

NEW DISEASE REPORT

First report of coniothyrium canker of *Eucalyptus* in Mexico

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Coniothyrium canker is an extremely damaging disease of *Eucalyptus* species caused by the pycnidial fungus *Coniothyrium zuluense*. The disease was first recognised in South Africa in 1989 although the causal organism was not characterized and described until later (Wingfield *et al.*, 1997). Infection by *C. zuluense* initially results in measles-like necrotic spots on branches and stems. These develop into large girdling cankers that reduce wood quality and may lead to the death of trees. The stem infections also restrict bark peeling prior to pulping resulting in increased labour and other costs (Wingfield *et al.*, 1997; Van Zyl *et al.*, 1997; Van Zyl, 1999).

During a recent survey of *Eucalyptus* diseases in the Tabasco state of Mexico, canker symptoms identical to coniothyrium canker were observed on approximately five year old *E. grandis* trees near Los Choapas. Stem lesions contained pycnidia and conidia similar to those of *C. zuluense*. However, *C. zuluense* lacks robust morphological characteristics that clearly distinguish it from similar species. To confirm field and morphological identification the Mexican isolates were examined by sequencing the internal transcribed spacer region (ITS) of the ribosomal RNA operon and the data analysed using PAUP* 4.0. This generated a single most parsimonious tree with a consistency and retention index of 0.9218 and 0.9161, respectively.

Sequence analysis confirmed the preliminary morphological identification of *C. zuluense*. A comparison between Mexican isolates (Genebank Accension nrs. AF385610, AF385611) and published *C. zuluense* sequence data (Van Zyl, 1999), show that the Mexican isolates group closer to those from South Africa than to isolates from Thailand, the only other known countries from

which *C. zuluense* has been recorded. The Mexican isolates have been deposited in the culture collection of FABI, Pretoria.

The appearance of *C. zuluense* in Mexico is of considerable concern given its known impact in countries such as South Africa. Field evidence in Mexico suggests that *C. zuluense* isolates act in a similar manner to those in South Africa. However, inoculation experiments, currently not possible due to quarantine and other limitations, are needed to compare pathogenicity of strains from the two regions. Further work is needed to compare the pathogenic behaviour of the Mexican isolates.

Participants in emerging *Eucalyptus* plantation programmes in Mexico will need to seriously consider the possible impact of Coniothyrium canker. Breeding and selection of disease tolerant clones has been a useful strategy to reduce the impact of the disease in South Africa and it should be equally effective in Mexico.

References

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