

NGĀ HOA O TE MĀRA REO

The Friends of Te Māra Reo

Kawerongo / Newsletter #2, Raumati / Summer 2022

Ko pīpīwharauora, ko koekoeā, ka hou ki roto i te whenua noho ai i te ngahuru ¹



‘Ua tafea ‘o le tau’ofe²

E hoa mā, tēnā rā koutou katoa.

This issue of the newsletter starts with a note about the untimely passing of a very good friend of the garden, and goes on to extend the information on the web pages about the Polynesian bamboo, *Schizostachyum glaucum* (***kofo**, with reflexes referring to the same plant in most tropical Polynesian languages) and its arboreal namesake in Aotearoa, the **kohe** or **kohekohe**, *Didymocheton spectabile*, along with a few other plants with related names. This is followed by thanks to those who have contributed information or resources, and a series of updates on (1)

¹ In autumn the pīpīwharauora and koekoeā dig into the earth to live. That is, they have disappeared from the land, but since they will be heard again in Spring or Summer, they must be hiding somewhere out of sight.

² The bamboo shoots have been swept away. A Samoan saying marking the passing of a notable person, as the shoots of bamboo may be carried away by a flood. [Photograph of Polynesian bamboo, *Schizostachyum glaucifolium*, by R.B., taken 5 Oct 2007., University of Hawai‘i Mānoa Campus, Honolulu.]

How the garden has been growing; (2) Recent additions and updates to the web pages; and (3) The most popular plant names attracting visitors to our web site since the last issue.

By the time you get this, Summer 2020-21 will be a distant memory; another Summer will also be about to vanish, and the visiting pīpīwharau and koekoeā, the shining and long-tailed cuckoos, will be about to head well away from Te Māra Reo to their tropical resorts. The karaka drupes have also ripened once, meriting another visit from the kererū who first appeared here to feast on the horoeka berries last Spring; they are now (February 2022) getting ready for the new harvest season. This therefore becomes the issue for Te Raumati 2021-22, along with Te Ngahuru and Hotoke 2021. With luck, we will have caught up with the seasons well before the pīpīwharau next visits Te Māra Reo.

There have been many reasons for the delay, but a major contributing cause has been that I managed to injure my right leg colliding with a severed culm of moso bamboo (more about this dangerous plant below) while working with my son Alan to reclaim part of the original māra reo; the wound took more than a year to heal and for many months it was painful to walk and even more painful to sit at my desk for more than a few minutes at a time. I am very grateful to the ACC-contracted and District Nurses who visited me daily for many weeks to treat the wound, and then monitored it regularly until the healing process was well advanced. Alan also was also laid low for several weeks by a bamboo-related injury to his foot which required similar attention.

Some friends had planned to help us re-establish the garden in conjunction with a revegetation project, but Covid intervened and these plans have now been put on hold. Since I was also responsible for contributing to and editing a book on Maori governance (now published, I'm happy to report: a little more about this later), and had several other academic projects to take care of, adding new material to the website unfortunately had to take second place. This summer however things have definitely taken a turn for the better. Some friends from the Coromandel, Rongomai and Sassy Bailey, fellow members of the NZ Bamboo Society, spent a couple of days with us helping to fell a sizable chunk of moso near the gate, and since then Alan has been able to greatly expand this clearance in the area where I plan to re-establish a compact Māra Reo walkway garden, even though he has had to work unaided. It looks as if the physical garden will soon come back to life!

I'm reminded of one of the Biblical verses that has been quoted on several of the web pages, Isaiah 41:19, because of the large number of Māori tree names which appear in the translation in Te Paipera Tapu. This district was rendered virtually devoid of native vegetation after the British invasion of 1863, and over the last 25 years we have been trying to remedy that state of affairs. All five of the trees native to Aotearoa named in the translation of Isaiah's verse are growing here now, along with the two exotic ones. I'm confident that the Good Lord approves!

