

## **Borer beetle could spell ecological disaster on the South Coast**

Alarm bells are ringing regarding a foreign pest that is killing our trees.

June 11, 2018

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Look out for 'sugar vulcanoes' that could indicate an infestation of the borer beetle.

SOUTH Africa could be on the brink of an ecological disaster in the form of a foreign borer beetle that is killing our trees, according to the South Coast Conservancies Forum.

Random Harvest Indigenous Nursery has asked the forum to alert local conservancies, gardeners, nursery staff and nature lovers to be on the lookout for infestations of this dangerous pest. According to the forum it could have a devastating effect on tree life in this area.

Known as the shot hole borer beetle, this foreign borer beetle was identified in South Africa last year by Dr Trudy Paap of the Forestry and Agricultural Biotechnology Institute (Fabi). It is a species of ambrosia beetle, which belongs to the weevil family. These beetles get their name from the symbiotic relationship they have with ambrosia fungi. After the adult beetles carry these fungi into the trees where they have bored, they cultivate gardens of it for the beetle larvae to feed off. This particular ambrosia beetle is minuscule, measuring up to 2mm.

Interpolating from local and Californian reports, 33 indigenous families and 21 positively identified indigenous species could be possible targets. The beetle carries between three to five fungi species with it, of which *Fusarium euwallaceae* (a newly described *Fusarium*) is the beetle grubs' main food source and the primary vector implicated in tree deaths. The other fungi are suspected to aid with the colonisation of a newly infected tree.

Alarmingly, shot hole borer reproduce rapidly. Just one pregnant beetle in the beginning of a season could result in 729-million beetles by the end of the year.

*The threat of this infestation lies in the Fusarium fungus colonising in the tree and cutting off food and water supply by mechanical blocking of the tree's system. Fortunately some trees will have natural resistance to the fungus.*

As infected trees are dying, experts are listing positive identifications in towns as far-flung as Hartswater, Knysna, George, Johannesburg, Pretoria and Durban. This has severe implications for Johannesburg, one of the world's largest urban forests with an estimated 9- to 11-million trees.

"Judging by the numbers of dead trees killed by shot hole borer beetles in Johannesburg and Knysna, this could become one of South Africa's worst ecological disasters. While the beetles are primarily encountered in towns, there is a very real possibility they can spread out via tree corridors and start killing trees in the veld. In a worst case scenario, they could also move into Zimbabwe, Zambia, Malawi and Mozambique. The beetle and fungus have already devastated trees in California and Israel," said a Random Harvest spokesman.

Indigenous Trees infected by shot hole borer so far are *Harpephyllum caffrum* (wild plum), *Cussonia spicata* (kiepersol), *Cunonia capensis* (red elder), *Diospyros lycioides* (bluebush), *Acacia* species, *Schotia latifolia* (bush boer-bean) *Melianthus major* (honey flower), *Erythrina humeana* (dwarf erythrina), *Erythrina lysistemon* (common coral tree), *Podocarpus falcatus* (Outeniqua yellowwood) and *Calpurnea aurea* (wild laburnum).

Commercial crops are also at risk. Those susceptible to shot hole borer beetle include avocado, macadamia, olive, peach and orange trees as well as grape vines.

There are a number of warning signs that should alert you to a possible infestation of the borer and fungus. Look out for wet stains, 'sugar volcanoes' and gum exudation on the bark at entry holes as well as stained wood, wilting, branch die-back and the death of a tree.

Currently there are chemical injections done by arborists, but this is expensive and will have to be repeated. There is a company working with nano-lipids that are showing great promise. In the meantime cutting down and burning the wood is being used to manage the spread. Care must also be taken when

moving fire wood and mulch because the beetle can be moved with these. Experts are also inspecting nurseries for infected trees to contain the spread.

The South Coast conservancies forum asks anyone who is concerned about a possible infestation to contact Gary Holburn at 039 3125170 or 083 4625525.