



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 161

April 2017

Deadline for next issue:
Monday 15 May 2017

SUBMIT AN ARTICLE TO THE NEWSLETTER

Contributions are welcome to the newsletter at any time. The closing date for articles for each issue is approximately the 15th of each month.

Articles may be edited and used in the newsletter and/or on the website news page.

The Network will publish almost any article about plants and plant conservation with a particular focus on the plant life of New Zealand and Oceania.

Please send news items or event information to events@nzpcn.org.nz

Postal address:

P.O. Box 16102,
Wellington 6242,
NEW ZEALAND

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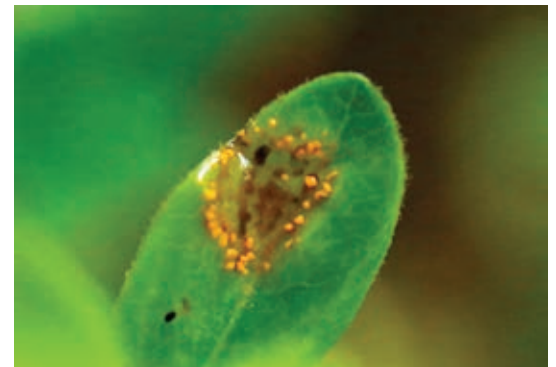
Carex filamentosa. Photo: Rowan-Hindmarsh Walls.

Myrtle rust update

Geoff Gwyn, Director Readiness and Response Services, Ministry for Primary Industries

The Ministry for Primary Industries has been investigating the detection of suspected myrtle rust fungal infection in a number of trees on Raoul Island. Unfortunately, the MPI laboratory has now confirmed that myrtle rust (*Puccinia psidii*) is the fungal infection found in a small number of Kermadec pohutukawa trees on Raoul.

As many of you are well aware, myrtle rust, also known as guava rust and eucalyptus rust, is a fungal infection that can have serious impacts on a wide range of plants in the myrtle family. If it were to enter mainland New Zealand, it could potentially harm the iconic New Zealand plants pohutukawa, kanuka, manuka and rata, as well as commercially grown exotic species such as eucalyptus, guava and feijoa. That said, it is early days and, as yet, we know little about the particular type of myrtle rust found on Raoul Island or how it would act in New Zealand conditions and on New Zealand myrtle species, should it get here.



Myrtle rust photos supplied by Ministry for Primary Industries.

Raoul Island is very remote from mainland New Zealand—more than 1000 km to the northeast of Northland. Access to the island is strictly controlled and only by permit. Those visiting Raoul Island are mainly scientists and maintenance people, with most of them working for the Department of Conservation. It was DOC staff who discovered the small number of affected trees and safely transported samples back to New Zealand for testing, following strict biosecurity protocols.

Our focus right now is to do what we can to assess the situation, protect the unique Raoul Island ecosystem and prevent the further spread of the fungus to mainland New Zealand. Currently, we're urgently assessing the options available. Given the remoteness of the outbreak and that fact that rust diseases are notoriously difficult to control, this is going to be a challenge.

Strict precautions are being taken to make sure people, equipment and samples being brought back to mainland New Zealand pose no risk of transmitting infection. New Zealand already has stringent biosecurity measures to protect against myrtle rust introduction, including a complete ban on imports of cut flowers and foliage from

myrtle species from New South Wales, Queensland and Victoria. Myrtle rust is well established along the eastern seaboard of Australia and in New Caledonia.

Myrtle rust spores can, however, spread long distances on the wind and the Raoul Island incident is an important and timely reminder that it could reach the New Zealand mainland at some time in the future. Early detection would be vital to any attempt to control it. Myrtle rust most typically appears as bright yellow powdery eruptions on leaves. Leaves can become buckled or twist and die off.

If you believe you have seen myrtle rust on plants in New Zealand, immediately call MPI on 0800 80 99 66. Do not attempt to collect samples because this may aid the spread of the disease. Full information is at: www.mpi.govt.nz/document-vault/3641

Please feel free to share this information with anyone you feel will be interested. If you have any questions, do not hesitate to contact the Liaison Manager for this response, Erik Van Eyndhoven at Erik.VanEyndhoven@mpi.govt.nz or ph: 04 8940469.

