

A New Zealand native timber specimen board

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INTRODUCTION

The project to make a New Zealand native timber specimen board began when I was trying to decide what to do with a set of 24 New Zealand Forest Service commercial native timber tablets. Twenty-four samples were not enough for even half of an 8 × 8 chessboard, so I decided to collect more species and cut my own pieces using a circular saw, a compound mitre saw, a bandsaw and if necessary handsaws.

MAKING A LIST

To make a list of desired species I initially started with Poole & Adams (1963), Dawson & Lucas (2012), and for Chatham Island trees, Richards (1952). I consulted a number of other references partly as an aid to identification and partly to establish old common names and uses as I already had, or had been given, old fence posts and battens. It was not long before I had a list of over seventy species and the idea of a larger specimen board developed. I went through my main references again and compiled a list of 195 species with either a Māori name or a common name. (I decided anything with neither would probably be too small to process, although there are several exceptions.) The selected species were put on a computer database so they could be referenced by botanical name, common name or Māori name. Alternative names were also assembled, but not all are listed here. These were checked against the New Zealand Plant Conservation Network database and the Te Aka online Māori Dictionary if necessary. I also gave a copy of an early list to a Wellington Botanical Society member, Chris Horne, and am grateful for his many corrections and suggestions. The “final” list is given in Appendices 1 and 2. I am prepared to amend the list to incorporate further corrections or suggestions I receive. All of the sources used are listed in the References section.

METHOD OF COLLECTION OF SPECIMENS

My preferred method of collection was to find a tree with a dead branch or trunk, or a recently dead tree which was still identifiable. If dead wood

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was not available, I collected suitable sized live branches or trunks from a tree that was big enough to survive. The name of the species was written on the sample immediately. Most of the specimens I have collected have come from my own property, the adjoining Forest & Bird Reserve (with advice and help from the “Head Gardener”), and from local farms with permission from their owners (mainly friends). In one case a local Reserve Manager gave me permission but asked me to be discreet, while in another case a total stranger told me to “go ahead” when I explained the project. I have also collected some samples from road and trackside clearings. Permission will have to be sought for some species not yet collected, from DOC, Wellington Regional Council or local Councils.

Seasoning, if required, can take weeks or months, depending on species and ambient air temperature and humidity. Timber collected was cut into reasonably straight lengths between 200 and 800 mm and then cut into strips about 5 mm thick. If not well seasoned, these strips had to be treated with an anti-mould solution and clamped to prevent warping or cupping. When seasoned, strips were cut into 40 mm squares, cutting out flaws, rotten wood and insect damage but so as to preserve the character of the wood. Other strips, if sound, were left uncut so as to provide larger samples if required in future. The squares were then glued onto a stable 10 mm chipboard base together with a U-shaped edge piece making sure that all the grain was in the same direction. After sanding the assembled board with a belt sander, pre-sanded pieces running across the grain were glued on the two remaining edges.

THE PROJECT AS A LEARNING EXPERIENCE

The whole project has involved a great deal of learning. When I started I was not sure if 64 species large enough to provide a 40 mm square could be obtained but I now have about 100 and there are more to be gathered. To learn more I have made an effort to go on BotSoc field trips and have learned a huge amount. For example, I now know how to identify *Geniostoma ligustrifolium*, *Coprosma robusta*, and *C. lucida*—the latter with the raised midrib on the upper side of the leaf. I have also learnt that northern rata, at least in the Wellington area, grows commonly as a tree and not only epiphytically. The beeches are also less of a mystery with red beech having 3–4 pairs of secondary veins and hard beech having 5–6 pairs.

In the workshop, red beech is identifiable when sawn by a sweet smell; the other beeches also have the sweet smell but not as strong as red beech. Kauri has a distinctive honey smell. Coprosmas and lancewoods have characteristic unpleasant smells, but green coprosma often has a sweet

smell. Rimu often has an acrid smell.

Something else I have become aware of is the difficulty of obtaining a “characteristic” specimen. I think this is particularly so as I have relied on collecting branches rather than trunks so I have probably collected immature or sap wood. This came home to me when I collected two branches off the same northern rata: one branch is much paler than the other. Having said that, most genera and most species are totally different to anything else. For example, the two rata branches are both recognisable as rata. The five or six kowhai I have are very similar, but again, different to any other genera.

Another field of interest has been the similarity or dissimilarity of species within a genus. For example, *Melicope simplex* and *M. ternata* are identical, as are *Lophomyrtus bullata* and *L. obcordata*. The beech species, however, are very different to each other, as are pohutukawa, northern rata and southern rata. I am looking forward to obtaining further species so I can make more comparisons; for example, tawa and taraire.

