhuru The god who is personified by the glow-worm 121, 122
Moko-tā Death-watch beetle, borer beetle, *Hadrobregmus magnus* (also a reptile) 71
Mokoroa Caterpillar of the pūriri moth *Aenetus virescens* 35
Moko tāwhana Looper caterpillar 52
Mōrorohū Flea 132
Mowhitiwhiti Short-horned grasshoppers 87
Mū An insect (possibly the mumu chafer, *Stethaspis longicornis*) 28, 65
Mūharu (muharu) Probably caterpillar of greasy cutworm, *Agrotis ipsilon aneituma* and caterpillar of sphinx moth, *Agrius convolvuli* 42, 44, 49, 50
Mui To swarm around, to infest 103
Mūmū Mūmū chafer beetle, *Stethaspis longicornis* 65
Mumutaua Sand scarab, *Pericoptus truncatus* 66
Mumutawa Sand scarab, *Pericoptus truncatus* 66
Mūmūtawa Lady bird such as the orange-spotted ladybird, *Coccinella leonine* 66, 71
Mumuwaru Sand scarab, *Pericoptus truncatus* 66
Mumuwharu A species of beetle, possibly the mūmū chafer, *Stethaspis longicornis* 65
Muremure Tiger beetle larva, *Cicindella tuberculata* 68
Mūwharu (muwharu) Caterpillar of greasy cutworm, *Agrotis ipsilon aneituma* and caterpillar of sphinx moth, *Agrius convolvuli* 42, 49, 50
Nāenāe Possibly misapplied to the sandfly, *Austrosimulium australense* and *A.ungulatum* 113
Naenae Mosquito, such as *Culex pervigilans* 116
Naeroa Mosquito, such as *Culex pervigilans* 116
Nahonaho Common midge, *Chironomus zealandicus* 118
Namu Sandfly, *Austrosimulium australense* and *A.ungulatum* 58, 113, 114, 117, 121, 127
Namu katipo Mosquito, such as *Culex pervigilans* 116
Namu katipō The spider hunting wasp, *Priocnemis monachus* 126, 127
Namu-poto Small biting midge, *Styloconops myersi;* Sandfly 30, 31, 115, 116
Naonao The common midge, *Chironomus zealandicus* 31, 117, 118
Neinei Midge, such as the common midge, *Chironomus zealandicus* 118
Ngā tamariki a Tāne The children of Tāne (forests, birds, insects and other small animals) 6
Ngā whetū The stars 6
Ngaeroa Mosquito, such as *Culex pervigilans* 116, 117
Ngaio A small grub 28
Ngairoa Mosquito, such as *Culex pervigilans* 116
Ngarangara Anything small; Mosquito larvae, such as *Aedes notoscriptus* 28, 116
Ngārara General name for all insects and often includes small reptiles 22, 28, 29, 30, 32
Ngaro General term for fly, also the common golden brown blowfly, *Calliphora stygia* 101, 102, 104, 105, 106, 109, 110
Ngaro iro Common golden brown blowfly, *Calliphora stygia* 109, 110
Ngaro ruahine Name given to a fly used in ‘black magic’ ceremonies 110
Ngaro tamumu Name given to a fly used in ‘black magic’ ceremonies 110
Ngaro tane Name given to a fly used in ‘black magic’ ceremonies 110

