

# Sirococcus blight

*Sirococcus tsugae*

*S. tsugae* is a fungus which is the cause of shoot blight and defoliation (up to 70%) on cedars and hemlocks. It was first detected in the UK in 2013, and is native to the Pacific Northwest and Northeastern and Southeastern U.S. Known hosts include *Cedrus* and *Tsuga* species, specifically; *C. atlantica* (Atlas cedar), *C. deodara* (Deodar cedar), *T. canadensis* (Eastern hemlock), *T. heterophylla* (Western hemlock) and *T. mertensiana* (Mountain Hemlock).



## Symptoms on *Cedrus* spp.



Affected pink needles

Brown discoloration under the bark (Forest Research)

Fruiting bodies on dead needles (Forest Research)

- All year: branch cankers are present as dark red/purple bark lesions or depressions; brown lesions are present in phloem tissue; resin bleeds may accompany cankers which spread longitudinally from affected shoots into branches

Other symptoms vary dependent upon season –

- Spring: dead needles (which can be pink) on shoots, dead shoots, cankers and gum exudation
- Summer: characteristic pink needles, fruiting bodies on brown dead needles
- Winter: fruiting bodies may be seen on surface of cankers or dead needles, branches may be girdled and die

## Symptoms on *Tsuga* spp.

So far the only symptoms recorded on *Tsuga* spp. with *Sirococcus* blight are shoot blight and defoliation

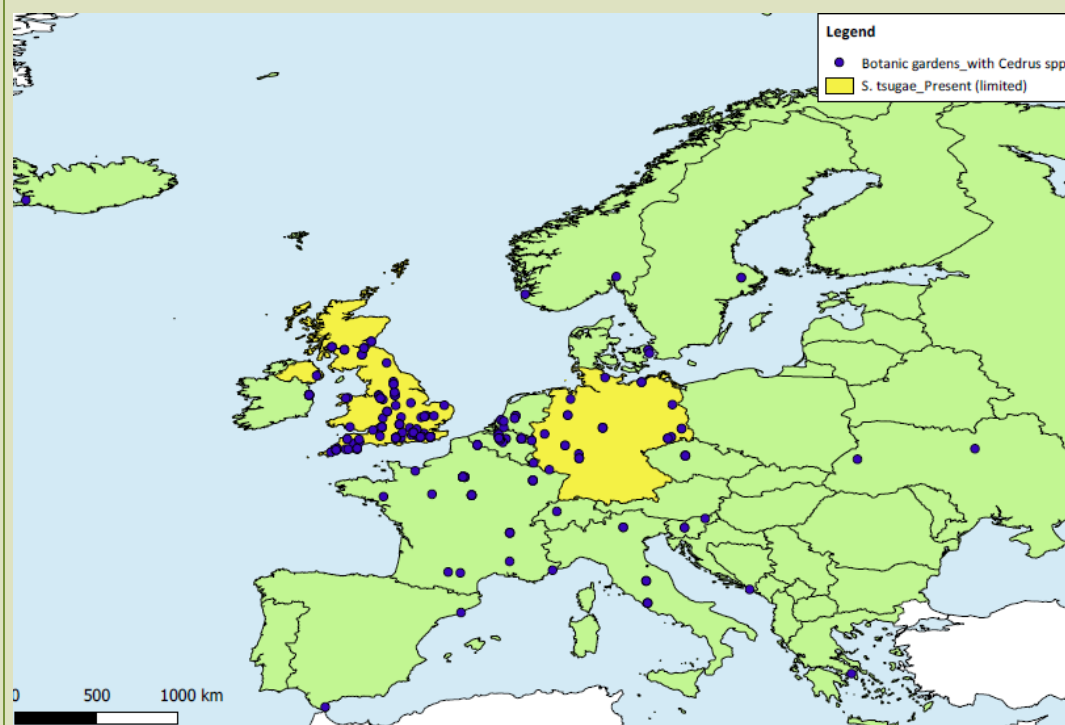


Shoot blight on a young *Tsuga heterophylla* (Forest research)

Shoot blight on *Tsuga mertensiana* (Forest research)

Defoliation and shoot blight on *T. mertensiana* (Forest research)

## How botanic gardens and arboreta can help?



Shoot blight will disfigure the shape of trees and cause severe defoliation (up to 70%). Cankers can girdle and kill the branches and in severely affected cases the cankers can girdle the trunk, causing young trees to die.

Further research is required to determine:

1. The European distribution of *Sirococcus* blight
2. To collect information on the susceptibility of host species

The map opposite shows the distribution of botanic gardens and arboreta with *Cedrus* spp. present (data from [www.bgci.org/plant\\_search.php](http://www.bgci.org/plant_search.php)). Institutes can aid research by reporting on:

- Whether *Sirococcus* blight is present in your collection?
- Which host species are affected?
- How severe are the symptoms?

Please note: plants should have more than one symptom before considering *S. tsugae* as a cause. Similar symptoms can be caused by other factors including environmental factors (frost damage, drought etc.)

**REPORT ANY SUSPECTED SIGHTINGS TO \_\_\_\_\_ DATE: \_\_\_\_\_**

For more information about the IPSN go to: [www.plantsentinel.org](http://www.plantsentinel.org).