Moths and Butterflies of New Zealand Trust

Pūrerehua Aotearoa

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Settlers Community Collaboration

Cover photo: Nyctomera annulata*, seen in Mt Aspiring National Park. Photo courtesy Danilo Hegg*

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From the Editor

And so into summer...

Many of you have been reporting the dearth of monarchs so far this season. Although some people have been inundated with caterpillars it seems there are more people complaining about the shortage of them. We are encouraging people to plant now for the monarch (if they haven't already) and plant as many milkweed as they can accommodate. Keep planting!

We are also running a campaign in social media encouraging people to treat monarchs as wildlife rather than pets. People become too involved, trying to save every caterpillar and in effect it appears they are spreading diseases instead. Do watch out for it!

On another note, the MBNZT is receiving a great deal of interest from people in the UK, some of whom are coming here for their summer holidays and want to know where to go to see our native species. This has been prompted by an article in Butterfly Conservation's magazine about our Butterfly Discovery Project.

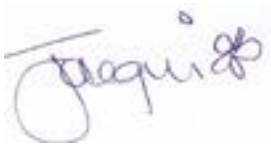
Another email was from a keen moth trapper based in Ireland. His inquiry was about *Dryadaula pactolia*, a moth which is endemic to NZ but which this moth-er found in Ireland! The host for this moth is a fungus found growing in wine cellars.

Robert Hoare has kindly written up a very interesting piece for your magazine about this moth. I am sure you will find it fascinating too, and you'll enjoy Robert's unique sense of humour.

We have been fortunate to be involved in several collaborations recently – one of which is not covered in these pages: that is being involved in the Project Management Institute's Day of Service. Angela Moon-Jones and I attended and found it helpful as we plan ahead for the Butterfly Discovery Project.

There is so much to tell you and never enough space! We do encourage you to sign up for our regular e-news to be kept informed.

Kind regards!



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OUR HEROES

Swan Plant

Sacrificial plant

By Niki Keehan

My seeds are essential arriving here in paillasses

Shaken out into the sunshine

Refreshing the cabins of the crew and captain.

The passengers took their beds ashore

With them they carried my down

Hastily used to up fill the tick.

And there came my seeds with the distinctive swan shape, to grow the plant.

Without my leaves the butterfly has nothing.

Blown here by the wind they are tough and resilient

Belying their apparent fragility

Caught in the rigging of the tall ships

Sent by Gaia the generous green one

Her last touch to enhance the bush.

The bright orange creature searches,

And seeks me out in the wilderness among the ageless trees

Finds me in the settlements of the people who came in the tall ships

Bringing bright gardens.

Only I provide the leaves to cradle her eggs and nourish the yellow striped caterpillar that becomes a glorious green chrysalis fitting to hatch a monarch.

The breeze shakes my branches and a newly hatched being steps gingerly onto the outstretched finger of a child.

My branches stripped, my leaves all bare but for the swan pods that shed the seeds into the air.

It is autumn now I die, my seeds live on wherever they lie.

Obituary

Kathryn McIntyre

by Jacqui Knight

Kathryn McIntyre was an American who fell in love with NZ when she visited with her husband, Ronald in 1986. It wasn't long before they bought a farm on the Tutukaka Coast and while they were busy with their separate careers in the USA, they spent as much time as they could in NZ.

Kathryn started her business career as a journalist and worked her way up the ranks to become a reporter, editor and finally a publisher of a weekly magazine for the insurance industry, circulation 50,000. When she fully retired from her 27-year career, in 2001, the couple moved full time to Matapouri. Sadly, six years later Ronald died, and Kathryn remarried in 2013 to Bill who had been an old friend of 35 years.

Until 2023 they would visit Bill's extended family in the States over the winter and also at Christmas, but spent the majority of their time enjoying their NZ farm, boat, golf and community.

Kathryn was also passionate about her garden and monarch butterflies, so she was keen to help the MBNZT, serving as a trustee from 2016 for four years, but also as proofreader of our magazine.

Sometimes she might be on a boat or at the airport... or when Bill was driving somewhere. And on occasion she would be in lockdown on her beautiful farm, on a headland high about the Pacific Coast.

Kathryn's comments were always constructive and positive. Every three months I could email her to ask, and she would answer that she was "delighted" or "happy" to do so. "Very nice issue!" she might say. "Just a few comments..."

