



Dawn Chorus

Bulletin 77
ISSN1 171-8595
May 2009

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Information

Supporters of Tiritiri Matangi

Dawn Chorus is the quarterly newsletter of the Supporters of Tiritiri Matangi (SoTM). We are a volunteer incorporated society working closely with the Department of Conservation to make the most of the wonderful conservation restoration project that is Tiritiri Matangi. Every year, volunteers put in thousands of hours into the project and raise funds through membership, guiding and also through our island based gift shop.

For further information, visit
www.tiritirimatangi.org.nz

Getting to Tiritiri Matangi

360 Discovery operates daily services every Wednesday through Sunday from Downtown Auckland and Gulf Harbour Marina.

BOOKINGS ARE ESSENTIAL!

Phone **0800 360 347**
or visit

www.360discovery.co.nz

Weather Cancellations: Please call 0800 FANTAIL (0800 326 824) after 7.00 AM on the day to confirm if vessel is running.

School Visits

Schools wishing to visit Tiritiri should first visit our website:

[www.tiritirimatangi.org.nz/
SchoolVisits.htm](http://www.tiritirimatangi.org.nz/SchoolVisits.htm)

Advance bookings are essential.

Overnight Visits

For information on booking overnight visits, go to:

www.doc.govt.nz/tiritiribunkhouse

Bookings can also be made by phoning the Warkworth Area Office on 09 425 7812, although an additional booking fee will apply.

Volunteers who are undertaking official SoTM work can obtain accommodation at no charge but this must be booked through the Guiding & Shop Manager (contact details below).

SoTM members who wish to visit in a private capacity can get a discounted rate by booking through the Warkworth Area Office 09 425 7812.

Advance notice of Extraordinary General Meeting.

The Committee has resolved to change the financial year from a calendar year (ending 31 December) to ending on 30 June. This will require member approval at an Extraordinary General Meeting, to be held on 14 September, the same date as the social. Formal notice and more details will accompany the next Dawn Chorus.

Upcoming Events 2009

May 30th, 31st and 1st June
Queen's Birthday Working weekend

July 25th 26th
Families' weekend

August 23rd
Kowhai day picnic,
(50 spaces available)

September 14th
EGM/Social

October 10th and 11th
Adult's non-working weekend

October 17th and 18th
Families' weekend

October 24th, 25th and 26th
Labour working weekend

Late 2009
SoTM 21st Birthday Dinner
(details to be advised)

Bookings for island events can only be made with the Guiding & Shop Manager (contact details below).

360 Discovery kindly offers a discount to SoTM members for special weekends and events.

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The opinions of contributors expressed in Dawn Chorus do not necessarily reflect the views of the Supporters of Tiritiri Matangi Inc.

The 2009 AGM saw a few changes. We formally welcomed our new treasurer, Kevin Vaughan, who brings with him an extensive background in management and accounting. While most of the committee remains, sadly we also saw two long-serving committee members step down.

Cathy Catto has had two stints, from 1994 to 1999 and again from 2002 to this year. In her time Cathy has been an integral part of our successes. She has been heavily involved with our shop over the years and contributed much time and energy. However her passion has always been education, and in that guise Cathy headed up our Education & Communications subcommittee which was responsible for much of our interpretation, material for schoolchildren, and Dawn Chorus. She drove our most recent high-profile project, the visitor centre interpretation facility. Cathy's attention to detail was a great asset during committee meetings.

Val Smytheman also stepped down after 9 years on the committee. In her time Val has taken on a number of responsibilities, most notably

Membership Secretary for four years, a job requiring meticulous attention to detail. She has also taken prime responsibility for organising guides and volunteers while the guiding & shop manager has been on leave. Val has always been the epitome of the quiet and dedicated committee member, and for me a source of wise counsel.

Both Cathy and Val made a major contribution, and fortunately this continues, albeit on a smaller scale, with Cathy continuing to chair her subcommittee and Val remains a member of our guiding/shop subcommittee.