Ka whakatokia e ahau te koraha ki te hita, ki te **kōwhai**, ki te **ramarama**, ki te rākau hinu; ka tū i ahau te **kauri** ki te titohea, te **rimu**, ratou tahi ano ko te **ake**. [Ihaia 41:19]

(I will put in the wilderness the cedar, the acacia, the myrtle and the olive; I will set in the desert the cypress, the plane and the pine together. [NRSV])

In Memoriam: Paora Mato

We were greatly saddened to learn early in June that our very good friend Paora Mato had died suddenly. This came as a great shock, as we thought Paora was in the best of health and we were looking forward to seeing him again in the very near future. He was not only a good friend who had given us a great deal of practical help with our garden, but I also had the privilege of being a co-supervisor of his PhD in Computer Science, which he completed in 2018, advising him on the linguistic aspects of his studies.



At the time of his death Paora was working on a project on Tikanga in Technology, funded by the Ministry of Business, Innovation and Employment, and with our friend Associate Professor Te Taka Keegan and other colleagues on “Project Ātea”, “an immersive experience that draws on Māori protocol and world views as well as new technologies to preserve and share knowledge, language and culture in the digital realm”³. We have lost a very dear friend, and the country has lost a multi-talented creative citizen at the outset of a new and promising career.

Unfortunately, the only photographs I have of Paora in Te Māra Reo are three we took in March 2017, when he brought his sister Kanon to visit us before she returned to her home in Australia, and in which the details of Paora’s head and shoulders are obscured by the brilliance of the light. The photo reproduced above is courtesy of the Research Gate network. However the Samoan muagagana (whakatauākī) at the start of this newsletter, and the *kofe* (Polynesian bamboo) above it also express our sorrow at the loss of Paora, and the joy of having known him. Kia whiti ki a ia te māramatanga mutunga kore.

Ngā Mihi – Thanks

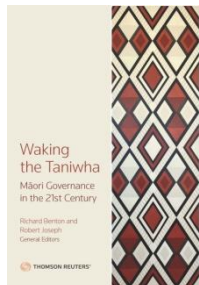
We remain greatly indebted to the NZ Plant Conservation Network members who have given us permission to use their photographs, along with Gerald McCormack (Cook Islands Biodiversity Database) and Forrest and Kim Starr (Starr Environmental, Hawaii) for their help in filling the gaps for illustrations of tropical plants. Thanks are due also to contributors to Wikimedia along with the Department of Conservation and Landcare Research photographers who have released their photos into the public domain or through Creative Commons licences.

Thanks also to friends who through their practical help, recently particularly Wi Kuki Kingi and Tania Wolfgramm, and Rongomai and Sassy Bailey, along with others who simply by asking interesting questions or commenting on material on the site have encouraged us to continue with this project.

³ For more information about this, see <https://www.sftichallenge.govt.nz/our-research/projects/spearhead/atea/>.

*Kofe -- Polynesian Bamboo *Schizostachyum glaucifolium*, its offspring and relatives.

Two tasks have delayed the development of the garden and the production of this newsletter. One of them has some redeeming social value – the editing of the book on



Māori governance, available from early July 2021. It was due to be formally launched in early September, but that had to be postponed until November, then to February 2022 in the hope that Covid-related restrictions would be less stringent by then. Alas, the Omicron variety of Covid-19 has decreed otherwise – as it has turned out, the launch would have been delayed anyway as the Supreme Court, which was to be the venue for the launch in mid-February, is in the area occupied by protesters. If you are interested,

you can read more about the book (or even order a copy) through the [Thomson Reuters](https://www.thomsonreuters.com) website.

Even though it took several years to complete, *Waking the Taniwha* was a minor interruption compared with the moso bamboo which we have been battling with for the last decade. Moso (*Phyllostachys edulis*) is not a Polynesian heritage plant, and does not have a specific Polynesian name, although in tropical Polynesia bamboos in general are often referred to by the local reflexes of Proto-Polynesian *Kofe. That word is also the forerunner of Māori **kohe**, which the first settlers of Aotearoa would have associated with the Polynesian bamboo, *Schizostachyum glaucifolium*, illustrated on the first page of this newsletter.