I have also learned the importance of using scientific names. Akeake for example is used for species in at least two different genera—*Dodonaea viscosa* and *Olearia traversiorum*. Kaikawaka is used for both *Libocedrus bidwillii* and *L. plumosa*; the sample of kaikawaka I have been given is probably *L. plumosa* but I need to get a specimen of *L. bidwillii* to compare. Another interesting aspect has been the wide range of names; some, especially those used by the early settlers, have totally disappeared from common usage. Two frustrating aspects of the project have been changes in botanical names, making it very difficult to track common and Māori names for the one species through from Kirk (1889) to the present day. I particularly wanted to use Kirk (1889) to find out what names were in use in the mid-late 1800s but many species have changed both generic and specific name. The other frustrating aspect is the lack of a modern day equivalent of Laing & Blackwell (1957) which had, for its day, all trees and shrubs. Most modern books exclude plants under 3 or 4 metres, which cuts out the hebes, *Ozothamnus*, and dracophyllums, and many others which are large enough to provide a 40 mm sample. Eagle (1975, 1982) is more complete, but hardly a field guide.

FOR THE FUTURE

I unashamedly admit I am looking for help to further this project (see Appendix 2). Some genera/species are not available in the Wellington region and even some of those that are have not yet yielded a collectable sample, or are in reserves for which I do not (yet) have a collecting permit. If anyone is

prepared to help, I suggest they contact me first in case samples have already been obtained.

On the other hand, I am quite prepared to help anyone else who might like to prepare their own specimen board. The board shown in Fig. 1 was arranged in family order and follows the list in Appendix 1 except totara has been used as the top side, matai on the left hand side, rimu on the right hand side, and yellow-silver pine on the bottom side. Thus, Appendix 1 can be used as an identification guide to the species on the board. I hope also that this article might inspire other people (particularly younger amateur botanists) to undertake their own research. For instance, could my list be extended? Are some of the species on my list incapable of producing a sample of the necessary size? What other Māori or common names could be added to my list (and possibly to the existing online Māori Dictionary or the New Zealand Plant Conservation Network database)?



Figure 1. New Zealand native timber board with 100 pieces. Appendix 1 can be used as an identification guide to the species on the board, beginning top-left.

ACKNOWLEDGEMENTS

I have already referred to the help I have had from Chris Horne but I would also like to acknowledge his help in the field and for suggesting this article. I would also like to thank the many people on field trips who have assisted in identifying plants, and also the many people (in particular Wanda Tate of RF&BPS and Pauatahanui Reserve Committee) who have given me samples (one, of *Sophora molloyi*, was rescued from a firewood bin hours before cremation), permission to take specimens, or told me where to find specimens. Thanks also to Heather Phillips for preparing the computer database, to my partner Judith for help in collecting specimens and typing this article, and to Leon Perrie for help in preparing this article.

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APPENDIX 1. NEW ZEALAND NATIVE TIMBER SPECIES COLLECTED, AND LARGE ENOUGH TO YIELD A 40 MM SQUARE, AS AT 22 APRIL 2014.

The list is arranged by family and follows Wardle (2011). If a family is not included in Wardle, I have interpolated in the order shown in Poole & Adams (1963).