Translocations have always been a high-profile activity for the Tiritiri project, and in recent years almost entirely dependent on SoTM for funding. This year has been no different. In March I was privileged to be a part (a small part!) of the rifleman translocation from Hauturu, funded by SoTM at a cost approaching \$25,000. It was my first experience of a translocation, and a memorable one. Organised by Simon Fordham, it was an eye-opening experience of a thoroughly-planned, meticulously-organised project

requiring considerable coordination and organisation of everything from volunteers and helicopter transport to food and equipment. I was impressed by the dedication of Simon, Morag, Hester and many others.

As I commented at the AGM, my thanks to the remaining committee and subcommittee members, and others such as Sally Green, Paul Colgrave and in particular Mary-Ann, for your unstinting efforts, skills and energies and willingness to continue your work – and of course to all those who have volunteered their time and energy over the past year.

Finally, what of the future? Our strategic planning has identified that our members want Tiritiri to remain a magical and special place, just as it was when Jim Battersby and the founding members set out their four guiding principles, which are just as relevant today. What is our vision of Tiritiri? It is this: "a magical place and vital sanctuary that engages, inspires and enthuses volunteers, visitors and other New Zealanders". Our role is to work with DoC to make this happen.

Wetapunga Translocation Proposal

Chris Green, DoC

During the last half of 2008 Robin Gardner-Gee from the Motuora Restoration Society, and I produced a comprehensive translocation proposal for wetapunga, the Little Barrier Island giant weta. The proposal outlined how wetapunga were to be taken into captivity and reared to produce enough progeny to transfer to Motuora and Tiritiri Matangi Islands. Wetapunga take up to 18 months to mature so if all went well there could be a transfer onto Tiritiri Matangi during 2010 - 2011. After positive comments from the Weta Recovery Group, the proposal was approved by DoC in mid-December 2008. Within days Chris Green and Paul Barrett were on Little Barrier collecting six adult weta, three males and three females. Since then they have been in Paul's very capable care in separate cages at Butterfly Creek, near Auckland Airport, quietly putting on weight.

In early March 2009 Paul detected a change in the behaviour of the male

weta and so quickly paired them off each with a female. Mating occurred the next night and, as is usual with wetapunga, continued through the next day before separating the following night. Males were then put back in their separate cages so the females would not be disturbed during egg laying. The latest news is that there have been very encouraging signs of egg-laying in the specially prepared oviposition containers. Mating will be repeated

over the coming months, when the weta indicate they are ready. However, eggs would not be expected to hatch before spring so we must cross our fingers that there are lots of viable eggs. There are usually three critical steps in captive rearing of insects, mating, laying and egg survival through to hatching. Wetapunga have never been reared in captivity before so we most certainly cannot count our weta before they hatch but, so far, it looks very promising.



Riflemen are Here

by Simon Fordham

After many years of anticipation, and many months of planning, riflemen have finally arrived. A team of experienced mist-netters travelled to Little Barrier Island in February for 11 scheduled days of catching.

We had a rather nervous start when we had not caught any after four days. However, improved weather conditions, better identification of likely catching sites and the arrival of Brent Beaven, an experience rifleman catcher from Stewart Island soon saw our fortunes change. On day five we opened our account with

7 birds from four different sites. By the end of day 10, despite a mix of weather conditions, we were up to 22. Although certainly happy with this total, we gave it one more shot on the last morning. Word soon came through that 2 more had been caught then, only 30 minutes before the nets were due to be dismantled,

Morag Fordham & Sandra Anderson had a family of 7 birds hit their net. The gods were certainly smiling on us that day.

By 3 o'clock that afternoon, a total of 31 riflemen had been released on Tiri. We were overwhelmed at by the result and cannot wait until September when they should begin to breed.

All going well, we hope to repeat this exercise next February to ensure a genetically sound founder population.



Post-release Monitoring

by Sarah Withers, University of Auckland

Since the release of the rifleman I, as well as others involved in the translocation, have been visiting Tiritiri periodically to monitor their survival and dispersal and in mid-April I conducted the first post-release survey of rifleman.

