

EUCALYPTUS RUST



INTRODUCTION

Eucalyptus rust, or guava rust as it is also commonly known, is one of the most serious threats to plantations, not only in South Africa, but also to native eucalypts in Australia. The causal fungus, *Puccinia psidii*, was first recorded on eucalypts in Brazil in 1944, where it apparently adapted from native members of the Myrtaceae (the guava family). Today, it is a serious problem in Central and South America and the Caribbean. There are also unconfirmed reports of its occurrence in Taiwan and India.



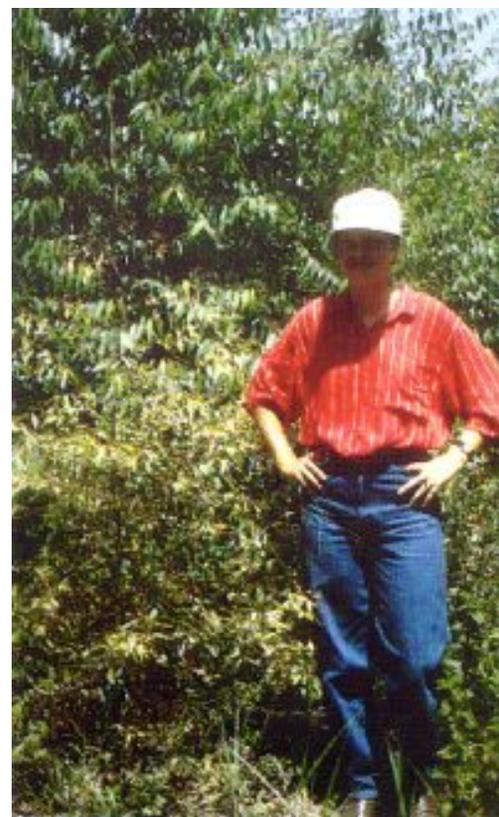
Guava leaf with yellow rust pustules on the under surface.

SYMPTOMS

Puccinia psidii readily attacks foliage, inflorescences and young, succulent twigs of *Eucalyptus*, younger than two years of age. Coppice shoots are also readily attacked by this fungus. First signs of infection are the appearance of tiny, raised spots or pustules on the infected tissue. After a few days, these pustules become a distinctive egg-yolk yellow colour. The infected area is initially circular in appearance due to the

MANAGEMENT STRATEGIES

All indications are that *Eucalyptus* rust will appear and become established in South Africa in the future. Foresters should, therefore, be aware of symptoms such as those presented in this pamphlet, and report them to the TPCP. Early recognition will facilitate the development of effective management strategies.



Eucalyptus tree in foreground infected with rust and displaying stunted growth. Trees in the background treated



Young stem and leaves covered with powdery yellow spore masses of *P. psidii*.

HOST RANGE

Puccinia psidii has a very wide host range, and infects eight genera and 25 species of plants belonging to the Myrtaceae. These include *Syzigium jambos* and *Callistemon speciosus*. Seed sources of *E. grandis* from South Africa have been found to be highly susceptible to this rust. The following species of Eucalyptus are also known to be susceptible to *P. psidii*: *E. camaldulensis*, *E. citriodora*, *E. phaeotricha*, *E. saligna* and *E. urophylla*.

radial growth of the fungus. Infected areas often coalesce and parts of the plant can be completely covered with pustules. The pustules are sometimes difficult to see due to the great number of spores produced. The spores can be both air and water dispersed. Secondary infections occur a few days after the first pustules appear. Following invasion, infected plants shrivel and leaves are deformed. Leaf deformation is possibly due to a host response to fungal infection.



Spores of *P. psidii* viewed with a Scanning Electron Microscope.

chemically to prevent infection.



Leaf spots on *Syzigium jambos*. Note the distinct yellow 'halos' around the spots.

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