

POLYPHAGOUS SHOT HOLE BORER

Euwallacea fornicatus

Description

Polyphagous shot hole borer (PSHB; *Euwallacea fornicatus*) is a small (approx. 2mm long) invasive ambrosia beetle native to Southeast Asia.

PSHB is now established in Perth, Western Australia. It threatens urban trees, horticultural tree crops, and native trees, with potentially large economic, amenity and environmental impacts expected over the coming decades.

PSHB burrows into the trunks and branches of trees creating tunnels (galleries) in the wood. It introduces a fungus (*Fusarium euwallaceae*) into these tunnels which it uses as food. The fungus disrupts the internal flow of water and nutrients within the tree, leading to leaf loss, branch dieback and even tree death.

The beetle can spread naturally by flying from tree to tree on warm, still days. It also spreads through the movement of infested trees, firewood, and woody materials.



Credit: WA DPIRD

Affected tree species

Over 500 tree species are recorded as susceptible globally. In Western Australia, many species are impacted including native trees. The top three most affected species are Box elder maple (*Acer negundo*), Coral tree (*Erythrina x sykesii*) and Black locust (*Robinia pseudoacacia*). For an updated list of susceptible species visit -

<https://www.dpiird.wa.gov.au/siteassets/documents/biosecurity/incidents/pshb/pshb-wa-host-list.pdf> .



SIGNIFICANT PEST IN AUSTRALIA – REPORT IT – CALL 1800 084 881



Symptoms

Detection of the beetle itself can be difficult as they are very small. PSHB will infest trees with branches or stems greater than 2 cm. Symptoms include:

- Small, 1 mm diameter circular shot-holes
- saw dust or frass at the bottom of trunks, branches or next to holes
- staining, lesions, resin or gumming on tree bark
- leaf yellowing, leaf fall or crown thinning
- branch dieback or tree death
- insect tunnels or galleries under the bark or through the wood

Suspected cases must be reported.

Time most likely to be seen

The symptoms may be observed all year round. Adults, generally hide within the tree, but can be observed on warm, still days throughout the year, though more commonly through spring and summer.

Can be confused with

Though PSHB beetles are small and therefore hard to see, the combination of symptoms caused by this pest are distinctive (see pictures).

Australian borers are often larger and therefore produce bigger less perfectly circular entry/exit borer holes. Also, native borer species for the most part do not attack exotic tree species.

Prevention and control

- In Western Australia, do not move trees, wood, or woodchips outside of the Perth quarantine zones - <https://www.dpiird.wa.gov.au/siteassets/documents/bios-ecurity/incidents/pshb/pshb-qan-20251105.pdf>.
- Do not plant susceptible tree species.
- Source trees, wood, or woodchips from reputable providers.
- Familiarise yourself with trees in your garden or local area and check for presence of PSHB.
- **If suspected, take a photo and REPORT IT.**
- To prevent further spread, limit access to suspected infested tree(s).

Further information

- Western Australia Department of Primary Industries and Regional Development - <https://www.dpiird.wa.gov.au/businesses/pests-weeds-and-diseases/animal-pests-diseases/pest-insects/polyphagous-shot-hole-borer/>
- Pest and Diseases Image Library - <https://www.padil.gov.au/pests-and-diseases/pest/143204>
- Global Biodiversity Information Facility - <https://www.gbif.org/occurrence/search?taxonKey=3DFBO>
- European and Mediterranean Plant Protection Organization Global Database - <https://gd.eppo.int/taxon/EUWAWH/distribution>

MyPestGuide Trees

For information on tree pests in Australia from your browser or favourite mobile platform visit:

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