Ngaro tara A name given to a fly used in 'black magic' ceremonies; Also, bristle fly *Protohistricia alcis* and rat-tail hoverfly, *Helophilus trilineatus*,..... 110, 111, 112, 113
Ngaro wīwī Spider hunting wasps 128
Ngata Aristotelia looper caterpillar, *Epiphryne xanthaspis* 52, 53
Ngaungau Common midge, *Chironomus zealandicus* 117, 118
Ngengeti Both the nymph and cast shell of a cicada 95
Ngūharu Greasy cutworm *Agrotis ipsilon aneituma* 49, 50
Ngungutawa Sand scarab, *Pericoptus truncatus* 66
Ngurengure Destructive pests of the kumara, possibly sphinx moth caterpillar *Agrius convonvuli* and greasy cutworm *Agrotis ipsilon aneituma* 42, 49
Ngutara A grub found in trees, possibly the pūriri moth caterpillar 35
Ngutu-tawa Mānuka beetle, *Pyronota festiva* 64
Nihinihi An insect 28
Niho-tunga Toothache and decayed teeth caused by the gnawing of a grub 60
Nonoko Ant, such as *Pachycondyla castanea* 123
Nuhe One of three insect pests sent by Whānui to destroy kūmara and ancestor of anuhe 40, 44
Nutara Vegetable caterpillar 36
Ongaonga Sandfly, *Austrosimulium australense* and *A.ungulatum* 113
Pairu Humming fly, possibly the Bluebottle fly, Calliphora quadrimaculata 108
Pāiru Mūmū chafer beetle, *Stethaspis longicornis* and, a 'red fly' 65, 111
Pairu nui Bluebottle fly, *Calliphora quadrimaculata* 108
Pakau Long-legged grasshopper, probably the locust, *Locusta migratoria* 85
Pakaurere Winged grasshopper, probably the locust, *Locusta migratoria* 85
Pākauroaroa Winged grasshopper, probably the locust, *Locusta migratoria* 85
Pakauroharoha Winged grasshopper, probably the locust, *Locusta migratoria* 85
Pani Wife of Rongo-māui, who gave birth to the kūmara children on earth 44
Papahu Grub of tanguru chafer beetle, *Stethaspis suteralis* and sand scarab, *Pericoptus truncatus* 66, 67
Papakirango A fan to keep flies from a corpse 105
Papakura An insect 28
Pāpapa Tiger beetle, *Cicindella tuberculata,* Black cockroach, *Platyzosteria novaeseelandiae* 68, 69, 99
Papa papa Grass grub**,** *Costelytra zealandica* 65
Papata An insect 28
Papa-tūā-nuku The earth mother 6
Pari kori taua Owl moth, *Dasypodia cymatodes* 20, 51
Pātiki A fan to keep flies from a corpse 105
Patu-ngaro A fan to keep flies from a corpse 105
Patungarongaro A particular tukutuku panel design 105
Patupaearehe Bluebottle fly, *Calliphora quadrimaculata* 108, 109
Pauru A green beetle possibly the mūmū chafer, *Stethaspis longicornis;* and a red fly, possibly the bristle fly, *Protohistricia alcis* 65, 111
Pekepeke-haratua Craneflies 30, 119
Peketua Together with Mihamiha, produced all visible insects 31
Pepe General term for moths and occasionally butterflies. Also a term for the grub and pupa of the huhu beetle, *Prionoplus reticularis* 13, 29, 30, 31, 33, 38, 48, 50, 51, 53, 54, 56, 61, 75
Pepe atua The owl moth, *Dasypodia cymatodes* and forest ringlet, *Dodonidia helmsii* 13, 33, 51, 56, 58
Pepe kēhua The owl moth, *Dasypodia cymatodes* 50, 51

Pepe tāwhanawhana General term for looper moths such as flax looper moth, *Orthoclydon praefectata* and Cabbage tree looper moth, *Epiphryne verriculata* 52, 53
Pepe-te-muimui Huhu beetle, *Prionoplus reticularis* 30, 60, 61
Pepeke Beetle 59
Pēpepe General terms for moths or butterflies 33, 56
Pepe tuna Puriri moth, *Aenetus virescens* 13, 34, 35
Piharenga Black crickets, *Teleogryllus commodus* 82, 83
Piharēinga Black crickets, *Teleogryllus commodus* 82, 83
Pirenga Black crickets, *Teleogryllus commodus* 82
Pohuhu To cluster around (as of flies) 110
Pokai A swarm of flies 103
Poko Ant, such as *Pachycondyla castanea* 123
Pokopoko Dragonfly nymph 73
Pokorua Ants such as, *Pachycondyla castanea* 123
Pokotapu An insect but probably an ant 123
Pōngarongaro Common midge, *Chironomus zealandicus*..... 117, 118
Pōpokoriki (Popokoriki) Ants such as *Pachycondyla castanea* 123
Pōpokorua Ants such as *Pachycondyla castanea* 123, 124, 125
Potipoti Swarming destructive insects; Devouring insects 28, 43
Pū a Raukatauri Bag moth cocoon, *Liothula omnoivorus* 38, 39
Puene Both the dobsonfly, *Archichauliodes diversus* and the stonefly, *Stenoperla prasina* 75, 76
Pūeneene Both the dobsonfly, *Archichauliodes diversus* and the stonefly, *Stenoperla prasina* 75, 76
Pukawerewere Term for spiders that includes insects 28
Pukupuku Caterpillar of the flax notcher moth, *Tmetolophota steropastis* 33, 51
Puna-wētā The marble leaf tree, *Carpodetus serratus* 79
Punga Punga mated with Tāne to produce insects many of which were considered ugly 32, 78
Pūngoungou A chrysalis, of probably the sphinx moth, *Agrius convolvuli* 46
Pūrātoke Glow-worm, *Arachnocampa luminosa* 120, 121
Pūrēhua General term for moths and butterflies 33
Purehurehu A moth 31, 33
Purēhurēhu A large moth 33
Pūrerehu Moths 33
Purerehua General term for moths but may include dull coloured butterflies 29, 33, 56
Puruhi Flea 132
Puta-puta-wētā The marble leaf tree, *Carpodetus serratus* 79
Pūtangatanga Tree wētā, *Hemideina thoracica* (*Deinacrida megacephala*) and *H. crassidens* 79, 80
Puwerewere Spiders 29
Rahui Prohibition, ban 7
Rakataura, **Raukatauri** Goddess of music and the powers of the air 38, 39, 93
Rākau Trees 29
Rako Bluebottle fly, *Calliphora quadrimaculata* 108
Rangataua Locust, *Locusta migratoria* 85
Ranginui The sky father 6, 32
Rangitiratanga Freedom 187
Rango General term for fly, also Bluebottle fly, *Calliphora quadrimaculata* 13, 30, 31,101, 103, 105, 108, 109
Rango pango Bluebottle fly, *Calliphora quadrimaculata* 13, 108
Rango tamumu Metallic blue hoverfly, *Helophilus hochstetteri* 110, 112

