



Myrtle rust (*Austropuccinia psidii*)



Background

The rust fungus, native to South America, was first described on guava in Brazil in the late 19th century. It has been since recorded across South and Central America, the Caribbean, and globally. Significant introduction milestones include North America in the 1970s, Hawaii in 2005, Japan in 2007, China in 2009, and Australia in 2010, South Africa in 2013, and New Zealand in 2017. Currently, there are no records in Europe [[see distribution](#)].

Introductions of this fungus are commonly associated with imported live plant material and plant products such as fruits, cut flowers and foliage. The fungus may also be dispersed long distances via air currents, as well as contaminated clothing and luggage.

The pathogen infects nearly 500 species in the myrtle family (Myrtaceae) including important timber, amenity, and indigenous plants from a diversity of ecosystems [[see list of hosts](#)]. The disease has been referred to as guava or eucalyptus rust previously.

Symptoms

- Early symptoms typically start as small purple spots or red-brown flecks on the upper leaf surface (Fig 1a, b), with bright yellow eruptions (pustules) on the under surface (Fig 1c). Mature infections show numerous, bright yellow powdery pustules on both sides of the leaf (Fig 2).
- Similar pustules, dependent on host, can also be seen on young stems, seedlings, floral buds, young fruits, and seed capsules (Fig 3a, b, c, d).
- Older pustules often fade to a grey-brown colour (Fig 4).
- As the spots merge, severe infection can lead to leaf distortion, ultimately resulting in the death of the leaf (Fig 5a, b).
- Symptoms should not be confused with the common physiological disorder called oedema, to which some eucalyptus plants are prone. Oedema is characterized by the formation of dry, hard brown, corky pustules (but not powdery) due to overwatering or high humidity conditions.

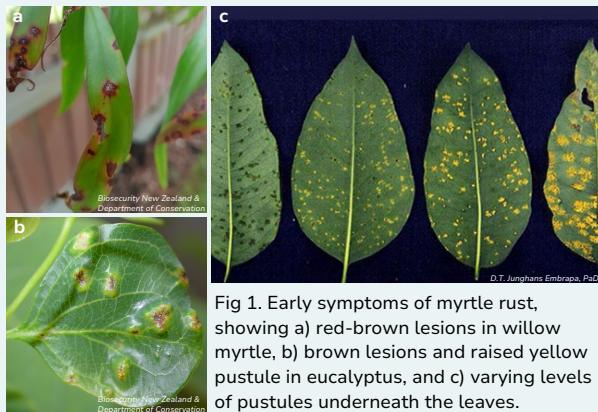


Fig 1. Early symptoms of myrtle rust, showing a) red-brown lesions in willow myrtle, b) brown lesions and raised yellow pustule in eucalyptus, and c) varying levels of pustules underneath the leaves.

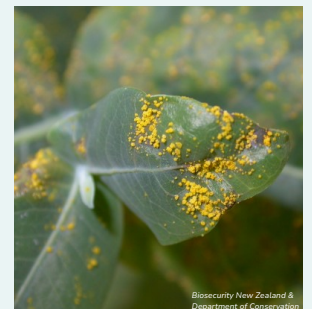


Fig 2. Bright yellow powdery eruptions of spores appear on both sides of the eucalyptus leaf.

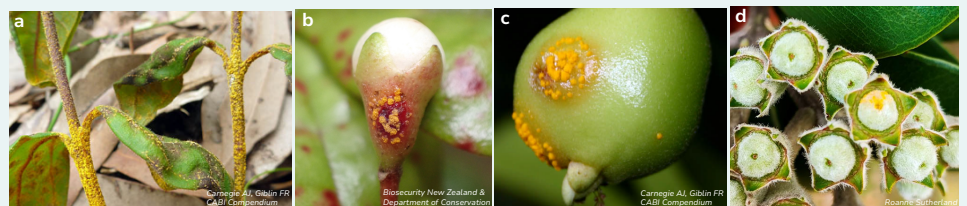


Fig 3. Bright yellow pustules on a) stems, b) flower bud catyx, c) young fruit, and d) seed capsules.

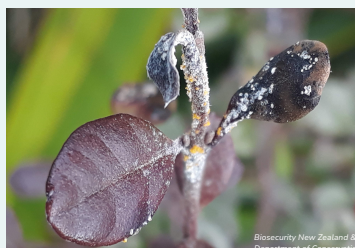


Fig 4. Old pustules of myrtle rust that gave darkened and became brown-grey in colour.

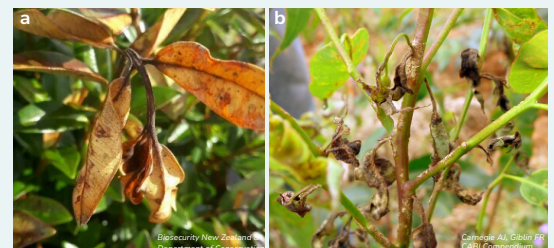


Fig 5. a, b) Severe symptoms of myrtle rust. Leaves have become buckled or twisted and are dying off.