

POLYPHAGOUS SHOT HOLE BORER IN SOUTH AFRICA

Euwallacea whitfordi

Introduction:

- Nobody knows where this beetle comes from
- It carries a fungus with it (*Fusarium euwallaceae*) that grows in the cambium and phloem layers of the tree
- The cambium and phloem which carries nutrients from the roots to the leaves and vice versa, gets blocked with the fungus, and the tree dies
- The beetle does not eat the wood like our indigenous borers, but lives off the fungus

What does the beetle look like?



How big is the beetle?



Why no biological controls?

- Because we do not know where this beetle comes from, we cannot identify its natural predators
- There might be predators in South Africa, but this can take several years to identify.
- Until a predator is found chemical control is the only, limited solution

How does it affect trees?

- Terminal branch die-back
- Do NOT look at dying branches under the canopy. This is very often the result of cladosis (natural branch shedding) because the branch has lost its natural functions)
- Partial or complete tree death
- Vigorous resprouting from the bottom of the tree



Polyphagous Shothole Borer (*Euwallacea* sp. nr. *forficatus*):
symptoms vary on different tree species in South Africa

Compiled by ZW de Beer, FABI. All photos unless otherwise stated by ZW de Beer. <https://www.fabinet.up.ac.za/>



1. Dying wild plum tree: wilting, drying and shedding leaves before complete branch dieback.



2. English oak with branches dying back.



3. Dieback of branches on paper bark thorn tree.



4. Chinese maple killed by PSHB infestation.

How does the infestation present on various trees?

- Sugar volcanoes
- Resin/gum beads
- Milky beads like drops of Alcolin
- Heaps of sawdust
- Wet stains
- Sugary strands

Sugar Volcanos



Harpephyllum caffrum (Wild plum)
and *Persea americana* (Avocado)

Resin/Gum beads



Searsia lancea (Black Karee) and
Acacia karoo (Sweet Thorn)

Milky beads like
drops of Alcolin Glue



Olea europaea africana
(Wild Olive) and ***Ficus***
elastica (Rubber Tree)

Heaps of sawdust



Quercus robur (English oak)
& ***Acer buergerianum***
(Chinese maple)

Sugary Strands



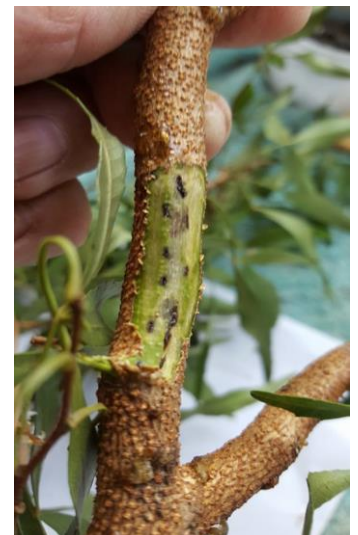
Brachychiton acerifolium (Australian
Flame Tree)

Wet Stains



Platanus x acerifolium (London Plane) and ***Populus sp.*** (Poplar)

To be sure of your identification of PSHB, remove the piece bark around hole. You should see a tiny pinhole with a dark stain around, caused by the fungus



TREATMENT

1. Add 10 mls PSHB fungicide per litre.
2. There is no prescribed volume the tree will absorb what it needs depending on species and size.
3. As a rule, for mature trees, you will need 10 litres a tree
4. Spray the trunk to RUN OFF STAGE as high as you can reach – don't worry about the drift
5. DO NOT wet the trunk a second time on the same day
6. Repeat above 3 times at weekly intervals
7. There-after do one spray once per month
8. This treatment kills the fungus which is the food source for the beetle
9. If you feel you want to kill the beetle as well, contact Mike at Beetle Busters (growing@rhn.co.za) who are qualified to handle PSHB surfactant with Cypermethrin.

The PSHB problem should be treated as quickly as possible as this beetle has the potential to drastically change our urban areas and natural systems. The disappearance of trees could affect birds, insects and browsers and change the face of Africa.

The potential for devastation of food bearing trees could impact negatively on the economy and the provision of jobs in the agricultural sector.



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