My initial search efforts were concentrated in the areas surrounding the release site. In the six weeks following the release, a total of 14 birds were found, all of which were identified with their coloured leg bands. This is a great result in the very early stages of establishment of a new population. Even more positive is the fact that these birds appeared to be establishing territories and pairing. Several re-sightings found the same birds together in the same areas of bush as they were previously found.

Keen eyes and ears (you will need them!) may help you find a pair around the Kawerau Track as a pair has been sighted there several times, moving throughout the large bush area around the public track. Two pairs are also consistently seen in the regenerating bush area that runs between the Totara Track and the Ridge Track, and there is another pair faithful to the area around the Dupont feeder just across the ridge track from the Dupont sign.

Following these periodic sightings, I sought to confirm the numbers and identification of the individuals found so far, and attempted to survey the main areas of the island to see if I could locate any further dispersal away from the release site. My survey covered all of the major bush patch areas and the tracks of regenerating bush that are in a more advanced state around the island. The survey successfully confirmed re-sightings of 12 of the previously sighted birds, and possible sightings of two new individuals, although these were not confirmed.

These results are promising given the difficulties involved in both translocating the rifleman and locating them following release, as they are inconspicuous in both their movements and their calls. Future monitoring will involve continued searches of the island, attempting to locate more individuals and track their dispersal until the breeding

season when we will hopefully witness some nesting behaviour!

For any information on the rifleman on Tiritiri, or to report any rifleman sightings, please email withers.sarah@gmail.com. Sightings, particularly if band combinations are observed, can also be recorded in either of the "sightings" books located in the bunkhouse or the shop.



Photo © Ruud Kleinpaste



Photo © Alison Chambers



Photo (above and right) © Matt Mannington

Duvaucel's Geckos and Tasty Lizards!

by Dylan van Winkel

After numerous enquiries over the last few months, regarding the status and condition of the Duvaucel's gecko population on Tiritiri Matangi, it seems about time to provide an update. In September 2009, my Masters project was completed and I have not conducted a thorough search for the geckos since. However, the good news is that the geckos are still alive and are roaming the areas surrounding the release site, near Lighthouse Valley. In late February, my former supervisor, Dr. Weihong Ji of Massey University, was able to run tracking tunnels and deploy funnel traps at the release site for the purpose of showcasing the Duvaucel's geckos to a group of Australasian herpetologists (reptile experts) that were visiting Tiri on a pre-conference trip. Footprints of both adult and juvenile geckos were detected on the cards, however, the funnel traps failed to capture any geckos, much to our dismay.

It is interesting that some geckos have remained in almost the exact location of release, while others have dispersed away. For example, a juvenile Duvaucel's gecko was found refuging up near the visitors centre, by the hihi translocation team, earlier this year. The description of the gecko suggests that it is a juvenile (born to a gravid female released onto Tiri in 2006) and is in really good condition. Therefore, at least some of the geckos are dispersing into new habitats and appear to be capable of securing

adequate resources...this is fantastic news! What does the future hold for the Duvaucel's geckos on Tiri? Well, long-term monitoring is planned and will aim to assess the establishment of the gecko population (i.e. breeding and population growth), as well as provide information on the genetic viability of the population.

Now, I thought I would give you an insight into some of the other work I did on Tiritiri Matangi during my MSc, looking at the predation of lizards (both skinks and geckos) by native bird predators. Few studies have attempted to quantify lizard predation by native birds, which may have important consequences following translocations of low numbers of threatened species. The study involved locating nest and roost sites of potential lizard predators, such as moreporks, kingfishers, pukekos, and swamp harriers on the island. I then collected regurgitated pellets, faecal pellets, nest material, and conducted a dietary analysis study to determine what proportion of the birds' diets consisted of lizards.

