Myrtle Rust

Puccinia psidii

Myrtle Rust infection on *Rhodamnia maideniana* at Springbrook. Photo: Aila Keto

History

A serious fungal plant pathogen, Myrtle Rust (*Puccinia psidii*), was discovered on a cut-flower property on the central coast of New South Wales near Gosford in April 2010. It was confirmed in Queensland in December 2010. It originates from South America and is assumed to have been introduced to Australia via nursery products or cut flowers that slipped illegally through quarantine.

Concerns for biodiversity and World Heritage

Worries about the potential catastrophic ecological impacts on Australian forests were voiced as far back as 1973 when this rust disease killed vast swathes of eucalypt plantations in Brazil, and again in 1996 by Australian mycologist John Walker who predicted an ecological disaster should the rust be allowed to enter Australia. It was identified as a 'high to extreme risk' biosecurity threat to Australia prior to its introduction. These worst fears were realized four years later. Since then the infection has spread like wildfire, becoming the biggest threat today to Australian ecosystems, National Parks and World Heritage areas.

What has experts worried is that the fungus strikes members of the Myrtaceae family of which there are more than 2,200 species including eucalypts, bottle brushes, tea trees, lillypillies, turpentine and myrtles. Some estimate 70-80 per cent of Australian native trees are myrtaceous. It seems almost all of the Myrtaceae are susceptible. Some may not die but act as reservoirs.

Current extent of invasion

The number of species known to be infected has risen from little more than 50 in 2011 to 143 species by August 2012. It has rapidly spread from industry sites to natural areas and is now widespread with 1676 reported cases in 21 council areas in Queensland.

Currently, Myrtle Rust is known to occur in New South Wales along the coast from Tweed Heads to Shoalhaven on the south coast. It has also reached Victoria in December 2011. In Queensland, it has been found in Lamington National Park, Springbrook, Sunshine Coast and, most recently, the Wet Tropics World Heritage Area (even on Mt Lewis), supporting the conclusion that it is being spread by tourists as well as by the nursery industry.

How is it recognised?

The fungus infects young leaves, shoots, flower buds and fruit. Leaves become buckled or twisted and may die. Flowers do not produce viable fruit. Highly susceptible plants may die. It initially appears as red, purple or brown lesions that soon develop masses of powdery bright yellow spores. A purple ring may surround the spots.

How is it spread?

Being a fungus, it is spread via spores that can be carried by clothing, boots, vehicles, equipment, containers, timber, etc. It is also spread by wind and, presumably, foraging animals such as possums, gliders, koalas, birds and insects including bees.

What is being done?

Australia was ill prepared despite early warnings. After the initial outbreak in New South Wales, a Myrtle Rust National Management Group decided eradication of the fungus was not feasible. Now, Myrtle Rust Transition to Management Groups consider and coordinate ongoing responses to Myrtle Rust focusing on mitigating its impact on the natural environment, including threatened and endangered species and industries that rely on Myrtaceae. These actions will include research, education and awareness, strategies for industries and collation and analysis of information about the behaviour of the disease and its impacts on natural ecosystems.

How to avoid spreading myrtle rust
It is critical that people who work in or visit bushland sites carry out a range of hygiene measures before visiting other sites. The following advice is based on recommendations by Biosecurity Queensland and should become an automatic routine in our lives:

Arrive clean, leave clean

1. **Wash vehicles** before going to a bushland site; tiny rust spores are readily spread by cars, trailers and other types of vehicles. Infections often radiate from parking areas. Make sure your vehicle does not contact native vegetation. It would be advisable to wash your vehicle on arriving home to avoid contaminating your garden that could become an ongoing source of infection.

2. **Minimise your visits**. If possible, only visit one site per day, otherwise follow steps 3–7 between visits.

3. **Pack light**. Minimize the number of personal items you carry to reduce the risk of spreading spores.

4. **Clothing and personal effects.** Wash or change clothes, hats and gloves between visits to bushland sites. Wipe other personal effects, including glasses with water and detergent or 'wet wipes'

5. **Footwear** should be cleaned between visits to sites — remove soil, leaves and mud and wash with water and detergent; cleaning should occur when you leave each site or as soon as you arrive home

6. **Keep to tracks.** Always drive on designated roads and tracks through bushland and stay on walking tracks when hiking or walking through bush. Failure to do so has been one of the main causes of spread to new areas.

7. **Don't handle or move plants**. A plant may be infected before visible signs of the disease. Learn to recognize signs.

8. **Report** suspected myrtle rust to Biosecurity Queensland (13 25 23)

The excuse that "the horse has bolted" to abandon these measures is dangerous. More virulent strains or new pathogens might yet arise compounding impacts.

ARCS has instituted hygiene protocols for all its restoration areas at Springbrook and is monitoring impacts at a number of infected sites.

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More information can be found on the Biosecurity Queensland web site at http://www.daff.qld.gov.au/4790_19788.htm. You can also find Biosecurity Queensland on Facebook at www.facebook.com/biosecurityqld

Please email the federal Minister for Sustainability, Environment, Water, Population and Communities, Tony Burke MP (Tony.Burke.MP@aph.gov.au) insisting that biosecurity gaps be addressed to prevent future spread.