Department of
Primary Industries and
Regional Development

GOVERNMENT OF
WESTERN AUSTRALIA

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 the fungus *Fusarium euwallaceae*, 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 would likely have significant impact on amenity trees, native vegetation, and the fruit and nut tree industries (particularly avocado, citrus and stone fruit).

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*).

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.
- Disinfect pruning tools.
- Avoid moving prunings or wood products from a known PSHB infestation area.

Report suspect PSHB damage

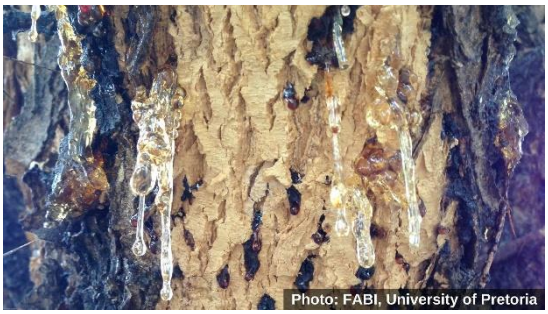
- Monitor trees and report any suspected PHSB damage to DPIRD:
  - call +61 (0)8 9368 3080
  - email padis@dpird.wa.gov.au
  - upload a report to the MyPestGuide™ Reporter app

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

Symptoms of infestation

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

Discoloration/staining of wood
The *Fusarium* fungus cultivated by the beetle can cause dark discolouration.



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

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

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

Dieback
In susceptible trees the *Fusarium* fungus kills tree vascular tissue causing branch dieback and tree death.