The Polynesian bamboo is a very useful plant, and was carried probably from Fiji in the early stages of Polynesian settlement of Tonga and Samoa. The plant's Fijian name, **bitu**, did not accompany it to its new habitats, however. It has the virtue of being a clumping bamboo, and thus being easier to contain and less prone to becoming invasive than its relatives with runners. The culms grow to about 7 cm in diameter and up to 15 m high. They are generally green in colour. The leaves are up to 25 cm long, rounded at the base and tapering at the tip. The scars separating the nodes of the stem are single. The fronds generally appear after the tenth node, and each node also has a conspicuous sheath which drops off as the stem matures.

The Polynesian bamboo was extensively used for fishing poles, knives (the split edge of a culm can be very sharp indeed), fish hooks, fish baskets and fish traps, and also pan pipes and nose flutes. Another musical use in Samoa was to wrap different lengths in mats which were then beaten to give sounds, or thumping lengths on the ground to beat time (a task now according to Art Whistler more commonly given to biscuit tins⁴). Head rests were also traditionally made from bamboo in Samoa, although these days they are generally wooden. In Hawaii, narrow strips from young bamboo are used for making hats. In Samoa soot from candlenut used in dyeing was stored in bamboo-stem containers, and lengths of Polynesian bamboo were used for carrying water in Tahiti and the Marquesas.

⁴ *Plants in Samoan Culture*, p. 142.

These days however the common bamboo *Bambusa vulgaris*, a native of Yunnan and Indo-China first introduced to Polynesia in the eighteenth century, has largely replaced the Fijian/Polynesian variety in everyday use. It has larger stems and an even wider range of possible uses. The plant is known in Samoa as ‘**ofe fiti**, “Fijian bamboo” – there and in many parts of Polynesia “Fijian” in relation to plants is often a synonym for “foreign” or “exotic”. The scars separating the nodes on the culms of this species are double, in contrast to the single node-scars on the Polynesian bamboo. The stems can reach 20m in height and 10 cm in diameter; they are more consistently green, whereas those of the ‘**ofe** often have a yellowish tinge.

The moso (*Phyllostachys edulis*) which we are battling are however something else again. The plant is highly esteemed in China and Japan as a food source and as timber for scaffolding, building and decorative purposes. The mature culms (trunks) are used extensively in construction, as well as in handicrafts, furniture and papermaking. It’s leaves and sheaves of the emerging spears also contain some very important compounds with anti-cancer and anti-arthritic properties, both directly and also indirectly (by facilitating the action of other drugs). The shoots may also have anti-oxidant properties.

Most bamboo shoots, including moso, contain taxiphyllin, a cyanogenic glycoside which, if untreated, will result in cyanide poisoning of the consumer. This is broken down and rendered harmless by heat. Shoots that are poisonous when raw will be safe to eat boiled or steamed for 20 to 40 minutes. A bitter taste is a sign that cyanide is present – either cook some more, or throw out! The younger the shoot the less cyanide.

Forests of moso can have trunks rising to 25 m high. When I wrote an article about this plant for the March 2006 issue of the *Tree Cropper* magazine, ours averaged seven or 8 m. The ones we are felling at present, however, are mostly between 22 and 24 m from top to bottom – very close to the standard maximum! Each year until the forest gets to full maturity, the height of the canopy increases, as does the average width of the culms (the lens cap next to the stump of the culm pictured on the left, felled in 2017, is 6 cm wide). The culms taper slightly at the base and much more markedly towards the top, with a fairly uniform width in between. At chest height in 2002 the culms were about 2 to 3 cm in diameter; the 2005 ones had reached 5 cm, and now, 2022, the largest are 16 cm or more in diameter. Culms shoot out more or less fully formed as far as their width goes, after a couple of weeks getting started, they can grow 30 - 50 cm or so a day.