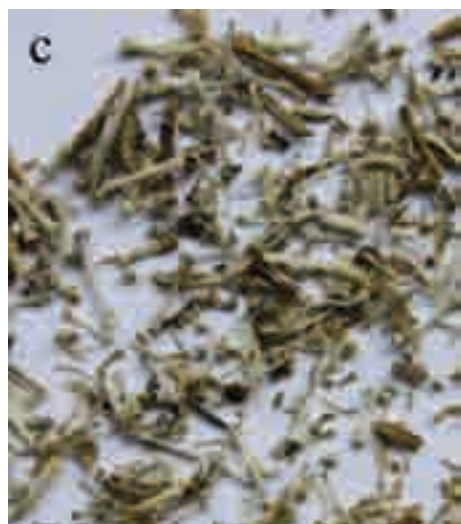
Our findings suggest that kingfishers are important predators of small diurnal lizards, especially mokoskinks (*Oligosoma moco*). Approximately 80% of the kingfishers' diet consisted of native lizards, while the remaining 20% was comprised of crabs and invertebrates. Lizard remains were not detected in any of the other bird predator samples. Fortunately, there

was no evidence that any Duvaucel's geckos were predated during the study (you can all take your sigh of relief) however, moreporks may predate geckos when their numbers increase in the future. Moreporks are abundant on Tiri, with at least one or two pairs in every patch of bush on the island. Presently, their diet consists almost entirely of tree weta, with the occasional hihi, robin, and saddleback.

There has been much debate over the predation of threatened species by native animals following translocations. Although this scenario may represent a natural predator-prey interaction in a normal ecosystem, considerations still need to be made before translocating small propagules of threatened lizards onto islands that harbour high densities of native predators, as they may have detrimental effects on the establishment of the new population.

A copy of my thesis, entitled 'Efficiency of techniques for post-translocation monitoring of the Duvaucel's gecko (*Hoplodactylus duvaucelii*) and evidence of native avian predation of lizards' will be lodged with the Tiri committee very soon, and will detail the results of the Duvaucel's gecko translocation to Tiritiri Matangi Island.

Dylan can be contacted by email: surfing_aardvark@hotmail.com



Skink bones from kingfisher pellets,
© Dylan van Winkel



Duvaucel's gecko and fern,
© Dylan van Winkel



Kingfisher pellets, one containing crab
and the other lizards, © Dylan van Winkel

Argentine Ant Eradication Update

Text & Photos: Chris Green, DoC

Argentine ant is one of the world's worst pest animal species and is capable of modifying ecosystems by killing many other species, especially invertebrates but also lizards, frogs and birds. The ant was first discovered on Tiritiri Matangi in March 2000 and an eradication programme was initiated shortly after in February 2001 – see Bulletin 41 for details. It appears they first arrived in 1998 about the time the new wharf was built and rapidly spread over about 5% of the island. Over the first two years of the eradication programme starting in 2001, the entire infested area was intensively treated to kill the vast majority of the ants (see Bulletins 45 and 48 for details). Over the following seven years there has been a great deal of research into formulating a reliable monitoring technique to reveal any surviving colonies, all of which have been promptly treated.

Monitoring involves placing tubes with non-toxic bait on the ground then retrieving them the next day and identifying the ants feeding in the tube. Over the years many thousands of tubes have been put out then found again (not as easy as you may think), processed, cleaned and re-used. As well as determining an appropriate density of monitoring baits which would confidently reveal any surviving colonies there was an ongoing issue of pukeko interference to sort out. Over the years the tubes have become increasingly fortified to combat the unwelcome attention from pukeko that I consider have far too much time on their hands to get up to mischief! Last year I was very pleased to find that I finally had them stumped with the tube and large staple, as seen in the picture. Note the tube has a netting cover screwed down firmly. The tube is pinned to the ground using the staple pushed

in to the hilt which prevents it being picked up and carted off to some other location.

Monitoring tubes are placed every three to five metres in a grid fashion over the whole site to be monitored so it is very intensive. Since 2003 the number of isolated colonies found has declined over the years. Every second year all the likely Argentine ant habitat in the previously infested area has been monitored, usually with a team of four assisting me. In alternate years I have targeted just the high risk ant habitat sites where colonies have survived in the past. Monitoring and treatment is aimed at the hottest and most humid time of

the year as this is when the ants are most active and thus more likely to show up on baits. At this stage of the programme we are only finding one or two colonies each season, some of these are extremely small – most likely one nest with one queen and low numbers of workers numbering in the hundreds rather than thousands as is common. However, this last season saw a slight variation to this pattern when Argentine ants were discovered along the coastline south of Hobbs Beach round to Little Hobbs Beach. This was just outside the previously infested area and was picked up when ants moved back into it. As is now standard practice this site was treated twice and will be comprehensively monitored next season to ensure there are no survivors. The eradication programme cannot be declared successful until the island is confirmed as free of Argentine ants for two years.

