

# CRYPHONECTRIA CANKER OF EUCALYPTUS



## INTRODUCTION

*Cryphonectria* canker, caused by the fungus *Cryphonectria cubensis*, is one of the most important diseases of *Eucalyptus* in areas of the world where these trees are grown as exotics in plantations. Although the fungus is known in Australia where *Eucalyptus* is native, its occurrence there is obscure and it is not associated with a disease problem. In contrast, *Cryphonectria* canker has caused very serious losses in *Eucalyptus* plantings in various parts of the world such as Brazil and India. The disease was discovered in South Africa in 1988 and has already resulted in the elimination of a number of valuable *Eucalyptus* clones.



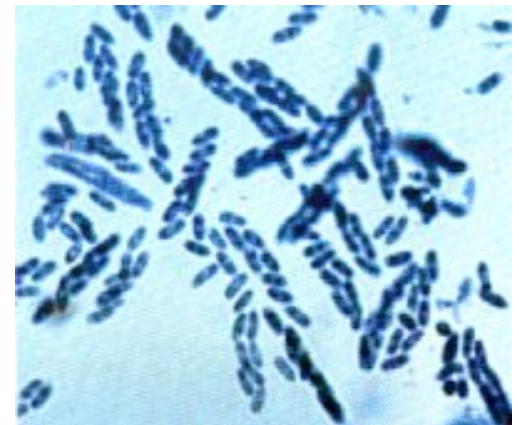
Cracked tree crown typical of infection on older trees.

## SYMPTOMS AND OCCURRENCE

In South Africa, *Cryphonectria* canker commonly kills young trees in the first two years of growth by girdling stems at the base. Girdled trees wilt and appear to die suddenly in the summer during hot dry periods. Susceptible trees that escape death, tend to have swollen bases surrounded by cracked bark on which the asexual fruiting structures of the fungus can easily be seen using a simple hand lens.. These trees often die as competition in

## BIOLOGY

*Cryphonectria cubensis* infects trees through wounds. Infection of the bases of young trees is the most common situation in South Africa and infection courts are presumed to be natural growth cracks at the root collar. The most common infection propagules are asexual spores that are dispersed by rain splash. Sexual spores that are wind disseminated are virtually non-existent in South Africa whereas they are common in other parts of the world such as Brazil.



Sexual spores of *Cryphonectria cubensis*.

## MANAGEMENT STRATEGIES

The most effective means of avoiding losses due to *Cryphonectria* canker is to ensure that disease tolerant



Active lesion at tree base.

## HOST RANGE

*Cryphonectria* canker is believed to have a relatively wide host range amongst the Myrtaceae. It has, for example, been suggested that the fungus originates from cloves, possibly in Indonesia. Various species of *Eucalyptus* are highly susceptible to infection and these include *E. grandis*, *E. camaldulensis*, *E. saligna* and *E. tereticornis*. *Eucalyptus urophylla* appears to harbour a high degree of tolerance to infection by *C. cubensis*.

developing stands increases during the rotation.

In South Africa, *Cryphonectria cubensis* canker is easily confused with a root collar disease caused by *Pythium splendens*. This fungus is soil borne and infects roots leading to a girdling of the bases of young trees. Trees, infected in this manner, tend to die in the first two years of growth and the associated rapid wilting of the leaves is distinguishable from that associated with *Cryphonectria* canker. Careful laboratory diagnoses are necessary to distinguish between the two diseases.

*Cryphonectria cubensis* is favoured by relatively high temperatures and high rainfall. In South Africa the associated disease is found mainly in sub-tropical areas such as Zululand, and warmer parts of the Eastern and Northern Transvaal.



Death of young coppice.

clones are not planted in high risk areas. Relative susceptibility of clones can be assessed by artificial inoculation of trees and such screening has proven to be particularly useful in reducing the incidence of the disease in parts of South Africa. Rapid techniques to screen trees for tolerance to infection by *C. cubensis* are currently being developed.



Young trees wilt and die.

If you need any further information, please [contact us](#).

**Back to [INDEX](#) of pamphlets...**