



BOTANIC
GARDENS
OF SYDNEY

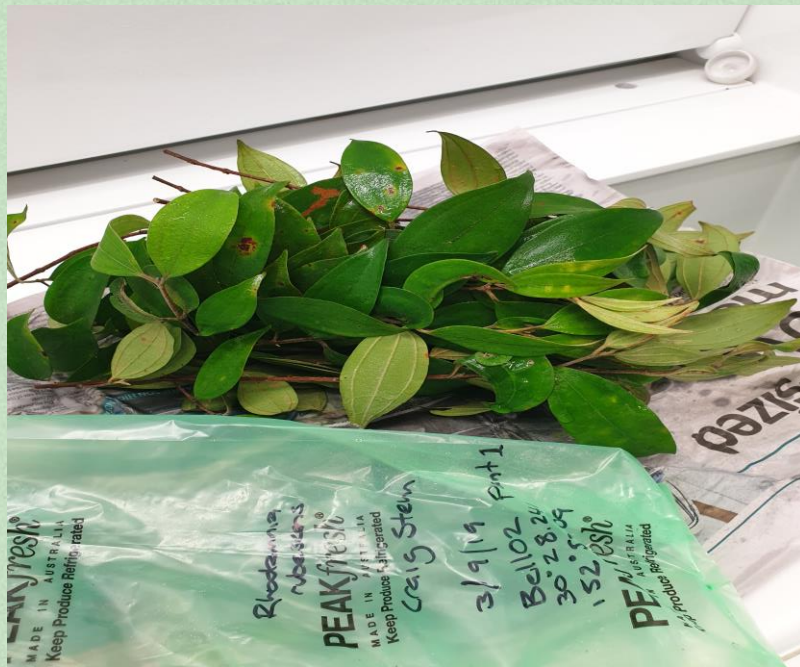
Establishing and conserving living collections of Myrtle Rust susceptible species.

Risks and benefits of extremely susceptible collections in
cultivation



Collection and Propagation

- Collaboration between Botanic Gardens of Sydney and NSW Saving Our Species.
- Research conducted by the Australian Plant bank, Mt Annan.
- ReCER has determined collections are representative of the diversity in the wild.



Stem cuttings of *R. rubescens*



R. psidioides sucker

Rhodomyrtus psidioides (Native Guava)

- Shrub or small tree to 12m high
- Declared Critically Endangered in both NSW and Queensland in 2020
- Expected to become extinct in one generation (Fensham et al. 2021)
- No documented evidence of resistance to Myrtle Rust to date (Pegg et al. 2014)
- Collections made from 30 populations



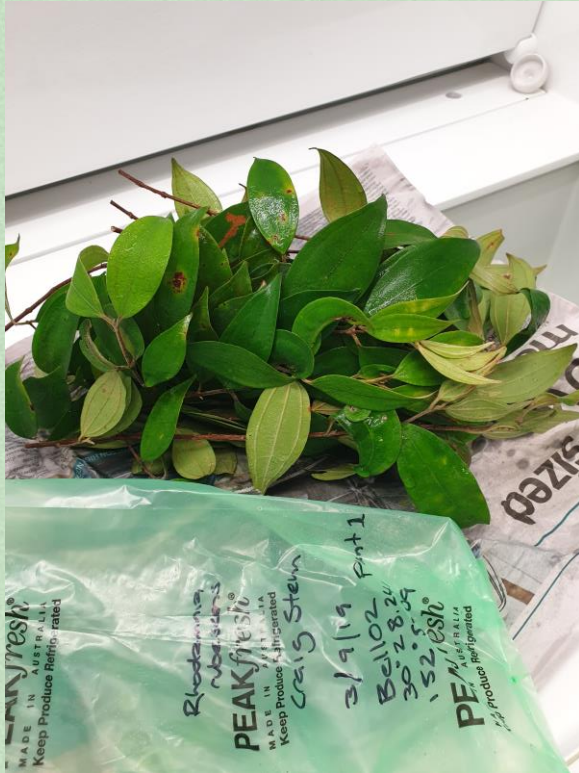
Rhodamnia rubescens (Scrub Turpentine)

- Shrub or small tree to 25m high
- Declared Critically Endangered in NSW and QLD in 2020
- **Expected to become extinct in one generation** (Fensham et al. 2021)
- A limited number of genotypes have shown resistance. (Sandhu et al. 2013)
- Collections made from 21 populations



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Propagation



Stem cuttings of *R. rubescens*



Sucker of *R. psidioides*



Root cutting of *R. rubescens*

Rhodomyrtus psidioides - 60 genotypes represented by 570 plants
Rhodamnia rubescens - 35 genotypes represented by 283 plants



Management

Monitoring

Cultural
practices



Chemical
treatment

Preparation

Seed Production

approx. 60,250 seed produced across the two collections



Mature fruit of *R. rubescens*



1 year old *R. rubescens* in bud



Mature fruit of *R. psidioides*

Outcomes

Metabolomics

Seed Storage
Behaviour

Herbarium
vouchers

Myrtle Rust
Assays

Tissue
Culture

Genetics

Cryostorage
trials

Dispersal
projects



R. psidioides seedlings

Where to now ?

- *Rhodamnia maideniana* or Smooth Scrub Turpentine (Critically Endangered)
- *Rhodamnia rubescens* resistant breeding program

Identified individual





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