Argentine ants are widespread in many parts of Auckland and there is always a risk of nests being brought over to Tiritiri. Therefore all visitors to the island must be forever vigilant to ensure no new nests are carried in their belongings. Prevention is better than cure for all pests.

Monitoring tube with non-toxic bait within, note netting cover screwed down tightly with cap and staple alongside

Monitoring tube stapled to ground preventing pukeko removal



Easter Working Weekend 2009



Photo © Cathy Catto

3 Dwarfs go of to Work

Building an air-raid shelter on the wharf dam is for the protection on the brown teal ducklings. Last year all ducklings were predated by the harrier hawk and it is hope that this structure will provide a safe haven for them this coming breeding season.



"now you see it "

Photo © Cathy Catto



"now you don't (well once the water level comes up)"

Photo © Cathy Catto

The Building Team,
© Cathy Catto



Kev gets into the Swing
of a Working Weekend,
© Simon Fordham

A number of rifleman nesting boxes were built and fitted – it is only four months until the next breeding season,
© Simon Fordham



Background photograph © Cathy Catto



'The Wharf toilet block was given a face lift over the weekend, by replacing the veranda structure, rehanging the doors and painting of the front.'
© Cathy Catto



Fauna Notes

Takahe

All birds are in their usual locations, although Rossie has taken to popping down to the Wharf (perhaps filling in for Greg).

Greg continues to keep everyone entertained as noted by Mary-Ann Rowland. "On Friday Greg spent the morning being his usual gregarious self and saying hi to the few people up at the Visitor Centre. As soon as the first school group arrived he picked up one foot and proceeded to wobble on the other making very sorrowful little "brrrps". The immediate attention he received (we all fell for it) was huge, had someone trodden on it, or worse still, put a chair leg on it? We decided to keep an eye on him and not call in a helicopter quite yet. Just as well, as the last visitor headed off down to the wharf to catch the ferry, Greg's foot hit the ground and he spent the rest of the day walking around happily".

We now have the official result of why Greg and Cheesecake's chick died. From Richard, the zoo vet; "From the histology result on the tissues from the takahe chick, my interpretation is that the chronic starvation resulted in the establishment of a fungal infection in the gut which, on the night of his death, resulted in a perforation and peritonitis that included inflammation around the heart. The long term debility of this chick was, I'm sure, the predisposing factor".



© Paul Colgrave

Stitchbird/Hihi

The post breeding census recorded 215 birds which is similar to last year. There has been one natural nest as unbanded fledglings have been seen.

On 7 March 59 birds, a mixture of juvenile male and female, were safely transferred to Maungatautari in the Waikato. This mature forest reserve is surrounded by a 47 kilometre predator proof fence so the birds are expected to do well.

Brown Teal/Pateke

Late in March, Finn and Solita produced three ducklings and two of them are still alive. Rose (WB-M) who is paired up with Ralph (M-R) is at least 16 years old. Ossie and Bella were seen with six ducklings on the Wharf Dam in mid April.

Kokako

In March Koha, Te Karanga and Keisha's recently fledged chick disappeared. This is disappointing as, after many years of trying, this was the first time they had produced a chick. Although Te Koha Waiata and Cloudsley Shovel finally produced two chicks from their fourth nest, only one chick, Phantom (BW-M) fledged. She is still being fed by her parents.

Pukaha (Taranaki female) and Moby's chick, Noel (RO-M), a male, is often seen around the Visitor Centre and has been seen bathing in the water trough much to the delight of visitors. Skippy (JW-M) is still with Te Hari and Piper.

This was a disappointing breeding season as neither Chatters and Te Rae (Taranaki female) nor Paraninihi (Taranaki male) and Fern (a very young bird) bred successfully. The post breeding census found twenty birds, including the three juveniles.