For example, it was important that the columns were balanced, and that there were no widows (paragraphs that have a few words beginning a new column. Everything had to be perfectly aligned.

On another occasion she said: "I'm so picky!". But I considered her proofreading was thorough and fastidious. (After all there's no such thing as "nearly right".)

Sadly, it was discovered in March this year that Kathryn had oesophageal cancer and she lost her battle, optimistic to the end, on 28 August.

I managed to visit her in July when she and Bill were in Auckland for one of her treatments. She was so positive and cheerful. We were long-distance friends, and I could always rely on her for moral support and encouragement when I needed it.

Thank you, Kathryn.

Magpies

and groundsel

By Brian Patrick

This article was prompted by a plea in a Facebook group by member Christine S in Rangiora. For some years she had wanted a *Senecio candicans* 'Angel Wings', which she had admired in a friend's garden. 'Angel Wings' is an unusual and eye-catching perennial with huge soft, silvery leaves... almost velvety and irresistible to touch. But not long after Christine planted hers it was covered with 50 or more furry, black and orange caterpillars.

The caterpillars had been laid by a magpie moth, perhaps NZ's most conspicuous and loved moth. They are found nationwide in disturbed areas particularly around our towns and cities from October to April.

Christine hopes that her prized plant will grow back after the caterpillars have pupated.

Two species of magpie moth are found here and they freely hybridise when they come into contact. NZ's endemic magpie moth, *Nyctemera annulata*, is found nationwide and south to the Antipodes Islands. The other is a sporadic immigrant from Australia, *N. amica* which freely hybridises with our endemic species when they meet, forming healthy hybrids.

As the two species are so similar in appearance and flight it is very difficult to distinguish them or the resulting hybrids.

The large black and white adult moths belong to the Family Erebiidae and often fly on sunny calm mornings, followed by mating and egg-laying. Their flight is slow and has been described as 'lazy', 2-3 metres above the ground. They pick the calmest mornings to be active.

Yellow eggs are laid in patches on daisies of the genus Senecio, from the exotic ragwort to many natives such as *S. glomeratus* and *S. quadridentata*. At least 15 groundsels are utilised in different parts of the country from coastal dunes to inland valley floors and roadsides nationwide.

The conspicuous caterpillars are the hairy black and orange woolly bears often seen on groundsels, but they can be confused with the cinnabar moth caterpillar (*Tyria jacobaeae*) which also uses Senecio spp. as a host. However, the cinnabar caterpillar has a smooth body and alternating yellow- and black-coloured rings around its body.

Up to three generations of magpie moth are passed in the warmest lowland habitats making it our commonest lowland day-flying species and a special part of our biodiversity and national identity.

Its integration with its Australian relative is an example of evolution at work but the fact that we still have a recognisable NZ magpie moth emphasises the fact we are dealing with two

From top to bottom, N. annulata *(NZ),* N. amicus *(Australia), and two hybrids. Images thanks to Manaaki Whenua – Landcare Research for images.*

distinct species that have been isolated for long enough to retain their identity.

Our distinctive magpie moth featured on one of NZ Post's 1970 Definitive Stamps. When postal rates increased the 2.5 cent stamp was overprinted (see image). Our delightful magpie moth has been admired and licked by many!

I ❤ Butterflies

For some time the MBNZT has been talking about undertaking butterfly counts. In fact, we trialled a Big Backyard Butterfly Count way back in 2015, working with the NZ Gardener – but realised that at that time there were very few people in NZ who recognised our butterflies (apart from the monarch and the cabbage white).

In 2006 we launched tagging of monarchs, and also walking transects. In Nelson, Chrissy Ward still walks her same transect, recording valuable information. And we have been working hard to raise awareness of our native butterfly species.

Recording butterflies in Britain started many years ago so now statistics show what is happening to their butterfly species. They can see a pattern. Fortunately when one of their species went extinct they were able to reintroduce it from Europe.

Of course, we cannot do that here.

We are currently working with the UK Centre for Ecology and Hydrology to adapt an app specifically for NZ to enable counts to be done on smartphones. Plans are afoot for an "I ❤ Butterflies Week", and 14 February will be the "I ❤ Butterflies Day". At the weekend (17-18 February) we will be encouraging everyone to take part in a butterfly count.

