



Argentine Ants Decimated on Tiri

Chris Green, Department of Conservation



Recent editions of our bulletin have included reports of the presence of Argentine Ant on Tiritiri Matangi.

During February this year billions of Argentine ants on Tiritiri were killed. The five-year program to eradicate this significant pest species from the island started with a tremendously successful kill. The latest results of post-poison monitoring show that 99.98% of the ants have died.

Argentine ant, as reported in SoTM Bulletin 41, autumn 2000 edition, is one of the world's most notorious pest ant species. Nests can be very large, with workers numbering hundreds of thousands and feature many queens. Where there are good food sources available there can be a very high density of nests per hectare. They feed on any sweet foods such as honeydew from scale insects and nectar, as well as any source of animal protein. Overseas research has shown that they kill a wide range of other invertebrates, and can kill young chicks, especially just after hatching. They will lock up nectar and honeydew resources thus preventing other fauna, including birds, from feeding. Thus there was considerable concern for all the nectar feeding and insect feeding birds on Tiritiri after the discovery of Argentine ants in March last year.

On 29th January 2001 a team of 14 ant specialists and volunteers from around New Zealand arrived on the island and commenced preparations for the start of the eradication. Prior to our arrival all the paperwork had been completed and permissions gained. I had also spent many days on the island determining exactly how far the ants had spread. The boundary of the infestation, plus a 20 metre buffer, was then marked out with a continuous line of flagging tape. About 11 hectares was marked off, centred around the wharf.

Special Argentine ant bait was manufactured by Landcare Research Ltd Nelson and laced with an insecticide, Fipronil that, even at very low concentrations, is particularly effective against ants and wasps. The concentration used was 0.01% active ingredient. Argentine ant bait needs three main components to be successful, a sweet component to attract worker ants, a protein component for the worker ants to take back to the nest to feed to their young (and larvae or grubs), and a slow acting insecticide. Prepared as a paste formulation the bait is applied using mastic guns – see photo of the team ready to do battle with the ants. The entire area was covered with 1.8 g baits every 2 - 3 metres in grid fashion. The baits were, if possible, placed in the shade at the base of trees and covered with litter to avoid exposure to the sun. If exposed to the sun for long the bait tended to rapidly dry out and become less palatable.

Last year a number of tests were carried out on Tiritiri birds to determine the level of interest in the bait. A non-toxic version, lacking the insecticide, was used for these tests. Two takahe, Greg and Bellamy, were tested and

after some initial disinterest Bellamy decided it was edible, then Greg decided he couldn't miss out on this green mushy stuff. We thought it would be the other way around, Greg teaching Bellamy, but not this time. Some pukeko and brown quail also thought it was worth a nibble. The only forest birds to show any interest were the always attentive robins which we tested in various places. All robins that pecked at the bait immediately spat it out and wiped their beaks vigorously to remove all trace of the bait. It appeared a classic reaction to a distasteful substance, probably due to the very sweet nature of the bait. Those birds that would have liked the sweetness, namely stitchbirds and bellbirds, showed no interest at all. A range of other invertebrates were attracted to the bait, including other ant species, various beetles, and millipedes.

During the poisoning period the only takahe that sometimes wandered into the Argentine ant infested area were put in a pen, ...eventually, after escaping twice! All open areas, such as grassland and road-sides, were baited at night both to prolong bait life and to ensure that pukeko did not remove the bait before the ants could get to it. Covering the baits with litter reduced the risk of quail eating it. All these measures were designed to allow the right amount of bait to remain on the ground for the Argentine ants to consume. Overseas tests on the Fipronil insecticide used in the bait showed that any bird would need to consume physically impossible amounts to suffer any ill effects, especially at the very low concentration used on Tiritiri.

A range of other invertebrates that would feed on the bait could potentially have been killed. However, Argentine ants are extremely efficient foragers and get onto new food sources much quicker than most other invertebrates. They then dominate that food source until it is consumed; that is why they are so successful as a pest. Thus in many cases the bait would only have been eaten by the Argentine ants. In addition, all these other invertebrates would be the species to suffer most through competition with Argentine ants so, if the ants had been allowed to take over the habitat these others would have mostly died out anyway. This was already evident in most Argentine ant infested areas where no other species of ants could be found. Elsewhere on Tiritiri 12 other species of ants have so far been recorded, which is quite a good diversity for an area the size of the island.

Some visitors to the island noticed the very high ant numbers around the wharf and huge trails on some trees nearby. These have gone completely now, with just a few very thin trails with the odd Argentine ant evident. There were previously so many ants living under the wharf shed that it was a bonus to see it still there each time I visited – I half expected to see it moved off its foundations and heading off down the beach!!

All the nests seen since the poison operation are very small, some don't even appear to have brood (eggs, larvae and pupae) and there seems to be only the odd queen. All this points to the possibility that there may be further die off during winter, particularly if it is a bit cooler than those we have had recently.

The plan is to conduct a second poison operation in the spring and hopefully this will knock off all the remaining survivors. Intensive monitoring will be carried out over the next four years to ensure that eradication has been achieved. If so it will be the first such eradication over such a large area in New Zealand.



The ant baiting team ready to do battle with Argentine ants on the slopes. Included, (left to right) were Shaun (DoC), Rosalie (DoC), Richard (Landcare Research), Ian (DoC), Chris (DoC), Phil (Environment BoP), Andrea (DoC), Karli (Forest and Bird), Rachel (DoC), Brent (AntiAnt – Flybusters), Lucus (volunteer), Viv (AntiAnt – Flybusters) and Jo (Landcare Research). Amelia (MAF)

Photo Amelia Pascoe

News Briefs

Congratulations!!!

.... to Rolien Elliot (DoC Warkworth Area Manager) and husband Michael, on the birth of twin daughters, Ariana and Sarah. Rolien is taking leave from her position, during which time Bob Dixon will assume her duties.

.... To Rosalie Stamp, who has been appointed as DoC Threatened Species Officer whilst Shaarina Boyd is on maternity leave.

.... To Rob MacCallum on his appointment as DoC Auckland Conservator.

Thank You!!!

.... to North Shore branch of Forest and Bird for donating a further \$5,000. This group have a history of supporting our project, both financially and as volunteers.

.... to the Conservation Alliance (Australia) for donating \$1,343 to SoTM.

Congratulations & Thank You!!!

... to Belinda & Darren Cottingham who, in lieu of gifts, asked guests at their recent wedding to make a donation to SoTM. As a result a significant contribution was made.



Photo Competition



Don't forget, this closes 31 July. If you require additional entry forms, please contact Simon Fordham (see page 2 for contact details).

We already have a number of sponsors. These will be acknowledged at the prizegiving and in the Spring issue of Dawn Chorus.



John Howard and Helen Clark meet the "Lighthouse Gang".

Photo Eve Manning