

Shalom, my brothers and sisters

A great tree extinction fire is raging in Johannesburg and radiating out to every corner of South Africa. Thousands of trees are dying in Johannesburg every month. A tiny beetle, the size of a pin head, called the shot hole borer, along with its deadly fungal symbiont, is killing all the trees in South Africa, it will not be stopped here, nor will it be contained. Most of the trees along the coast in Israel (this beetle can't endure a cold winter), are already dead, from the same beetle. Most of the trees in Joburg are sick or dead (see the gallery below). California and Israel have been battling to contain this beetle, which has no natural enemies, since 2003 and 2009 respectively, with limited success. Currently, the list of vulnerable trees is 350 species and climbing every month. The beetle was only discovered here in 2017, but I have reason to believe that it has been here for more than twenty years. The beetles are 2 mm long and can fly up to 2 km's in any direction. There are places in Joburg where you can see thousands of tiny beetles hanging in the air, like little angels of death, at the moment. A single female lives thirty days and produces thirty descendants, which translates to a potential seven million descendants in one year!

The world is getting warmer and drier and there are hundreds of millions of alien trees choking the streams and rivers in South Africa that are now dead and dying and sending billions of beetles in every direction.

The forecast is poor for all of our trees, indigenous and exotic, as well as the indigenous forests, starting with the North Coast and the Garden Route. In Cape Town, Messina and everywhere in between, trees are dying. I wouldn't be surprised if it's made it to Zimbabwe. It's not just the trees, either. Many shrubs and plants are also in rapid decline: azaleas, camellias, viburnum, roses, and now some of the fynbos are starting to die. All of the animals dependent on these plants are in rapid decline: insects, birds, amphibians and mammals. Many have already gone extinct.

I've been fighting this scourge for ten years, long before I knew what I was fighting. We have no time to waste. If we don't mobilise this winter, all of the trees in Joburg, and then Africa, will be lost. It's already too late for most of the trees in South Africa. We need to save what we can and educate people to contain the spread. We need to have a plan and implement it like we mean it. We need a holistic approach. Soil health, water requirements, removals and treatments need to be monitored and reported weekly. Infested wood must be disposed of responsibly. Volunteer groups must be established to clear our streams and rivers of the aliens that are choking them: wattles, willows, mulberry, elder, poplar, acer and black locusts that are sick must be the first to go. Repellents, which have worked in California, need to be explored. You need to do the same there.

There is a spray being sold by a business called Pan African Farms will have good effect on small trees, and some effect on large trees. Injections will have good effect in spring on medium and large trees. It's an environmentally friendly solution which is working, but it's not enough. A holistic approach is required.

Professors Mendel Zvi & Stan Freeman, the Israeli's that is leading the charge against the beetle there, need to be brought in, along with other experts.

We are looking to raise \$100 000 on gofundme. This will allow us to bring out Israel's leading experts to help us formulate a plan, as well as to clear the neck of a wetland in Johannesburg of invasive trees, where the infestation is the worst. Volunteer groups need to be established to clear all of the streams and rivers that are in the most environmentally sensitive areas. This money will also be used to develop a fungal inoculation method, which will protect healthy trees.

People need to learn how to do preventative treatments and start protecting the trees and shrubs in their garden, as a matter of great urgency. Lastly, we need to get this message out there. Forward this to everyone that cares about nature. If you speak more than one language, translate it, and then forward it.

Let me be clear. The scenario that we face here if we don't act quickly is a world with no trees within 50 years! The window of opportunity is closing. We have lost the battle for most of the trees in Southern Africa. No corner of this planet will be spared if all the trees in Africa die. Losing this war is unthinkable. Please get involved!!

David Trope

Shot Hole Borer Action Group

Johannesburg

## Gallery of death



Contaminated firewood



This is a thicket of black locust trees, which are covered in thorns, near Huddle Wetland



A dead poplar which hosted around 200 000 beetles

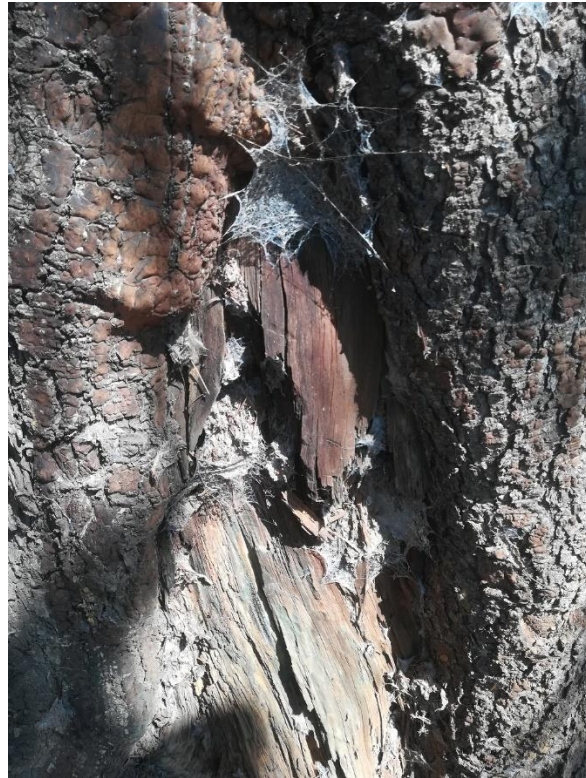




Branch from a dead tree



Acacia stage 4



Cedar that is dying from borer infestation



70 year old black locust tree: stage 4





Trees shooting a week after treatment



Stage 4 Maple. Note the heavy, sterile, clay soil. Most of the soil in Southern Africa is compact and sterile





The 90-year old pin oaks on Long Ave are dying



Stage 4 poplar





Dead Eucalyptus with a fish eagle and heron near Vereeniging