Rango tua maro Common golden brown blowfly, *Calliphora stygia* 13, 109
Rata The chief who inappropriately felled a tree and invoked the wrath of the tini o Hakuturi 29
Ratorua Ancestor of stick insects, ants and mānuka beetles 31, 98
Raukatauri Bag moth cocoon, *Liothula omnoivorus* 38, 39
Rehua A whatukura (male god) that dwells in penultimate heaven and acts as a messenger 31
Reporepowai Mānuka beetle, *Pyronota festiva* 64
Riha Eggs and adult Human head lice, *Pediculus humanus capitus* 129, 130, 131
Rihariha Nit, head louse, *Pediculus humanus capitus* 129
Riia Human head louse, *Pediculus humanus capitus* 129
Rika Human head louse, *Pediculus humanus capitus* 129
Riki Eggs of human head louse, *Pediculus humanus capitus* 130
Rirerire The small black field cricket, *Bobilla* sp. 82, 83
Rō Ants, the praying mantid *Orthodera novaezealandiae* and stick insects like *Acanthoxyla prasina* 30, 31, 44, 97, 98, 123, 124
Rongo God of cultivated food and peacemaker 44
Rongo-mā-Tāne God of cultivated food and peacemaker 7
Rongo-māui Younger brother of Whānui, who stole his kūmara children and brought them to earth 44
Roro Ant 123
Rōroro Ant 31, 123, 124
Rua The ancestor and creator of wood carving 107
Ruaeo The god that produced lice (kutu) 131
Ruatau A whatukura (male god) that dwells in penultimate heaven and acts as a messenger 31
Tahu-whakaaro The family of very small insects 32
Tākituri Death-watch beetle, borer beetle, *Hadrobregmus magnus* 71
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Exhibition - Te Manawa, 18 July - 5 October 2014

The following images show some aspects of the exhibition.

from GONDWANALAND *to* GONEWONDERLAND

Mai i Gondwanaland ki tua o Tāwauwau

This exhibition showcases the varied ways two different cultures – Māori and European, have valued and interpreted the insect world around the time of colonisation. For early Māori, a close association and observation of the natural world was not only essential for physical survival, but also spiritual wellbeing. Insects have a shared whakapapa, they provided a connection to the spiritual world, and they were either a direct source of food, or were a food source for other harvestable items of food. Others negatively impacted upon the individual person as a parasite or impinged upon the community when cultivated foods like the kūmara were threatened.

For many early colonising Europeans, insects were mostly registered as pests or as collectable specimens for science. However, the vast areas of bush that were cleared and the multitude of pests, predators and competitors that were introduced around this time, have had a huge impact upon insect populations and the diversity of New Zealand's fauna and flora in general.

From Gondwana, a land of birds, insects, reptiles and ferns - to a forested wonderland, **lost**.

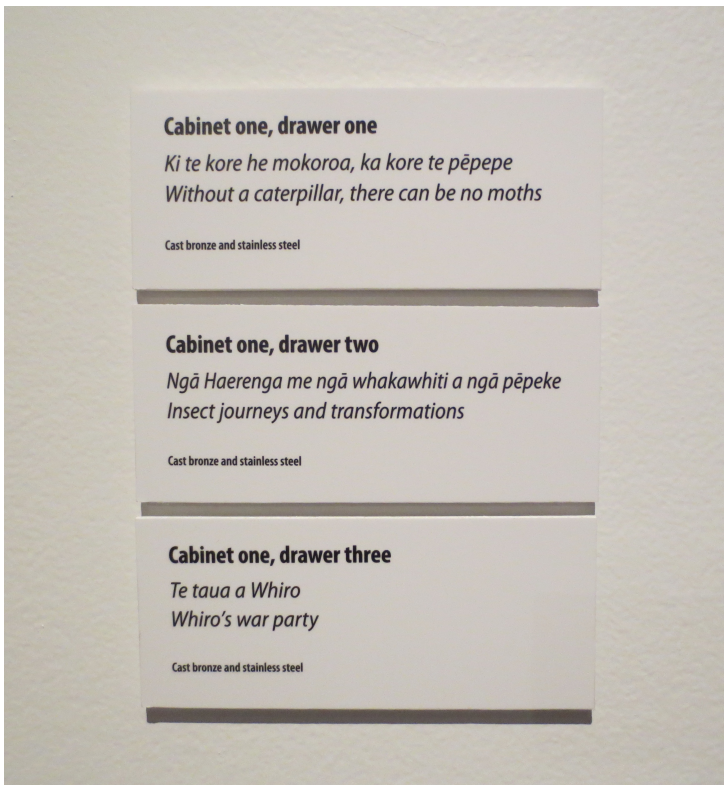
Ko tā te whakaaturanga nei he tirotiro i ngā matahuhua o ngā ahurea tokorua – kua whai ngākautia, kua tiakina hoki Te Aitanga a Punga e ngāi māori me ngāi pākehā i te wā o te taipūwhenua. Ki te Māori he mea nui te noho tahi me te taiao hei oranga tinana, oranga wairua. He whakapapa tūhonohono tā Te Aitanga o Punga hei hono ki te ao wairua, ā, he kai hoki mā te tangata, mā ētahi atu kararehe rānei. Ko ētahi atu ngāngara ka noho hei whakahōhā pērā i te pirinoa, hei kai rānei i te kūmara.

