

A destructive new *Eucalyptus* pest in South Africa

Thaumastocoridae (Heteroptera: Cimicoidea)

A small phytophagous family with a restricted distribution (6 genera, 15 described species). Members small (2.0 - 4.5 mm), moderately to strongly flattened, usually yellowish coloured, characterized by their **expanded and anteriorly produced mandibular plates** and grossly **asymmetrical male genitalia**. There are 6 genera, and 15 described species.

Xylastocorinae (palm bugs)

- Two genera (6 species) described from South America and Caribbean.
- Characterized by non-pedunculate eyes, large pulvilli from base of claws, and both parameres missing from male genitalia.

One species became an introduced pest of palms in USA.

Thaumastocorinae

- Four genera (9 species) described from Australasia; one monotypic genus in India.
- Characterized by strongly **projecting eyes**, **absence of pulvilli**, and an **apical appendix** on each leg.

Two species recorded as pests of some eucalypts in Australia.

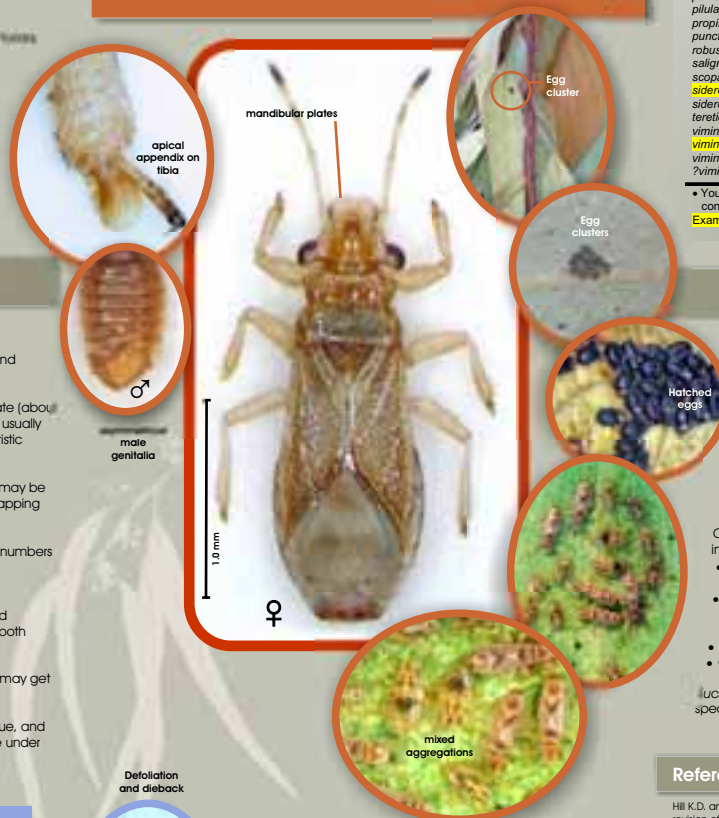
The gregarious leaf-sucking bugs, *Thaumastocoris australicus*, described from Queensland, Australia, have in recent years taken on pest proportions on some *Eucalyptus* species planted elsewhere.

They have recently appeared in Gauteng, Mpumalanga and the North-West Province where they cause defoliation and dieback, and apparently even death of some *Eucalyptus* species.

They are likely to get widely established in South Africa and to become very damaging to some forestry species and hybrid clones, and to widely affect the beekeeping industry (relying on susceptible hosts for pollen and nectar).

Control may be problematic.