Botanical news from the Wairarapa

Trevor Thompson, QE2 Rep Wairarapa (tthompson@openspace.org.nz)

Since the last contribution to the Network newsletter, there have been a few more things happening in Wairarapa that plant people may find interesting. First, the large new *Olearia gardneri* population found in November 2013 has this year had its resident old man's beard given its first major hit; more hits will follow in years two and three by which time we expect it to be at very low levels. The contractors carrying out this work reported seeing more *O. gardneri* in areas not noted in the census of this plant so it is likely that there are well over 300 plants here. In addition, plants sourced from this population were grown and a further 92 were planted in positions where a few *O. gardneri* were present in open manuka and in a few other positions where grass suppression was happening to some meaningful degree. On visiting these plantings recently, they were looking healthy and had grown significantly. I thank Rangitane o Wairarapa, Wairarapa Forest and Bird and some other keen people who had to walk a long way to get to the planting area and then climb steep slopes, ect., to get these valuable plants in the ground.

A further two areas were planted with 32 *O. gardneri* each, one planting site had one existing tree of the species. The young plants were planted according to the knowledge gained from the situation at the source population; *O. gardneri* were often found as understorey components so this was emulated at this particular site. This planting was done by the owner, a shepherd and me. Recently, these plants were looking well. The third area was not a known *O. gardneri* area, but has the right geology and plenty of room to plant if the area proves to be successful. These plants were planted by Mauriceville Primary School children, teachers and parents. This new population has not been inspected yet so I cannot report on its progress—watch this space .

The source population with good genetics, has plants ranging from the biggest *O. gardneri* known to new seedlings and all sizes in between. It has one major risk that makes preserving the genetics in other populations so important; that risk is fire as eastern Wairarapa continues to dry out and summer droughts are set to become worse because of climate change. So there is a programme to strengthen the new populations with 50 new plants planted out each year. After the initial planting at the source site of 92 plants, as mentioned earlier, no further planting will be done there. All planting sites are protected under QE2 Covenants

Mistletoe host tree banding alternative

For a long time, I've been concerned at how metal bands attached to host trees to prevent possums from feeding on mistletoe plants, particularly *Peraxilla tetrapetala* and *P. colensoi*, can be detrimental to a host tree's health. The bands are prone to "popping " as the tree grows and, in the Tararua Ranges, a number of mistletoe plants have perished through lack of maintenance of these bands as the bands popped and possums gained access. Also, under the bands, the bark is perpetually wet and dark.

Approximately 8 months ago I trialled using clear corrugated plastic roofing material. This is readily available at building stores, can be cut with a reasonable pair of scissors, is light and (lets light through), allows the mosses, ferns, vines and mistletoe surface roots(haustoria) to remain healthy under the bands. The sheets were cut into 600 mm lengths and attached to the host's trunk using stainless screws and small stainless washers. The width of the cut lengths means a series of cut lengths must be lapped and continued around the trunk till a continuous band is produced; major indentations or hollows on the trunk are no problem (see Figure 1). The material can be effectively moulded to keep these areas possum proof. As the tree grows the corrugations will give a prolonged time span without needing maintenance as they flatten out.



Figure 1: Clear corrugated plastic is a promising alternative to metal tree bands. Photo: Trevor Thompson.

Experiments propagating dwarf mistletoe

Though I have got extensive experience propagating all Loranthaceae spp successfully and returning them to areas where they were once common, I decided last year to start extending propagation to the dwarf species. A neighbour has a good population of *Korthalsella salicornioides* growing on manuka. In February 2016, the owner and I chose a number of big healthy plants and encased them in lace curtain-like material. The idea was to catch the exploding tiny seed and transfer them to new hosts. The seeds exploded as planned and stuck fast to the mesh material but the follow up was too late so rather than try to pick the seeds off and reattach to a branch, I cut the mesh into thin strips and wrapped them around and in close contact with a new host's young branch (see Figure 2). To date, 13 months later, nothing can be seen to indicate success.



Figure 2: Trialling seed transfer of *Korthalsella salicornioides* onto manuka. Photo: Trevor Thompson.

