The Polyphagous Shot Hole Borer (*Euwallacea whitfordiodendrus**) and Fusarium dieback (*Fusarium euwallaceae*)

The Polyphagous Shot Hole Borer (PHSB) is an ambrosia beetle native to Southeast Asia. In 2017 this pest was detected on London Plane trees in the KwaZulu-Natal National Botanical Gardens, Pietermaritzburg. Its presence has since been confirmed in Durban, Hartswater, Bloemfontein, George, Knysna, Nelspruit and Johannesburg. The beetle has a symbiotic relationship with the fungus *Fusarium euwallaceae* which serves as a food source for the adults and their larvae. In susceptible trees the fungus causes Fusarium dieback which can lead to branch dieback and tree death. The beetles attack a wide range of exotic and indigenous trees in urban, agricultural and natural landscapes.

Above: An adult female is 1.8-2.6mm long. Males are smaller and flightless.

PSHB is not able to complete its life cycle on all the tree species it attacks. Those that the beetle is able to breed on are referred to as 'reproductive hosts'. Important reproductive hosts include species of oaks, maples, willows and coral trees, avocado and castor bean. However, even though the beetle is not reproducing in 'non-reproductive hosts', some of these trees can still be killed by the fungus. An updated list of confirmed hosts in South Africa can be viewed at www.fabinet.up.ac.za/pshb/

The movement of infested wood is an important pathway for spread of the beetle and appropriate disposal of infested trees (by chipping/composting, solarisation or burning) will be key to reducing the spread of this damaging pest.

Surveys to monitor the spread of the beetle and fungus in South Africa are continuing. The public can assist by looking out for symptoms. Suspected instances can be reported to diagnostic.clinic@fabi.up.ac.za

Left: Chinese maple tree killed by PSHB and its fungus

Reproductive galleries in pecan

PSHB galleries in coral tree

Shot gun-like symptoms on London Plane

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*Until recently the Latin name used for the PSHB [the species in South Africa, California and Israel] was *Euwallacea* nr. *fornicatus*. However, Gomez et al. (2018) showed that the PSHB is genetically distinct from the true *Euw. fornicatus* (= Tea Shot Hole Borer TSHB-a), and formally renamed PSHB to *Euw. whitfordiodendrus.*