We believe that if we start small, encouraging schools and groups to participate, that it will also raise awareness of our beautiful NZ species. We hope that you will write these dates in your calendar now and encourage others to do so.

This is an initiative that everyone can participate in – at the very least you can encourage others to be involved! And if people see nothing more than our beautiful monarch and the pesky cabbage white... maybe it will make them think!

King Midas

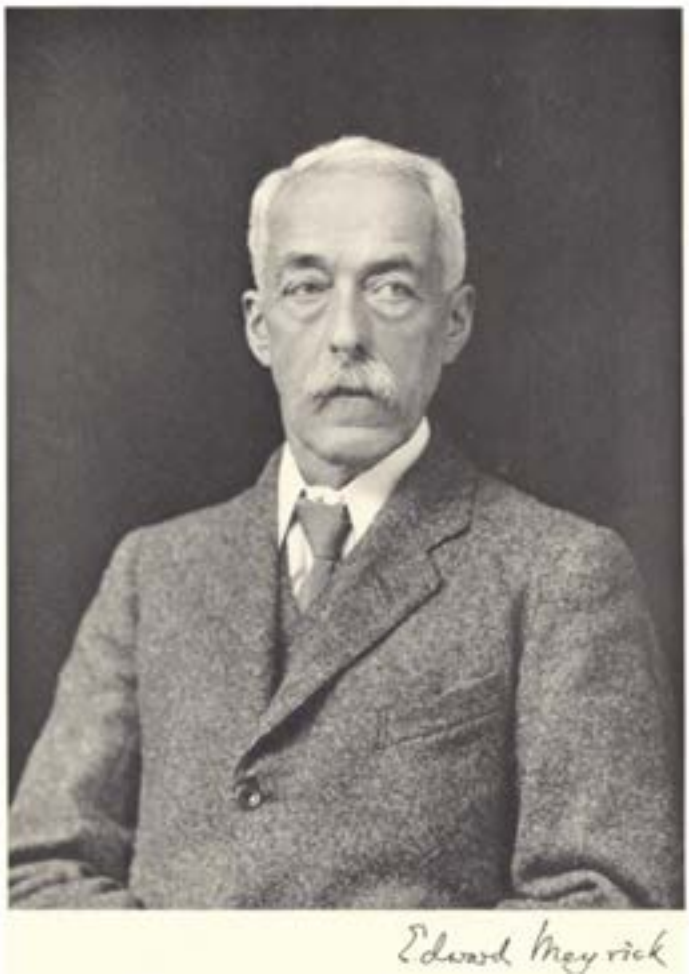
in the Mouldy Cellar

by Robert J B Hoare

It was 12 July 1911, seven weeks after the launch of the *Titanic* in Belfast, and a sizzling day in a boiling hot British summer. Solicitor, rugby enthusiast and entomologist Charles Granville Clutterbuck had taken refuge from the heat in the medieval wine cellars of Messrs Clark Bros at Blackfriars Priory in his home city of Gloucester.

His primary purpose there was not to taste the Clark Bros. vintages, nor indeed to shelter from the relentless sun, but to search for specimens of a tiny moth... at least that is what he tells us. This moth, the Yellow V Moth (*Oinophila v-flava*), has caterpillars that feed under bark or on vegetable refuse, but at some point in history developed a liking for corks in wine bottles; this is where it got its genus name *Oinophila* (the wine-lover). It is a Mediterranean moth not native to Britain, where only on the frost-free Isles of Scilly can it breed in the open; elsewhere in the country it is confined to cellars. Hence Mr Clutterbuck's subterranean excursion on that long-ago summer's day.

Although the Clark Bros cellarman professed he had never seen any moths in the cellars in his 27 years of service there, he presumably hadn't got his eye in, because Clutterbuck succeeded in his search for the Yellow V. He went home from the Priory with several specimens of this moth – and one specimen of another species. That other species turned out to be even more interesting. At first, Clutterbuck misidentified it as an English native, *Infurcitinea argentimaculella*, whose caterpillars feed on powdery lichens on old walls and trees. But later, having found a similar moth on a curtain in his own house, he submitted both specimens to Edward Meyrick, the world expert on micro-moths, a teacher of Classics who resided in Marlborough, Wiltshire.