© Paul Colgrave

Takahe chicks -

Where do they go? Where do they come from?

North Island Robin

The post breeding census recorded 35 females and 26 males giving a total of 61 adults (60 last year) and 79 juveniles.

Other Birds

A little spotted kiwi was found alive in a puddle of seawater on the rocks below the petrel station. Although he was rushed to the zoo by water taxi, he later died of his injuries.

In early February a spine-tailed swift (white-throated needletail) was seen at the top of the Kawerau track.

A barbery dove visited the island on Valentines Day.

In March at least five pairs of brown quail were seen with clutches of tiny chicks. A pair of kingfisher at the wharf also nested again in late February. This is unusual on Tiri so perhaps the flush of rain in February, and resulting "plague" of insects, encouraged them to nest again.

Up to three reef heron have been seen around the Wharf area over late March/ early April.

On 18 March, 116 blue penguins were counted between Auckland and Tiri and, on 28 March, around 400 were seen.

Tuatara

The 5 year census was recently completed. 38 individuals, including 3 juveniles, were found so the total found is over half of the 60 originally released. The juveniles were estimated to be about four years old. A comprehensive report will be included in the August Dawn Chorus.

Other

In late March two large eagle rays and an enormous stingray were seen at the Wharf. Stingrays are easily distinguished from eagle rays as they have rounded wing tips.

On 17 April a family of orca cruised past Hobbs Beach and out past the Wharf. A large pod of dolphins was seen in the Tiri channel on 26 February.

Linda Kilduff, the Island Coordinator for takahe, has kindly given us some information about the takahe and their chicks, and more specifically, Cheesecake.

"Cheesecake originated from the Burwood Bush Rearing Unit down here in Te Anau. Cheesecake's parents were both Burwood breeders direct from good Murchison Mountain stock. We leave some eggs under birds to hatch to keep parent birds in "chick mode" as part of the Burwood Bush Fostering Programme, while incubating the rest in incubators on site. Cheesecake would have then been partially hand reared and bird-reared, as is the norm for the foster program. All chicks receive one-on-one time with foster parents to prevent mal-imprinting and to teach behavioural traits. At approximately 10-12 weeks, groups of chicks (between 1 & 5) are permanently fostered onto a Burwood pair and transferred up into the beech forest habitat to teach winter training skills. This ensures that the birds have the skills to survive in the mountains by knowing how to find Hypolepis (fern) etc. However, Cheesecake was a year and a half when she was moved up to Tiritiri, so spent all her time at Burwood prior to that.

When chicks are released back into the Murchison Mountains the majority are getting close to a year old and have been with adults most of the time. Occasionally takahe will stay on with their parents as helpers but this is actually said to be an uncommon sight in the wild. We leave our replacement breeders in family groups the extra year because we do see it as a benefit but we are limited by our capacity also. We have room to move extra chicks down from the islands but not to manage (essentially 2 seasons worth) for two years.

Regarding chicks being moved off the Islands, the reason they are moved off at such a young age is so that they can be fostered on to another pair (in the same day) whom they will stay with for the whole year. They are not left parentless from 3 or 4 months of age". In March our two surviving chicks from this season, Apiata and Pakiki, along with four other chicks from Kapiti and Mana islands were sent down to Burwood Bush. They will remain here over the winter so they can acclimatise both to the cold and to their new diet of red tussock grass. They will be released into the wild next year.



© Paul Colgrave

Ferns of Tiritiri Matangi

by Warren Brewer

At least 40 species of native ferns have been recorded on Tiritiri Matangi. This confirms their successful regeneration following the removal of browsing animals when farming ceased in 1971.

The following 5 fern species can be easily identified, bankside, on the Kawerau track as it climbs up from Hobbs Beach.

