PEST ALERT

COSSID MOTH

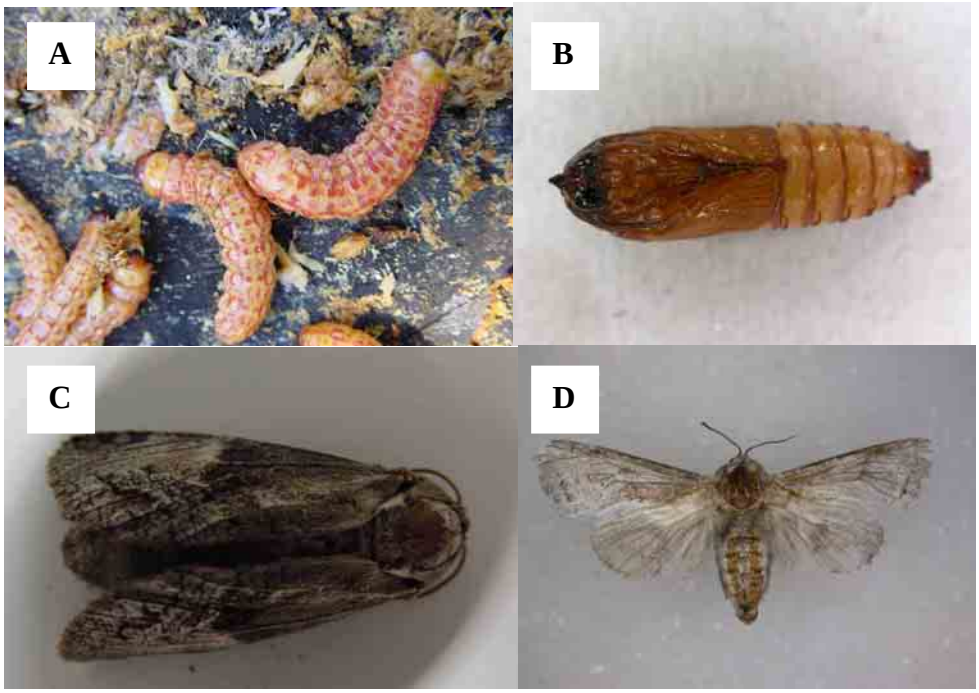
Introduction:

Coryphodema tristis, a moth in the family Cossidae, is an indigenous wood-boring insect with a wide host range. These hosts include species in the Rosaceae, Combretaceae, Malvaceae, Myoporaceae, Scorphulariaceae, Ulmaceae and Vitaceae. Alarmingly, this cossid moth has recently been found feeding on *Eucalyptus nitens*, resulting in extensive damage. This is the first report of the cossid moth *Eucalyptus* or any other Myrtaceae.

Currently, *C. tristis* has been found only on *E. nitens* in the Carolina – Badplaas – Lothair area in South Africa. The extent of its distribution and whether or not it attacks other eucalypt species is currently unknown. Cossid moth infestations range from less than 1% to nearly 80% of stands. The sudden and unexpected infestation of *E. nitens* by this cossid is certainly cause for concern and warrants vigilance.