Gloucester Blackfriars (top left) and Edward Meyrick (top right) (images courtesy Wikipedia)
D. pactolia *courtesy NZ Arthropod Collection*

Meyrick was almost certainly the only person in Europe who could have recognised these moths at the time. They belonged to a species that he himself had described in 1902... from NZ! The name he'd given it was *Dryadaula pactolia*. Meyrick had spent time as a schoolteacher in Australia and NZ between 1877 and 1886 and had pursued moths in his spare time. In NZ, he had met and struck up a friendly correspondence with entomologist G V Hudson of Wellington, and both he and Hudson had collected specimens of *D. pactolia*.

Clearly, as Meyrick noted enthusiastically in his response to Clutterbuck, *Dryadaula pactolia* had become established in Gloucester. But how had it got there? What was it doing in a wine cellar? And what was its natural habitat and life history in the wild in NZ – a life history that must have predisposed it to thrive indoors in manmade environments?

Over 100 years since Clutterbuck's discovery, two of these three questions remain unanswered. But we *do* know something about what this species is doing in wine cellars, even if we don't know how it originally discovered this alternative ecosystem.

As far as I can ascertain, the first person to observe the larvae of *Dryadaula pactolia* was a German doctoral student at Heidelberg University called Eugen Bender. I have been unable to

Wine bottles with Zasmidium cellare *courtesy Koritar Henriett, Flickr*

find any biographical information about Bender, which may not be surprising given that his thesis was completed at a particularly inauspicious moment in European history, in 1940. His dissertation was entitled "Investigations on the biology and morphology of microlepidoptera living in wine cellars". He was thorough: he visited at least eleven wine cellars in the course of his research, which probably started around 1936. He found the *Dryadaula* caterpillars most commonly by looking at the undersides of wooden wine-barrels, where they often congregated in large numbers (up to 347 per barrel) in the angle between the staves and the base.

Based on their gut contents, he determined that they fed exclusively on fungi and bacteria. Subsequent investigations have shown that a favoured host of the larvae is the black wine cellar mould *Zasmidium cellare*, a fungus that thrives in such places as it uses alcohol as its food source.

The larvae make silk runways and have long 'hairs' (setae) that engage with the silk to detect vibrations from predators and parasitoids; the evocative German name for these specialised setae is *Gespinstschwingungsrezeptors*.

It is extraordinary to think of Bender conducting his peaceful life history studies in the west German cellars in those feverish years just before World War Two.

One European lepidopterist has cheekily suggested that *Dryadaula pactolia* could in fact be a European native that was accidentally introduced to NZ – certainly a more frequent course of events! However, I am convinced otherwise.

In the late 19th century, only a handful of people were collecting NZ micro-moths. It would therefore be very surprising for a European moth to be found in NZ *before* its discovery in Europe, given the very much greater intensity of entomological activity in countries such as Britain, Sweden, France and Germany at that time.

Moreover, when Bender was studying the cellar fauna in the 1930's, he revisited a number of cellars already inspected by Friedrich Stellwaag in 1922 – Stellwaag had never found *D. pactolia* and it is not treated in his 884-page compendium *Die Weinbauinsecten der Kulturländer* (Insects of Wine-growing Country) published in 1928.

This suggests that it was a newly introduced species in Germany and still spreading in the inter-war years. And it was not until much later that the moth began to be found outdoors in Europe, whereas there is reason to believe that at least one of the earliest NZ records was from native forest.

So, what is the natural habitat of *Dryadaula pactolia*? We can make some inferences from the larva's habits in those wine cellars. *Zasmidium cellare* belongs to an order of fungi called Capnodiales, many of which, like *Z. cellare*, are blackish and have a similar mat-like growth form. Such fungi are known as 'sooty moulds' and they are especially abundant in NZ, most conspicuously in the southern beech forests where they often form a thick coat over the trunks and branches of beech trees. The sooty moulds are sustained by the sugary excretions of scale insects (especially Coelostomidiidae) that live under the bark. Other endemic insects, including beetles and several moth species, have early stages that specialise in feeding on these moulds. Of course, if *D. pactolia* were happy to breed in any kind of sooty mould, it ought to be abundant in beech forests, but in fact it is generally a rare and elusive species in the wild. It must have other ecological requirements that restrict its occurrence...