1. Shaking brake (*Pteris tremula*) - also occurs in Australia and Fiji. (Below)



3. Rosy maidenhair (*Adiantum hispidulum*) native, but also widespread in the Southern Hemisphere. Its young foliage has a reddish tinge. (Below)



5. Shining spleenwort (*Asplenium oblongifolium*) endemic and widespread on Tiritiri Matangi. (Right)



2. Rasp fern (*Doodia australis*) which also occurs in Australia. It is distinguished by its harsh feel and the pinkish colour of its young fronds. (Above)



4. Common maidenhair (*Adiantum cunninghamii*) This fern is endemic (only occurring naturally in New Zealand). (Above)



SOTM Supports Quality Education on Tiritiri Matangi

by Jan Ellis

Last year a parent accompanying a school group said that she felt all New Zealand students should have the opportunity to visit Tiritiri Matangi so that they can see how to protect endangered species, to make a difference through their actions and contribute to a better future.

Education continues to be highly recognised by SOTM with 80 schools taking part in our education programmes in 2008. Our education programmes are embedded in the New Zealand Curriculum, and new educational material will be developed and trialled so schools can maximize student learning from their visit to Tiritiri Matangi, including support material on the interpretation panels in the Visitors Centres. The website and the Teachers resource book will also be updated to reflect these changes and provide access to the new material.

Teachers and students continue to value the learning experiences that Tiritiri Matangi has to offer as indicated by the snippets of feedback and thank you notes.

*the birds are wonderful
the island is beautiful
I will never forget this fantastic day
a great educational resource for
young people
eating lunch surrounded by Takahe
will stay with me for a long time*

*Thanks to all the teachers and guides
who make the educational visits
such an unforgettable experience.*



© Mary-Ann Rowland

Salt and Two Peppers

by Warren Brewer

Three plants on Tiritiri Matangi have an association with the above seasonings through their scientific names. They are toatoa, kawakawa and wharanui.

Toatoa (*Haloragis erecta*)

hals = salt (referring to its often maritime habitat)

rhagos = grape (bunched seeds resemble grapes)

Several species in the genus *Haloragis* are commonly known as seaberry and most species occur in the Southern Hemisphere.

Toatoa seeds were collected and sent to U.K. early on and were grown at Kew. Plants were offered for sale in the early 1800's but were not popular. However, the following quote comes from a recent U.K. plant catalogue describing the cultivar *Haloragis* "Wellington Bronze". "Rarely seen in cultivation is this interesting plant from N.Z. An erect branching perennial, it has attractive bronze thick pointed, saw edged leaves which will add colour to the border for most of the year, particularly useful when your flowers are but a memory".

In Maori medicine, toatoa juice was used for skin complaints and the leaves were used as a poultice for wounds.

Toatoa can be found on both the wattle track and (more easily) alongside the track leading to the penguin boxes.



Toatoa

The next two plants belong in Piperaceae (the pepper family).

Kawakawa (*Macropiper excelsum*)

macropiper = large pepper, tall
excelsum = tall

Members of the genus *Macropiper* are described as being shrubs or small trees with leaves and fruit which are aromatic. They are dioecious (separate male and female), their flowers lack petals and are arranged in spikes. There are 11 species, distributed in Polynesia, New Guinea and New Zealand (2).

The ripe fruit of our female plants is sought after by the birds on Tiritiri Matangi.

Maori had many medicinal uses for kawakawa. An infusion of the leaves was used for bladder problems, boils, relief of pain or as a general tonic. Leaves and fruit were used as poultices for bruises or to make a smudge to keep away insects (burnt on a fire to make a thick smoke).

Oil of kawakawa contains myristicin which is very similar to eugenol the major constituent of cloves. In dentistry a paste made from zinc oxide powder and eugenol is used as a dressing to relieve pain in badly decayed teeth. The chewing of kawakawa leaves by Maori for toothache certainly had a sound scientific basis.

Kawakawa is widespread on Tiritiri Matangi often distinguished by its damaged leaves caused by the kawakawa looper caterpillar.



Male Kawakawa Flowers

Wharanui (*Peperomia urvilleana*)

Peperomia = resembling pepper
urvilleana honours Dumont d'Urville (1790 - 1842), French explorer

Peperomia are annual or perennial herbs with about 1000 species, mostly tropical or subtropical, especially occurring in America and Southern Asia. Many species are used as house plants greenhouse plants or in warmer regions, garden plants.