Thaumastocoris australicus Kirkaldy



| <i>Eucalyptus</i> species (mainly Pretoria area) | live bugs/eggs/exuviae | Intensity of damage |
|--|------------------------|---------------------|
| <i>botryoides</i> * | ++ | ++ |
| <i>camaldulensis</i> * | +++ | +++ |
| <i>camaldulensis</i> (Rustenburg) | +++ | +++ |
| <i>camaldulensis</i> (pendulous) Pretoria | +++ | ++ |
| <i>camaldulensis x grandis</i> (Hazzyview) | +++ | +++ |
| <i>citriodora</i> * | ? | o |
| <i>dorrigoensis</i> * | ++ | +++ |
| <i>fictifolia</i> (Lynnwood Manor) | o | o |
| <i>goniocalyx</i> * | o | o |
| <i>grandis</i> (Lynnwood) | ++ | + |
| <i>maculata</i> | o | o |
| <i>microcorys</i> * | o | o |
| <i>nicholii</i> * | +++ | +++ |
| <i>obliqua</i> * | o | o |
| <i>ovata</i> * | o | o |
| <i>paniculata</i> * | ++ | + |
| <i>pilularis</i> * | o | o |
| <i>propinqua</i> * | o | o |
| <i>punctata</i> * | + | ++ |
| <i>robusta</i> * | ? | +? |
| <i>saligna</i> * | + | + |
| <i>scoparia</i> * | +++ | +++ |
| <i>sideroxylon</i> (Lynnwood) | + | ++ |
| <i>sideroxylon</i> * | o | o |
| <i>tereticornis</i> * | +++ | +++ |
| <i>viminalis</i> (juvenile leaves) * | +++ | ++ |
| <i>viminalis</i> (Johannesburg) | +++ | ++ |
| <i>viminalis</i> (Ohrigstad) | + | + |
| <i>?viminalis</i> (nr. Rayton) | +++ | +++ |

* Young plants closely spaced in an arboretum of Pretoria Zoo, containing 20 *Eucalyptus* species.

Examples of important species

Biology and Habits

- Adults and immatures typically occur mixed and gregariously on leaves, causing pale stippling and discoloration, and dieback of leaves and twigs, and possibly entire trees, where populations build up.
- Eggs are deposited singly, anywhere on the substrate (about 2 per day per female over some 30 days), but are usually placed additively by different females in characteristic compact groups on leaves.
- Egg-laying is continuous, and the generation time may be as short as 4-5 weeks in summer, with several overlapping generations per year.
- Population build-up is very rapid after winter (when numbers on plants seem to decline).
- Nymphs and adults readily run off the leaves when disturbed, and easily get brushed off onto man and animals, but may also cling tenaciously to very smooth surfaces.
- Adults readily fly to even isolated hosts; immatures may get carried to susceptible trees by diverse visitors.

The bugs have been reported as of great nuisance value, and even highly irritating ("biting"?) when falling onto people under trees, in parks, playgrounds and golf courses.

Discussion

- Present indications
- the insect is a recent accidental introduction (2002?);
 - Gauteng may be the centre from which it is spreading;
 - it will rapidly become widespread in southern Africa;
 - it will become very damaging to some *Eucalyptus* species and hybrids;
 - it will have detrimental effects on the forestry and beekeeping industries.

- Chemical control, whether by contact or systemic insecticides, likely to be
- unpracticable, uneconomical and never-ending in plantations;
 - to give rise to various upsets in known and potential *eucalyptus* pests presently under deliberate or natural biological control;
 - to be unacceptable to beekeepers, and
 - environmentally unacceptable.

Eucalyptus camaldulensis and other highly susceptible species and hybrids may suffer countrywide decline.

References and further reading

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HISTORY, RECORDS FOR SOUTH AFRICA: PROJECTED DISTRIBUTION

Described from Brisbane, Queensland (27° S, subtropical, coastal region), has become a pest in Sydney (34° S; transitional temperate to Mediterranean type climate), and also known fr coastal NW Western Australia (21° S; summer rainfall area).

- The first record from outside Australia was in 2003 from near Pretoria. In May 2004 heavy infestations were found in NW Province, Gauteng and Mpumalanga (warm temperate, as well as cool, highveld regions). An infestation in subtropical KwaZulu-Natal needs confirmation (May 2005).
- *Eucalyptus camaldulensis*, the most widely established species in South Africa, is highly susceptible.
- Other common species of great value to bee farmers, as well as hybrids used in commercial forestry, and *E. grandis*, also appear to be suitable hosts.
- The widespread, known occurrences in different climatic regions in coastal Australia, and the successful establishment in different climatic regions in inland South Africa suggest that few, if any areas in southern Africa will be unsuitable for the insect.



The full text of the information on which this poster is based, has been submitted for publication in *South African Journal of Science* (2005).