There are clues as to what these requirements might be, but so far only one caterpillar of *D. pactolia* has ever been found in NZ. We do not know where exactly it was found or what it was feeding on; in fact, it may never have been seen by its discoverer, the great lepidopterist Alfred Philpott. Quite likely he reared the moth accidentally from a fungus-infected substrate collected for other purposes. All we have is a broken adult specimen, tantalisingly labelled 'Nelson 17.9.1927 A Philpott Bred'. But it seems clear that *D. pactolia* prefers to breed in dark enclosed spaces with high humidity.

This is certainly true of a related species, *D. castanea*, whose larvae live in cave entrances and hollow trees, probably feeding on algae and/or cyanobacteria. *Dryadaula pactolia* has been found, sometimes commonly, by an astute iNaturalist observer on large pine trees and oaks in Hagley Park, Christchurch. (It has recently been observed in similar situations in France and Ireland.) Could it be breeding in deep bark fissures or hollows in these old trees?

If so, it may be almost physically impossible to observe the larvae, unless one finds just the right situation (e.g., a tree with a hollow large enough to get one's head and a hand inside!). The moth frequently occurs inside houses, where it can be seen flying a little bit more erratically and faster than a clothes moth. Therefore, it must have breeding sites indoors, but these are also likely to be in rather inaccessible damp nooks and crannies.

It remains a mystery how the species was exported to Europe in the early years of the 20th Century. Presumably larvae were accidentally carried with their food substrate, likely fungus-infected wood of some kind. My understanding is that NZ wine exports did not really get going until the 1960's, so it is improbable that they were transported directly cellar to cellar. I would be interested to hear suggestions of other exports that could have involved untreated wood bearing sooty mould or other fungi.

A final conundrum: what is the meaning of the moth's Latin

D. pactolia *found by the author in Glen Eden, Auckland, February 2021.*

name? Meyrick's names are often recondite, and he never explained their meaning when he made his descriptions. I think he liked to set his readers a little test. He would surely be very disappointed to learn that many people nowadays think of these names as obscure and difficult to remember and rarely attempt to interpret them. But the species name *pactolia* is not too hard to parse with a little sleuthing and some imagination.

We all know the legend of Midas' golden touch (a prime example of the need to be careful what you wish for!). After Midas, King of Phrygia, found that even his food and drink (and in some versions, his own daughter) turned to gold when he touched them, he begged Dionysus to free him of the curse. The god instructed him to wash in the River Pactolus, and when he did so, the sands on the bed of the river turned gold.

Freshly emerged *D. pactolia* have little flecks and streaks of gold scaling on the forewing, hard to see with the naked eye. I am sure that Meyrick was referring to these with his poetic name.

But it is not so clear what exactly Meyrick meant by *Dryadaula*. A dryad, of course, is a tree-nymph in Greek mythology. The Greek stem *aul-* probably derives from *aulos*, a flute: in other names, Meyrick seems to use the *-aula* ending to refer to the tubular veins that support a moth's wings. So *Dryadaula* are moths with a dryad's wing veins! This seems most obscure, unless we regard the 'dryad' as being an example of metonymy, a figure of speech where a concept is referred to by something associated with it (e.g., 'tongue' can mean 'language'). Then perhaps the veins are like a tree rather than like a nymph...in other words, they *branch* – and indeed, Meyrick describes the wings of *Dryadaula* as having several branched veins in his original description!

And so, a humble little dappled moth has led us along various byways of entomology, history, ancient Greek language and mythology, into houses, parks and cellars, from England to Germany, even to ancient Phrygia, and back to its home in NZ.

And this is only part of its story; we haven't touched on its strange morphology, on the ancient origins and diversity of its family (the Dryadaulidae) or on its bizarre NZ relatives, but we'll leave it there for now—I have some caterpillars to look for...

Magnificent

NZ Moths

by Jacqui Knight

Have you noticed how many people are interested in NZ moths, where once they were despised?

There are small ones, large ones, brown ones, green ones and black ones. Some blend in with their background while others stand out. And some look like little discarded twigs.

The MBNZT is very fortunate that we have been given the rights to put on our website the information and photographs in 'A Photographic Guide to Moths & Butterflies of New Zealand' which was out of print for a long while. This means that shortly we will have over 140 pages featuring moths on our website!

We will have the family, common and scientific names and notes about what is known about these species. But there is so much that isn't known about NZ's moths - possibly there are 2,000 species!

We look forward to uploading these pages and adding more information as it becomes known. We will announce the completion of this project via our e-news. If you don't subscribe to our e-news yet, you will find the link at www.mb.org.nz.