The real trunk of any species of bamboo is the underground network – the culms are in effect branches of a single tree, and the moso, along with many other running bamboos, is inherently invasive. In my opinion it should definitely be declared a dangerous noxious weed! However, very fortunately, moso doesn’t seem to like crossing over roadways or well-used tracks (maybe the compacted soil puts them off) and commercial growers use

deep ditches to pin them up. Although there is a good market for the Spring shoots, which appear, around the end of August until early November, I would not recommend that anybody plant this bamboo unless they have a spare island, or can put the plant at least 150 m from the neighbouring property's boundary. The runners will not cross water, but they will happily cross a temporarily dried up watercourse! Some Chinese friends harvest the Spring crop – which helps keep the expansion within bounds (the harvest shoots number in the thousands). There seems to be no market at all, except perhaps in Auckland, for the culms. We have been able to give a few away, and have burnt hundreds more. We have a few thousand yet to go! A vigorous poisoning campaign as we fell the mature culms seems to be slowly having an effect on the spread, and gives us some cause for optimism that we will, eventually, be able to push them back permanently and be able to banish this particular **kohe** from our land!

Although the Polynesian bamboo either did not reach Aotearoa, or did not thrive here, its name is certainly did, applying primarily to the **Kohe**, or **Kohehohe**, *Didymocheton* (formerly *Dysoxylum*) *spectabile*. This is a remarkable tree, more typical of tropical forests (with flowers and fruit borne on the trunk). The New Zealand tree may have been given this name because of its straight stems and pulvini, thickenings at the base of the leaves, which are reminiscent of the bases of bamboo fronds. In Hawai'i, as well as denoting the Polynesian bamboo, the cognate name ('**ohe**) designates some straight-stemmed trees and a species of grass.

Ngā Raumati e Rua i te Māra ~ Two Summers in the Garden

*He kiore kai whata.*⁵

Since our trees have started growing, quite a throng of native birds has regularly visited the garden, and some species have taken up permanent residence: tūī, pīwakawaka, and riroriro, among others. wētā, a species of mokomoko (skink) and rō (both stick insects and praying mantis), and various moths and butterflies. However, these are endangered by other less welcome residents – rats, which now have an abundance of food to feast on, including newly-resident birds, and possums, which do the same. I was reminded of the kīanga above when what was once a birdsnest at the top of one of the bamboo culms turned out to house a tribe of rats – four fell from the skies (or rather 20 metres or so above the bamboo-feller) as the culm was falling, and three more scurried forth when the nest hit the ground. We don't know whether the birds had voluntarily abandoned the nest, or been eaten by the rats.

We thought that the Good Nature possum and rat traps might help us eradicate these pests, or at least keep them under control. We bought one of each to start with, but have no evidence that the rat trap has caught a single rat, and have watched possums climb past the possum trap, set up according to instructions, without taking the slightest notice of it. They have also worked out ways to set off a Timms trap, and then munch the bait unscathed.

⁵ "A rat nibbling at the food store". A metaphor for, among other things, a visitor who has overstayed their welcome.

We would very much appreciate some practical advice on how to control the rats – , and especially, if possible, on eradicating the possums. Rabbits are beginning to multiply, too, but we have had some success in the past in reducing their numbers with pindone.



One more welcome pest which may have visited us a year or so ago was the bamboo moth, *Artona martini* (Zygaenidae). The caterpillars defoliate bamboo, and then pupate among the litter in the bamboo grove. A good chunk of our bamboo showed symptoms of having been attacked by these creatures, but we did not see any of the caterpillars (which apparently can cause severe irritation if they come in contact with your skin. They are native to Japan, China, Taiwan and Viet Nam. They were spotted in Whangarei in 1996 and have since been found in Auckland and the Waikato. Unfortunately, the damage to our bamboo was transitory – the

culms grew new leaves and carried on as before.

