

# Myrtle Rust Update

Wednesday 13 June 2018.



**Gum**  
*Eucalyptus* sp.



**Ramarama**  
*Lophomyrtus* sp.



**Pōhutukawa**  
*Metrosideros* sp.

This information is compiled by the Ministry for Primary Industries (MPI) and the Department of Conservation (DOC).

For information about this update, contact [MR2017 Liaison@mpi.govt.nz](mailto:MR2017_Liaison@mpi.govt.nz).

Red text indicates new information since the 30 May 2018 update.

## Latest information

The number of new finds since 30 May 2018 brings the total number of infected properties to **731**.

**New finds since last update by town/city/suburb – 12 new sites:**

Region	New finds	City/town/suburb	Total finds
Northland	1	Kerikeri (1)	33
Auckland	3	Manurewa (1), Remuera (2)	107
Waikato	1	Whitianga (1)	84
Bay of Plenty	1	Pyes Pa (1)	152
Gisborne	0	None	3
Taranaki	2	Waitara (1) and Oakura (1)	276
Manawatu	0	None	24
Wellington	0	None	38
Tasman	3	Pohara (1) and Collingwood (2)	9
Marlborough	1	Havelock (1)	5

### Property type:

Private (588), public land (64), commercial (41), nursery (13), school (13), public conservation land (1), retailer (2), golf course (2), orchard (2), depot (1).



**Ramarama**  
*Lophomyrtus* sp.



**Rata**  
*Metrosideros* sp.

## MPI surveillance findings:

Host	Total Surveyed	Confirmed
<b>Ramarama:</b> <i>Lophomyrtus</i> spp.	9,648	631
<b>Pōhutukawa, Northern rata, Southern rata:</b> <i>Metrosideros</i> spp.	37,380	398
<b>Monkey apple:</b> <i>Syzygium</i> spp.	9,036	157
<b>Bottle brush:</b> <i>Callistemon</i> spp.	8,513	21
<b>Willow myrtle:</b> <i>Agonis flexuosa</i>	422	7
<b>Feijoa:</b> <i>Acca</i> spp.	14,535	5
<b>Mānuka:</b> <i>Leptospermum scoparium</i>	15,041	3
<b>Chilean Guava:</b> <i>Ugni molinae</i>	1,087	2
<b>Gum:</b> <i>Eucalyptus</i> spp.	5,171	1
<b>Australian Tea Tree:</b> <i>Thyrtomene</i> spp.	72	1
<b>Other</b>	13,482	0
<b>Total:</b>	<b>108,842</b>	<b>1,226</b>

## Susceptible plants

Plants found to be most susceptible to myrtle rust in New Zealand are Ramarama, Pōhutukawa, Rata, Monkey apple and Bottle brush.



**Lilly pilly**  
*Syzygium* sp.



**Ramarama**  
*Lophomyrtus* sp.



**Willow myrtle**  
*Agonis flexuosa* sp.

## Science and Research

MPI has commissioned a comprehensive research programme made up of more than 20 specific projects and valued at over \$4.5 million. All projects are due to be completed in the next two years, and a bid for further research will be requested from Cabinet later in 2018.

Research underway:

- MPI, in collaboration with the New South Wales Dept. of Primary Industries, is investigating alternative fungicides and possible non-target impacts from the current fungicides being used for the treatment/control of myrtle rust infections. This is to support future control efforts and avoid the possibility of myrtle rust becoming “immune” to one particular fungicide.
- New Zealand Plant Producers Inc. is scoping and developing a plant production biosecurity scheme for nurseries and garden centres.
- Plant & Food Research is conducting field and laboratory experiments on the movement of myrtle rust spores into, within, and out from, bee hives, and investigating whether myrtle rust spores remain viable through this process.
- Plant & Food Research is also investigating seed storage methodologies and protocols for non-orthodox myrtle species, which cannot be stored by conventional methods. The research explores whether seeds or other tissues can be stored using cryopreservation methods and then subsequently propagated successfully.
- Karin van der Walt at Otari Native Botanic Garden (Wellington City Council) is undertaking a PhD investigating conservation options for swamp maire/maire tawake (*Syzygium maire*), supported by Plant & Food Research. Swamp maire is desiccation sensitive and can therefore not be stored using conventional seed banking methods (which involves drying to 5-8% moisture content and stored at -20°C). The only germplasm conservation option therefore is storage of zygotic embryos, shoot tips or buds in liquid nitrogen (196°C). The role of provenance and season of collection on the desiccation and cold tolerance of embryos are also being investigated.
- Otari Native Botanic Garden, in collaboration with Te Papa, has hand pollinated Bartlett’s rata/rata moehau (*Metrosideros bartlettii*) and the seedlings generated are used to investigate the storage of shoot tips through cryopreservation. The project is supported by Auckland University and Plant & Food Research.
- Otari Native Botanic Garden is studying the seed characteristics and seed storage behaviours of ramarama (*Lophomyrtus bullata*) and NZ myrtle/rohutu (*L. obcordata*) to ensure that these fleshy-seeded species are stored at optimal conditions.
- Scion Research, in collaboration with Manaaki Whenua Landcare Research, Plant & Food Research, AgResearch,ASUREQuality, Biosecurity Research Ltd, Massey University, and international myrtle rust researchers, has initiated a wide range of

projects to build engagement and social licence through better understanding of public acceptance of potential long-term management options; develop and test management and surveillance tools and approaches; scope a breeding programme for resistant species; and, develop monitoring approaches (including establishing baselines) for assessing impacts of myrtle rust to environmental, economic, social and cultural values over time, and understanding the impact of management interventions.

