

THE IMPACT OF THE POLYPHAGOUS SHOTHOLE BORER IN SOUTH AFRICA EXPLAINED IN A PUBLIC SEMINAR AT FABI

The disastrous effect on trees of the Polyphagous Shothole Borer (PSHB) and the fungus it carries was the focus of many news stories across South Africa in the last few months. Following requests from citizens and journalists for more information, FABI and the DST-NRF Centre of Excellence for Invasion Biology (CIB) hosted a public seminar on the topic. More than 120 people attended.



Prof. Mark Robertson of the CIB welcomed the audience and provided some background on the threats that biological invasions such as the PSHB pose to natural ecosystems and agricultural and forestry crops. FABI's Prof. Wilhelm de Beer explained how ambrosia beetle-fungus symbioses work, and gave a few examples of how these organisms have affected forests worldwide because of climate change or human mediated introductions.

FABI Postdoctoral Fellow Dr Trudy Paap recalled how she discovered the PSHB in SA for the first time in early 2017. This happened during a visit to the Pietermaritzburg Botanical Garden that formed part of an International Sentinel Plant Network survey for new tree pest and disease introductions. FABI's Prof. Noelani van den Berg expanded on the risks that the PSHB and its *Fusarium* associate pose to avocado trees based on what has happened in the avocado industries in Israel and California during the past decade.

Prof. de Beer updated on the current distribution and impact of PSHB, based on the research and surveys done by FABI over the past months. Subsequent to the PSHB's discovery on

London plane trees in Pietermaritzburg, it was also found on castor bean and Liquidambar trees in the area. In January 2018 its presence was confirmed in the Hartswater area on pecan and oak trees. Also in January, the FABI researchers confirmed that it had killed several tree species in the Sandton area, especially Chinese and Japanese maple, boxelder and heavily infested plane trees. In several subsequent visits to Johannesburg, it had infested more than 30 tree species in the area, including several native trees.



In April Prof. de Beer visited the southern Cape, confirming that it was the same beetle and fungus responsible for the death of many large oak trees in the streets of Knysna and Belvedere, as well as maples and plane trees in George. He also found infestations of the beetle on several native trees such as *Podocarpus*, *Virgilia* and a *Protea* species. However, more research and monitoring is necessary to determine the impact on these native trees.

FABI has several research projects on various aspects of these fungi. These include continuous monitoring of its spread and host range in South Africa, determining the flying season of the beetle in the different climatic regions of the country, and investigating possible control measures.