

Polyphagous shot-hole borer (*Euwallacea fornicatus*)

Polyphagous shot-hole borer (PSHB) is a beetle native to Southeast Asia. The beetles attack a wide range of plants by tunnelling into trunks, stems and branches.

PSHB has a symbiotic relationship with a *Fusarium* fungus, cultivating it inside the tree as a food source. In susceptible trees, the fungus kills vascular tissue causing *Fusarium* dieback and tree death.

Establishment of this pest in WA may have significant impact on amenity trees, native vegetation, and the fruit and nut tree industries.

The Department of Primary Industries and Regional Development (DPIRD) is working with the community, industry and State and Commonwealth Governments to minimise the impact of this pest.

Hosts

The host list is extensive with over 400 hosts including Maple (*Acer*), Oak (*Quercus*), Plane (*Platanus*), Coral tree (*Erythrina*), Avocado (*Persea*) and Willows (*Salix*). PSHB causes serious damage to many types of trees, but it particularly loves to hide in the box elder maple (*Acer negundo*)

What to look for

PSHB are approximately 2mm in length and range from brown to black in colour. Only females have the ability to fly and disperse to other trees. Males are smaller at approximately 1.6mm in length and have no wings.

Detection of PSHB is difficult as they are very small – about the size of a sesame seed. However, there are a number of symptoms that indicate a tree may be infested.

Help stop the spread

- Monitor susceptible species including street trees for signs of PSHB damage and report suspect infestation to DPIRD.
- Provide additional water during summer as PSHB targets stressed trees.
- Residents and gardening contractors located within the Quarantine Area must not move any PSHB host wood or green waste material outside the Quarantine Area without prior approval.
- DPIRD has established a procedure with local councils to ensure FOGO bin collection and green waste verge collections can continue as normal.

Report suspect PSHB damage

- Call +61 (0)8 9368 3080
- Email padis@dpiird.wa.gov.au
- Upload a report to the [MyPestGuide™ Reporter app](#)

More information: see www.agric.wa.gov.au/borer



Symptoms of infestation



Photo: Pia Scanlon, DPIRD

Beetle entry hole

The entrance holes of PSHB are approximately the size of a ballpoint pen tip.



Photo: University of California

Discoloration/staining of wood

The *Fusarium* fungus cultivated by the beetle can cause dark discoloration.



Photo: University of California

Gumming

Thick resin or sap sometimes pushes the beetle out of the gallery.



Photo: FABI, University of Pretoria

Sugar volcanoes

Crystalline foam may be exuded from entry/exit holes. This is a common sign of infection on avocado trees.



Photo: University of California

Frass

Produced by the beetle's tunneling, frass or "noodles" may be present extruding from trees. This can indicate the infestation level is high.



Photo: University of California

Dieback

In susceptible trees the *Fusarium* fungus disrupts the flow of water and nutrients causing branch dieback and tree death.

Important disclaimer

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