Pictured Pasiphila melochlora *(top) and* Thysanoplusia orichalcea *(lower), both photographed by Olivier Ball.*

Daltons

School Butterfly Habitat Award

by Jacqui Knight

Milford School has been announced as the winner of the Dalton School Butterfly Habitat Award for Term 4, 2023.

The school was commended for the way in which they involved various groups within the school. The Envirogroup and a Year 2 class planted *Muehlenbeckia* in different habitats and the Gardening Club planted nettles in hanging baskets.

Informative signage for both plantings were made by the children. The butterfly garden has been planted out with an extensive range of fantastic nectar plants to attract pollinators – some of which have been raised from seeds or cuttings.

Swan plants for the monarchs dot the school, some are self-seeded. All students are encouraged to learn about butterflies and moths.

The school will receive their $200 worth of Daltons products shortly. In the meantime, students and teachers were delighted to be presented with their certificate.

Pictured at back are teachers Iris Leng and Jillian Somers, with students Gianna, Indi, and Milly. Holding their certificate is Flynn.

Travis

Wetland

by Brian Patrick

Travis Wetland Reserve in the NE part of Christchurch is a spectacular protected area for wetland plants, birds and invertebrates: I was part of a team that did a survey of the insects that Rod MacFarlane led about ten years ago with many significant discoveries there.

One group of butterflies that we didn't find there were the copper butterflies. City Council's John Skilton and his team of staff and volunteers have worked hard to nurture the native plants and habitats of the Reserve.

When I saw the thriving scrambling pohuehue, *Muehlenbeckia complexa*, that they'd planted I suggested the translocation of Eastern Canterbury's undescribed winter copper butterfly would be a wonderful addition. John agreed and I moved twelve adults from unprotected sites close by at the base of the Port Hills a year ago. They have now become established and are a wonderful addition to the pohuehue shrubland.

Based on that success and success elsewhere of establishing coppers, council staff and volunteers such as MBNZT member Eleanor Bissell invited me to assist them establish a special rocky garden for the eventual translocation of the Canterbury Plains boulder copper.

They built an open sunny rocky garden adjacent to the scrambling pohuehue with 50 plants of mat pohuehue - *M axillaris* and three sprawling *M ephedroides* – both specialist hostplants of the boulder copper.

Mid-October when the mat pohuehue were large enough, I released twelve adults, six of each sex, onto the garden in the early evening, a time of day when they are not active and will simply walk into their hostplant to rest up till a sunny morning awakens them!

I checked on them every day and they settled in very well. Boulder coppers generally don't stray far from their larval hostplant or habitat so are an excellent candidate for translocations.

Two weeks later they were still active on sunny days sunbathing on the stones, courting and mating, and laying eggs on their hostplant. The adults love to sunbath also on the adjacent paths and take nectar from various exotic flowers nearby.

Our copper translocations are very positive. People following the same guidelines, shown in the next column, should lead to even more successes. That would add a little more natural colour into our landscapes.

A boulder copper settling in on the pebbles at Travis Wetland

Translocation

Guidelines

by Brian Patrick

1. For coppers, choose an open, well-drained site that's mostly flat. A small slope is fine. Site should not have shade at any time of day or year.

2. Remove about 10cm of soil and vegetation and cover the area with weedmat. Cover with 10cm of smooth small riverbed stones and a few larger stones scattered over site.

3. Plant out 2m apart, mat pohuehue (*Muehlenbeckia axillaris*) to allow for plant mats to grow and spread to one metre square: leaving about a metre of bare stones between mature plant mats. Cut hole in weed mat for each plant. Having an occasional *M. ephedroides* in the garden is beneficial too.

4. Garden must have solid well defined margins for weed control and butterfly use; I suggest either 20cm of concrete or asphalt or fine stone pathway.

5. Having mat pohuehue growing out over these margins is beneficial and the butterfly will use these plants for egg-laying and surrounding tracks and concrete for sunbathing

6. Install waist-high interpretation signs beside a strategic walkway at garden.

7. Translocate a minimum of five male and five female adult butterflies from closest available populations on roadsides or other unprotected sites. Remember that you are prohibited from taking species from DOC sites or public land, and you should get the permission of any owners of private spaces.

8. Walkways through garden are ideal for public interaction and viewing of butterfly and its habitat. They should be gravel, asphalt or concrete or a combination of these.

