

Dealing with new invasive pests of forestry trees:

The Leptocybe gall wasp as an example

By Dr Bernard Slippers

The Eucalyptus gall wasp, *Leptocybe invasa*, is the most recently introduced *Eucalyptus* pest in South Africa. Its



Galls caused by *Leptocybe*

introduction and establishment has been long anticipated, and feared, given its steady movement southwards in Africa from its original introduction in Israel.

The early warning has most likely contributed to its early detection in South Africa, in Pretoria in 2007. It has steadily spread outwards from this centre, and was identified from northern KwaZulu-Natal in late 2009. This identification was done from tiny larvae in developing galls using molecular tools developed by the TPCP.

Unlike many other current forestry pests in South Africa, there appears to be genetically-based host resistance to the *Eucalyptus* gall wasp. For this reason, the TPCP launched a pilot

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Faculty of Natural and Agricultural Sciences

Universiteit van Pretoria • University of Pretoria • Yunibesithi ya Pretoria
Pretoria 0002 Suid-Afrika • South Africa • Africa Borwa
Tel: +27 (0) 12 420 3111 • Faks / Fax: +27 (0) 12 420 4555
info@up.ac.za

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project to develop tools for screening *Eucalyptus* material. This study clearly showed the dramatic differences between resistant and susceptible material. Subsequently a much larger trial has been conducted to assess the resistance in representative *Eucalyptus* material from different industry partners. Especially *E. camaldulensis* and its hybrids, and *E. nitens* hybrids appear to be highly susceptible. Some *E. grandis* clones and hybrids with this species are also susceptible. A third trial to screen still more breeding material will be conducted in the 2010/2011 season.

The introduction and dramatic damage of the Eucalyptus gall wasp in Israel, has led to a strong focus on biological control. A number of parasitoids have been successfully introduced and released there by Dr Zvi Mendel. The TPCP continue to work closely with him to bring *L. invasa* parasitoids into quarantine in South Africa. Two batches have been successfully imported and incorporated into research programmes. Furthermore, during a recent visit to Australia, Prof Stefan Naser, an extraordinary Professor linked to FABI and a biological control specialist, made a very exciting discovery of a parasitoid that appears to have much promise as a potential biological control agent. Now that breeding procedures have been optimised and the biology studied, specificity tests on related South African wasps are being conducted. These experiments are part of the process to apply for permission to conduct field assessments under controlled conditions.

Using an integrated approach of sanitation, resistance breeding and biological control, the potential devastation of large *Eucalyptus* plantations by *L. invasa* can be avoided. It will, however, take a continued effort for a number of years to reach a point where these control strategies can be applied in a focused manner. The continued collaboration between industry and the University of Pretoria brings this goal within reach. AMN

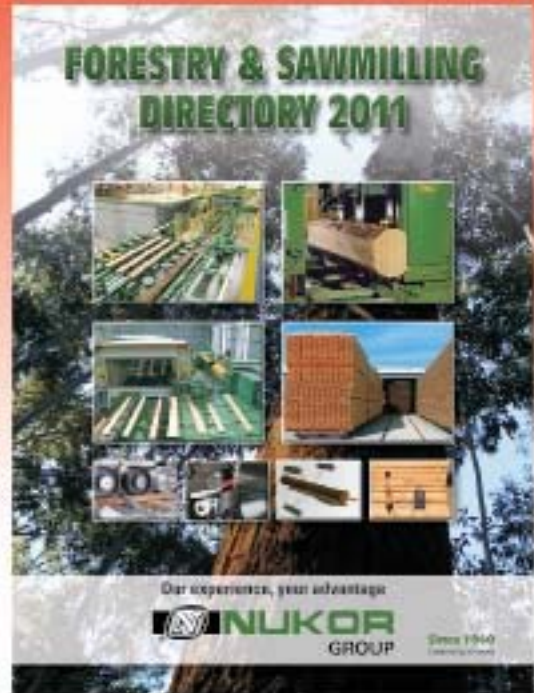


Picture of heavily infested, stunted plant in Uganda

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