Wharanui is a fleshy herb with shiny leaves and grows up to 15 cm. Its flowers are minute and perfect and are arranged in spikes similar to kawakawa. It is also present on Raoul Island, Kermadec group and Norfolk and Lord Howe Islands.

Wharanui is a coastal plant on Tiritiri Matangi, preferring rocky cliffs.



Wharanui



Female Kawakawa, Ripening Fruit

Obituary: GEOFF MOON – Naturalist, avian enthusiast, photographer.

A candle was lit on behalf of the Supporters of Tiritiri Matangi as family and friends celebrated his life and farewelled Geoff in March 2009.

Geoff came to New Zealand in 1947 as a trained vet and was based in Warkworth for thirty odd years. Alongside work, he also set out to study, photograph and understand our New Zealand birds. Geoff was born in China, but grew up in England, where his love of birds and photography started. He had a box Brownie as a youngster and quickly learned to make hides in order not to disturb birds, and also get the best photographs. He was always extremely patient and never took it for granted he would get any shot – if birds were disturbed he would retreat. Over his long life Geoff's images were used widely in a variety of publications and he produced many books. He was, in fact, still working on one when he died, aged 93. This is to be published within the next few months.

Geoff was deservedly given numerous awards and accolades over time, particularly for his amazing bird photography; where often he



broke new ground and produced photographs of activities thought to

be impossible, such as his famous kingfisher series. He had some favourites among the avian world, i.e. moreporks, and in latter years was patron of 'Wingspan', the falcon centre in Rotorua. (He was once attacked by a falcon when he inadvertently ventured into its nesting territory.) Although leading a busy active life, Geoff was very generous with his time and expertise, encouraging other bird enthusiasts and photographers, young and old alike.

His love of Tiritiri Matangi goes without saying. He was always keen to know what was happening on the island, and thrilled to hear of yet another successful translocation. Our Tiritiri family is fortunate to have a lasting example of Geoff's work in the book his wife Lynnette published in 1998: 'The Singing Island – The story of Tiritiri Matangi', which features his photos.

Patsy Schwabe

Obituary: ERIC GEDDES – Pioneer Volunteer

With regret we advise our members of the passing of one of our earliest volunteers, Eric Geddes at 86 years.

Eric was a very active member of the North Shore Forest and Bird Protection Society and first volunteered on Tiritiri in 1983. He helped with nursery work and planted a great number of trees on the Island. He had a small dinghy and made many crossings from the mainland to carry out his work; this was in the days when there were very few ferries. He was often accompanied

by his two great friends Rona Wark and Ralph Silvester. They planted the first kowhai trees in Bush 22.

When saddlebacks were released on the island in 1984 he made some of the first nesting and roosting boxes. He was always interested in the release of birds on the island. He retired to Tauranga and was an active member of the Te Puna Quarry Society.

Ray Walter



TIRI KIDS

Hand this to your kids ☐ or pass it on to someone else's kids ☐ to enjoy a range of activities about Tiritiri Matangi Island.

Hey everyone!

These patterns of words are called ☐wordles☐. The coloured one at the right has some of Tiritiri's common plants. The wordle below contains the names of birds you might see on and around the island. Colour in the name of each bird using different colours to make your own colourful pattern.

Have fun! Jo



Now find all those birds in the jumble below!!



The Tiri Gift Shop

Dear Supporters

With winter nearly upon us, you can really stay warm with our great range of Tiri jackets (men's \$70, women's \$65); vests (men's and women's \$45) and beanies (\$15). We have beautiful hand painted native bird tiles for \$15, if you have a special bird you would like we can take orders; and for your little treasures we have rimu boxes, small \$24, medium \$26 and large \$28. There is also a jewellery box for \$65 and rimu coasters in a stand for \$30.

For orders please ring **09 476 0010** or email **manager@tiritirimatangi.org.nz**.

With best wishes from your Shop Crew.



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Supporters of Tiritiri Matangi Inc. PO Box 90 814, Victoria Street West, Auckland 1142



Dawn Chorus