9. Monitor the butterfly population to observe the use of the site. You may need to fine-tune the translocation and ongoing management such as weeding will be needed from time to time.

Settlers

Community Collaboration

By Jacqui Knight

Mid-November was a very moving occasion at Settlers Lifestyle Village in Albany: the opening of their butterfly house.

With the support of Doug Robertson (the resident Butterfly Man) and his wife Sandra, a special house has been installed in the picturesque gardens. It began as a Redpath kitset and was put together by the men from Settlers' Blokes' Shed.

Darcy, head of the Settlers' gardening team, had built a concrete pad for the house some weeks ago, and Ian – retired engineer who spends much of his time in the Blokes' Shed – had devised a very clever door closure to ensure the door stayed shut unless there was someone going in or out.

Many residents had already raised swan plants on their decks. Judy Hodge, retired photographer and resident, spent hours documenting the construction and monarchs in all stages of their metamorphosis. Everything was set for the Big Day: the opening of the house at the first lifestyle village in NZ to partner with us.

Glenda Adams, Resident Liaison and much valued member of the staff at Settlers, had arranged for a huge cake to be made, complete with a butterfly mural on top. The entrance to the butterfly house had been decorated with cut-out monarchs to add that special touch – and an orange satin ribbon waited to be cut. Darcy had arranged special pots containing luscious swan plants and colourful nectar annuals to add even more appeal.

TVNZ's Breakfast producers had got wind of the amazing community effort and came along to film the opening in a special extended slot. The interviewer, Tessa Parker, was thrilled to hold a monarch butterfly on her outstretched hand before letting it fly up-up-and-away.

When the excitement had died down Gary Jarvis (Settlers' manager) and I cut the ribbon and announced the butterfly house was officially open. I can't tell you how thrilled I was, on behalf of the MBNZT, to see this wonderful collaboration!

Left: Doug and Sandy Robertson and above Gary helps me cut the ribbon.

B5

adventures

By Biance Woyak

We have had another busy few months promoting copper butterflies down in Ōtautahi Christchurch.

The boulder copper butterfly emerged late in the season probably due to cold weather and sadly we have seen smaller numbers at our usual sites.

At our school habitat we have not seen much butterfly action, as we have recently moved into our new school site and our grounds near the habitat have been disturbed by truck noise, dust and debris.

This has been interesting for tamariki to see the impact us humans have on our invertebrates. We were excited to see our old buildings demolished as our site is now clear to start building our large butterfly habitat on site at school.

This new habitat will be home to five endemic butterflies and two day-flying moths. We are creating it with all of the knowledge we have gained from our test patch, and making habitats with Orana Park, Rawhiti Domain, Climate Action Campus, Rangi Ruru Girls' High and Our Lady Star of The Sea School, with the continued help and guidance from Brian Patrick, our butterfly expert.

We intend this habitat to be a site where our community can come learn, appreciate and value our endemic butterflies and moths.

We are really excited to get started building it in the new year and would like to thank Isaacs Construction Ltd for donating the rocks needed as well as Trees For Canterbury for growing the plants.

Ferris with boulder copper butterfly (left) and Samuelu (this column) proudly showing his find on the original boulder copper habitat site by the Christchurch Airport

B5 and Rangi Ruru students planting at new Climate Action Campus habitat.

We are still looking for a company that could help support the project by cementing us a path around the outside of the habitat. My email is b.woyak@burnsideprimary.school.nz

At the start of November we went back out to our favourite boulder copper site out by the Christchurch Airport. We took a new satellite school, Rangi Ruru out to show them our beloved butterfly and the correct practices for translocating. As mentioned earlier, we saw less butterflies than normal which is worrying.

We did manage to catch six males and six females with Brian's guidance. The B5 tamariki thoroughly enjoyed being butterfly experts and sharing their knowledge with Rani Ruru students.

After this we headed to the Climate Action Campus – a new B5 satellite location. The Climate Action Campus is located at the old Avonside Girls High School site. Avonside Girls has since been rebuilt at another location which meant that there was an empty site by the Red Zone and Avon River.

The Climate Action Campus is to become somewhere where students can take action for the environment.