This year, plan B was tried. Young potted manuka were purchased from the local nursery and taped in place so the upper part of the potted manuka was close to and amongst a *K. salicornioides* plant with plenty of seed. Importantly, we set up small squares of ice cream container lids in the same position. These were our indicators; when the pods had exploded the seeds would also stick to the indicator squares to show us that the potted manuka could be removed and planted out. This has been done and we now look forward to seeing if the process worked. The drawback of this system is the need to water the potted manuka frequently because the work is done in February and they dry out very easily.

Some new *Peraxilla tetrapetala* found

Local farmers reported to me that a large red flowering mistletoe was visible from farmland in the Tararua foothills. Two searches turned up four large plants in at least two separate spurs growing in red beech, which is unusual. This is the most northerly known *P. tetrapetala* in the Tararua Ranges. Rangitane o Wairarapa youth have been invited to help band these new discoveries; seed collection will also take place for further planting. For some time, *P. tetrapetala* has been declining at a steady rate in the Tararuas because of a number of factors: disease, lack of maintenance of protective bands, low pollinator numbers, fruit not being taken by birds. The planted *P. tetrapetala* at my property failed to produce fruit till year 18 when it seems the tui finally worked out how to open the flowers!

PLANT OF THE MONTH – *CAREX FILAMENTOSA*



Carex filamentosa. Photo: Rowan Hindmarsh-Walls.

The plant of the month for April is *Carex filamentosa*, 'Stewart Island sedge', one of many *Carex* species endemic to New Zealand. As the common name suggests, the stronghold for *C. filamentosa* is Stewart Island where it can be found mostly in sub-alpine habitats. It is also found in a few sites in mainland Southland.

The species generally lives in very damp peaty areas in low sub-alpine scrub where it can be found forming a sparse turf on the ground or poking up through prostrate manuka shrubs. It extends occasionally into full alpine habitats as well as tall canopy montane forest. On Stewart Island, it is often sympatric with other *Carex* species, such as *C. stricta* and *C. obtusifolia*.

The plant is stoloniferous and forms indistinct lax tufted mats up to 20 cm tall. It has very narrow reddish green leaves that are finely scabrid near the apex. The culms are shorter than the leaves, erect, with 2–4 short spikes clustered at the top of the culm.

This species is similar in appearance to other fine leaved, non-hook seeded *Carex*, such as *C. edgariae*, *C. libera* and *C. uncifolia*. It's known range does not overlap with *C. edgariae* or *C. libera*, but it does with *C. uncifolia*, from which *C. filamentosa* can be distinguished by wide spreading stoloniferous, rather than short rhizomatous habit and by its short pedunculate, rather than sessile, female flower spikes.

The species is endemic to New Zealand, with a current threat ranking of 'At Risk— Naturally Uncommon', because it has a restricted distributional range, with limited suitable habitat on Stewart Island. Little is known about the species because the main populations are remote and there is currently no monitoring of the species on either Stewart Island or the mainland. We suspect that it is fairly stable on Stewart Island since it is not currently threatened by exotic weeds, but it could be slightly prone to ungulate or possum browse. On the mainland, exotic weed competition is probably the major threat.

The species has probably rarely been grown but, being a *Carex*, it would be quite easy to cultivate and could even become weedy in a garden. It could be used to create a subtle garden border.

The species epithet '*filamentosa*' refers to the filamentous (thread-like) leaves of the plant.

You can view the NZPCN website factsheet for *Carex filamentosa* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=394

New Zealand Indigenous Flora Seed Bank (NZIFSB)

Jessica Schnell (J.L.Schnell@massey.ac.nz) and Craig McGill (C.R.McGill@massey.ac.nz)

Otaki Seedbank volunteers visit the seedbank

Five enthusiastic volunteers from Otaki travelled to the seedbank in late March for a day of seed cleaning. The day began with a briefing over coffee and some homemade brownie before getting down to the business of processing collections that has been sent in by collectors. By the end of the day four collections had been processed: *Sophora microphylla*, *Melicytus flexuosus* and two *Coprosma* species. over the day. Thanks to everyone who came up from Otaki to contribute to the seed bank. It was a very productive and hopefully enjoyable day for everyone.

