

Are we ready for rust? Biobanking conservation strategies for Myrtle Rust affected species in Western Australia

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Myrtle Rust is a plant disease caused through infection by the fungus *Austropuccinia psidii* and was first introduced in Australia in 2010. Since then, the disease has spread rapidly through New South Wales, Victoria, Queensland, the Northern Territory and Tasmania. In this relatively short timeframe, Myrtle Rust has had a devastating impact on many native species in the family Myrtaceae, including at several rainforest species that are now at risk of extinction. In mid 2022, Myrtle Rust was first detected in the northern part of Western Australia (WA) – the largest state in Australia. This is of significant concern as WA is home to c. 2,000 Myrtaceae taxa (which represents c. 60% of Australia's Myrtaceae diversity), many of which form the dominant component of the vegetation across several ecosystems (e.g. *Eucalyptus*, *Corymbia*, *Melaleuca*, *Agonis*, *Verticordia* etc.). While modelling suggests that the environmental conditions in WA's north are less conducive to Myrtle Rust in comparison to the wet, temperate rainforests of the east coast, WA's temperate, Myrtaceae-rich south coast appears to be climatically suitable. Coupled with the sheer abundance of Myrtaceae species in the south-west, the high degree of endemism, high proportion of threatened species and little available information on their susceptibility to Myrtle Rust, a pre-emptive strategy to conserve at-risk species is warranted. At the Western Australian Botanic Garden, we have used the potential threat from Myrtle Rust in WA as a case study to outline the technical and resourcing requirements of an *ex situ* conservation response – including seed banking, cryobiotechnology and tissue culture – for the affected Myrtaceous flora of Western Australia. This plan will allow us to respond to any further incursion of Myrtle Rust in WA in a strategic, coordinated, and timely manner.