Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Protect Grow Innovate

Biosecurity alert: Polyphagous shot-hole borer

(*Euwallacea fornicatus*)

The pest and its impacts

Polyphagous shot-hole borer (PSHB) is a wood-boring invasive beetle that excavates tunnels, or galleries, in the trunks and branches of trees. PSHB introduces a *Fusarium* fungus into these tunnels which it cultivates as a food source.

The fungus spreads inside the galleries and disrupts the plant vascular system and the flow of water and nutrients. The galleries reduce the structural integrity of branches which will lead to branch failure and even tree death. This disruption also makes systemic insecticides and fungicides ineffective in treating PSHB.

Monitor trees and plants for PSHB symptoms including round, 1 mm diameter shot-holes in the trunk or branches, often associated with bark discolouration, staining, gumming and frass. Also look out for galleries when pruning branches and tree wilting or dieback.

LOOK for this pest

Hosts – Globally, PSHB has a known host range of more than 400 plant species. Over 130 host species have been confirmed in Western Australia. The box elder maple tree (*Acer negundo*) has been identified as the main host for the Polyphagous shot-hole borer.

Top hosts include:

Priority hosts

- Box Elder Maple (*Acer negundo*)
- Black Locust (*Robinia pseudoacacia*)
- Coral Tree (*Erythrina x sykesii*)
- Plane Tree (*Platanus x acerifolia*)
- Moreton Bay Fig (*Ficus macrophylla*)
- Poinciana (*Delonix regia*)
- Port Jackson Fig (*Ficus rubiginosa*)
- White Mulberry (*Morus alba*)
- Weeping Willow (*Salix babylonica*)

Shot-holes – the round entrance holes of PSHB are approximately the size of a ballpoint pen tip (1 mm).

Galleries – dark tunnels form where the beetle is cultivating the fungus. May be visible when pruning a tree or a branch has broken off.

Dieback – often the first visible symptom. The *Fusarium* fungus cuts off water and nutrient supply causing branch dieback.

Staining/lesions – the *Fusarium* fungus cultivated by the beetle can cause dark discolouration around the shot-holes.

Frass – the wood pushed out during the beetles tunnelling. This is a sign of an active infestation.

Gumming – thick resin or sap may form as the trees' response to damage, attempting to push the beetles out of the tunnels.

REPORT suspected PSHB damage

- Inspect your trees for symptoms of PSHB
- Take photographs of anything suspicious
- Include a pen or a ruler in your photographs for scale

Report your observations

MyPestGuide® Reporter
via app or online
mypestguide.agric.wa.gov.au

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