"It will serve as a resource for students and teachers in Christchurch," said Ōtautahi Director Niki Stephenson. "It will be the first such state school venture in NZ and run from primary through to secondary and early tertiary, a model for other areas of NZ and other countries about ways to provide innovative opportunities for community learning opportunities in a time of climate and ecological crisis."

The B5 group thought this would be the perfect place for a new copper butterfly habitat and Rachel Cummings, a lead teacher at the campus, agreed. We started planning the habitat with tamariki from Ao Tawhiti School a few months ago. This habitat is going to be home to the boulder copper and winter copper butterflies so we made sure as well as *Muehlenbeckia axillaris* we also included *M. complexa* as well, and other supporting plants.

It was great to see another habitat come to completion! We will translocate butterflies to the campus in the new year.

We would like to say a huge thank you to WWF New Zealand and the Tindall Foundation for their support over the last three years. Without the funding from the Education Action Fund we would not have been able to run the B5 project so successfully and reach so many schools.

Unfortunately, as the fund only goes for three years, we are now looking for other funders for next year to pay for transport for field trips and the like. If you would like to support us please email me on the above email address. Any support is greatly appreciated.

So where to next year for the B5 project? Well we of course are building our large habitat at Tuia Burnside Primary School. It will be amazing to see our vision come to life. We also have five other schools waiting to become satellite schools and we are thinking of writing a children's book about our journey. So watch this space!

Red admiral

returns

ByJacqui Knight

With the assistance of grants from both Foundation North and the Lion Foundation our campaign to see the red admiral a more common sight in Auckland is making progress.

On 26 November (while this magazine is at the printer) we will be introducing several of the breeders who are having successes with breeding admirals – reds and yellows – and demonstrating different methods being used. What works for some people may not work for others – but sometimes people can adapt one idea and combine it with another to use in their own location.

Nettle seeds, plants and caterpillar castles will be for sale. It's possible we will need to have more meetings: so many people still ask "what's a red admiral" and "why grow stinging nettle".

At last we have located a tree nettle / ongaonga / *U. ferox* which has adapted to grow well in Auckland locations. Previously attempts from bought seed have resulted in weedy plants which do not handle Auckland's conditions well.

We will be keeping you posted and if you would like to get more involved or follow progress please ensure you sign up for the e-news at www.mb.org.nz

Urtica ferox grown by Neville Wright from seed produced in Auckland

Ranui

the red admiral

By Vanessa G.

It's a win-win for the MBNZT and a group of students completing their communication degrees at the Auckland University of Technology.

The multi-pronged project is part of their third-year paper entitled PR Strategy and Practice. It provides a real-life experience where the graduants work in a student PR agency called Outside the Square with not-for-profit clients, so the trust was a perfect match.

In August and September the students took the MBNZT under their wing with a special public relations project: to increase the awareness of the red admiral butterfly in Auckland. Through their communication strategy, including an event at all Kings Plant Barns, an activation, media releases, and social media contact with influencers they raised awareness of this beautiful species as well as the need for butterfly-lovers to plant host plants or at least flowering plants offering nectar.

Kings Plant Barn Marketing Head Michael Pryor was impressed with the results of their efforts.

"'Ranui the Red Admiral' was a wonderfully crafted character by the students with an engaging story to share. It was evident the families and children who came along to learn more enjoyed the activities on hand" he said.

"We really enjoy being able to support activities which encourage the next generation of gardeners through our Little Growers' Club." "And this particular school holiday activity, really hit the spot".

On arriving at Kings' flagship store in Stonefields, Auckland, family groups were given an answer sheet and directed to the first station. As they progressed around the store and found the five stations they learned more facts about the red admiral and why it was seen less often in Auckland city.

Several of them even picked up hebes and echinacea plants for their own gardens.

At the end of the activation children were able to collect a small reward of a lollipop and also had fun colouring in their own butterfly to take home on a stick.

The OTS team was surprised by how much they learned. At the outset they confessed they didn't know much about butterflies and conservation.

"But the more we did for the trust, the more we learned about these fascinating creatures and their importance to our biodiversity."

Another reward for the MBNZT was that the team was able to suggest how their social media presence could be raised.

"Social media is such a dynamic tool – and it's changing so rapidly," said

"It is very hard to keep up with the latest platforms and so we really appreciated what we learned from Dave, Harper Karmen, Olivia, Anna and Nina (pictured below)."

"They are a highly talented group, extremely innovative, and we wish them very well in their future endeavours."

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