Hei tā te nuinga o ngā tauiwi hou ki Aotearoa, he riha te nuinga o ngā ngāngara ka rehita pērātia, he mea kohi rānei mō te pūtaiao. Heoi anō, nā te kaha topetope rākau, me te tini momo rāwaho i mauria mai, kua pākaha mai ki ngā taupori ngāngara me te ao whānui o Tāne Māhuta.

Mai i Gondwana, he whenua nō te manu, te ngāngara, te moko me te heruheru – ki tētahi whenua urutapu, **kua ngaro**.

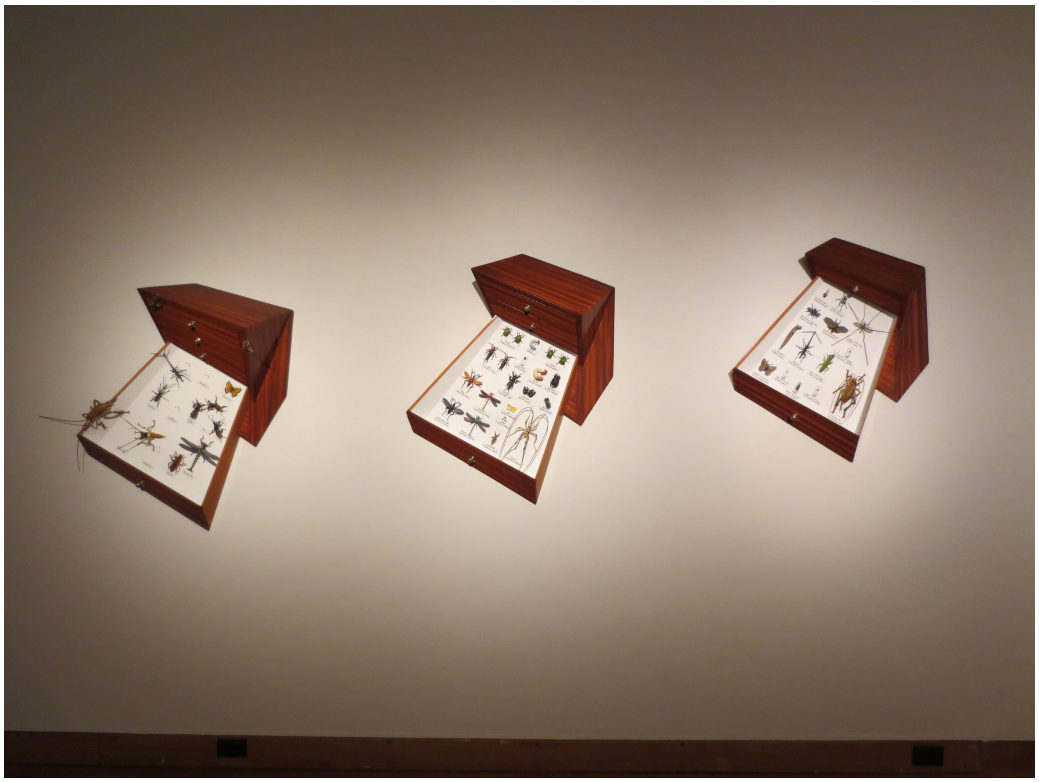
Introductory statement

First wall displaying Cabinet One, and from right to left, drawers one, two and three



Labels for the first cabinet

Title wall displaying Cabinet Two, and from right to left, drawers one, two and three



Third wall displaying Cabinet Three, and from right to left drawers one, two and three

The following three images are from the exhibition's opening night. Images are courtesy of Richard Grant.

Liz Grant