Additions and Updates to the Web Site

The last (April-June 2020) news bulletin on the web site has now been followed by one for July 2020 to February 2022 – a horrendous gap, paralleling this newsetter, which we hope will not become a precedent! No completely new pages have been added since the last report, but a link to the first Newsletter in this series has been added to the “Friends” page, the pages for **Rimu** and Proto-Polynesian ***Limu** have been extensively revised and consolidated. Those for Māori **Ake/Akeake** and **Kohe/Kohekohe** along with Proto-Polynesian ***Ake**, ***Kohe** and ***Maota** respectively have also been revised and augmented with illustrations and additional information. The use of the tree names **rimu** and **ake** in the Māori translation of *Te Paipera Tapu* has been noted on those two pages.

There are now illustrated examples on the web pages for 15 of the 21 Māori plant names used in *Te Paipera Tapu*, plus a special page for Samoan **mati**, a note on reflexes of Proto-Polynesian ***maile**, and another for two of the six more general plant-related terms. This leaves just eight to go, six of which will be add-ons to pages already completed.

The index and news pages have been updated ... and more work is in progress!

Front-Runners in the Hit Parade

Since 2015, many of our pages have been included in Google Analytics reports, which give statistics on the number of times each page has been visited daily (among many other variables). Unfortunately, the pages in the original (pre-2014) format are not included; we are gradually shifting those over to the newer format, which is also coded for Google to scrutinize, but, there are still several dozen of those not yet revised. As with everything else, mā te wā! Given that, however, there have been some consistent front runners,

including one which is a continual surprise to me. The top 5 for each year from 2015 have been, in order of frequency:

2015 & 2016 Jan-Dec	2017 Jan-Dec	2018 Jan-Dec	2019 Jan-Dec	2020 Jan-Dec	2021 Jan-Dec
Poroporo	Poroporo	Kauri	Kauri	Manuka	Poroporo
Kauri	Kauri	Poroporo	Poroporo	Poroporo	Hue
Pohutukawa	Tawa	Tawa	Mānuka	Kauri	Mānuka
Tawa	Pohutukawa	Nikau	Nikau	Kōwhai	Kōwhai
Manono	Rewa / Whara	Pohutukawa	Kōwhai / Whara	Whara	Raupo



There is just one big surprise in the list – the consistently high ranking of “poroporo”, year in, year out, and in fact pretty much week by week, in searches for this word and visits to the web page. It still comes up on p. 1 of a Google search for the name, along with other pages mostly also referring to one or more of the *Solanum* species designated by this name. There are 158,000 pages indexed for *poroporo*, and whether our page’s rise to the top is the cause or effect of its relative popularity I do not know. Even more puzzling is why this group of rather nondescript plants should be so consistently searched for in Te Māra Reo year after year in comparison with dozens of other more prestigious contenders. Even though the shrubs *Solanum laciniatum* and *S. aviculare* have attractive flowers, they too are virtually weeds in many environments. If you have a solution to this puzzle, please let us know!

Another page which has more recently reached the top position, **Mānuka**, is easy to explain. Mānuka has attracted a lot of interest over the last couple of years, because of the “Mānuka war” with the Australians. A search for “mānuka” will bring up page after page of commercial sites, but a Google search for “mānuka name” brings us up nearer the surface – page 1 for a while, but when last tried it was at page 3. The **Mānuka** web page may also have been popular in previous years, but it was in the old format until September 2018, and thus excluded from Google analytics. The other two newcomers in this group last year were **hue** and **raupo**, both pages that had been extensively revised (and also converted into the newer format). The runners-up, in 6th to 10th place last year were, in order, **Tawa**, **Pūriri**, **Aute**, **Kauri**, and **Rengarenga**.

Heoi anō mō te wā nei – ka puta atu anō pea tēnei kawerongo ā te eanga mai o Matariki.



This newsletter was prepared for Te Māra Reo, <http://www.temarareo.org>, by Richard Benton.

The photo of Paora Mato is from ResearchGate. The bambo moth was photographed by Robert Hoare, Landcare Research. Other inset pictures are details from photographs by Richard Benton.

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