

Quambalaria coyrecup

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Disease: Canker disease of *Corymbia* species
Classification: K: Fungi, D: Basidiomycota, C: Ustilaginomycetes, O: Microstromatales, F: Quambalariaceae

A severe canker disease has been causing decline in *Corymbia calophylla* (marri) in south-west Western Australia for some years now. Cankers are present on marri across its natural range and occur on trunks, branches and twigs of trees of all ages. There is no evidence to indicate that infected trees are able to recover, therefore the future health of marri in the south-west is of serious concern.

The pathogen:

The fungal pathogen *Quambalaria coyrecup* has been identified as the causal agent. The fungus is thought to be endemic (native) to south-west Western Australia, but the reasons for this recent disease epidemic are undetermined. Thus, it is of immediate importance to determine the factors driving this decline and develop control and management options.

Host Range:

In addition to infecting marri, *Q. coyrecup* causes severe disease in urban plantings of red-flowering gum (*Corymbia ficifolia*) in Western Australia. To date the pathogen has not been observed causing disease on other *Eucalypt* species.

Control:

While there have not yet been control or management options developed for this disease, fencing off remnant stands of trees to encourage seedling recruitment and planting understorey species is encouraged.

Identifying the symptoms:

The canker disease can easily be recognised by the following identifying features:

The bark surrounding the affected area cracks and is eventually shed. Large amounts of kino (gum) are produced, staining the limb or trunk dark red (Fig.1).

Target-like lesions are formed as a result of a 'tug-of-war' between host and pathogen. The tree produces a defence response that 'walls off' the diseased area, but with time the fungus penetrates this barrier and reinvades. Once the disease has progressed to the point of girdling the host it has effectively ring barked it, resulting in the death of the affected limb or the entire tree if the trunk has been girdled. Scarring as a result of the canker is evident (Fig. 2).

The pathogen *Q. coyrecup* is sometimes observed sporulating on the diseased area visible as a powdery white mass (Fig. 3), producing air borne spores. Spore production (conidiogenesis) is shown in Fig. 4.

Further Reading:

Paap *et al.* (2005) In: 15th APPS conference, Geelong. P. 66. (Abstract)
 Paap (2006) *The incidence, severity and possible causes of canker disease of Corymbia calophylla (marri) in the southwest of Western Australia*, PhD Thesis, Murdoch University.

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