Scientific name	Māori name(s)	Common name(s)
<i>Podocarpus totara</i>	tōtara	lowland tōtara
<i>Podocarpus cunninghamii</i>	tōtara	Hall's tōtara, Cunningham's tōtara
<i>Prumnopitys taxifolia</i>	mataī	black pine
<i>Prumnopitys ferruginea</i>	miro	brown pine
<i>Dacrycarpus dacrydioides</i>	kahikatea	white pine
<i>Dacrydium cupressinum</i>	rimu	red pine
<i>Halocarpus biformis</i>		pink pine, yellow pine
<i>Lepidothamnus intermedius</i>		yellow silver pine
<i>Manoao colensoi</i>	manoao	silver pine
<i>Libocedrus plumosa</i>	kawaka, kaikawaka	NZ cedar, NZ arbor-vitae
<i>Agathis australis</i>	kauri	kauri
<i>Pseudowintera axillaris</i>	horopito	pepper tree
<i>Pseudowintera colorata</i>	horopito	pepper tree
<i>Beilschmiedia tawa</i>	tawa	tawa
<i>Litsea calicaris</i>	mangeao	mangeao
<i>Hedycarya arborea</i>	porokaiwhiri	pigeonwood
<i>Laurelia novae-zelandiae</i>	pukatea	pukatea
<i>Piper excelsum</i>	kawakawa	bitter pepper, pepper tree
<i>Melicytus ramiflorus</i>	māhoe	whiteywood
<i>Melicytus lanceolatus</i>	māhoe wao, kai-weta	narrow leaved māhoe
<i>Fuchsia excorticata</i>	kōtukutuku	tree fuchsia
<i>Toronia toru</i>	toru	toru
<i>Knightia excelsa</i>	rewarewa	NZ honeysuckle
<i>Coriaria arborea</i>	tutu	tree tutu
<i>Pittosporum tenuifolium</i>	kōhūhū	black matipo, black mapau
<i>Pittosporum crassifolium</i>	karo	turpentine tree
<i>Pittosporum eugenioides</i>	tarata	lemonwood
<i>Syzygium maire</i>	maire tawake	swamp maire
<i>Lophomyrtus bullata</i>	ramarama	native myrtle
<i>Lophomyrtus obcordata</i>	rōhutu	NZ myrtle
<i>Leptospermum scoparium</i>	mānuka, kahikātoa	tea tree
<i>Kunzea ericoides</i>	kānuka, manuka-rauriki	tree mānuka
<i>Metrosideros excelsa</i>	pōhutukawa	NZ Christmas tree
<i>Metrosideros robusta</i>	rātā (northern)	ironwood
<i>Metrosideros umbellata</i>	rātā (southern)	ironwood

Scientific name	Māori name(s)	Common name(s)
<i>Aristotelia serrata</i>	makomako	wineberry
<i>Elaeocarpus dentatus</i>	hinau	hinau
<i>Plagianthus divaricatus</i>	mākaka	saltmarsh ribbonwood
<i>Plagianthus regius</i>	mānatu	lowland ribbonwood
<i>Hoheria populnea</i>	houhere	lacebark
<i>Hoheria sexstylosa</i>	houhere	lacebark
<i>Entelea arborescens</i>	whau	corkwood
<i>Weinmannia racemosa</i>	kāmahi	red birch
<i>Carpodetus serratus</i>	putaputawētā, kai-weta	marbleleaf
<i>Clianthus puniceus</i>	kōwhai ngutu-kākā	kākā beak
<i>Sophora microphylla</i>	kōwhai	kōwhai
<i>Sophora tetraptera</i>	kōwhai	yellow kōwhai
<i>Sophora chathamica</i>	kōwhai	coastal kōwhai
<i>Sophora molloyi</i>	kōwhai	Cook Strait kōwhai
<i>Carmichaelia australis</i>	maukoro	native broom
<i>Fuscospora fusca</i>	tawhairaunui	red beech
<i>Fuscospora truncata</i>	tawhairaunui	hard beech
<i>Fuscospora solandri</i>	tawhairauriki	black beech
<i>Lophozonia menziesii</i>	tawhai	silver beech
<i>Streblus heterophyllus</i>	tūrepo	small-leaved milk tree
<i>Streblus banksii</i>	tūrepo, ewekuri	large-leaved milk tree
<i>Corynocarpus laevigatus</i>	karaka, kopi	NZ laurel
<i>Pennantia corymbosa</i>	kaikōmako	bridal tree
<i>Pomaderris kumeraho</i>	kūmarahou	gumdiggers' soap
<i>Discaria toumatou</i>	matagouri, tūmatakuru	wild Irishman
<i>Melicope ternata</i>	wharangi	wharangi
<i>Melicope simplex</i>	poataniwha	poataniwha
<i>Dysoxylum spectabile</i>	kohekohe	NZ cedar, NZ mahogany
<i>Alectryon excelsus</i>	titoki	NZ ash
<i>Dodonaea viscosa</i>	akeake	akeake
<i>Meryta sinclairii</i>	puka	puka
<i>Schefflera digitata</i>	patē	seven finger
<i>Pseudopanax crassifolius</i>	horoeka	lancewood
<i>Pseudopanax chathamicus</i>	hohō	Chatham lancewood
<i>Pseudopanax arboreus</i>	whauwhaupaku	five-finger
<i>Griselinia littoralis</i>	kāpuka, pāpāuma	broadleaf
<i>Gaultheria antipoda</i>	takapo	snowberry, bush snowberry
<i>Leucopogon fasciculatus</i>	mingimingi	tall mingimingi
<i>Corokia cotoneaster</i>	korokio	golden korokio
<i>Dracophyllum longifolium</i>	inanga, inaka	
<i>Dracophyllum arboreum</i>	tarahinau	grass tree
<i>Myrsine salicina</i>	toro	long leaved matipo