Seedbank volunteers prove invaluable to seedbank

At the seedbank we have a team of six regular volunteers who assist with seed processing every Thursday. Seed from New Zealand's indigenous plants come in many shapes and forms and require specialist techniques to extract the seed from the fruit, pod or infructescence. This frequently means new skills in handling of seed needs to be learnt. Problem solving in terms of finding the ideal method to clean the seed in as little time as possible while leaving little or no debris present is as much a part of the cleaning process as cleaning the seed itself. It would not have been possible to have banked the nearly 300 accessions in the seed bank without all the work of the seedbank volunteers, both the current volunteers and those that have assisted since the beginning of the seedbank project. There is always an opportunity for anyone who is interested to volunteer for the seed bank. If you are interested please contact Jess or Craig at the email addresses above.



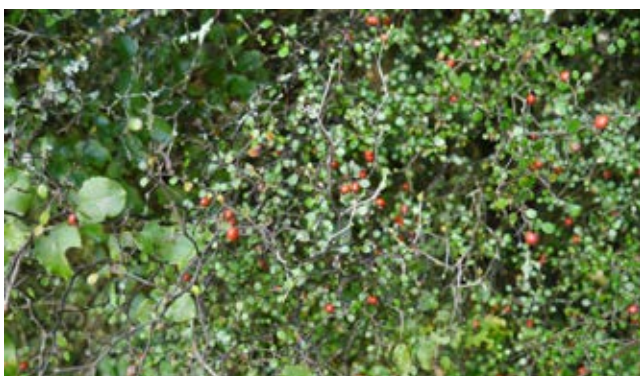
Otaki seed cleaning team.



Tim working on some kowhai seed pods.
Photos: Jessica Schnell.

Seed collecting at Paengaroa Scenic Reserve

In March, Viv McGlynn, Michael Hutchins, Phyllis Leigh and Jess went seed collecting at Paengaroa Scenic Reserve. It was a very fruitful day with six collections made including the At Risk—Declining *Coprosma wallii* and *Melicytus flexuosus*. The weather put on a great display with sunshine and glorious warmth. Thank you to all who took a day out of their busy schedules to take part. For anyone who would like to explore this beautiful botanical gem near the village of Mataroa turn west along Mataroa Road 3 km north of Taihape. You will not regret taking the time to visit.



Left: *Corokia cotoneaster* at Paengaroa. Right: Phyllis collecting *Corokia cotoneaster* seed. Photos: Jessica Schnell.

***Australasian Plant Conservation*—call for articles**

The Australian Network for Plant Conservation is now seeking articles for the June – August 2017 issue of [*Australasian Plant Conservation*](#).

The theme for the next issue will be **Provenance**. A matter of great importance in restoration and rehabilitation of sites for conservation is the provenance of material used in planting and seeding. What is the appropriate provenance has been a matter of debate since the earliest days of bush regeneration. A strict, dogmatic approach is unlikely to be the answer in all circumstances; the context, objectives and finances are all relevant in the circumstances of each individual site and project. A recent provenance workshop in Adelaide is the stimulus for this proposed issue, which will include reports from the workshop, but we welcome a wide range of contributions, which can range from expressions of opinion, statements of policy or accounts of particular case studies.

In addition, articles and reports relevant to plant conservation in general are, as always, welcome. Articles generally should not exceed 1200 words and authors are encouraged to submit two or three high resolution CMYK (full colour print ready) images to illustrate their article, at as high a resolution as possible (but at least 300dpi), and as separate jpeg, tif or gif files—not embedded in the text.

We also welcome:

- book reviews;
- titles of interesting recent publications or resources, and where they can be found;
- conference, workshop, course and fieldwork announcements; and
- details of relevant publications, information resources and websites.

The **deadline for submissions** for the June – August 2017 issue is **Friday 12 May 2017**. If you are intending to submit an article or wish to discuss possibilities, please [email the Editor](#), Paul Adam. Please also [email your article to Paul](#) and note the [guidelines for authors](#) regarding APC style and scope.

Also, please forward this email to any of your relevant networks and contacts.

Planning a trip to Canberra?

We have a number of overseas members and one Australian one has made a generous offer. In a recent email, Jan Morgan, who is a volunteer guide at the Canberra Arboretum, said that if any Network members are planning a trip to Canberra and would like visit the Arboretum, she would be very happy to show them around particularly if they are plant enthusiasts.

Her contact details are: ph: +61 412 062 423; email: janmorgan2@me.com.