- Plant & Food Research, in collaboration with Scion Research, Manaaki Whenua Landcare Research, Kew Gardens, and Australian myrtle rust researchers, also has several inter-linked research projects underway including the identification of native and important exotic host species susceptibility to myrtle rust, including variability within species; identification of asymptomatic periods; assessment of the risk of introduction of other myrtle rust biotypes to NZ; initial identification of genetic markers linked to resistance; resistant plants and their potential relationship with endophyte populations; *A. psidii de novo* genome sequencing; and, a national seed banking and germplasm research strategy.

Research starting soon:

- MPI will soon begin work on developing a Lucid™ interactive key for Myrtaceae - a tool for identifying different hosts of myrtle rust that can be used on smartphone devices.
- Contract negotiations are underway for a Te Ao Maori research theme, to engage with Maori, identify opportunities for Maori involvement in myrtle rust management for taonga species and places, tap into Mātauranga (Maori knowledge) and kaupapa (Maori principals and policy), and collaborate with other myrtle rust research providers.

## What's next?

MPI is working with DOC, tangata whenua, the nursery industry, scientists, and local authorities in areas affected by myrtle rust to determine how it should be managed in the future.

Long term planning options are being explored by a new myrtle rust working group. Meetings with tangata whenua and local authorities in affected regions are planned to look at ways that MPI can support communities who wish to conduct their own biosecurity activities.

## History

Myrtle rust was confirmed in New Zealand on 3 May 2017 in Kerikeri. Since then, myrtle rust infections have been confirmed in the Tasman district at the top of the South Island and all North Island regions, except the Hawkes Bay.

Myrtle rust, which originated in Brazil, attacks plants belonging to the myrtle family. It is found in many parts of the world including New Caledonia and Australia.

Myrtle rust spores are microscopic and can easily spread across large distances by wind, or via insects, birds, people, or machinery. Evidence suggests the fungus arrived in New Zealand carried by strong winds from Australia where it is well established all along the eastern coast.

## Symptoms to look out for on myrtle plants



Bright yellow powdery eruptions first appear on the underside of the young leaf.



As the infection progresses bright yellow powdery eruptions of spores appear on both sides of the leaf.



Overtime the damaged leaf darkens and become brown and dark grey rust pustules.



Some leaves may become buckled or twisted and die off.

Myrtle rust prefers relatively high humidity and warm temperatures to produce spores from spring to autumn, while plants are actively putting on new growth.

## Looking for advice?

For specific advice for beekeepers, orchardists, nursery owners, home gardeners and walkers/trampers go to: <http://www.mpi.govt.nz/document-vault/18202>

MPI recommends that all nurseries and suppliers regularly check the New Zealand Plant Producers Incorporated (NZPPI) website and follow their hygiene protocols for plants susceptible to myrtle rust <https://nzppi.org.nz/biosecurity>

Any myrtle plant exposed to myrtle rust may become infected, but you can give your myrtle plants the best chance to withstand the disease by keeping them in good health. Carry out any necessary pruning in cool weather when any new growth is less vulnerable. Use good hygiene in your garden by cleaning your gardening tools. If your young plants need watering during warm weather, apply water gently to the soil and not the leaves.

## Find out more

### About myrtle rust:

- [Please visit the myrtle rust page on the Biosecurity New Zealand website](#)
- [Download the myrtle rust fact sheet \[PDF, 409 KB\]](#)
- [Read more about myrtle rust](#)
- [Myrtle rust page on the DOC website](#)

### Radio interview on myrtle rust:

Australia's Forest Health and Biosecurity Principal Researcher Dr Angus Carnegie gave an in-depth interview on Radio Live about myrtle rust in Australia and how New Zealand has learned from Australia's experiences. [Click to listen to the interview.](#)

### Videos on Youtube featuring 'Bug Man' Rudd Kleinpaste:

- [Myrtle rust explained](#)
- [Help look for myrtle rust](#)

## Staying up to date

Regular updates are sent out every two weeks on Wednesdays. The next update will be sent out on **Wednesday 27 June 2018**.

Please feel free to share this information with anyone you feel would be interested.

[Click here](#) to sign up to receive stakeholder updates.

## If you suspect myrtle rust

**If you think you've seen myrtle rust, do NOT touch it. Touching myrtle rust or trying to collect samples will increase the spread of the disease.**



**CALL the MPI Exotic Pest and Disease Hotline immediately on**

**0800 80 99 66**

### **You can also help:**



If you have a camera or phone camera, take clear photos, including the whole plant, the whole affected leaf, and a close up of the spores/affected area of the plant.



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#### **Our mailing address is:**

Ministry for Primary Industries

25 The Terrace

Wellington, 6011

New Zealand.