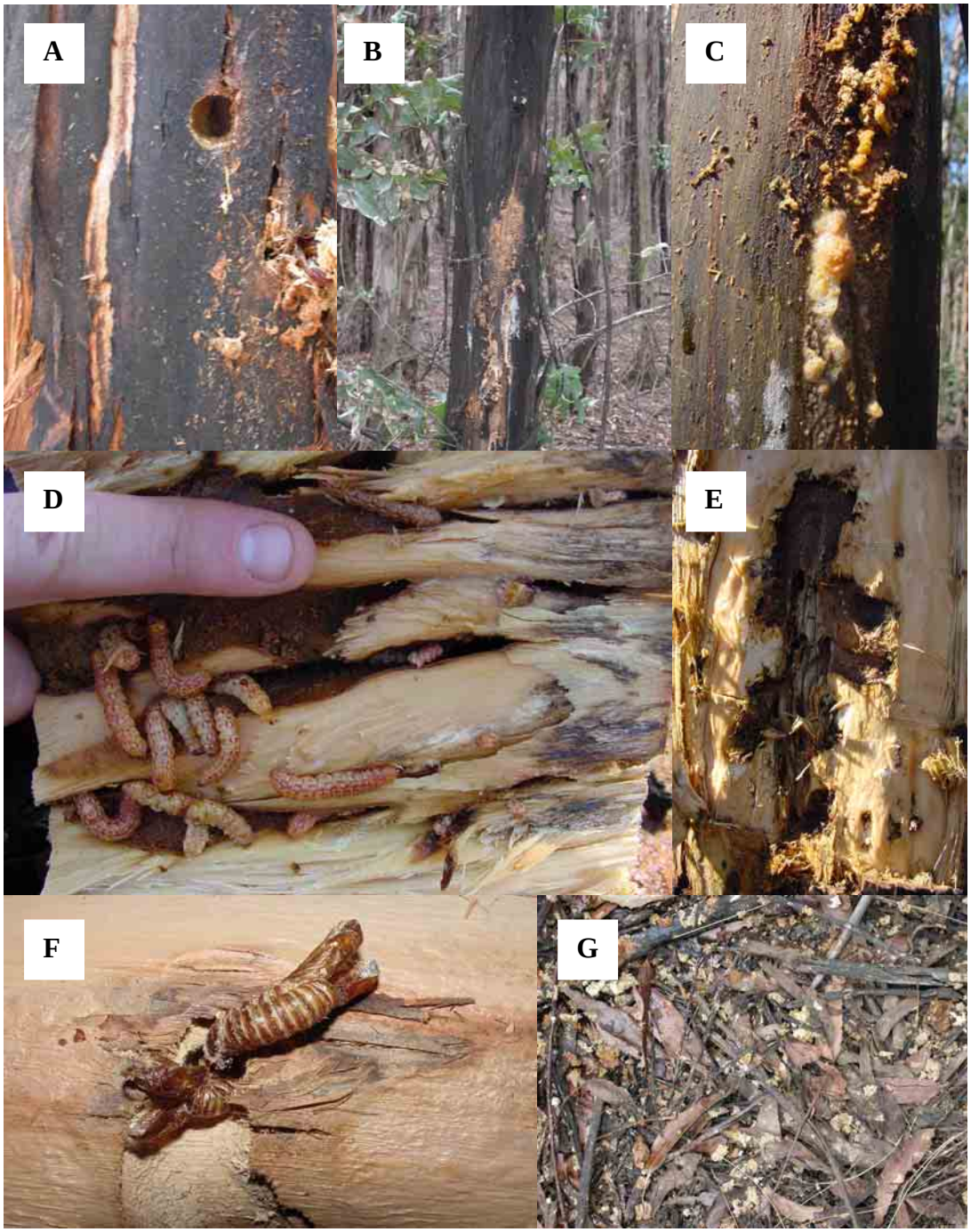
Description:

- **Eggs.** About 1mm long, oval in shape and dull cream coloured.
- **Larvae.** About 30-40mm long when fully grown. Fully grown larvae have a brown head and the body is light yellowish in colour with reddish blotches. Three short pairs of legs are present behind the head. (A)
- **Pupae.** Larvae pupate in woven silk and sawdust cocoons. Pupae are about 25-35mm long. Rows of spines present on abdomen and head terminates in spine. (B)
- **Adult.** Rarely seen and short lived (about one week). Wingspan of 25-50mm. Body is greyish brown, front wings are mottled brown and hind wings are mottled light grey. (C,D)



Symptoms:

- Round holes penetrating the sapwood (A)
- Trunk and branches of infested trees turn black (B)
- Resin and sawdust appear on trunks and branches (B,C)
- Extensive tunnelling of larvae is found in the sapwood and heartwood (D,E)
- Pupal casings protrude from emergence holes or can be found on the forest floor (F)
- Sawdust is found at the bases of trees (G)



Basic Biology and Damage:

Adult female cossid moths lay eggs on the bark of trees, usually in a sheltered place such as cracks in the bark. Upon emergence, larvae bore through bark and feed on the cambium. As the larvae grow, they bore into the wood, where they cause extensive tunnelling. Pupation occurs in pupal cocoons constructed inside the larval tunnels. Just prior to adult emergence, the pupae cut themselves out of the cocoons and wriggle towards the tunnel openings until their bodies project halfway out the tree. In this position the adults emerge from the pupal cases, resulting in the shed pupal cases protruding half way out the tree or falling to the ground. The cossid moth is reported to have a two-year life cycle in the Western Cape, but the duration of the life cycle in the summer rainfall area is not yet known.

Larvae feeding in the cambium and the extensive tunnelling in the sapwood and heartwood results in severe damage to trees, which often also die. Both the main trunks and branches are attacked. Trees from five to fourteen years old have been infested, but it is likely that the cossid will infest both younger and older trees, provided the diameters of the trunks / branches are sufficient to enable the larvae to feed. Associations with fungal pathogens seem likely given the black discolouration of the stems and members of the Tree Protection Co-operative Programme at FABI are currently studying this matter.

Control:

Because the cossid moth is an indigenous insect, natural enemies of this pest are likely to be present. The identity of these natural enemies, their population, biology and whether or not the new eucalypt host has any influence on their effectiveness is not yet known. No insecticide is currently in use or registered for the cossid moth.

If you notice the cossid moth and / or its symptoms, please contact Brett Hurley:
Tree Protection Co-operative Programme (TPCP) and NRF/DST Centre for Tree Health Biotechnology (CTHB), University of Pretoria, South Africa
Phone: +27 (0)12 4205822
Cell: +27 (0) 82 9093211
Email: brett.hurley@fabi.up.ac.za
Website: http://fabinet.up.ac.za

tpcp

Tree Protection Cooperative Programme