UPCOMING EVENTS

If you have important events or news that you would like publicised via this newsletter please email the Network (events@nzpcn.org.nz):

Auckland Botanical Society

Meeting: Wednesday 3 May at 7.30 for a talk by James Brock titled 'Tree Ferns'. **Venue:** Unitec Room 115-2017.

Contact: Maureen Young, email: youngmaureen@xtra.co.nz.

Field trip: Saturday 20 May to Matuku Link Block. **Leader:** Geoff Davidson.

Contact: Maureen Young, email: youngmaureen@xtra.co.nz.

Kaipatiki Project

Field trip: Saturday 27 May for a weeding day Domain Road off Glenfield Road. **Meet:** 10.00 a.m.; come and help to release plants and do some weeding in preparation for our winter planting season! Refreshments and some spades provided.

Register: by email to admin@kaipatiki.org.nz

Waikato Botanical Society

Field trip: Sunday 21 May to Waingaro Reserve.

Leader: Wayne Bennett, email: wayne@forestflora.co.nz.

Rotorua Botanical Society

Field trip: Sunday 7 May to Motuoapa Peninsula and Wetland, Lake Taupo. **Meet:** at the car park, Rotorua, at 8.00 a.m. or at the Motuoapa location (TBC) at 9.30 a.m. **Grade:** medium.

Leader: Tony Lawson, ph: 0274 076 580; email: tony_lawson44@hotmail.com.

Whanganui Museum Botanical Group

Meeting: Monday 2 May at 7.30 p.m. for a talk by Peter Cave 'The cloud forests of Ethiopia' Venue: Museum's Davis Lecture Theatre.

Contact: Colin Ogle, email: robcol.ogle@xtra.co.nz.

Wellington Botanical Society

Field trip: Saturday 6 May for a mystery trip to Akatarawa Forest. **Meet:** by train at 8.14 a.m. from Wellington on Waikanae line to Paekakariki Station (arrives 9.00 a.m.; ask the Leader to meet you near railway crossing on Beach Rd, near the Paekakariki shops); or by car on SH1 to Queen Elizabeth Park interchange, then Emerald Glen Rd, Waterfall Rd, Maungakotukutuku Rd at 9.30 a.m. outside quad-bike hire company for transfer to 4WD vehicles. **Bring:** rugged footwear (recommended).

Leader: Owen Spearpoint, ph: 027 285 8083; booking essential!

Meeting: Monday 15 May at 7.30 for a Members' evening. Please share your botanical slides and photographs taken on BotSoc trips, your paintings, drawings and your botanical readings. There is also a sale of books; the proceeds go to build up the Jubilee Award Fund.

Venue: Victoria University Lecture Theatre M101, ground floor Murphy Building, west side of Kelburn Parade; enter building off Kelburn Parade about 20 m below pedestrian overbridge.

Nelson Botanical Society

Field trip: Sunday 21 May to Upper Moutere remnants. **Meet:** at the Church steps at 8.00 a.m. Please register with the leader.

Leader: Don Pittham,
ph: 03 545 1985.

Meeting: Monday 22 May at 7.30 for a talk by Uta Purcell titled 'Georgia: flora, mountain landscapes and a little culture.'

Venue: Jaycee rooms,
Founders' Park.

Canterbury Botanical Society

Meeting: Monday 1 May for a talk by Dr Peter Bellingham, Landcare ecologist, titled 'Disentangling effects of deer and possums from those of natural disturbance in New Zealand's forests'. **Venue:** Upper Riccarton Library community meeting room, 71 Main South Road.

Contact: Alice Shanks,
ph: 03 337 1256,
email: alice@caverock.net.nz.

Field trip: Saturday 6 May to Mt Grey Department of Conservation Reserve and QEII Trust covenants: a Canterbury kamahi and fungal foray.

Contact: Alice Shanks,
ph: 03 337 1256,
email: alice@caverock.net.nz.

Otago Botanical Society

Meeting: Wednesday 10 May at 5.20 p.m. for the AGM and Photographic Competition.

Venue: Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor.

Field trip: Saturday 20 May to Dolamore Park, Gore. **Meet:** Botany Department car park at 8.00 a.m.

Contact: Gretchen Brownstein,
email: brownsteing@landcareresearch.co.nz.
