



IPM IN PRACTICE: GONIPTERUS

DAMAGE-CAUSING SPECIES

- *Gonipteris* (species, plural).
- *Eucalyptus* snout beetle
- Weevil
- Origin - Australia

BIOCONTROL AGENT

- *Anaphes nitens* (*A.nitens*)
- Parasitoid wasp
- Origin - Australia



DAMAGE CAUSED

- *Gonipteris* adults and larvae feed on the leaves of host trees.
- Adults chew the edges of the leaves giving them a ragged, scalloped appearance. Larvae do the most damage, eating only the surface of the leaves and leaving characteristic tracks.
- Young trees are most susceptible, with both adults and larvae preferring newly expanded leaves and shoots, with some *Eucalyptus* spp. more susceptible to damage than others.

Damage results in dieback of shoot tips and development of tufts of epicormic shoots. Severe infestations and successive defoliations can cause reduced growth, coppicing and stunting of trees as well as tree mortality.



MODE OF ACTION

- *A.nitens* oviposits its eggs into a weevil egg capsule. *A.nitens* larvae hatch and eat the host weevil egg from the inside.
- The adult wasp emerges from the host egg and searches for suitable host eggs in which to deposit her eggs and restart the cycle.

ALTERNATIVE CONTROL MECHANISMS

In the plantation Cultural control

Eucalyptus susceptibility to *Gonipteris* differs between species. Switch to less susceptible species.

Chemical control alternative

Aerial spraying trials of cypermethrin (conducted by ICFR) have shown to provide good control of *Gonipteris*. However, this control method is only suggested for sporadic outbreaks, when absolutely necessary - for example in cold, high altitude summer rainfall regions where biological control can be sporadically ineffective. Refer: ICFR *Euc. snout beetle paper*

WHY BIOCONTROL?

- For the time being, biocontrol of *Gonipteris* using *A.nitens* offers the most effective, sustainable, long-term solution.
- Concerns have been raised regarding the environmental footprint of the chemical sprays, especially on honeybee populations attracted to the *Eucalyptus* flowers.

RELEASE INFORMATION

- As *A.nitens* are established country wide, so there are currently no additional releases.

Monitoring:

- There are currently studies underway to monitor the viability of augmentive releases of *A.nitens*.
- Biannual monitoring, with assessments of *A.nitens* establishment being part of the national monitoring.

www.forestry.co.za/gonipteris-scutellatus

SUPPLIER

Tree Protection Co-operative Programme (TPCP) of the Forestry and Agricultural Biotechnology Institute at the University of Pretoria.

www.fabinet.up.ac.za/index.php/tpcp

LINKS

www.icfr.ukzn.ac.za/publications
www.fabinet.up.ac.za/publications
www.fao.org/forestry