Scientific name	Māori name(s)	Common name(s)
<i>Myrsine australis</i>	māpou	red matipo
<i>Myrsine chathamica</i>	mataira	swamp mapou
<i>Nestegis cunninghamii</i>	maire rau nui	black maire
<i>Geniostoma ligustrifolium</i>	hangehange	māori privet
<i>Coprosma grandifolia</i>	kanono	large-leaved coprosma
<i>Coprosma repens</i>	taupata	coastal karamū
<i>Coprosma robusta</i>	karamū	glossy karamū
<i>Coprosma lucida</i>	karamū	shining karamū
<i>Coprosma arborea</i>	māmāngi	tree coprosma
<i>Coprosma propinqua</i>	mingimingi	broad-leaved mingimingi
<i>Brachyglottis repanda</i>	rangiora	paperleaf
<i>Olearia paniculata</i>	akiraho	golden akeake
<i>Olearia arborescens</i>		common tree daisy
<i>Olearia furfuracea</i>	akepiro	tree daisy
<i>Olearia rani</i>	heketara	forest tree daisy
<i>Olearia traversiorum</i>	akeake	Chatham Island akeake
<i>Olearia solandri</i>		coastal tree daisy
<i>Ozothamnus leptophyllus</i>	tauhinu	cottonwood
<i>Solanum aviculare</i>	poroporo	poroporo
<i>Hebe stricta</i>	koromiko	koromiko
<i>Hebe parviflora</i>	koromiko	koromiko
<i>Myoporum laetum</i>	ngaio	ngaio
<i>Vitex lucens</i>	pūriri	NZ oak

APPENDIX 2. NEW ZEALAND NATIVE TIMBER SPECIES WHICH MAY YIELD A 40 MM SQUARE, BUT WHICH HAVE NOT BEEN COLLECTED, AS AT 22 APRIL 2014

The list is arranged by family and follows Wardle (2011) except I have placed the two *Raukaua* species at the end of *Pseudopanax*. If a family is not included in Wardle, I have interpolated in the order shown in Poole & Adams (1963).

Scientific name	Māori name(s)	Common name(s)
<i>Podocarpus acutifolius</i>	tōtara	needle leaved tōtara
<i>Podocarpus nivalis</i>	tauhinu	alpine tōtara
<i>Halocarpus kirkii</i>	monoao	barrier pine
<i>Phyllocladus trichomanoides</i>	tānekaha	celery pine
<i>Phyllocladus alpinus</i> agg.	toatoa	mountain toatoa
<i>Phyllocladus toatoa</i>	toatoa	celery pine
<i>Libocedrus bidwillii</i>	kaikawaka	mountain cedar
<i>Beilschmiedia tarairi</i>	taraire	taraire
<i>Ascarina lucida</i>	hutu	glossy ascarine
<i>Melicytus macrophyllus</i>	māhoe	large leaved māhoe
<i>Melicytus novae-zelandiae</i>	māhoe	
<i>Melicytus chathamicus</i>	māhoe	Chatham Island māhoe
<i>Melicytus flexuosus</i>	māhoe	
<i>Melicytus obovatus</i>	māhoe	
<i>Pisonia brunoniana</i>	parapara	bird catching tree
<i>Pittosporum cornifolium</i>	tāwhiri karo	perching kohuhu
<i>Pittosporum colensoi</i>	rautāhiri	black māpou
<i>Pittosporum obcordatum</i>	kohukohu	small leaved kohukohu
<i>Pittosporum umbellatum</i>	haekaro	haekaro
<i>Neomyrtus pedunculata</i>	rōhutu	small leaved myrtle
<i>Metrosideros bartlettii</i>	rātā moehau	Bartlett's rātā
<i>Metrosideros kermadecensis</i>	pōhutukawa	Kermadec pōhutukawa
<i>Metrosideros parkinsonii</i>		Parkinson's rātā
<i>Elaeocarpus hookerianus</i>	pōkākā	native oak
<i>Hoheria angustifolia</i>	houhere	narrow-leaved lacebark
<i>Hoheria glabrata</i>	houhere	mountain ribbonwood
<i>Hoheria lyallii</i>	houhere	mountain ribbonwood
<i>Weinmannia silvicola</i>	tawhero	tawhero
<i>Ackama rosifolia</i>	makamaka	makamaka
<i>Ackama nubicola</i>	tūroa onamata	tūroa onamata
<i>Ixerba brexioides</i>	tāwari	NZ arbutus
<i>Quintinia acutifolia</i>		Westland quintinia
<i>Quintinia serrata</i>	tāwheowheo	quintinia, NZ lilac
<i>Quintinia elliptica</i>	tāwheowheo	quintinia
<i>Sophora fulvida</i>	kōwhai	Waitakere kōwhai

Scientific name	Māori name(s)	Common name(s)
<i>Sophora godleyi</i>	kōwhai	Godley's kōwhai
<i>Sophora longicarinata</i>	kōwhai	limestone kōwhai
<i>Carmichaelia glabrescens</i>		pink broom
<i>Carmichaelia torulosa</i>		Canterbury pink broom
<i>Carmichaelia stevensonii</i>		weeping broom
<i>Carmichaelia muritai</i>		coastal tree broom
<i>Carmichaelia williamsii</i>		William's broom
<i>Carmichaelia arborea</i>		South Island broom
<i>Fuscopora cliffortioides</i>	tawhairauriki	mountain beech
<i>Urtica ferox</i>	ongaonga	tree nettle
<i>Pennantia baylisiana</i>		Three Kings kaikōmako
<i>Mida salicifolia</i>	maire taiki	willow leaved maire
<i>Pomaderris apetala</i>	tainui	hazel
<i>Pomaderris phyllicifolia</i>	tauhinu	tauhinu
<i>Alectryon grandis</i>	titoki	Three Kings titoki
<i>Pseudopanax ferox</i>	horoeaka	fierce lancewood
<i>Pseudopanax gilliesii</i>		
<i>Pseudopanax lessonii</i>	houpara	coastal five-finger
<i>Pseudopanax macintyreii</i>		limestone three-finger
<i>Pseudopanax colensoi</i>	orihou	mountain five-finger
<i>Pseudopanax linearis</i>		mountain lancewood
<i>Raukawa edgerleyi</i>	raukawa	orangewood
<i>Raukawa simplex</i>	haumakaroa	haumangōroa
<i>Griselinia lucida</i>	puka	shining broadleaf
<i>Epacris pauciflora</i>	tūmingi	bog heath
<i>Gaultheria oppositifolia</i>	niniwa	lily of the valley flower
<i>Archeria racemosa</i>		pink heath
<i>Corokia buddleioides</i>	korokio	silver korokio
<i>Dracophyllum longifolium</i>	naka	long leaved grass tree
<i>Dracophyllum traversii</i>	neinei	mountain neinei
<i>Dracophyllum latifolium</i>	neinei	broad leaved grass tree
<i>Dracophyllum strictum</i>	tōtorowhiti	grass tree
<i>Dracophyllum urvilleanum</i>	wharekohu	grass tree
<i>Planchonella costata</i>	tawāpou	tawāpou
<i>Myrsine divaricata</i>		weeping matipo
<i>Nestegis apetala</i>	maire	coastal maire
<i>Nestegis lanceolata</i>	maire	white maire
<i>Nestegis montana</i>	maire rōroro	narrow leaved maire
<i>Aleuosmia macrophylla</i>	toropapa	toropapa
<i>Aleuosmia quercifolia</i>	toropapa	toropapa
<i>Coprosma wallii</i>		bloodwood
<i>Coprosma foetidissima</i>	hūpiro	stinkwood
<i>Coprosma linariifolia</i>	mikimiki	yellow wood

Scientific name	Māori name(s)	Common name(s)
<i>Coprosma chathamica</i>	karamū	incantation tree
<i>Brachyglottis cassinioides</i>		
<i>Brachyglottis elaeagnifolia</i>		leatherwood
<i>Brachyglottis perdicoides</i>	raukūmara	shrubby groundsel
<i>Brachyglottis rotundifolia</i>	pūwharetāiko	muttonbird scrub
<i>Brachyglottis huntii</i>	rautini	Chatham Island Christmas tree
<i>Brachyglottis kirkii</i>	kohurangi	Kirk's tree daisy
<i>Olearia angustifolia</i>	tētēaweka	muttonbird scrub
<i>Olearia colensoi</i>	tūpare	leatherwood
<i>Olearia chathamica</i>	kereterehi	Chatham tree daisy
<i>Olearia albida</i>	tanguru	tree daisy
<i>Olearia ilicifolia</i>	hakeke	Māori holly
<i>Rhabdothamnus solandri</i>	waiū-atua	NZ gloxinia
<i>Hebe elliptica</i>	koromiko	shore koromiko
<i>Hebe salicifolia</i>	koromiko	willow koromiko
<i>Hebe macrocarpa</i>	koromiko	koromiko
<i>Avicennia marina</i>	mānawa	mangrove